WKE Dec 13, 2022

PROJECT ID: 2290-03-73

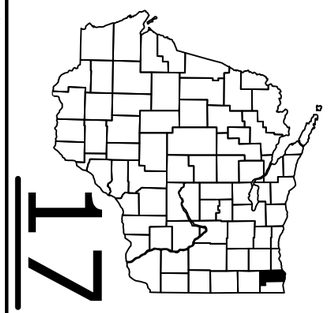
WITH: N/A

COUNTY: RACINE

ORDER OF SHEETS

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

TOTAL SHEETS = 342



17

N

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2290-03-73	WISC 2023098	1

RACINE - MILWAUKEE

BRIDGE OVER ROOT RIVER B-51-0012

STH 38

RACINE COUNTY

STATE PROJECT NUMBER
2290-03-73

DESIGN DESIGNATION

		STH 38	RAPIDS DR
A.A.D.T.	2016	= 30,700	24,700
A.A.D.T.	2042	= 34,700	27,900
D.H.V.		= 4,200	3,380
D.D.		= 59/41	59/41
T.		= 5.3%	5.3%
DESIGN SPEED		= 40 MPH	40 MPH
ESALS		= 5,800,000	5,800,000

CONVENTIONAL SYMBOLS

PLAN

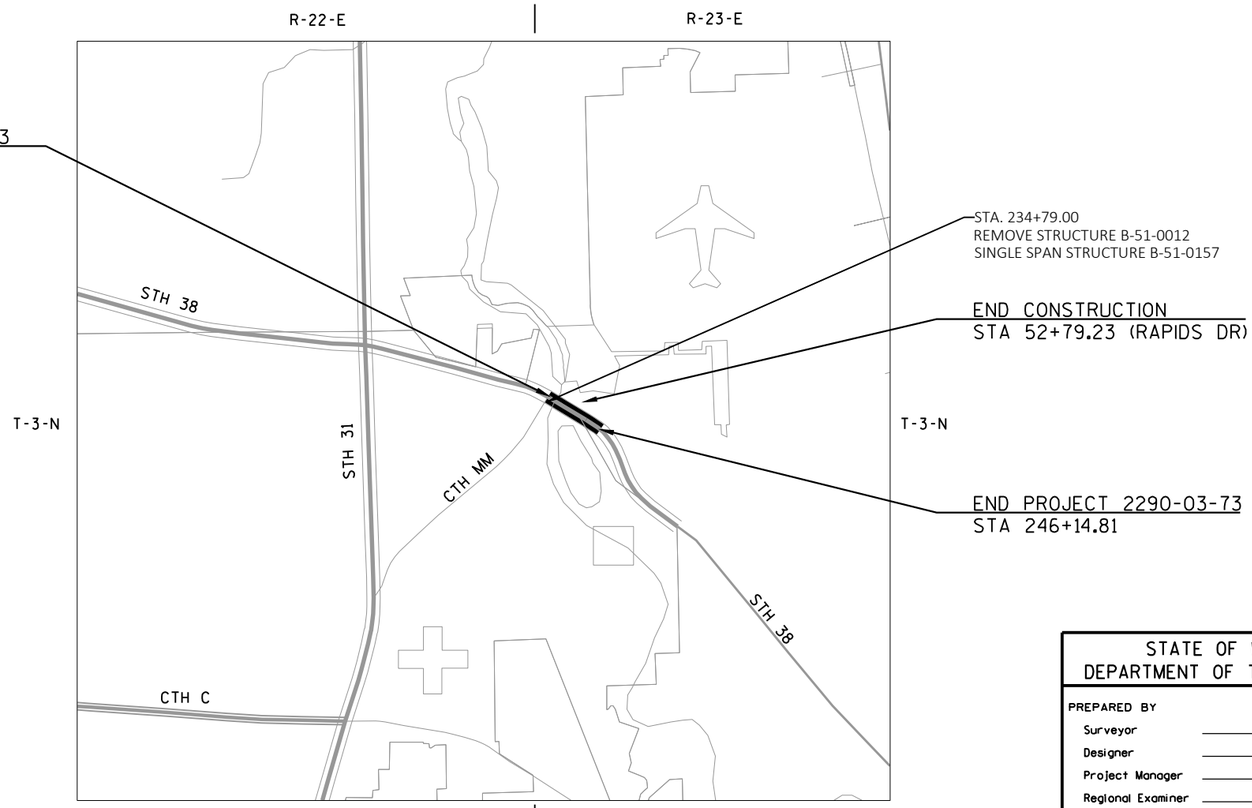
- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

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

UTILITIES

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



LAYOUT
SCALE 0 0.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.258 MI

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

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF NAVD88 (2012).

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	GRAEF
Designer	MALATHI KARRI
Project Manager	JUSTIN SUYDAM
Regional Examiner	
Regional Supervisor	JANET CANNON

APPROVED FOR THE DEPARTMENT

DATE: 9/26/2022 Justin W Suydam (Signature)

E

GENERAL NOTES

VERIFY LIMITS OF TREE OR SHRUB REMOVAL WITH THE ENGINEER BEFORE CLEARING AND GRUBBING.

ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM THE ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES OR FROM GRUBBING OF TREES OR STUMPS SHALL BE BACKFILLED WITH GRANULAR BACKFILL. GRANULAR BACKFILL MATERIAL IS INCIDENTAL TO THE REMOVAL ITEM.

ALL RADIUS DIMENSIONS FOR CURB & GUTTER ARE GIVEN TO THE FLANGE. ALL ELEVATIONS ALONG CURB & GUTTER ARE GIVEN TO THE FLANGE. OFFSETS NOTED ARE TO THE FLANGE OR EDGE OF LANE IF NO CURB, UNLESS OTHERWISE NOTED.

THE LOCATION OF KNOWN EXISTING UTILITIES IN THE VICINITY OF THE PROJECT ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITIES IN THE AREA THAT ARE NOT SHOWN.

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

INLET PROTECTION IS REQUIRED AT ALL INLETS AS PER DETAIL OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

CONCRETE JOINTS SHALL MATCH ABUTTING PAVEMENT AND CURB AND GUTTER JOINTS UNLESS OTHERWISE DESIGNATED BY THE ENGINEER.

HMA PAVEMENT WHERE INDICATED ON THE PLANS SHALL CONSIST OF LAYERS AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER:

2" DEPTH	2" OF HMA PAVEMENT 4 MT 58-28 S
4" DEPTH	2" OF HMA PAVEMENT 4 MT 58-28 S AS THE UPPER LAYER 2" OF HMA PAVEMENT 4 MT 58-28 S AS THE LOWER LAYER

RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED AND MULCH.

STOCKPILE LOCATIONS SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER PRIOR TO USE TO CONFIRM THE SIZE AND LOCATION WILL NOT BE A NUISANCE TO THE PUBLIC.

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED AND MULCH.

USGS GAGING STATION TO REMAIN FULLY OPERATIONAL THROUGHOUT CONSTRUCTION. CONTACT ROB WASCHBUSCH WITH THE USGS TWO WEEKS PRIOR TO EXCAVATION NEAR THE GAGE STATION.

ORDER OF SECTION 2 SHEETS

PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
REMOVAL PLAN
CURB RAMP DETAILS
PLAN DETAILS
JOINTING DETAILS
EROSION CONTROL
STORM SEWER PLAN
SIGNING REMOVAL PLAN
PERMANENT SIGNING
LIGHTING REMOVAL
TRAFFIC SIGNAL
PAVEMENT MARKING
TRAFFIC CONTROL
DETOUR PLAN
ALIGNMENT

STANDARD ABBREVIATIONS

AEW	APRON END WALL
AGG	AGGREGATE
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L	CENTER OR CONSTRUCTION LINE
CONC	CONCRETE
CP	CULVERT PIPE
CPCM	CULVERT PIPE CORRUGATED METAL
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
CSCP	CORRUGATED STEEL CULVERT PIPE
CSPA	CORRUGATED STEEL PIPE ARCH
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC-YARD
D	DEGREE OF CURVE
Δ	DELTA
DISCH	DISCHARGE
FE	FIELD ENTRANCE
HERCP	HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE
HMA	HOT MIX ASPHALT
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LT	LEFT
MIN	MINIMUM
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
NTS	NOT TO SCALE
PAVT	PAVEMENT
PB	PULL BOX
PC	POINT-OF-CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASEMENT
PT	POINT OF TANGENT
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RAD	RADIUS
RC	REVERSE CROWN
RCAEW	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
RCHESS	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL STORM SEWER
RCPSS	REINFORCED CONCRETE PIPE - STORM SEWER
REQD	REQUIRED
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RT	RIGHT
SALV	SALVAGED
SB	SOUTHBOUND / SIGNAL BASE
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF	SQUARE FOOT
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TC	TOP OF CURB
TLE	TEMPORARY LIMITED EASEMENT

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

AGENCIES

RACINE COUNTY
ENGINEERING MANAGER
MR. ROLEY BEHM
14200 WASHINGTON AVENUE
STURTEVANT, WI 53177
(262) 886-8442
ROLAND.BEHM@RACINECOUNTY.COM

VILLAGE OF MOUNT PLEASANT
MR. ANTHONY BEYER
8811 CAMPUS DRIVE
MOUNT PLEASANT, WI 53406
(262) 664-7849
TBEYER@MTPLEASANTWI.GOV

CITY OF RACINE
COMMISSIONER OF PUBLIC WORKS
MR. JOHN ROONEY
730 WASHINGTON AVENUE, ROOM 304
RACINE, WI 53403
(262) 636-9460
JOHN.ROONEY@CITYOFRACINE.ORG

DNR CONTACT

WISCONSIN DEPT. OF NATURAL RESOURCES
MR. BENTON STELZEL
141 NW BARSTOW ROOM 180
WAUKESHA, WI 53188
(262) 623-0194
BENTON.STELZEL@WISCONSIN.GOV

WISDOT CONTACT

WISCONSIN DEPARTMENT OF TRANSPORTATION
SE REGION
MR. JUSTIN SUYDAM
141 NW BARSTOW STREET
P.O. BOX 798
WAUKESHA, WI 53187
(262) 548-8745
JUSTIN.SUYDAM@DOT.WI.GOV

PUBLIC TRANSPORTATION

THE BELLE URBAN SYSTEM (BUS)
MR. WILLIE MCDONALD
1900 KENTUCKY STREET
RACINE, WI 53405
(262) 619-2443
WILLIE.MCDONALD@CITYOFRACINE.ORG

RACINE UNIFIED SCHOOL DISTRICT (BUS)
ADMINISTRATIVE SERVICE CAMPUS
3109 MT. PLEASANT STREET
RACINE, WI 53404
(262) 631-7138
TRANSPORTATION.DEPARTMENT @RUSD.COR

US GEOLOGICAL SURVEY

UPPER MIDWEST WATER SCIENCE CENTER
MR. ROB WASCHBUSCH
8505 RESEARCH WAY
MIDDLETON, WI 53562-3581
(608) 821-3868
RJWASCHB@USGS.GOV

OTHER CONTACTS

SOUTH SHORE FIRE DEPARTMENT
ROBERT STEDMAN
3900 OLD GREEN BAY ROAD
MT. PLEASANT, WI 53406
(262) 995-1200

MOUNT PLEASANT POLICE DEPARTMENT
MATT SOENS
8811 CAMPUS DRIVE
MOUNT PLEASANT, WI 53406
(262) 664-7929

BATTEN INTERNATIONAL AIRPORT
DAVID MANN
3239 N GREEN BAY RD
RACINE, WI 53404
(262) 631-5620
NDMANN@BATTENAIRPORT.AERO

WISDOT LIGHTING
ERIC PEREA
935 S. 60TH STREET
WEST ALLIS, WI 53214
(414) 750-0935
ERIC.PEREA@DOT.WI.GOV

CITY OF RACINE FIRE DEPARTMENT
CHIEF STEVE HANSEN
810 8TH STREET
RACINE, WI 53403
(262) 635-7911

RACINE POLICE DEPARTMENT
CHIEF MAURICE ROBINSON
730 CENTER STREET
RACINE, WI 53403
(262) 635-7710

UTILITIES

AT&T WISCONSIN
MICHAEL VANBOVEN
411 7TH STREET
RACINE, WI 53403
(262) 676-3958
MV3658@ATT.COM

CITY OF RACINE - LIGHTING
ARA MOLITOR
730 WASHINGTON AVE, ROOM 304
RACINE, WI 53403
(262) 636-9487
MOBILE: (262) 770-7242
ARA.MOLITOR@CITYOFRACINE.ORG

CITY OF RACINE - SEWER
ARA MOLITOR
730 WASHINGTON AVE, ROOM 304
RACINE, WI 53403
(262) 636-9487
MOBILE: (262) 770-7242
ARA.MOLITOR@CITYOFRACINE.ORG

RACINE WASTEWATER UTILITY
AMANDA KAMINSKI
2310 CENTER ST
RACINE, WI 53403
(262) 636-9528
MOBILE: (262) 497-5202
AMANDA.KAMINSKI@CITYOFRACINE.ORG

RACINE WATER WORKS COMMISSION
CHAD REGALIA
100 HUBBARD STREET
RACINE, WI 53403
(262) 497-4611
CHAD.REGALIA@CITYOFRACINE.ORG

SPECTRUM COMMUNICATIONS
BEAU ABUYA
1320 N. MARTIN LUTHER KING JR. DRIVE
MILWAUKEE, WI 53212
(414) 758-9241
BEAU.ABUYA@CHARTER.COM

VILLAGE OF MOUNT PLEASANT - SANITARY SEWER
TONY BEYER
8811 CAMPUS DR
MOUNT PLEASANT, WI 53406
(262) 664-7849
TBEYER@MTPLEASANTWI.GOV

WE ENERGIES - ELECTRIC
WE ENERGIES UTILITY COORDINATOR
500 S. 116TH STREET
WEST ALLIS, WI 53214
(414) 221-2738
WE-UTILITY-RELOCATIONS@WE-ENERGIES.COM

CONSTRUCTION CONTACT:
JAMES NELSON
7815 NORTHWESTERN AVENUE
RACINE, WI 53406
(262) 884-6734
MOBILE: (414) 315-1189
JAMES.NELSON@WE-ENERGIES.COM

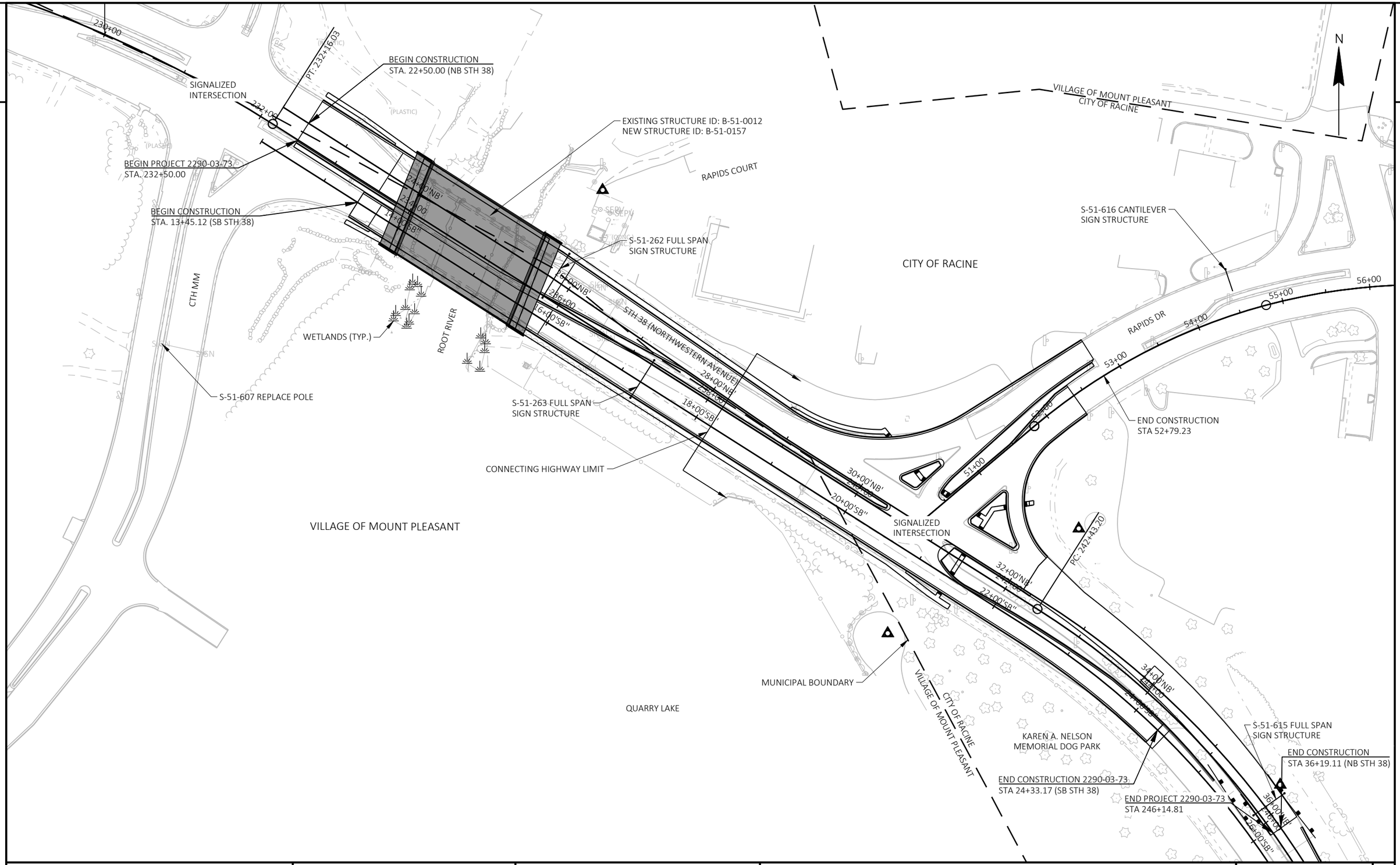
WE ENERGIES - GAS
WE ENERGIES UTILITY COORDINATOR
500 S. 116TH STREET
WEST ALLIS, WI 53214
(414) 221-2738
WE-UTILITY-RELOCATIONS@WE-ENERGIES.COM

CONSTRUCTION CONTACT
CHRIS DEGRAVE
7815 NORTHWESTERN AVENUE
RACINE, WI 53406
(262) 886-7018
MOBILE: (262) 939-9814
CHRIS.DEGRAVE@WE-ENERGIES.COM

WINDSTEAM KDL, LLC
LORI KETTER
314 N DANZ AVE
GREEN BAY, WI 54302
(414) 274-9215
LORI.KETTER@WINDSTREAM.COM

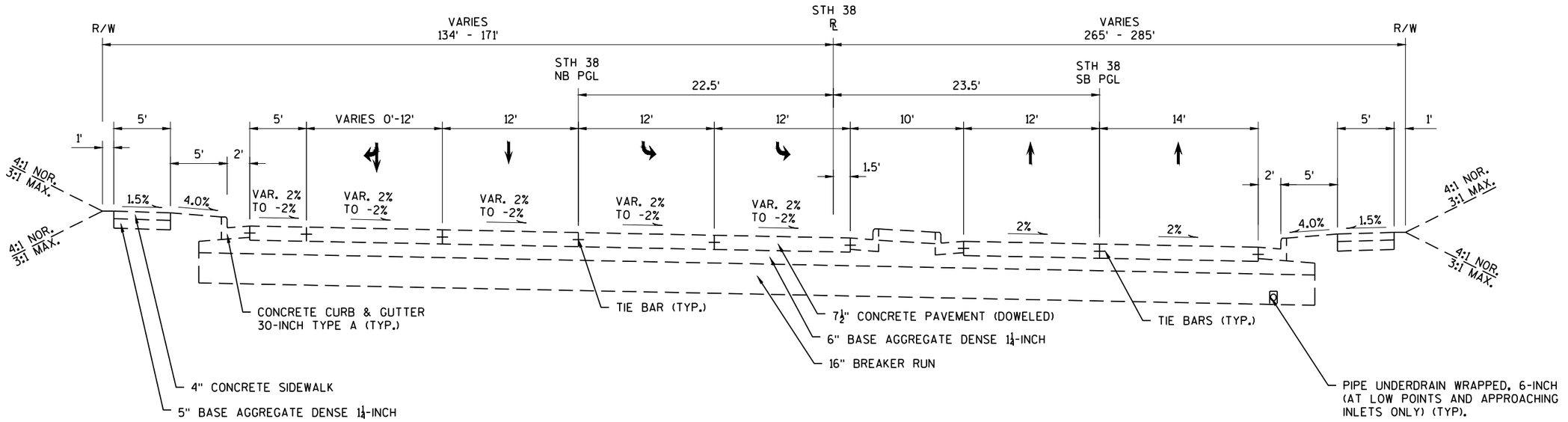
WISDOT SIGNALS
WISDOT SIGNAL OPERATIONS
141 NW BARSTOW ST
WAUKESHA, WI 53187
(414) 750-2605

WISDOT ELECTRICAL FIELD UNIT
935 S. 60TH STREET
WEST ALLIS, WI 53214
(414) 266-1170



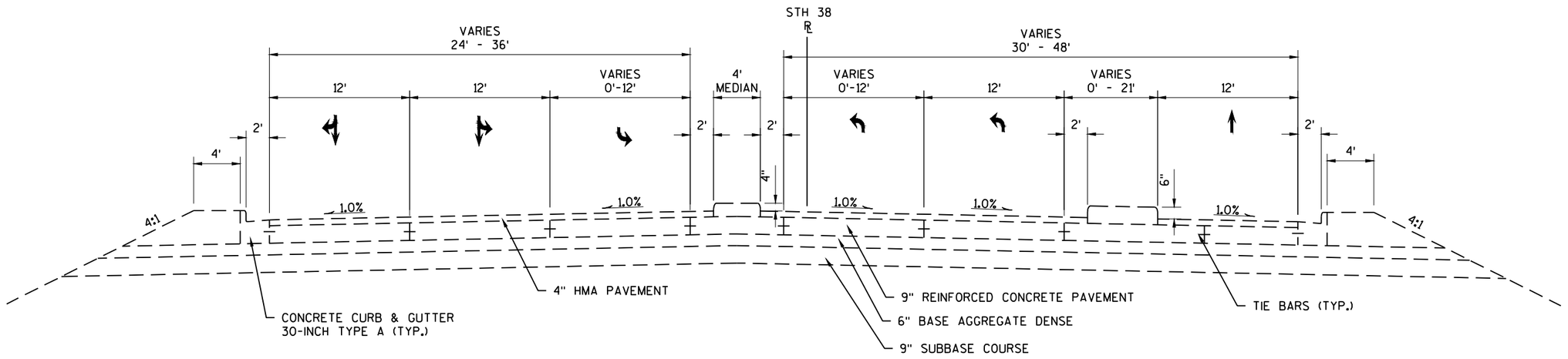
PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\020201-PO.DWG
LAYOUT NAME - 01
PLOT DATE : 7/21/2022 4:23 PM
PLOT BY : SCHOWALTER, STEVEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42



EXISTING TYPICAL SECTION - STH 38

STA. 22+50 - STA. 24+01.19 (NB STH 38)
STA. 13+45.12 - STA. 14+09.30 (SB STH 38)

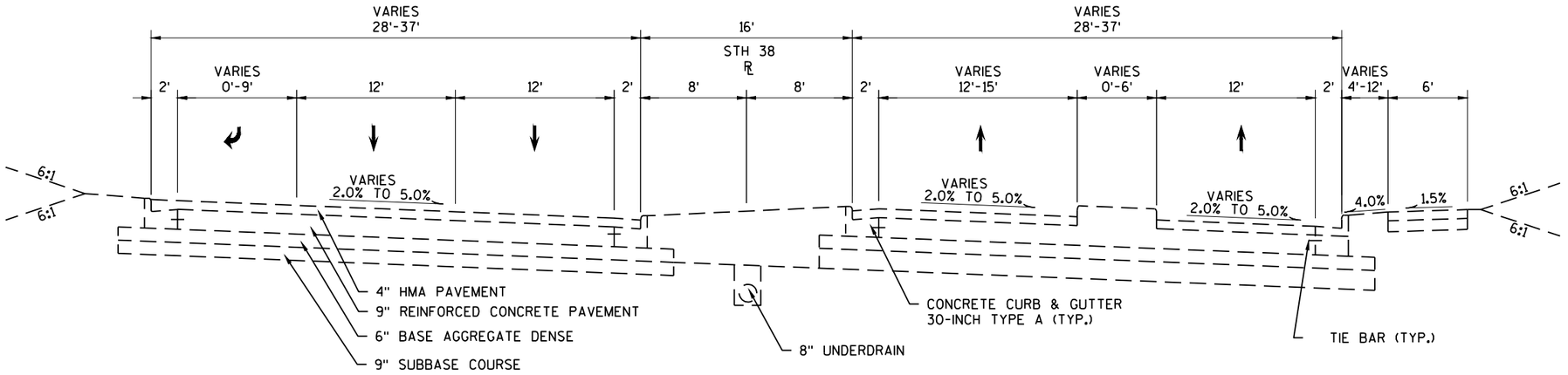


EXISTING TYPICAL SECTION - STH 38

STA. 25+48.73 - STA. 30+40 (NB STH 38)
STA. 15+56.84 - STA. 20+40 (SB STH 38)

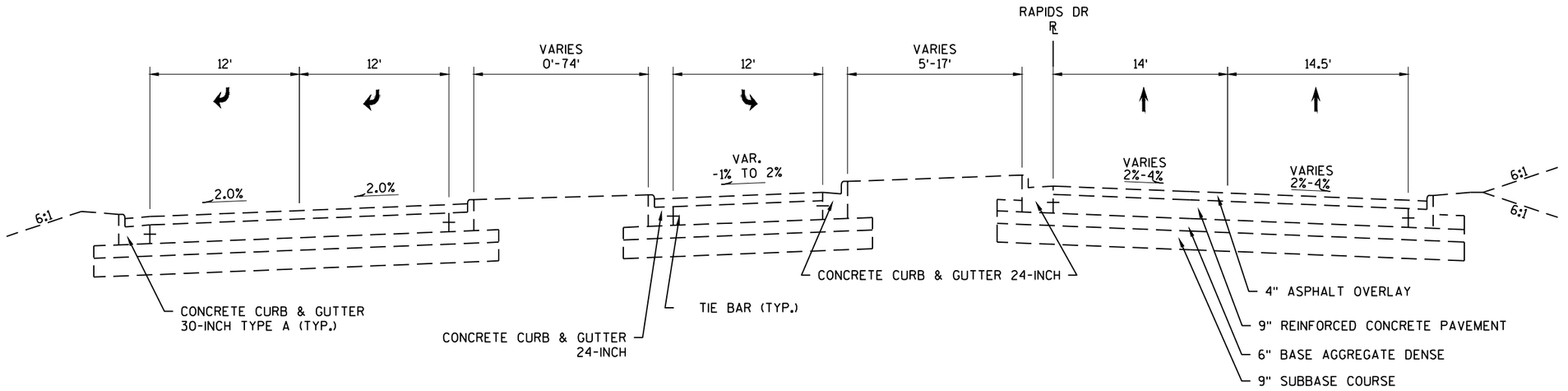
PROJECT NO:2290-03-73	HWY: STH 38	COUNTY: RACINE	STH 38 TYPICAL SECTIONS	SHEET 4 E

2



EXISTING TYPICAL SECTION - STH 38

STA. 30+40 - STA. 36+19 (NB STH 38)
STA. 20+40 - STA. 24+33 (SB STH 38)

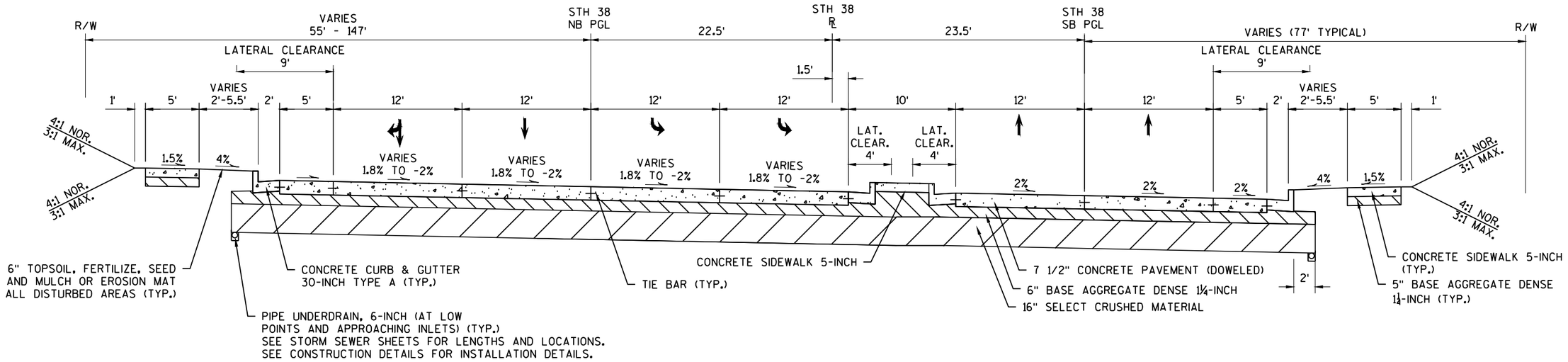


EXISTING TYPICAL SECTION - RAPIDS DRIVE

STA. 50+47 - STA. 52+79.23

PROJECT NO:2290-03-73	HWY:STH 38	COUNTY:RACINE	STH 38 TYPICAL SECTIONS	SHEET 5 E

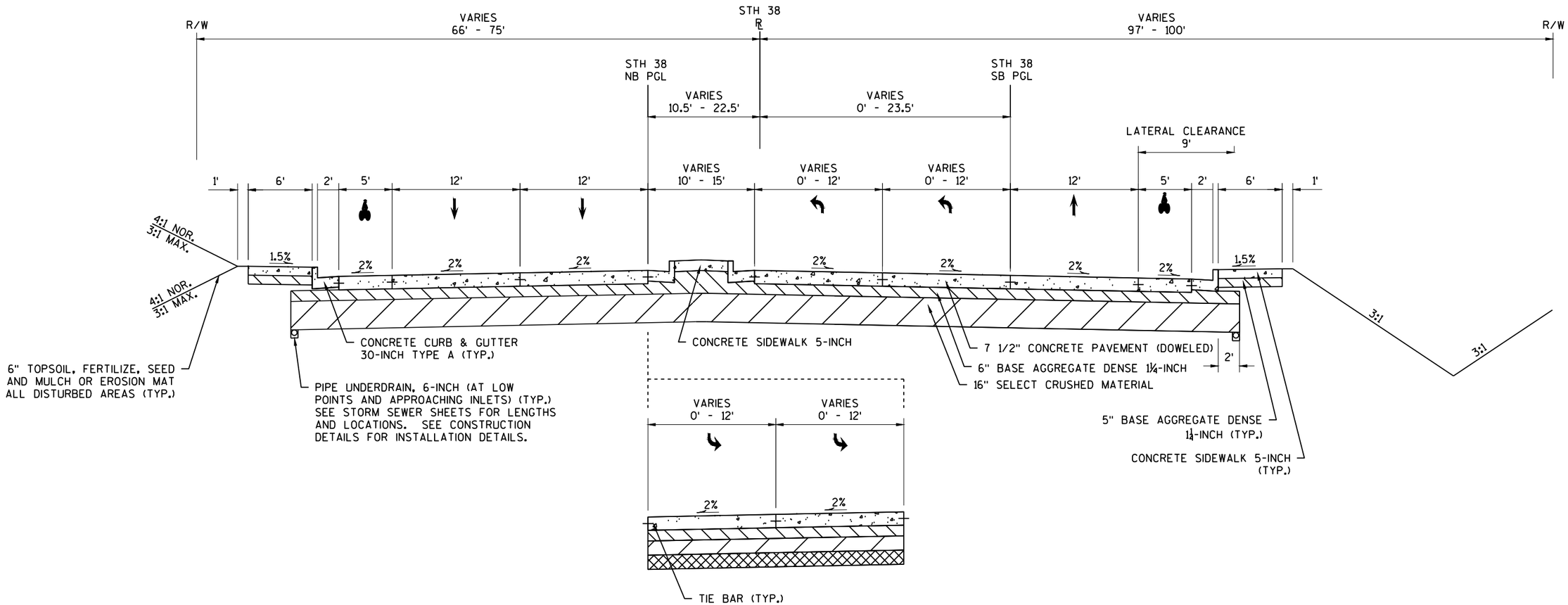
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TYPICAL FINISHED SECTION - STH 38

STA. 22+50 - STA. 24+01.19 (NB STH 38)
STA. 13+45.12 - STA. 14+09.30 (SB STH 38)

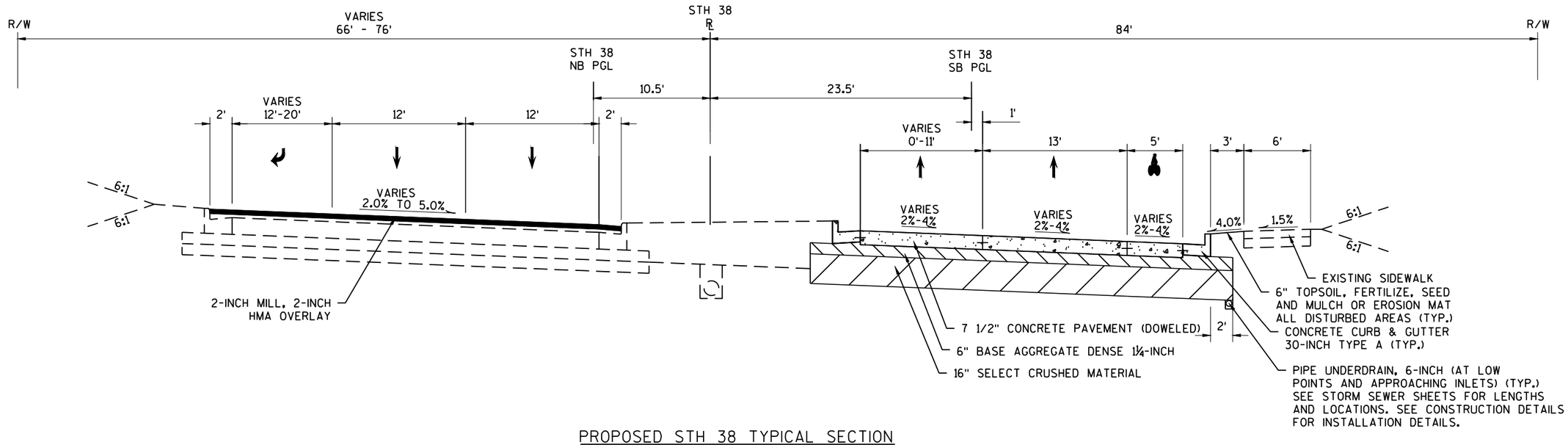
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STA. 25+48.73 - STA. 27+62 (NB STH 38)

TYPICAL FINISHED SECTION - STH 38

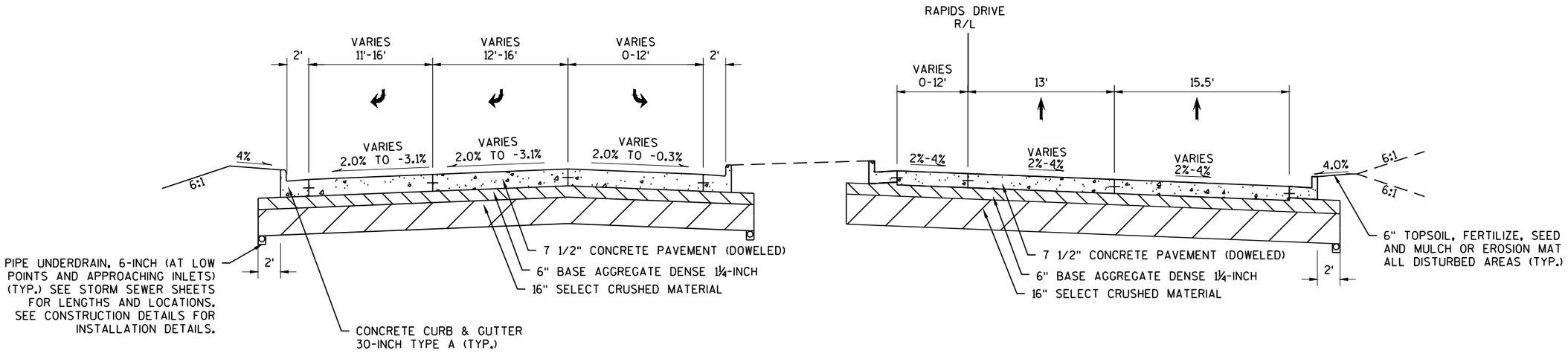
STA. 25+48.73 - STA. 32+28 (NB STH 38)
STA. 15+56.84 - STA. 21+47 (SB STH 38)



PROPOSED STH 38 TYPICAL SECTION

STA. 32+28 - STA. 36+19 (NB STH 38)
STA. 21+47 - STA. 24+33 (SB STH 38)

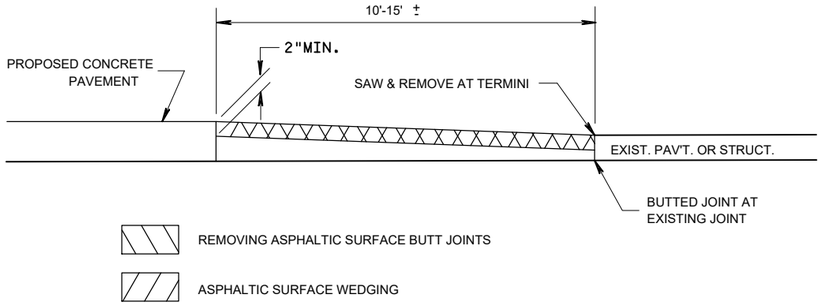
*MATCH EXISTING CURB AT STA 243+71



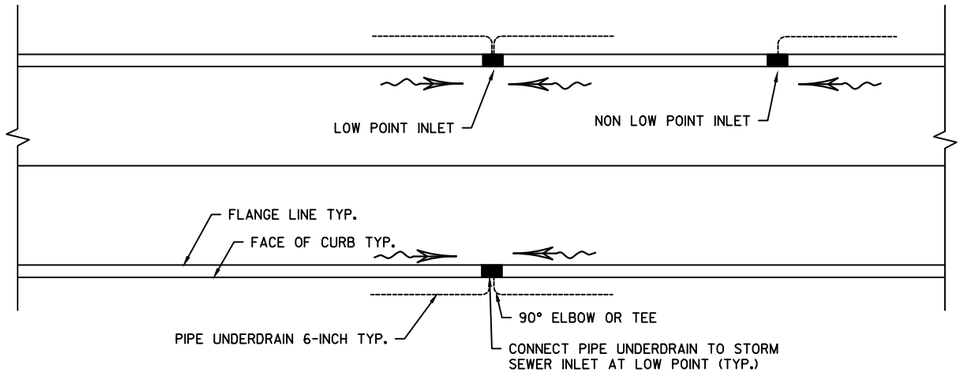
PROPOSED RAPIDS DRIVE TYPICAL SECTION

STA. 50+47 - STA. 52+79

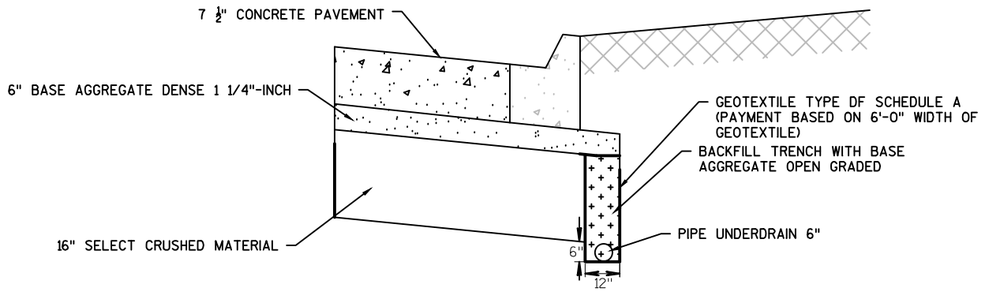
PROJECT NO:2290-03-73	HWY:STH 38	COUNTY:RACINE	STH 38 TYPICAL SECTIONS	SHEET 8 E



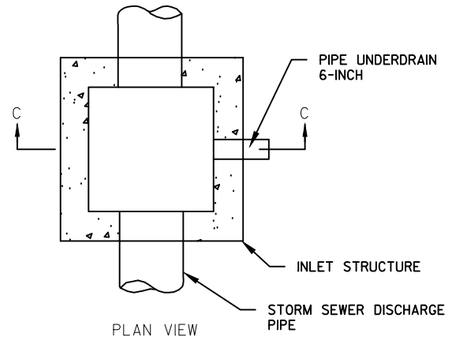
OVERLAP JOINT, BUTTED DETAIL



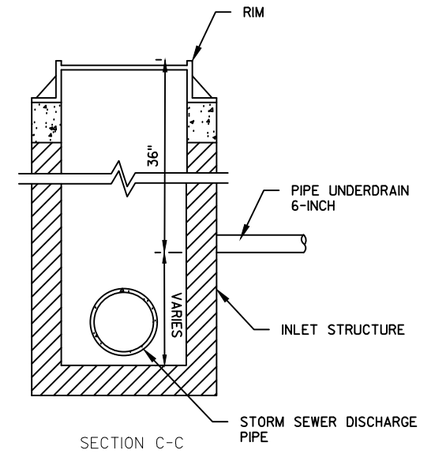
PLAN



UNDERDRAIN TRENCH DETAIL



PLAN VIEW



SECTION C-C

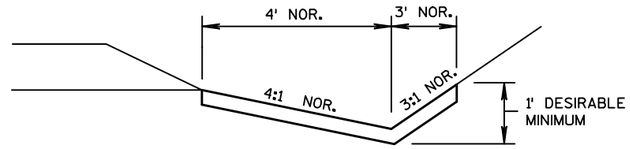
UNDERDRAIN OUTFALL AT INLET

NOTES:

1. CONNECTIONS TO INLETS OR MANHOLES IN MEDIAN SHALL USE PIPE UNDERDRAIN, 6-INCH

2. PROVIDE 6" DIA. OPENINGS FOR UNDERDRAIN PIPE A MINIMUM OF 36" BELOW THE RIM ELEVATION. CORE INTO EXISTING INLETS TO REMAIN.

3. SEE STORM SEWER PLAN FOR PIPE UNDERDRAIN LOCATIONS.



EROSION MAT DETAIL FOR DITCHES

2

2

PRIOR TO MILLING AND PAVING.

A. SAWCUT EXISTING PAVEMENT FULL DEPTH.
B. REMOVE AND STORE MANHOLE COVER.
C. FURNISH AND INSTALL TEMPORARY COVER PLATE.
D. BACKFILL USING ASPHALT SURFACE PATCHING.

AFTER PAVING HMA LOWER LAYER(S)

A. REMOVE ASPHALTIC SURFACE PATCHING.
B. EXCAVATE AROUND MANHOLE.
C. ADJUST OR RECONSTRUCT MANHOLE AND RE-INSTALL MANHOLE FRAME AND COVER.
D. POUR MONOLITHIC CONCRETE SHIM SO CONCRETE FILLS IN VOIDS BELOW THE CASTING BETWEEN THE SHIMS.
E. PAVE UPPER LAYER HMA.

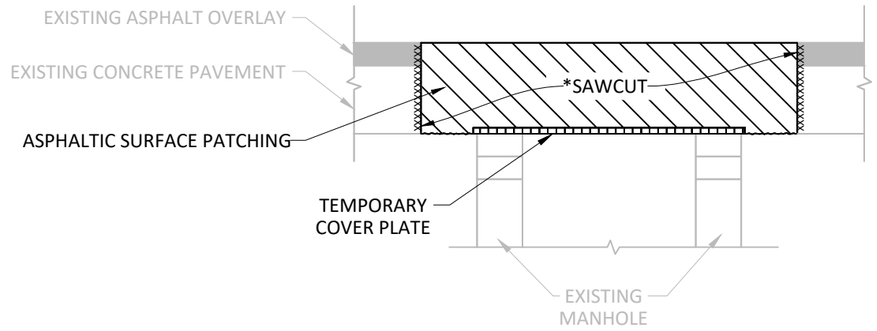
UNLESS STATED OTHERWISE, ALL WORK SHOWN IS INCIDENTAL TO PAY ITEMS "ADJUSTING MANHOLE COVERS / RECONSTRUCTING MANHOLES" .

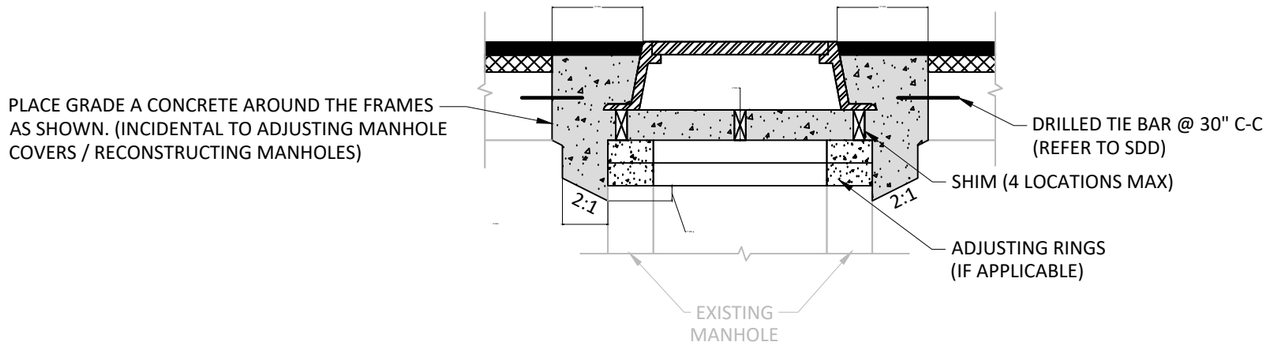
THE DEPARTMENT WILL PAY SEPARATELY FOR SAWING CONCRETE, TEMPORARY COVER PLATES AND DRILLED TIE BARS.

*SAWCUT WILL ONLY BE PAID ONCE. REMOVE ASPHALT SURFACE PATCHING MATERIAL TO THE ORIGINAL SAWCUT LIMITS.

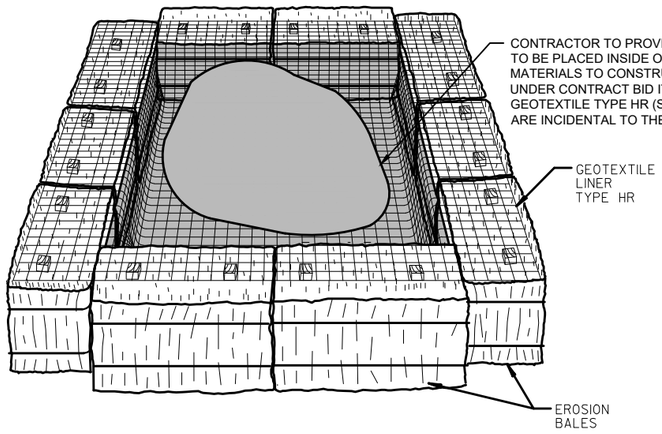
MONOLITHIC CONCRETE

ASPHALTIC SURFACE PATCHING





ADJUSTING / RECONSTRUCTING MANHOLES - MONOLITHIC SHIM



(SIZE TO BE DETERMINED IN FIELD AS INDICATED BELOW:)

STORAGE VOLUME (C.F.) = 16 X GPM (PUMP RATE)

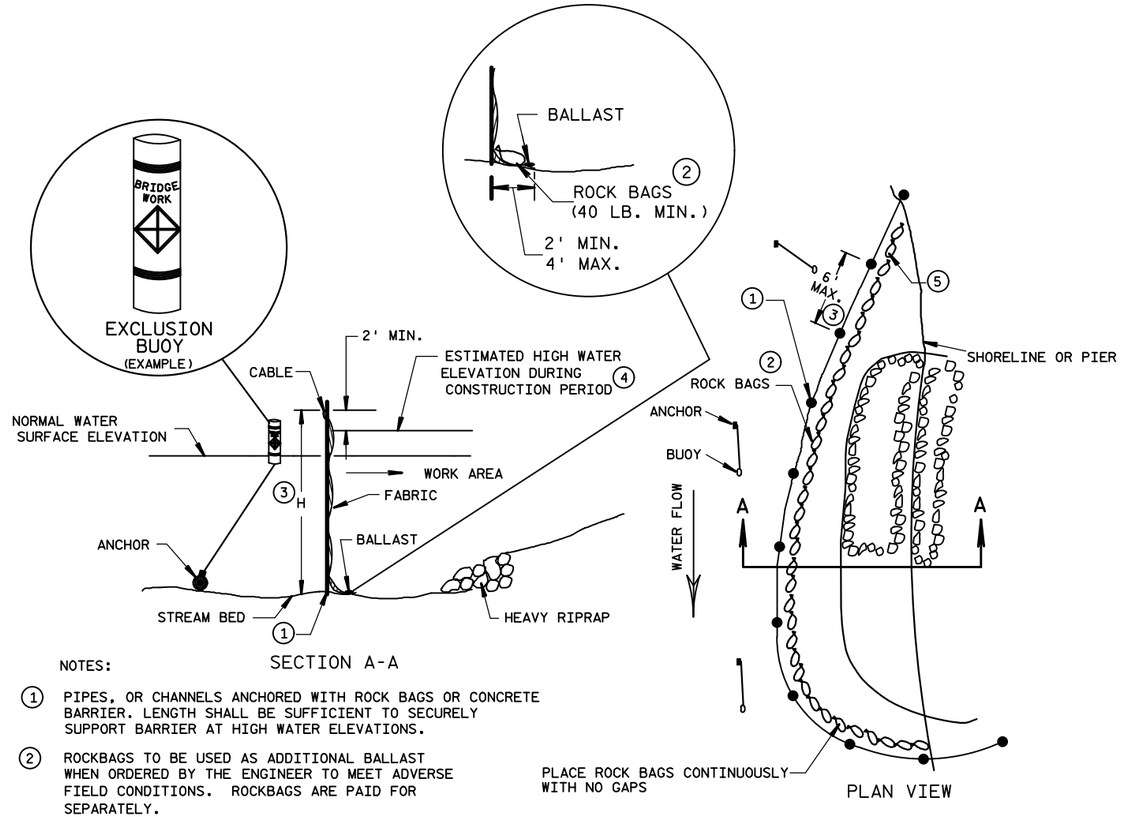
EXAMPLE:
CONTRACTOR INDICATES PUMP CAPABLE OF 50 GPM
HEIGHT OF BALES = 1.5 FT.

SOLUTION:
SV (C.F.) = 16 X 50
SV = 800 C.F.

$\frac{800\ C.F.}{1.5\ FT.}$ = 533 S.F.

USE A 20 FT. X 27 FT. BASIN

TEMPORARY SETTLING BASIN



NOTES:

1. PIPES, OR CHANNELS ANCHORED WITH ROCK BAGS OR CONCRETE BARRIER. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
2. ROCKBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. ROCKBAGS ARE PAID FOR SEPARATELY.
3. WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
4. ELEVATION VALUE TO BE ESTABLISHED BY THE CONTRACTOR BASED ON THE TIME OF YEAR AND DURATION OF THE ACTIVITY.
5. CONCRETE BARRIER MAY BE USED IN PLACE OF ROCKBAGS AS A FLOW DEFLECTOR DURING ADVERSE FIELD CONDITIONS. TEMPORARY CONCRETE BARRIER IS INCIDENTAL TO THE TURBIDITARY BARRIER ITEM.

TURBIDITY BARRIER DETAIL

NOTES:

A WATERWAY MARKER PERMIT HAS BEEN OBTAINED. COORDINATE WITH WDNR FOR ANY VARIANCE FROM THE PERMIT.

ALL SIGNS SHALL BE MOUNTED ON STEEL POSTS. SIGN LOCATION AND INSTALLATION METHOD VARY BASED ON WATER LEVELS.

BEDROCK AND CONCRETE IS PRESENT IN THE RIVER AND ON THE RIVER BANKS. NON-STANDARD METHODS MAY BE REQUIRED FOR THE PLACEMENT AND ANCHORING OF THE SIGNS. DRILLING OR PINNING OF THE SIGNS INTO THE BEDROCK BELOW THE ORDINARY HIGH WATER MARK IS NOT PERMITTED.

ADJUST FENCE SAFETY LOCATION TO MATCH WATER LEVELS DURING HIGH WATER CONDITIONS.

SIGN LEGEND:

SIGN POST. MOUNT TO FENCE SAFETY IF NO POST SHOWN.

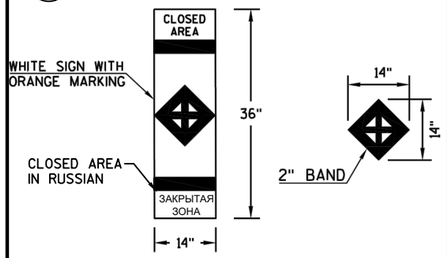
1

RED COLOR

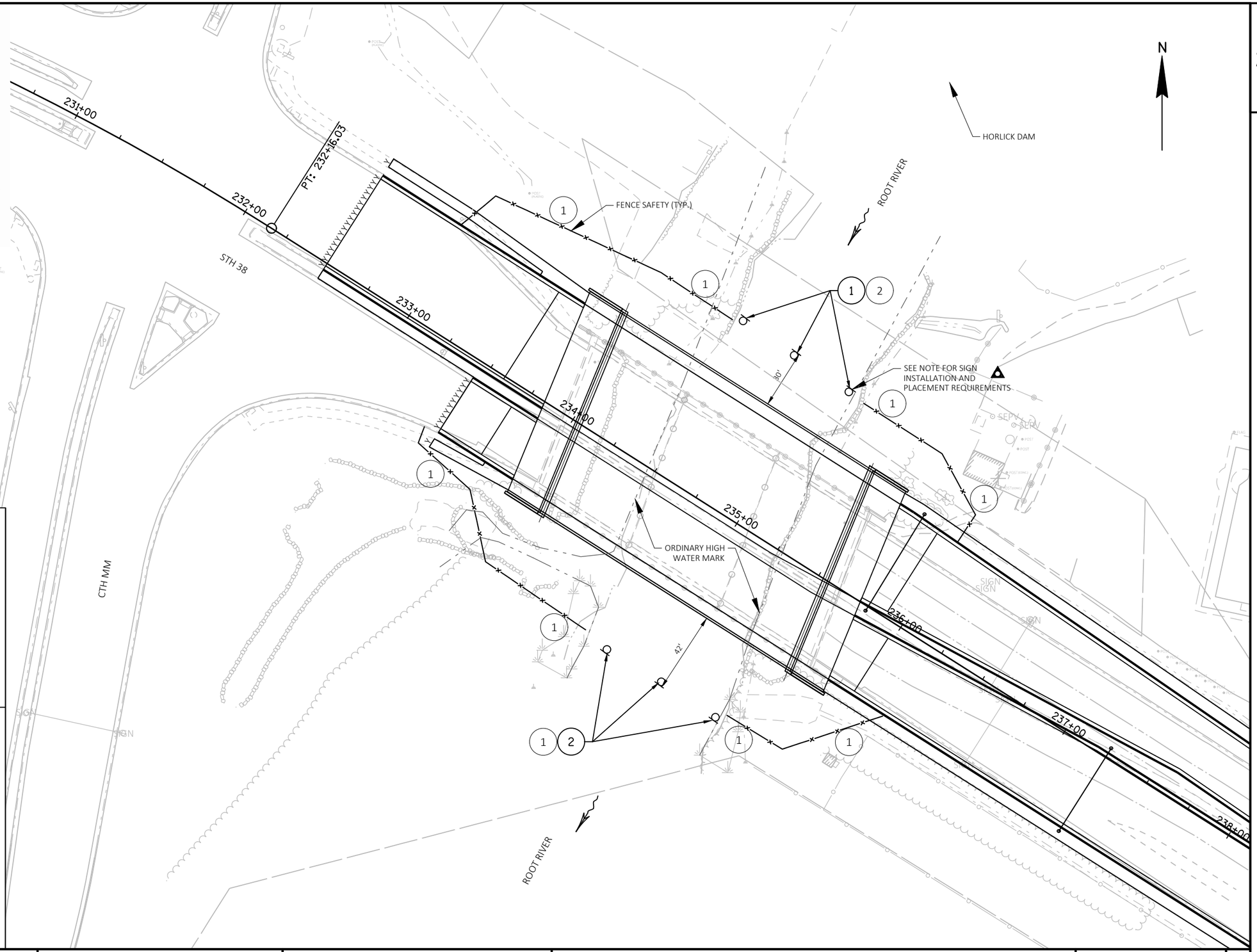


14"X10"

2



TYPICAL HAZARD WARNING SIGN DETAIL



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	CONSTRUCTION DETAILS	SHEET 12	E

FILE NAME : X:\WL\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\021001_CD.DWG
LAYOUT NAME - 021001_CD - 021006_CD

PLOT DATE : 7/21/2022 4:24 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1" = 200'_XREF

WISDOT/CADDS SHEET 42

2

LEGEND

- REMOVING CONCRETE PAVEMENT
- REMOVING CONCRETE SIDEWALK
- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING PAVEMENT BUTT JOINTS
- CLEARING & GRUBBING
- REMOVING MASONRY
- REMOVING CURB & GUTTER
- .YYYYYY. SAWING CONCRETE
- .XXXXXX. SAWING ASPHALT

ORDINARY HIGH WATER MARK

ROOT RIVER

EX R/W

SLOPE INTERCEPT (TYP.)

233+00 234+00 235+00 236+00 237+00 238

MATCHLINE STA. 238+00

STH 38 (NORTHWESTERN AVENUE)

BEGIN PROJECT
2290-03-73
STA. 232+50.00
Y = 195,145.80
X = 628,685.41

REMOVE B-51-012
SEE STRUCTURE
PLANS FOR DETAILS

REMOVING FENCE
START STA. 236+15, 79.8' RT

WETLANDS (TYP.)

EX R/W

NOTES:

QUEENSNAKE HABITAT IS AREAS WITHIN 20' OF THE ORDINARY HIGH WATER LEVEL OF THE ROOT RIVER IN THE NORTHEAST, SOUTHEAST AND SOUTHWEST QUADRANT OF THE B-51-012 STRUCTURE OVER THE ROOT RIVER.

SEE EROSION CONTROL PLANS FOR DETAILS OF CLEARING AND GRUBBING IN AREAS OF QUEENSNAKE HABITAT.

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	REMOVAL PLAN	SHEET 13	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\021101_RM.DWG
LAYOUT NAME - 021101_rm

PLOT DATE : 7/28/2022 5:34 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

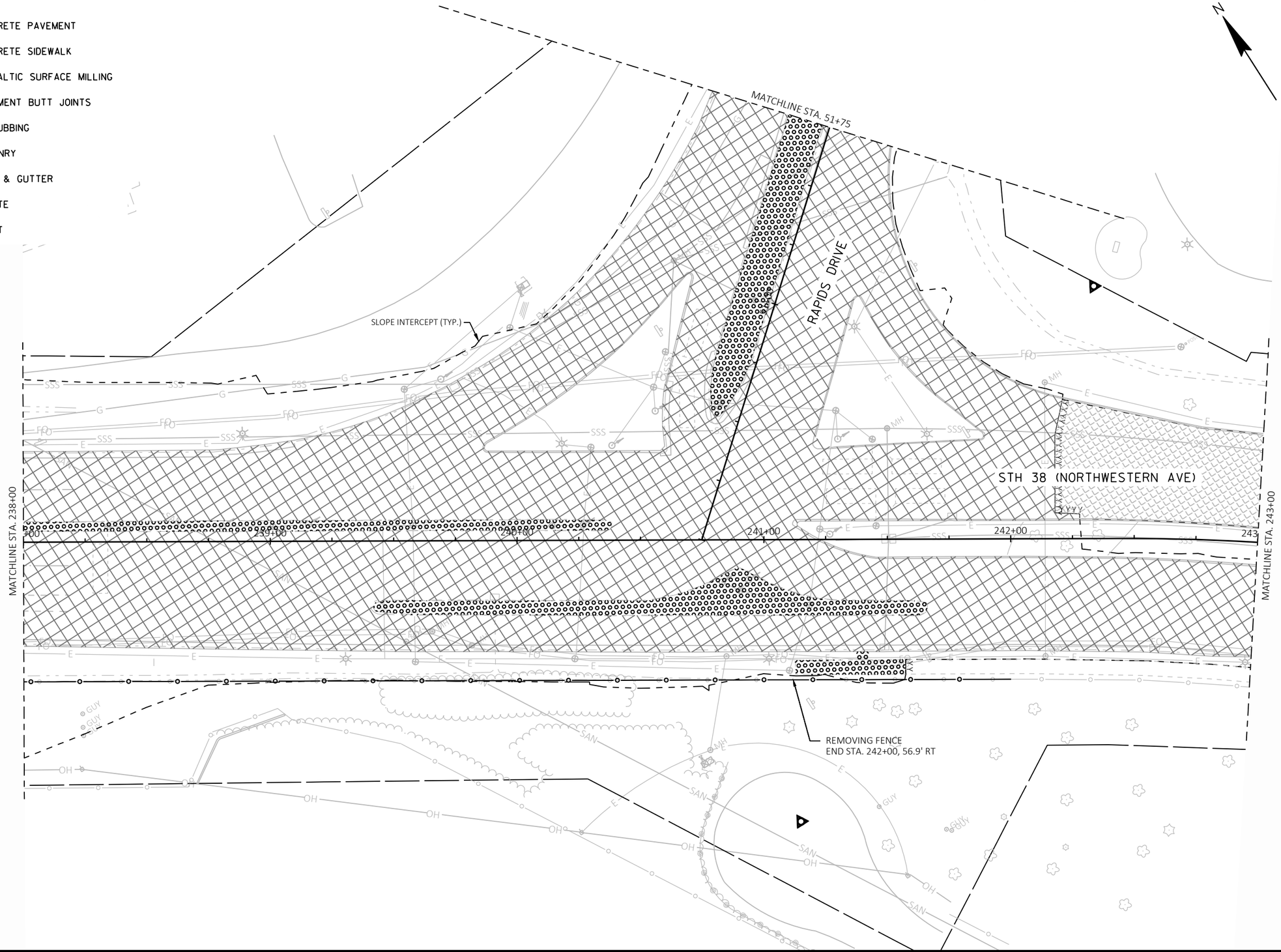
WISDOT/CADDS SHEET 42

2

2

LEGEND

- REMOVING CONCRETE PAVEMENT
- REMOVING CONCRETE SIDEWALK
- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING PAVEMENT BUTT JOINTS
- CLEARING & GRUBBING
- REMOVING MASONRY
- REMOVING CURB & GUTTER
- YYYYYY SAWING CONCRETE
- XXXXXX SAWING ASPHALT



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	REMOVAL PLAN	SHEET 14	E

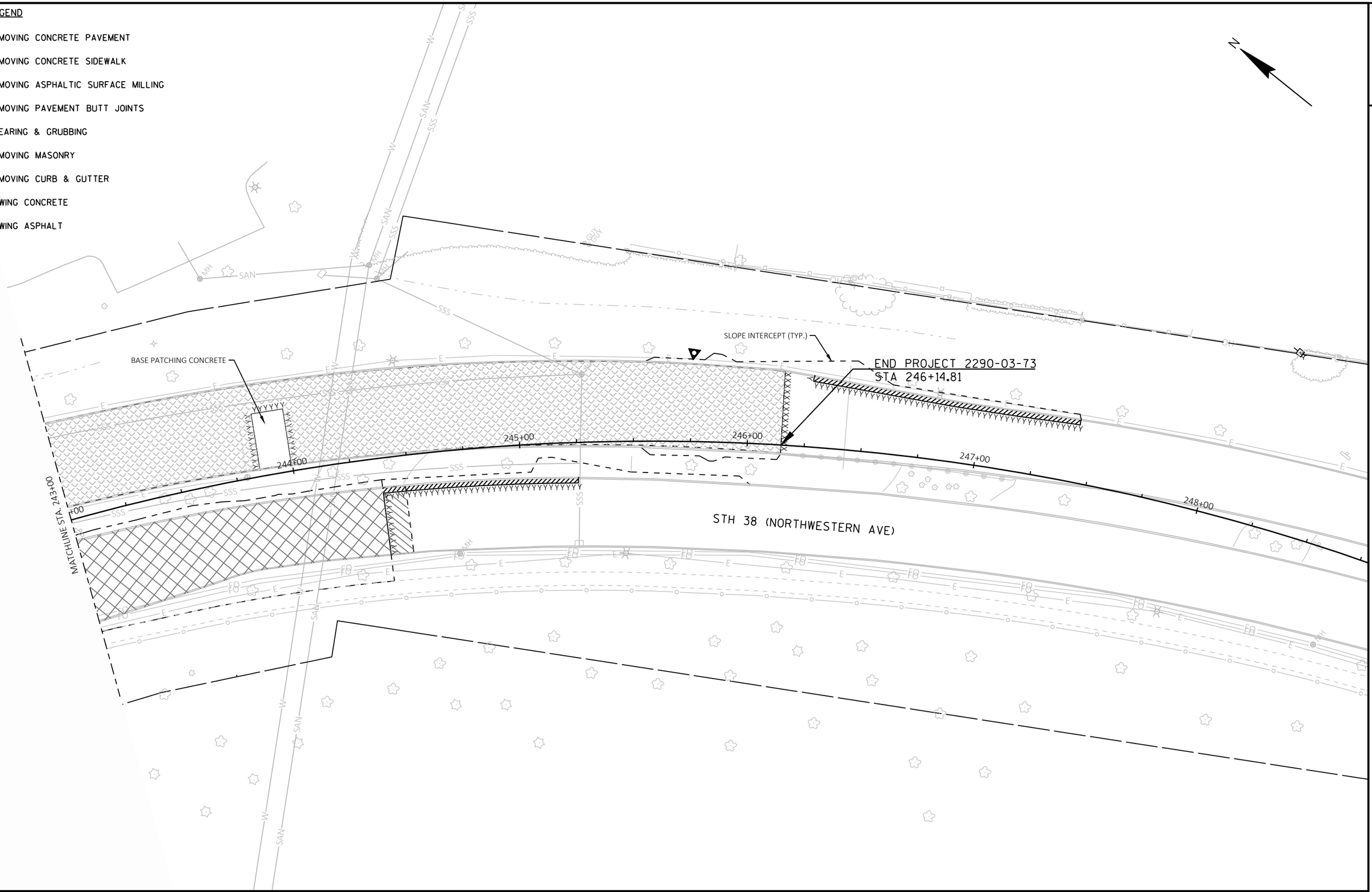
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LAYOUT NAME - 021102_rm
PLOT DATE : 7/21/2022 4:25 PM
PLOT BY : SCHOWALTER, STEVEN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

2

LEGEND

- REMOVING CONCRETE PAVEMENT
- REMOVING CONCRETE SIDEWALK
- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING PAVEMENT BUTT JOINTS
- CLEARING & GRUBBING
- REMOVING MASONRY
- REMOVING CURB & GUTTER
- YYYYYY SAWING CONCRETE
- XXXXXX SAWING ASPHALT



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	REMOVAL PLAN	SHEET 15	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\021101_RM.DWG
LAYOUT NAME - 021103_rm

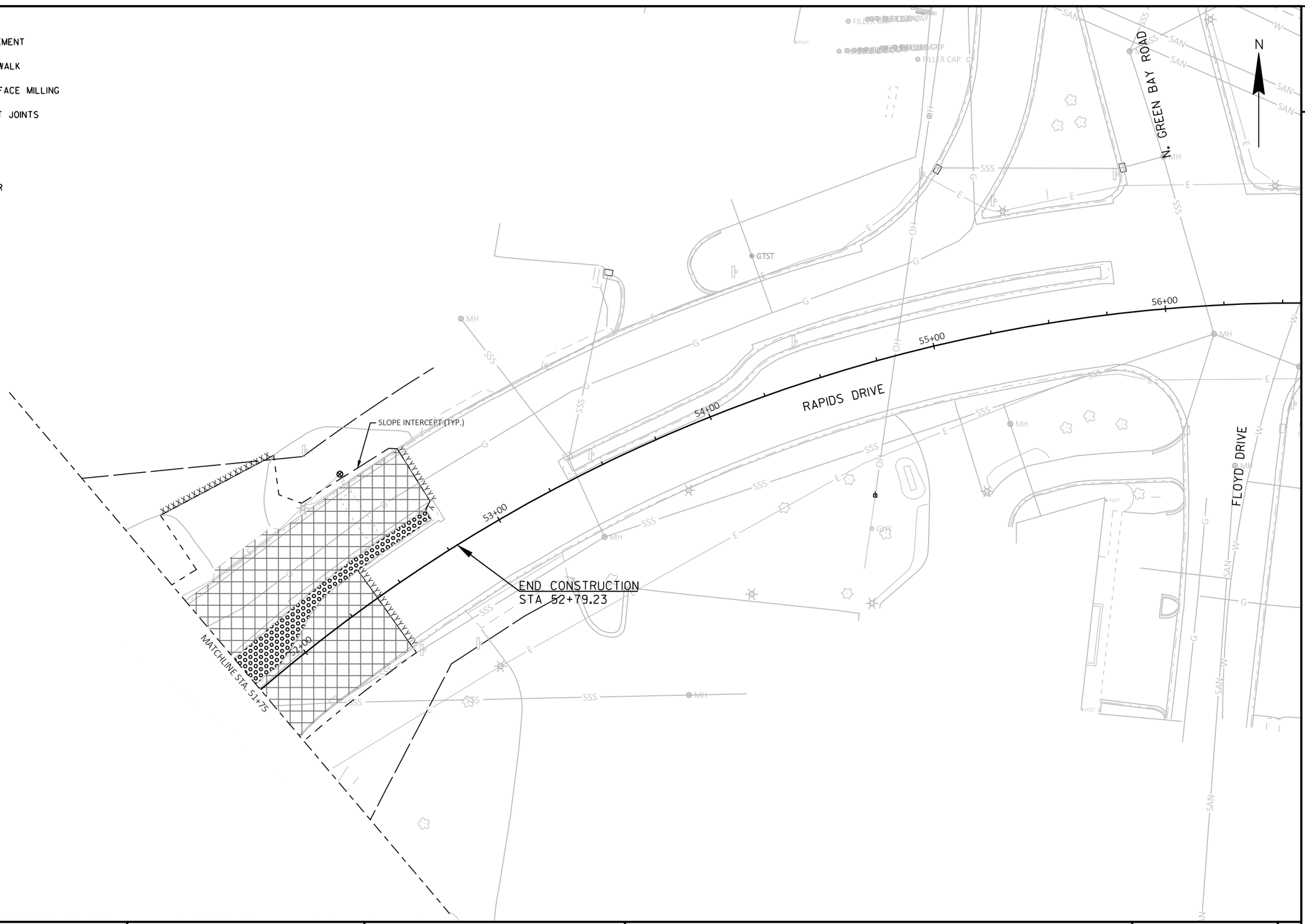
PLOT DATE : 7/21/2022 4:25 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- REMOVING CONCRETE PAVEMENT
- REMOVING CONCRETE SIDEWALK
- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING PAVEMENT BUTT JOINTS
- CLEARING & GRUBBING
- REMOVING MASONRY
- REMOVING CURB & GUTTER
- SAWING CONCRETE
- SAWING ASPHALT

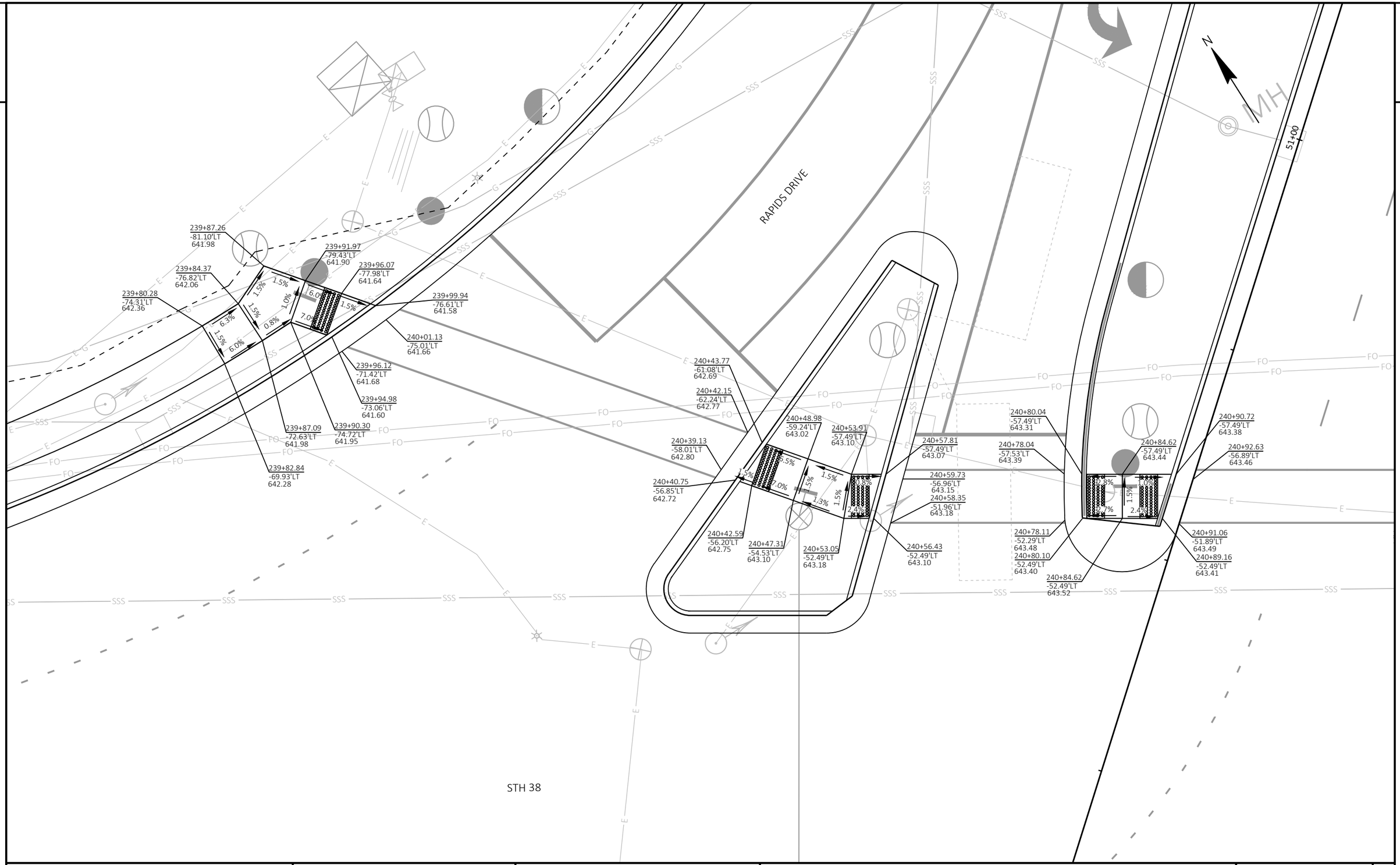


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PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	REMOVAL PLAN	SHEET 16	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\021101_RM.DWG
LAYOUT NAME - 021104_rm
PLOT DATE : 7/21/2022 4:25 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	CURB RAMP DETAIL	SHEET 17	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\021301-CR.DWG
LAYOUT NAME - 021301-cr

PLOT DATE : 7/22/2022 6:47 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	CURB RAMP DETAIL	SHEET 18	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\021301-CR.DWG
LAYOUT NAME - 021302-cr

PLOT DATE : 7/22/2022 6:47 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT

LEGEND

- 30A — CONCRETE CURB AND GUTTER TYPE / SIZE (INCHES) / HIGHSIDE CURB & GUTTER
- SN — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- SW — CONCRETE SIDEWALK 5-INCH
- PAV 1 — 7.5" CONCRETE PAVEMENT
- PAV 2 — 4" HMA PAVEMENT OVER BASE PATCHING CONCRETE
- PAV 3 — 2" MILL OVER 2" HMA PAVEMENT OVERLAY
- BTJ — BUTT JOINT
- CAS — CONCRETE PAVEMENT APPROACH SLAB
- SAS — STRUCTURAL APPROACH SLAB
- CR2 — CURB RAMP TYPE
- XXXXXXX / YYYYYYYY — SAWCUT & MATCH EXISTING

BEGIN CONSTRUCTION
STA. 22+50.00, STH 38 NB
Y = 195,164.79
X = 628,697.47

BEGIN PROJECT
2290-03-73
STA. 232+50.00
Y = 195,145.80
X = 628,685.41

BEGIN CONSTRUCTION
STA. 13+45.12, STH 38 SB
Y = 195,075.00
X = 628,753.14

ROOT RIVER

EXISTING SIGNAL LOOPS TO REMAIN

STRUCTURE B-51-0157

S-51-262 FULL SPAN SIGN STRUCTURE STA. 235+80

S-51-263 FULL SPAN SIGN STRUCTURE STA. 237+25

USGS GAGING STATION TO REMAIN FULLY OPERATIONAL DURING CONSTRUCTION

SLOPE INTERCEPT (TYP.)

STH 38 (NORTHWESTERN AVENUE)

MATCHLINE STA. 238+00

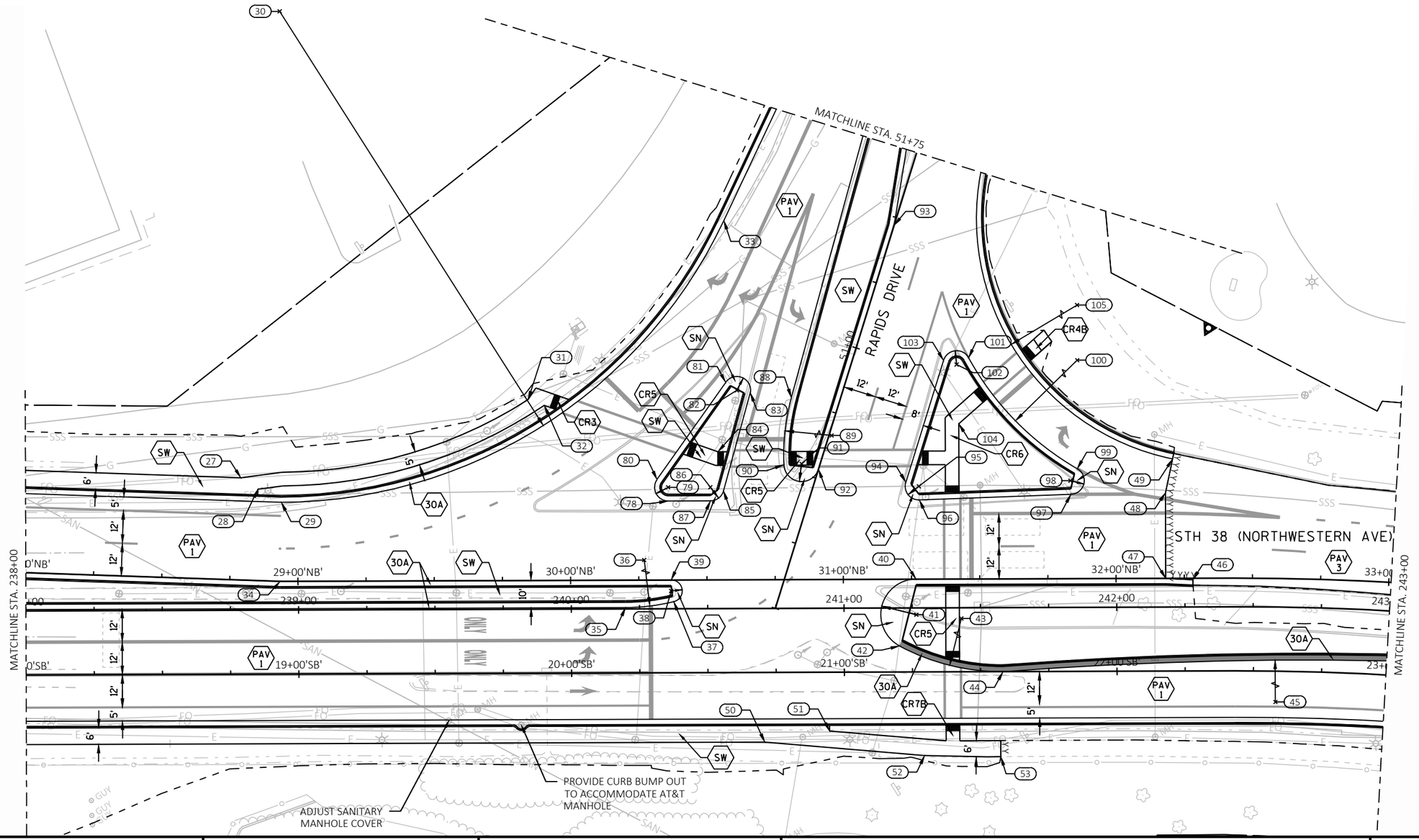
Point	Station	Offset		Description
1	232+50.00	51.50'	LT	SAWCUT, MATCH EXISTING, BEGIN CURB & GUTTER
2	233+45.90	56.00'	LT	SIDEWALK PI
3	233+58.65	51.50'	LT	END PAV1, BEGIN CONCRETE APPROACH SLAB
4	233+73.65	51.50'	LT	END CONCRETE APPROACH SLAB, BEGIN STRUCTURAL APPROACH SLAB
5	232+50.00	1.50'	RT	SAWCUT, MATCH EXISTING, BEGIN CURB & GUTTER
6	233+45.00	11.50'	RT	SAWCUT, MATCH EXISTING, BEGIN CURB & GUTTER
7	233+58.65	1.50'	RT	END PAV1, BEGIN CONCRETE APPROACH SLAB
8	233+69.76	11.50'	RT	END PAV1, BEGIN CONCRETE APPROACH SLAB
9	233+83.00	1.50'	RT	END CONCRETE APPROACH SLAB, BEGIN STRUCTURAL APPROACH SLAB
10	233+84.76	11.50'	RT	END CONCRETE APPROACH SLAB, BEGIN STRUCTURAL APPROACH SLAB
11	233+45.00	40.50'	RT	SAWCUT, MATCH EXISTING, BEGIN CURB & GUTTER
12	233+45.00	51.59'	RT	SIDEWALK PI
13	233+69.76	40.50'	RT	END PAV1, BEGIN CONCRETE APPROACH SLAB

Point	Station	Offset		Description
14	233+73.52	45.00'	RT	SIDEWALK PI
15	233+89.87	40.50'	RT	END CONCRETE APPROACH SLAB, BEGIN STRUCTURAL APPROACH SLAB
16	235+66.19	51.50'	LT	END STRUCTURAL APPROACH SLAB, BEGIN CONCRETE APPROACH SLAB
17	235+73.79	51.50'	LT	CURB & GUTTER PI
18	235+89.88	50.90'	LT	END CONCRETE APPROACH SLAB, BEGIN PAV1
19	235+74.88	2.23'	LT	END STRUCTURAL APPROACH SLAB, BEGIN CONCRETE APPROACH SLAB
20	235+76.97	9.66'	RT	END STRUCTURAL APPROACH SLAB, BEGIN CONCRETE APPROACH SLAB
21	235+89.88	3.30'	LT	END CONCRETE APPROACH SLAB, BEGIN PAV1
22	235+97.41	8.20'	RT	END CONCRETE APPROACH SLAB, BEGIN PAV1
23	237+19.15	0.50'	LT	CURB & GUTTER PI
24	237+60.45	15.48'	LT	BEGIN TAPER
25	235+82.41	40.50'	RT	END STRUCTURAL APPROACH SLAB, BEGIN CONCRETE APPROACH SLAB
26	235+97.41	40.50'	RT	END CONCRETE APPROACH SLAB, BEGIN PAV1

2

LEGEND

- 30A — CONCRETE CURB AND GUTTER (TYPE / SIZE (INCHES))
- HIGHSIDE CURB & GUTTER
- SN — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- SW — CONCRETE SIDEWALK 5-INCH
- PAV 1 — 7.5" CONCRETE PAVEMENT
- PAV 2 — 4" HMA PAVEMENT OVER BASE PATCHING CONCRETE
- PAV 3 — 2" MILL OVER 2" HMA PAVEMENT OVERLAY
- BTJ — BUTT JOINT
- CAS — CONCRETE PAVEMENT APPROACH SLAB
- SAS — STRUCTURAL APPROACH SLAB
- CR2 — CURB RAMP TYPE
- XXXXXXX / YYYYYYYY — SAWCUT & MATCH EXISTING



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	PLAN DETAILS	SHEET 20	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021202_pd
PLOT DATE : 7/21/2022 4:27 PM
PLOT BY : SCHOWALTER, STEVEN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

2

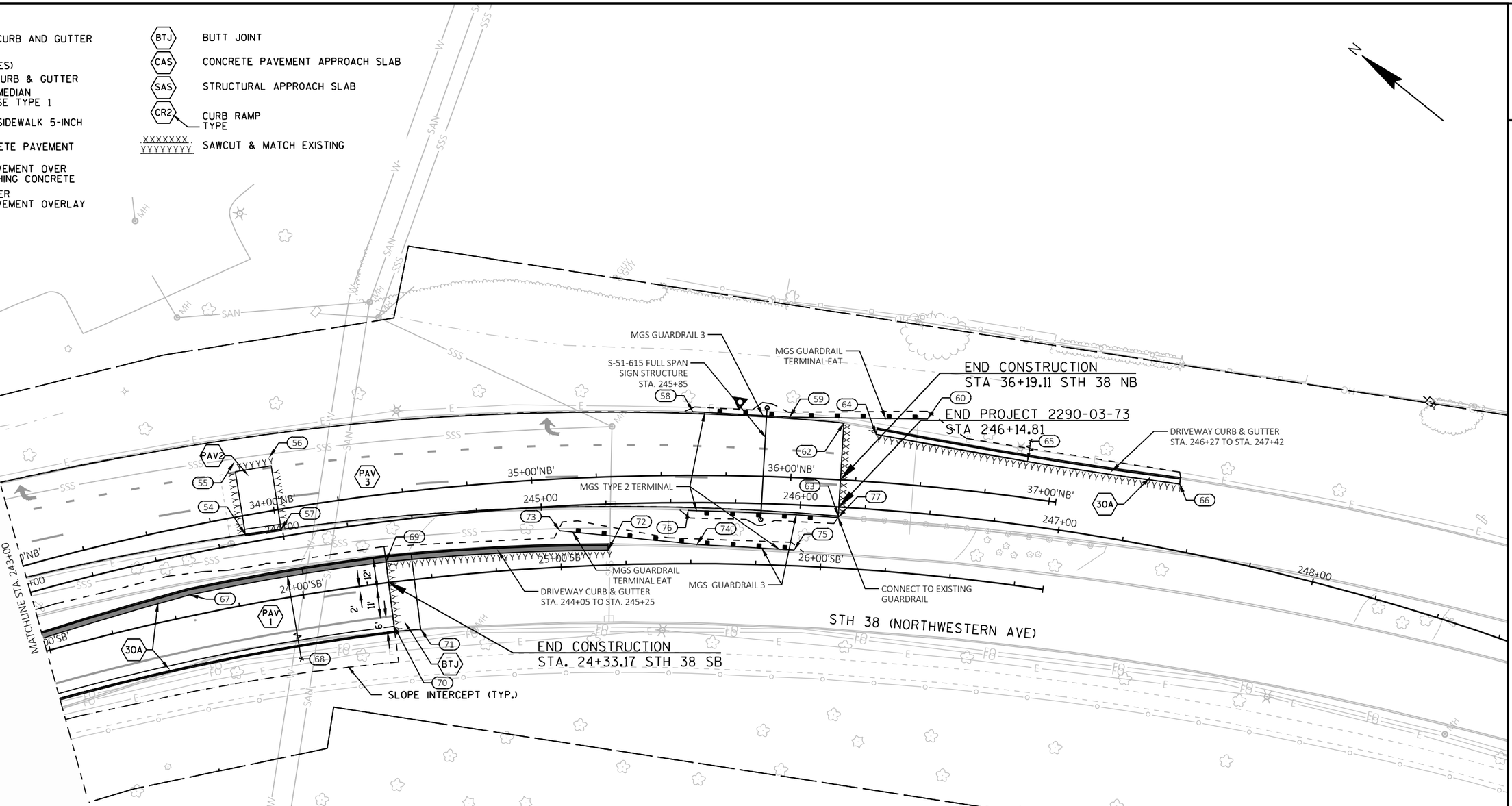
POINT TABLE

Point	Station	Offset		Description
27	238+78.93	48.56'	LT	SIDEWALK PI
28	238+85.19	44.33'	LT	SIDEWALK PI
29	238+93.79	39.50'	LT	BEGIN 180' RADIUS
30	239+89.95	67.34'	LT	180' RADIUS
31	239+84.37	76.83'	LT	SIDEWALK PI
32	239+90.30	74.72'	LT	SIDEWALK PI
33	240+56.36	142.24'	LT	END 180' RADIUS
34	238+93.24	10.50'	LT	CURB & GUTTER PI
35	240+19.87	0.50'	LT	BEGIN 75' RADIUS
36	240+28.77	1.03'	LT	75' RADIUS
37	240+37.54	2.61'	LT	END 75' RADIUS, BEGIN 4' RADIUS
38	240+40.57	6.98'	LT	4' RADIUS
39	240+36.60	10.50'	LT	END 4' RADIUS
40	241+26.45	10.50'	LT	BEGIN 13' RADIUS
41	241+13.84	0.68'	LT	13' RADIUS
42	241+20.29	13.95'	RT	END 13' RADIUS, BEGIN 80' RADIUS
43	241+38.65	21.08'	RT	80' RADIUS
44	241+58.20	23.50'	RT	END 80' RADIUS, BEGIN 1,471' RADIUS
45	242+58.27	19.50'	RT	1,471' RADIUS
46	242+27.97	10.01'	LT	SAWCUT, MATCH EXISTING, BEGIN CURB & GUTTER
47	242+17.97	10.50'	LT	SAWCUT, MATCH EXISTING, CURB & GUTTER PI
48	242+17.97	41.91'	LT	SAWCUT, MATCH EXISTING, PAV1 PI
49	242+20.63	54.29'	LT	SAWCUT, MATCH EXISTING, BEGIN CURB & GUTTER, BEGIN 90' RADIUS
50	240+70.72	49.00'	RT	SIDEWALK PI
51	240+94.53	45.00'	RT	SIDEWALK PI
52	241+29.31	54.16'	RT	SIDEWALK PI
53	241+57.27	54.62'	RT	END SIDEWALK

Point	Station	Offset		Description
78	50+25.96	49.17'	LT	BEGIN 5' RADIUS
79	50+27.22	54.23'	LT	5' RADIUS
80	50+32.28	55.42'	LT	END 5' RADIUS
81	50+73.73	41.91'	LT	BEGIN 5' RADIUS
82	50+77.09	36.24'	LT	5' RADIUS
83	50+72.79	32.20'	LT	END 5' RADIUS
84	50+48.60	37.13'	LT	SIDEWALK PI
85	50+35.53	30.92'	LT	BEGIN 5' RADIUS
86	50+32.47	31.84'	LT	5' RADIUS
87	50+30.59	34.42'	LT	END 5' RADIUS
88	50+75.54	17.26'	LT	BEGIN 80' RADIUS
89	50+63.22	15.88'	LT	80' RADIUS
90	50+51.25	12.62'	LT	END 80' RADIUS, BEGIN 6.5' RADIUS
91	50+47.04	5.39'	LT	6.5' RADIUS
92	50+53.45	0.00'	RT	END 6.5' RADIUS
93	51+46.99	0.00'	RT	BEGIN TAPER
94	50+58.34	32.00'	RT	BEGIN 5' RADIUS
95	50+54.26	34.11'	RT	5' RADIUS
96	50+53.62	38.66'	RT	END 5' RADIUS
97	50+72.07	91.13'	RT	BEGIN 5' RADIUS
98	50+77.07	94.46'	RT	5' RADIUS
99	50+81.66	90.58'	RT	END 5' RADIUS, BEGIN 106' RADIUS
100	50+91.75	63.67'	RT	106' RADIUS
101	51+08.69	40.47'	RT	END 106' RADIUS, BEGIN 5' RADIUS
102	51+09.69	35.04'	RT	5' RADIUS
103	51+05.09	32.00'	RT	END 5' RADIUS
104	50+84.59	44.20'	RT	SIDEWALK PI
105	51+18.02	53.93'	RT	90' RADIUS

LEGEND

- 30A — CONCRETE CURB AND GUTTER; TYPE; SIZE (INCHES); HIGHSIDE CURB & GUTTER
- SN — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- SW — CONCRETE SIDEWALK 5-INCH
- PAV 1 — 7.5" CONCRETE PAVEMENT
- PAV 2 — 4" HMA PAVEMENT OVER BASE PATCHING CONCRETE
- PAV 3 — 2" MILL OVER 2" HMA PAVEMENT OVERLAY
- BTJ — BUTT JOINT
- CAS — CONCRETE PAVEMENT APPROACH SLAB
- SAS — STRUCTURAL APPROACH SLAB
- CR2 — CURB RAMP TYPE
- XXXXXXX / YYYYYYY — SAWCUT & MATCH EXISTING

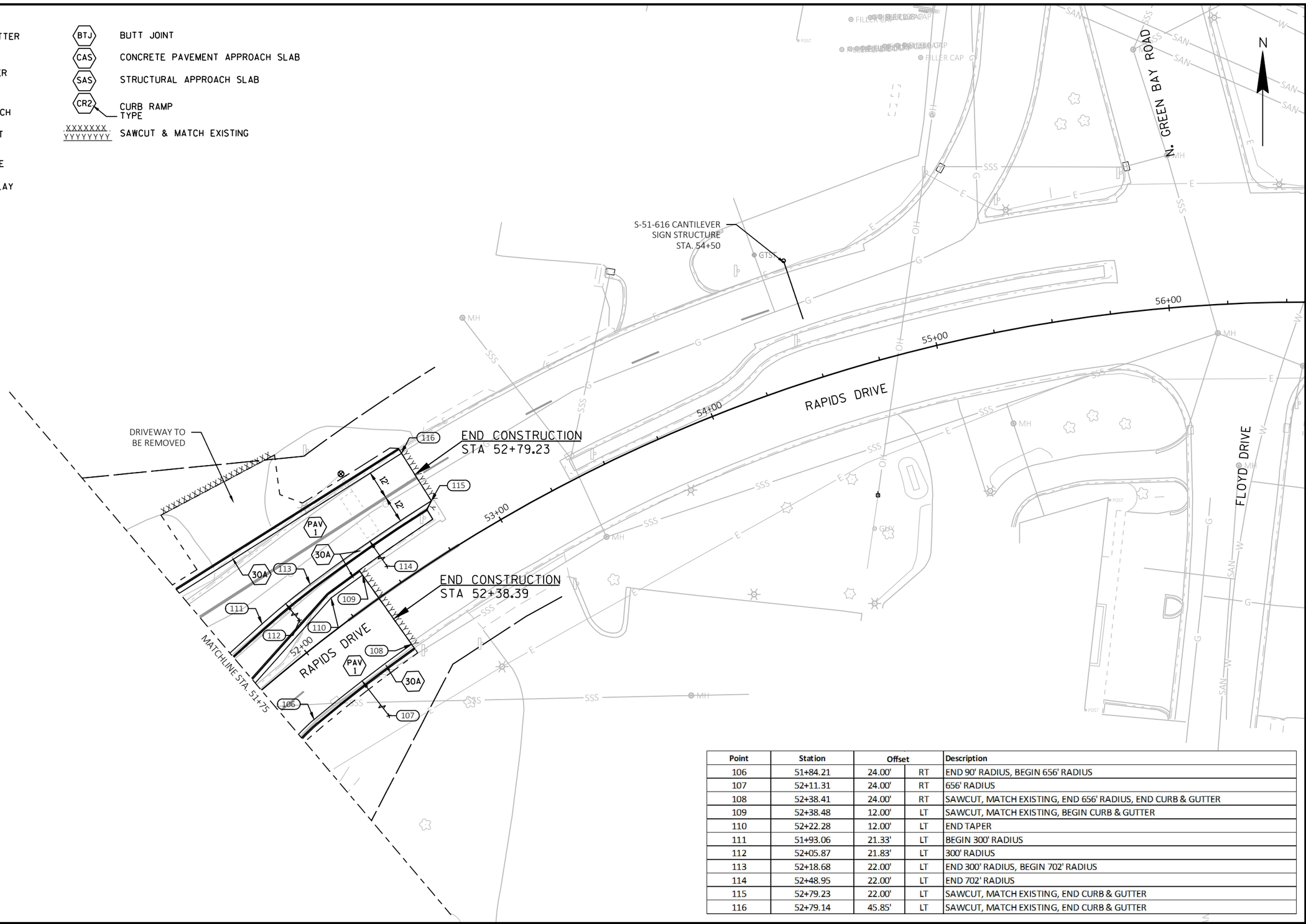


Point	Station	Offset		Description
54	243+85.65	3.25'	LT	PAV2 PI
55	243+86.24	31.26'	LT	PAV2 PI
56	243+99.80	31.07'	LT	PAV2 PI
57	243+99.61	2.81'	LT	PAV2 PI
58	245+58.40	35.06'	LT	BEGIN MGS TYPE 2 TERMINAL
59	245+94.58	33.67'	LT	BEGIN MGS GUARDRAIL TERMINAL EAT
60	246+45.77	36.38'	LT	END MGS GUARDRAIL TERMINAL EAT
62	246+14.81	32.32'	LT	SAWCUT, MATCH EXISTING, END PAV2
63	246+14.81	3.51'	RT	SAWCUT, MATCH EXISTING, END PAV2
64	246+27.07	28.88'	LT	SAWCUT, MATCH EXISTING, BEGIN CURB & GUTTER, BEGIN 1,847' RADIUS
65	246+84.63	24.41'	LT	1,847' RADIUS
66	247+42.45	25.42'	LT	SAWCUT, MATCH EXISTING, END CURB & GUTTER, END 1,847' RADIUS

Point	Station	Offset		Description
67	243+59.93	15.50'	RT	END 1,471' RADIUS, BEGIN 939' RADIUS
68	243+98.95	15.50'	RT	939' RADIUS
69	244+37.97	15.50'	RT	SAWCUT, END 939' RADIUS, END PAV1, BEGIN BUTT JOINT
70	244+37.97	40.50'	RT	SAWCUT, END PAV1, END CURB & GUTTER, BEGIN BUTT JOINT
71	244+48.48	42.83'	RT	END BUTT JOINT, MATCH EXISTING
72	245+25.20	17.82'	RT	SAWCUT, MATCH EXISTING, END CURB & GUTTER
73	245+06.70	9.53'	RT	BEGIN MGS GUARDRAIL TERMINAL TYPE EAT
74	245+60.15	16.13'	RT	END MGS GUARDRAIL TERMINAL TYPE EAT
75	245+98.30	17.41'	RT	END MGS TYPE 2 TERMINAL
76	245+56.66	3.02'	RT	BEGIN MGS TYPE 2 TERMINAL
77	246+14.80	4.05'	RT	MATCH EXISTING, END MGS GUARDRAIL 3

LEGEND

- 30A — CONCRETE CURB AND GUTTER TYPE (SIZE (INCHES))
- HIGHSIDE CURB & GUTTER
- SN — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- SW — CONCRETE SIDEWALK 5-INCH
- PAV 1 — 7.5" CONCRETE PAVEMENT
- PAV 2 — 4" HMA PAVEMENT OVER BASE PATCHING CONCRETE
- PAV 3 — 2" MILL OVER 2" HMA PAVEMENT OVERLAY
- BTJ — BUTT JOINT
- CAS — CONCRETE PAVEMENT APPROACH SLAB
- SAS — STRUCTURAL APPROACH SLAB
- CR2 — CURB RAMP TYPE
- XXXXXXX / YYYYYYYY — SAWCUT & MATCH EXISTING



Point	Station	Offset		Description
106	51+84.21	24.00'	RT	END 90' RADIUS, BEGIN 656' RADIUS
107	52+11.31	24.00'	RT	656' RADIUS
108	52+38.41	24.00'	RT	SAWCUT, MATCH EXISTING, END 656' RADIUS, END CURB & GUTTER
109	52+38.48	12.00'	LT	SAWCUT, MATCH EXISTING, BEGIN CURB & GUTTER
110	52+22.28	12.00'	LT	END TAPER
111	51+93.06	21.33'	LT	BEGIN 300' RADIUS
112	52+05.87	21.83'	LT	300' RADIUS
113	52+18.68	22.00'	LT	END 300' RADIUS, BEGIN 702' RADIUS
114	52+48.95	22.00'	LT	END 702' RADIUS
115	52+79.23	22.00'	LT	SAWCUT, MATCH EXISTING, END CURB & GUTTER
116	52+79.14	45.85'	LT	SAWCUT, MATCH EXISTING, END CURB & GUTTER

2

2

LEGEND

XXX.XX PROPOSED ELEVATION

(XXX.XX) EXISTING ELEVATION

HIGHSIDE CURB & GUTTER

BEGIN CONSTRUCTION
STA. 22+50.00, STH 38 NB

STH 38 NB

	23+00'NB'					24+00'NB'					25+00'NB'					26+00'NB'					27+00'NB'				
(638.77)	638.46	638.19	637.91	637.63	637.72	637.91	638.10	638.28	638.47	638.66	638.85	639.03	639.22	639.40	639.59	639.77	639.96	640.15	640.33	640.52					
(638.66)	638.38	638.16	637.94	637.73	637.82	638.01	638.20	638.38	638.57	638.76	638.95	639.14	639.32	639.50	639.69	639.88	640.06	640.25	640.43	640.62					
(638.31)	638.17	638.10	638.03	637.97	638.06	638.25	638.44	638.62	638.81	639.00	639.19	639.37	639.56	639.75	639.93	640.12	640.30	640.49	640.68	640.86					
(637.88)	637.96	638.04	638.12	638.21	638.30	638.49	638.68	638.86	639.05	639.24	639.43	639.61	639.80	639.99	640.18	640.36	640.55	640.73	640.92	641.13					
(637.67)	637.82	637.98	638.21	638.45	638.54	638.73	638.92	639.10	639.29	639.48	639.66	639.82	639.97	640.10	640.23	640.47	640.74	640.87	641.00						
(637.41)	637.68	233+00	638.30	638.69	638.78	234+00	639.16	639.34	639.53	235+00	639.90	640.06	640.25	640.34	236+00	640.61	640.99	237+00	641.65	641.84					
		637.92				638.97				639.72															
(638.51)	638.59	638.78	638.97	639.16	639.34	639.53	639.72	639.91	640.09	640.28	640.47	640.54	640.76	640.85	641.03	641.22	641.41	641.60							
(638.31)	638.35	638.54	638.73	638.92	639.10	639.29	639.48	639.67	639.85	640.04	640.23	640.42	640.61	640.79	640.98	641.17	641.36								
(638.07)	638.11	638.30	638.49	638.68	638.86	639.05	639.24	639.43	639.61	639.80	639.99	640.18	640.37	640.55	640.74	640.93	641.12								
(638.00)	638.01	638.20	638.39	638.58	638.76	638.95	639.14	639.33	639.51	639.70	639.89	640.08	640.27	640.45	640.64	640.83	641.02								

	13+00'SB'					14+00'SB'					15+00'SB'					16+00'SB'					17+00'SB'				
(638.51)	638.59	638.78	638.97	639.16	639.34	639.53	639.72	639.91	640.09	640.28	640.47	640.54	640.76	640.85	641.03	641.22	641.41	641.60							
(638.31)	638.35	638.54	638.73	638.92	639.10	639.29	639.48	639.67	639.85	640.04	640.23	640.42	640.61	640.79	640.98	641.17	641.36								
(638.07)	638.11	638.30	638.49	638.68	638.86	639.05	639.24	639.43	639.61	639.80	639.99	640.18	640.37	640.55	640.74	640.93	641.12								
(638.00)	638.01	638.20	638.39	638.58	638.76	638.95	639.14	639.33	639.51	639.70	639.89	640.08	640.27	640.45	640.64	640.83	641.02								

STH 38 SB

BEGIN PROJECT
2290-03-73
STA. 232+50.00

BEGIN CONSTRUCTION
STA. 13+45.12, STH 38 SB

MATCHLINE STA. 237+50

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	JOINTING PLAN	SHEET 24	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\021301_JD.DWG
LAYOUT NAME - 021301_jd

PLOT DATE : 7/21/2022 4:27 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

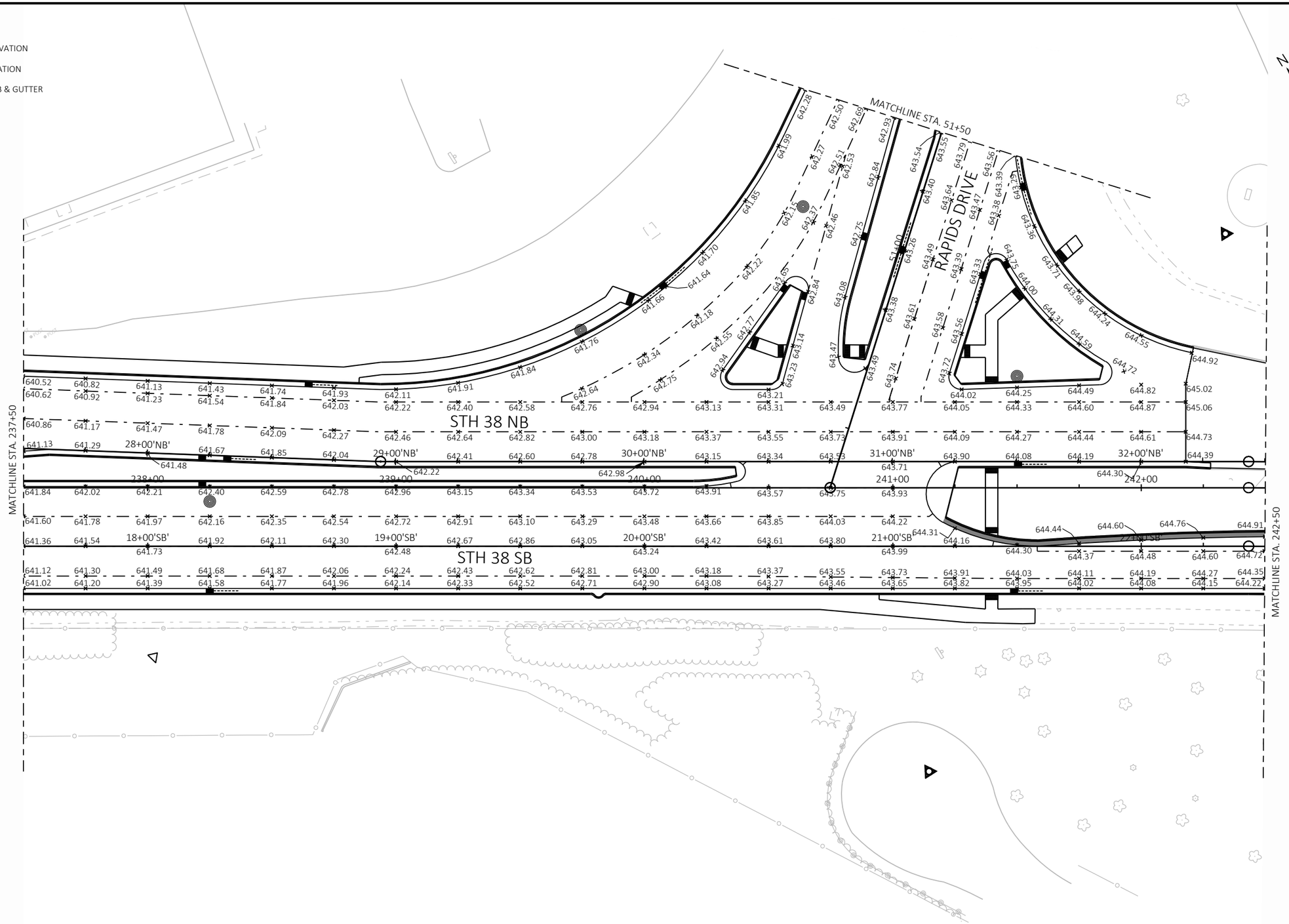
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LEGEND

XXX.XX PROPOSED ELEVATION

(XXX.XX) EXISTING ELEVATION

HIGHSIDE CURB & GUTTER



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	JOINTING PLAN	SHEET 25	E

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LAYOUT NAME - 021302_jd

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WISDOT/CADDS SHEET 42

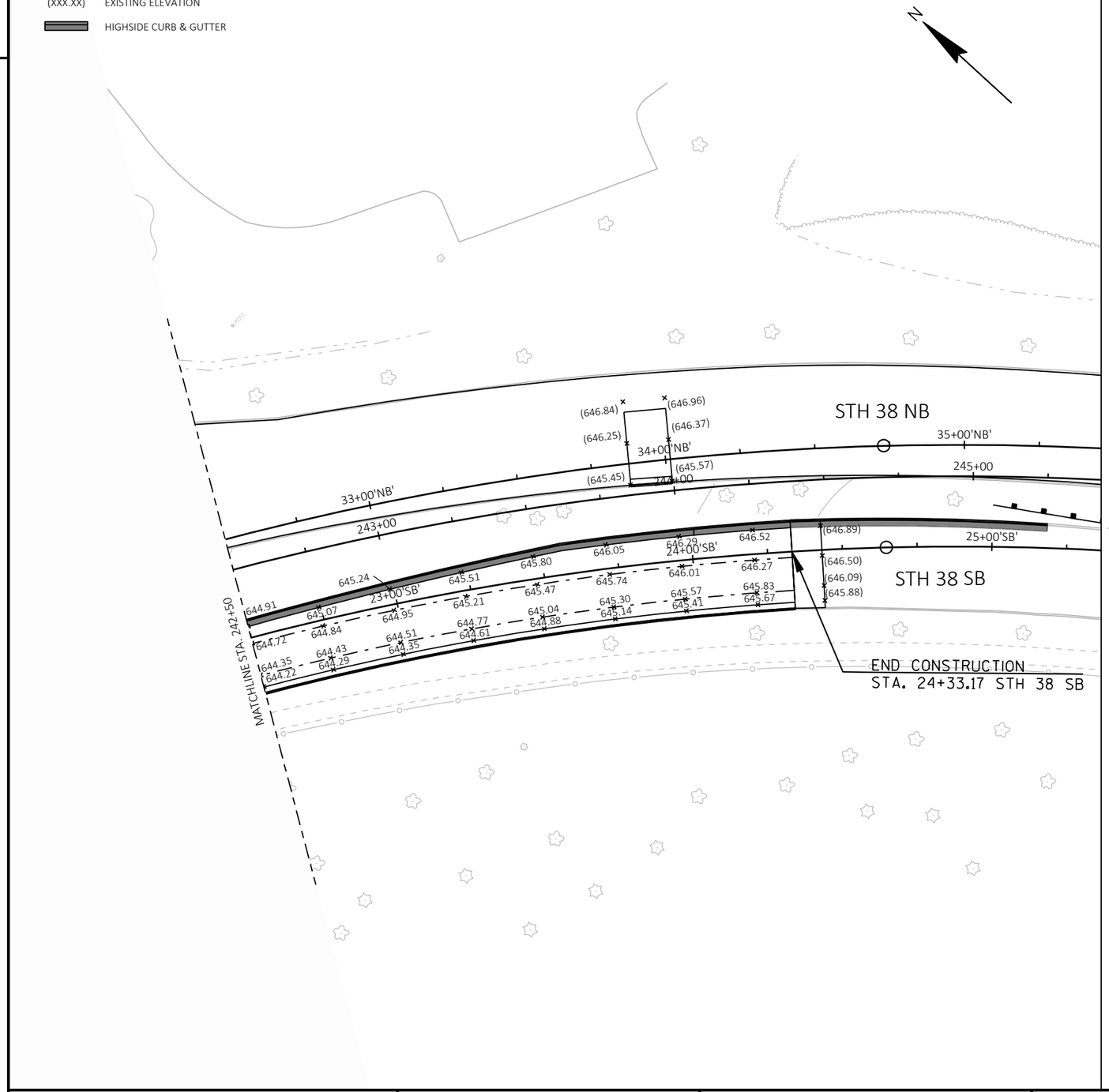
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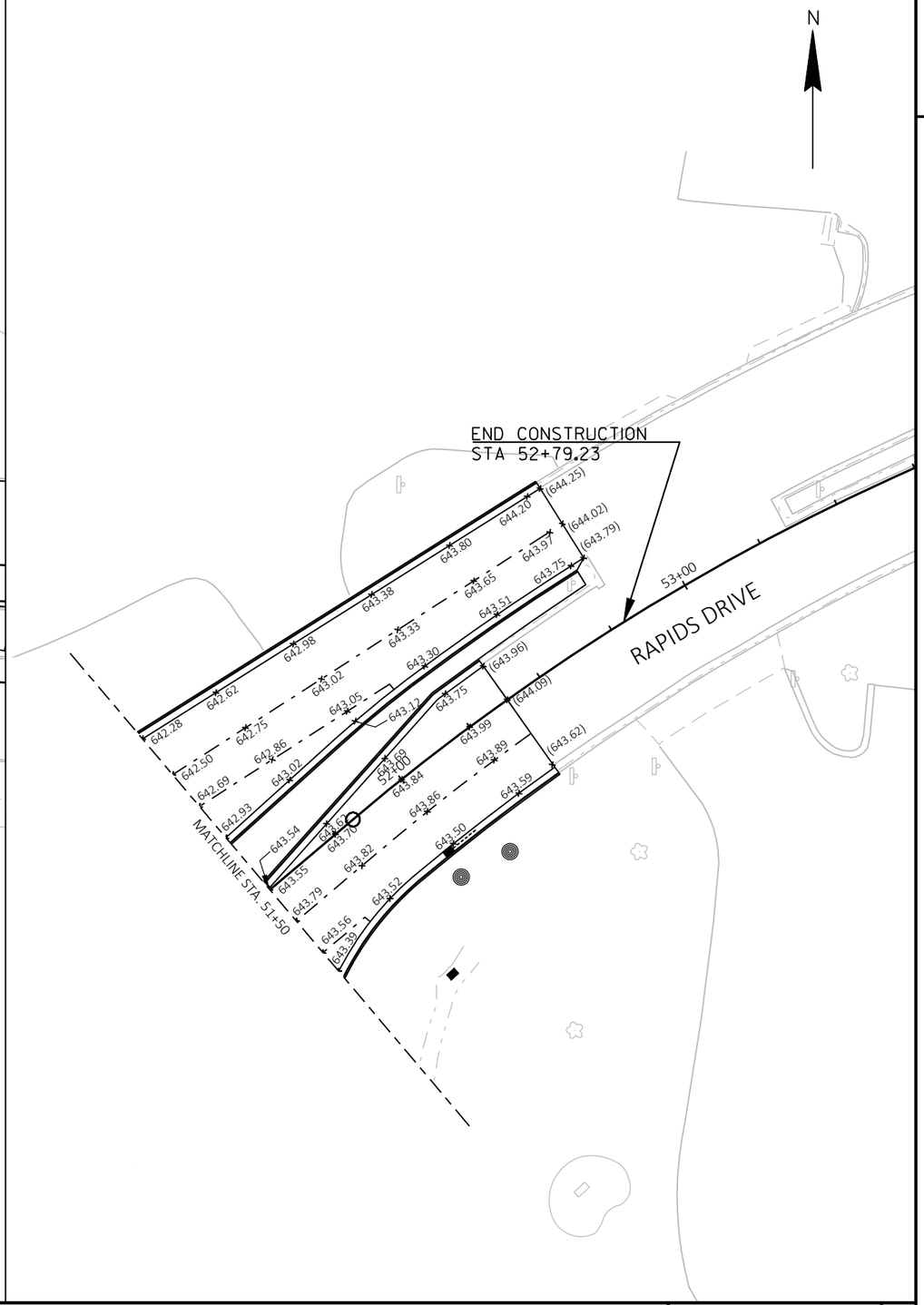
LEGEND

XXX.XX PROPOSED ELEVATION

(XXX.XX) EXISTING ELEVATION

HIGHSIDE CURB & GUTTER





2

PROJECT NO: 2290-20-73	HWY: STH 38	COUNTY: RACINE	JOINTING PLAN	SHEET 26	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\021301_JD.DWG
LAYOUT NAME - 021303_jd

PLOT DATE : 7/21/2022 4:28 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

LEGEND

- EROSION MAT URBAN CLASS I TYPE A
- EROSION MAT CLASS I TYPE B
- SOD
- SILT FENCE
- TURBIDITY BARRIER
- TEMPORARY CONCRETE BARRIER FLOW DEFLECTOR (INCIDENTAL TO TURBIDITY BARRIER)
- RIP RAP OR STONE DITCH CHECK
- INLET PROTECTION
- INLET PROTECTION TYPE
- TEMPORARY DITCH CHECK
- CULVERT PIPE DITCH CHECK
- SURFACE WATER FLOW

ORDINARY HIGH WATER MARK

ROOT RIVER

TURBIDITY BARRIER ANCHORED WITH ROCK BAGS PLACED CONTINUOUS WITH NO GAPS AT THE BASE OF THE BARRIER (TYP.)

SLOPE INTERCEPT (TYP.)

BEGIN PROJECT
2290-03-73
STA. 232+50.00

TEMPORARY SETTLING BASIN.
FILTER BAG PLACED INSIDE SETTLING BASIN WITH GEOTEXTILE FABRIC TYPE HR AND EROSION BALES

TEMPORARY SETTLING BASIN.
FILTER BAG PLACED INSIDE SETTLING BASIN WITH GEOTEXTILE FABRIC TYPE HR AND EROSION BALES

ORDINARY HIGH WATER MARK

STH 38 (NORTHWESTERN AVE)

MATCHLINE STA. 237+50

WETLAND BOUNDARY (TYP.)

QUEENSNAKE HABITAT WITHIN PROPOSED CONSTRUCTION LIMITS (TYP.)

QUEENSNAKE HABITAT WITHIN 10' OF CONSTRUCTION LIMITS OR 10' FROM THE EDGE OF THE PROPOSED BRIDGE (TYP.)

232+00 233+00 234+00 235+00 236+00 237+00

NOTES:

QUEENSNAKE HABITAT IS AREAS WITHIN 20' OF THE ORDINARY HIGH WATER LEVEL OF THE ROOT RIVER IN THE NORTHEAST, SOUTHEAST AND SOUTHWEST QUADRANT OF B-51-012.

AREAS OF QUENSNAKE HABITAT WITHIN THE PROPOSED CONSTRUCTION LIMITS IS TO BE HAND CLEARED OF VEGETATION AND GRUBBED.

AREAS OF QUEENSNAKE HABITAT WITHIN 10' FROM THE EDGE OF THE CONSTRUCTION LIMITS IS TO BE CLEARED BUT NOT GRUBBED.

EXISTING VEGETATION WITHIN THE AREAS OF QUEENSNAKE HABITAT IDENTIFIED FOR CLEARING, SHALL BE MAINTAINED AT LESS THAN 6" IN HEIGHT UNTIL FINAL RESTORATION AND SHRUB PLANTINGS ARE IN COMPLETE.

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	EROSION CONTROL PLAN - BRIDGE DEMOLITION	SHEET 27	E

2

2

LEGEND

- EROSION MAT URBAN CLASS I TYPE A
- EROSION MAT CLASS I TYPE B
- SOD
- SILT FENCE SNAKE EXCLUSION BARRIER
- SILT FENCE
- TURBIDITY BARRIER
- TEMPORARY CONCRETE BARRIER FLOW DEFLECTOR (INCIDENTAL TO TURBIDITY BARRIER)
- RIP RAP OR STONE DITCH CHECK
- INLET PROTECTION
- INLET PROTECTION TYPE
- TEMPORARY DITCH CHECK
- CULVERT PIPE DITCH CHECK
- SURFACE WATER FLOW

ORDINARY HIGH WATER MARK

ROOT RIVER

QUEENSNAKE HABITAT WITHIN 10' OF CONSTRUCTION LIMITS OR 10' FROM THE EDGE OF THE PROPOSED BRIDGE (TYP.)

QUEENSNAKE HABITAT WITHIN PROPOSED CONSTRUCTION LIMITS (TYP.)

TURBIDITY BARRIER ANCHORED WITH ROCK BAGS PLACED CONTINUOUS WITH NO GAPS AT THE BASE OF THE BARRIER (TYP.)

HEAVY RIPRAP PLACED OUTSIDE OF STREAM ALONG SIDE OF ABUTMENT. SEE STRUCTURE PLANS FOR DETAILS (TYP.)

BEGIN PROJECT
2290-03-73
STA. 232+50.00

232+00 233+00 234+00 235+00 236+00 237+00

TEMPORARY SETTLING BASIN.
FILTER BAG PLACED INSIDE SETTLING BASIN WITH GEOTEXTILE FABRIC TYPE HR AND EROSION BALES

TEMPORARY SETTLING BASIN.
FILTER BAG PLACED INSIDE SETTLING BASIN WITH GEOTEXTILE TYPE HR AND EROSION BALES

STH 38 (NORTHWESTERN AVE)

WETLAND BOUNDARY TYP.

DISCHARGE AT TOP OF REMAINING CONCRETE FLUME

SLOPE INTERCEPTS (TYP.)

MATCHLINE STA. 237+50

N

NOTES:

QUEENSNAKE HABITAT IS AREAS WITHIN 20' OF THE ORDINARY HIGH WATER LEVEL OF THE ROOT RIVER IN THE NORTHEAST, SOUTHEAST AND SOUTHWEST QUADRANT OF B-51-012.

AREAS OF QUENSNAKE HABITAT WITHIN THE PROPOSED CONSTRUCTION LIMITS IS TO BE HAND CLEARED OF VEGETATION AND GRUBBED.

AREAS OF QUEENSNAKE HABITAT WITHIN 10' FROM THE EDGE OF THE CONSTRUCTION LIMITS IS TO BE CLEARED BUT NOT GRUBBED.

EXISTING VEGETATION WITHIN THE AREAS OF QUEENSNAKE HABITAT IDENTIFIED FOR CLEARING, SHALL BE MAINTAINED AT LESS THAN 6" IN HEIGHT UNTIL FINAL RESTORATION AND SHRUB PLANTINGS ARE IN COMPLETE.

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	EROSION CONTROL PLAN - BRIDGE CONSTRUCTION	SHEET 28	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022101_ec

PLOT DATE : 9/22/2022 8:22 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

LEGEND

- EROSION MAT URBAN CLASS I TYPE A
- EROSION MAT CLASS I TYPE B
- SOD
- SILT FENCE SNAKE EXCLUSION BARRIER
- SILT FENCE
- TURBIDITY BARRIER
- TEMPORARY CONCRETE BARRIER FLOW DEFLECTOR (INCIDENTAL TO TURBIDITY BARRIER)
- RIP RAP OR STONE DITCH CHECK
- INLET PROTECTION
- INLET PROTECTION TYPE
- TEMPORARY DITCH CHECK
- CULVERT PIPE DITCH CHECK
- SURFACE WATER FLOW

END CONSTRUCTION
STA 52+79.23

RAPIDS DRIVE

SLOPE INTERCEPTS (TYP.)

STH 38 (NORTHWESTERN AVE)

MATCHLINE STA. 237+50

MATCHLINE STA. 243+00

238+00 239+00 240+00 241+00 242+00

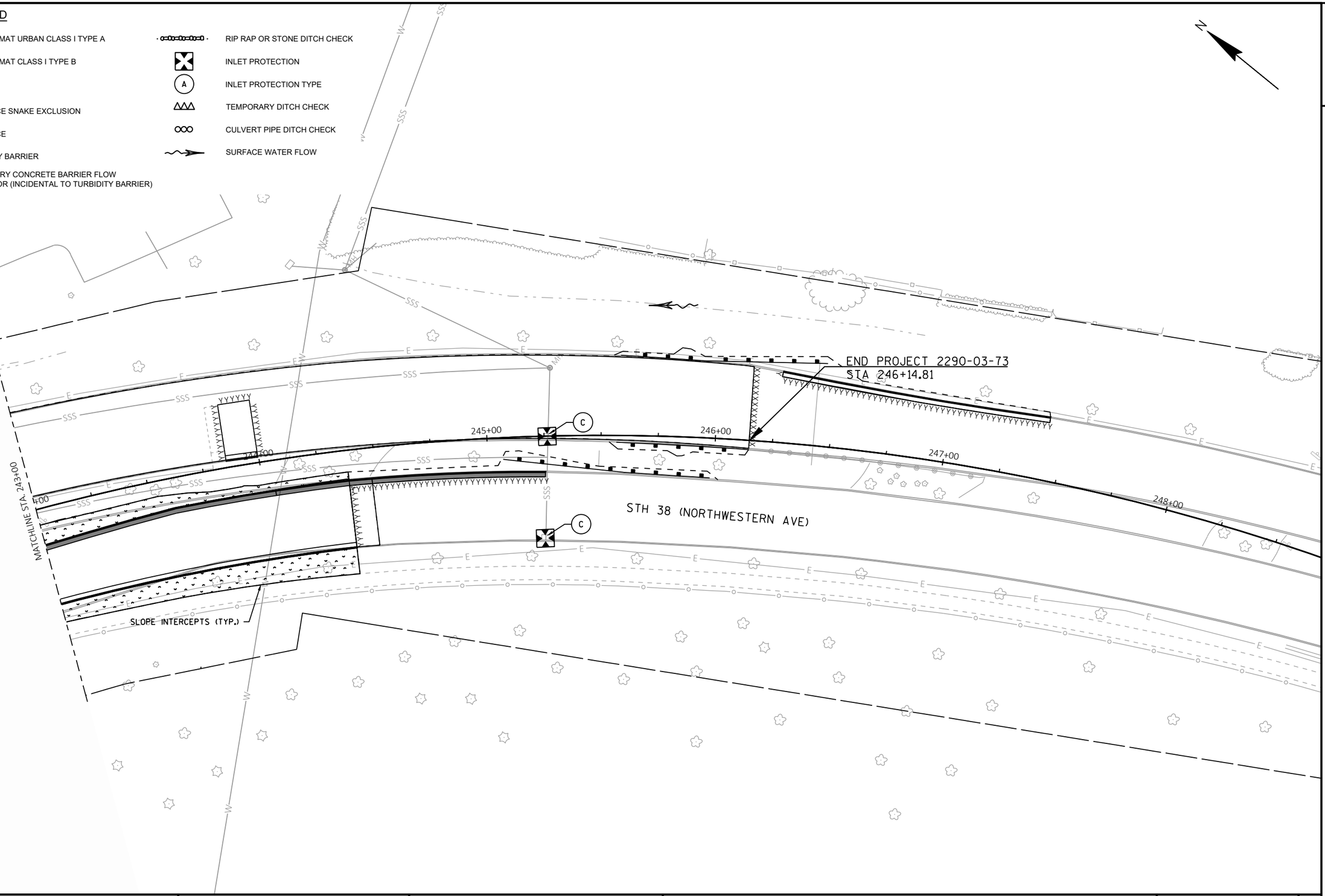
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PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	EROSION CONTROL PLAN	SHEET 29	E

2

LEGEND

- EROSION MAT URBAN CLASS I TYPE A
- EROSION MAT CLASS I TYPE B
- SOD
- SILT FENCE SNAKE EXCLUSION BARRIER
- SILT FENCE
- TURBIDITY BARRIER
- TEMPORARY CONCRETE BARRIER FLOW DEFLECTOR (INCIDENTAL TO TURBIDITY BARRIER)
- RIP RAP OR STONE DITCH CHECK
- INLET PROTECTION
- INLET PROTECTION TYPE A
- TEMPORARY DITCH CHECK
- CULVERT PIPE DITCH CHECK
- SURFACE WATER FLOW



2

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	EROSION CONTROL PLAN	SHEET 30	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022103_ec

PLOT DATE : 7/21/2022 4:29 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

- XX — PROPOSED DRAINAGE STRUCTURE
- XX — EXISTING STRUCTURE TO BE ADJUSTED
- XX — EXISTING STRUCTURE TO BE REMOVED
- XX — EXISTING STRUCTURE TO BE RECONSTRUCTED
- EXISTING STORM SEWER TO BE REMOVED

N

EXISTING MANHOLE

201

10' PIPE UNDERDRAIN 6-INCH

STA. 233+50.03, 53.0' LT
INLET 2X3-H-S
10

STA. 235+33.00, 68.0' LT
27" AEW
41

STA. 235+75.00, 64.4' LT
MANHOLE 4-FT-J
40

STA. 237+15.00, 64.0' LT
MANHOLE 4-FT-B
11

10' PIPE UNDERDRAIN 6-INCH

202

STA. 236+00.00, 52.0' LT
INLET 2X3-H
12

STA. 236+00.00, 2.5' LT
INLET 2X3-H
13

STA. 236+00.00, 6.5' RT
INLET 4FT-H
14

203

10' PIPE UNDERDRAIN 6-INCH

STA. 236+00.00, 42.0' RT
INLET 2X3-H
15

STA. 236+29.10, 70.1' RT
24" AEW
42

STA. 235+78.60, 68.0' RT
24" AEW
44

STA. 235+90.00, 65.0' RT
MANHOLE 4-FT-J
43

BEGIN PROJECT
2290-03-73
STA. 232+50.00

232+00 233+00 234+00 235+00 236+00 237+00

MATCHLINE STA. 237+50

STH 38 (NORTHWESTERN AVE)

CTH MM

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	STORM SEWER PLAN	SHEET 31	E

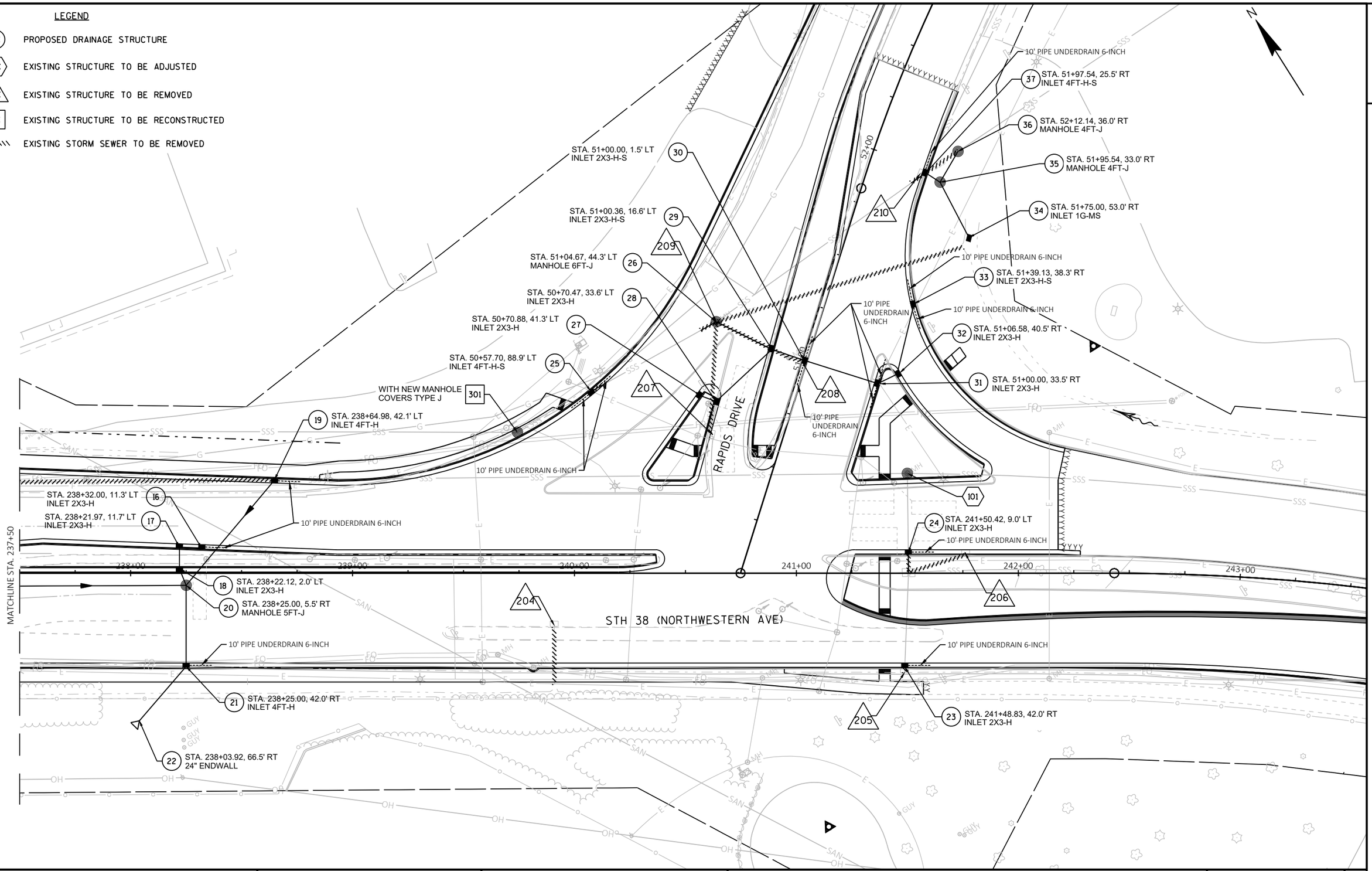
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LAYOUT NAME - 022501_ss

PLOT DATE : 7/21/2022 4:29 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : ##########

2

LEGEND

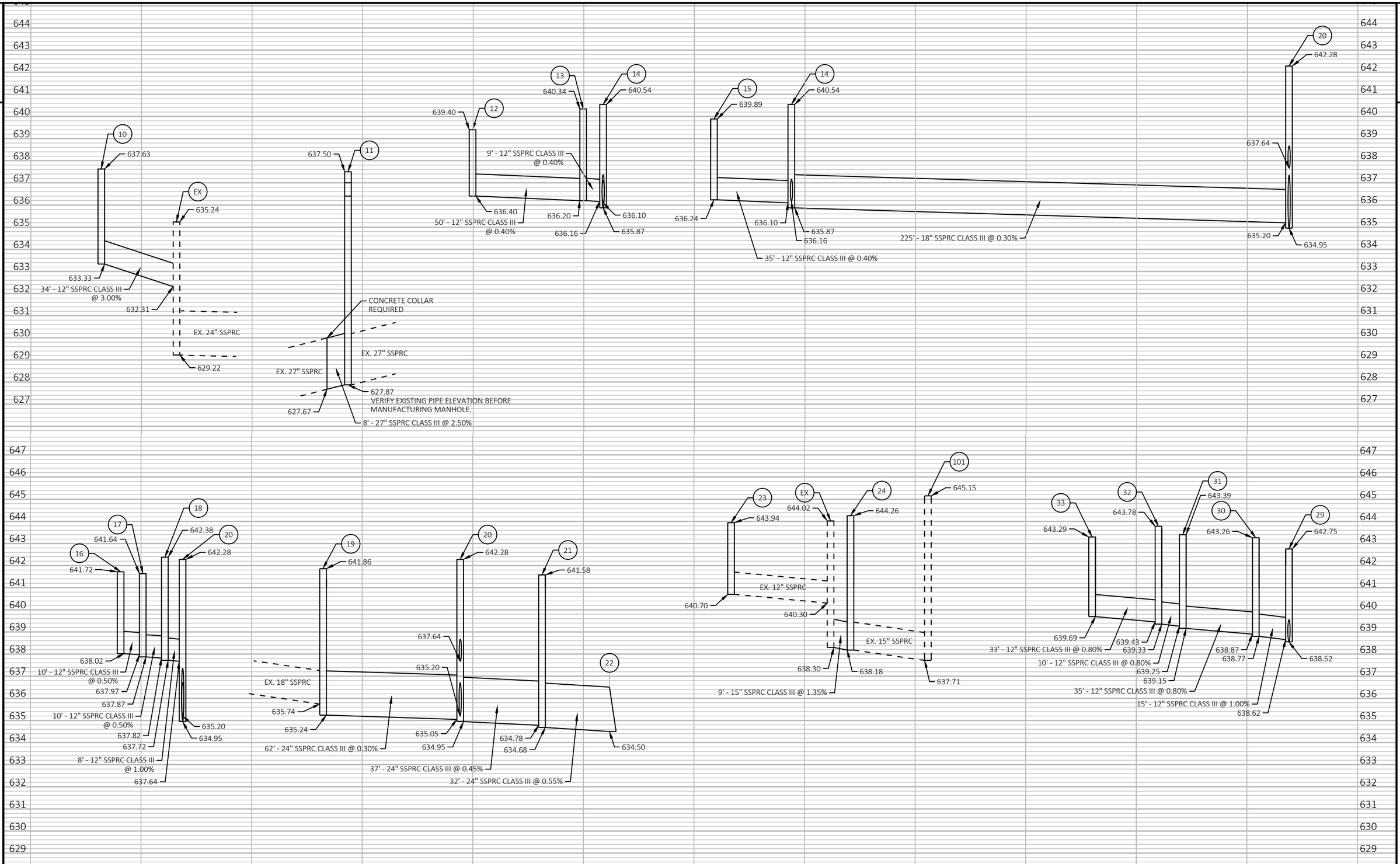
- (XX) PROPOSED DRAINAGE STRUCTURE
- XX EXISTING STRUCTURE TO BE ADJUSTED
- XX EXISTING STRUCTURE TO BE REMOVED
- XX EXISTING STRUCTURE TO BE RECONSTRUCTED
- EXISTING STORM SEWER TO BE REMOVED



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	STORM SEWER PLAN	SHEET 32	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\022501-SS.DWG
LAYOUT NAME - 022502_ss
PLOT DATE : 7/21/2022 4:30 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : ##########

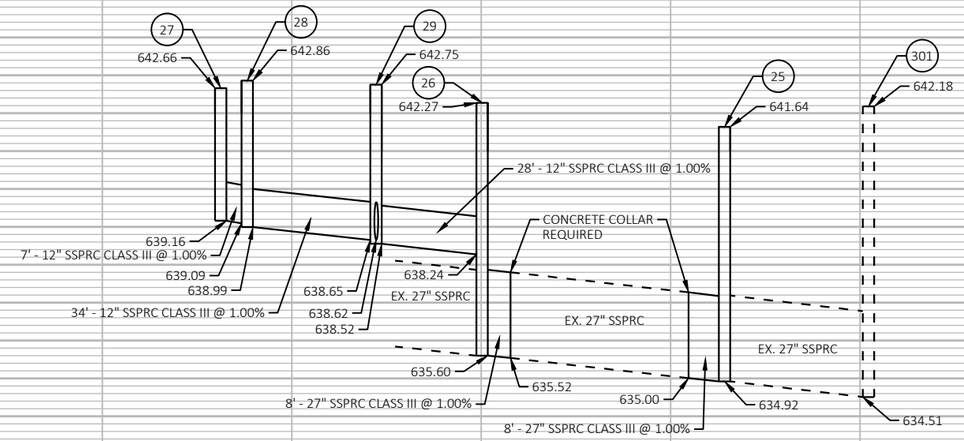
WISDOT/CADDS SHEET 42

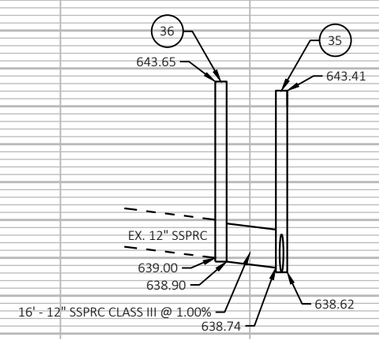


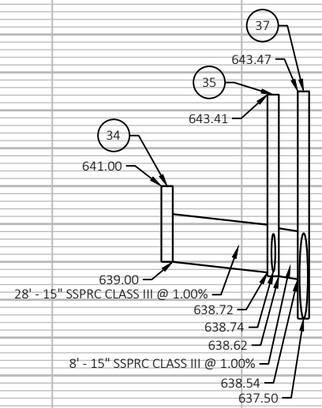
PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	STORM SEWER PROFILES	SHEET 33	E

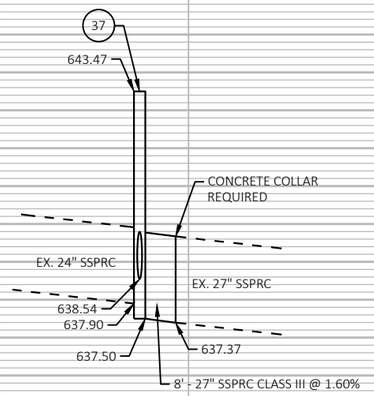
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LAYOUT NAME - 022503_ss

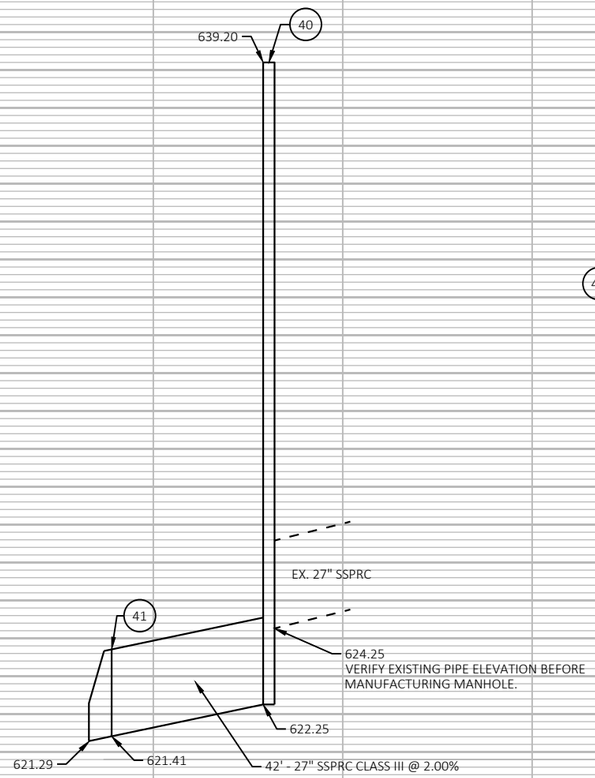
PLOT DATE : 7/21/2022 4:30 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

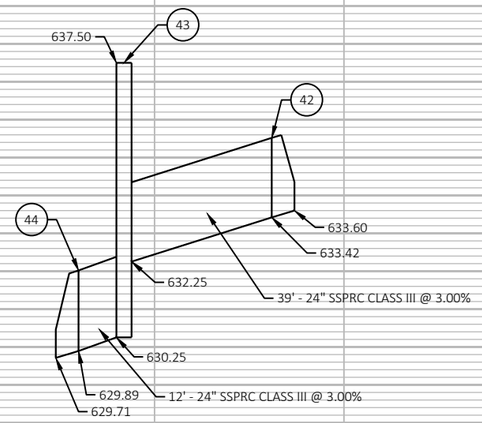












PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	STORM SEWER PROFILES	SHEET 34	E

STRUCT. NO.	STATION	OFFSET	C-C (FT)	TO STRUCT.	INLET TYPE & COVER		MH TYPE & COVER		RIM/GRATE ELEV.	DEPTH (FT)	DISCHARGE PIPE SIZE (IN)	INLET ELEV.	DISCH. ELEV.	LENGTH (FT)	SLOPE (%)	PIPE CLASS	REMARKS	PIPE JOINT TIES
10	233+50.03	53.0' LT	34	EX MH	2X3	H-S	--	--	637.63	4.30	12	633.33	632.31	34.00	3.00	III		
11	237+15.00	64.0' LT	8	40	--	--	4 FT	B	637.50	9.63	27	627.87	627.67	8.00	2.50	III	CONNECT EX. STORM SEWER, 27" E I.E. 627.87. CONCRETE COLLAR REQUIRED.	
12	236+00.00	52.0' LT	50	13	2X3	H	--	--	639.40	3.00	12	636.40	636.20	50.00	0.40	III		
13	236+00.00	2.5' LT	9	14	2X3	H	--	--	640.34	4.14	12	636.20	636.16	9.00	0.40	III		
14	236+00.00	6.5' RT	225	20	4 FT	H	--	--	640.54	4.67	18	635.87	635.20	225.00	0.30	III		
15	236+00.00	42.0' RT	35	14	2X3	H	-	-	639.89	3.65	12	636.24	636.10	35.00	0.40	III		
16	238+32.00	11.3' LT	10	17	2X3	H	--	--	641.72	3.70	12	638.02	637.97	10.00	0.50	III		
17	238+21.97	11.7' LT	10	18	2X3	H	--	--	641.64	3.77	12	637.87	637.82	10.00	0.50	III		
18	238+22.12	2.0' LT	8	20	2X3	H	--	--	642.38	4.66	12	637.72	637.64	8.00	1.00	III		
19	238+64.98	42.1' LT	62	20	4 FT	H	--	--	641.86	6.62	24	635.24	635.05	62.00	0.30	III	CONNECT EX. STORM SEWER, 18" E I.E. 635.74.	
20	238+25.00	5.5' RT	37	21	--	--	5 FT	J	642.28	7.33	24	634.95	634.78	37.00	0.45	III		
21	238+25.00	42.0' RT	32	22	4 FT	H	--	--	641.58	6.90	24	634.68	634.50	32.00	0.55	III		
22	238+03.92	66.5' RT	--	--	--	--	--	--	--	--	24	634.50	--	--	0.55	--	APRON ENDWALL REQUIRED.	X
23	241+48.83	42.0' RT	--	EX INLET	2X3	H	--	--	643.94	3.24	--	640.70	--	--	--	--	CONNECT EX. STORM SEWER, 12" N I.E. 640.70.	
EX INLET	--	--	9	24	--	--	--	--	--	--	15	638.30	638.18	9.00	1.35	III		
24	241+50.42	9.0' LT	--	101	2X3	H	--	--	644.26	6.08	--	638.18	--	--	--	--	CONNECT EX. STORM SEWER, 15" N I.E. 638.18.	
EX PIPE	--	--	8	25	--	--	--	--	--	--	27	635.00	634.92	8.00	1.00	--	CONCRETE COLLAR REQUIRED.	
25	50+57.70	88.9' LT	--	301	4 FT	H-S	--	--	641.64	6.72	27	634.92	--	--	--	III	CONNECT EX. STORM SEWER, 27" W I.E. 634.92	
26	51+04.67	44.3' LT	8	25	--	--	6 FT	J	642.27	6.67	27	635.60	635.52	8.00	1.00	III	CONNECT EX. STORM SEWER, 27" N I.E. 635.60. CONCRETE COLLAR REQUIRED.	
27	50+70.88	41.3' LT	7	28	2X3	H	--	--	642.66	3.50	12	639.16	639.09	7.00	1.00	III		
28	50+70.47	33.6' LT	34	29	2X3	H	--	--	642.86	3.87	12	638.99	638.65	34.00	1.00	III		
29	51+00.36	16.6' LT	28	26	2X3	H-S	--	--	642.75	4.23	12	638.52	638.24	28.00	1.00	III		
30	51+00.00	1.5' LT	15	29	2X3	H-S	--	--	643.26	4.49	12	638.77	638.62	15.00	1.00	III		
31	51+00.00	33.5' RT	35	30	2X3	H	--	--	643.39	4.24	12	639.15	638.87	35.00	0.80	III		
32	51+06.58	40.5' RT	10	31	2X3	H	--	--	643.78	4.45	12	639.33	639.25	10.00	0.80	III		
33	51+39.13	38.3' RT	33	32	2X3	H-S	--	--	643.29	3.60	12	639.69	639.43	33.00	0.80	III		
34	51+75.00	53.0' RT	28	35	1G	MS	--	--	641.00	2.00	15	639.00	638.72	28.00	1.00	III		
35	51+95.54	33.0' RT	8	37	--	--	4 FT	J	643.41	4.79	15	638.62	638.54	8.00	1.00	III		
36	52+12.14	36.0' RT	16	35	--	--	4 FT	J	643.65	14.75	12	628.90	628.74	16.00	1.00	III	CONNECT EX. STORM SEWER, 12" E I.E. 639.00.	
37	51+97.54	25.5' RT	8	26	4 FT	H-S	--	--	643.47	5.97	27	637.50	637.37	8.00	1.60	III	CONCRETE COLLAR REQUIRED.	
40	235+75.00	64.4' LT	42	41	--	--	4 FT	J	639.20	16.95	27	622.25	621.41	42.00	2.00	III	CONNECT EX. STORM SEWER, 27" SE I.E. 624.25.	
41	235+33.00	68.0' LT	--	--	--	--	--	--	--	--	27	621.41	--	--	2.00	--	APRON ENDWALL REQUIRED.	X
42	236+29.10	70.1' RT	39	43	--	--	--	--	--	--	24	633.42	632.25	39.00	3.00	III	APRON ENDWALL REQUIRED.	X
43	235+90.00	65.0' RT	12	44		--	4 FT	J	637.50	7.25	24	630.25	629.89	12.00	3.00	III		
44	235+78.00	68.0' RT	--	--	--	--	--	--	--	--	24	629.89	--	--	3.00	--	APRON ENDWALL REQUIRED.	X

STORM SEWER NOTES:

1. STATION / OFFSETS TO MANHOLES AND FIELD INLETS ARE GIVEN TO THE CENTER OF STRUCTURE.
2. STATION / OFFSETS TO INLETS ARE GIVEN TO THE CENTER OF THE STRUCTURE.
3. STATION / OFFSETS TO ENDWALLS ARE GIVEN TO THE END OF PIPE.
4. MANHOLE AND FIELD INLET RIM/GRATE ELEVATIONS ARE GIVEN TO THE CENTER OF THE STRUCTURE.
5. INLET RIM/GRATE ELEVATIONS ARE GIVEN TO THE FLANGE LINE.
6. DEPTH OF MANHOLES AND INLETS ARE MEASURED FROM THE LOWEST PIPE INVERT OF THE STRUCTURE TO THE RIM/GRATE ELEVATION.
7. PIPE LENGTHS FOR STRUCTURES ARE SHOWN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
8. CONTRACTOR SHALL VERIFY DEPTH OF ALL EXISTING STORM SEWER STRUCTURES BEFORE BEGINNING WORK AND SHALL REPORT ANY DISCREPANCIES TO ENGINEER PRIOR TO BEGINNING WORK.
9. PIPES WITHIN BREAKER RUN SHALL BE SURROUNDED WITH BASE AGGREGATE DENSE 1 1/4-INCH TO PROVIDE BUFFER BETWEEN PIPE AND BREAKER RUN.

2

LEGEND

BB BUTTONBUSH

RD REDOSIER DOGWOOD

ORDINARY HIGH WATER MARK

ROOT RIVER

HEAVY RIPRAP SEE STRUCTURE PLANS FOR DETAILS (TYP.)

ALTERNATE SHRUB SPECIES PLANTINGS RD BB

BEGIN PROJECT
2290-03-73
STA. 232+50.00

232+00 233+00 234+00 235+00 236+00 237+00

STH 38 (NORTHWESTERN AVE)

ALTERNATE SHRUB SPECIES PLANTINGS BB RD

ALTERNATE SHRUB SPECIES PLANTINGS BB RD

SLOPE INTERCEPTS (TYP.)

WETLAND BOUNDARY

PLANT DATA CHART

SYMBOL	COMMON NAME	SCIENTIFIC NAME	AVE. MATURE HEIGHT	SIZE WHEN PLANTED	ROOT TYPE	MINIMUM SIZE				GUY OR BRACE	FERT. PACK REQUIRED	ROTENT PROTECTION REQUIRED	MULCH RING	TOTAL
						MIN. BALL OR POT SIZE		MIN. HOLE SIZE						
						MIN. CONT. SIZE	MIN. CONT. DEPTH	MIN. HOLE DIA.	MIN. HOLE DEPTH					
BB	BUTTON BUSH	EPHALANTHUS OCCIDENTAL	6'-8'	2' HT.	CG	#2 CONTAINER	6"	12"	12"	NO	2	NO	NO	12
RD	DOGWOOD, REDOSIER	CORNUS SERICEA	7'-9'	2' HT.	CG	#2 CONTAINER	6"	12"	12"	NO	2	NO	NO	12

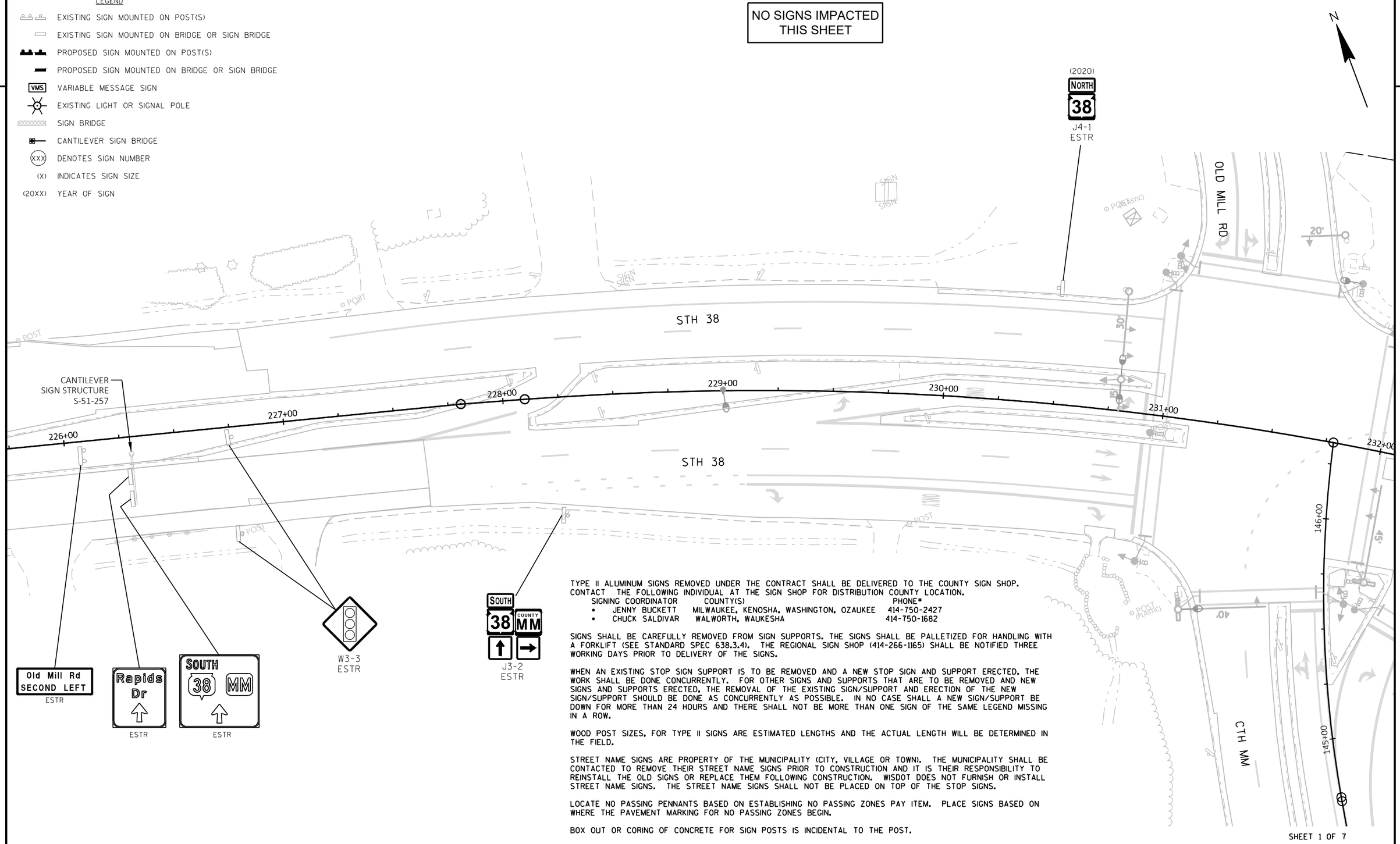
NOTE: EXACT SHRUB LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
SHRUBS TO BE PLACED IN GAPS IN EXISTING ROCK AND BOULDER AREAS.
PLANTINGS TO BE INSTALLED WITHIN 20' OF THE ROOT RIVER.

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- (20XX) — YEAR OF SIGN

NO SIGNS IMPACTED THIS SHEET



TYPE II ALUMINUM SIGNS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE COUNTY SIGN SHOP. CONTACT THE FOLLOWING INDIVIDUAL AT THE SIGN SHOP FOR DISTRIBUTION COUNTY LOCATION.

SIGNING COORDINATOR	COUNTY(S)	PHONE#
• JENNY BUCKETT	MILWAUKEE, KENOSHA, WASHINGTON, OZAUKEE	414-750-2427
• CHUCK SALDIVAR	WALWORTH, WAUKESHA	414-750-1682

SIGNS SHALL BE CAREFULLY REMOVED FROM SIGN SUPPORTS. THE SIGNS SHALL BE PALLETIZED FOR HANDLING WITH A FORKLIFT (SEE STANDARD SPEC 638.3.4). THE REGIONAL SIGN SHOP (414-266-1165) SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF THE SIGNS.

WHEN AN EXISTING STOP SIGN SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED, THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POST SIZES, FOR TYPE II SIGNS ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

STREET NAME SIGNS ARE PROPERTY OF THE MUNICIPALITY (CITY, VILLAGE OR TOWN). THE MUNICIPALITY SHALL BE CONTACTED TO REMOVE THEIR STREET NAME SIGNS PRIOR TO CONSTRUCTION AND IT IS THEIR RESPONSIBILITY TO REINSTALL THE OLD SIGNS OR REPLACE THEM FOLLOWING CONSTRUCTION. WISDOT DOES NOT FURNISH OR INSTALL STREET NAME SIGNS. THE STREET NAME SIGNS SHALL NOT BE PLACED ON TOP OF THE STOP SIGNS.

LOCATE NO PASSING PENNANTS BASED ON ESTABLISHING NO PASSING ZONES PAY ITEM. PLACE SIGNS BASED ON WHERE THE PAVEMENT MARKING FOR NO PASSING ZONES BEGIN.

BOX OUT OR CORING OF CONCRETE FOR SIGN POSTS IS INCIDENTAL TO THE POST.

SHEET 1 OF 7

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	SIGNING REMOVAL PLAN	SHEET 37	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIGN\023101_PS_2290-03-03.DWG
LAYOUT NAME - Sht-101R

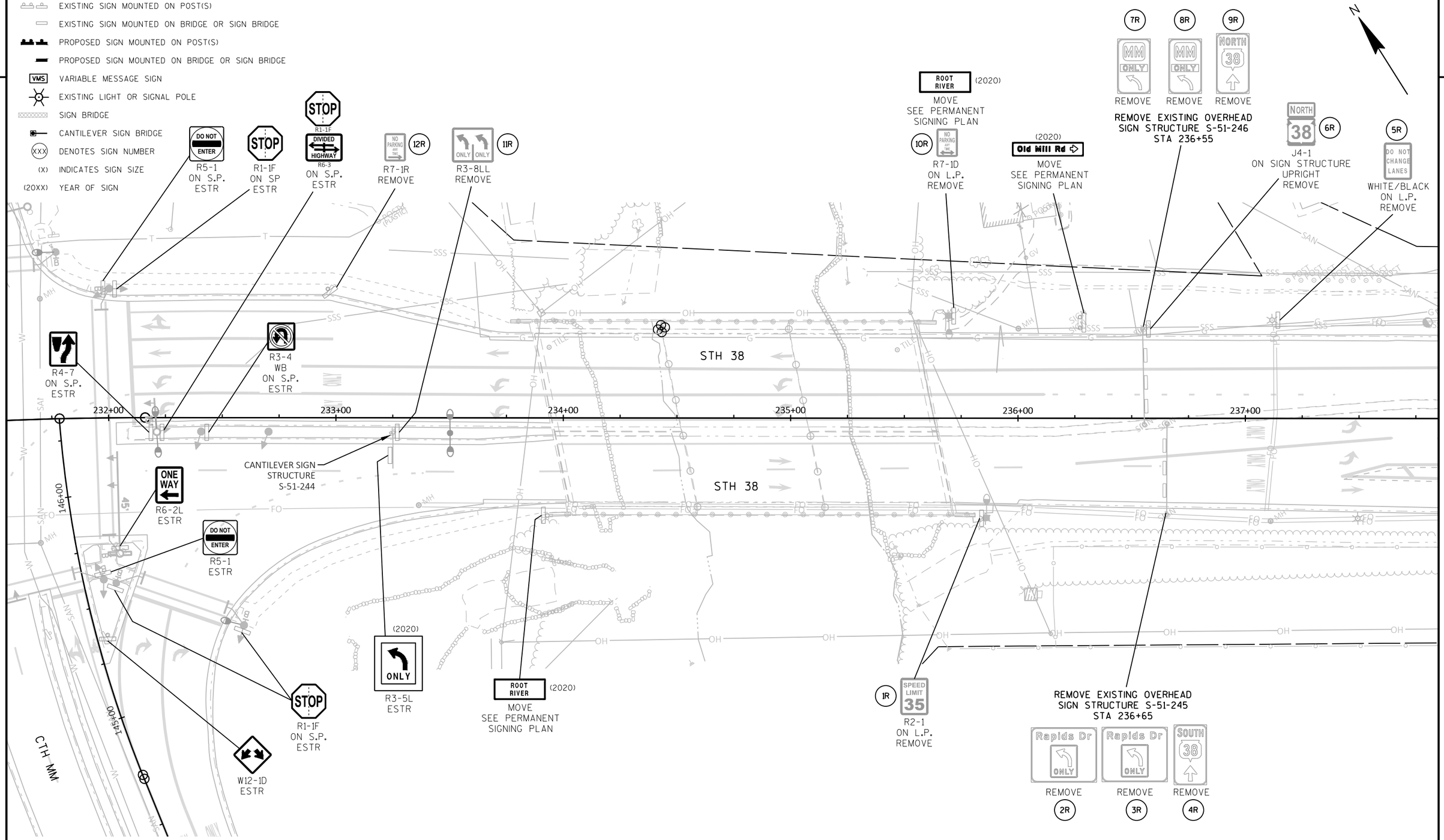
PLOT DATE : 6/6/2022 8:02 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- (20XX) — YEAR OF SIGN



SHEET 2 OF 7

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	SIGNING REMOVAL PLAN	SHEET 38	E

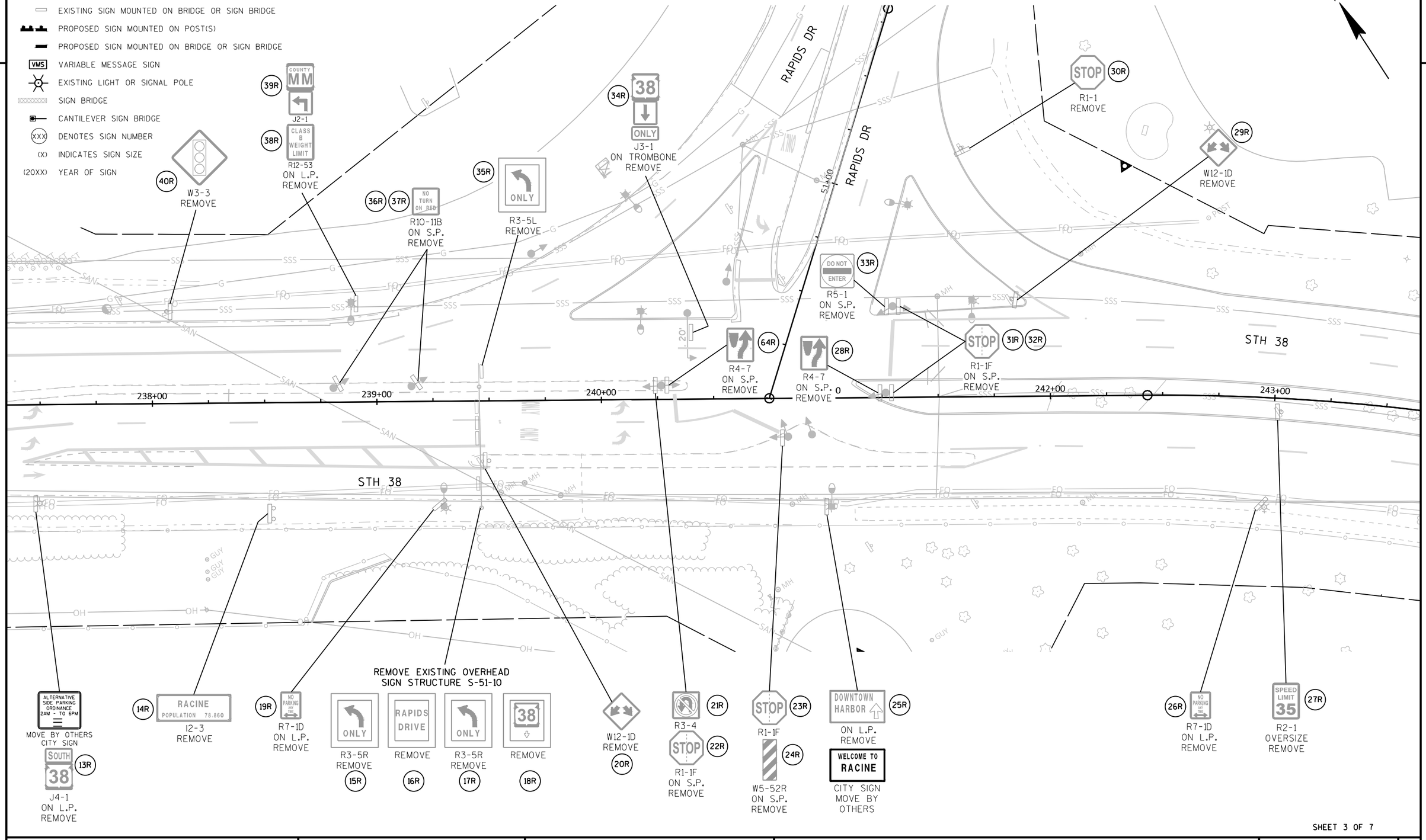
FILE NAME : N:\PDS\C3D\CAD\22900303\SIGN\023101_PS_2290-03-03.DWG
LAYOUT NAME - Sht-102R

PLOT DATE : 6/6/2022 8:02 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- (20XX) — YEAR OF SIGN



SHEET 3 OF 7

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	SIGNING REMOVAL PLAN	SHEET 39	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIGN\023101_PS_2290-03-03.DWG
LAYOUT NAME - Sht-103R

PLOT DATE : 6/6/2022 8:02 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- (20XX) — YEAR OF SIGN

I5-1
ESTR
CITY SIGN

49R
NO PARKING ANY TIME
R7-1D
ON L.P.
REMOVE

44R
COUNTY MM
48R
CLASS B WEIGHT LIMIT
R12-53
REMOVE

45R
COUNTY MM
REMOVE

46R
38
REMOVE

47R
RAPIDS DRIVE
REMOVE

REMOVE EXISTING OVERHEAD
SIGN STRUCTURE S-51-9

43R
NO PARKING ANY TIME
R7-1D
ON UPRIGHT
REMOVE

41R
COUNTY MM
USE LEFT LANE
42R
38
USE CENTER LANE
J2-2
REMOVE

N

STH 38

244+00
245+00
246+00
247+00
248+00
249+00

RACINE ON THE LAKE
LARGE CITY SIGN
MOVE BY
OTHERS IF
NECESSARY

ALTERNATE SIDE PARKING
CITY SIGN
ON L.P.
ESTR

SHEET 4 OF 7

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	SIGNING REMOVAL PLAN	SHEET 40	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIGN\023101_PS_2290-03-03.DWG
LAYOUT NAME - Sht-104R

PLOT DATE : 6/6/2022 8:02 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

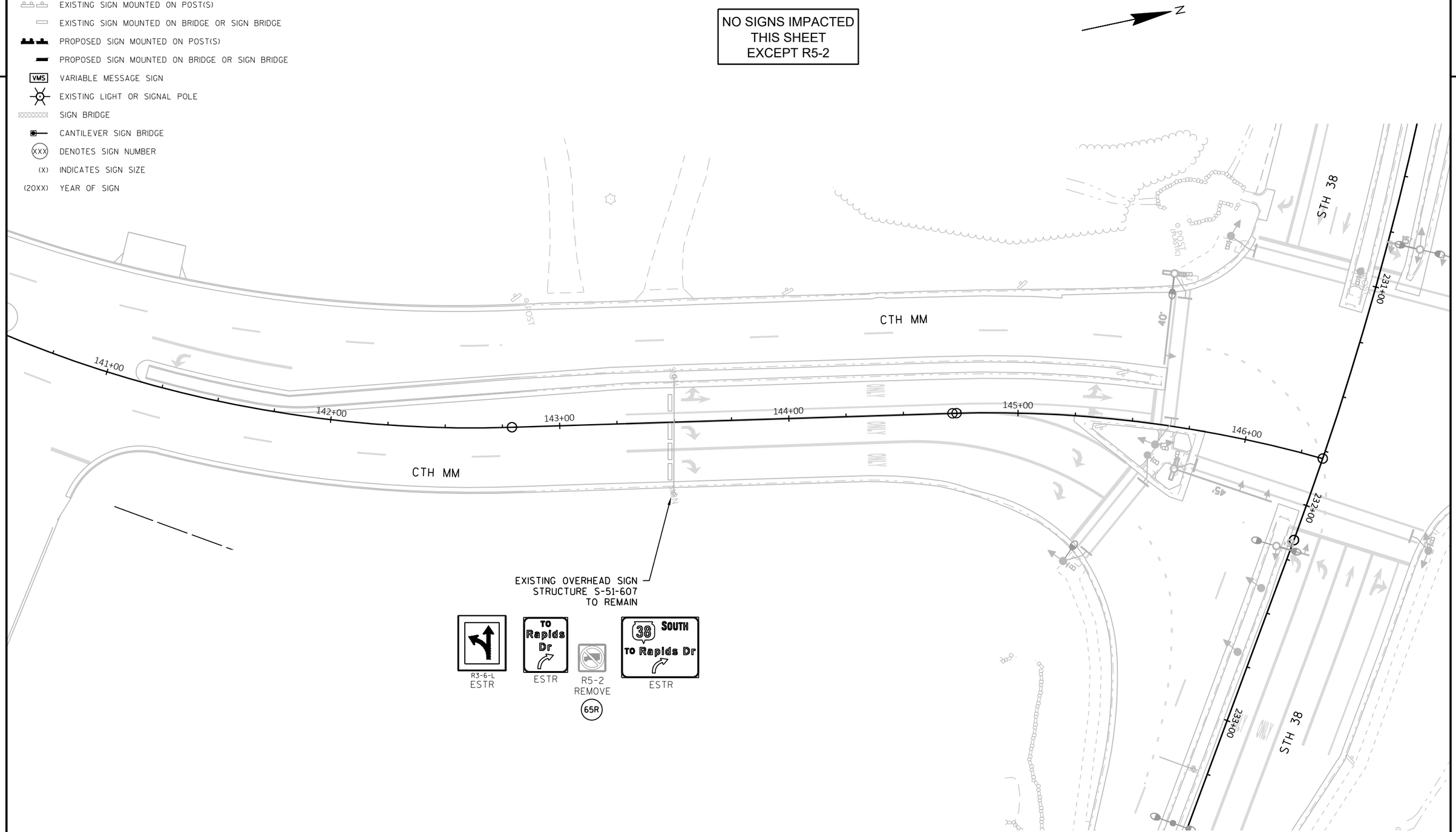
WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- (20XX) — YEAR OF SIGN

NO SIGNS IMPACTED
THIS SHEET
EXCEPT R5-2



SHEET 5 OF 7

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	SIGNING REMOVAL PLAN	SHEET 41	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIGN\023101_PS_2290-03-03.DWG
LAYOUT NAME - Sht-105R

PLOT DATE : 6/6/2022 8:02 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

54R STOP
R1-1F
ON S.P.
REMOVE

51R TO NORTH COUNTY MM 38 USE LEFT LANE USE RIGHT LANE
J3-2
ON L.P.
REMOVE

53R NO PARKING ANY TIME
R7-1D
ON L.P.
REMOVE

52R SOUTH TO 38 COUNTY MM
J3-2
REMOVE

62R NORTH 38 USE RIGHT LANE
J3-1

61R NO PARKING ANY TIME
R7-1D
ON L.P.
REMOVE

60R ONLY ONLY
R3-8LR
REMOVE

59R
R4-7
REMOVE

57R NORTH 38 USE RIGHT LANE
J2-1
REMOVE

58R SOUTH 38 USE LEFT LANE
J2-1
REMOVE

STOP
R1-1
ESTR

STREET NAME SIGN
TOP OF STOP SIGN

63R STOP
R1-1F
ON S.P.
REMOVE

RAPIDS DR

51+00 52+00 53+00 54+00 55+00 56+00

241+00 242+00

STH 38

50R
R4-7
REMOVE

ALTERNATIVE SIDE PARKING ORDINANCE
CITY SIGN
ON L.P.
MOVE BY
OTHERS

DO NOT ENTER 55R
R5-1
REMOVE

R4-7
ESTR

TO North Green Bay Road
ESTR

Floyd Dr
N. Green Bay Rd
D1-2

River Bend Nature Center
I5-1

NO PARKING ANY TIME R7-1D
ON L.P.
ESTR

56R SOUTH TO NORTH 38 COUNTY MM 38
J2-3
REMOVE

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- (20XX) YEAR OF SIGN

SHEET 6 OF 7

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	SIGNING REMOVAL PLAN	SHEET 42	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIGN\023101_PS_2290-03-03.DWG
LAYOUT NAME - Sht-106R

PLOT DATE : 6/6/2022 8:02 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- (20XX) — YEAR OF SIGN

N

N GREEN BAY RD

STREET NAME SIGN
TOP OF STOP SIGN

STOP
R1-1
ESTR

R4-7
ESTR

RAPIDS DR

57+00

56+00

55+00

STREET NAME SIGN
TOP OF STOP SIGN

STOP
R1-1
ESTR

FLAG

FLOYD DR

SPEED LIMIT 35
R2-1

NO PARKING ANY TIME
R7-1D
ON L.P.
ESTR

SHEET 7 OF 7

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	SIGNING REMOVAL PLAN	SHEET 43	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIGN\023101_PS_2290-03-03.DWG
LAYOUT NAME - Sht-107R

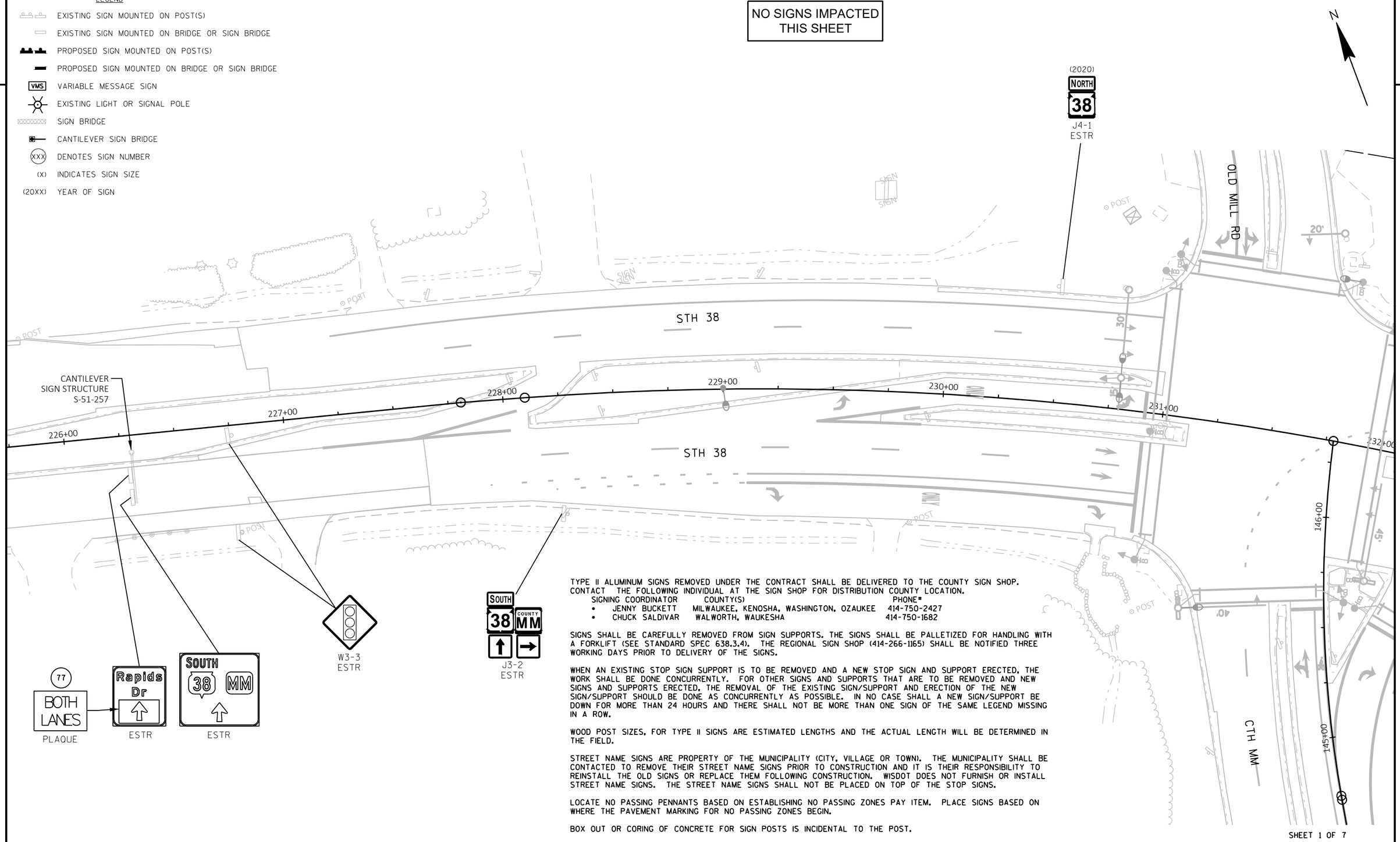
PLOT DATE : 6/6/2022 8:03 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- (20XX) — YEAR OF SIGN

NO SIGNS IMPACTED THIS SHEET



TYPE II ALUMINUM SIGNS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE COUNTY SIGN SHOP. CONTACT THE FOLLOWING INDIVIDUAL AT THE SIGN SHOP FOR DISTRIBUTION COUNTY LOCATION.

SIGNING COORDINATOR	COUNTY(S)	PHONE#
• JENNY BUCKETT	MILWAUKEE, KENOSHA, WASHINGTON, OZAUKEE	414-750-2427
• CHUCK SALDIVAR	WALWORTH, WAUKESHA	414-750-1682

SIGNS SHALL BE CAREFULLY REMOVED FROM SIGN SUPPORTS. THE SIGNS SHALL BE PALLETIZED FOR HANDLING WITH A FORKLIFT (SEE STANDARD SPEC 638.3.4). THE REGIONAL SIGN SHOP (414-266-1165) SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF THE SIGNS.

WHEN AN EXISTING STOP SIGN SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED, THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POST SIZES, FOR TYPE II SIGNS ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

STREET NAME SIGNS ARE PROPERTY OF THE MUNICIPALITY (CITY, VILLAGE OR TOWN). THE MUNICIPALITY SHALL BE CONTACTED TO REMOVE THEIR STREET NAME SIGNS PRIOR TO CONSTRUCTION AND IT IS THEIR RESPONSIBILITY TO REINSTALL THE OLD SIGNS OR REPLACE THEM FOLLOWING CONSTRUCTION. WISDOT DOES NOT FURNISH OR INSTALL STREET NAME SIGNS. THE STREET NAME SIGNS SHALL NOT BE PLACED ON TOP OF THE STOP SIGNS.

LOCATE NO PASSING PENNANTS BASED ON ESTABLISHING NO PASSING ZONES PAY ITEM. PLACE SIGNS BASED ON WHERE THE PAVEMENT MARKING FOR NO PASSING ZONES BEGIN.

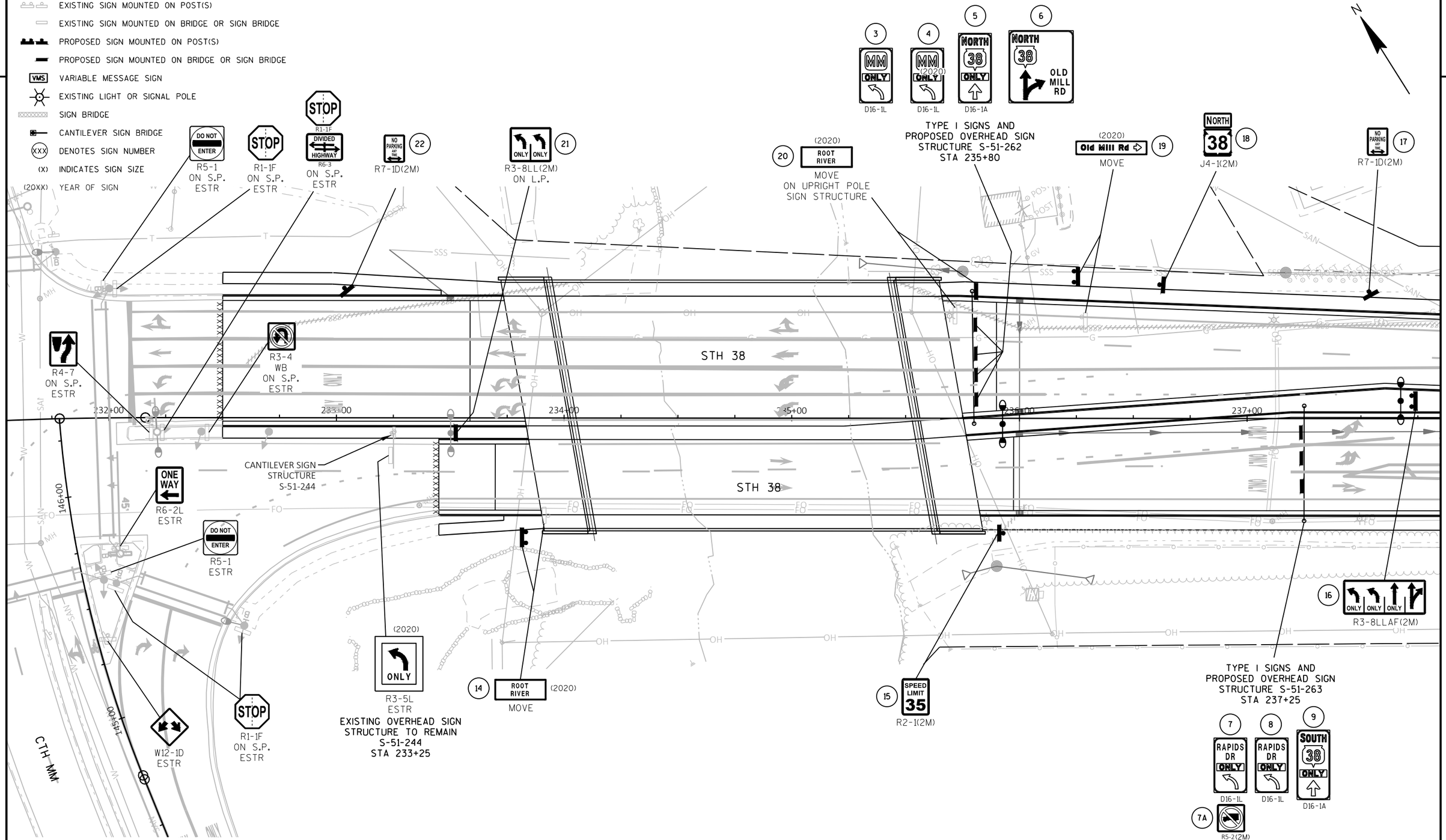
BOX OUT OR CORING OF CONCRETE FOR SIGN POSTS IS INCIDENTAL TO THE POST.

SHEET 1 OF 7

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- (20XX) — YEAR OF SIGN



SHEET 2 OF 7

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	PERMANENT SIGNING	SHEET 45	E

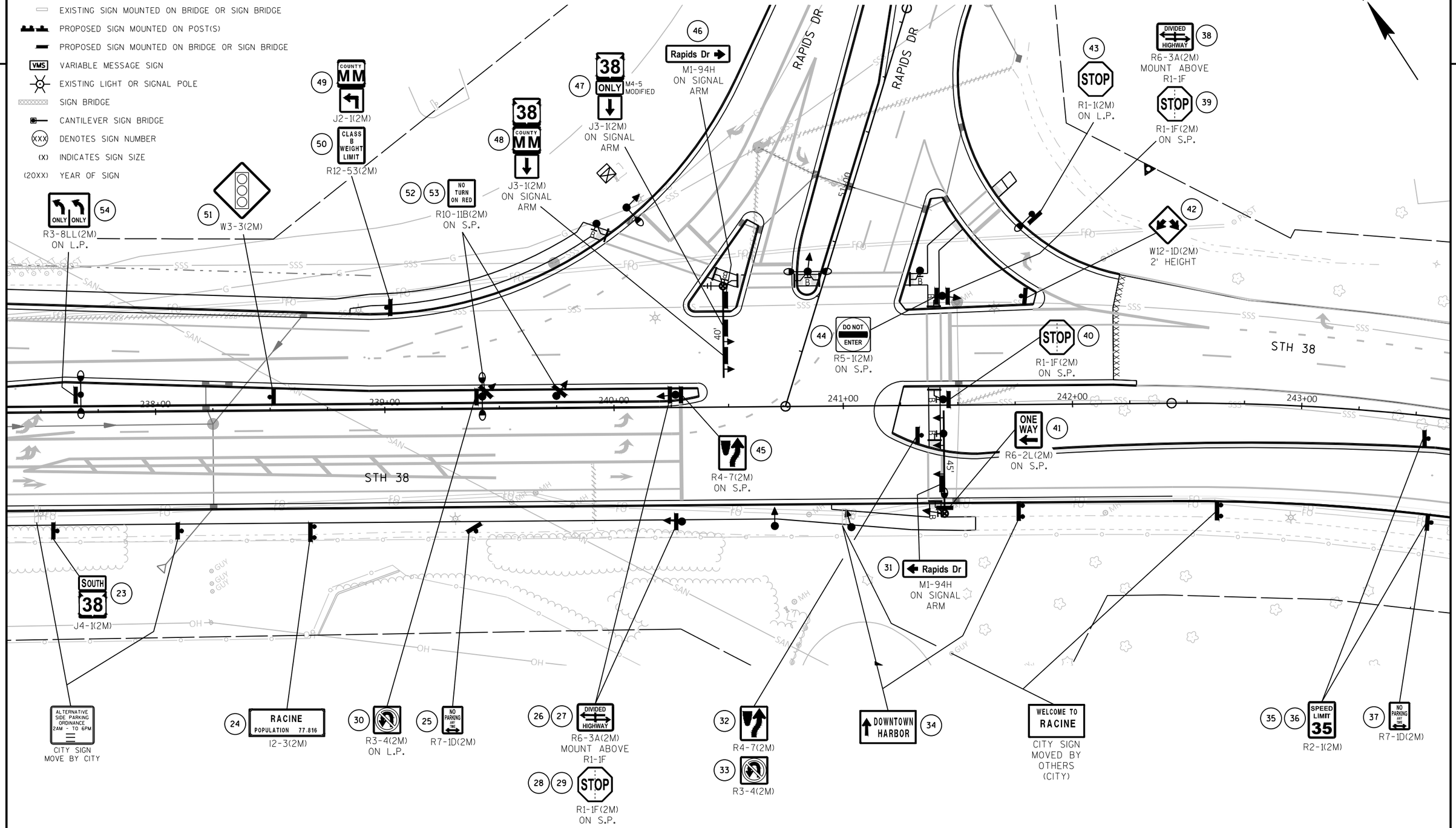
FILE NAME : N:\PDS\C3D\CAD\22900303\SIGN\023201_PS_2290-03-03.DWG
LAYOUT NAME - Sht-202

PLOT DATE : 9/19/2022 8:03 AM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- (20XX) — YEAR OF SIGN



SHEET 3 OF 7

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	PERMANENT SIGNING	SHEET 46	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIGN\023201_PS_2290-03-03.DWG
LAYOUT NAME - Sht-203

PLOT DATE : 9/19/2022 8:03 AM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- (20XX) — YEAR OF SIGN

I5-1
ESTR
CITY SIGN

60 NO PARKING ANY TIME
R7-1D(2M)
ON L.P.

10 38 MM
D16-1MOD

11 NORTH 38 ONLY
D16-1A

12 RAPIDS DR ONLY
D16-1R

TYPE I SIGNS AND
PROPOSED OVERHEAD SIGN
STRUCTURE S-51-615
STA 245+85

57 NO PARKING ANY TIME
R7-1D(2M)
ON UPRIGHT
OF SIGN
STRUCTURE

58 COUNTY MM
M1-5A(2M)

59 CLASS B WEIGHT LIMIT
R12-53(2M)
ON UPRIGHT
OF SIGN
STRUCTURE

55 56 COUNTY MM 38
M4-20L USE LEFT LANE | USE CENTER LANE M4-20C
J2-2(2M)

N

STH 38

244+00 245+00 246+00 247+00 248+00 249+00

RACINE ON THE LAKE
LARGE CITY SIGN
MOVE BY
OTHERS IF
NECESSARY

ALTERNATE SIDE PARKING
CITY SIGN
ON L.P.
ESTR

SHEET 4 OF 7

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	PERMANENT SIGNING TYPE I SIGNS & OVERHEAD SIGN STRUCTURES ONLY	SHEET 47	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIGN\023201_PS_2290-03-03.DWG
LAYOUT NAME - Sht-204
PLOT DATE : 9/19/2022 8:03 AM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- (20XX) — YEAR OF SIGN

N

CTH MM

141+00

142+00

143+00

144+00

145+00

146+00

CTH MM

STH 38

231+00

323+00

263+00

STH 38

POST

POST

40'

45'

EXISTING OVERHEAD SIGN
STRUCTURE TO REMAIN
S-51-607

R3-6L
ESTR

TO Rapids Dr
ESTR

13
R5-2(2M)
TYPE II
SIGN

38 SOUTH
TO Rapids Dr
ESTR

SHEET 5 OF 7

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	PERMANENT SIGNING	SHEET 48	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIGN\023201_PS_2290-03-03.DWG
LAYOUT NAME - Sht-205

PLOT DATE : 9/19/2022 8:03 AM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

72 STOP
R1-1F(2M)
ON S.P.

73 NO PARKING ANY TIME
R7-1D(2M)

71
W12-1D(2M)
2' HEIGHT

TO NORTH
COUNTY MM 38
USE LEFT LANE | USE RIGHT LANE
M4-20L M4-20R
70
J3-2(2M)

SOUTH NORTH TO
38 38 COUNTY MM
62
J3-3(2M)

NORTH
38
USE RIGHT LANE
M4-20R
69
J3-1(2M)

NO PARKING ANY TIME
68
R7-1D(2M)
ON L.P.

ONLY ONLY ONLY
67
R3-8LRR(2M)

66
R4-7(2M)

1
38 MM
D16-1MOD

2
NORTH
38
ONLY
D16-1A

PROPOSED OVERHEAD SIGN
STRUCTURE S-51-616
STA 54+50

65
NORTH
38
USE RIGHT LANE
M4-20R
J3-1(2M)
ON
UPRIGHT
POLE

STOP
R1-1
ESTR

STREET NAME SIGN
TOP OF STOP SIGN

74 75 STOP
R1-1F(2M)
ON S.P.

RAPIDS DR

52+00 53+00 54+00 55+00 56+00

51+00

241+00

242+00

40'

45'

STH 38

61
R4-7(2M)
ON S.P.

DIVIDED HIGHWAY
76
R6-3A(2M)
ON S.P.
MOUNT ABOVE
R1-1F

ALTERNATIVE SIDE PARKING ORDINANCE
CITY SIGN
MOVE BY
OTHERS
(CITY)

DO NOT ENTER
63
R5-1(2M)

R4-7
ESTR

TO North Green Bay Road
ESTR

Floyd Dr →
←N. Green Bay Rd
D1-2

River Bend Nature Center
I5-1

NO PARKING ANY TIME
R7-1D
ON L.P.
ESTR

64
SOUTH TO NORTH
38 COUNTY MM 38
J2-3(2M)

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- (20XX) YEAR OF SIGN

SHEET 6 OF 7

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	PERMANENT SIGNING	SHEET 49	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIGN\023201_PS_2290-03-03.DWG
LAYOUT NAME - Sht-206

PLOT DATE : 9/19/2022 8:03 AM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- (20XX) — YEAR OF SIGN

N

N GREEN BAY RD

STREET NAME SIGN
TOP OF STOP SIGN

STOP
R1-1
ESTR

R4-7
ESTR

RAPIDS DR

57+00

56+00

55+00

STREET NAME SIGN
TOP OF STOP SIGN

STOP
R1-1
ESTR

FLOYD DR

SPEED LIMIT 35
R2-1

NO PARKING ANY TIME
R7-1D
ON L.P.
ESTR

SHEET 7 OF 7

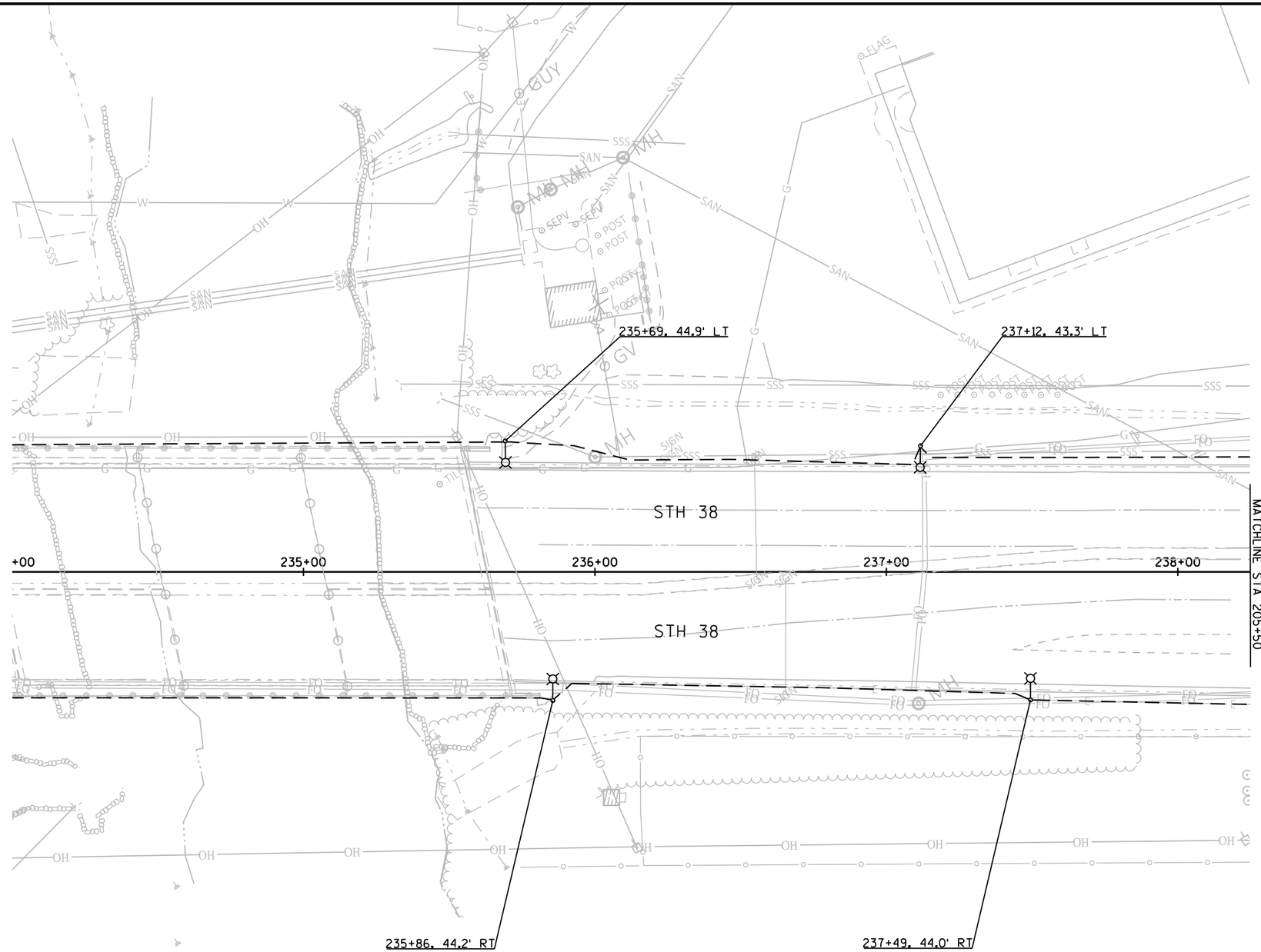
PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	PERMANENT SIGNING	SHEET 50	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIGN\023201_PS_2290-03-03.DWG
LAYOUT NAME - Sht-207

PLOT DATE : 9/19/2022 8:03 AM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2



NOTES

1. LIGHTING DISTRIBUTION CENTER XXXX IS LOCATED APPROXIMATELY XXXX
2. EQUIPMENT SHOWN IN BOLD SHALL BE REMOVED UNLESS NOTED OTHERWISE

LEGEND

— — — CONDUIT 2" UNLESS OTHERWISE SHOWN

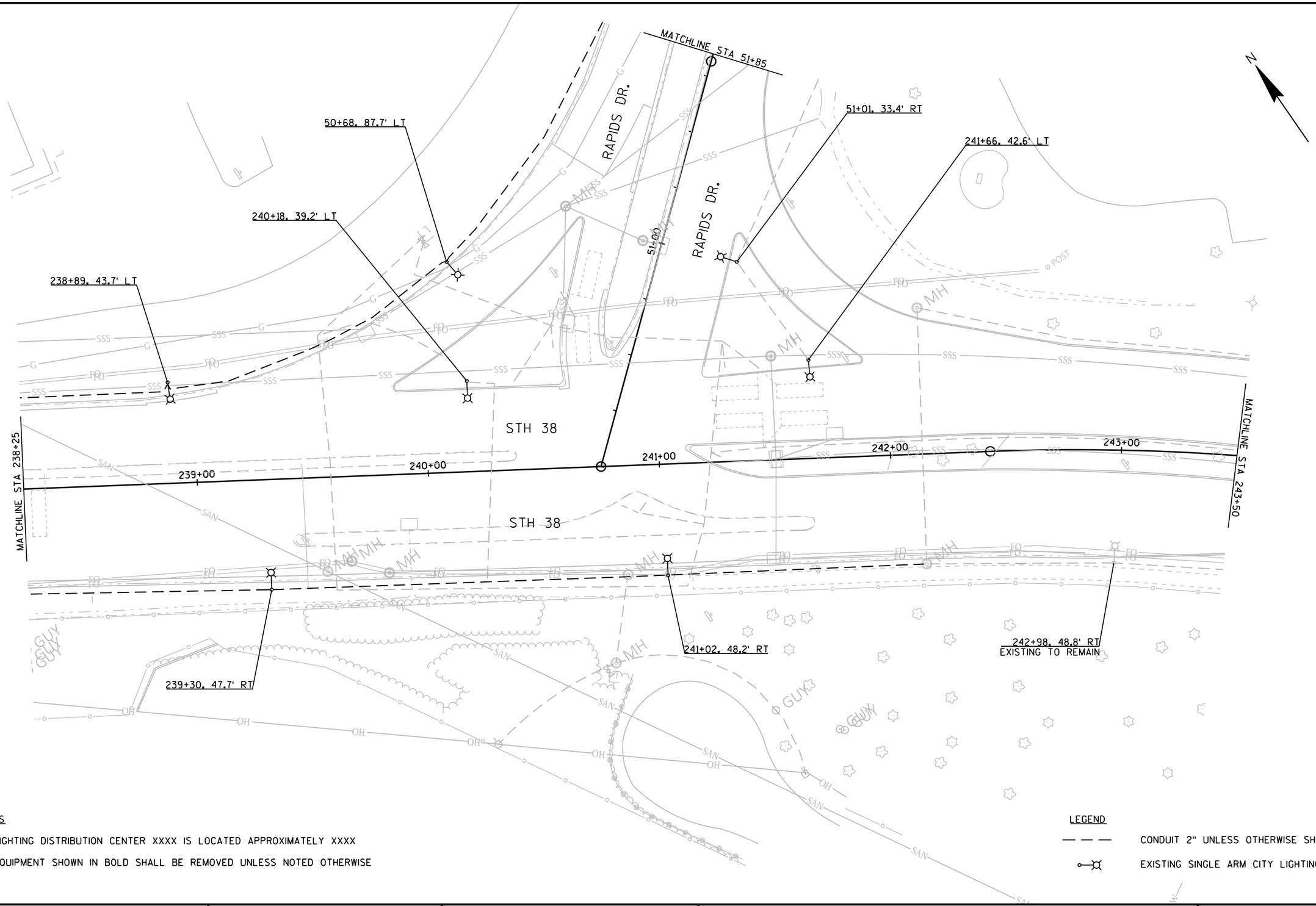
EXISTING SINGLE ARM CITY LIGHTING UNIT

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	LIGHTING PLANS - REMOVALS	SHEET 51	E

FILE NAME : W:\PROJECTS\19254\2290-03-73\05_CADD\CADD DRAWINGS\023401-LR.DWG
LAYOUT NAME - 023401-lr

PLOT DATE : 4/26/2021 1:30 PM PLOT BY : WILLIAM NEAVE PLOT NAME : PLOT SCALE : 1 IN:40 FT

2



NOTES

1. LIGHTING DISTRIBUTION CENTER XXXX IS LOCATED APPROXIMATELY XXXX
2. EQUIPMENT SHOWN IN BOLD SHALL BE REMOVED UNLESS NOTED OTHERWISE

LEGEND

— — — CONDUIT 2" UNLESS OTHERWISE SHOWN

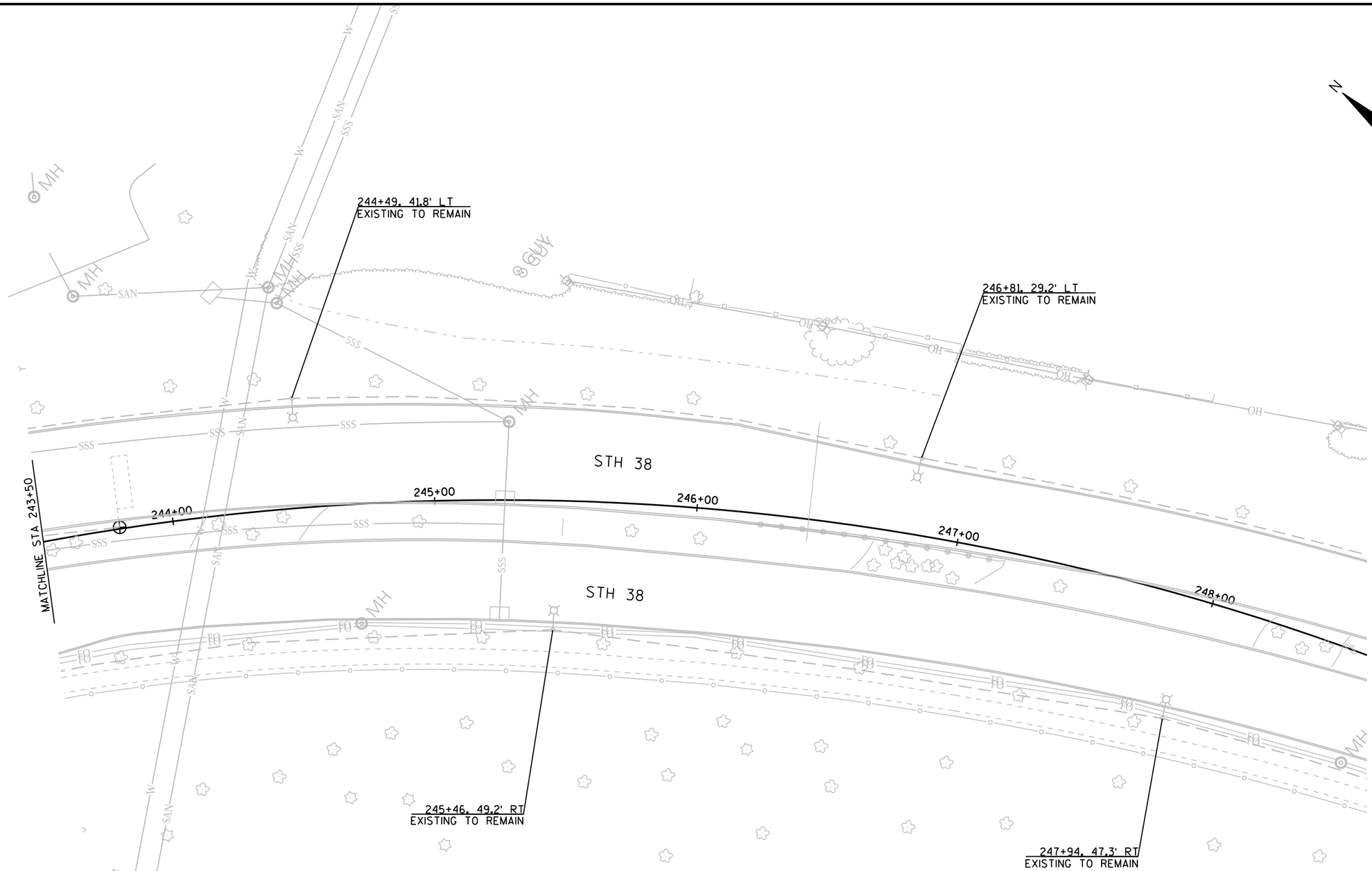
EXISTING SINGLE ARM CITY LIGHTING UNIT

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	LIGHTING PLANS - REMOVALS	SHEET 52	E

FILE NAME : W:\PROJECTS\19254\2290-03-73\05_CADD\CADD DRAWINGS\023401-LR.DWG
LAYOUT NAME - 023402-lr

PLOT DATE : 4/26/2021 1:30 PM PLOT BY : WILLIAM NEAVE PLOT NAME : PLOT SCALE : 1 IN:40 FT

2



NOTES

1. LIGHTING DISTRIBUTION CENTER XXXX IS LOCATED APPROXIMATELY XXXX
2. EQUIPMENT SHOWN IN BOLD SHALL BE REMOVED UNLESS NOTED OTHERWISE

LEGEND

— — — CONDUIT 2" UNLESS OTHERWISE SHOWN

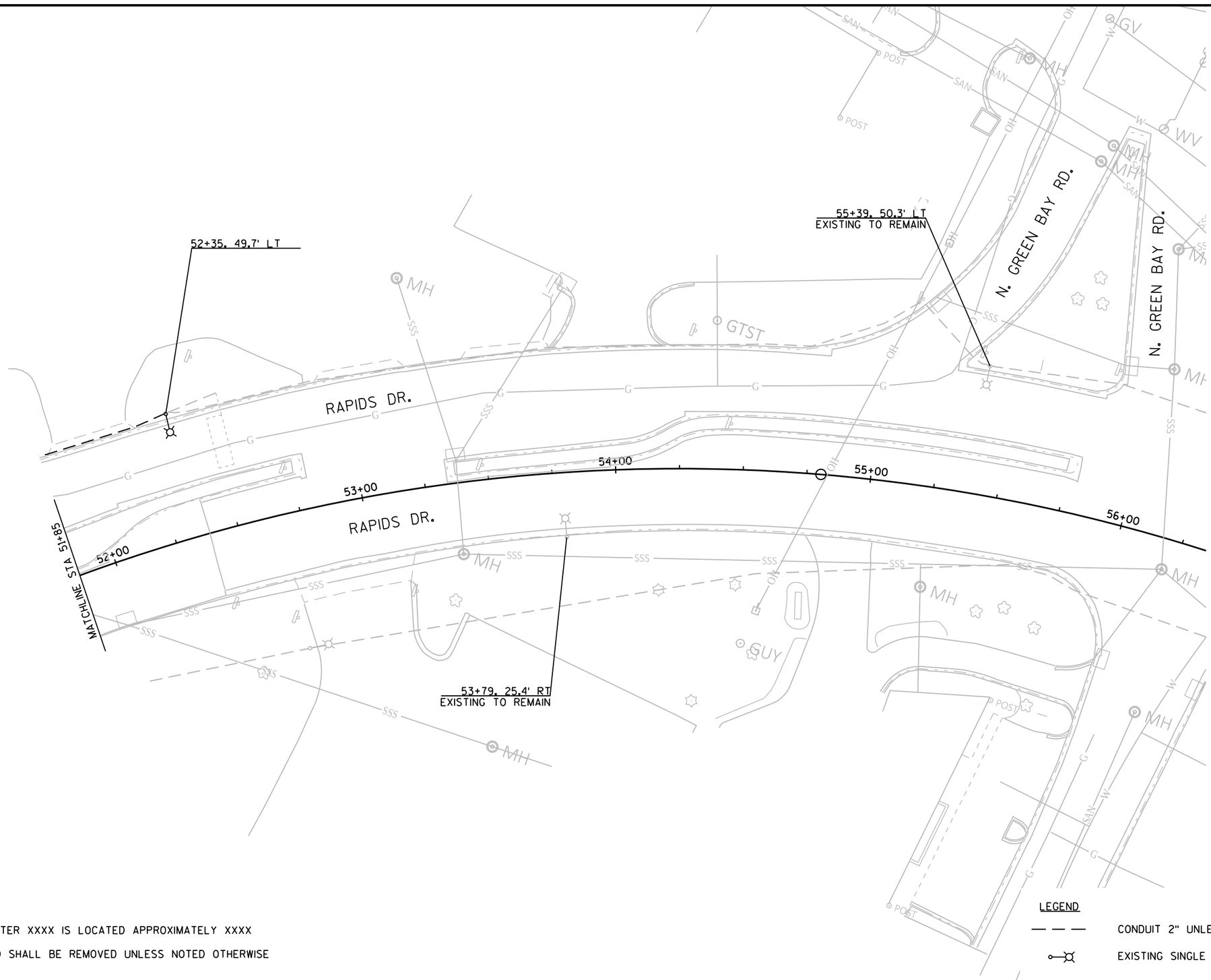
EXISTING SINGLE ARM CITY LIGHTING UNIT

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	LIGHTING PLANS - REMOVALS	SHEET 53	E

FILE NAME : W:\PROJECTS\19254\2290-03-73\05_CADD\CADD DRAWINGS\023401-LR.DWG
LAYOUT NAME - 023403-lr

PLOT DATE : 4/26/2021 1:30 PM PLOT BY : WILLIAM NEAVE PLOT NAME : PLOT SCALE : 1 IN:40 FT

2



NOTES

1. LIGHTING DISTRIBUTION CENTER XXXX IS LOCATED APPROXIMATELY XXXX
2. EQUIPMENT SHOWN IN BOLD SHALL BE REMOVED UNLESS NOTED OTHERWISE

LEGEND

— — — CONDUIT 2" UNLESS OTHERWISE SHOWN

EXISTING SINGLE ARM CITY LIGHTING UNIT

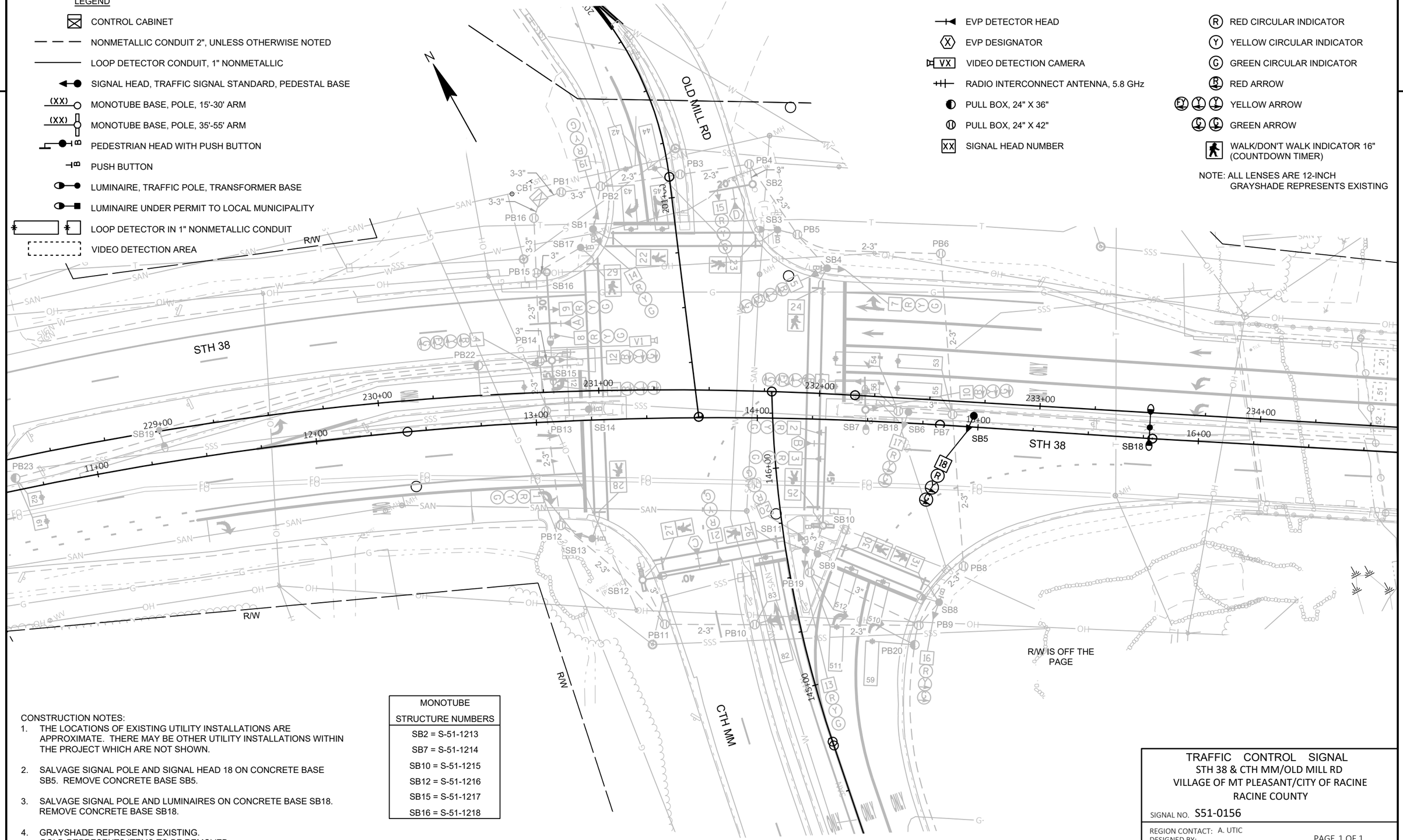
PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	LIGHTING PLANS - REMOVALS	SHEET 54	E

2

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT, 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- VIDEO DETECTION AREA
- EVP DETECTOR HEAD
- X EVP DESIGNATOR
- VX VIDEO DETECTION CAMERA
- RADIO INTERCONNECT ANTENNA, 5.8 GHz
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED ARROW
- FY Y Y YELLOW ARROW
- G G GREEN ARROW
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING



CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. SALVAGE SIGNAL POLE AND SIGNAL HEAD 18 ON CONCRETE BASE SB5. REMOVE CONCRETE BASE SB5.
3. SALVAGE SIGNAL POLE AND LUMINAIRES ON CONCRETE BASE SB18. REMOVE CONCRETE BASE SB18.
4. GRAYSHADE REPRESENTS EXISTING.
   BOLD REPRESENTS ITEMS TO BE REMOVED.

MONOTUBE STRUCTURE NUMBERS
SB2 = S-51-1213
SB7 = S-51-1214
SB10 = S-51-1215
SB12 = S-51-1216
SB15 = S-51-1217
SB16 = S-51-1218

TRAFFIC CONTROL SIGNAL
STH 38 & CTH MM/OLD MILL RD
VILLAGE OF MT PLEASANT/CITY OF RACINE
RACINE COUNTY

SIGNAL NO. S51-0156

REGION CONTACT: A. UTIC
DESIGNED BY:
REVISED BY: C. VANDE LEEST

PAGE 1 OF 1

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 55	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIG\S51-0156\S51-0156_REM.DWG
LAYOUT NAME - S51-0156_rem_pg1

PLOT DATE : 5/20/2022 9:32 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : ##########

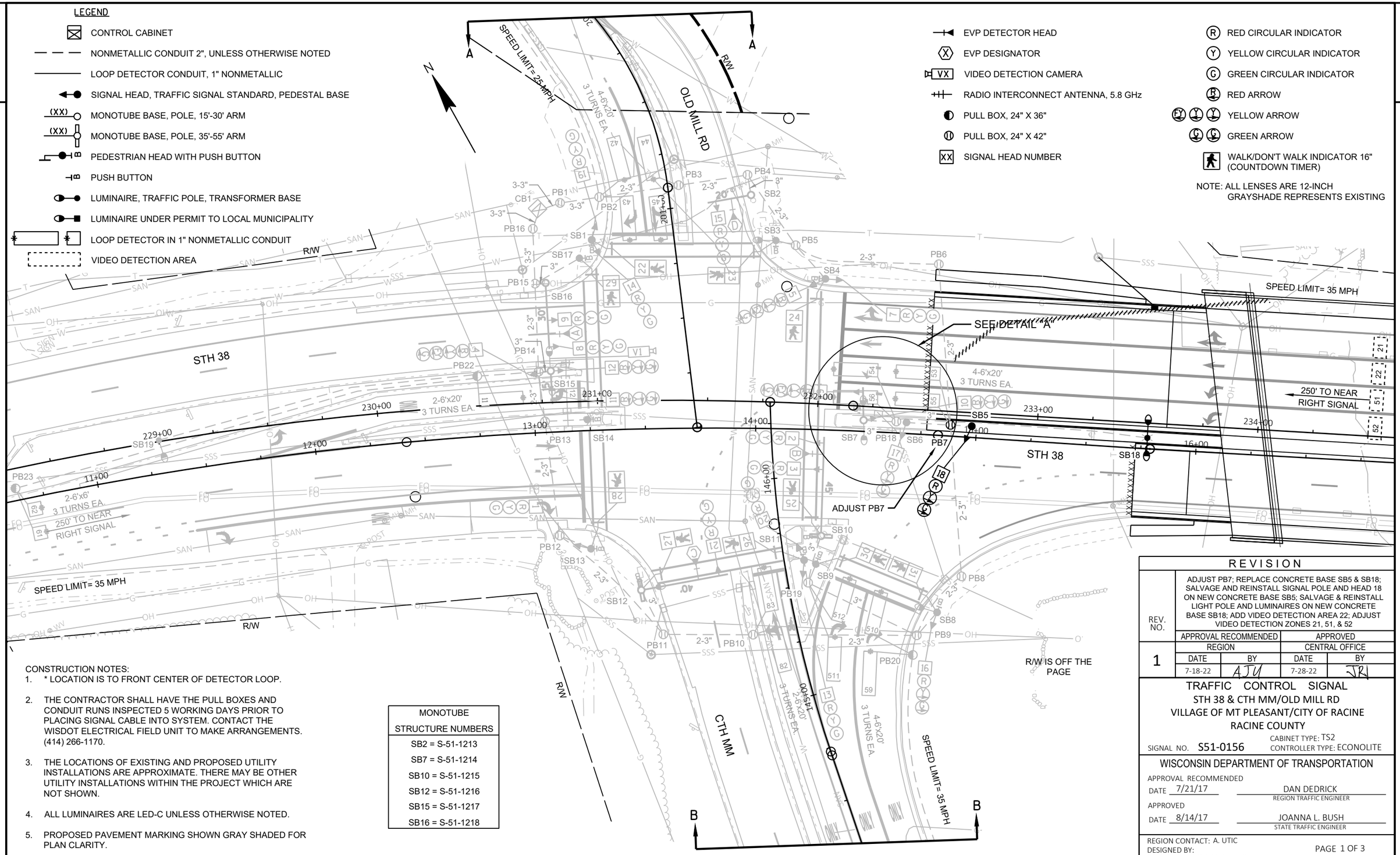
WISDOT/CADDS SHEET 42

2

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT, 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- B PEDESTRIAN HEAD WITH PUSH BUTTON
- B PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- VIDEO DETECTION AREA
- EVP DETECTOR HEAD
- X EVP DESIGNATOR
- VX VIDEO DETECTION CAMERA
- RADIO INTERCONNECT ANTENNA, 5.8 GHz
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED ARROW
- Y YELLOW ARROW
- G GREEN ARROW
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)

NOTE: ALL LENSES ARE 12-INCH GRAYSHADE REPRESENTS EXISTING



CONSTRUCTION NOTES:

1. * LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS. (414) 266-1170.
3. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
4. ALL LUMINAIRES ARE LED-C UNLESS OTHERWISE NOTED.
5. PROPOSED PAVEMENT MARKING SHOWN GRAY SHADED FOR PLAN CLARITY.

MONOTUBE STRUCTURE NUMBERS
SB2 = S-51-1213
SB7 = S-51-1214
SB10 = S-51-1215
SB12 = S-51-1216
SB15 = S-51-1217
SB16 = S-51-1218

REVISION

REV. NO.				
1	ADJUST PB7; REPLACE CONCRETE BASE SB5 & SB18; SALVAGE AND REINSTALL SIGNAL POLE AND HEAD 18 ON NEW CONCRETE BASE SB5; SALVAGE & REINSTALL LIGHT POLE AND LUMINAIRES ON NEW CONCRETE BASE SB18; ADD VIDEO DETECTION AREA 22; ADJUST VIDEO DETECTION ZONES 21, 51, & 52			
	APPROVAL RECOMMENDED		APPROVED	
	REGION		CENTRAL OFFICE	
	DATE	BY	DATE	BY
	7-18-22	AJU	7-28-22	JRJ

7-26-22 JNG

TRAFFIC CONTROL SIGNAL
STH 38 & CTH MM/OLD MILL RD
VILLAGE OF MT PLEASANT/CITY OF RACINE
RACINE COUNTY

SIGNAL NO. S51-0156
CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
DATE 7/21/17 — DAN DEDRICK, REGION TRAFFIC ENGINEER

APPROVED
DATE 8/14/17 — JOANNA L. BUSH, STATE TRAFFIC ENGINEER

REGION CONTACT: A. UTIC
DESIGNED BY:
REVISED BY: C. VANDE LEEST

PAGE 1 OF 3

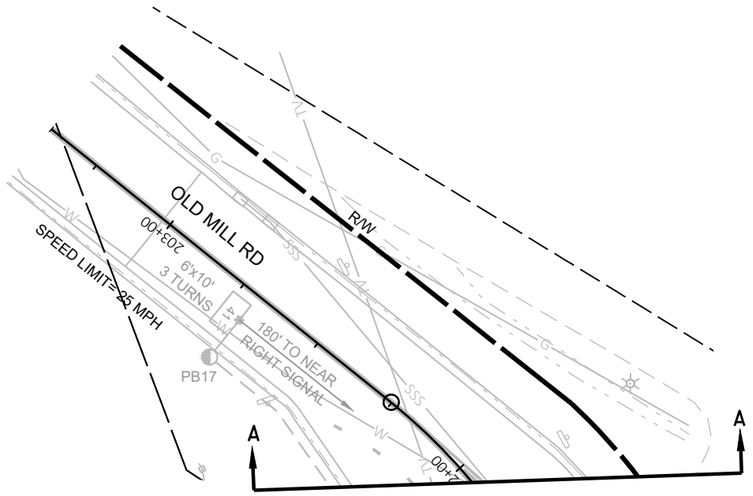
PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC SIGNAL PLAN	SHEET 56	E

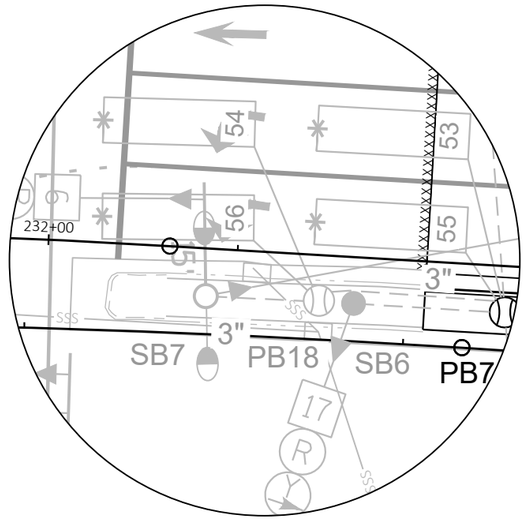
FILE NAME : N:\PDS\C3D\CAD\22900303\SIG\S51-0156\S51-0156_R1.DWG
LAYOUT NAME - S51-0156_R1_pg1

PLOT DATE : 7/28/2022 1:44 PM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : ##########

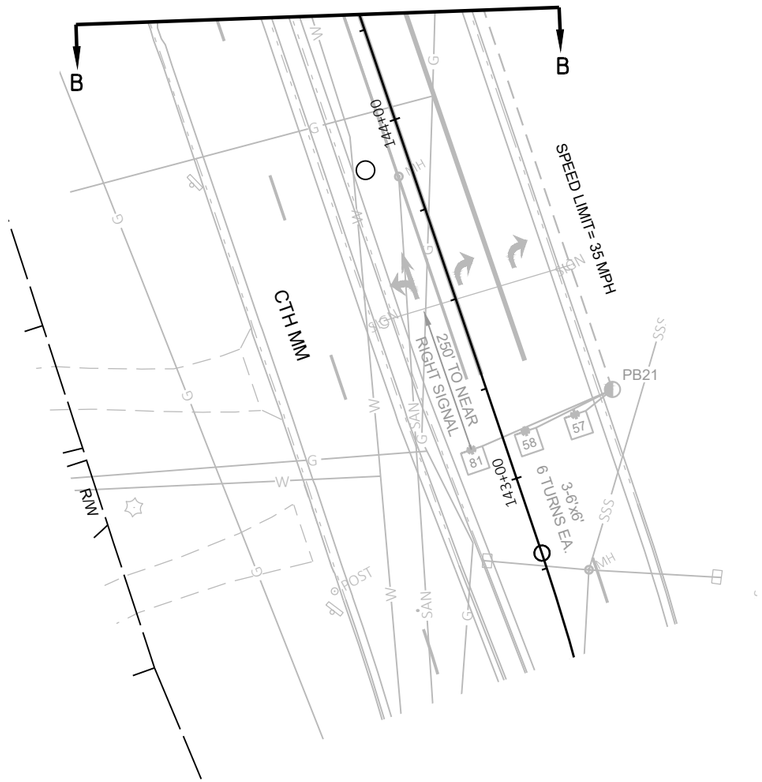
WISDOT/CADDS SHEET 42

2





DETAIL "A"



TRAFFIC CONTROL SIGNAL
STH 38 & CTH MM/OLD MILL RD
VILLAGE OF MT PLEASANT/CITY OF RACINE
RACINE COUNTY

SIGNAL NO. S51-0156

REGION CONTACT: A. UTIC
DESIGNED BY:
REVISED BY: C. VANDE LEEST

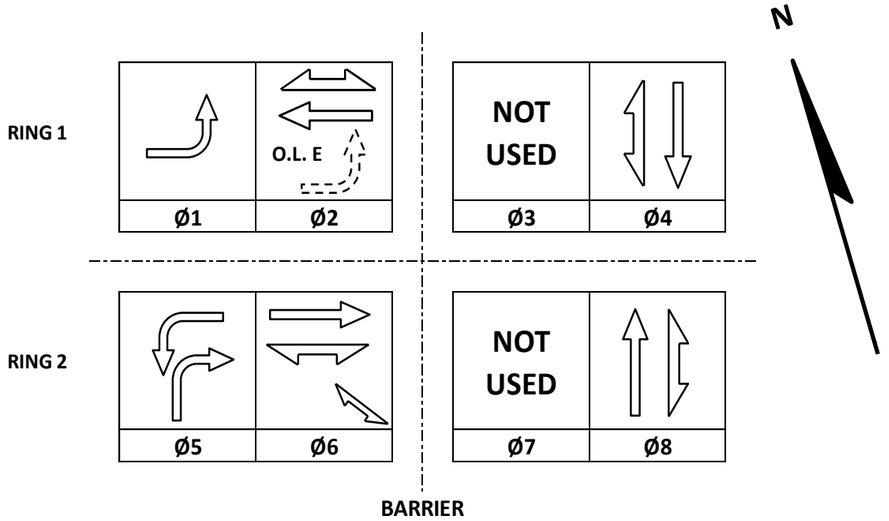
PAGE 2 OF 3

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC SIGNAL PLAN	SHEET 57	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIG\S51-0156\S51-0156_R1.DWG
LAYOUT NAME - S51-0156_R1_pg2

PLOT DATE : 5/20/2022 9:23 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : ##########

	HEAD NUMBERS	FLASH
Ø1	4,5,6	R ←
Ø2	7,8,9	R
Ø3		
Ø4	19,20,21	R
Ø5	10,11,12,16,17,18	R. R ←
Ø6	1,2,3	R
Ø7		
Ø8	13,14,15	R
Ø2P	22,23	
Ø4P	28,29	
Ø6P	26,27,30,31	
Ø8P	24,25	
OLE	4,5,6	-
OLF		
OLG		
OLH		



CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1		6		X
2	X	6	MIN	X
3				
4		8		X
5		2		X
6	X	2	MIN	X
7				
8		4		X

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT				
PHASE	2+5	6+1	4+8	8+4

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4+8 OR 8+4, CONTROLLER SHALL RETURN TO PHASES 4+8.

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	X
CELL MODEM	X

TYPE OF COORDINATION		
NONE		
TBC		X
TRAFFIC RESPONSIVE		
ADAPTIVE		
*LOCATION OF MASTER CONTROLLER NO:	S-	
SIGNAL SYSTEM NO:	SS-	51-0039

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC CABINET	X
IN SEPARATE DOT LIGHTING CABINET	

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	X
GTT	
TOMAR	X
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTION	

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13	19	17	23				35	33	DETECTOR INPUT
PLAN LOOP DETECTOR*(S)	11	41	43	45	54	56	58	510	512	62	82				21	51	PLAN LOOP DETECTOR*(S)
CALLED PHASE	1	4	4	4	5	5	5	5	5	6	8				2	5	CALLED PHASE
CALL OPTION	X		X	X	X	X		X	X	X	X				X		CALL OPTION
DELAY TIME			X					X	X								DELAY TIME
EXTENTION OPTION	X	X	X	X	X	X	X	X	X	X	X				X	X	EXTENTION OPTION
EXTEND TIME		X					X									X	EXTEND TIME
USE ADDED INITIAL										X					X		USE ADDED INITIAL
CROSS SWITCH PHASE	2																CROSS SWITCH PHASE

DETECTOR INPUT	4	2	8	6	12	10	16	14	20	18	24				36	34	DETECTOR INPUT
PLAN LOOP DETECTOR*(S)	12	42	44	53	55	57	59	511	61	81	83				22	52	PLAN LOOP DETECTOR*(S)
CALLED PHASE	1	4	4	5	5	5	5	5	6	8	8				2	5	CALLED PHASE
CALL OPTION	X	X	X	X	X		X	X	X		X				X		CALL OPTION
DELAY TIME		X					X	X									DELAY TIME
EXTENTION OPTION	X	X	X	X	X	X	X	X	X	X	X				X	X	EXTENTION OPTION
EXTEND TIME						X				X						X	EXTEND TIME
USE ADDED INITIAL									X						X		USE ADDED INITIAL
CROSS SWITCH PHASE	2																CROSS SWITCH PHASE

STH 38 & CTH MM/OLD MILL RD
VILLAGE OF MT PLEASANT/CITY OF RACINE
RACINE COUNTY

SIGNAL NO: S51-0156 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 08/22 PAGE NO. 3 OF 3

PROJECT ID:	2290-03-73
INTERSECTION:	STH 38 & CTH MM/OLD MILL ROAD

Signal Wire Color Coding	BLK - black	RED - red	GRN - green
	WHT - white	BLU - blue	ORG - orange

CB1 TO	AWG14 # OF CONDUCTORS	HEAD NO.	SIGNAL INDICATION WIRE COLOR									PED BUTTON	FUTURE APS
			RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING YELLOW>	D/WALK	WALK		
SB1	12	14	RED	ORG	GRN								
		19	RED/BLK	ORG/BLK	GRN/BLK								
		22								BLK	BLU		
		B										WHT/BLK	BLU/BLK
SB2	7	15	RED	ORG	GRN								
SB3	12	23								BLK	BLU		
		B										WHT/BLK	BLU/BLK
SB4	12	5				RED	ORG	GRN	BLK/WHT				
		7	RED/BLK	ORG/BLK	GRN/BLK								
		24								BLK	BLU		
		B										WHT/BLK	BLU/BLK
SB5	**7**	**18**	**RED**				**ORG**	**GRN**					
SB6	7	17	RED				ORG	GRN					
SB7	12	6				RED	ORG	GRN	BLK/WHT				
		10				RED/BLK	ORG/BLK	GRN/BLK					
SB8	12	16	RED				ORG	GRN					
		31								BLK	BLU		
		B										WHT/BLK	BLU/BLK
SB9	12	30								BLK	BLU		
		B										WHT/BLK	BLU/BLK
SB10	12	2	RED	ORG	GRN								
		3	RED	ORG	GRN								
		25								BLK	BLU		
		B										WHT/BLK	BLU/BLK
SB11	12	13	RED	ORG	GRN								
		20	RED/BLK	ORG/BLK	GRN/BLK								
		26								BLK	BLU		
		B										WHT/BLK	BLU/BLK
SB12	12	21	RED	ORG	GRN								
		27								BLK	BLU		
		B										WHT/BLK	BLU/BLK
SB13	12	1	RED	ORG	GRN								
		28								BLK	BLU		
		B										WHT/BLK	BLU/BLK
SB14	12	B										WHT/BLK	BLU/BLK
SB15	12	4				RED	ORG	GRN	BLK/WHT				
		11				RED/BLK	ORG/BLK	GRN/BLK					
		12				RED/BLK	ORG/BLK	GRN/BLK					
SB16	7	8	RED	ORG	GRN								
		9	RED	ORG	GRN								
SB17	12	29								BLK	BLU		
		B										WHT/BLK	BLU/BLK

***Use the white conductor in the cable assembly as the grounded conductor for all traffic signal indications**
***Ensure the grounded conductor in the feeder cable and the pole cables are both 18" longer than the ungrounded conductors.**
***At the signal bases, connect one terminal from the pedestrian push buttons to the color indicated in the chart. Connect the other terminal to the grounded conductor.**
***Reconnect the grounding conductors wherever the circuit has been interrupted to ensure the grounding circuit is complete.**

Equipment Grounding Conductor 10 AWG Green XLP	
From	To
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	**SB5**
SB5	**SB6**
SB6	SB7
SB7	SB8
SB8	SB9
SB9	SB10
SB10	SB11
SB11	SB12
SB12	SB13
SB13	SB14
SB14	SB15
SB15	SB16
SB16	SB17
SB17	CB1

Pull Box Bonding Jumper 10 AWG Green XLP	
From	To
PB1	CB1
PB2	SB1
PB3	SB2
PB4	SB2
PB5	SB3
PB6	SB3
PB7	**SB5**
PB8	SB8
PB9	SB8
PB10	SB12
PB11	SB12
PB12	SB13
PB13	SB14
PB14	SB15
PB15	SB16
PB16	CB1
PB18	SB7
PB19	SB9

Lighting UF 2-10 AWG Grounded	
From	To
CB1	SB3
SB3	SB7
SB7	**SB18**
SB7	SB8
CB1	SB15
SB15	SB19
SB15	SB12

EVP Cable	
From	To
CB1	SB16 (HEAD A)
CB1	SB10 (HEAD B)
CB1	SB12 (HEAD C)
CB1	SB2 (HEAD D)

Video Detection Cable	
From	To
CB1	SB15 (V1)

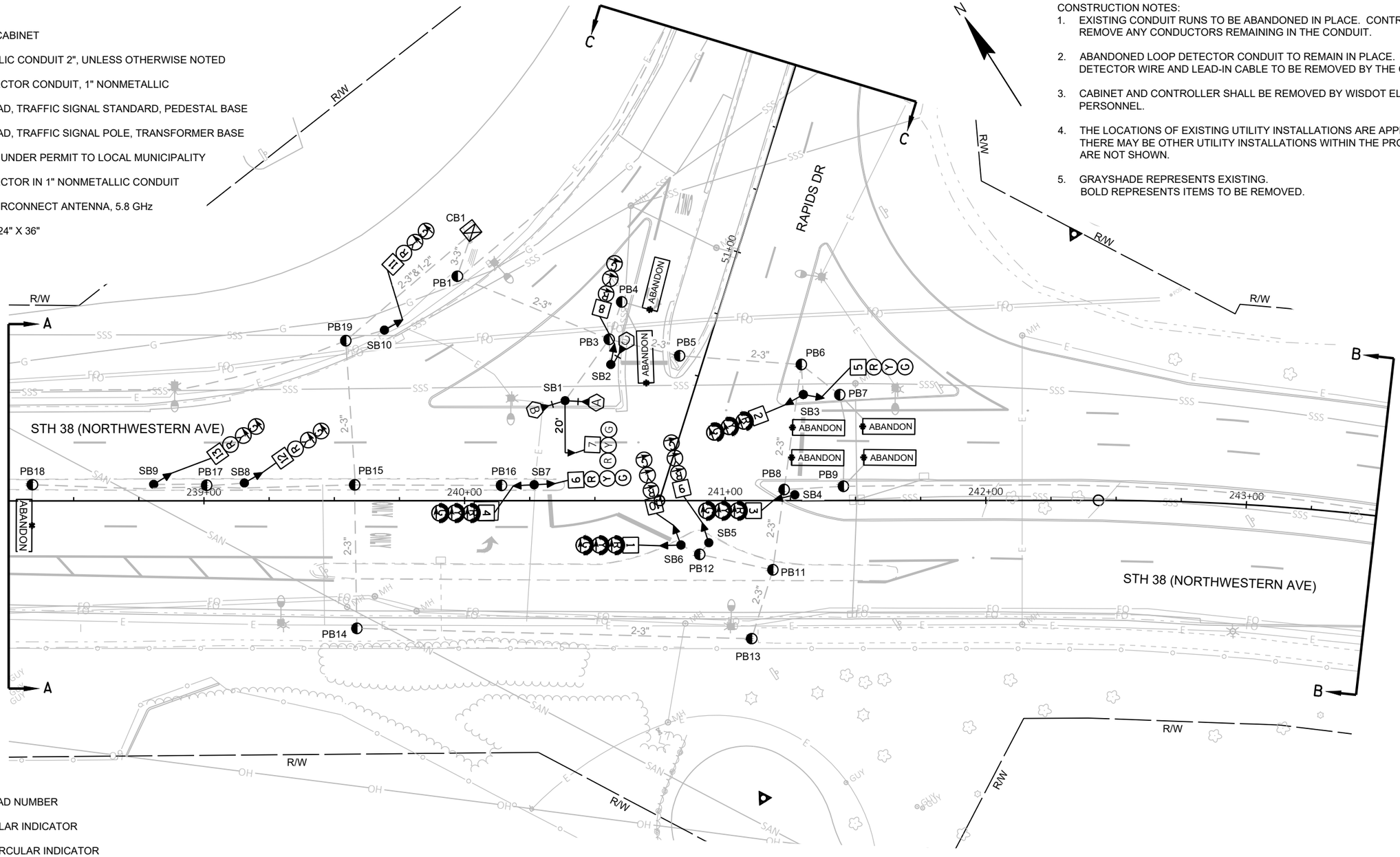
2

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT, 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- RADIO INTERCONNECT ANTENNA, 5.8 GHz
- PULL BOX, 24" X 36"

CONSTRUCTION NOTES:

1. EXISTING CONDUIT RUNS TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY CONDUCTORS REMAINING IN THE CONDUIT.
2. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP DETECTOR WIRE AND LEAD-IN CABLE TO BE REMOVED BY THE CONTRACTOR.
3. CABINET AND CONTROLLER SHALL BE REMOVED BY WISDOT ELECTRICAL PERSONNEL.
4. THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
5. GRAYSHADE REPRESENTS EXISTING. BOLD REPRESENTS ITEMS TO BE REMOVED.



- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW
- TUNNEL VISOR ON CIRCULAR INDICATOR
- X EVP DESIGNATOR
- EVP DETECTOR HEAD
- Y YIELD SIGN

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

TRAFFIC CONTROL SIGNAL
STH 38 (NORTHWESTERN AVE) & RAPIDS DR
CITY OF RACINE
RACINE COUNTY

SIGNAL NO. S51-0157

REGION CONTACT: A. UTIC
DESIGNED BY: C. VANDE LEEST
REVISED BY:

PAGE 1 OF 2

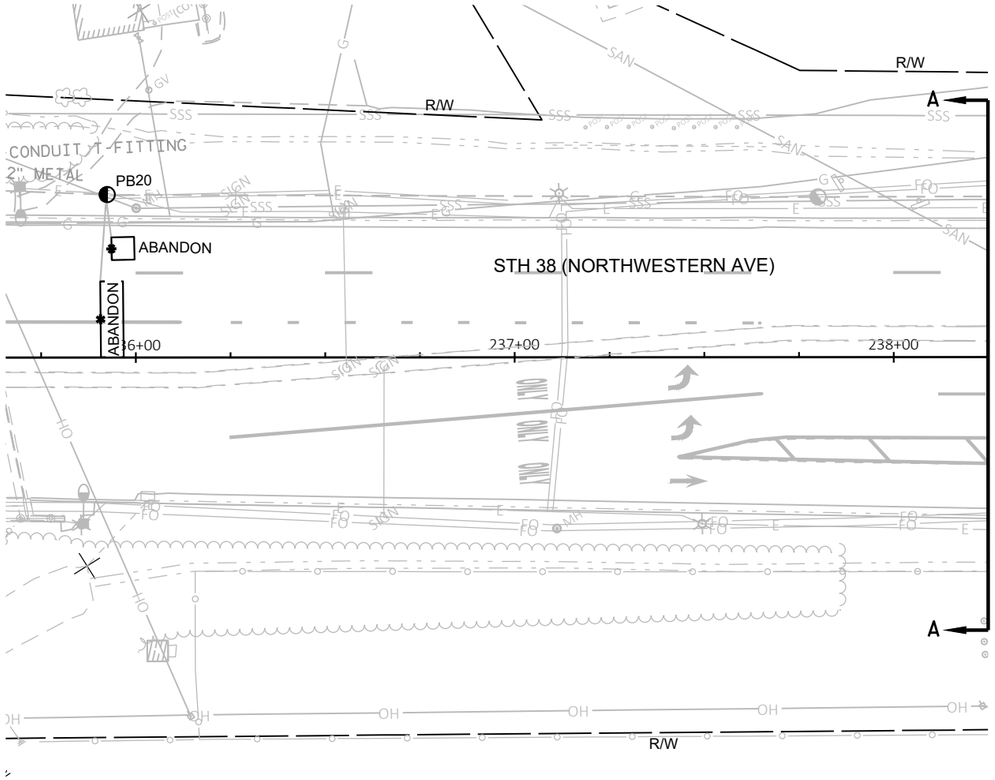
PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 61	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIG\S51-0157\S51-0157_REM.DWG
LAYOUT NAME - S51-0157_Rem_pg1

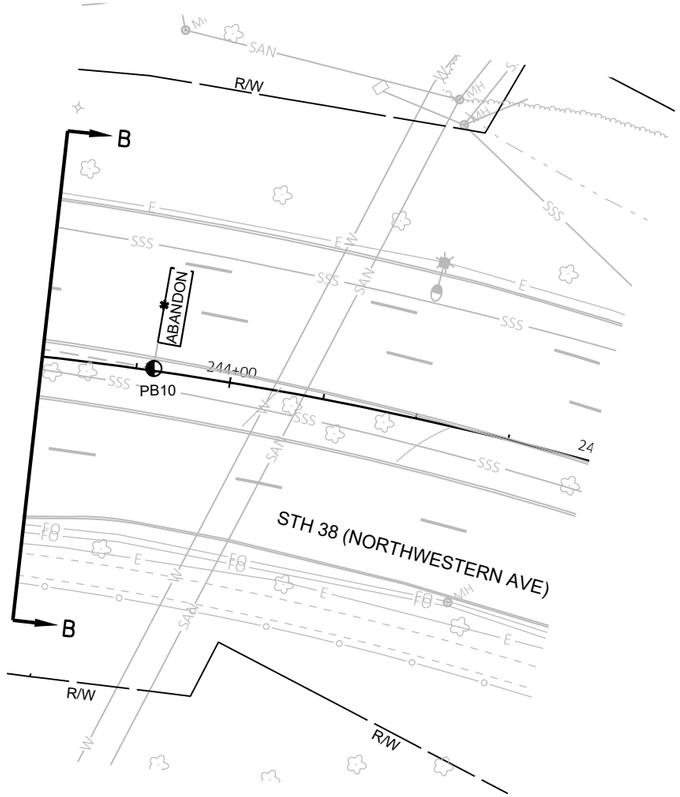
PLOT DATE : 7/19/2022 7:24 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2







TRAFFIC CONTROL SIGNAL
STH 38 (NORTHWESTERN AVE) & RAPIDS DR
CITY OF RACINE
RACINE COUNTY

SIGNAL NO. S51-0157

REGION CONTACT: A. UTIC
DESIGNED BY: C. VANDE LEEST
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 62	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIG\S51-0157\S51-0157_REM.DWG
LAYOUT NAME - S51-0157_Rem_pg2

PLOT DATE : 7/19/2022 7:24 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

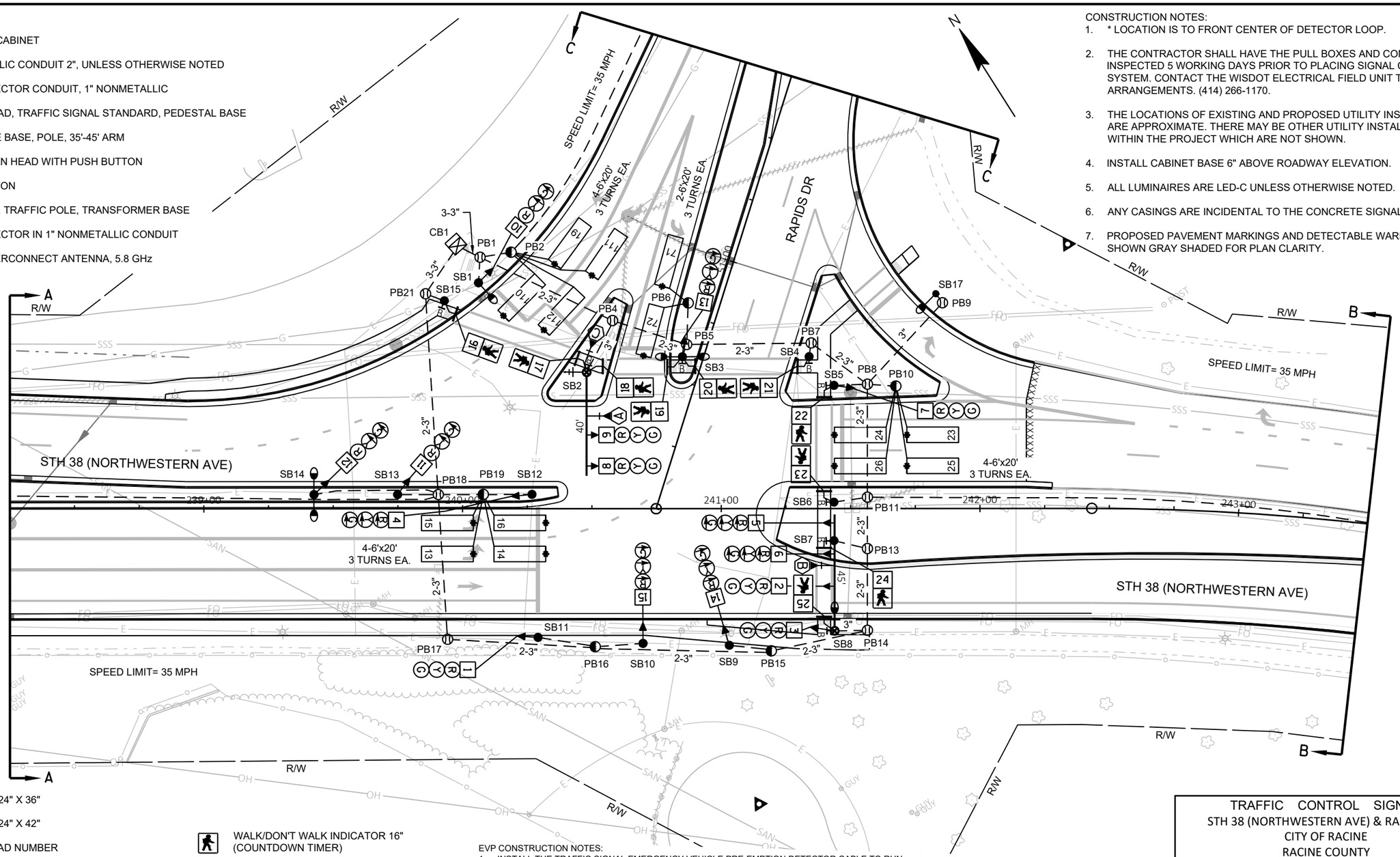
2

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT, 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 35'-45' ARM
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- RADIO INTERCONNECT ANTENNA, 5.8 GHz

CONSTRUCTION NOTES:

1. * LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS. (414) 266-1170.
3. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
4. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.
5. ALL LUMINAIRES ARE LED-C UNLESS OTHERWISE NOTED.
6. ANY CASINGS ARE INCIDENTAL TO THE CONCRETE SIGNAL BASE ITEMS.
7. PROPOSED PAVEMENT MARKINGS AND DETECTABLE WARNING FIELDS SHOWN GRAY SHADED FOR PLAN CLARITY.



- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED ARROW
- Y YELLOW ARROW
- G GREEN ARROW

- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- X EVP DESIGNATOR
- EVP DETECTOR HEAD
- Y YIELD SIGN

NOTE: ALL LENSES ARE 12-INCH GRAYSHADE REPRESENTS EXISTING

EVP CONSTRUCTION NOTES:

1. INSTALL THE TRAFFIC SIGNAL EMERGENCY VEHICLE PRE-EMPTION DETECTOR CABLE TO RUN CONTINUOUSLY (WITHOUT SPLICES) FROM THE CABINET TO THE DETECTOR HEADS. MOUNT THE EVP DETECTOR HEADS AND WIRE THEM PER MANUFACTURER INSTRUCTIONS.
2. THE DEPARTMENT WILL DETERMINE THE EXACT LOCATION OF THE EVP DETECTORS TO ENSURE THAT THE INSTALLATION DOES NOT CREATE A SIGHT OBSTRUCTION.
3. ALL EVP DETECTOR CABLE SHALL BE ROUTED THROUGH EXISTING SIGNAL BASES, PULL BOXES, AND CONDUIT AS INDICATED. PROVIDE ENOUGH CABLE TO ALLOW 10 FEET OF SLACK IN THE CABINET, IN EACH PULL BOX, AND IN THE SIGNAL POLE HANDHOLE.
4. FOR A CABINET THAT IS NOT OPERATING THE SIGNAL, CABINET WIRING WILL BE DONE BY THE CONTRACTOR. IF THE CABINET IS OPERATING THE SIGNAL, THE CABINET WIRING WILL BE DONE BY THE DEPARTMENT. THE CONTRACTOR SHALL INSTALL AND TERMINATE THE EVP CABLE AS DESCRIBED AND SHALL LABEL EACH CABLE AS NOTED ON THE PLAN SHEETS (I.E. EVP A-B-C-D).

MONOTUBE STRUCTURE NUMBERS
SB2 = S-51-1338-01
SB8 = S-51-1338-02

TRAFFIC CONTROL SIGNAL

STH 38 (NORTHWESTERN AVE) & RAPIDS DR
CITY OF RACINE
RACINE COUNTY

SIGNAL NO. S51-0157
CABINET TYPE: TS2-S
CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
DATE 7-18-22 REGION TRAFFIC ENGINEER

APPROVED
DATE 7-28-22 STATE TRAFFIC ENGINEER

REGION CONTACT: A. UTIC
DESIGNED BY: C. VANDE LEEST
REVISED BY:

PAGE 1 OF 4

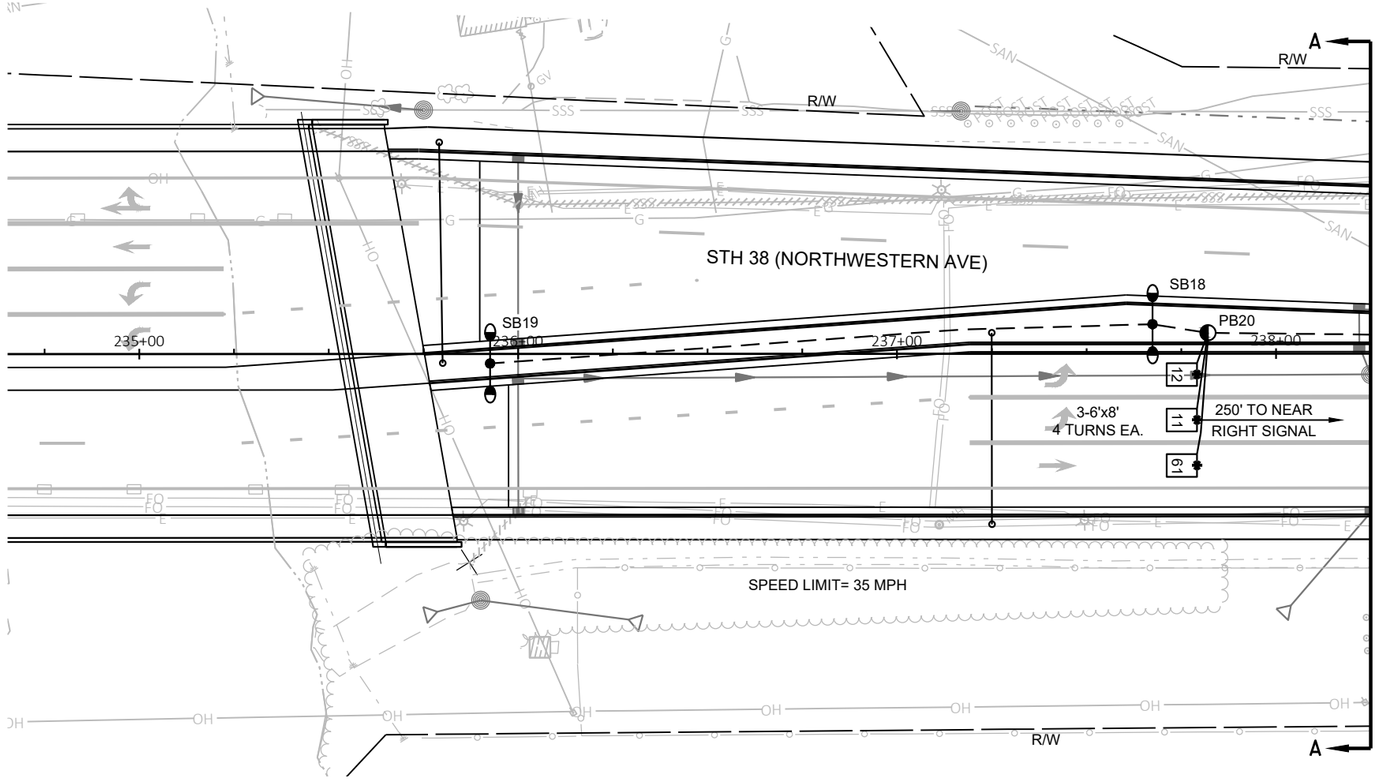
7-26-22 JMS

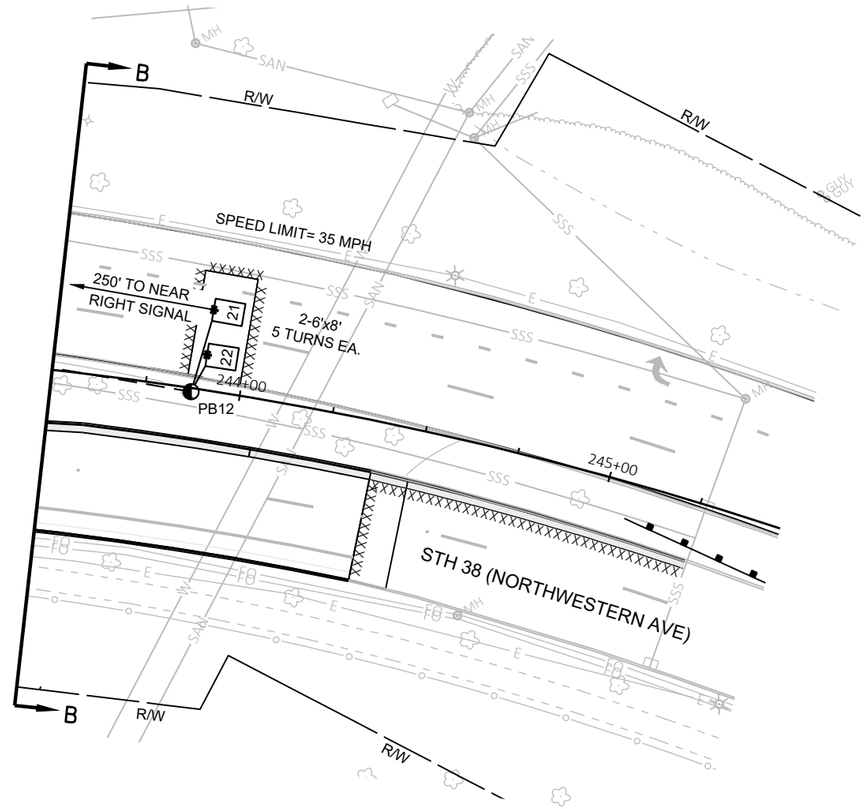
PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC SIGNAL PLAN	SHEET 63	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIG\S51-0157\S51-0157.DWG
LAYOUT NAME - S51-0157_pg1
PLOT DATE : 7/28/2022 1:23 PM
PLOT BY : VANDE LEEST, CYNTHIA
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2





TRAFFIC CONTROL SIGNAL
STH 38 (NORTHWESTERN AVE) & RAPIDS DR
CITY OF RACINE
RACINE COUNTY

SIGNAL NO. S51-0157

REGION CONTACT: A. UTIC
DESIGNED BY: C. VANDE LEEST
REVISED BY:

PAGE 2 OF 4

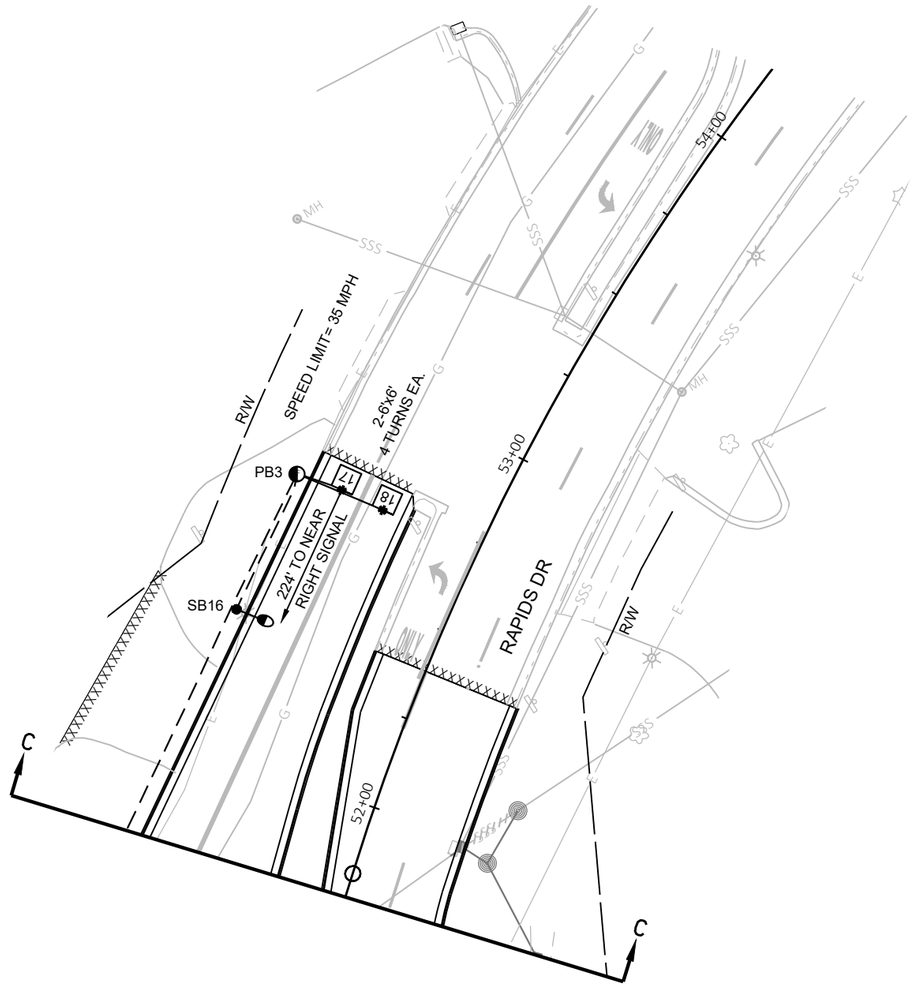
PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC SIGNAL PLAN	SHEET 64	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIG\S51-0157\S51-0157.DWG
LAYOUT NAME - S51-0157_pg2

PLOT DATE : 7/19/2022 6:42 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2



TRAFFIC CONTROL SIGNAL
STH 38 (NORTHWESTERN AVE) & RAPIDS DR
CITY OF RACINE
RACINE COUNTY

SIGNAL NO. S51-0157

REGION CONTACT: A. UTIC
DESIGNED BY: C. VANDE LEEST
REVISED BY:

PAGE 3 OF 4

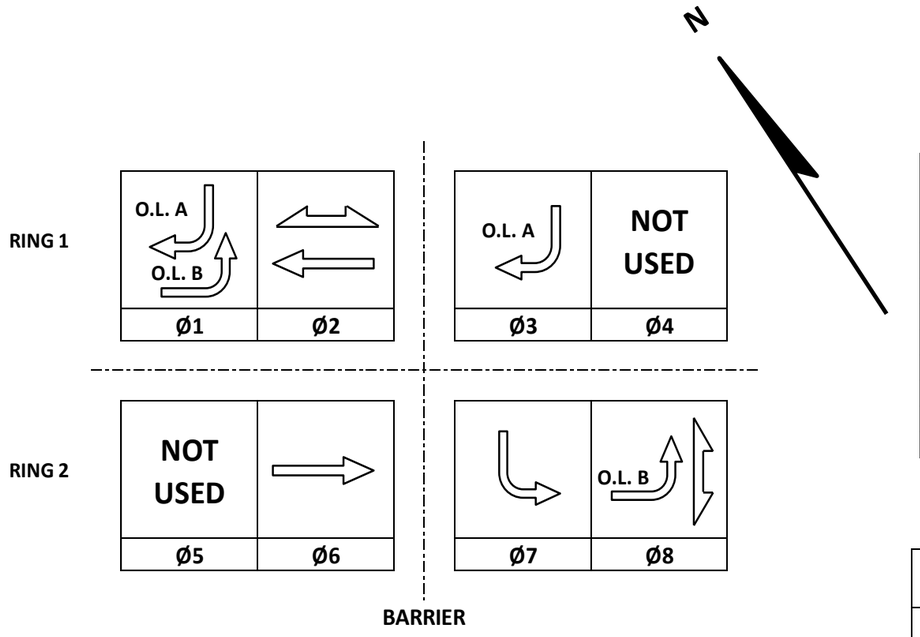
PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC SIGNAL PLAN	SHEET 65	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIG\S51-0157\S51-0157.DWG
LAYOUT NAME - S51-0157_pg3

PLOT DATE : 7/19/2022 6:42 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
Ø1		
Ø2	7,8,9	R
Ø3		
Ø4		
Ø5		
Ø6	1,2,3	R
Ø7	13,14,15	R ←
Ø8		
Ø2P	16,17,18,19,20,21	
Ø4P		
Ø6P		
Ø8P	22,23,24,25	
OLA	10,11,12	R
OLB	4,5,6	R ←
OLE		
OLF		
OLG		



CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1		6	MIN	X
2	X	6		X
3		7		X
4				
5				
6	X	1	MIN	X
7		3		X
8		3		X

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C
MOVEMENT	← →	OLA	OLA
PHASE	2+6	6+1	3+7

AFTER PREEMPTION SEQUENCE 2+6 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 3+7, CONTROLLER SHALL RETURN TO PHASE 3+7.

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	X
CELL MODEM	

TYPE OF COORDINATION		
NONE		
TBC		X
TRAFFIC RESPONSIVE		
ADAPTIVE		
*LOCATION OF MASTER CONTROLLER NO:	S-	
SIGNAL SYSTEM NO:	SS-	51-0039

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC CABINET	X
IN SEPARATE DOT LIGHTING CABINET	

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	X
GTT	X
TOMAR	
HARDWIRE	
OTHER	
CONFIRMATION LIGHTS	
LIFT BRIDGE	
QUEUE DETECTION	

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	11	13	15	17	19	111	21	23
CALLED PHASE	1	1	1	1	1	1	2	2
CALL OPTION	X	X	X	X	X	X	X	X
DELAY TIME								
EXTENTION OPTION	X	X	X	X	X	X	X	X
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

19	17	23	21	27	25	31	29	DETECTOR INPUT
25	61	72						PLAN LOOP DETECTOR*(S)
2	6	7						CALLED PHASE
X	X	X						CALL OPTION
								DELAY TIME
X	X	X						EXTENTION OPTION
								EXTEND TIME
	X							USE ADDED INITIAL
								CROSS SWITCH PHASE

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	12	14	16	18	110	112	22	24
CALLED PHASE	1	1	1	1	1	1	2	2
CALL OPTION	X	X	X	X	X	X	X	X
DELAY TIME								
EXTENTION OPTION	X	X	X	X	X	X	X	X
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

20	18	24	22	28	26	32	30	DETECTOR INPUT
26	71							PLAN LOOP DETECTOR*(S)
2	7							CALLED PHASE
X	X							CALL OPTION
								DELAY TIME
X	X							EXTENTION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

GENERAL NOTES:

1. START OF OLA TO BE DELAYED AFTER THE TERMINATION OF PHASE 2.
2. PHASE 8 CALLED BY PEDESTRIAN PUSH BUTTONS ON SB5, SB6, SB7, OR SB8.

STH 38 (NORTHWESTERN AVE) & RAPIDS DR
CITY OF RACINE
RACINE COUNTY

SIGNAL NO:	S51-0157	CABINET TYPE:	TS2-S
		CONTROLLER TYPE:	ECONOLITE
DATE:	8/22	PAGE NUMBER:	4 OF 4

FILE NAME: \\wkertovfilpi01\N3PUBLIC\PDS\C3D\CAD\22900303\SIG\S51-0157\TS2-S_E_FYA_EFGH_Econolite_SEQ.xlsx PLOT DATE: 7/18/2022 PLOT NAME: TS2-S_E_FYA_EFGH_Econolite_SEQ.xlsx PLOT BY: _____ PLOT SCALE: 1:1

PROJECT ID:	2290-03-73
INTERSECTION:	STH 38 (NORTHWESTERN AVE) & RAPIDS DR

Signal Wire Color Coding	BLK - black	RED - red	GRN - green
	WHT - white	BLU - blue	ORG - orange

CB1 TO	AWG14 # OF CONDUCTORS	HEAD NO.	SIGNAL INDICATION WIRE COLOR									PED NEUTRAL	PED INPUT
			RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING YELLOW>	D/WALK	WALK		
SB1	7	10	RED				ORG	GRN					
SB2	12	8	RED	ORG	GRN								
		9	RED	ORG	GRN								
		17								BLK	BLU		
		18								BLK	BLU		
		B											WHT/BLK
SB3	12	13				RED	ORG	GRN					
		19								BLK	BLU		
		20								BLK	BLU		
		B											WHT/BLK
SB4	7	21								BLK	BLU		
		B											WHT/BLK
SB5	12	7	RED	ORG	GRN								
		22								BLK	BLU		
		B											WHT/BLK
SB6	7	23								BLK	BLU		
		B											WHT/BLK
SB7	7	24								BLK	BLU		
		B											WHT/BLK
SB8	12	2	RED	ORG	GRN								
		3	RED	ORG	GRN								
		5				RED/BLK	ORG/BLK	GRN/BLK					
		6				RED/BLK	ORG/BLK	GRN/BLK					
		25								BLK	BLU		
		B											WHT/BLK
SB9	7	14				RED	ORG	GRN					
SB10	7	15				RED	ORG	GRN					
SB11	7	1	RED	ORG	GRN								
SB12	7	4				RED	ORG	GRN					
SB13	7	11	RED				ORG	GRN					
SB14	7	12	RED				ORG	GRN					
SB15	7	16								BLK	BLU		
		B											WHT/BLK

*Use the white conductor in the cable assembly as the grounded conductor for all traffic signal indications
*Ensure the grounded conductor in the feeder cable and the pole cables are both 18" longer than the ungrounded conductors.
*At the signal bases, connect one terminal from the pedestrian push buttons to the color indicated in the chart. Connect the other terminal to the grounded conductor.
*Reconnect the grounding conductors wherever the circuit has been interrupted to ensure the grounding circuit is complete.

2

PROJECT ID:	2290-03-73
INTERSECTION:	STH 38 (NORTHWESTERN AVE) & RAPIDS DR

Equipment Grounding Conductor 10 AWG Green XLP	
From	To
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	SB9
SB9	SB10
SB10	SB11
SB11	SB12
SB12	SB13
SB13	SB14
SB14	SB15
SB15	CB1

Pull Box Bonding Jumper 10 AWG Green XLP	
From	To
PB1	CB1
PB4	SB2
PB5	SB3
PB7	SB4
PB8	SB5
PB11	SB6
PB13	SB7
PB14	SB8
PB15	SB9
PB16	SB10
PB17	SB11
PB18	SB13
PB19	SB12
PB21	SB15

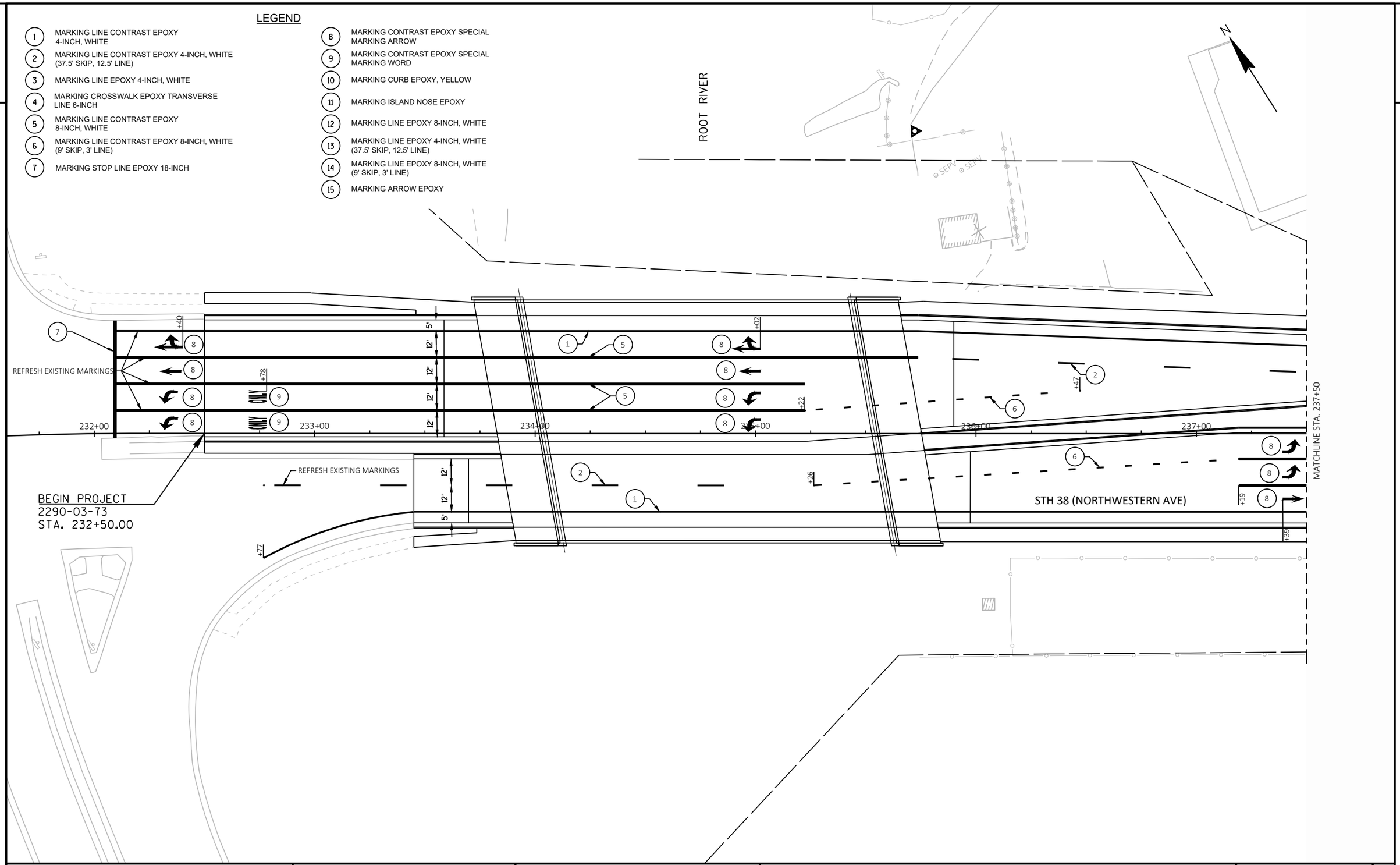
Lighting UF 2-10 AWG Grounded	
From	To
CB1	SB1
SB1	SB16
SB1	SB3
SB3	SB17
SB17	SB8
CB1	SB14
SB14	SB18
SB18	SB19

Emergency Vehicle Preemption	
From	To
CB1	SB2 (HEAD A)
CB1	SB8 (HEAD B)
CB1	SB2 (HEAD C)

2

LEGEND

1. MARKING LINE CONTRAST EPOXY 4-INCH, WHITE
2. MARKING LINE CONTRAST EPOXY 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
3. MARKING LINE EPOXY 4-INCH, WHITE
4. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
5. MARKING LINE CONTRAST EPOXY 8-INCH, WHITE
6. MARKING LINE CONTRAST EPOXY 8-INCH, WHITE (9' SKIP, 3' LINE)
7. MARKING STOP LINE EPOXY 18-INCH
8. MARKING CONTRAST EPOXY SPECIAL MARKING ARROW
9. MARKING CONTRAST EPOXY SPECIAL MARKING WORD
10. MARKING CURB EPOXY, YELLOW
11. MARKING ISLAND NOSE EPOXY
12. MARKING LINE EPOXY 8-INCH, WHITE
13. MARKING LINE EPOXY 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
14. MARKING LINE EPOXY 8-INCH, WHITE (9' SKIP, 3' LINE)
15. MARKING ARROW EPOXY



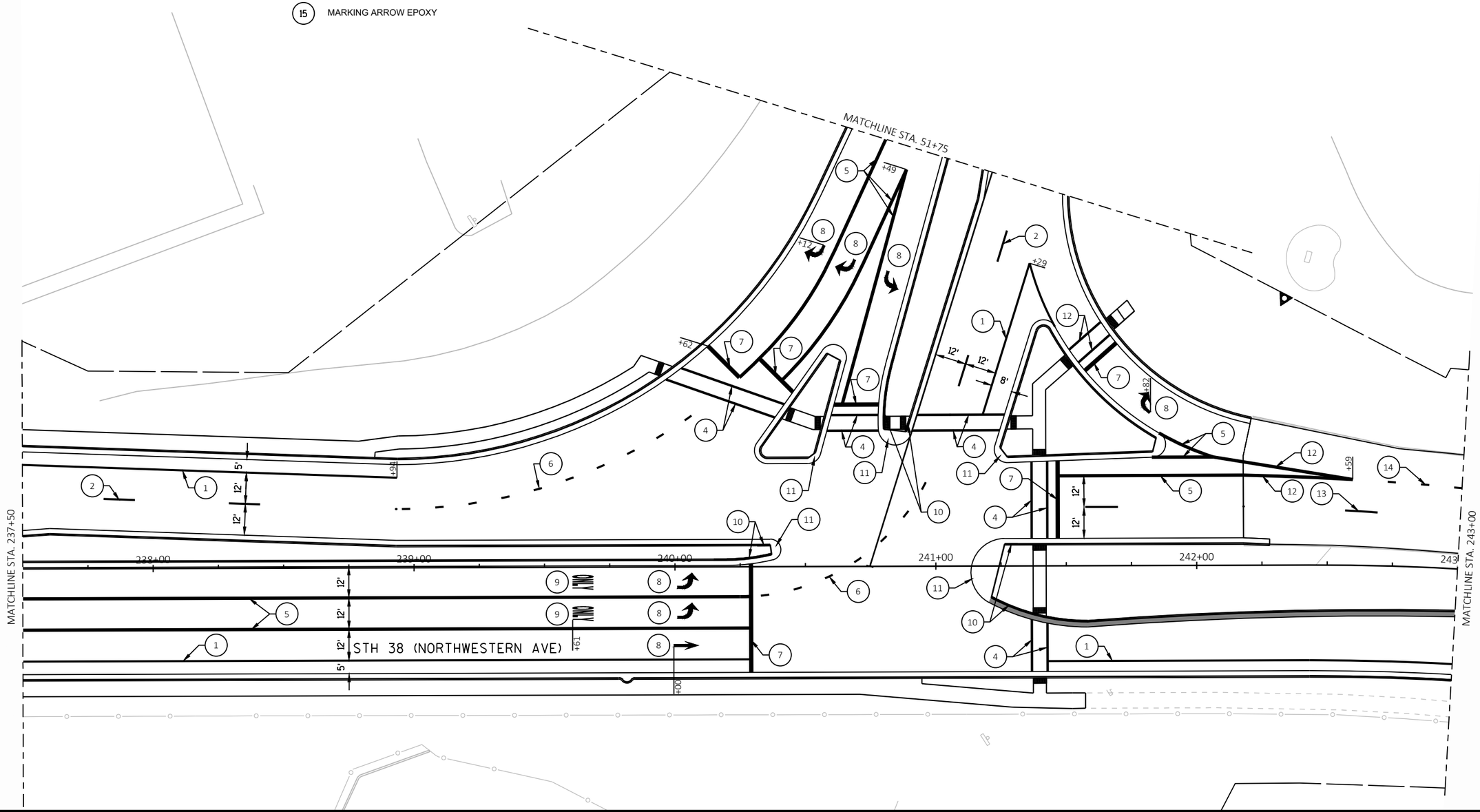
PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	PAVEMENT MARKING PLAN	SHEET 69	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024501_pm
PLOT DATE : 7/21/2022 4:30 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

LEGEND

1. MARKING LINE CONTRAST EPOXY 4-INCH, WHITE
2. MARKING LINE CONTRAST EPOXY 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
3. MARKING LINE EPOXY 4-INCH, WHITE
4. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
5. MARKING LINE CONTRAST EPOXY 8-INCH, WHITE
6. MARKING LINE CONTRAST EPOXY 8-INCH, WHITE (9' SKIP, 3' LINE)
7. MARKING STOP LINE EPOXY 18-INCH
8. MARKING CONTRAST EPOXY SPECIAL MARKING ARROW
9. MARKING CONTRAST EPOXY SPECIAL MARKING WORD
10. MARKING CURB EPOXY, YELLOW
11. MARKING ISLAND NOSE EPOXY
12. MARKING LINE EPOXY 8-INCH, WHITE
13. MARKING LINE EPOXY 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
14. MARKING LINE EPOXY 8-INCH, WHITE (9' SKIP, 3' LINE)
15. MARKING ARROW EPOXY



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	PAVEMENT MARKING PLAN	SHEET 70	E

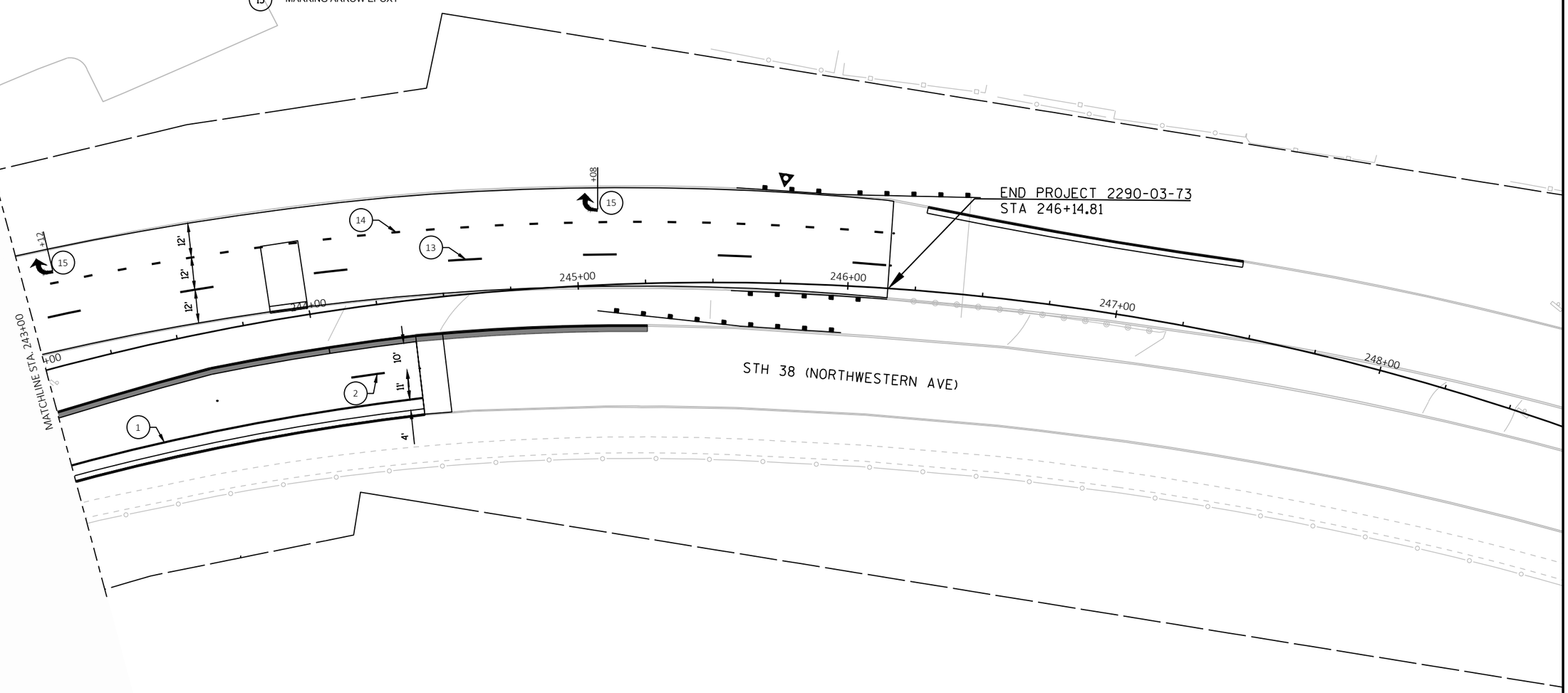
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LAYOUT NAME - 024502_pm

PLOT DATE : 7/21/2022 4:30 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

LEGEND

1. MARKING LINE CONTRAST EPOXY 4-INCH, WHITE
2. MARKING LINE CONTRAST EPOXY 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
3. MARKING LINE EPOXY 4-INCH, WHITE
4. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
5. MARKING LINE CONTRAST EPOXY 8-INCH, WHITE
6. MARKING LINE CONTRAST EPOXY 8-INCH, WHITE (9' SKIP, 3' LINE)
7. MARKING STOP LINE EPOXY 18-INCH
8. MARKING CONTRAST EPOXY SPECIAL MARKING ARROW
9. MARKING CONTRAST EPOXY SPECIAL MARKING WORD
10. MARKING CURB EPOXY, YELLOW
11. MARKING ISLAND NOSE EPOXY
12. MARKING LINE EPOXY 8-INCH, WHITE
13. MARKING LINE EPOXY 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
14. MARKING LINE EPOXY 8-INCH, WHITE (9' SKIP, 3' LINE)
15. MARKING ARROW EPOXY



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	PAVEMENT MARKING PLAN	SHEET 71	E

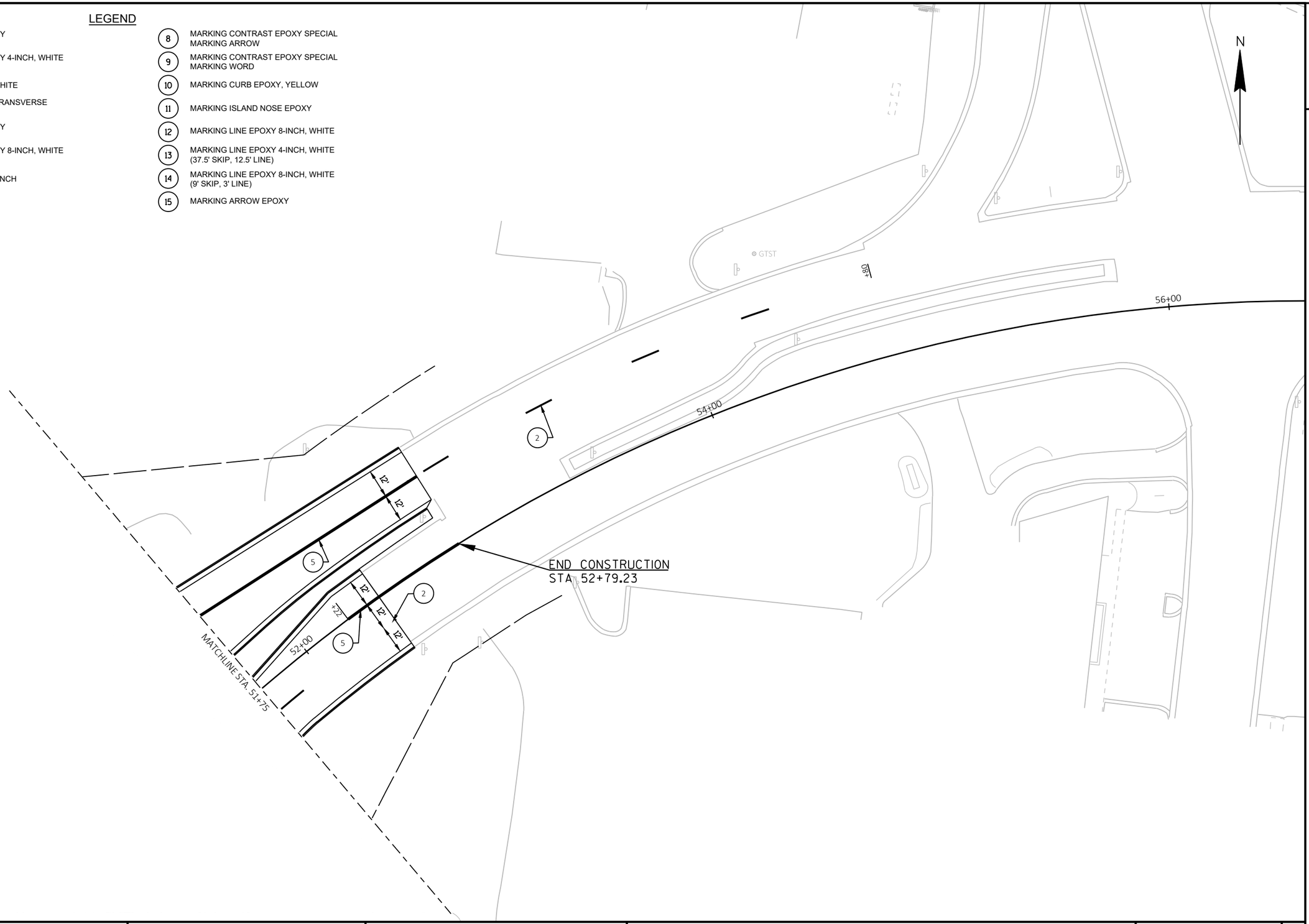
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LAYOUT NAME - 024503_pm
PLOT DATE : 7/21/2022 4:30 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

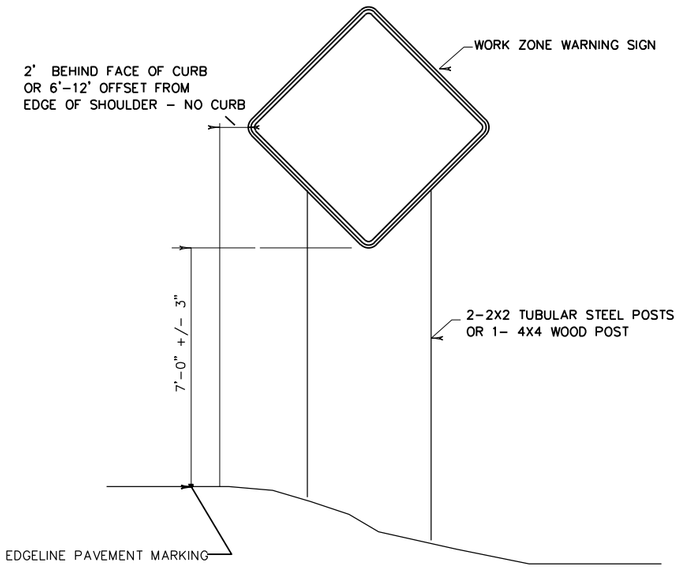
2

LEGEND

1. MARKING LINE CONTRAST EPOXY 4-INCH, WHITE
2. MARKING LINE CONTRAST EPOXY 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
3. MARKING LINE EPOXY 4-INCH, WHITE
4. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
5. MARKING LINE CONTRAST EPOXY 8-INCH, WHITE
6. MARKING LINE CONTRAST EPOXY 8-INCH, WHITE (9' SKIP, 3' LINE)
7. MARKING STOP LINE EPOXY 18-INCH
8. MARKING CONTRAST EPOXY SPECIAL MARKING ARROW
9. MARKING CONTRAST EPOXY SPECIAL MARKING WORD
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11. MARKING ISLAND NOSE EPOXY
12. MARKING LINE EPOXY 8-INCH, WHITE
13. MARKING LINE EPOXY 4-INCH, WHITE (37.5' SKIP, 12.5' LINE)
14. MARKING LINE EPOXY 8-INCH, WHITE (9' SKIP, 3' LINE)
15. MARKING ARROW EPOXY



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	PAVEMENT MARKING PLAN	SHEET 72	E



TYPICAL TEMPORARY TRAFFIC CONTROL DETAIL
MOUNTING ON FIXED SUPPORT

LONG TERM
7 DAYS OR MORE

TRAFFIC CONTROL NOTES

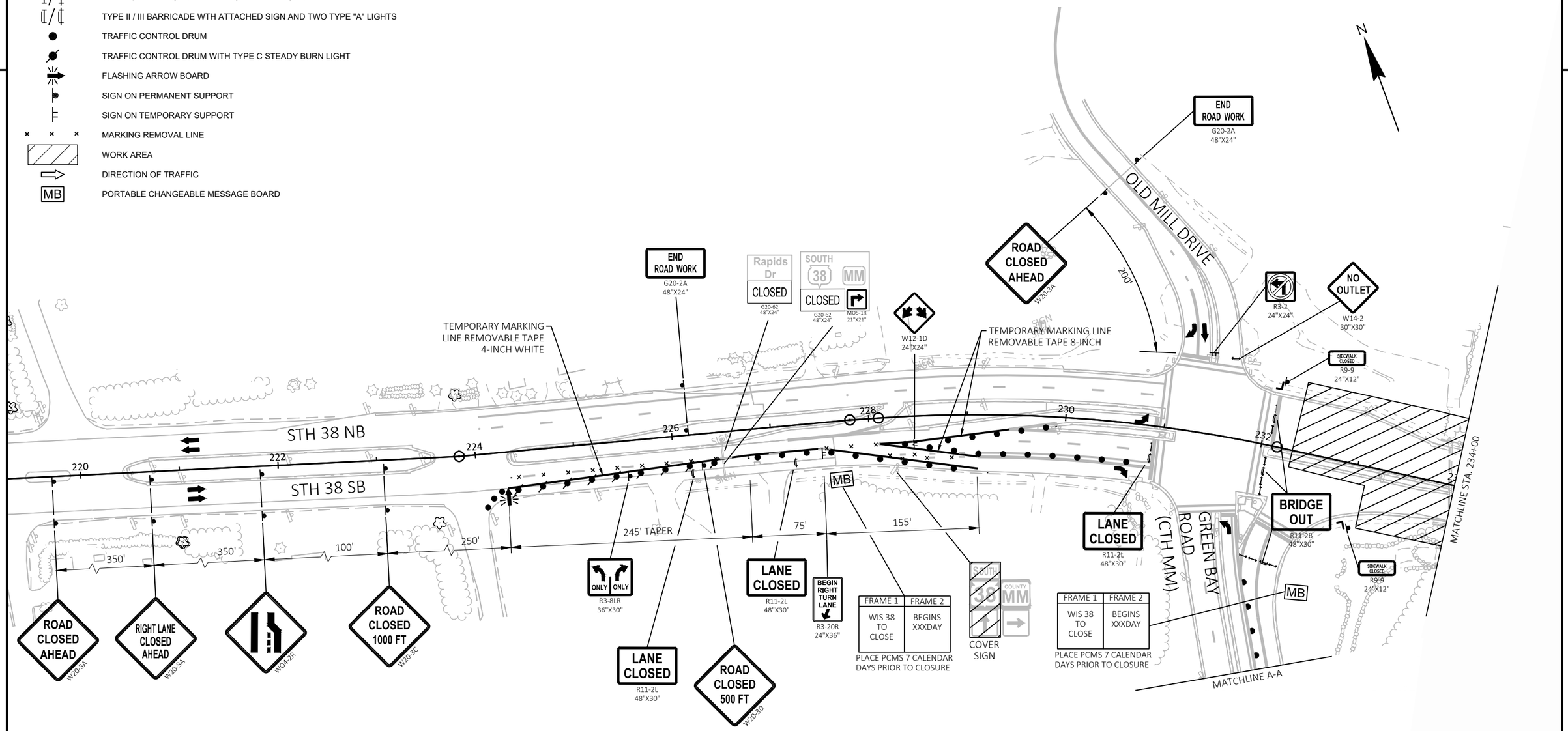
1. MAINTAIN ONE 11-FOOT MINIMUM LANE AT ALL TIMES.
2. THE CONTRACTOR SHALL COVER ANY SIGN CONFLICTING WITH THE TRAFFIC CONTROL IN OPERATION AS NEEDED OR AS DIRECTED BY THE ENGINEER. COVERING OF SIGNS IS INCLUDED IN THE "TRAFFIC CONTROL COVERING SIGNS TYPE II" BID ITEM.
3. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL NECESSARY BARRICADES, SIGNS, DIRECTIONAL ARROWS, LIGHTS, TEMPORARY MARKINGS, FLAGMEN, AND SAFETY DEVICES AS CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
4. DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTOR'S METHOD OR SEQUENCES OF OPERATION.
5. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
6. ALL SIGNS ARE 48" X 48" EXCEPT OTHERWISE NOTED.
7. ANY "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.
8. THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD LOCATIONS AS APPROVED BY THE ENGINEER IN THE FIELD.
9. BOTH STEADY BURN LIGHTS AND FLASHING LIGHTS SHALL BE ONE WAY WITH THE LIGHT SOURCE SHOWING TOWARDS ADJACENT APPROACHING TRAFFIC.
10. MAINTAIN ACCESS TO DRIVEWAYS DURING CONSTRUCTION. FOR PROPERTIES WITH MULTIPLE DRIVEWAYS, ONLY ONE DRIVEWAY CAN BE CLOSED/WORKED ON AT ANY TIME.

2

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\025001_TC.DWG
LAYOUT NAME - 025000_tc
PLOT DATE : 7/21/2022 4:30 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

LEGEND

- TYPE II / III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE II / III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- MARKING REMOVAL LINE
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD



SEE DETOUR SHEET FOR ADDITIONAL SIGNING

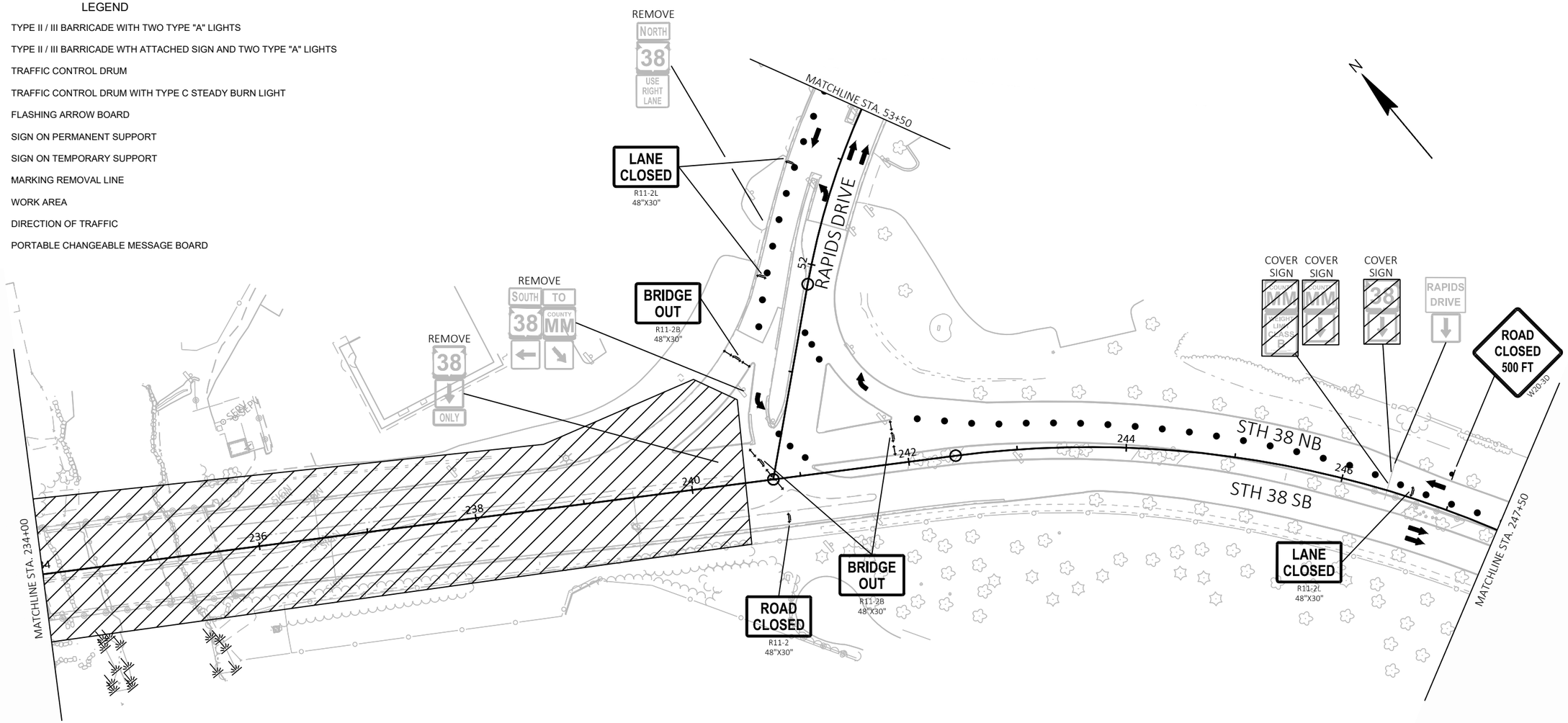
PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC CONTROL - STAGE 1	SHEET 74	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\026001_S1.DWG
LAYOUT NAME - 026001_s1
PLOT DATE : 7/21/2022 4:31 PM
PLOT BY : SCHOWALTER, STEVEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

2

LEGEND

- TYPE II / III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE II / III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- MARKING REMOVAL LINE
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD



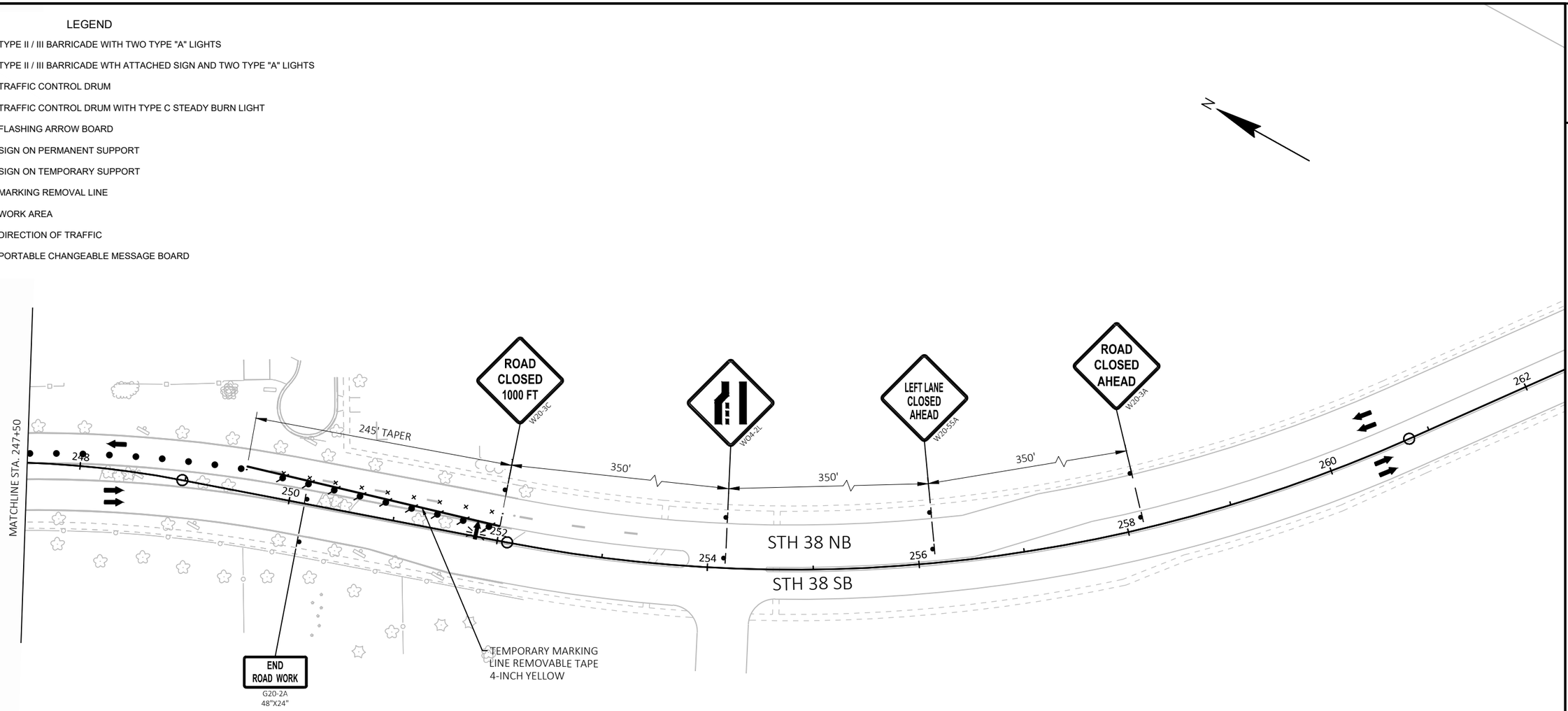
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FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\026001_S1.DWG
LAYOUT NAME - 026002_s1
PLOT DATE : 8/1/2022 11:47 AM
PLOT BY : ROGAHN, DOUG
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

LEGEND

- TYPE II / III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE II / III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- MARKING REMOVAL LINE
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD

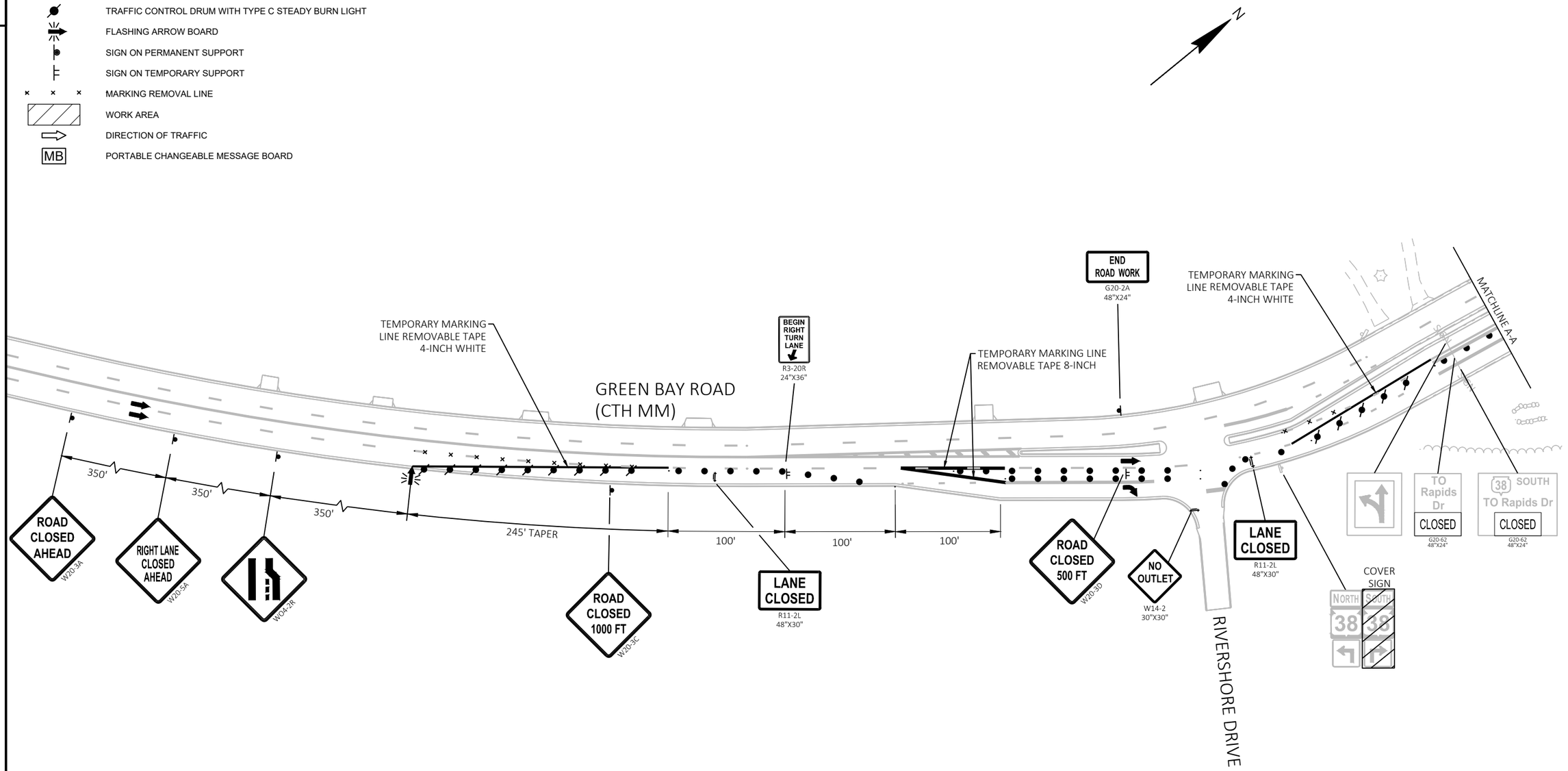


PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC CONTROL - STAGE 1	SHEET 76	E

2

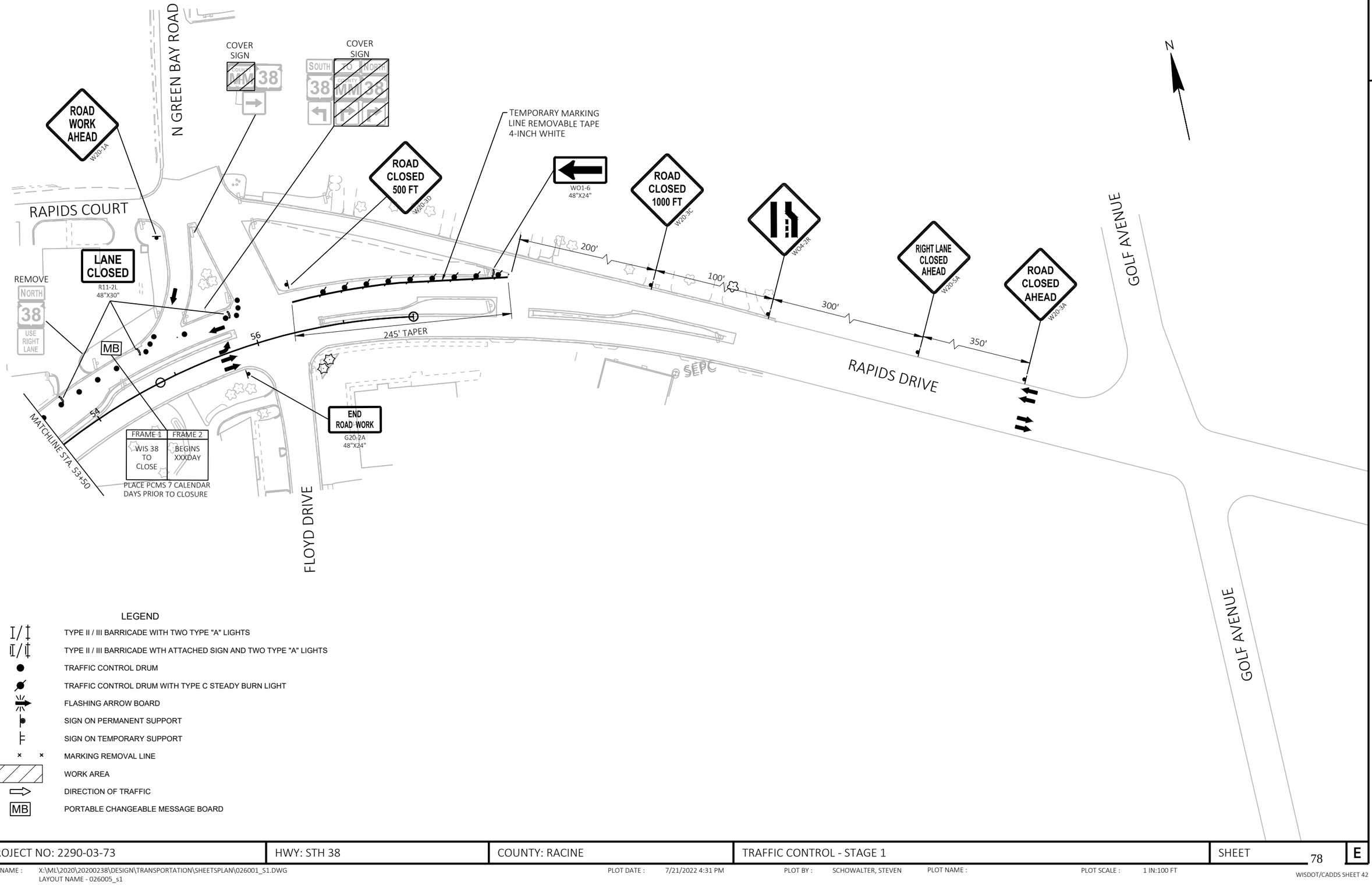
LEGEND

- TYPE II / III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE II / III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- MARKING REMOVAL LINE
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC CONTROL - STAGE 1	SHEET 77	E

2



LEGEND

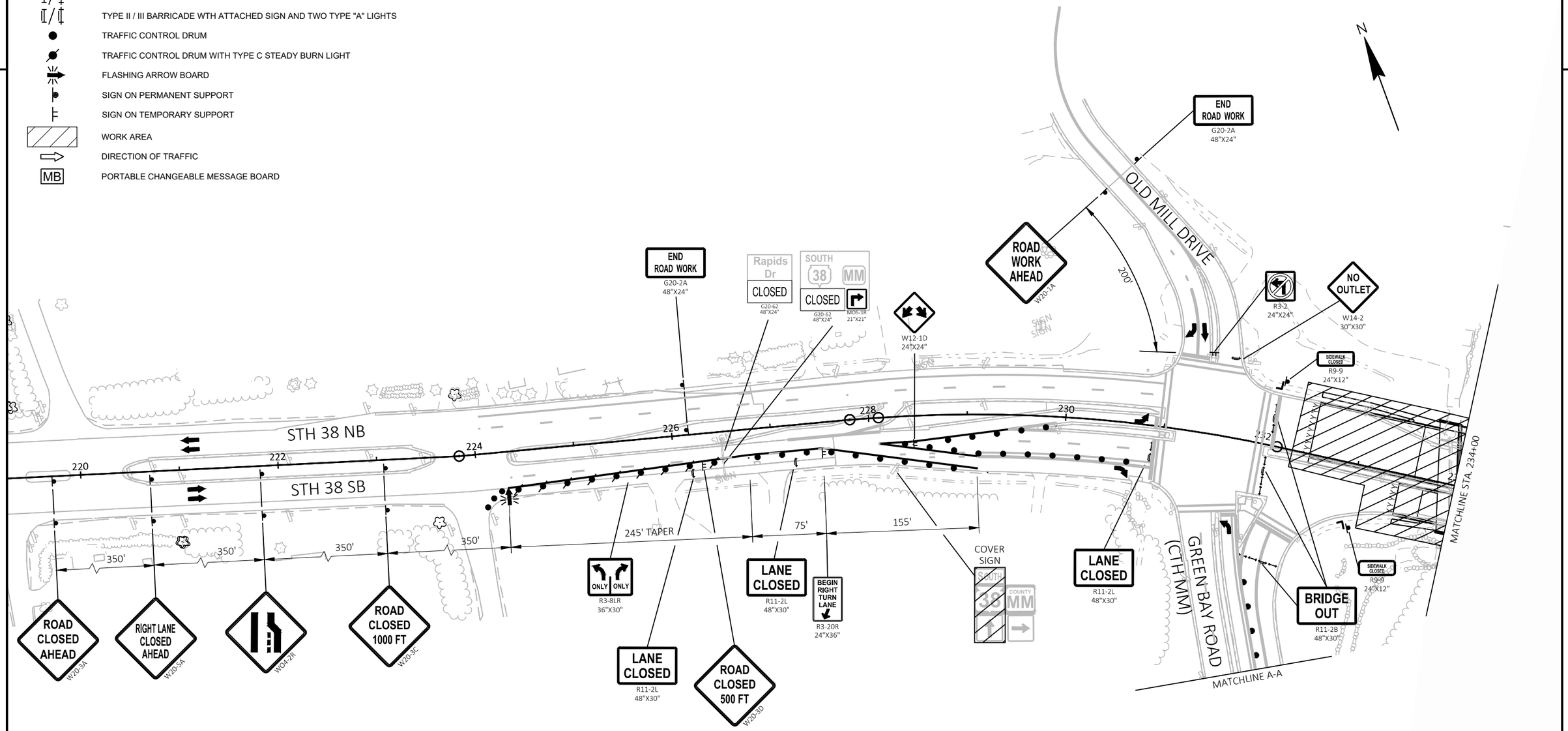
- TYPE II / III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE II / III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- MARKING REMOVAL LINE
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC CONTROL - STAGE 1	SHEET 78	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\026001_S1.DWG
LAYOUT NAME - 026005_s1
PLOT DATE : 7/21/2022 4:31 PM
PLOT BY : SCHOWALTER, STEVEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

LEGEND

- TYPE II / III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE II / III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD



SEE DETOUR SHEET FOR ADDITIONAL SIGNING

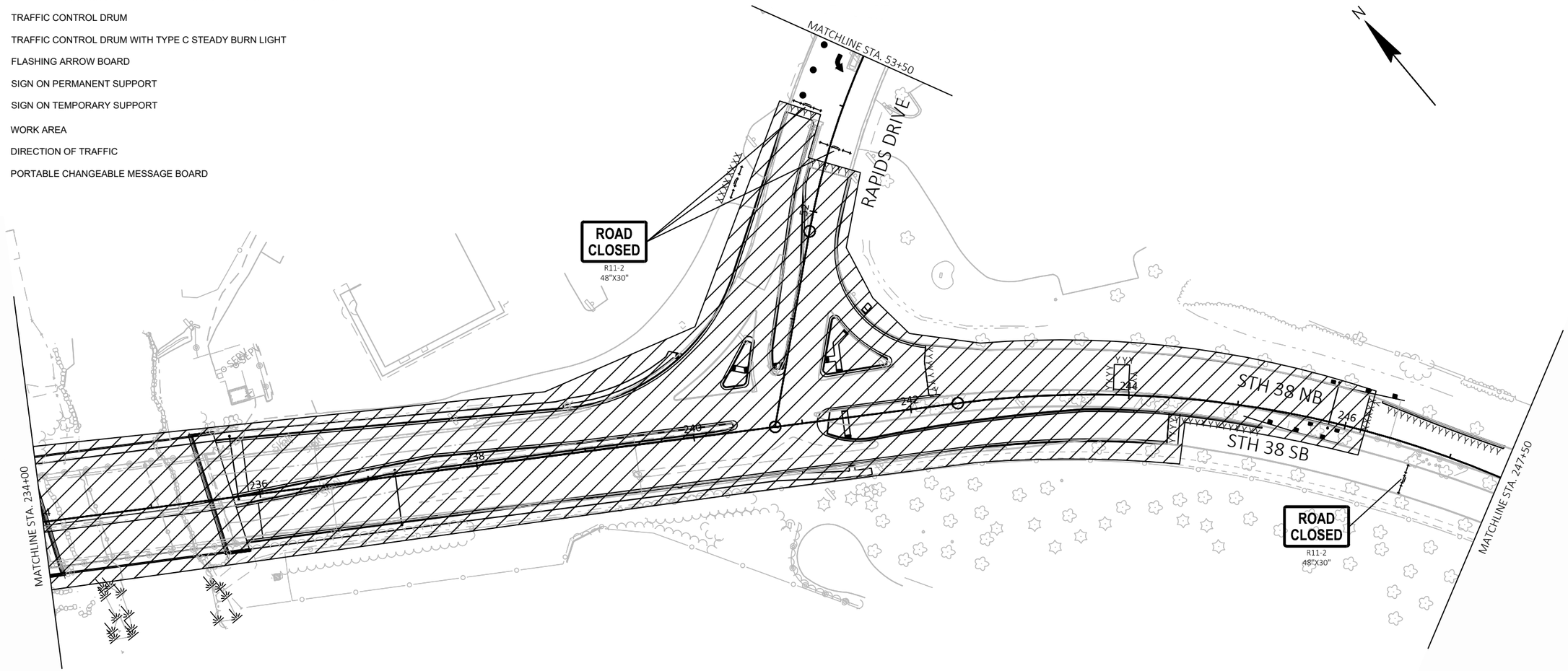
PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC CONTROL - STAGE 2	SHEET 79	E

2

2

LEGEND

- TYPE II / III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE II / III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC CONTROL - STAGE 2	SHEET 80	E

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LAYOUT NAME - 026102_s2

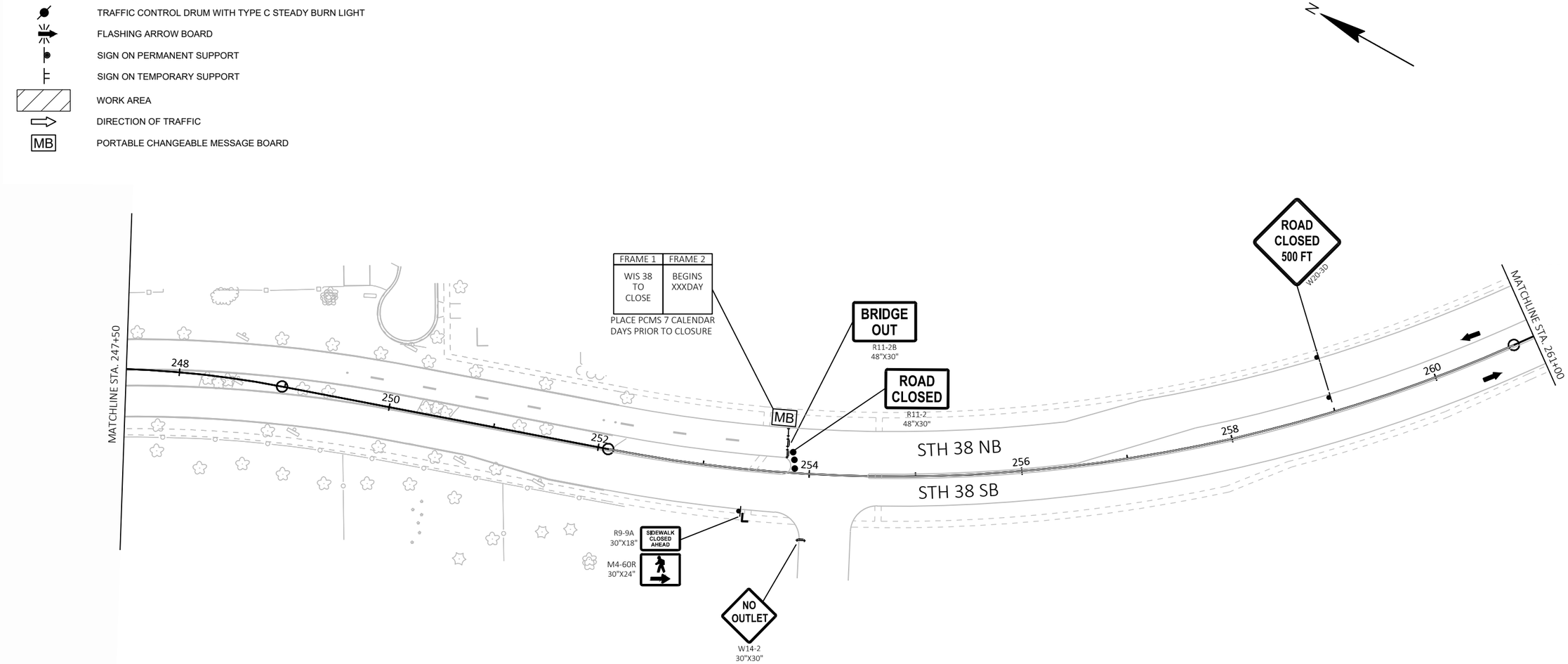
PLOT DATE : 7/21/2022 4:32 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

LEGEND

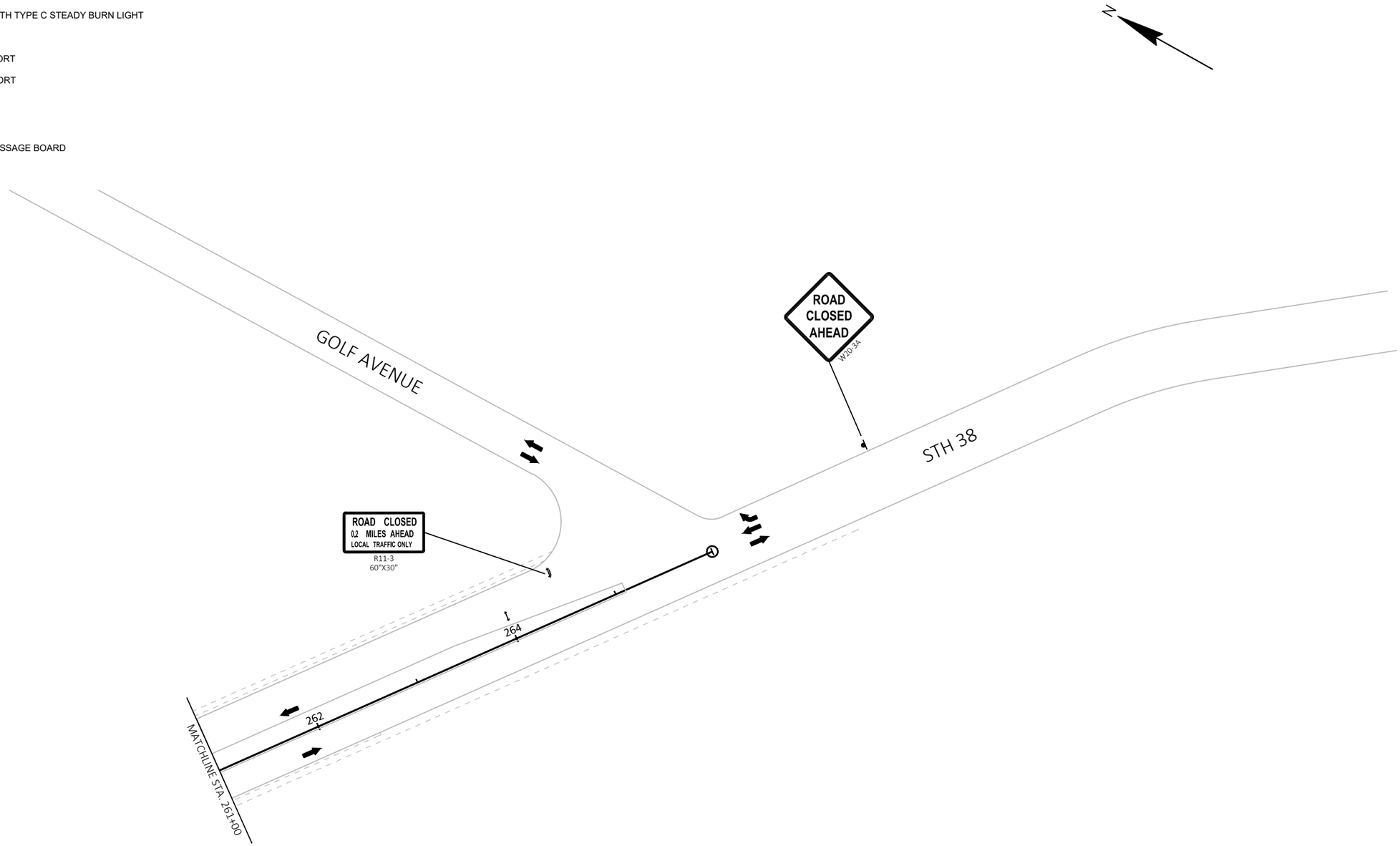
- TYPE II / III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE II / III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
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- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC CONTROL - STAGE 2	SHEET 81	E

LEGEND

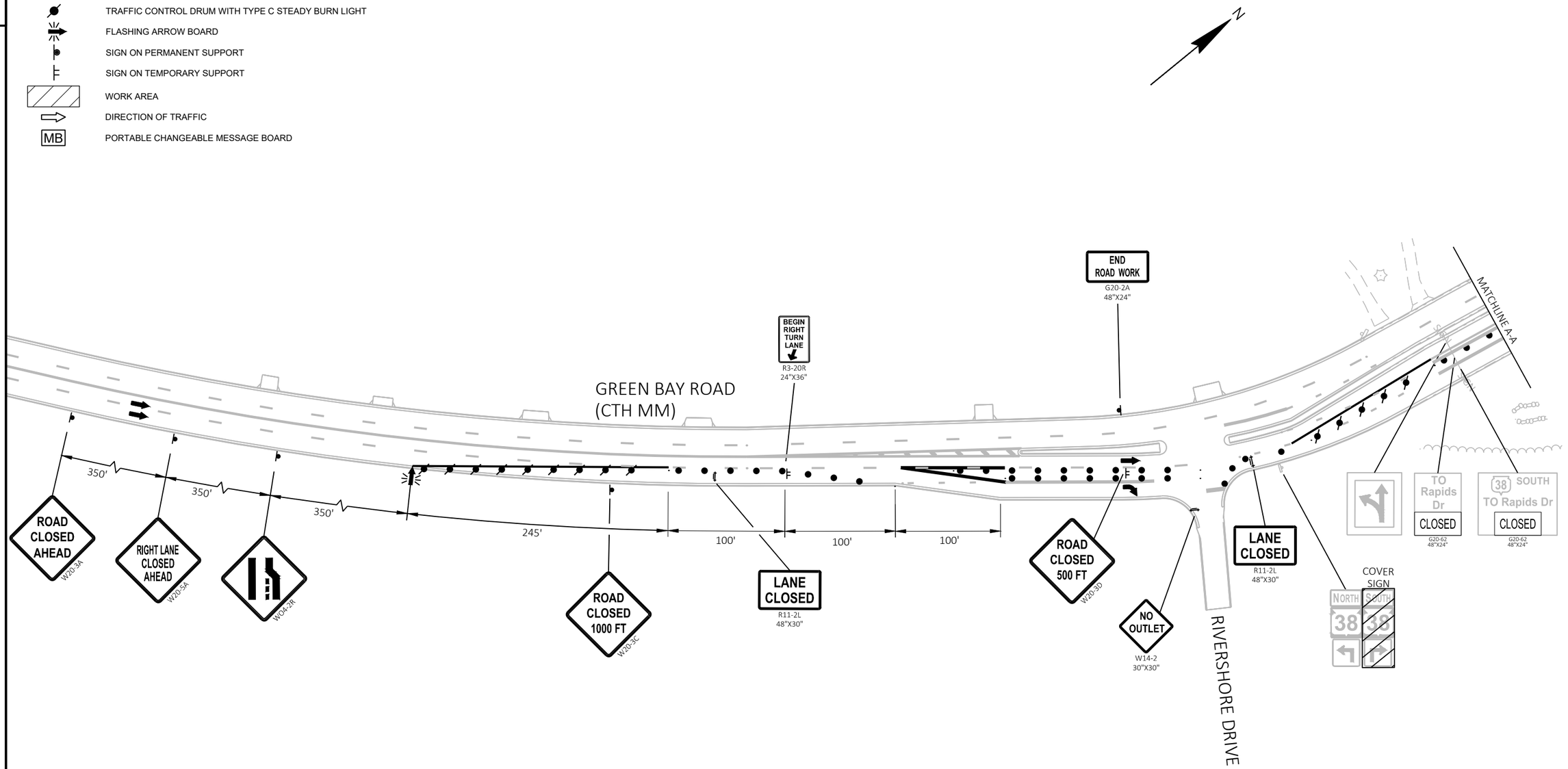
- TYPE II / III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE II / III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
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- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD



SEE DETOUR SHEET FOR ADDITIONAL SIGNING

LEGEND

- TYPE II / III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE II / III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
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- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
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- MB — PORTABLE CHANGEABLE MESSAGE BOARD



2

N GREEN BAY ROAD

COVER SIGNS

COVER SIGN

WO1-6
48"X24"

ROAD CLOSED
R11-2
48"X30"

RAPIDS COURT

LANE CLOSED
R11-2L
48"X30"

56

54

MATCHLINE STA. 53+50

245' TAPER

NO OUTLET
W14-2
30"X30"

FLOYD DRIVE

RAPIDS DRIVE

SEPC

WO1-6
48"X24"

300'

WO4-2R

300'

RIGHT LANE CLOSED AHEAD
W20-5A

END ROAD WORK
G20-2A
48"X24"

GOLF AVENUE

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

ROAD CLOSED 500 FT
W20-3D

ROAD CLOSED AHEAD
W20-3A

500'

1100'

GOLF AVENUE

N

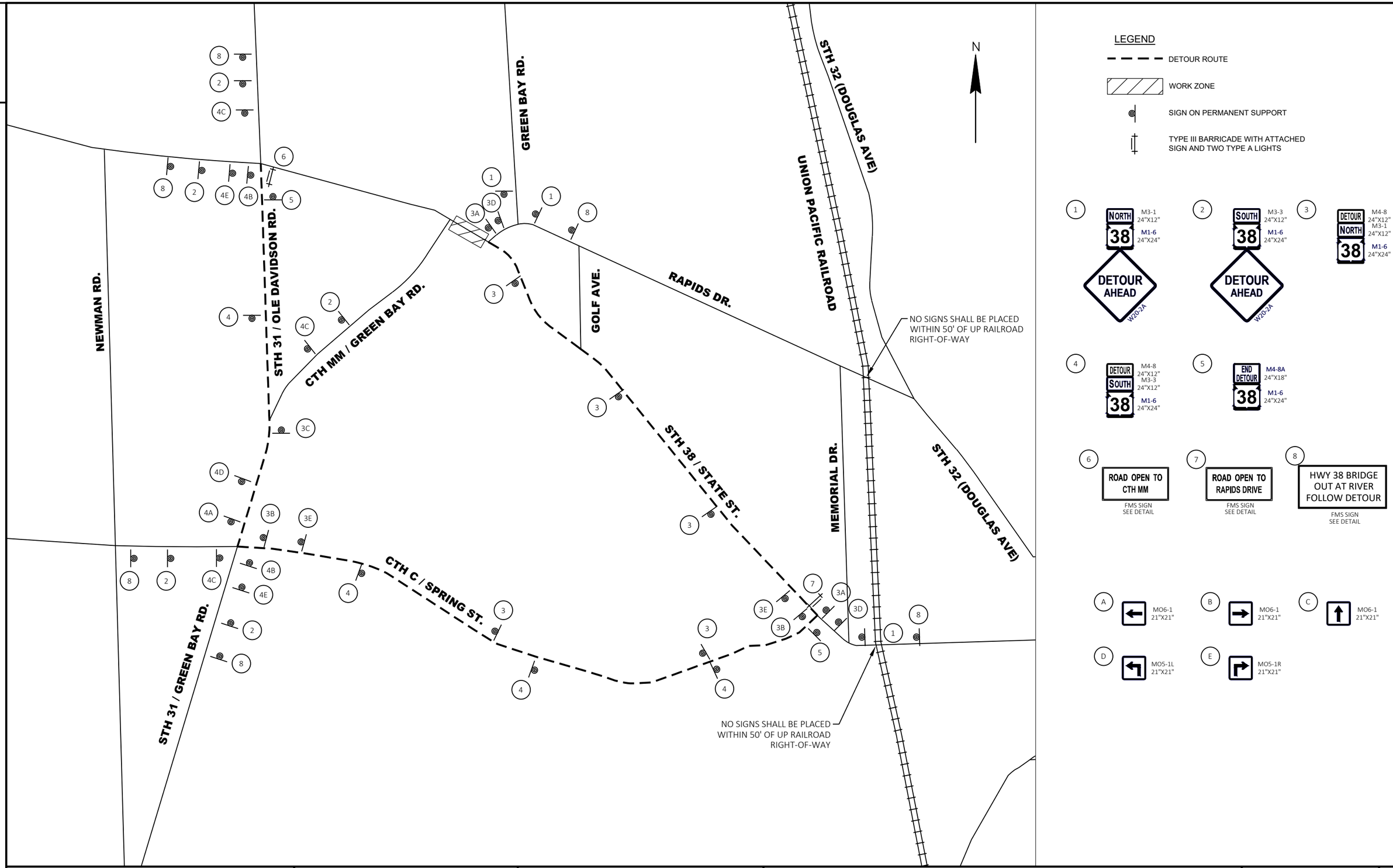
LEGEND

- TYPE II / III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE II / III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD

SEE DETOUR SHEET FOR ADDITIONAL SIGNING

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	TRAFFIC CONTROL - STAGE 2	SHEET 84	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\026101_S2.DWG
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PLOT DATE : 7/21/2022 4:32 PM
PLOT BY : SCHOWALTER, STEVEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42



PROJECT NO: 2290-03-73	HWY:STH 38	COUNTY: RACINE	DETOUR PLAN - STAGE 1	SHEET 85	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027001_dt

PLOT DATE : 9/16/2022 8:13 AM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

NEWMAN RD.

STH 31 / OLE DAVIDSON RD.

CTH MM / GREEN BAY RD.

GREEN BAY RD.

GOLF AVE.

RAPIDS DR.

UNION PACIFIC RAILROAD

STH 32 (DOUGLAS AVE)

STH 38 / STATE ST.

MEMORIAL DR.

CTH C / SPRING ST.

STH 31 / GREEN BAY RD.

N

NO SIGNS SHALL BE PLACED WITHIN 50' OF UP RAILROAD RIGHT-OF-WAY

NO SIGNS SHALL BE PLACED WITHIN 50' OF UP RAILROAD RIGHT-OF-WAY

LEGEND

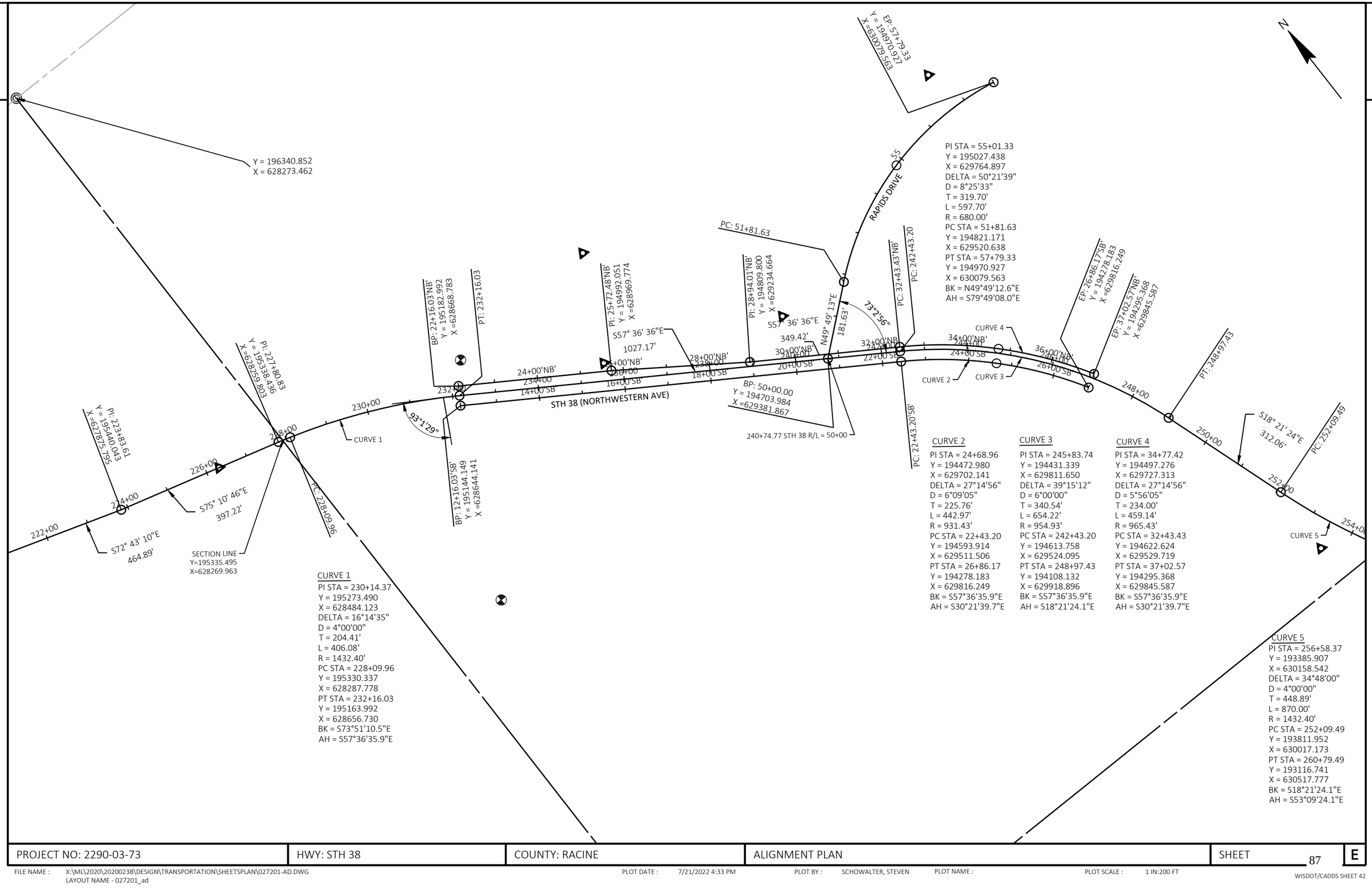
- DETOUR ROUTE
- WORK ZONE
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE WITH ATTACHED SIGN AND TWO TYPE A LIGHTS

1. NORTH 38 DETOUR AHEAD W20-2A — M3-1 24"X12", M1-6 24"X24"
2. SOUTH 38 DETOUR AHEAD W20-2A — M3-3 24"X12", M1-6 24"X24"
3. DETOUR NORTH 38 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24"
4. DETOUR SOUTH 38 — M4-8 24"X12", M3-3 24"X12", M1-6 24"X24"
5. END DETOUR 38 — M4-8A 24"X18", M1-6 24"X24"
6. TO RAPIDS DR DETOUR AHEAD W20-2A — MO4-5 24"X12", FMS SIGN SEE DETAIL
7. TO RAPIDS DR — MO4-5 24"X12", FMS SIGN SEE DETAIL
8. END DETOUR RAPIDS DR — M4-8A 24"X18", FMS SIGN SEE DETAIL
9. ROAD OPEN TO CTH MM — FMS SIGN SEE DETAIL
10. ROAD OPEN TO GOLF AVE — FMS SIGN SEE DETAIL
11. ROAD OPEN TO GREEN BAY RD — FMS SIGN SEE DETAIL
12. HWY 38 BRIDGE OUT AT RIVER FOLLOW DETOUR — FMS SIGN SEE DETAIL

A. MO6-1 21"X21"
B. MO6-1 21"X21"
C. MO6-1 21"X21"
D. MO5-1L 21"X21"
E. MO5-1R 21"X21"
F. MO5-2L 21"X21"

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	DETOUR PLAN - STAGE 2	SHEET 86	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\027002-DT.DWG
LAYOUT NAME - 027002_dt
PLOT DATE : 9/16/2022 8:14 AM
PLOT BY : SCHOWALTER, STEVEN
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 42



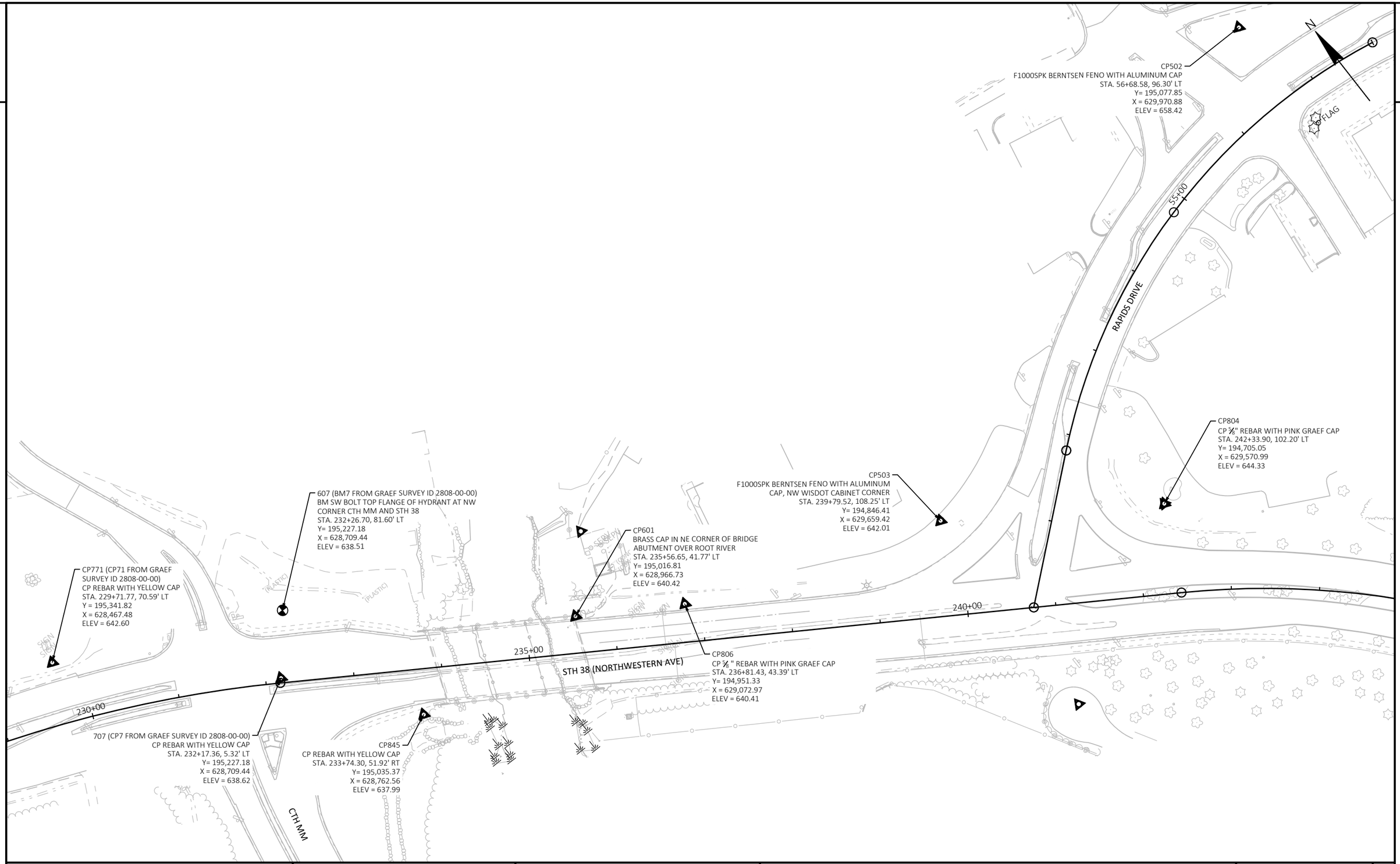
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FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\027201-AD.DWG
LAYOUT NAME - 027201_ad

PLOT DATE : 7/21/2022 4:33 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	ALIGNMENT LAYOUT SURVEY CONTROL	SHEET 88	E

2290-03-73

Line	Item	Item Description	Unit	Total	Qty
0002	108.4400	CPM Progress Schedule	EACH	1.000	1.000
0004	201.0110	Clearing	SY	1,131.000	1,131.000
0006	201.0210	Grubbing	SY	1,131.000	1,131.000
0008	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-51-0012	EACH	1.000	1.000
0010	204.0100	Removing Concrete Pavement	SY	9,399.000	9,399.000
0012	204.0115	Removing Asphaltic Surface Butt Joints	SY	30.000	30.000
0014	204.0120	Removing Asphaltic Surface Milling	SY	1,656.000	1,656.000
0016	204.0150	Removing Curb & Gutter	LF	205.000	205.000
0018	204.0155	Removing Concrete Sidewalk	SY	884.000	884.000
0020	204.0170	Removing Fence	LF	608.000	608.000
0022	204.0185	Removing Masonry	CY	20.000	20.000
0024	204.0195	Removing Concrete Bases	EACH	24.000	24.000
0026	204.0210	Removing Manholes	EACH	2.000	2.000
0028	204.0220	Removing Inlets	EACH	8.000	8.000
0030	204.0245	Removing Storm Sewer (size) 01. 10-Inch	LF	27.000	27.000
0032	204.0245	Removing Storm Sewer (size) 02. 12-Inch	LF	144.000	144.000
0034	204.0245	Removing Storm Sewer (size) 03. 15-Inch	LF	9.000	9.000
0036	204.0245	Removing Storm Sewer (size) 04. 18-Inch	LF	322.000	322.000
0038	204.0245	Removing Storm Sewer (size) 05. 24-Inch	LF	17.000	17.000
0040	204.0245	Removing Storm Sewer (size) 06. 27-Inch	LF	74.000	74.000
0042	204.0245	Removing Storm Sewer (size) 07. 36-Inch	LF	116.000	116.000
0044	204.0245	Removing Storm Sewer (size) 08. 48-Inch	LF	150.000	150.000
0046	204.0246	Removing Ancillary Structure (structure) 01. S-51-246	EACH	1.000	1.000
0048	204.0246	Removing Ancillary Structure (structure) 02. S-51-245	EACH	1.000	1.000
0050	204.0246	Removing Ancillary Structure (structure) 04. S-51-009	EACH	1.000	1.000
0052	204.0246	Removing Ancillary Structure (structure) 06. S-51-010	EACH	1.000	1.000
0054	204.9060.S	Removing (item description) 01. Traffic Signals STH 38 & Rapids Drive	EACH	1.000	1.000
0056	204.9060.S	Removing (item description) 02. Loop Detector Wire & Lead-In Cable STH 38 & Rapids Dr	EACH	1.000	1.000
0058	204.9060.S	Removing (item description) 03. Lighting Units	EACH	11.000	11.000
0060	205.0100	Excavation Common	CY	9,799.000	9,799.000
0062	205.0200	Excavation Rock	CY	200.000	200.000
0064	206.1001	Excavation for Structures Bridges (structure) 01. B-51-0157	EACH	1.000	1.000
0066	210.1500	Backfill Structure Type A	TON	1,500.000	1,500.000
0068	211.0201	Prepare Foundation for Concrete Pavement (project) ID 2290-03-73	EACH	1.000	1.000
0070	213.0100	Finishing Roadway (project) ID 2290-03-73	EACH	1.000	1.000
0072	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	4,765.000	4,765.000
0074	310.0110	Base Aggregate Open-Graded	TON	22.000	22.000
0076	312.0110	Select Crushed Material	TON	9,790.000	9,790.000
0078	390.0303	Base Patching Concrete	SY	35.000	35.000
0080	415.0075	Concrete Pavement 7 1/2-Inch	SY	8,234.000	8,234.000
0082	415.0410	Concrete Pavement Approach Slab	SY	339.000	339.000
0084	416.0610	Drilled Tie Bars	EACH	98.000	98.000
0086	416.0620	Drilled Dowel Bars	EACH	221.000	221.000
0088	455.0605	Tack Coat	GAL	174.000	174.000
0090	460.2000	Incentive Density HMA Pavement	DOL	130.000	130.000
0092	460.6224	HMA Pavement 4 MT 58-28 S	TON	200.000	200.000
0094	465.0105	Asphaltic Surface	TON	4.000	4.000
0096	502.0100	Concrete Masonry Bridges	CY	1,351.000	1,351.000

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Line	Item	Item Description	Unit	Total	Qty
0098	502.3200	Protective Surface Treatment	SY	2,390.000	2,390.000
0100	502.3210	Pigmented Surface Sealer	SY	159.000	159.000
0102	503.0172	Prestressed Girder Type I 72W-Inch	LF	2,567.000	2,567.000
0104	505.0400	Bar Steel Reinforcement HS Structures	LB	20,840.000	20,840.000
0106	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	160,120.000	160,120.000
0108	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	3,810.000	3,810.000
0110	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	34.000	34.000
0112	506.4000	Steel Diaphragms (structure) 01. B-51-157	EACH	32.000	32.000
0114	513.7011	Railing Steel Type C2	LF	386.000	386.000
0116	516.0500	Rubberized Membrane Waterproofing	SY	60.000	60.000
0118	520.8000	Concrete Collars for Pipe	EACH	4.000	4.000
0120	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	3.000	3.000
0122	522.1027	Apron Endwalls for Culvert Pipe Reinforced Concrete 27-Inch	EACH	1.000	1.000
0124	531.1100	Concrete Masonry Ancillary Structures Type NS	CY	13.400	13.400
0126	531.1140	Steel Reinforcement HS Ancillary Structures Type NS	LB	2,120.000	2,120.000
0128	531.2030	Drilling Shaft 30-Inch	LF	68.000	68.000
0130	531.2036	Drilling Shaft 36-Inch	LF	28.000	28.000
0132	531.2048	Drilling Shaft 48-Inch	LF	13.000	13.000
0134	531.5410	Foundation Single-Shaft Type TF-I (structure) 01. S-51-262	EACH	2.000	2.000
0136	531.5410	Foundation Single-Shaft Type TF-I (structure) 03. S-51-263	EACH	2.000	2.000
0138	532.5330	Truss Cantilever 2-Chord Type III (structure) 06. S-51-616	EACH	1.000	1.000
0140	532.5410	Truss Full Span 2-Chord Type I (structure) 01. S-51-262	EACH	1.000	1.000
0142	532.5410	Truss Full Span 2-Chord Type I (structure) 03. S-51-263	EACH	1.000	1.000
0144	532.5410	Truss Full Span 2-Chord Type I (structure) 05. S-51-615	EACH	1.000	1.000
0146	550.0020	Pre-Boring Rock or Consolidated Materials	LF	320.000	320.000
0148	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,020.000	1,020.000
0150	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	4,313.000	4,313.000
0152	602.0410	Concrete Sidewalk 5-Inch	SF	13,883.000	13,883.000
0154	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	120.000	120.000
0156	606.0400	Riprap Extra-Heavy	CY	560.000	560.000
0158	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	334.000	334.000
0160	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	45.000	45.000
0162	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	225.000	225.000
0164	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	182.000	182.000
0166	608.0327	Storm Sewer Pipe Reinforced Concrete Class III 27-Inch	LF	74.000	74.000
0168	611.0430	Reconstructing Inlets	EACH	1.000	1.000
0170	611.0530	Manhole Covers Type J	EACH	7.000	7.000
0172	611.0606	Inlet Covers Type B	EACH	1.000	1.000
0174	611.0624	Inlet Covers Type H	EACH	8.000	8.000
0176	611.0639	Inlet Covers Type H-S	EACH	5.000	5.000
0178	611.0642	Inlet Covers Type MS	EACH	1.000	1.000
0180	611.2004	Manholes 4-FT Diameter	EACH	5.000	5.000
0182	611.2005	Manholes 5-FT Diameter	EACH	1.000	1.000
0184	611.2006	Manholes 6-FT Diameter	EACH	1.000	1.000
0186	611.3004	Inlets 4-FT Diameter	EACH	5.000	5.000
0188	611.3230	Inlets 2x3-FT	EACH	16.000	16.000
0190	611.3901	Inlets Median 1 Grate	EACH	1.000	1.000
0192	611.8110	Adjusting Manhole Covers	EACH	1.000	1.000
0194	611.8120.S	Cover Plates Temporary	EACH	4.000	4.000

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Line	Item	Item Description	Unit	Total	Qty
0196	612.0106	Pipe Underdrain 6-Inch	LF	160.000	160.000
0198	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	350.000	350.000
0200	614.2300	MGS Guardrail 3	LF	134.000	134.000
0202	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
0204	614.2620	MGS Guardrail Terminal Type 2	EACH	3.000	3.000
0206	616.0700.S	Fence Safety	LF	493.000	493.000
0208	619.1000	Mobilization	EACH	1.000	1.000
0210	620.0300	Concrete Median Sloped Nose	SF	378.000	378.000
0212	624.0100	Water	MGAL	233.000	233.000
0214	625.0100	Topsoil	SY	4,461.000	4,461.000
0216	628.1104	Erosion Bales	EACH	25.000	25.000
0218	628.1504	Silt Fence	LF	155.000	155.000
0220	628.1520	Silt Fence Maintenance	LF	155.000	155.000
0222	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0224	628.1910	Mobilizations Emergency Erosion Control	EACH	6.000	6.000
0226	628.2004	Erosion Mat Class I Type B	SY	214.000	214.000
0228	628.2006	Erosion Mat Urban Class I Type A	SY	2,046.000	2,046.000
0230	628.6005	Turbidity Barriers	SY	287.000	287.000
0232	628.7005	Inlet Protection Type A	EACH	33.000	33.000
0234	628.7015	Inlet Protection Type C	EACH	33.000	33.000
0236	628.7020	Inlet Protection Type D	EACH	9.000	9.000
0238	628.7504	Temporary Ditch Checks	LF	38.000	38.000
0240	628.7555	Culvert Pipe Checks	EACH	4.000	4.000
0242	628.7560	Tracking Pads	EACH	3.000	3.000
0244	628.7570	Rock Bags	EACH	215.000	215.000
0246	629.0210	Fertilizer Type B	CWT	2.800	2.800
0248	630.0140	Seeding Mixture No. 40	LB	8.900	8.900
0250	630.0200	Seeding Temporary	LB	13.400	13.400
0252	631.0300	Sod Water	MGAL	99.000	99.000
0254	631.1000	Sod Lawn	SY	2,201.000	2,201.000
0256	632.0201	Shrubs (species) (size) (root) 01. Buttonbush CG 3-ft Ht	EACH	12.000	12.000
0258	632.0201	Shrubs (species) (size) (root) 02. Dogwood Redosier CG 2-ft Ht	EACH	12.000	12.000
0260	632.9101	Landscape Planting Surveillance and Care Cycles	EACH	14.000	14.000
0262	633.5200	Markers Culvert End	EACH	4.000	4.000
0264	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	33.000	33.000
0266	634.0814	Posts Tubular Steel 2x2-Inch X 14-FT	EACH	5.000	5.000
0268	637.1220	Signs Type I Reflective SH	SF	261.500	261.500
0270	637.2210	Signs Type II Reflective H	SF	426.710	426.710
0272	637.2215	Signs Type II Reflective H Folding	SF	52.220	52.220
0274	637.2230	Signs Type II Reflective F	SF	17.000	17.000
0276	638.2102	Moving Signs Type II	EACH	3.000	3.000
0278	638.2601	Removing Signs Type I	EACH	7.000	7.000
0280	638.2602	Removing Signs Type II	EACH	61.000	61.000
0282	638.3000	Removing Small Sign Supports	EACH	24.000	24.000
0284	638.3100	Removing Structural Steel Sign Supports	EACH	2.000	2.000
0286	642.5201	Field Office Type C	EACH	1.000	1.000
0288	643.0300	Traffic Control Drums	DAY	37,218.000	37,218.000
0290	643.0420	Traffic Control Barricades Type III	DAY	9,711.000	9,711.000
0292	643.0705	Traffic Control Warning Lights Type A	DAY	19,422.000	19,422.000

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Line	Item	Item Description	Unit	Total	Qty
0294	643.0715	Traffic Control Warning Lights Type C	DAY	9,559.000	9,559.000
0296	643.0800	Traffic Control Arrow Boards	DAY	687.000	687.000
0298	643.0900	Traffic Control Signs	DAY	47,106.000	47,106.000
0300	643.0920	Traffic Control Covering Signs Type II	EACH	26.000	26.000
0302	643.1000	Traffic Control Signs Fixed Message	SF	179.000	179.000
0304	643.1050	Traffic Control Signs PCMS	DAY	35.000	35.000
0306	643.3150	Temporary Marking Line Removable Tape 4-Inch	LF	1,375.000	1,375.000
0308	643.3250	Temporary Marking Line Removable Tape 8-Inch	LF	438.000	438.000
0310	643.5000	Traffic Control	EACH	1.000	1.000
0312	644.1810	Temporary Pedestrian Barricade	LF	62.000	62.000
0314	645.0111	Geotextile Type DF Schedule A	SY	327.000	327.000
0316	645.0120	Geotextile Type HR	SY	1,130.000	1,130.000
0318	646.1020	Marking Line Epoxy 4-Inch	LF	192.000	192.000
0320	646.3020	Marking Line Epoxy 8-Inch	LF	85.000	85.000
0322	646.5020	Marking Arrow Epoxy	EACH	2.000	2.000
0324	646.6120	Marking Stop Line Epoxy 18-Inch	LF	425.000	425.000
0326	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	785.000	785.000
0328	646.8120	Marking Curb Epoxy	LF	110.000	110.000
0330	646.8220	Marking Island Nose Epoxy	EACH	5.000	5.000
0332	646.9000	Marking Removal Line 4-Inch	LF	263.000	263.000
0334	650.4000	Construction Staking Storm Sewer	EACH	30.000	30.000
0336	650.4500	Construction Staking Subgrade	LF	2,087.000	2,087.000
0338	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	215.000	215.000
0340	650.6501	Construction Staking Structure Layout (structure) 01. B-51-157	EACH	1.000	1.000
0342	650.7000	Construction Staking Concrete Pavement	LF	2,087.000	2,087.000
0344	650.9000	Construction Staking Curb Ramps	EACH	12.000	12.000
0346	650.9500	Construction Staking Sidewalk (project) 01. 2290-03-73	EACH	1.000	1.000
0348	650.9911	Construction Staking Supplemental Control (project) 01. 2290-03-73	EACH	1.000	1.000
0350	650.9920	Construction Staking Slope Stakes	LF	4,174.000	4,174.000
0352	652.0135	Conduit Rigid Metallic 3-Inch	LF	96.000	96.000
0354	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	1,162.000	1,162.000
0356	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	1,998.000	1,998.000
0358	652.0800	Conduit Loop Detector	LF	1,682.000	1,682.000
0360	653.0135	Pull Boxes Steel 24x36-Inch	EACH	9.000	9.000
0362	653.0140	Pull Boxes Steel 24x42-Inch	EACH	12.000	12.000
0364	653.0900	Adjusting Pull Boxes	EACH	1.000	1.000
0366	653.0905	Removing Pull Boxes	EACH	20.000	20.000
0368	654.0101	Concrete Bases Type 1	EACH	11.000	11.000
0370	654.0102	Concrete Bases Type 2	EACH	3.000	3.000
0372	654.0105	Concrete Bases Type 5	EACH	5.000	5.000
0374	654.0120	Concrete Bases Type 10-Special	EACH	2.000	2.000
0376	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	1.000	1.000
0378	655.0230	Cable Traffic Signal 5-14 AWG	LF	707.000	707.000
0380	655.0240	Cable Traffic Signal 7-14 AWG	LF	2,615.000	2,615.000
0382	655.0260	Cable Traffic Signal 12-14 AWG	LF	996.000	996.000
0384	655.0320	Cable Type UF 2-10 AWG Grounded	LF	1,675.000	1,675.000
0386	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	2,304.000	2,304.000
0388	655.0610	Electrical Wire Lighting 12 AWG	LF	1,665.000	1,665.000
0390	655.0700	Loop Detector Lead In Cable	LF	4,133.000	4,133.000

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Line	Item	Item Description	Unit	Total	Qty
0392	655.0800	Loop Detector Wire	LF	5,592.000	5,592.000
0394	655.0900	Traffic Signal EVP Detector Cable	LF	823.000	823.000
0396	656.0201	Electrical Service Meter Breaker Pedestal (location) 01. STH 38 & Rapids Dr	EACH	1.000	1.000
0398	657.0100	Pedestal Bases	EACH	11.000	11.000
0400	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	8.000	8.000
0402	657.0310	Poles Type 3	EACH	3.000	3.000
0404	657.0322	Poles Type 5-Aluminum	EACH	4.000	4.000
0406	657.0420	Traffic Signal Standards Aluminum 13-FT	EACH	6.000	6.000
0408	657.0430	Traffic Signal Standards Aluminum 10-FT	EACH	4.000	4.000
0410	657.0609	Luminaire Arms Single Member 4-Inch Clamp 6-FT	EACH	5.000	5.000
0412	657.0610	Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	EACH	6.000	6.000
0414	658.0173	Traffic Signal Face 3S 12-Inch	EACH	15.000	15.000
0416	658.0416	Pedestrian Signal Face 16-Inch	EACH	10.000	10.000
0418	658.0500	Pedestrian Push Buttons	EACH	8.000	8.000
0420	658.5070	Signal Mounting Hardware (location) 01. STH 38 & CTH MM/Old Mill Rd	EACH	1.000	1.000
0422	658.5070	Signal Mounting Hardware (location) 02. STH 38 & Rapids Dr	EACH	1.000	1.000
0424	659.1125	Luminaires Utility LED C	EACH	12.000	12.000
0426	659.5000.S	Lamp, Ballast, LED, Switch Disposal by Contractor	EACH	25.000	25.000
0428	678.0700	Install Wireless Antennas	EACH	1.000	1.000
0430	690.0150	Sawing Asphalt	LF	91.000	91.000
0432	690.0250	Sawing Concrete	LF	662.000	662.000
0434	715.0502	Incentive Strength Concrete Structures	DOL	8,106.000	8,106.000
0436	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	2,583.000	2,583.000
0438	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	4,800.000	4,800.000
0440	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	8,000.000	8,000.000
0442	SPV.0060	Special 01. Marking Contrast Epoxy Special Marking Arrow	EACH	18.000	18.000
0444	SPV.0060	Special 02. Marking Contrast Epoxy Special Marking Word	EACH	4.000	4.000
0446	SPV.0060	Special 03. Adjusting Sanitary Manhole	EACH	1.000	1.000
0448	SPV.0060	Special 04. Utility Line Opening (ULO)	EACH	5.000	5.000
0450	SPV.0060	Special 05. Replace Sign Struture Pole	EACH	1.000	1.000
0452	SPV.0060	Special 30. Install Poles Type 9 Special	EACH	1.000	1.000
0454	SPV.0060	Special 31. Install Poles Type 10 Special	EACH	1.000	1.000
0456	SPV.0060	Special 32. Install Monotube Arms 40-Ft Type 9/10 Sec Pole	EACH	1.000	1.000
0458	SPV.0060	Special 33. Install Monotube Arms 45-Ft Type 9/10 Spec Pole	EACH	1.000	1.000
0460	SPV.0060	Special 34. Install Luminaire Arms 15-Ft	EACH	1.000	1.000
0462	SPV.0060	Special 35. Trnspt & Install State Furn Traffic Signal Cabinet STH 38 & Rapids Dr (CB1)	EACH	1.000	1.000
0464	SPV.0060	Special 36. Trnspt Traffi Signal & Inter Lighting Materials STH 38 & Rapids Dr	EACH	1.000	1.000
0466	SPV.0060	Special 37. Trnspt & Install State Furn EVP Detector Heads STH 38 & Rapids Dr	EACH	1.000	1.000
0468	SPV.0060	Special 38. Salvage & Reuse Signal Equipment	EACH	2.000	2.000
0470	SPV.0090	Special 01. Marking Line Contrast Epoxy 4-Inch	LF	2,044.000	2,044.000
0472	SPV.0090	Special 02. Marking Line Contrast Epoxy 8-Inch	LF	2,701.000	2,701.000
0474	SPV.0090	Special 03. Removing Existing Steel Piling	LF	420.000	420.000
0476	SPV.0195	Special 01. Excavation, Hauling and Disposal of Lead Contaminated Soil	TON	1,269.000	1,269.000

CLEARING AND GRUBBING

STREET	STATION	TO	STATION	CLEARING 201.0110 SY	GRUBBING 201.0210 SY
STH 38	232+50	-	233+83	125	125
STH 38	235+75	-	244+48	1,006	1,006
			PROJECT TOTAL	1,131	1,131

REMOVING CONCRETE PAVEMENT

STREET	STATION	TO	STATION	204.0100 SY
STH 38	232+50	-	233+83	993
STH 38	235+75	-	244+48	8,406
			PROJECT TOTAL	9,399

3

REMOVING ASPHALTIC SURFACE BUTT JOINTS

STREET	STATION	TO	STATION	204.0115 SY
STH 38	232+50	-	233+83	--
STH 38	235+75	-	244+48	30
			PROJECT TOTAL	30

REMOVING ASPHALTIC SURFACE MILLING

STREET	STATION	TO	STATION	204.0120 SY
STH 38	232+50	-	233+83	--
STH 38	235+75	-	246+15	1,656
			PROJECT TOTAL	1,656

REMOVING CURB & GUTTER

STREET	STATION	TO	STATION	204.0150 LF
STH 38	232+50	-	233+83	0
STH 38	235+75	-	244+48	205
			PROJECT TOTAL	205

REMOVING CONCRETE SIDEWALK

STREET	STATION	TO	STATION	204.0155 SY
STH 38	232+50	-	233+83	182
STH 38	235+75	-	244+48	702
			PROJECT TOTAL	884

ALL ITEMS CATEGORY 0010

3

REMOVING FENCE

STREET	STATION	TO	STATION	204.0170 LF
STH 38	236+15	-	242+00	608
			PROJECT TOTAL	608

REMOVING MASONRY

STREET	STATION	TO	STATION	204.0185 CY
STH 38	232+50	-	233+83	13
STH 38	235+75	-	244+48	7
			PROJECT TOTAL	20

REMOVING CONCRETE BASES

STREET	STATION	TO	STATION	204.0195 EACH
STH 38	232+50	-	233+83	0
STH 38	235+75	-	244+48	11
			PROJECT TOTAL	11

3

REMOVING STORM SEWER STRUCTURES

STRUCTURE NO.	STREET	STATION	LOCATION	REMOVING MANHOLES 204.0210 EACH	REMOVING INLETS 204.0220 EACH
201	STH 38	233+24	47.6' LT	--	1
202	STH 38	236+00	39.4' LT	1	--
203	STH 38	236+03	37.0' RT	--	1
204	STH 38	239+91	22.9' RT	--	1
205	STH 38	241+49	44.8' RT	--	1
206	STH 38	241+76	9.1' LT	--	1
207	STH 38	240+62	62.5' LT	--	1
208	STH 38	241+03	95.3' LT	--	1
209	STH 38	240+64	113.1' LT	1	--
210	STH 38	241+56	179.9' LT	--	1
			PROJECT TOTAL	2	8

REMOVING LIGHTING UNITS

STREET	STATION	TO	STATION	204.9060.S EACH
STH 38	232+50	-	233+83	0
STH 38	235+75	-	244+48	11
			PROJECT TOTAL	11

REMOVING STORM SEWER

STREET	STATION	TO	STATION	204.0245.01 REMOVING STORM SEWER 10" LF	204.0245.02 REMOVING STORM SEWER 12" LF	204.0245.03 REMOVING STORM SEWER 15" LF	204.0245.04 REMOVING STORM SEWER 18" LF	204.0245.05 REMOVING STORM SEWER 24" LF	204.0245.06 REMOVING STORM SEWER 27" LF	204.0245.07 REMOVING STORM SEWER 36" LF	204.0245.08 REMOVING STORM SEWER 48" LF
STH 38	232+50	-	233+83	0	0	0	0	0	0	0	150
STH 38	235+75	-	244+48	27	144	9	322	17	74	116	0
			PROJECT TOTAL	27	144	9	322	17	74	116	150

ALL ITEMS CATEGORY 0010

DIVISION	FROM/TO STATION	205.0100 COMMON EXCAVATION CY (1) CUT (2)	205.0100 COMMON EXCAVATION CY (1) EBS EXCAVATION (3)	SALVAGED/UNUSABLE PAVEMENT MATERIAL CY (4)	AVAILABLE MATERIAL CY (5)	205.0200 ROCK EXCAVATION (7)	EXPANDED ROCK (12) FACTOR 1.10	UNEXPANDED FILL CY	EXPANDED FILL CY (13) FACTOR 1.10	MASS ORDINATE +/- CY (14)	WASTE CY	COMMENT
DIVISION 1												
STH 38	232+50.156/244+37.936	8,017	0	2,542	5,475	0	0	556	612	4,863	4,863	
RAPIDS DRIVE	50+40/52+79.183	1,782	0	696	1,086	0	0	0	0	1,086	1,086	
UNDISTRIBUTED		0	0	0	0	200	220	0	0	220	220	
DIVISION 1 SUBTOTAL		9,799	0	3,238	6,561	200	220	556	612	6,169	6,169	
GRAND TOTAL		9,799	0	3,238	6,561	200	220	556	612	6,169	6,169	
TOTAL COMMON EXC		9,799										

NOTES:
(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
(7) ROCK EXCAVATION ITEM NUMBER 205.0200
(12) EXPANDED ROCK FACTOR = 1.10
(13) EXPANDED FILL FACTOR = 1.10
DEPENDING ON SELECTIONS: **EXPANDED FILL = (UNEXPANDED FILL - REDUCED MARSH - REDUCED EBS) * FILL FACTOR**
(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
(15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

BASE AGGREGATE DENSE 1 1/4-INCH

STREET	STA	TO	STA	305.0120 TON
STH 38	232+50	-	233+83	414
STH 38	235+75	-	244+48	3,671
	PROJECT		TOTAL	4,085

ALL ITEMS CATEGORY 0010

3

BASE AGGREGATE OPEN GRADED

STREET	STA	TO	STA	310.0110 TON
STH 38	232+50	-	233+83	2.7
STH 38	235+75	-	244+48	19.0
		PROJECT	TOTAL	22

SELECT CRUSHED MATERIAL

STREET	STA	TO	STA	312.0110 TON
STH 38	232+50	-	233+83	977
STH 38	235+75	-	244+48	8,813
		PROJECT	TOTAL	9,790

3

BASE PATCHING CONCRETE

STREET	STATION	TO	STATION	390.0303 SY
STH 38	232+50	-	233+83	--
STH 38	235+75	-	244+48	35
		PROJECT	TOTAL	35

CONCRETE PAVEMENT 7 1/2-INCH

STREET	STATION	TO	STATION	415.0075 SY
STH 38	232+50	-	233+83	720
STH 38	235+75	-	244+48	7,514
		PROJECT	TOTAL	8,234

CONCRETE PAVEMENT APPROACH SLAB

STREET	STATION	TO	STATION	415.0410 SY
STH 38	232+50	-	233+83	172
STH 38	235+75	-	244+48	167
		PROJECT	TOTAL	339

DRILLED TIE BARS AND DOWEL BARS

STREET	STATION	TO	STATION	DRILLED TIE BARS 416.0610 EACH	DRILLED DOWEL BARS 416.0620 EACH
STH 38	232+50	-	233+83	0	67
STH 38	235+75	-	244+48	98	154
		PROJECT	TOTAL	98	221

ALL ITEMS CATEGORY 0010

3

ASPHALTIC PAVEMENT

STREET	STATION	TO	STATION	455.0605 TACK COAT (GAL)	460.6224 HMA PAVEMENT 4 MT 58-28 S (TON)
STH 38	232+50	-	233+83	0	0
STH 38	235+75	-	246+15	174	200
ROJECT TOTALS				174	200

ASPHALTIC SURFACE

STREET				LOCATION	465.0105 TON
STH 38	232+50	-	233+83	BUTT JOINTS	--
STH 38	235+75	-	246+15	BUTT JOINTS	4
PROJECT TOTALS					4

3

APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE

STREET	STATION	TO	STATION	24-INCH 522.1024 EACH	27-INCH 522.1027 EACH
STH 38	232+50	-	233+83	0	0
STH 38	235+75	-	244+48	3	1
			PROJECT TOTAL	3	1

CONCRETE CURB & GUTTER 30-INCH TYPE A

STREET	STATION	TO	STATION	601.0409 LF
STH 38	232+50	-	233+83	342
STH 38	235+75	-	244+48	3,971
			PROJECT TOTAL	4,313

CONCRETE SIDEWALK 5-INCH

STREET	STATION	TO	STATION	602.0410 SF
STH 38	232+50	-	233+83	1,560
STH 38	235+75	-	244+48	12,323
			PROJECT TOTAL	13,883

CURB RAMP DETECTABLE WARNING FIELD YELLOW

STREET	STATION	TO	STATION	602.0505 SF
STH 38	232+50	-	233+83	--
STH 38	235+75	-	244+48	120
			PROJECT TOTAL	120

ALL ITEMS CATEGORY 0010

3

STORM SEWER SUMMARY

ITEM NUMBER	ITEM	TOTAL	
520.8000	Concrete Collar for Pipe	4	EACH
608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	334	LF
608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	45	LF
608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	225	LF
608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	182	LF
608.0327	Storm Sewer Pipe Reinforced Concrete Class III 27-Inch	74	LF
611.0430	Reconstructing Inlets	1	EACH
611.0530	Manhole Covers Type J	7	EACH
611.0606	Inlet Covers Type B	1	EACH
611.0624	Inlet Covers Type H	8	EACH
611.0639	Inlet Covers Type H-S	5	EACH
611.0642	Inlets Cover Type MS	1	EACH
611.2004	Manholes 4-FT Diameter	5	EACH
611.2005	Manholes 5-FT Diameter	1	EACH
611.2006	Manholes 6-FT Diameter	1	EACH
611.3004	Inlets 4-FT Diameter	5	EACH
611.3230	Inlets 2x3-FT	16	EACH
611.3901	Inlets Median 1 Grate	1	EACH
611.8110	Adjusting Manhole Covers	1	EACH

COVER PLATES TEMPORARY

STREET	STATION TO STATION	COVER PLATES TEMPORARY 611.8120.S EACH
UNDISTRIBUTED		4
	PROJECT TOTAL	4

ALL ITEMS CATEGORY 0010

3

PIPE UNDERDRAIN 6 INCH

STREET	STATION	TO	STATION	612.0106 LF
STH 38	232+50	-	233+83	20
STH 38	235+75	-	244+48	140
		PROJECT TOTAL		160

MGS GUARDRAIL 3

STREET	STATION	TO	STATION	614.2300 LF
STH 38	232+50	-	233+83	0
STH 38	235+75	-	244+48	134
		PROJECT TOTAL		134

MGS GUARDRAIL TERMINAL

STREET	STATION	TO	STATION	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH
STH 38	232+50	-	233+83	0	0
STH 38	235+75	-	244+48	2	3
		PROJECT TOTAL		2	3

3

FENCE SAFETY

STREET	STATION	TO	STATION	616.0700.S SF
STH 38	233+00	-	236+25	493
		PROJECT TOTAL		493

CONCRETE MEDIAN SLOPED NOSE

STREET	STATION	TO	STATION	620.0300 SF
STH 38	232+50	-	233+83	--
STH 38	235+75	-	244+48	378
		PROJECT TOTAL		378

EROSION CONTROL MOBILIZATIONS

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT 2290-03-73	2	6
PROJECT TOTAL	2	6

EROSION CONTROL

STREET	STATION	TO	STATION	624.0100 WATER MGAL	625.0100 TOPSOIL SY	628.1104 EROSION BALES EACH	628.2004 EROSION MAT CLASS I TYPE B SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.7570 ROCK BAGS EACH	629.0210 FERTILZIER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB	630.0200 SEEDING TEMPORARY LB	631.0300 SOD WATER MGAL	631.1000 SOD LAWN SY
STH 38	232+50	-	233+83	19	189	10	16	121	76	0.1	0.4	0.6	2	53
STH 38	235+75	-	244+48	167	3,379	10	156	1,516	96	2.1	6.8	10.1	77	1,708
UNDISTRIBUTED				47	892	5	43	409	43	1	2	3	20	440
		PROJECT TOTAL		233	4,461	25	214	2,046	215	2.8	8.9	13.4	99	2,201

NOTE: WATER IS FOR BASE PLACEMENT

ALL ITEMS CATEGORY 0010

3

SILT FENCE

STREET	FROM	TO	STATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
STH 38	232+50	-	233+83	0	0
STH 38	235+75	-	244+48	124	124
UNDISTRIBUTED				31	31
			PROJECT TOTALS	155	155

TURBIDITY BARRIERS

STREET	STATION	TO	STATION	628.6005 SY
STH 38	232+50	-	233+83	99
STH 38	235+75	-	244+48	131
UNDISTRIBUTED				57
			PROJECT TOTAL	287

3

INLET PROTECTION

STREET	FROM		TO	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7020 INLET PROTECTION TYPE D EACH
STH 38	232+50	-	233+83	2	7	1
STH 38	235+75	-	246+15	24	19	6
UNDISTRIBUTED				7	7	2
			PROJECT TOTAL	33	33	9

PIPE & DITCH CHECKS

STREET	FROM		TO	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH
STH 38	232+50	-	233+83	--	--
STH 38	235+75	-	244+48	30	3
UNDISTRIBUTED				8	1
			PROJECT TOTAL	38	4

TRACKING PADS

STREET	STATION	TO	STATION	628.7560 EACH
UNDISTRIBUTED				3
			PROJECT TOTAL	3

SHRUBS

LOCATION	632.0201.01 SHRUBS BUTTONBUSH CG 3-FT HT EACH	632.0201.02 SHRUBS DOGWOOD REDOSIER CG 2-FT HT EACH	632.9101 LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES EACH
EAST ABUTMENT	8	8	-
WEST ABUTMENT	4	4	-
UNDISTRIBUTED	-	-	14
PROJECT TOTALS	12	12	14

MARKERS CULVERT END

STREET	STATION	TO	STATION	633.5200 EACH
STH 38	232+50	-	233+83	0
STH 38	235+75	-	244+48	4
			PROJECT TOTAL	4

ALL ITEMS CATEGORY 0010

3

TRAFFIC CONTROL

LOCATION	DAYS	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY
STAGE 1	189	30,618	7,371	14,742	7,749	567	36,666	28
STAGE 2	30	3,300	1,440	2,880	960	60	5,940	7
UNDISTRIBUTED		3,300	900	1,800	850	60	4,500	
PROJECT TOTALS		37,218	9,711	19,422	9,559	687	47,106	35

3

TRAFFIC CONTROL -MARKING

LOCATION	643.3150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH LF	643.3250 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH LF	646.9000 MARKING REMOVAL LINE 4-INCH LF
STAGE 1	1,375	438	263
	1,375	438	263

TRAFFIC CONTROL

LOCATION	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	CYCLES	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SIGNS	SF	643.5000 TRAFFIC CONTROL EACH
STAGE 1	19	1	19	124	
STAGE 2	5	1	5	55	
UNDISTRIBUTED			2		1
PROJECT TOTALS			26	179	1

TEMPORARY PEDESTRIAN BARRICADE

LOCATION	644.1810 LF
STAGE 1	28
STAGE 2	14
UNDISTRIBUTED	20
PROJECT TOTALS	62

GEOTEXTILE

STREET	STATION	TO	STATION	GEOTEXTILE TYPE DF SCHEDULE A 645.0111 SY	GEOTEXTILE TYPE HR 645.0120 SY
STH 38	232+50	-	233+83	14	30
STH 38	235+75	-	244+48	93	30
		PROJECT TOTAL		107	60

ALL ITEMS CATEGORY 0010

3

PAVEMENT MARKING

STREET	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH WHITE LF	SPV.0090.01 MARKING LINE CONTRAST EPOXY 4-INCH WHITE LF	646.3020 MARKING LINE EPOXY 8-INCH LF	SPV.0090.02 MARKING LINE CONTRAST EPOXY 8-INCH LF	646.5020 MARKING ARROW EPOXY EACH	SPV.0060.01 MARKING CONTRAST EPOXY SPECIAL MARKING ARROW EACH	SPV.0060.02 MARKING CONTRAST EPOXY SPECIAL MARKING WORDS EACH	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF	646.8120 MARKING CURB EPOXY LF	646.8220 MARKING ISLAND NOSE EPOXY EACH
STH 38	232+50 - 233+83	--	311	--	521	--	4	2	54	--	--	--
STH 38	233+83 - 235+75	--	420	--	496	--	4	--	--	--	--	--
STH 38	235+75 - 246+15	192	1313	85	1685	2	10	2	371	785	110	5
	PROJECT TOTAL	192	2,044	85	2,701	2	18	4	425	785	110	5

3

CONSTRUCTION STAKING ITEMS

ITEM	QUANTITY	UNIT	DESCRIPTION
650.4000	30	EACH	CONSTRUCTION STAKING STORM SEWER
650.4500	2,087	LF	CONSTRUCTION STAKING SUBGRADE
650.5500	215	LF	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER
650.6501	1	EACH	CONSTRUCTION STAKING STRUCTURE LAYOUT (B-51-157)
650.7000	2087	LF	CONSTRUCTION STAKING CONCRETE PAVEMENT
650.9000	12	EACH	CONSTRUCTION STAKING CURB RAMPS
650.9500	1	EACH	CONSTRUCTION STAKING SIDEWALK (2290-03-73)
650.9911	1	EACH	CONSTRUCTION STAKING SUPLEMENTAL CONTROL (2290-03-73)
650.9920	4,174	LF	CONSTRUCTION STAKING SLOPE STAKES

LAMP, BALLAST, LED, SWITCH DISPOSAL BY CONTRACTOR

STREET	STATION	TO	STATION	659.5000.S EACH
STH 38	232+50	-	233+83	0
STH 38	235+75	-	244+48	11
			PROJECT TOTAL	11

SAWCUT

STREET	STATION	TO	STATION	SAWING ASPHALT 690.0150 LF	SAWING CONCRETE 690.0250 LF
STH 38	232+50	-	233+83	0	202
STH 38	235+75	-	244+48	91	460
			PROJECT TOTAL	91	662

ADJUSTING SANITARY MANHOLES

STREET	STATION	OFFSET	SPV.0060.03 EACH
STH 38	239+55	40.8' RT	1
		PROJECT TOTALS	1

ALL ITEMS CATEGORY 0010

3

3

UTILITY LINE OPENING (ULO)

STREET	SPV.0060.04 EACH
UNDISTRIBUTED	5
PROJECT TOTAL	5

EXCAVATION, HAULING, AND DISPOSAL OF LEAD CONTAMINATED SOIL

STREET	STATION	TO	STATION	LOCATION	SPV.0195.01 TON
STH 38	233+30	-	233+83	B-51-157 EXCAVATION	768
STH 38	233+30	-	233+83	GENERAL EXCAVATION	98
STH 38	233+30	-	233+50	STORM SEWER EXCAVATION	110
UNDISTRIBUTED					293
PROJECT TOTAL					1,269

ALL ITEMS CATEGORY 0010

TYPE I & II PERMANENT SIGNING REMOVALS **2290-03-73**

SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	REMARKS / NEW SIGN LOCATION	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]
1R	R2-1		1		LIGHT POLE		
2R	NONE	RAPIDS DR RIGHT ONLY ARROW			ON S-51-245 STRUCTURE BEING REMOVED	1	
3R	NONE	RAPIDS DR RIGHT ONLY ARROW			ON S-51-245 STRUCTURE BEING REMOVED	1	
4R	NONE	SOUTH 38 AHEAD ARROW			ON S-51-245 STRUCTURE BEING REMOVED	1	
5R	NONE	DO NOT CHANGE LANES	1		LIGHT POLE		
6R	J4-1		1		ON S-51-245 POLE		
7R	NONE	MM ONLY ARROW			ON S-51-246 STRUCTURE BEING REMOVED	1	
8R	NONE	MM ONLY ARROW			ON S-51-246 STRUCTURE BEING REMOVED	1	
9R	NONE	NORTH 38 AHEAD ARROW			ON S-51-246 STRUCTURE BEING REMOVED	1	
10R	R71-D		1		LIGHT POLE		
11R	R3-8LL		1		ON SIGN STRUCTURE S-51-244 UPRIGHT		
12R	R7-1R		1	1			
13R	J4-1		1		LIGHT POLE		
14R	I2-3	RACINE POPULATION 78860	1	2			
15R	R3-5R		1		ON S-51-10 STRUCTURE BEING REMOVED		
16R	NONE	RAPIDS DR	1		ON S-51-10 STRUCTURE BEING REMOVED		
17R	R3-5R		1		ON S-51-10 STRUCTURE BEING REMOVED		
18R	NONE	38 DOWN ARROW	1		ON S-51-10 STRUCTURE BEING REMOVED		
19R	R7-1D		1		LIGHT POLE		
20R	W12-1D		1	1			
21R	R3-4		1		SIGNAL POLE		
22R	R1-1F		1		SIGNAL POLE		
23R	R1-1F		1		SIGNAL POLE		
24R	W5-52R		1		SIGNAL POLE		
25R	NONE	DOWNTOWN HARBOR	1		LIGHT POLE		
26R	R7-1D	AHEAD ARROW	1		LIGHT POLE		
27R	R2-1	SPEED LIMIT 35	1	1			
28R	R4-7		1		SIGNAL POLE		
29R	W12-1D		1	1			
30R	R1-1		1	1			

SHEET: 1 OF 2

TYPE I & II PERMANENT SIGNING REMOVALS **2290-03-73**

SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	REMARKS / NEW SIGN LOCATION	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]
31R	R1-1F		1		SIGNAL POLE		
32R	R1-1F		1		SIGNAL POLE		
33R	R5-1		1		SIGNAL POLE		
34R	J3-1		1		ON TROMBONE ARM OF SIGNAL		
35R	R3-5L		1		ON S-51-10 STRUCTURE BEING REMOVED		
36R	R10-11B		1		SIGNAL POLE		
37R	R10-11B		1		SIGNAL POLE		
38R	R12-53		1		LIGHT POLE		
39R	J2-1		1		LIGHT POLE		
40R	W3-3		1	1			
41R	J2-2		1	1			
42R	J2-2		1	1			
43R	R7-1D		1		ON UPRIGHT OF SIGN STRUCTURE S-51-9		
44R	M1-5A	CTH MM	1		ON S-51-9 OVERHEAD STRUCTURE TO BE REMOVED		
45R	NONE	MM WITH DOWN ARROW	1		ON S-51-9 OVERHEAD STRUCTURE TO BE REMOVED		
46R	NONE	38 WITH DOWN ARROW	1		ON S-51-9 OVERHEAD STRUCTURE TO BE REMOVED		
47R	NONE	RAPIDS DRIVE WITH DOWN ARROW	1		ON S-51-9 OVERHEAD STRUCTURE TO BE REMOVED		
48R	R12-53		1		ON S-51-9 OVERHEAD STRUCTURE TO BE REMOVED		
49R	R7-1D		1		LIGHT POLE		
50R	R4-7		1	1			
51R	J3-2		1	1			
52R	J3-2		1	1			
53R	R7-1D		1		LIGHT POLE		
54R	R1-1F		1		SIGNAL POLE		
55R	R5-1		1	1			
56R	J2-3		1	2			
57R	J2-1		1	1			
58R	J2-1		1	1			
59R	R4-7		1	1			
60R	R3-8LR		1	1			
61R	R7-1D		1		LIGHT POLE		
62R	J3-1		1		LIGHT POLE		
63R	R1-1F		1		SIGNAL POLE		
64R	R4-7		1		SIGNAL POLE SHEET 3		
65R	R5-2		1		ON S-51-607 SIGN STRUCTURE OVERHEAD - STRUCTURE TO REMAIN. SHEET 5		
UNDISTRIBUTED			2	2		1	2
TOTALS			61	22	--	7	2

SHEET: 1 OF 15

TYPE I & II PERMANENT SIGNING 2290-03-73

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING SF	637.2230 SIGNS TYPE II RELFECTIVE F [SF]	638.2102 MOVING SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 POSTS WOOD 4" X 6" X 18' [EA]	634.0814 POSTS TUBULAR STEEL 2 X 2 INCH X 14 FT (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.1220 SIGNS TYPE I REFLECTIVE SH [SF]
1	D16-1 MOD	38 - MM ARROW UP										MOUNT ON S-51-616 - I BEAMS INCIDENTAL. SHEET 6	6 X 4.5	27.00
2	D16-1A	NORTH 38 ONLY ARROW RIGHT										MOUNT ON S-51-616 - I BEAMS INCIDENTAL. SHEET 6	3 X 6	18.00
3	D16-1L	MM ONLY ARROW LEFT										MOUNT ON S-51-262 - I BEAMS INCIDENTAL - SHEET 2	3 X 5	15.00
4	D16-1L	MM ONLY ARROW LEFT										MOUNT ON S-51-262 - I BEAMS INCIDENTAL - SHEET 2	3 5	15.00
5	D16-1A	NORTH 38 ONLY ARROW UP										MOUNT ON S-51-262 - I BEAMS INCIDENTAL - SHEET 2	3 X 6	18.00
6	NONE	NORTH 38 , OLD MILL RD COMBINATION UP/RIGHT ARROW										MOUNT ON S-51-262 - I BEAMS INCIDENTAL - SHEET 2	7 X 6.5	45.50
7	D16-1L	RAPIDS DR ONLY ARROW LEFT										MOUNT ON S-51-263 - I BEAMS INCIDENTAL - SHEET 2	4 X 5	20.00
7A	R5-2(2M)		24 X 24	4.000								MOUNT ON S-51-263 - I BEAMS INCIDENTAL - SHEET 2		
8	D16-1L	RAPIDS DR ONLY ARROW LEFT										MOUNT ON S-51-263 - I BEAMS INCIDENTAL - SHEET 2	4 X 5	20.00
9	D16-1A	SOUTH 38 ONLY UP ARROW										MOUNT ON S-51-263 - I BEAMS INCIDENTAL - SHEET 2	3 X 6	18.00
10	D16-1 MOD	38 - MM ARROW UP										MOUNT ON S-51-615 - I BEAMS INCIDENTAL - SHEET 4	6 X 4.5	27.00
11	D16-1A	NORTH 38 ONLY UP ARROW										MOUNT ON S-51-615 - I BEAMS INCIDENTAL - SHEET 4	3 X 6	18.00
12	D16-1R	RAPIDS DR ONLY ARROW RIGHT										MOUNT ON S-51-615 - I BEAMS INCIDENTAL - SHEET 4	4 X 5	20.00
13	R5-2(2M)		24 X 24	4.000								MOUNT ON S-51-607 - I BEAMS INCIDENTAL - SHEET 5		
14	NONE	ROOT RIVER					1		2					
15	R2-1(2M)	35 MPH	30 X 36	7.500					1					
16	R3-8LLAF		72 X 30	15.000					2					
17	R7-1D(2M)		24 X 30	5.000					1					
18	J4-1(2M)		24 X 36	6.000					1					
	M3-1		24 X 12											
	M1-6	STH 38	24 X 24											
19	D1-1	OLD MILL RD					1	2	2					
20	NONE	ROOT RIVER					1					LIGHT POLE. MOVE TO UPRIGHT OF S-51-262		
21	R3-8LL(2M)		36 X 30	7.500								LIGHT POLE		
22	R7-1D(2M)		24 X 30	5.000					1					
23	J4-1(2M)		24 X 36	6.000					1					
	M3-3		24 X 12											
	M1-6	STH 38	24 X 24											
24	I2-3(2M)	RACINE POPULATION 77816	60 X 24	10.000					2					
25	R7-1D(2M)		24 X 30	5.000					1					
26	R6-3A(2M)		30 X 24	5.000								SIGNAL POLE. MOUNT ABOVE R1-1F		
27	R6-3A(2M)		30 X 24	5.000								SIGNAL POLE. MOUNT ABOVE R1-1F		
28	R1-1F(2M)		36 X 36		7.460							SIGNAL POLE		
29	R1-1F(2M)		36 X 36		7.460							SIGNAL POLE		
30	R3-4(2M)		36 X 36	9.000								LIGHT POLE		

3

SHEET: 1 OF 3

TYPE I & II PERMANENT SIGNING 2290-03-73

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING SF	637.2230 SIGNS TYPE II RELFECTIVE F [SF]	638.2102 MOVING SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 POSTS WOOD 4" X 6" X 18' [EA]	634.0814 POSTS TUBULAR STEEL 2 X 2 INCH X 14 FT (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.]	x	H [FT.]	637.1220 SIGNS TYPE I REFLECTIVE SH [SF]
31	M1-94H	RAPIDS DRIVE ARROW LEFT	90	X	18	11.250								MOUNT ON SIGNAL ARM				
32	R4-7(2M)		24	X	30	5.000					1							
33	R3-4(2M)		36	X	36	9.000							32					
34	D1-1	DOWNTOWN HARBOR ARROW UP	72	X	24	12.000					2							
35	R2-1(2M)	SPEED LIMIT 35	30	X	36	7.500					1							
36	R2-1(2M)	SPEED LIMIT 35	30	X	36	7.500					1							
37	R7-1D(2M)		24	X	30	5.000							36					
38	R1-1F(2M)		36	X	36		7.460							SIGNAL POLE				
39	R6-3A(2M)		30	X	24	5.000								SIGNAL POLE MOUNT ABOVE R1-1F				
40	R1-1F(2M)		36	X	36		7.460							SIGNAL POLE				
41	R6-2L(2M)		30	X	36	7.500								SIGNAL POLE				
42	W12-1D(2M)		24	X	24			4.000			1			2 FOOT MOUNTING HEIGHT				
43	R1-1 (2M)		36	X	36	7.460								LIGHT POLE				
44	R5-1(2M)		36	X	36	9.000								SIGNAL POLE				
45	R4-7(2M)		24	X	30	5.000								SIGNAL POLE				
46	M1-94H	RAPIDS DR ARROW RIGHT	90	X	18	11.250								MOUNT ON SIGNAL ARM . I BEAM INCIDENTAL				
47	J3-1(2M)	38 ONLY ARROW DOWN	24	x	69	11.500								MOUNT ON SIGNAL ARM				
	M1-6	STH 38	24	X	24													
	M4-5 MODIFIED	ONLY	24	X	12													
	M6-1		21	X	21													
48	J3-1(2M)	38, MM ARROW DOWN	24	X	69	1.500								MOUNT ON SIGNAL ARM. I BEAM INCIDENTAL				
	M1-6	STH 38	24	X	24													
	M1-5A	CTH MM	24	X	24													
	M6-1		21	X	21													
49	J2-1(2M)		24	X	45	7.500					1							
	M1-5A	CTH MM	24	X	24													
	M5-1L		21	X	21													
50	R12-53(2M)		24	X	30	5.000							49					
51	W3-3(2M)		36	X	36			9.000			1							
52	R10-11B(2M)		24	X	24	4.000								SIGNAL POLE				
53	R10-11B(2M)		24	X	24	4.000								SIGNAL POLE				
54	R3-8LL(2M)		36	X	30	7.500								LIGHT POLE				
55	J2-2(2M)		48	X	48	16.000					1							
	M1-5A	CTH MM	24	X	24													
	M4-20L		24	X	24													
	M1-6	STH 38	24	X	24													
	M4-20 C	CENTER LANE																
56	J2-2(2M)		48	X	48	16.000					1							
	M1-5A	CTH MM	24	X	24													
	M4-2OL		24	X	24													
	M1-6	STH 38	24	X	24													
	M4-20C	CENTER LANE	24	X	24													
57	R7-1D(2M)		24	X	30	5.000								MOUNT ON UPRIGHT OF S-51-615				
58	M1-5A	CTH MM	24	X	24									MOUN ON UPRIGHT OF S-51-615 MEDIAN				
59	R12-53(2M)		24	X	30	5.000								MOUN ON UPRIGHT OF S-51-615 MEDIAN				
60	R7-1D(2M)		24	X	30	5.000								LIGHT POLE				

SHEET: 2 OF 3

TYPE I & II PERMANENT SIGNING 2290-03-73

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x	x H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING SF	637.2230 SIGNS TYPE II RELFECTIVE F [SF]	638.2102 MOVING SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 POSTS WOOD 4" X 6" X 18' [EA]	634.0814 POSTS TUBULAR STEEL 2 X 2 INCH X 14 FT (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x	x H [FT.]	637.1220 SIGNS TYPE I REFLECTIVE SH [SF]
61	R4-7(2M)		24 X	30	5.000								SIGNAL POLE			
62	J3-3(2M)		72 X	57	28.500					2						
	M3-3		24 X	12												
	M1-6	STH 38	24 X	24												
	M3-1		24 X	12												
	M1-6	STH 38	24 X	24												
	M6-2		21 X	21												
	M4-5		24 X	12												
	M1-5A	CTH MM	24 X	24												
	M6-2		21 X	21												
63	R5-1(2M)		36 X	36	9.000					1						
64	J2-3(2M)		72 X	57	28.500					2						
	M3-3		24 X	12												
	M1-6	STH 38	24 X	24												
	M5-1L		21 X	21												
	M4-5		24 X	12												
	M1-5A	CTH MM	24 X	24												
	M6-1		21 X	21												
	M3-1		24 X	12												
	M1-6	STH 38	24 X	24												
	M5-1R		21 X	21												
65	J3-1(2M)		24 X	60	10.000								UPRIGHT OF S-51-616			
	M3-1		24 X	12												
	M1-6	STH 38	24 X	24												
	M4-20R		24 X	24												
66	R4-7(2M)		24 X	30							1					
67	R3-8LRR(2M)		54 X	30	11.250						2					
68	R7-1D(2M)		24 X	30	5.000								LIGHT POLE			
69	J3-1(2M)		24 X	60	10.000								LIGHT POLE			
	M3-1		24 X	12												
	M1-6	STH 38	24 X	24												
	M4-20R		24 X	24												
70	J3-2(2M)		48 X	60	20.000					2						
	M4-5		24 X	12												
	M1-5A	CTH MM	24 X	24												
	M4-20L		24 X	24												
	M3-1		24 X	12												
	M1-6	STH 38	24 X	24												
	M4-20R		24 X	24												
71	W12-1D(2M)		24 X	24			4.000			1			2 FOOT MOUNTING HEIGHT			
72	R1-1F(2M)		36 X	36		7.460							SIGNAL POLE			
73	R7-1D(2M)		24 X	30	5.000					1						
74	R1-1F(2M)		36 X	36		7.460							SIGNAL POLE			
75	R1-1F(2M)		36 X	36		7.460							SIGNAL POLE			
76	R6-3A(2M)		30 X	24	5.000							75	MOUNT ABOVE R1-1F			
77	NONE	BOTH LANES	30 X	24	5.000								MOUNT ON S-51-257 - I BEAMS INCIDENTAL			
UNDISTRIBUTED											2					
TOTALS					426.710	52.220	17.000	3	2	33	5	--	--			261.500

SHEET: 3 OF 3

STH 38 & CTH MM/RAPIDS DR
RACINE COUNTY
CATEGORY 0030
S51-0156

3

REMOVING CONCRETE BASES

SIGNAL BASE NO.	204.0195 REMOVING CONCRETE BASES EACH
SB5	1
SB18	1
TOTAL	2 *

* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

SALVAGE AND REUSE SIGNAL EQUIPMENT

LOCATION	SPV.0060.38 SALVAGE & REUSE SIGNAL EQUIPMENT EACH
SB5/HEAD 18	1
SB18/LUMINAIRE (2)	1
TOTAL	2

PULL BOXES

PULL BOX NO.	653.0900 ADJUSTING PULL BOXES EACH
PB7	1
TOTAL	1

CONCRETE BASES

SIGNAL BASE NO.	LOCATION ^	654.0101 CONCRETE BASES TYPE 1 EACH	654.0105 CONCRETE BASES TYPE 5 EACH
SB5	REPLACE IN KIND	1	--
SB18	REPLACE IN KIND	--	1
	TOTAL	1 *	1 *

^ FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

TRAFFIC SIGNAL CABLE AND WIRE

FROM	TO	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.
SB5	HEAD 18	19
	TOTAL	19 *

* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

TRAFFIC SIGNAL CABLE AND WIRE

FROM	TO	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.
SB18	LUMIN (2)	234
	TOTAL	234 *

* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

SIGNAL BASES

SIGNAL BASE NO.	657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH
SB5	1	--
SB18	--	1
TOTAL	1 *	1 *

* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

SIGNAL MOUNTING HARDWARE

LOCATION	658.5070.01 SIGNAL MOUNTING HARDWARE EACH
STH 38 & CTH MM/OLD MILL RD	1
TOTAL	1

PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	MISCELLANEOUS QUANTITIES	SHEET: 110	E

FILE NAME : N:\PDS\C3D\CAD\22900303\SIG\S51-0156\S51-0156_R1_mq.pptx PLOT DATE : 7/6/2022 PLOT BY : DOTCMV PLOT NAME : S51-0156_R1_mq.pdf PLOT SCALE : 1:1

3

STATE FURNISHED MATERIALS SUMMARY

EACH	DESCRIPTION
1	TRAFFIC SIGNAL CONTROLLER, FULLY ACTUATED, 8 PHASE
1	TRAFFIC SIGNAL CABINET
1	POLES TYPE 9 SPECIAL
1	POLES TYPE 10 SPECIAL
1	MONOTUBE ARMS 40-FT TYPE 9/10 SPEC POLE
1	MONOTUBE ARMS 45-FT TYPE 9/10 SPEC POLE
1	LUMINAIRE ARMS 15-FT
3	EVP DETECTOR HEADS
1	RADIO INTERCONNECT ANTENNA 5.8 GHZ

STATE FURNISHED FOR INFORMATION ONLY

SIGNAL BASE NO.	POLES TYPE 9 SPECIAL EACH	POLES TYPE 10 SPECIAL EACH	MONOTUBE ARMS 40-FT TYPE 9/10 SPEC POLE EACH	MONOTUBE ARMS 45-FT TYPE 9/10 SPEC POLE EACH	LUMINAIRE ARMS STEEL 15-FT EACH	EVP DETECTOR HEADS EACH	RADIO INTERCONNECT ANTENNA 5.8 GHZ EACH
SB2	1	--	1	--	--	2	1
SB8	--	1	--	1	1	1	--
TOTAL	1	1	1	1	1	3	1

REMOVING CONCRETE BASES

SIGNAL BASE NO.	204.0195 REMOVING CONCRETE BASES EACH
CB1	1
SB1	1
SB2	1
SB3	1
SB4	1
SB5	1
SB6	1
SB7	1
SB8	1
SB9	1
SB10	1
TOTAL	11 *

* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

TRAFFIC SIGNAL REMOVALS

LOCATION	204.9060.S.01 REMOVING TRAFFIC SIGNALS EACH	204.9060.S.02 REMOVING LOOP DETECTOR WIRE & LEAD-IN CABLE EACH
STH 38 & RAPIDS DR	1	1
TOTAL	1	1

3

3

LAMP, BALLAST, LED, SWITCH DISPOSAL

FIXTURE TYPE	659.5000.S LAMP, BALLAST, LED, SWITCH DISPOSAL BY CONTRACTOR EACH
TRAFFIC SIGNAL, THREE SECTION	13
MERCURY SWITCHES	1
TOTAL	14

LAMP, BALLAST, LED, SWITCH DISPOSAL
(FOR INFORMATION ONLY)

SIGNAL BASE NO.	TRAFFIC SIGNAL, THREE SECTION EACH	MERCURY SWITCHES EACH
CB1	--	1
SB1	1	--
SB2	1	--
SB3	2	--
SB4	1	--
SB5	1	--
SB6	2	--
SB7	2	--
SB8	1	--
SB9	1	--
SB10	1	--
TOTAL	13	1

3

REMOVING PULL BOXES

PULL BOX NO.	653.0905 REMOVING PULL BOXES EACH
PB1	1
PB2	1
PB3	1
PB4	1
PB5	1
PB6	1
PB7	1
PB8	1
PB9	1
PB10	1
PB11	1
PB12	1
PB13	1
PB14	1
PB15	1
PB16	1
PB17	1
PB18	1
PB19	1
PB20	1
TOTAL	20

CONDUIT

FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH L.F.
CB1	PB1	--	30
PB1	PB2	13	--
PB2	PB3	206	--
PB3	SB16	41	--
PB1	SB1	10	--
PB1	PB4	--	114
PB4	SB2	--	23
PB4	PB5	--	62
PB5	PB6	17	--
PB5	SB3	6	--
PB5	PB7	--	98
PB7	SB4	6	--
PB7	PB8	--	54
PB8	PB9	--	43
PB9	SB17	5	--
PB8	PB10	12	--
PB8	SB5	13	--
PB8	PB11	--	88
PB11	PB12	232	--
PB11	SB6	14	--
PB11	PB13	--	40
PB13	SB7	14	--
PB13	PB14	--	64
PB14	SB8	--	13
PB14	PB15	--	78
PB15	SB9	17	--
PB15	PB16	--	138
PB16	SB10	19	--
PB16	SB11	23	--
PB16	PB17	--	116
PB17	PB18	--	114
PB18	PB19	18	--
PB19	SB12	19	--
PB18	PB20	212	--
PB20	SB18	15	--
SB18	SB19	176	--
PB18	SB13	16	--
PB18	SB14	50	--
PB18	PB21	--	156
PB21	SB15	8	--
PB21	CB1	--	69
	TOTAL	1162	1300

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3

TRAFFIC DETECTOR LOOPS

LOOP NO.	HOME RUN PB	LOCATION* ** ^	SIZE (FT)x(FT)	NO. OF TURNS	SDD INSTALLATION REFERENCE	652.0800 CONDUIT LOOP DETECTOR L.F.	655.0700 LOOP DETECTOR LEAD IN CABLE L.F.	655.0800 LOOP DETECTOR WIRE L.F.
11	PB20	237+79.1, 17.5'RT	6'x8'	4	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	70	327	280
12	PB20	237+79.1, 5.5'RT	6'x8'	4	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	46	327	184
13	PB19	240+04.1, 17.5'RT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	94	133	282
14	PB19	240+32.1, 17.5'RT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	94	133	282
15	PB19	240+04.1, 5.5'RT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	70	133	210
16	PB19	240+32.1, 5.5'RT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	72	133	216
17	PB3	52+72.4, 39.4'LT (RAPIDS DR)	6'x6'	4	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	44	243	176
18	PB3	52+72.2, 27.4'LT (RAPIDS DR)	6'x6'	4	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	68	243	272
19	PB2	240+35.6, 94.6'LT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	82	37	246
110	PB2	240+15.9, 74.6'LT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	78	37	234
111	PB2	240+50.0, 90.2'LT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	114	37	342
112	PB2	240+31.5, 69.1'LT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	108	37	324
21	PB12	243+89.8, 21.3'LT	6'x8'	5	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	68	464	340
22	PB12	243+89.9, 9.3'LT	6'x8'	5	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	44	464	220
23	PB10	241+71.8, 28.5'LT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	86	200	258
24	PB10	241+43.8, 28.5'LT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	86	200	258
25	PB10	241+71.8, 16.5'LT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	110	200	330
26	PB10	241+43.8, 16.5'LT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	110	200	330
61	PB20	237+79.1, 29.5'RT	6'x8'	4	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	94	327	376
71	PB6	240+77.1, 86.0'LT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	72	129	216
72	PB6	240+70.0, 59.2'LT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WILL PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	72	129	216
					TOTAL	1682	4133	5592

* LOCATION IS TO FRONT CENTER OF DETECTOR LOOP
** STATION/OFFSETS ARE TO THE CTH MM ALIGNMENT UNLESS NOTED OTHERWISE
^ FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

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PULL BOXES

PULL BOX NO.	LOCATION ** ^	653.0135 PULL BOXES STEEL 24x36-INCH EACH	653.0140 PULL BOXES STEEL 24x42-INCH EACH
PB1	240+06.8, 97.2'LT	--	1
PB2	240+18.8, 99.2'LT	1	--
PB3	52+71.3, 52.0'LT (RAPIDS DR)	1	
PB4	240+58.0, 72.7'LT	--	1
PB5	240+86.7, 63.5'LT	--	1
PB6	240+87.3, 79.5'LT	1	--
PB7	241+34.8, 64.0'LT	--	1
PB8	241+56.5, 48.1'LT	--	1
PB9	241+85.5, 79.5'LT	--	1
PB10	241+67.5, 47.4'LT	1	--
PB11	241+56.5, 4.4'LT	--	1
PB12	243+87.2, 1.0'RT	1	--
PB13	241+56.5, 15.5'RT	--	1
PB14	241+56.5, 47.1'RT	--	1
PB15	241+19.3, 55.0'RT	1	--
PB16	240+51.3, 53.4'RT	1	--
PB17	239+94.2, 50.5'RT	--	1
PB18	239+90.6, 5.5'LT	--	1
PB19	240+08.0, 5.5'LT	1	--
PB20	237+82.0, 5.5'LT	1	--
PB21	239+85.7, 83.1'LT	--	1
	TOTAL	9	12

** STATION/OFFSETS ARE TO THE CTH MM ALIGNMENT UNLESS NOTED OTHERWISE
^ FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

CONCRETE BASES

SIGNAL BASE NO.	LOCATION ** ^	654.0101 CONCRETE BASES TYPE 1 EACH	654.0102 CONCRETE BASES TYPE 2 EACH	654.0105 CONCRETE BASES TYPE 5 EACH	654.0120 CONCRETE BASES TYPE 10-SPECIAL EACH	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
CB1	239+98.2, 101.6'LT	--	--	--	--	1
SB1	240+06.2, 87.3'LT	--	1	--	--	--
SB2	240+48.0, 52.7'LT	--	--	--	1	--
SB3	240+85.0, 58.7'LT	--	1	--	--	--
SB4	241+33.9, 58.7'LT	1	--	--	--	--
SB5	241+43.5, 47.6'LT	1	--	--	--	--
SB6	241+43.5, 2.5'LT	1	--	--	--	--
SB7	241+43.5, 12.4'RT	1	--	--	--	--
SB8	241+43.8, 47.3'RT	--	--	--	1	--
SB9	241+03.0, 52.9'RT	1	--	--	--	--
SB10	240+69.7, 52.1'RT	1	--	--	--	--
SB11	240+29.1, 49.8'RT	1	--	--	--	--
SB12	240+26.8, 5.5'LT	1	--	--	--	--
SB13	239+74.9, 5.5'LT	1	--	--	--	--
SB14	239+42.5, 5.5'LT	--	1	--	--	--
SB15	239+93.0, 80.4'LT	1	--	--	--	--
SB16	52+35.0, 52.4'LT (RAPIDS DR)	--	--	1	--	--
SB17	241+83.0, 83.1'LT	--	--	1	--	--
SB18	237+67.4, 7.8'LT	--	--	1	--	--
SB19	235+92.6, 2.5'RT	--	--	1	--	--
	TOTAL	10 *	3	4 *	2	1

** STATION/OFFSETS ARE TO THE CTH MM ALIGNMENT UNLESS NOTED OTHERWISE
^ FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

FILE NAME : N:\PDS\C3D\CAD\22900303\SIG\S51-0157\S51-0157_mq.pptx PLOT DATE : 7/19/2022 PLOT BY : DOTCMV PLOT NAME : S51-0157_mq.pdf PLOT SCALE : 1:1

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TRAFFIC SIGNAL CABLE AND WIRE

FROM	TO	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG L.F.	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG L.F.	655.0320 CABLE TYPE UF 2-10 AWG GROUNDED L.F.
CB1	SB1	47	--	--
CB1	SB2	--	133	--
CB1	SB3	--	163	--
CB1	SB4	228	--	--
CB1	SB5	--	278	--
CB1	SB6	339	--	--
CB1	SB7	375	--	--
CB1	SB8	--	422	--
CB1	SB9	393	--	--
CB1	SB10	310	--	--
CB1	SB11	314	--	--
CB1	SB12	197	--	--
CB1	SB13	160	--	--
CB1	SB14	194	--	--
CB1	SB15	58	--	--
CB1	SB1	--	--	47
SB1	SB16	--	--	326
SB1	SB3	--	--	160
SB3	SB17	--	--	202
SB17	SB8	--	--	245
CB1	SB14	--	--	194
SB14	SB18	--	--	317
SB18	SB19	--	--	184
	TOTAL	2615	996	1675

TRAFFIC SIGNAL CABLE AND WIRE

FROM	TO	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG L.F.
CB1	SB1	47
SB1	SB2	130
SB2	SB3	100
SB3	SB4	101
SB4	SB5	86
SB5	SB6	111
SB6	SB7	88
SB7	SB8	99
SB8	SB9	109
SB9	SB10	145
SB10	SB11	66
SB11	SB12	247
SB12	SB13	93
SB13	SB14	90
SB14	SB15	176
SB15	CB1	58
PB1	CB1	33
PB4	SB2	43
PB5	SB3	26
PB7	SB4	26
PB8	SB5	33
PB11	SB6	34
PB13	SB7	34
PB14	SB8	33
PB15	SB9	37
PB16	SB10	39
PB17	SB11	117
PB18	SB13	36
PB19	SB12	39
PB21	SB15	28
	TOTAL	2304

STH 38 (NORTHWESTERN AVE) & RAPIDS DR
RACINE COUNTY
CATEGORY 0030
S51-0157

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TRAFFIC SIGNAL CABLE AND WIRE

FROM	TO	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.
SB1	HEAD 10	21
SB2	HEAD 8	65
SB2	HEAD 9	65
SB2	HEAD 17	15
SB2	HEAD 18	15
SB3	HEAD 13	21
SB3	HEAD 19	15
SB3	HEAD 20	15
SB4	HEAD 21	15
SB5	HEAD 7	19
SB5	HEAD 22	15
SB6	HEAD 23	15
SB7	HEAD 24	15
SB8	HEAD 2	70
SB8	HEAD 3	21
SB8	HEAD 5	70
SB8	HEAD 6	70
SB8	HEAD 25	15
SB9	HEAD 14	19
SB10	HEAD 15	19
SB11	HEAD 1	19
SB12	HEAD 4	19
SB13	HEAD 11	19
SB14	HEAD 12	21
SB15	HEAD 16	15
	TOTAL	688 *

* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

TRAFFIC SIGNAL CABLE AND WIRE

FROM	TO	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.
SB1	LUMIN	117
SB3	LUMIN (2)	234
SB8	LUMIN	144
SB14	LUMIN (2)	234
SB16	LUMIN	117
SB17	LUMIN	117
SB18	LUMIN (2)	234
SB19	LUMIN (2)	234
	TOTAL	1431 *

* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

TRAFFIC SIGNAL EVP DETECTOR CABLE

FROM	TO	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
CB1	SB2 (HEAD A)	163
CB1	SB8 (HEAD B)	497
CB1	SB2 (HEAD C)	163
	TOTAL	823

ELECTRICAL SERVICE METER BREAKER PEDESTAL

LOCATION ^	656.0201.01 ELECTRICAL SERVICE METER BREAKER PEDESTAL EACH
STH 38 & RAPIDS DR	1
TOTAL	1

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

STH 38 (NORTHWESTERN AVE) & RAPIDS DR
RACINE COUNTY
CATEGORY 0030
S51-0157

POLES (CONTRACTOR FURNISHED)

SIGNAL BASE NO.	657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0310 POLES TYPE 3 EACH	657.0322 POLES TYPE 5 ALUMINUM EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT EACH	657.0609 LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT EACH	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	658.0500 PEDESTRIAN PUSH BUTTONS EACH	659.1125 LUMINAIRES UTILITY LED C EACH
SB1	--	1	1	--	--	--	1	--	--	1
SB3	--	1	1	--	--	--	2	--	1	2
SB4	1	--	--	--	--	1	--	--	1	--
SB5	1	--	--	--	1	--	--	--	1	--
SB6	1	--	--	--	--	1	--	--	1	--
SB7	1	--	--	--	--	1	--	--	1	--
SB9	1	--	--	--	1	--	--	--	--	--
SB10	1	--	--	--	1	--	--	--	--	--
SB11	1	--	--	--	1	--	--	--	--	--
SB12	1	--	--	--	1	--	--	--	--	--
SB13	1	--	--	--	1	--	--	--	--	--
SB14	--	1	1	--	--	--	2	--	--	2
SB15	1	--	--	--	--	1	--	--	1	--
SB16	--	1	--	1	--	--	--	1	--	1
SB17	--	1	--	1	--	--	--	1	--	1
SB18	--	1	--	1	--	--	--	2	--	2
SB19	--	1	--	1	--	--	--	2	--	2
TOTAL	10 *	7 *	3	4	6	4	5	6	6 *	11 *

* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

POLES (STATE FURNISHED)

SIGNAL BASE NO.	SPV.0060.30 INSTALL POLES TYPE 9 SPECIAL EACH	SPV.0060.31 INSTALL POLES TYPE 10 SPECIAL EACH	SPV.0060.32 INSTALL MONOTUBE ARMS 40-FT TYPE 9/10 SPEC POLE EACH	SPV.0060.33 INSTALL MONOTUBE ARMS 45-FT TYPE 9/10 SPEC POLE EACH	SPV.0060.34 INSTALL LUMINAIRE ARMS STEEL 15-FT EACH	658.0500 PEDESTRIAN PUSH BUTTONS EACH	659.1125 LUMINAIRES UTILITY LED C EACH
SB2	1	--	1	--	--	1	--
SB8	--	1	--	1	1	1	1
TOTAL	1	1	1	1	1	2 *	1 *

* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

STH 38 (NORTHWESTERN AVE) & RAPIDS DR
RACINE COUNTY
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FACES

SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0173 TRAFFIC SIGNAL FACE 3S 12-INCH EACH	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH EACH
1	SB11	1	--
2	SB8	1	--
3	SB8	1	--
4	SB12	1	--
5	SB8	1	--
6	SB8	1	--
7	SB5	1	--
8	SB2	1	--
9	SB2	1	--
10	SB1	1	--
11	SB13	1	--
12	SB14	1	--
13	SB3	1	--
14	SB9	1	--
15	SB10	1	--
16	SB15	--	1
17	SB2	--	1
18	SB2	--	1
19	SB3	--	1
20	SB3	--	1
21	SB4	--	1
22	SB5	--	1
23	SB6	--	1
24	SB7	--	1
25	SB8	--	1
	TOTAL	15	10

SIGNAL MOUNTING HARDWARE

LOCATION	658.5070.02 SIGNAL MOUNTING HARDWARE EACH
STH 38 & RAPIDS DR	1
TOTAL	1

COMMUNICATIONS EQUIPMENT

LOCATION	678.0700 INSTALL WIRELESS ANTENNAS EACH
SB2	1
TOTAL	1

FILE NAME : N:\PDS\C3D\CAD\22900303\SIG\S51-0157\S51-0157_mq.pptx PLOT DATE : 7/19/2022 PLOT BY : DOTCMV PLOT NAME : S51-0157_mq.pdf PLOT SCALE : 1:1

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TRANSPORT AND INSTALL
STATE FURNISHED TRAFFIC SIGNAL CABINET

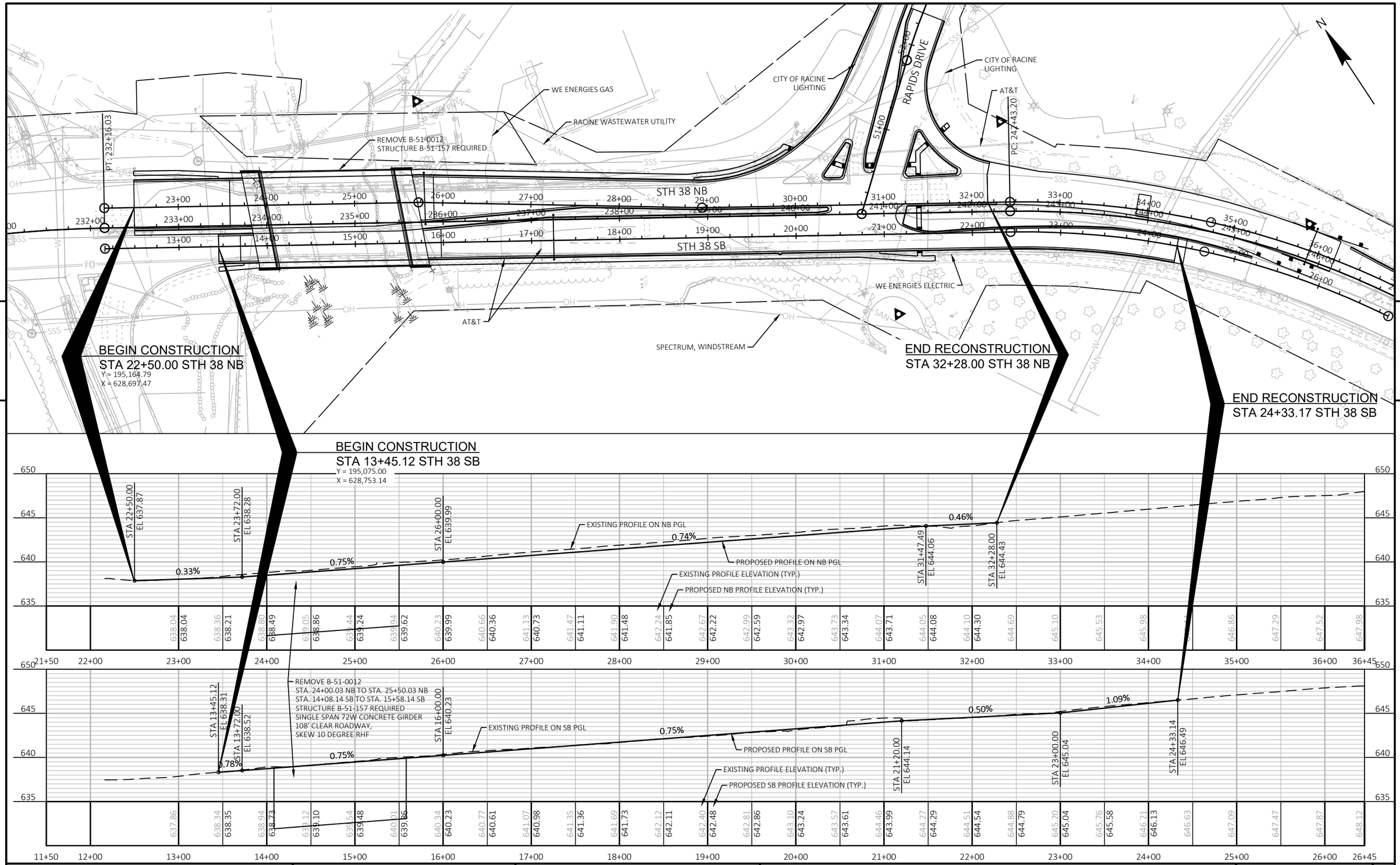
LOCATION	SPV.0060.35 TRNSPT AND INSTALL STATE FURN TRAFFIC SIGNAL CABINET EACH
STH 38 & RAPIDS DR (CB1)	1
TOTAL	1

TRANSPORT TRAFFIC SIGNAL
AND INTERSECTION LIGHTING MATERIALS

LOCATION	SPV.0060.36 TRNSPT TRAFFIC SIGNAL & INTER LIGHTING MATERIALS EACH
STH 38 & RAPIDS DR	1
TOTAL	1

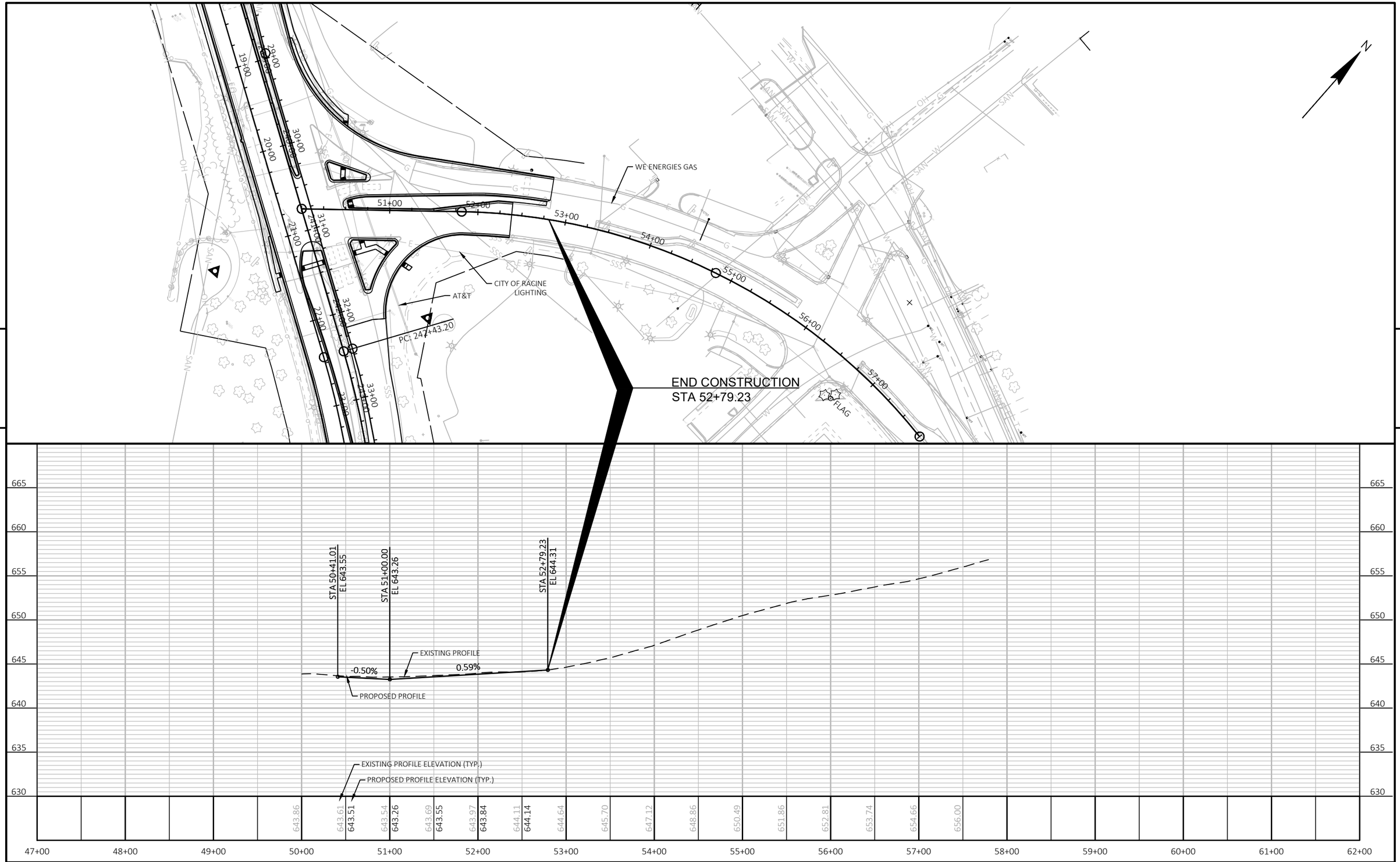
EVP DETECTOR HEAD INSTALLATION

LOCATION	SPV.0060.37 TRNSPT & INSTALL STATE FURN EVP DETECTOR HEADS EACH
STH 38 & RAPIDS DR	1
TOTAL	1



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	PLAN AND PROFILE: STH 38	SHEET 121	E

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LAYOUT NAME - 050101_pp
PLOT DATE : 9/16/2022 7:14 AM
PLOT BY : SCHOWALTER, STEVEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	PLAN AND PROFILE: RAPIDS DRIVE	SHEET 122	E

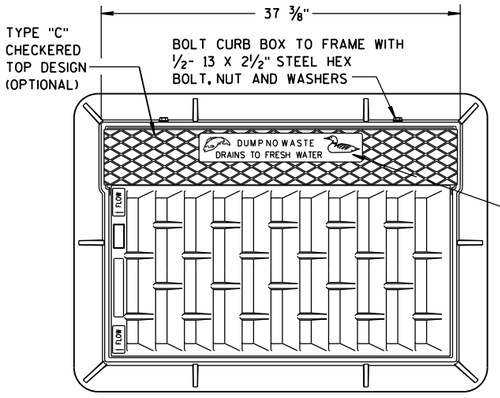
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PLOT BY : SCHOWALTER, STEVEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

Standard Detail Drawing ListStandard Detail Drawing List

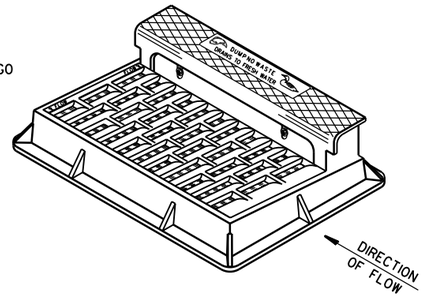
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-03	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-02	INLETS MEDIAN 1 AND 2 GRATE
08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-20A	CURB RAMPS TYPES 1 AND 1-A
08D05-20B	CURB RAMPS TYPES 2 AND 3
08D05-20C	CURB RAMPS TYPES 4A AND 4A1
08D05-20D	CURB RAMPS TYPE 4B AND 4B1
08D05-20E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-20F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-20G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08D15-05B	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08D15-05C	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-10	CONDUIT
09B04-12	PULL BOX
09C02-09	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C15-01	CONCRETE BASE TYPE 10 SPECIAL
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-03	SIGNAL CONTROL CABINET
09E01-15B	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3 (HEAVY DUTY)
09E01-15D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-15G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-06	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E07-06	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09E08-09C	TYPE 9 SPECIAL POLE 40' MONOTUBE ARM
09E08-09H	TYPE 10 SPECIAL POLE 45' MONOTUBE ARM
09E08-09K	GENERAL NOTES,HARDWARE DETAILS FOR TYPE 9/10,9/10 SPECIAL,12 & 13 POLES W/MONOTUBE ARMS
09F15-04B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
09H16-01	INSTALL WIRELESS ANTENNA
11B02-02	CONCRETE MEDIAN NOSE
12A03-10	NAME PLATE (STRUCTURES)
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13B02-09B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C14-07A	BASE PATCHING CONCRETE
13C14-07B	BASE PATCHING CONCRETE
13C14-07C	BASE PATCHING CONCRETE
13C18-07A	CONCRETE PAVEMENT JOINTING
13C18-07C	CONCRETE PAVEMENT JOINT TYPES
13C18-07D	CONCRETE PAVEMENT JOINT TYPES AT UTILITY FIXTURES
13C19-03	HMA LONGITUDINAL JOINTS
14A02-01	TREE PLANTING DETAIL
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B47-03A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

Standard Detail Drawing ListStandard Detail Drawing List

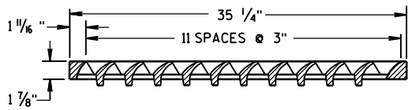
14B47-03C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03D	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03E	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03F	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-03G	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-15B	PAVEMENT MARKING WORDS
15C07-15C	PAVEMENT MARKING ARROWS
15C08-21A	LONGITUDINAL MARKING (MAINLINE)
15C08-21C	PAVEMENT MARKING (TURN LANES)
15C08-21D	PAVEMENT MARKING (TURN LANES)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-05C	MEDIAN PAVEMENT MARKINGS DOUBLE ARROW WARNING SIGN PLACEMENT
15C18-06A	MEDIAN ISLAND MARKING PAVEMENT MARKINGS
15C18-06B	MEDIAN ISLAND MARKING MEDIAN ISLAND NOSE
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D30-07A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-07B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-07C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

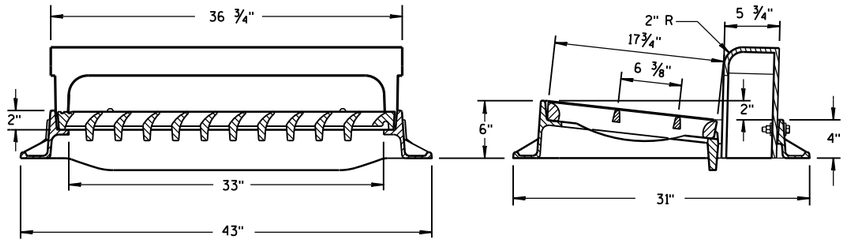


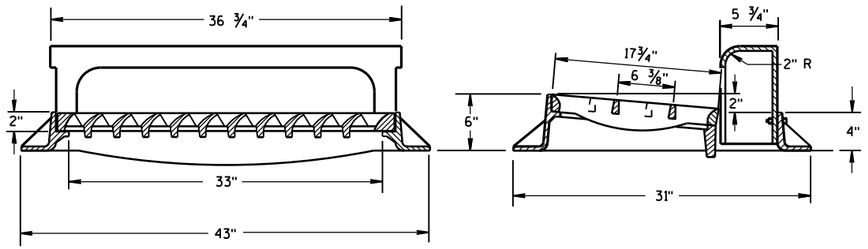
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

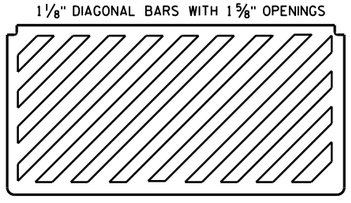






TYPE "H"

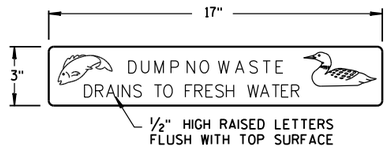
NOTE: EITHER CASTING IS ACCEPTABLE



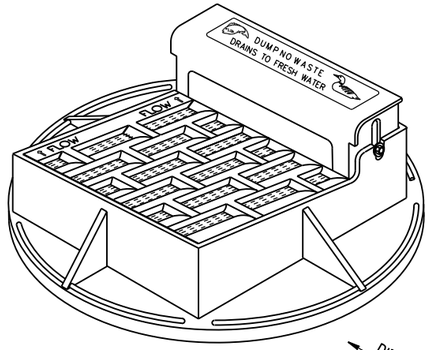
SPECIAL GRATE FOR TYPE "H" COVER

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

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

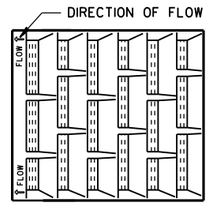
NOTE:
GRATE IS REVERSIBLE.

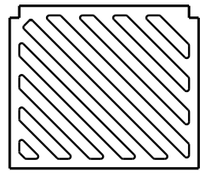
GENERAL NOTES

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.

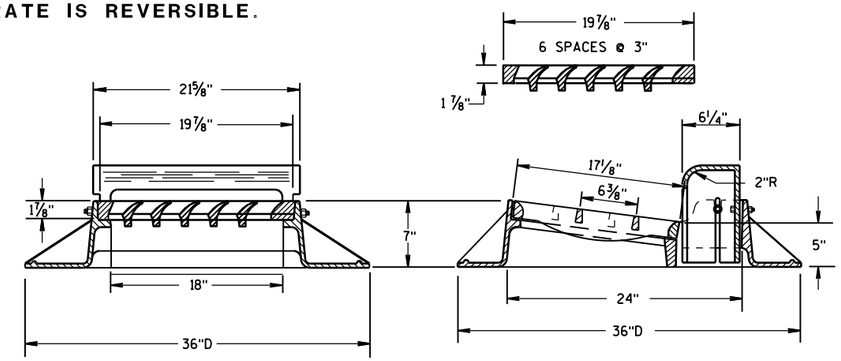




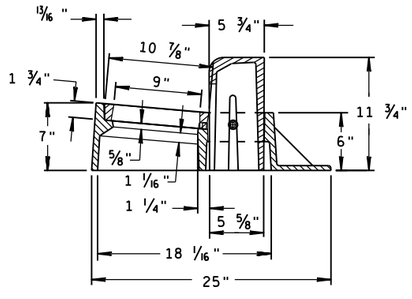
SPECIAL GRATE FOR TYPE "A" COVER

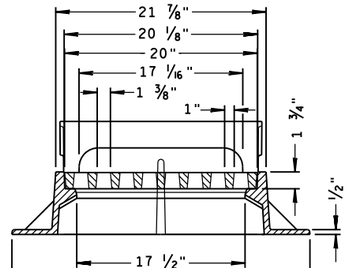
(MEASURES 19 3/4" X 17" X 1 7/8")

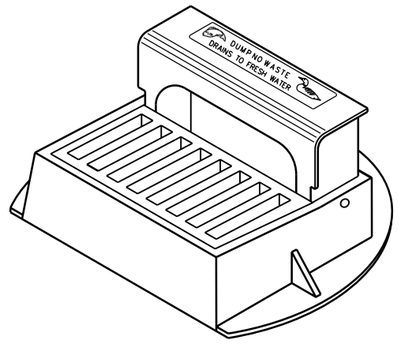
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"







TYPE "Z"

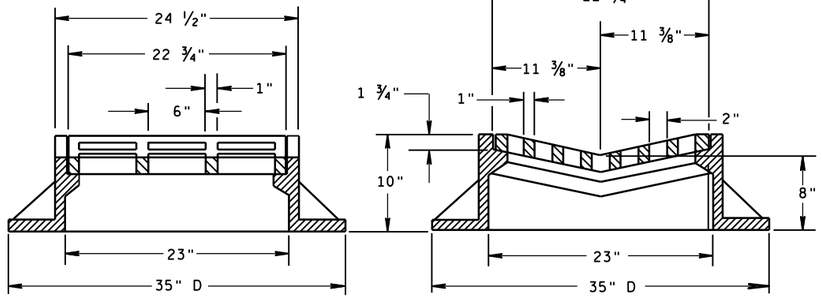
INLET COVERS
TYPE A, H, A-S, H-S & Z

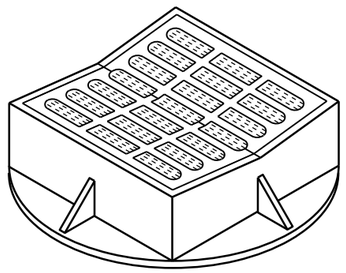
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

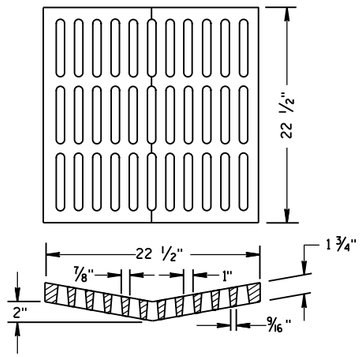
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S.D.D. 8 A 5-19a



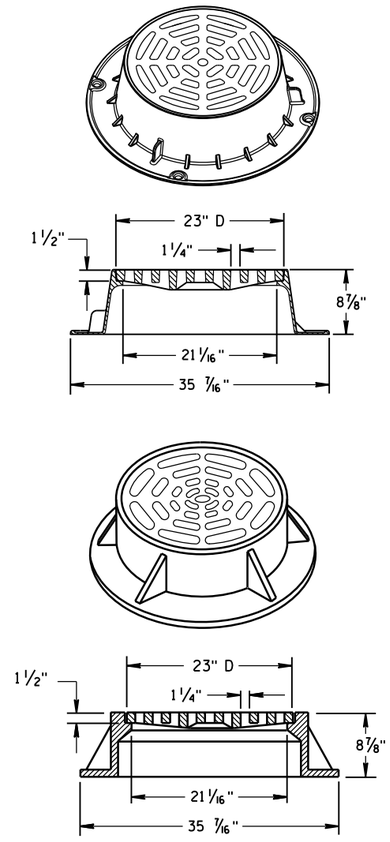


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

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



TYPE "C"

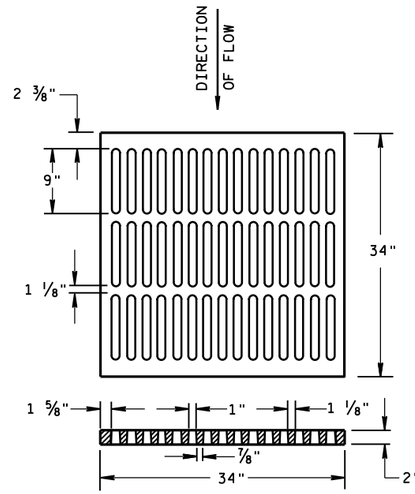
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

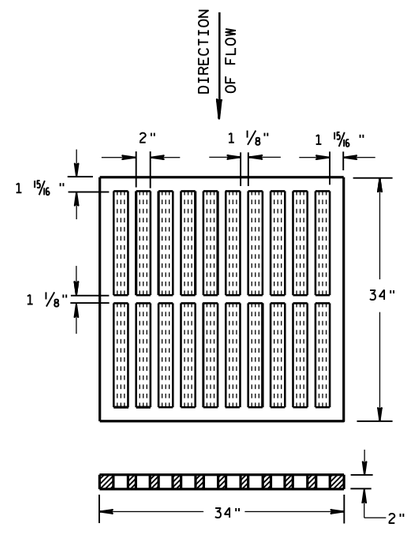
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



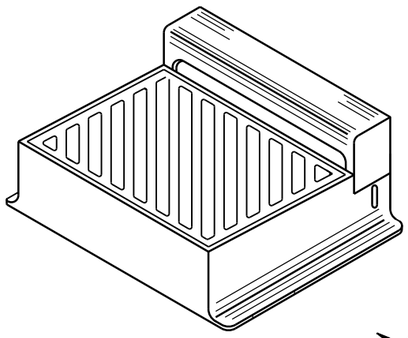
ALTERNATIVE TYPE "MS"

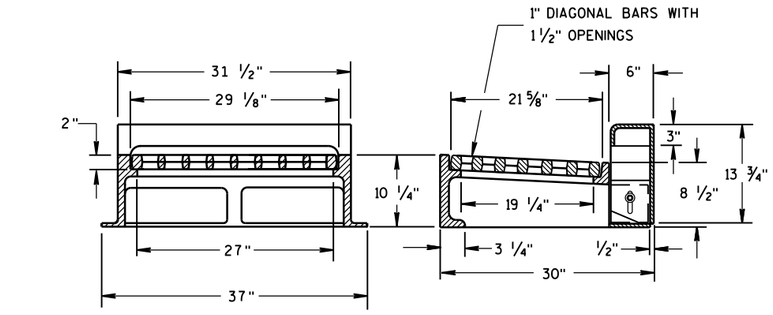
USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



TYPE "MS"

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





NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

DIRECTION OF FLOW

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

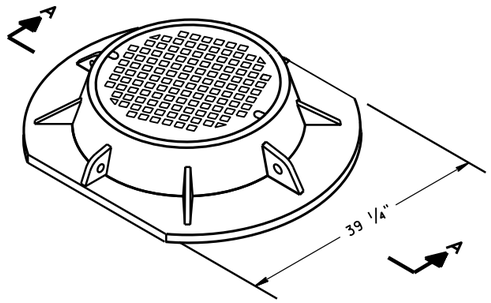
INLET COVERS
TYPE B, B-A, C, MS, MS-A, & WM

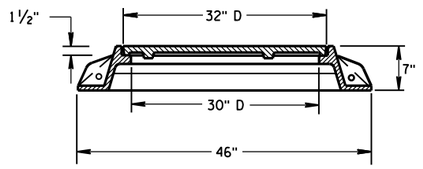
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

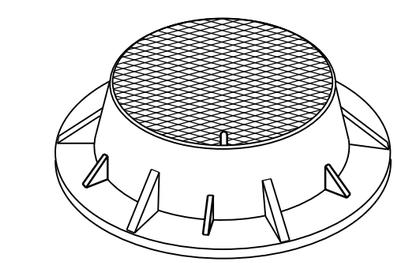
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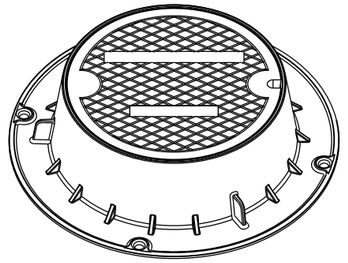
S.D.D. 8 A 5-19b

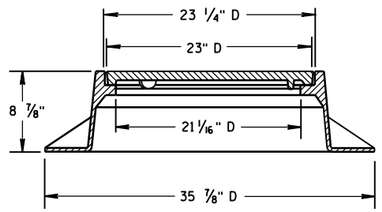


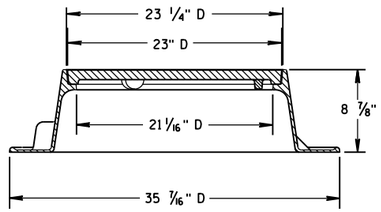


SECTION A-A
TYPE "K"









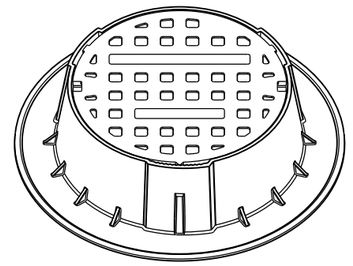
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

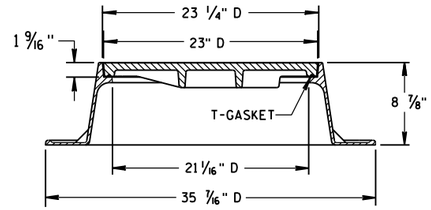
GENERAL NOTES

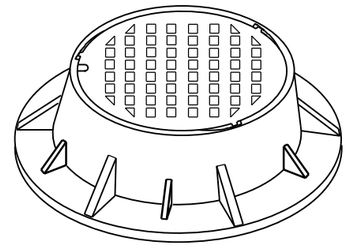
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

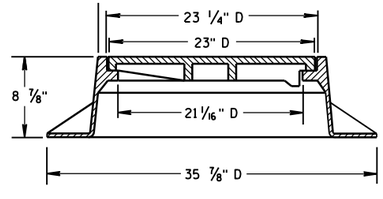
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

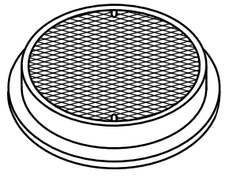


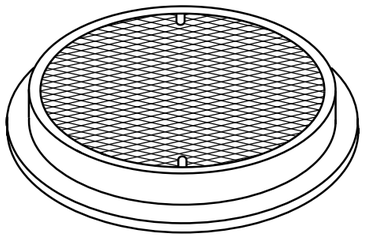


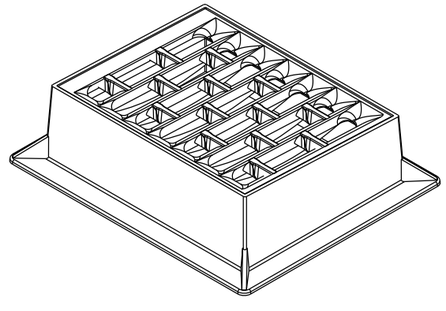


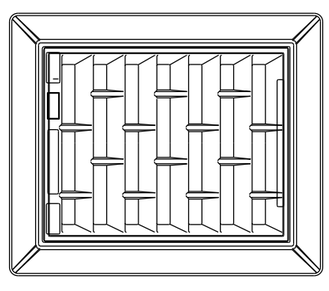


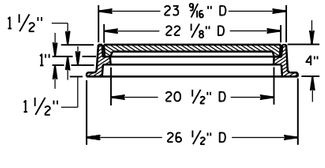
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



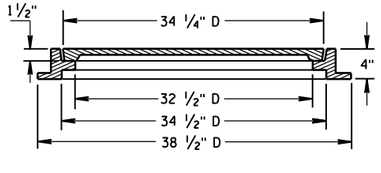




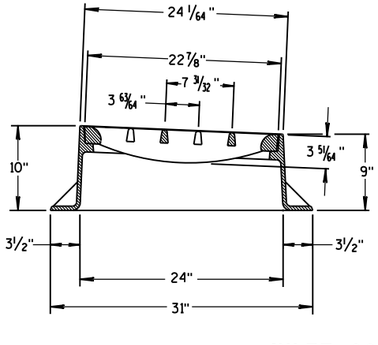


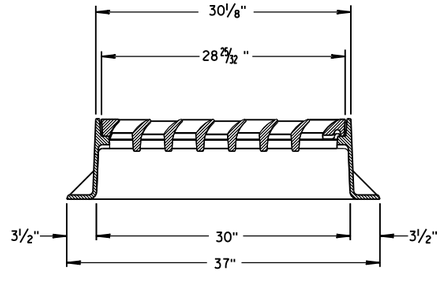


TYPE "L"



TYPE "M"





INLET COVER TYPE "BW"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

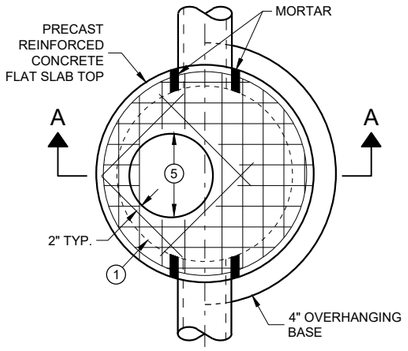
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

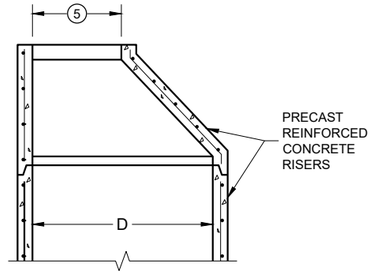
S.D.D. 8 A 5-19d

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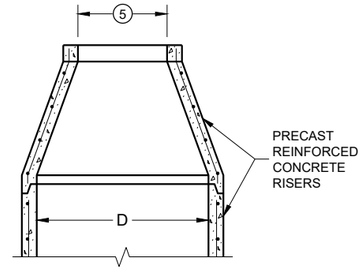
S.D.D. 8 A 5-19d



PLAN VIEW
CIRCULAR OPENING



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

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

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

GENERAL NOTES

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

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

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

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

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

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

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

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

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ INCH AND MEET THE REQUIREMENTS OF ASTM A615.

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

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

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

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

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

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

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

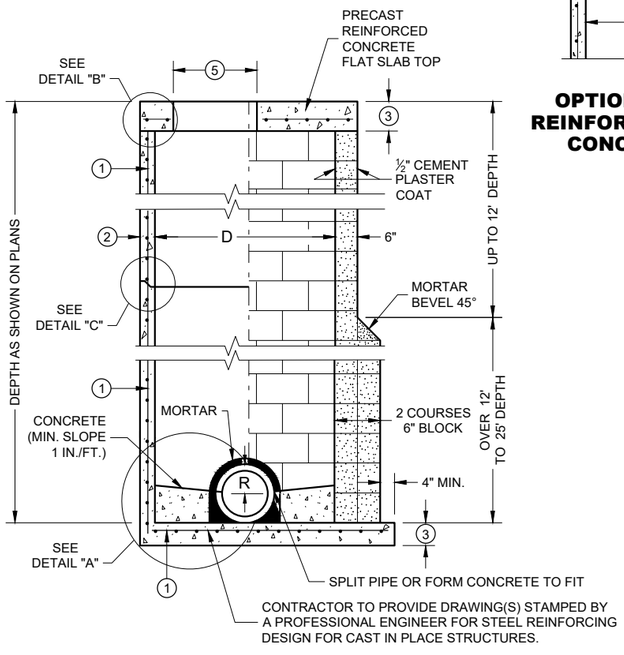
(1) FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

(2) SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES

(3) SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.

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

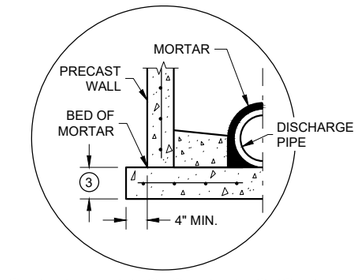
(5) SEE MANHOLE COVER OPENING MATRIX.



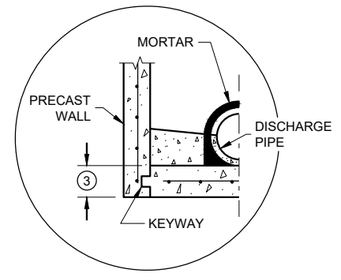
SECTION A - A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

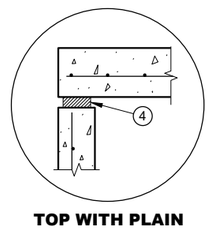


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

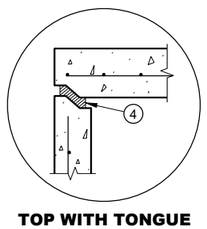


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

DETAIL "A"



TOP WITH PLAIN END JOINT



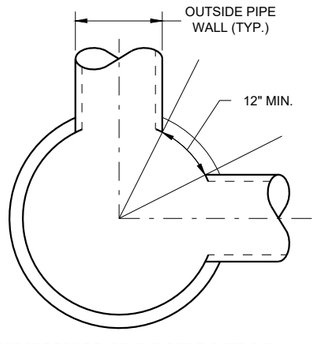
TOP WITH TONGUE AND GROOVE JOINT

DETAIL "B"



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "C"



MINIMUM HORIZONTAL PIPE SEPARATION

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

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

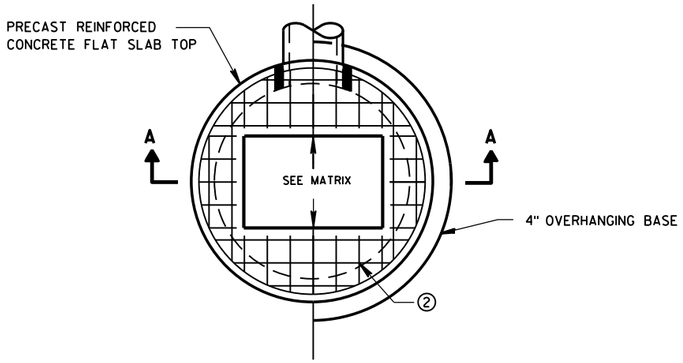
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

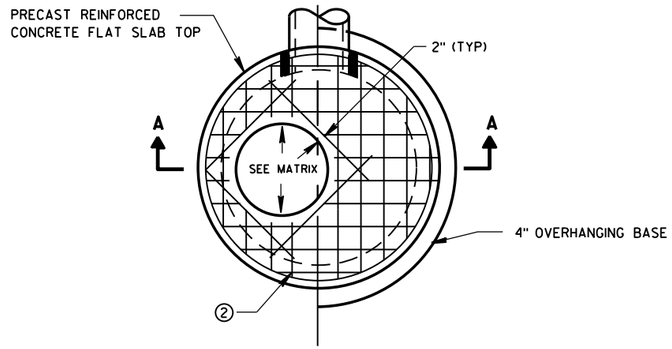
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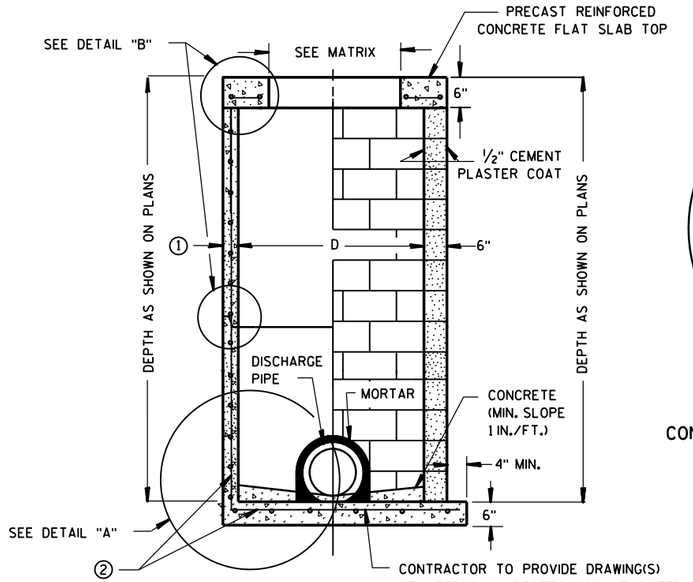
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PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

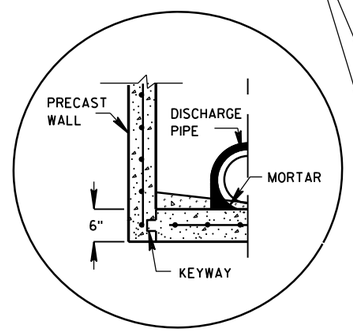


SECTION A-A

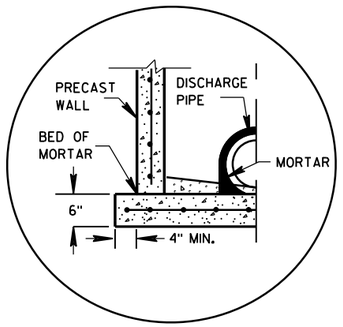
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

CIRCULAR INLETS W/ FLAT TOP

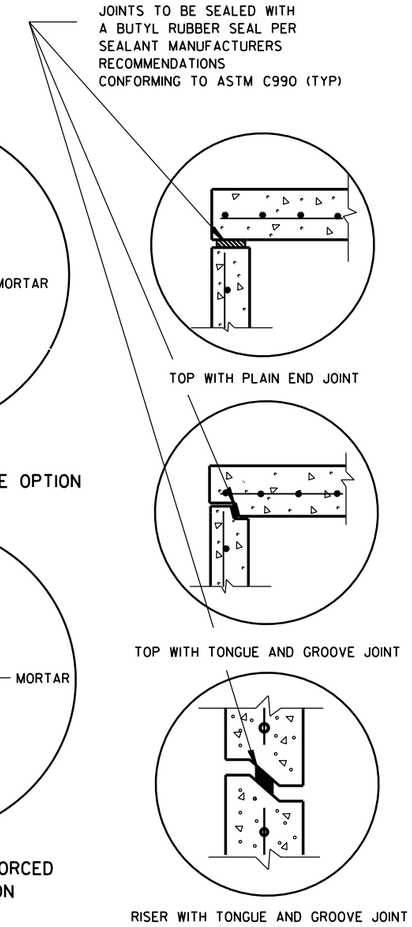


PRECAST REINFORCED
CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED
CONCRETE BASE OPTION

DETAIL "A"



DETAIL "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.

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

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

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

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

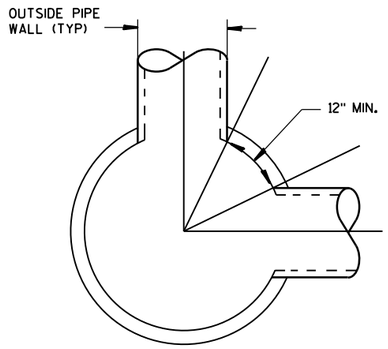
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

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



DETAIL "C"

PIPE MATRIX

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

INLETS 3-FT AND 4-FT DIAMETER

INLETS 3-FT
AND 4-FT DIAMETER

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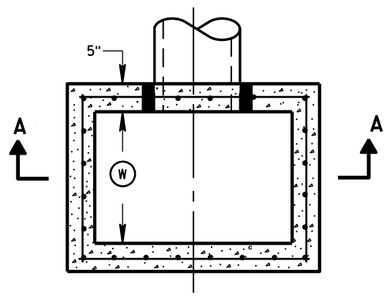
APPROVED
Sept., 2016 — /S/ Rodney Taylor
DATE — ROADWAY STANDARDS | UNIT SUPERVI ENT
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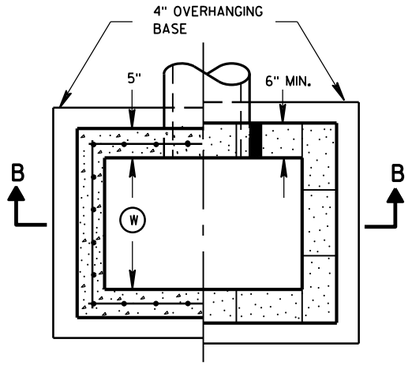
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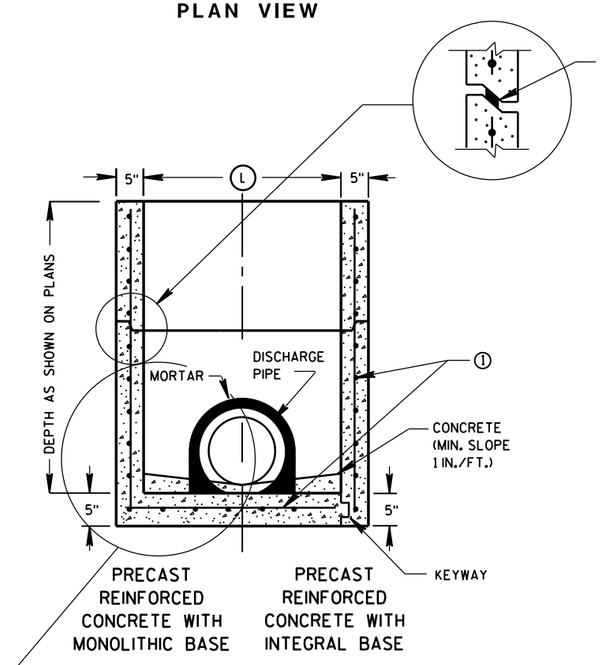
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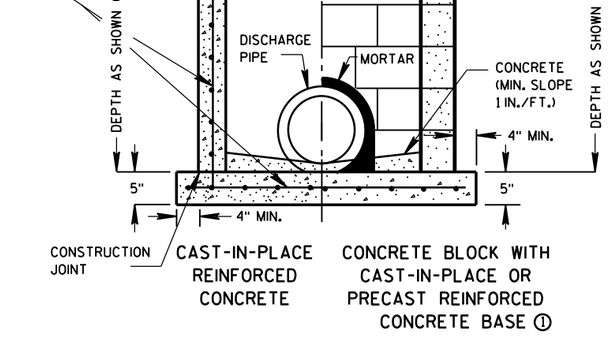
PLAN VIEW



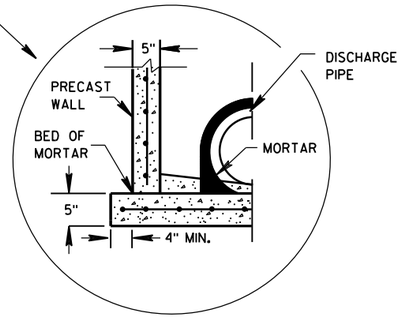
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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ALL PRECAST INLET 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 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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

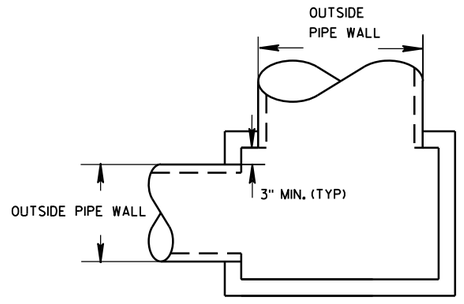
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

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Sept., 2016
DATE
/S/ Rodney Taylor
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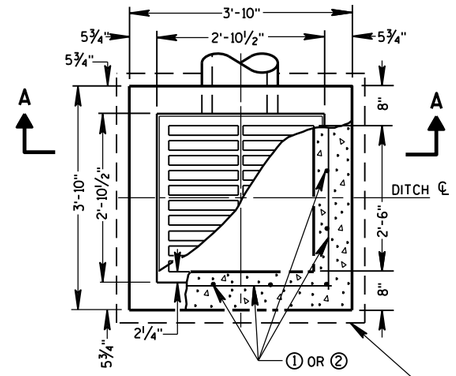
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

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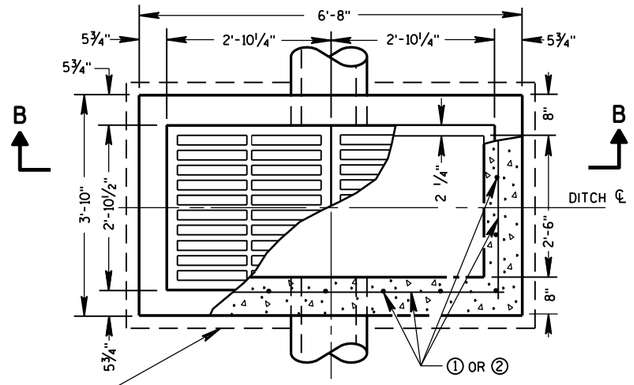
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S.D.D. 8 C 7-2

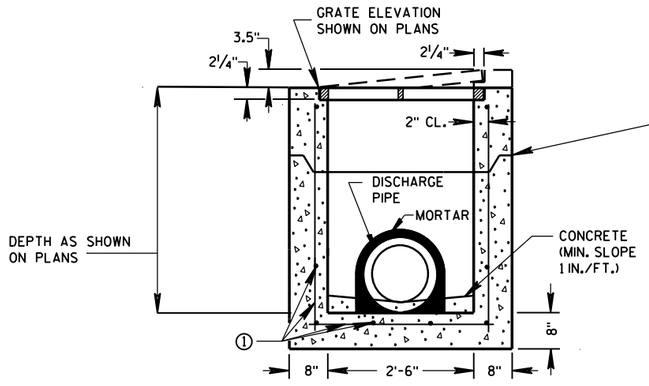


PLAN VIEW

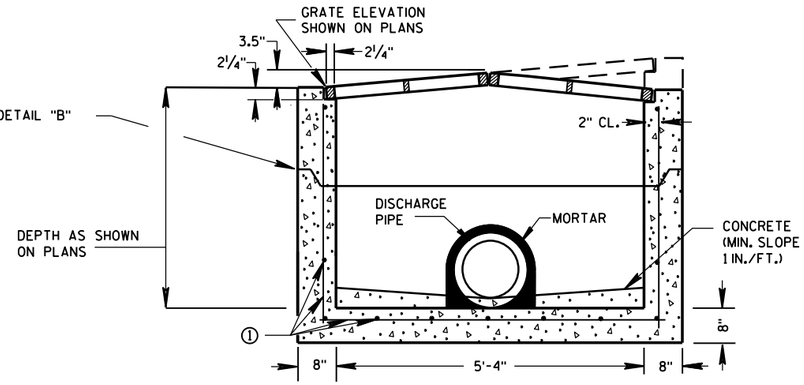


PLAN VIEW

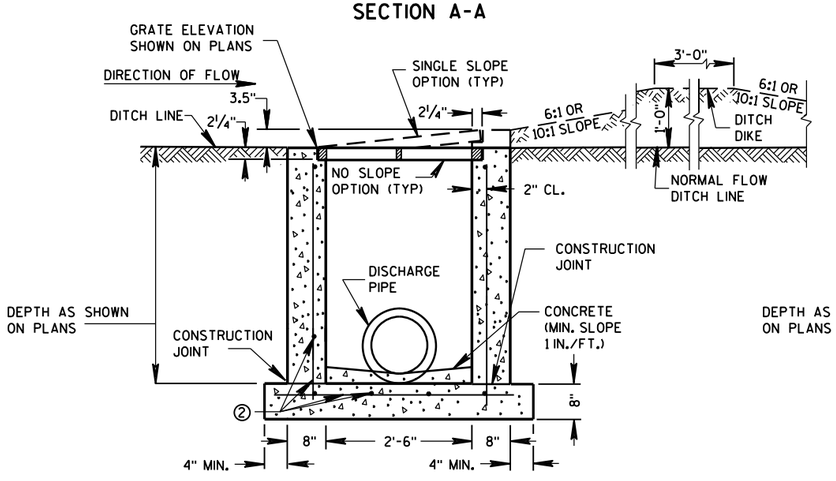
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



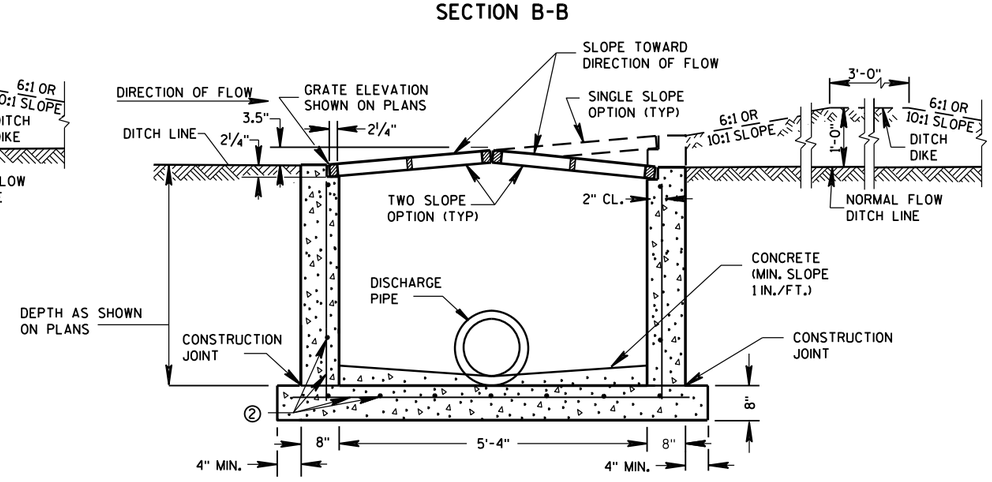
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

GENERAL NOTES

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

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

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE 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.

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

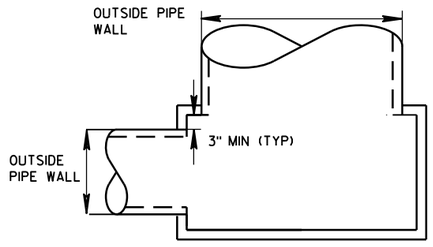
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS 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.

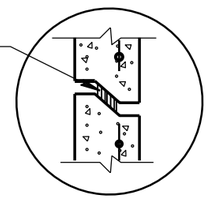
PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER	
INLET SIZE	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

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



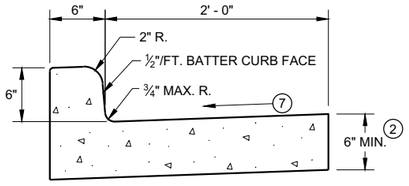
DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

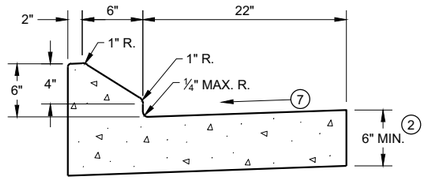
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

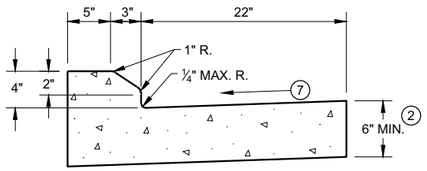
6
S.D.D. 8 C 8-2



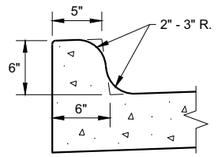
TYPES A (1) & D



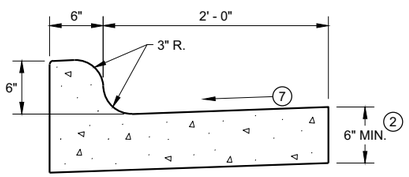
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

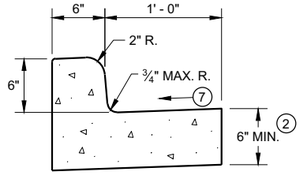


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



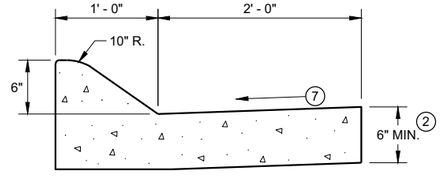
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

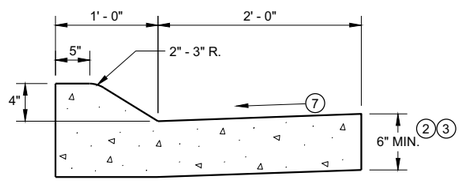


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

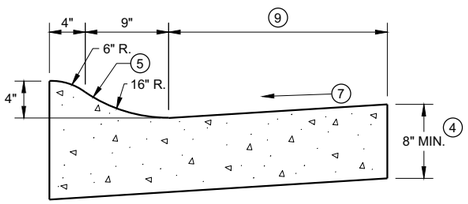


6" SLOPED CURB TYPES A (1) & D



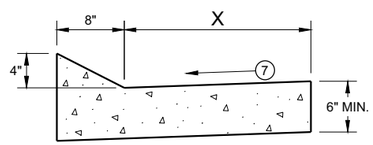
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

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

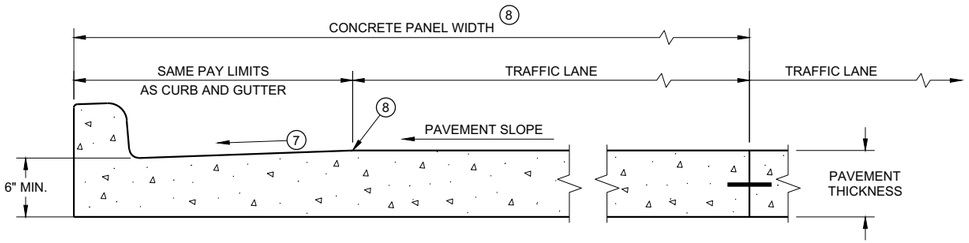


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

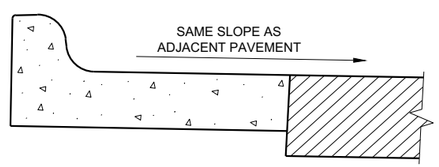
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

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

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

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

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

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

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

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

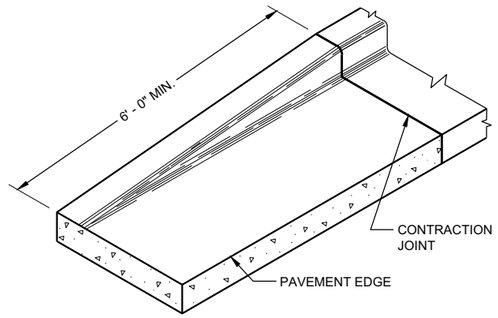
(9) CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

CONCRETE CURB AND GUTTER

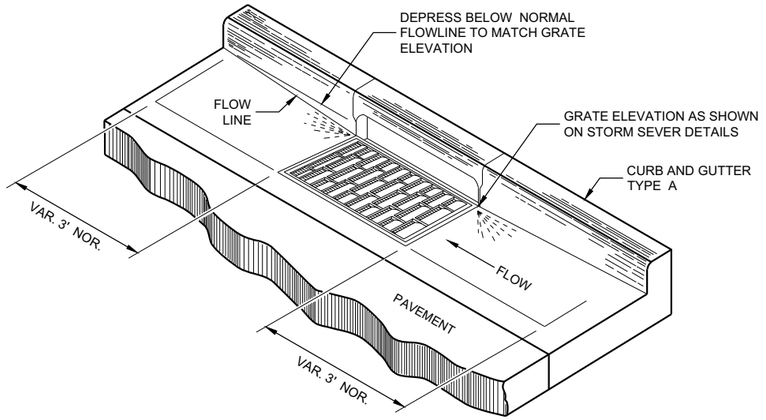
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 08D01 - 22a



END SECTIONCURB AND GUTTER



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

GENERAL NOTES

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

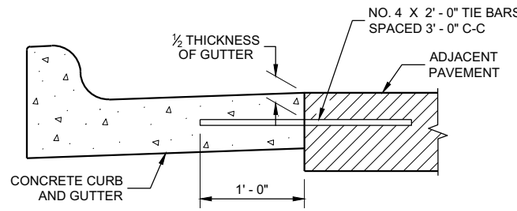
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

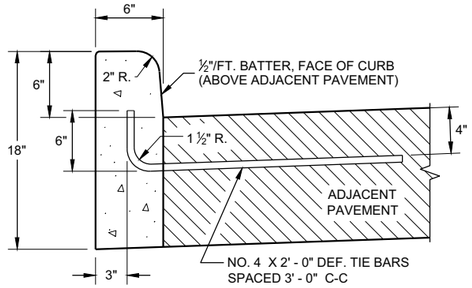
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

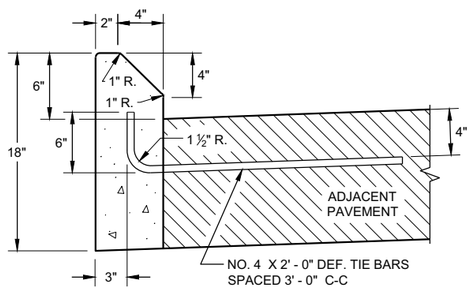
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION (1)

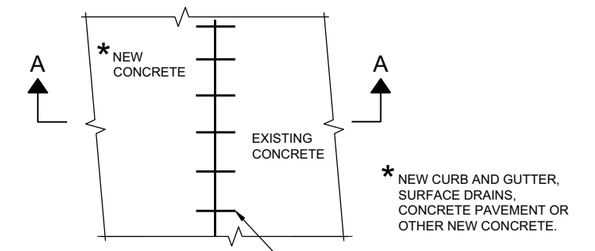


TYPES A (1) & D

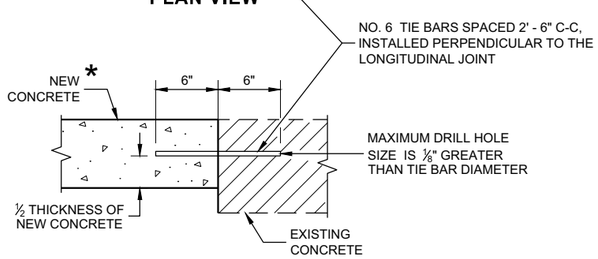


TYPES G (1) & J

CONCRETE CURB

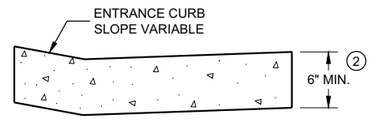


PLAN VIEW



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



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

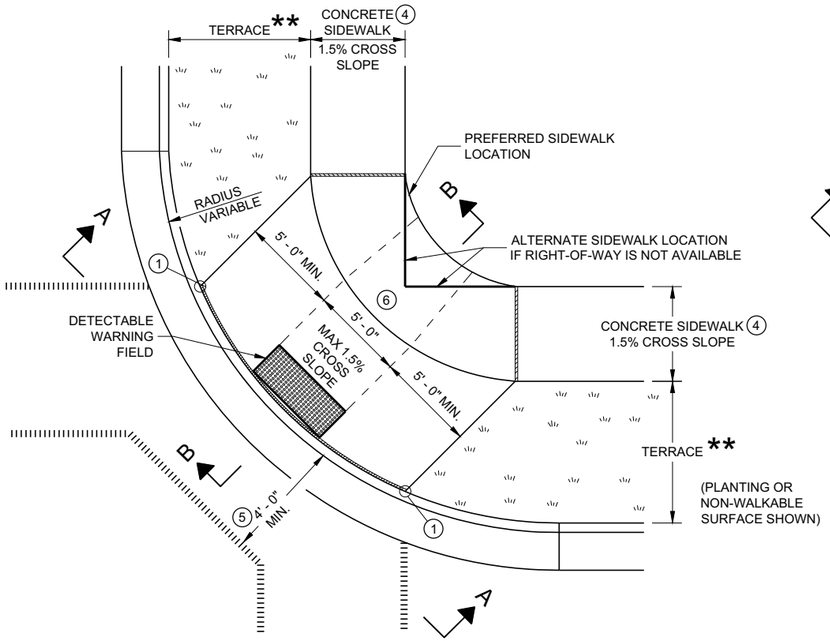
CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

6

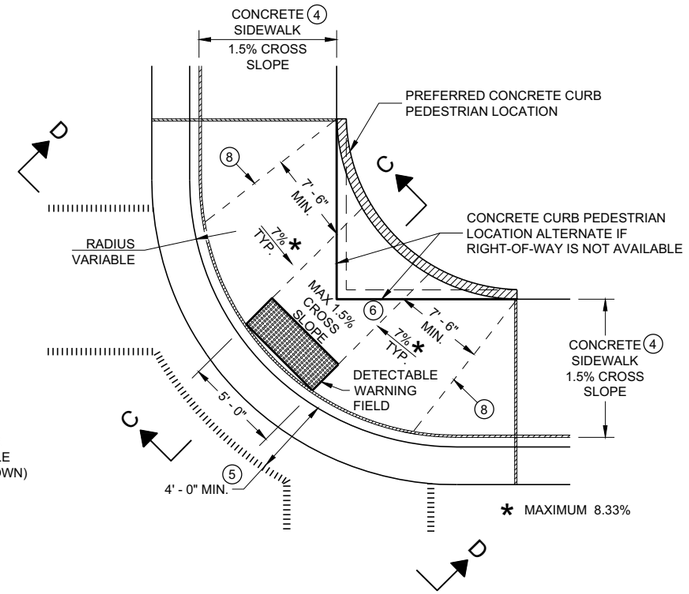
SDD08D01 - 22b



PLAN VIEW

CURB RAMP TYPE 1

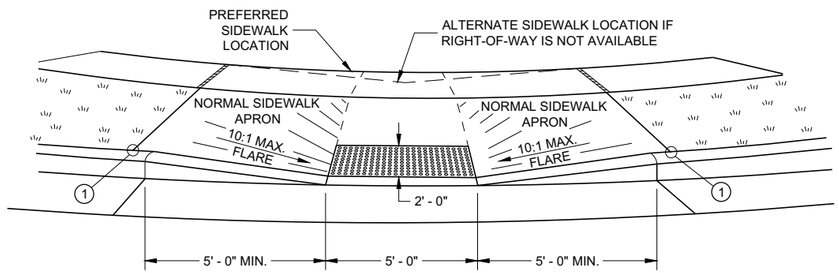
(CENTER OF CORNER RADIUS)



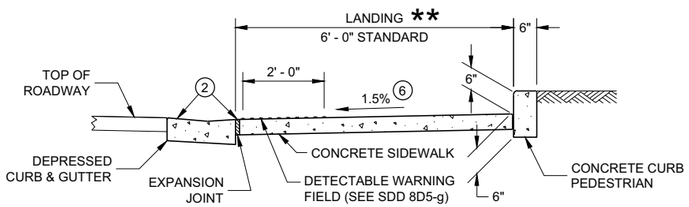
PLAN VIEW

CURB RAMP TYPE 1 - A

(NO TERRACE)

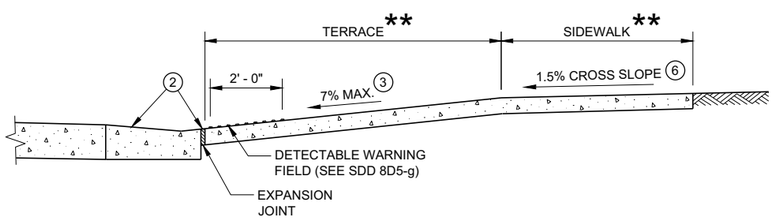


VIEW A - A FOR TYPE 1

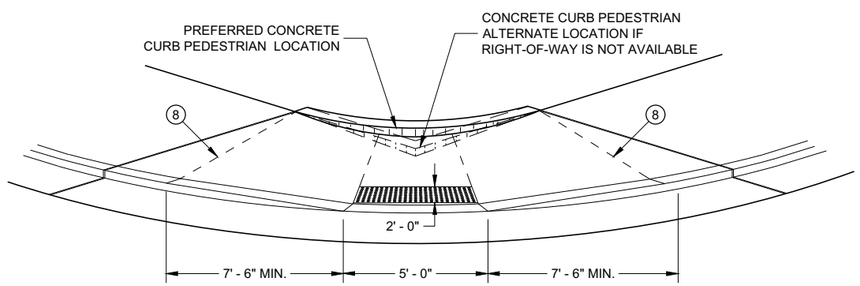


SECTION C - C FOR TYPE 1 - A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B - B FOR TYPE 1



VIEW D - D FOR TYPE 1 - A

GENERAL NOTES

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

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

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

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

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

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

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

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

(1) THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 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) MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

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

(5) PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.

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

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

LEGEND

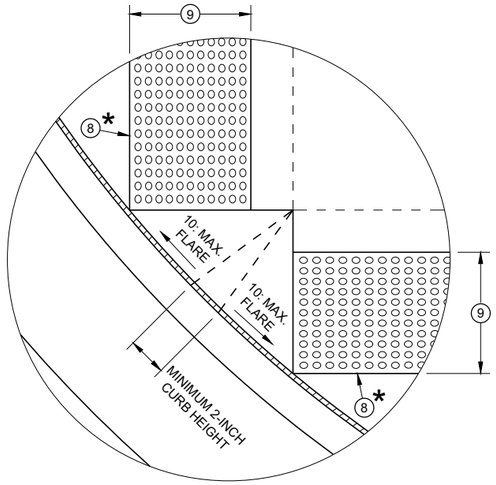
- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPE 1 AND 1-A

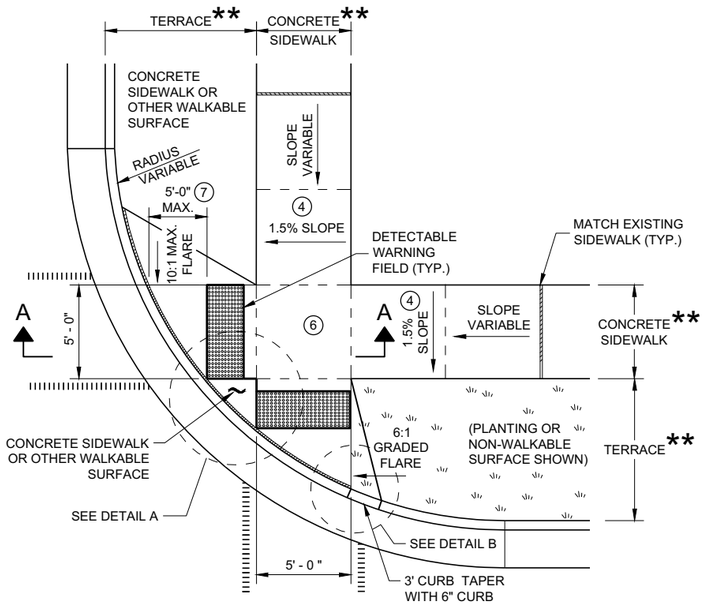
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 08D05 - 20a
SDD 08D05 - 20a



DETAIL A



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

GENERAL NOTES

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

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 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) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.

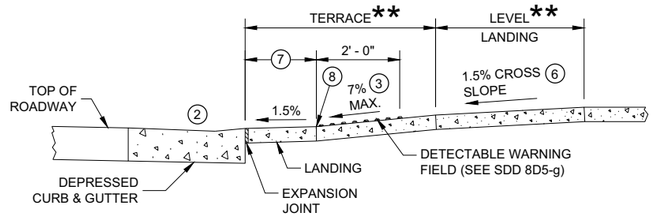
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

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

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

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

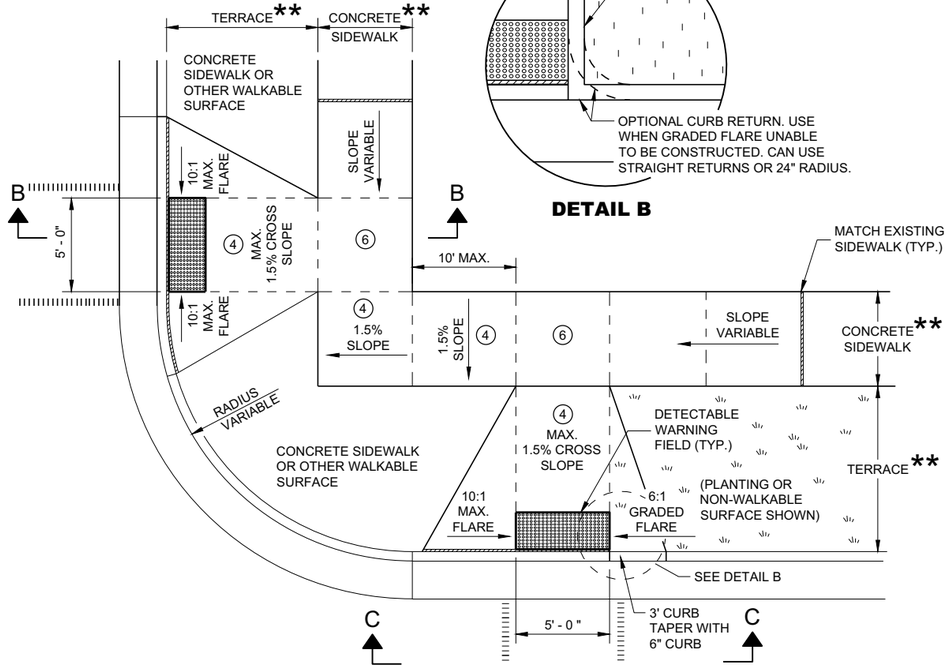
(9) WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.



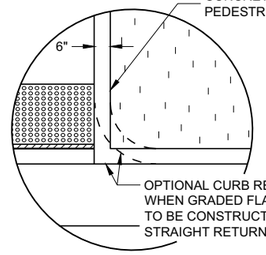
SECTION A - A FOR TYPE 2

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

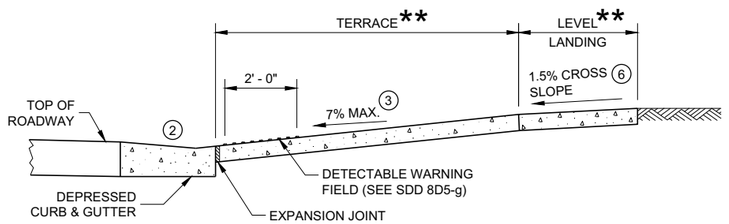
** WIDTH SHOWN ELSEWHERE IN THE PLANS



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



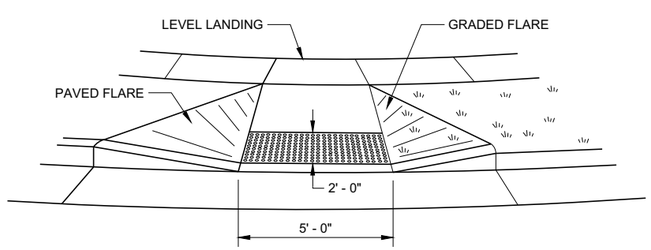
DETAIL B



SECTION B - B FOR TYPE 3

LEGEND

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



VIEW C - C FOR TYPE 3

CURB RAMPS TYPE 2 AND 3

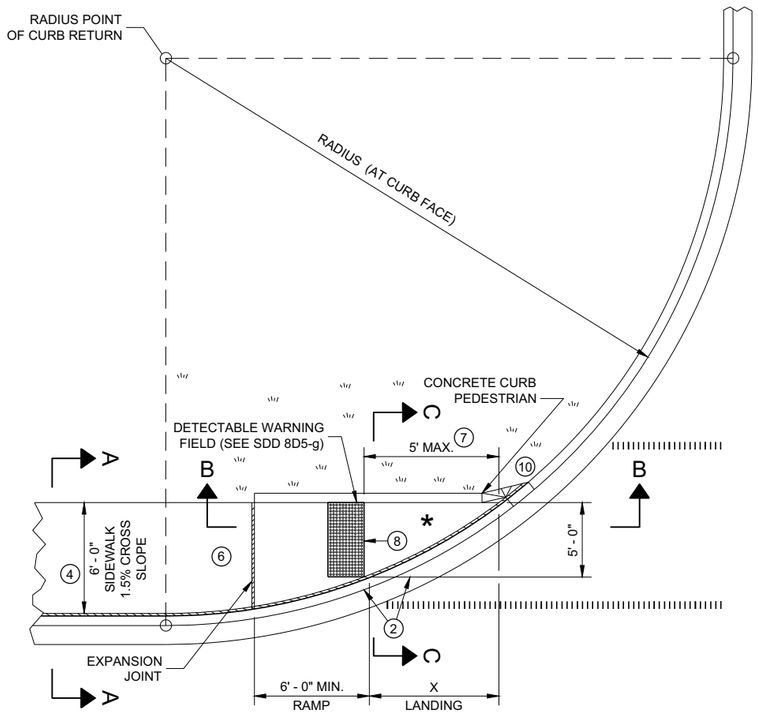
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 08D05 - 20b

6

SDD 08D05 - 20b

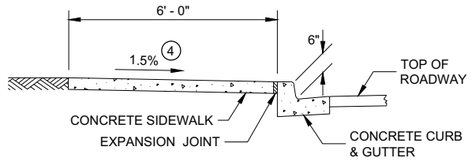


PLAN VIEW

CURB RAMP TYPE 4A

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.

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 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) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

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

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

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

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

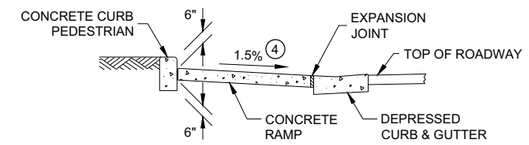
(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

LEGEND

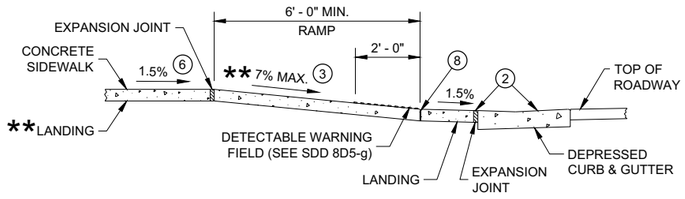
½" EXPANSION JOINT SIDEWALK

CONTRACTION JOINT SIDEWALK

PAVEMENT MARKING CROSSWALK (WHITE)



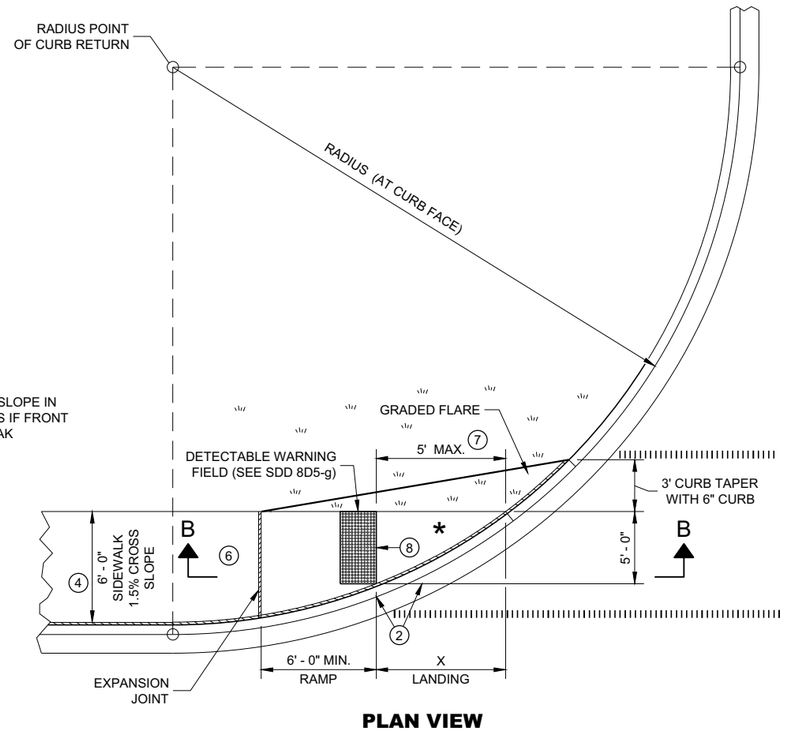
SECTION C - C FOR TYPE 4A



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

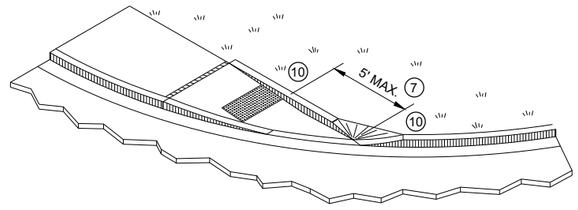
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

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

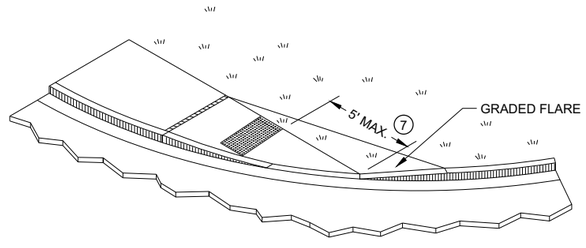


PLAN VIEW

CURB RAMP TYPE 4A1



ISOMETRIC VIEW FOR TYPE 4A



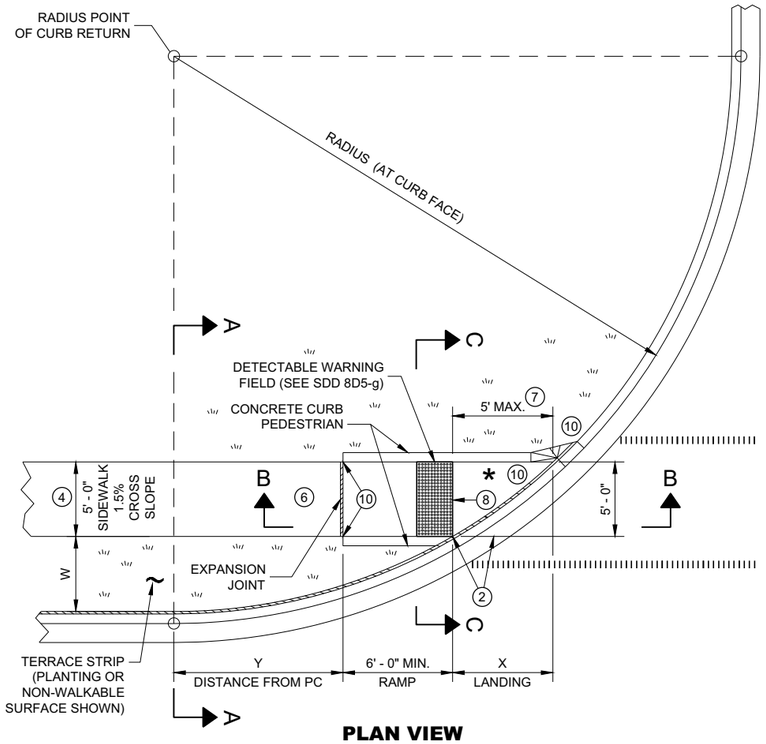
ISOMETRIC VIEW FOR TYPE 4A1

CURB RAMPS
TYPE 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 08D05 - 20c



PLAN VIEW

CURB RAMP TYPE 4B

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2' - 10 ¼"	0' - 5"	2' - 1"	1' - 4 ½"	1' - 5"	2' - 1"	0' - 10"	2' - 7 ½"	0' - 3 ¼"	3' - 0 ¼"						
15 FEET	4' - 6 ¾"	2' - 1 ¾"	3' - 9"	3' - 5 ¾"	3' - 1 ¼"	4' - 6"	2' - 6 ¾"	5' - 4 ½"	2' - 1"	6' - 1"	1' - 8"	6' - 8 ½"	1' - 3 ¼"	7' - 2 ½"	0' - 10 ¾"	7' - 7 ¼"
20 FEET	5' - 9 ¾"	3' - 6 ½"	4' - 11 ½"	5' - 1 ¾"	4' - 3 ¼"	6' - 5 ½"	3' - 8 ¾"	7' - 7"	3' - 3"	8' - 6 ½"	2' - 10"	9' - 4 ½"	2' - 5 ½"	10' - 1 ¼"	2' - 1 ¼"	10' - 9"
30 FEET			6' - 9 ¼"	7' - 11 ¼"	6' - 0 ¼"	9' - 8"	5' - 5"	11' - 1 ¾"	4' - 10 ¾"	12' - 5 ¾"	4' - 5 ½"	13' - 7 ¾"	4' - 0 ¾"	14' - 8 ½"	3' - 8 ½"	15' - 8 ¼"
40 FEET									6' - 1 ¾"	15' - 8 ½"	5' - 8"	17' - 2"	5' - 3"	18' - 5 ¾"	4' - 10 ¾"	19' - 8 ¼"
50 FEET															5' - 10 ¼"	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

LEGEND

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

GENERAL NOTES

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

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 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) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

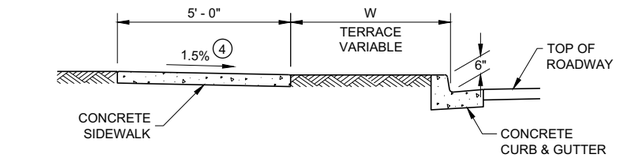
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

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

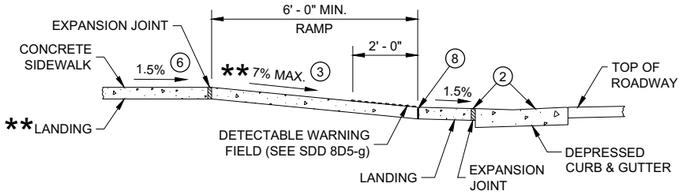
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

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

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



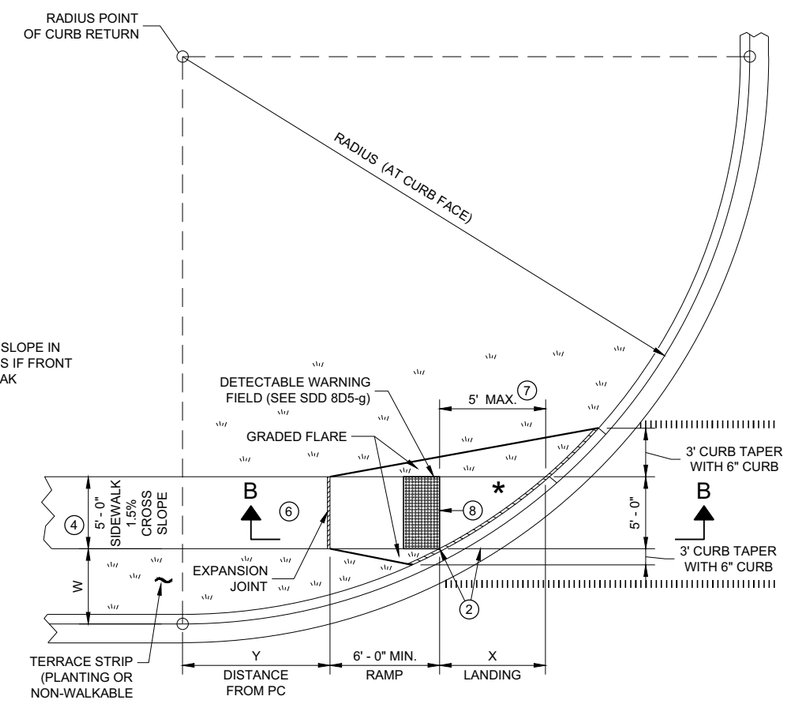
SECTION A - A FOR TYPE 4B



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

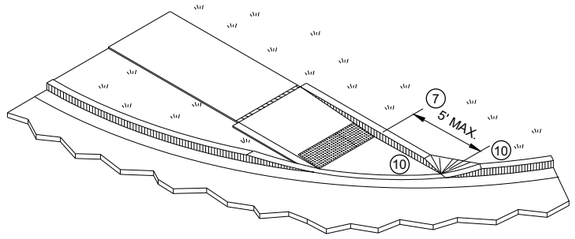
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

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

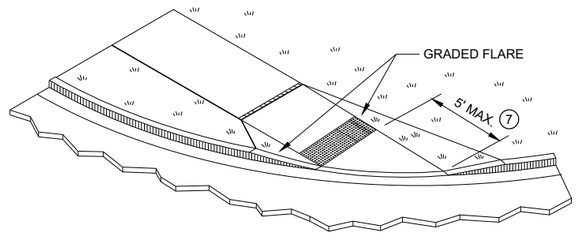


PLAN VIEW

CURB RAMP TYPE 4B1



ISOMETRIC VIEW FOR TYPE 4B



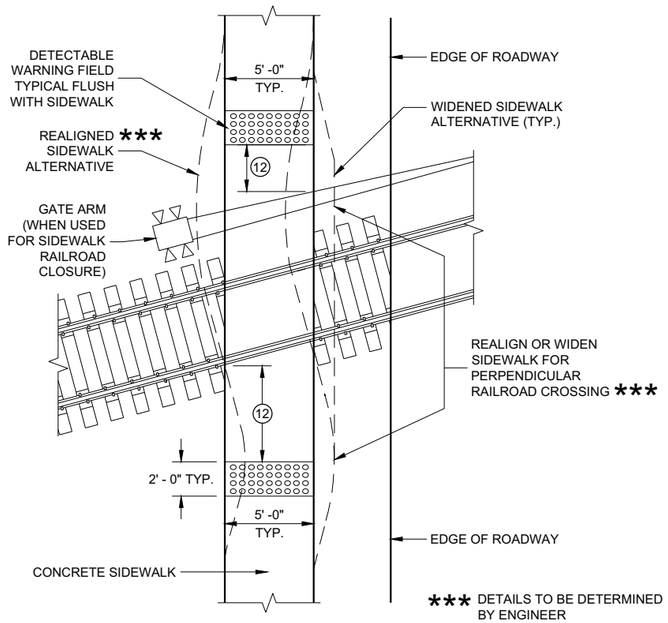
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

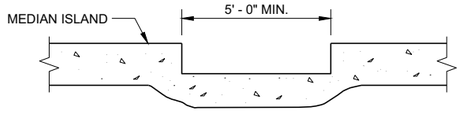
6

SDD 08D05 - 20d

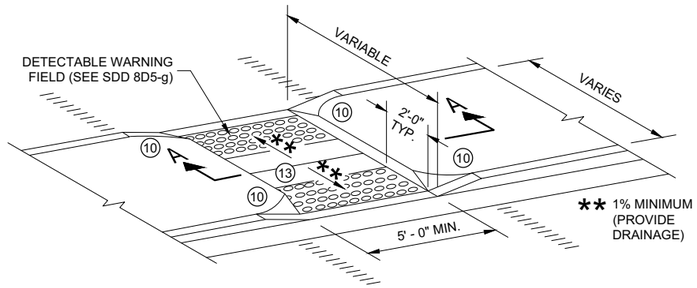


CURB RAMP TYPE 8

DETECTABLE WARNINGS AT RAILROAD CROSSING



SECTION A - A FOR TYPE 5



CURB RAMP TYPE 5

MEDIAN ISLAND NON-ELEVATED PEDESTRIAN CROSSING

GENERAL NOTES

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

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

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ½ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

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

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

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

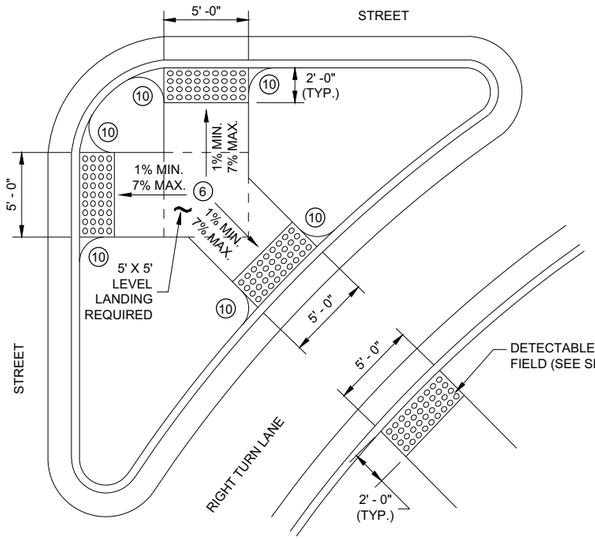
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ±0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. 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 STEET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

LEGEND

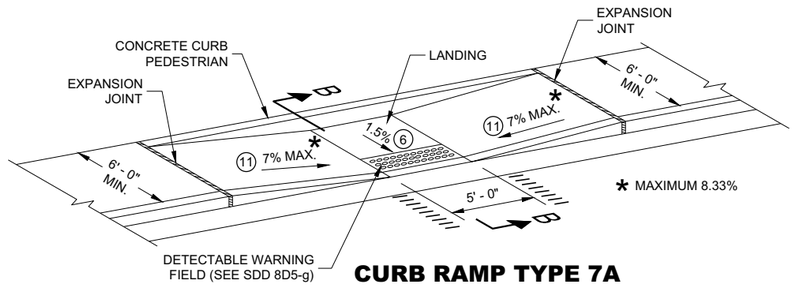
- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)



CURB RAMP TYPE 6

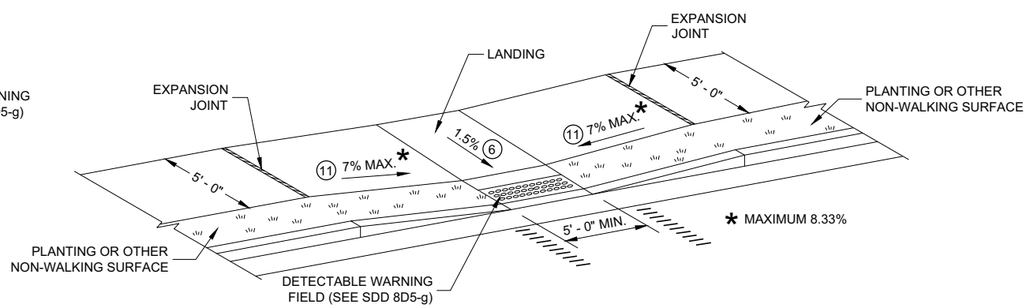
DETECTABLE WARNING AT ISLANDS

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



CURB RAMP TYPE 7A

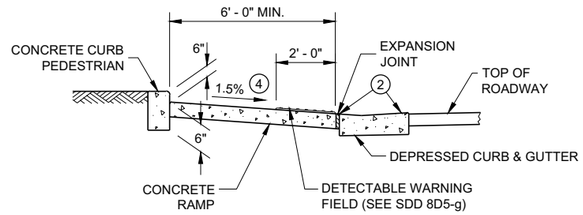
MID BLOCK CROSSING



CURB RAMP TYPE 7B

MID BLOCK CROSSING

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



SECTION B - B FOR TYPE 7A

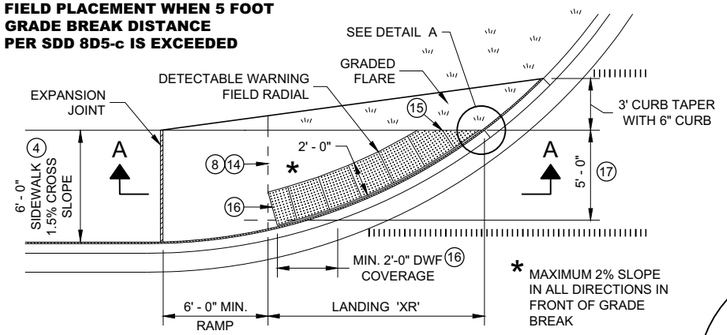
CURB RAMPS TYPE 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D05 - 20e

SDD 08D05 - 20e

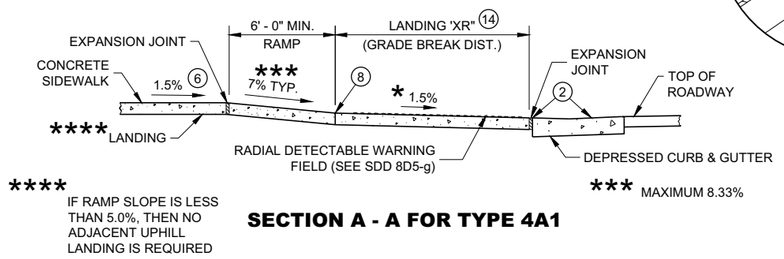
RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-c IS EXCEEDED



PLAN VIEW

CURB RAMP TYPE 4A1

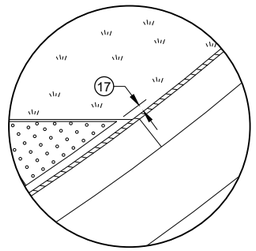
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



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

*** MAXIMUM 8.33%

SECTION A - A FOR TYPE 4A1



DETAIL A

LEGEND

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

GENERAL NOTES

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

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

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

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 FILED ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AD 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) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

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

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

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

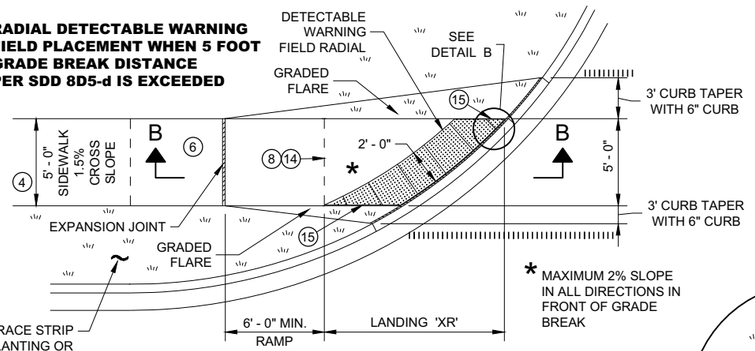
(14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" 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 WITH IS ALLOWABLE IN FROM OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

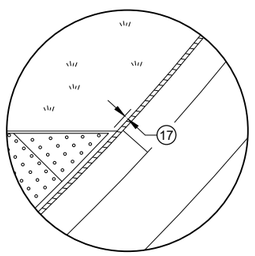
RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-d IS EXCEEDED



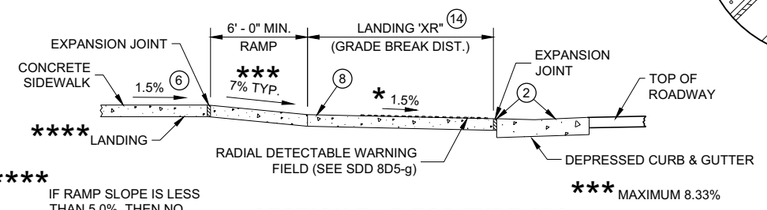
PLAN VIEW

CURB RAMP TYPE 4B1

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



DETAIL B

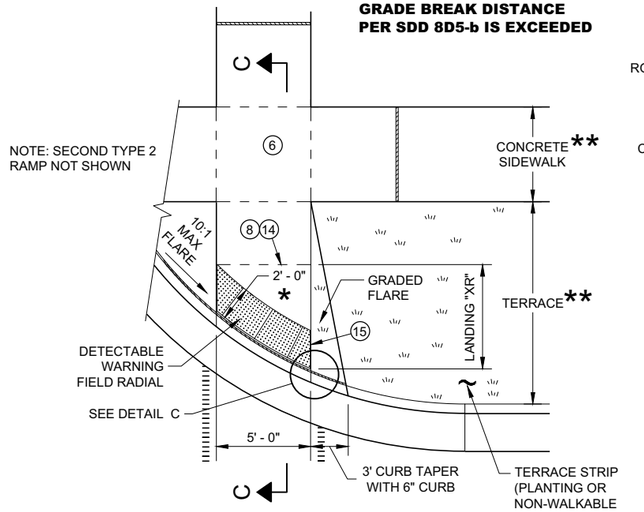


**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** MAXIMUM 8.33%

SECTION B - B FOR TYPE 4B1

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

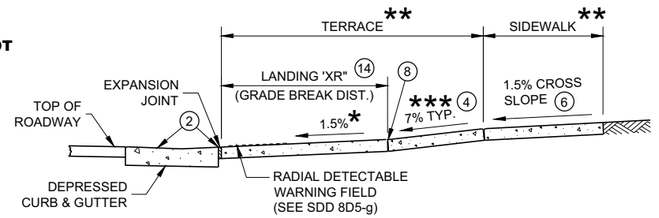


PLAN VIEW

CURB RAMP TYPE 2

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)

(ON LINE WITH SIDEWALK)

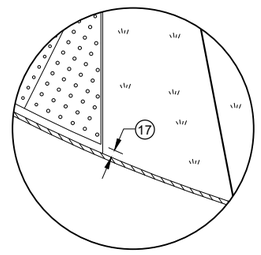


SECTION C - C FOR TYPE 2

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

** WIDTH SHOWN ELSEWHERE IN THE PLANS

*** MAXIMUM 8.33%



DETAIL C

CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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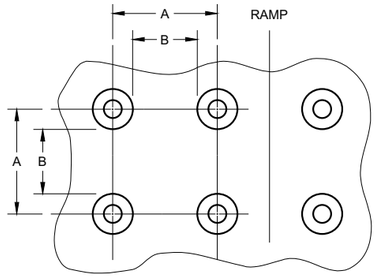
SDD 08D05 - 20f

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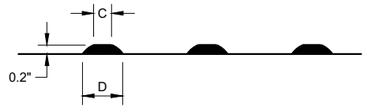
SDD 08D05 - 20f

	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.

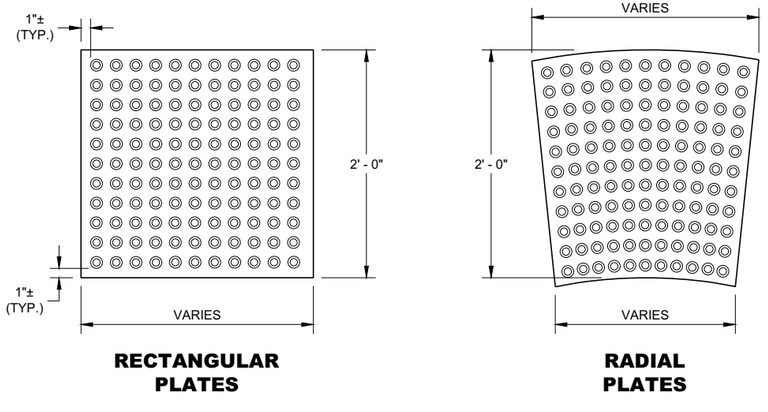


PLAN VIEW



ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL



RECTANGULAR PLATES

RADIAL PLATES

PLAN VIEW
DETECTABLE WARNING FIELDS (TYPICAL)

GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP SHALL BE FROM THE SAME MANUFACTURER.

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

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

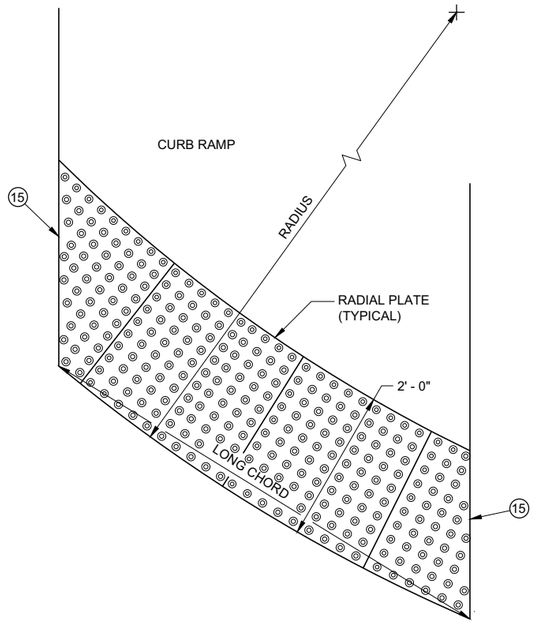
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

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

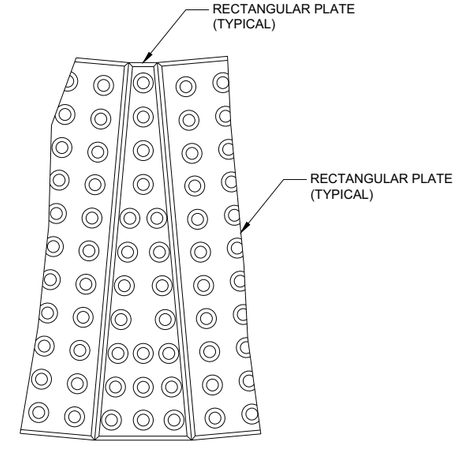
REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

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

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.



PLAN VIEW
RADIAL DETECTABLE WARNING FIELD ATTRIBUTES



PLAN VIEW
RADIAL WEDGE PLATE CONNECTION DETAIL

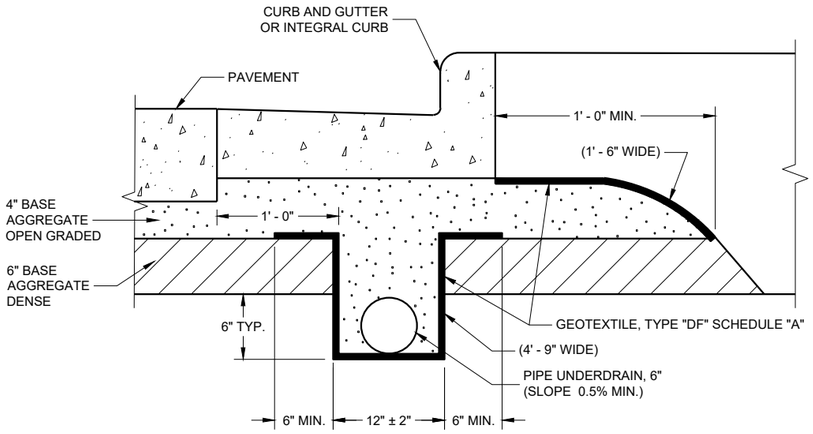
CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

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SDD 08D05 - 20g



EDGEDRAIN IN URBAN ROADWAY

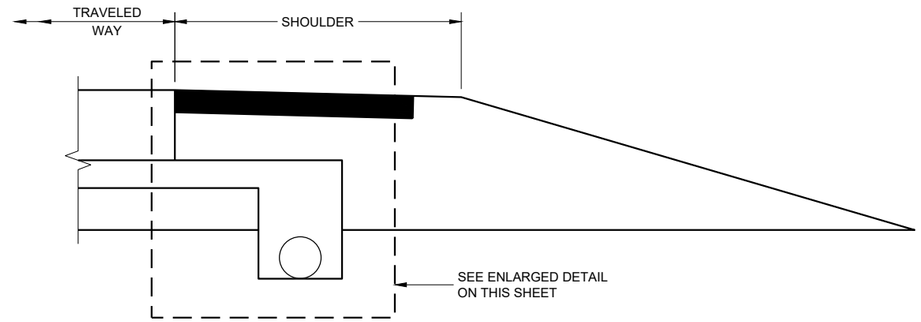
GENERAL NOTES

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

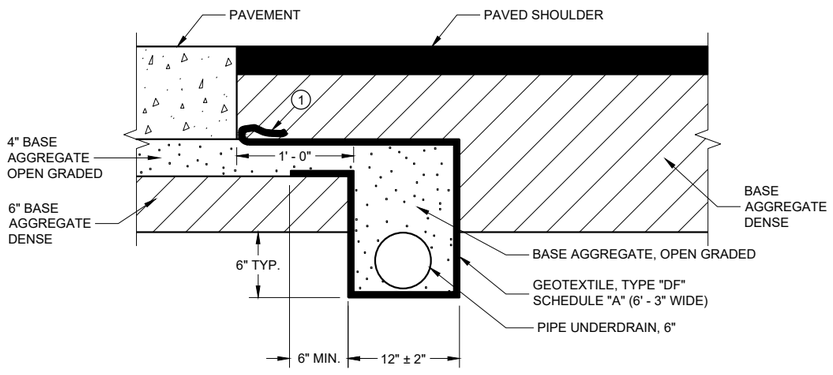
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.

(1) FOLD OVER EXCESS GEOTEXTILE AT THIS LOCATION.

(2) TOTAL GEOTEXTILE WIDTH IS 6'-3" FOR PAYMENT.

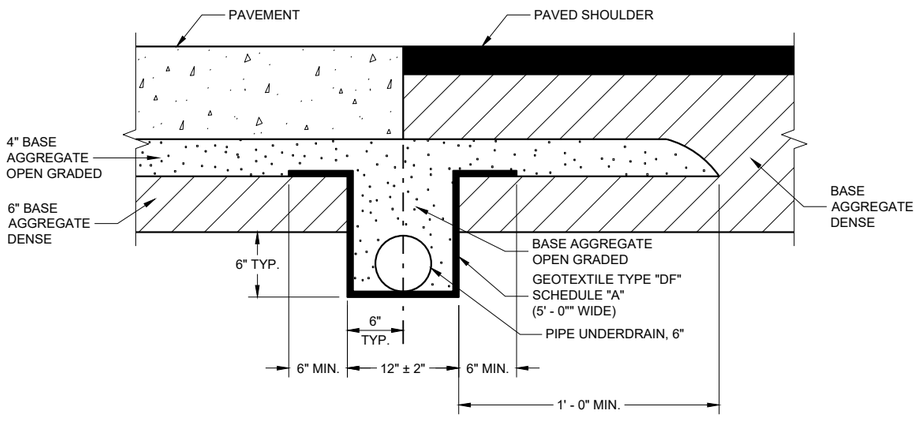


RURAL CROSS SECTION



POST PAVING INSTALLATION

(QUANTITIES ARE BASED ON THIS DETAIL)



PRE-PAVING INSTALLATION ALTERNATIVE

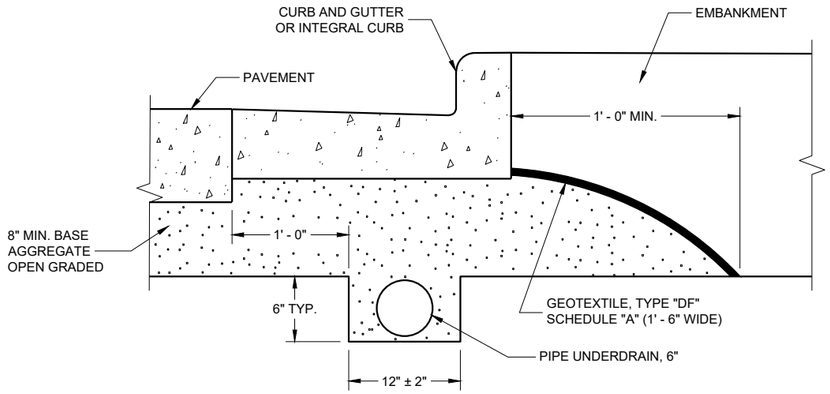
EDGEDRAIN IN RURAL ROADWAY

EGEDRAIN AND BASE AGGREGATE OPEN GRADED

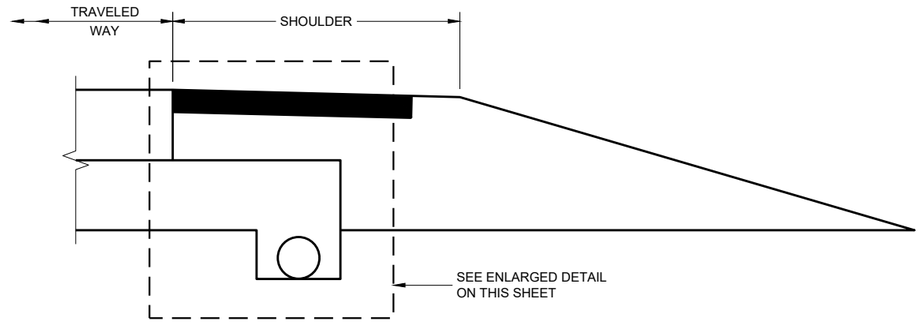
GENERAL NOTES

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.



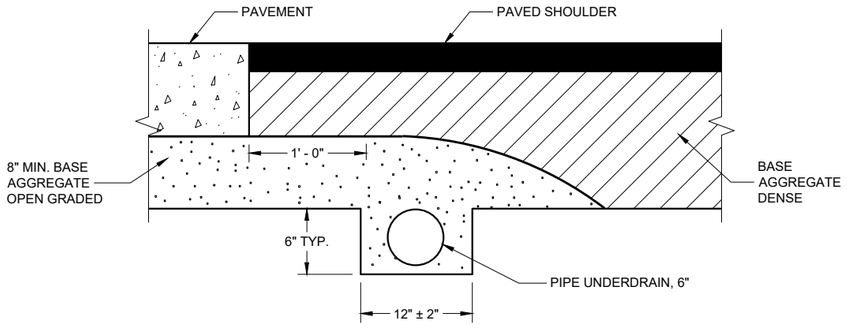
EDGEDRAIN IN URBAN ROADWAY



RURAL CROSS SECTION

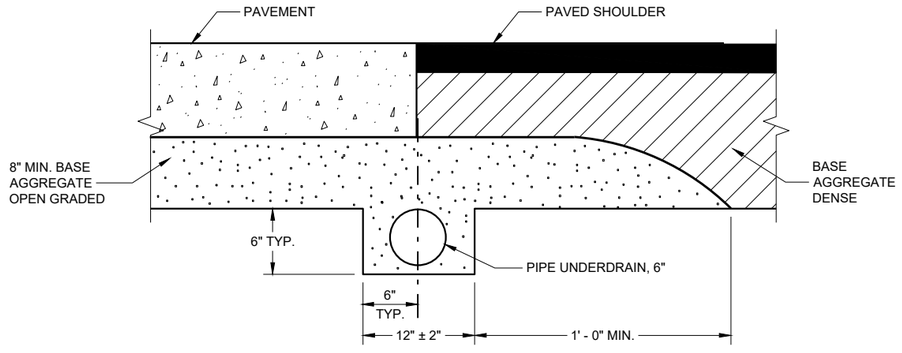
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POST PAVING INSTALLATION

(QUANTITIES ARE BASED ON THIS DETAIL)



PRE-PAVING INSTALLATION ALTERNATIVE

EDGEDRAIN IN RURAL ROADWAY

EDGEDRAIN AND BASE AGGREGATE OPEN GRADED

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

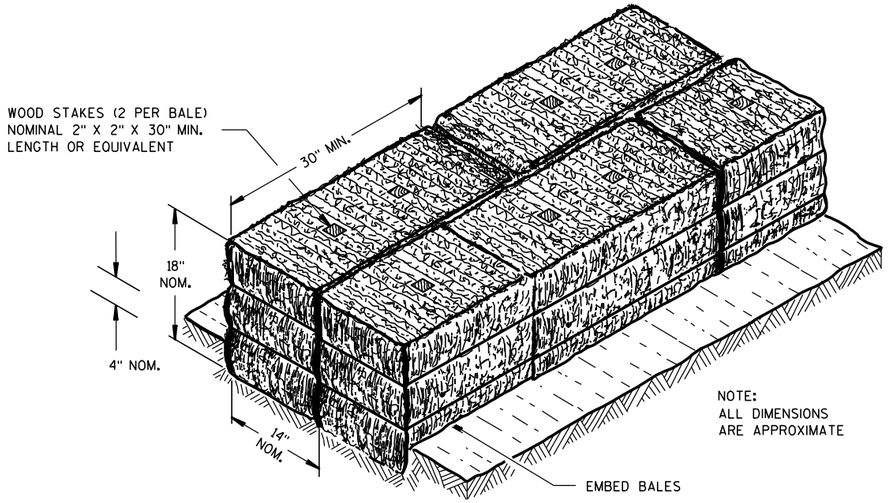
APPROVED
September 2015
DATE

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

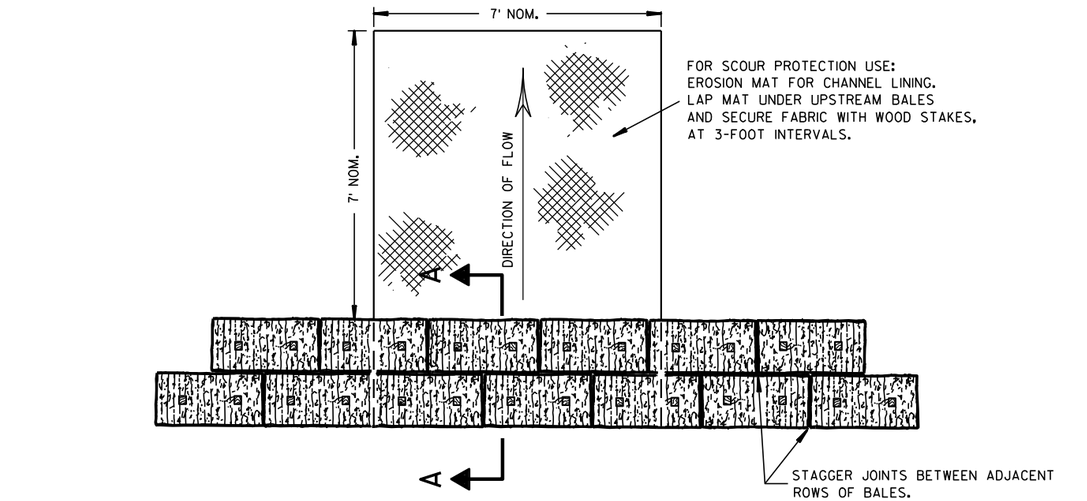
FHWA

SDD 08D15 - 05c

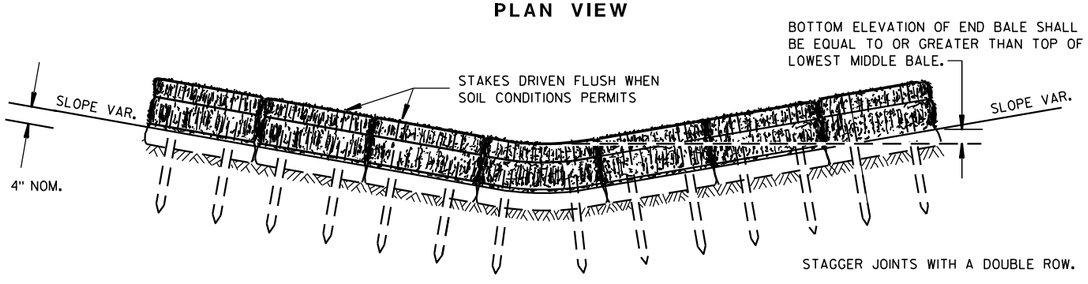
SDD 08D15 - 05c



SECTION A-A



PLAN VIEW



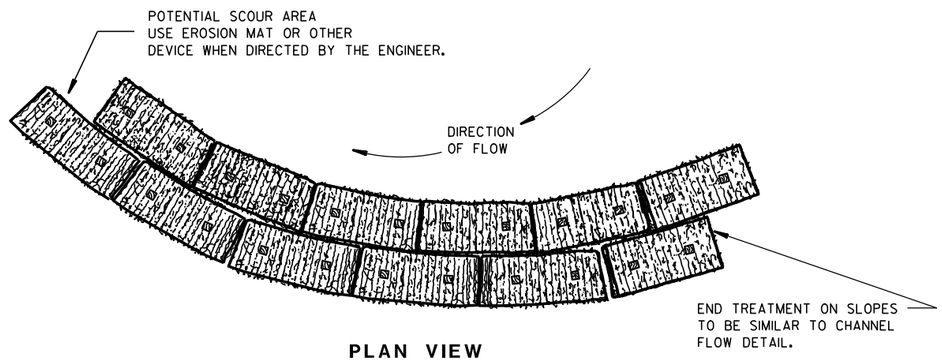
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

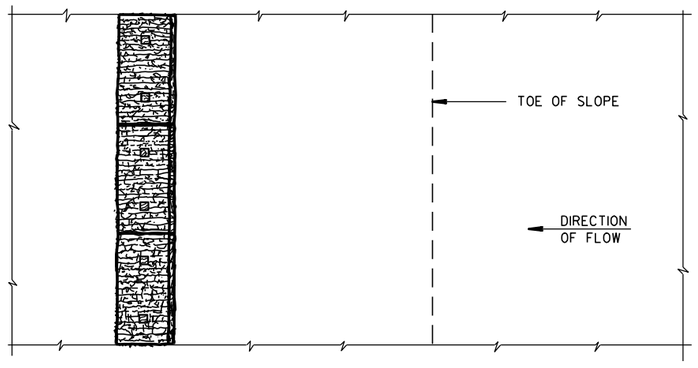
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

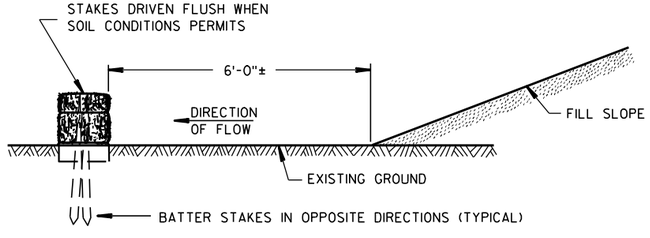


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

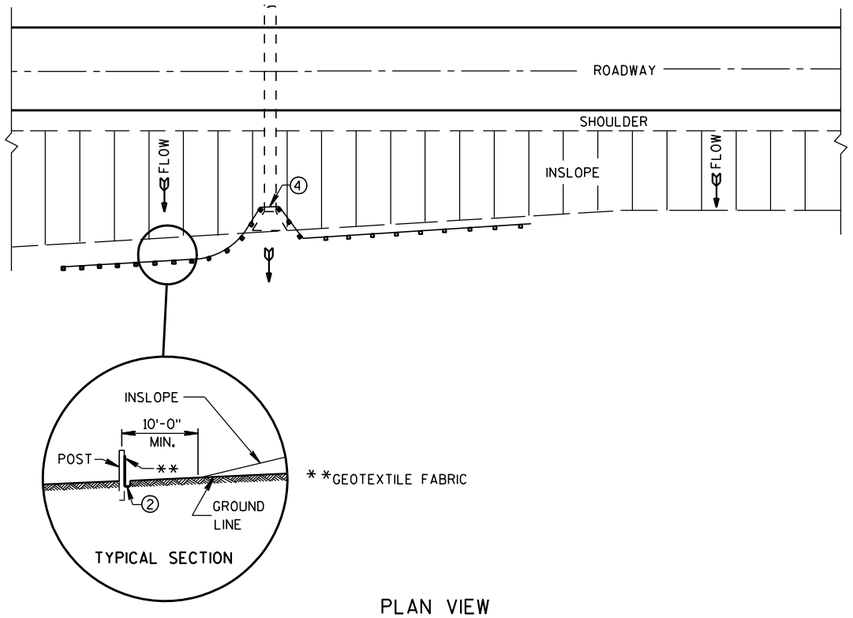
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

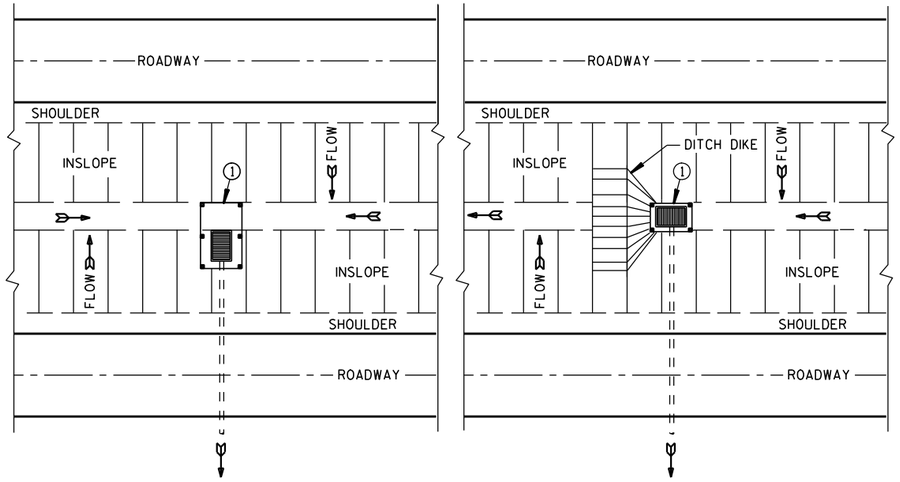
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S.D.D. 8 E 8-3



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.

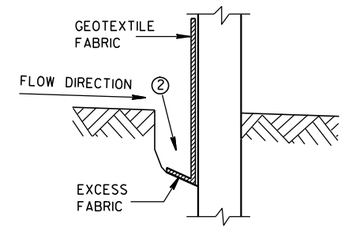
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

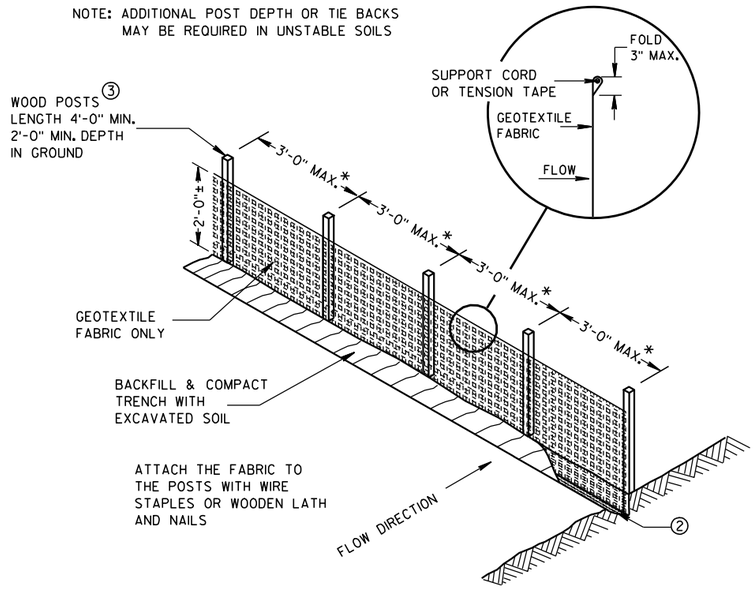
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

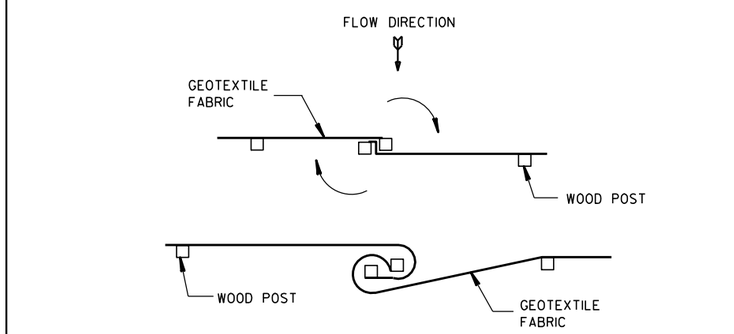
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



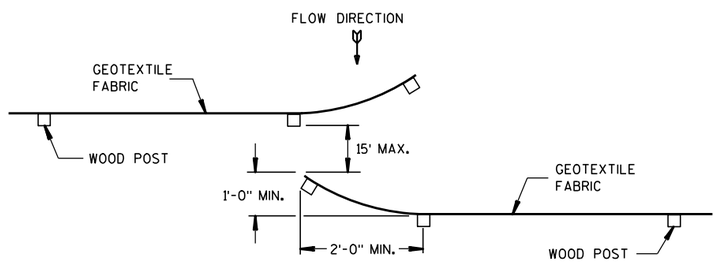
TRENCH DETAIL



SILT FENCE

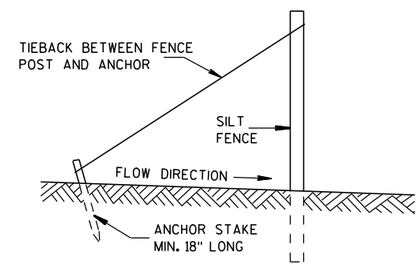


TWIST METHOD



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

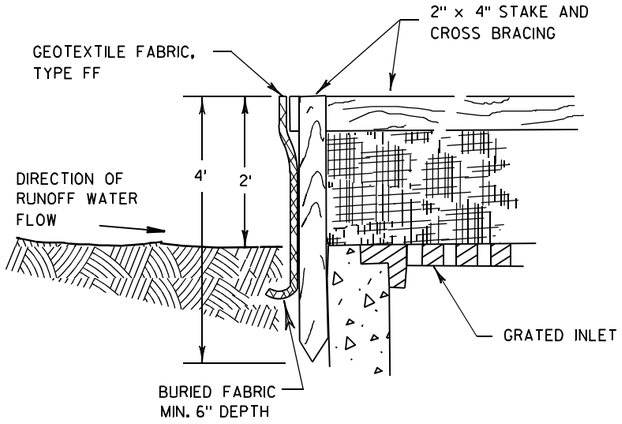
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

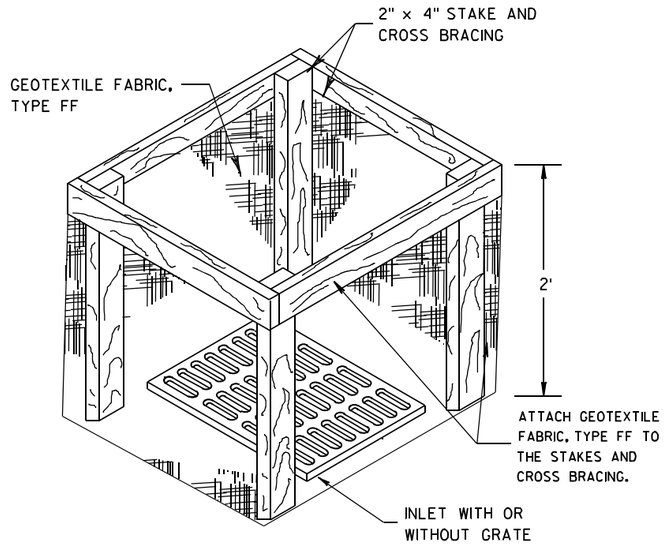
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S.D.D. 8 E 9-6

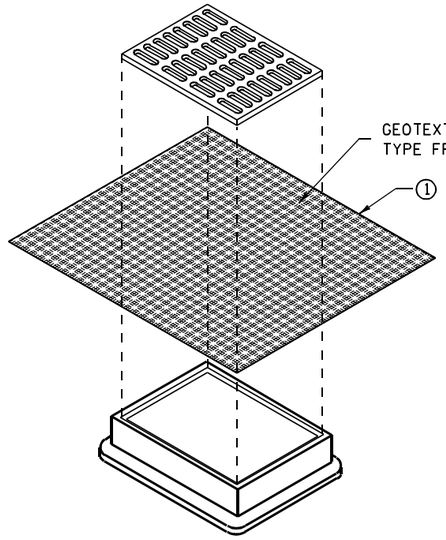
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S.D.D. 8 E 9-6



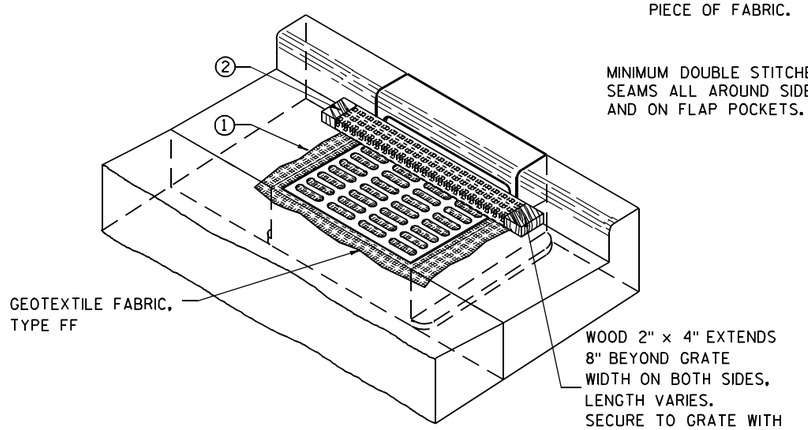


INLET PROTECTION, TYPE A

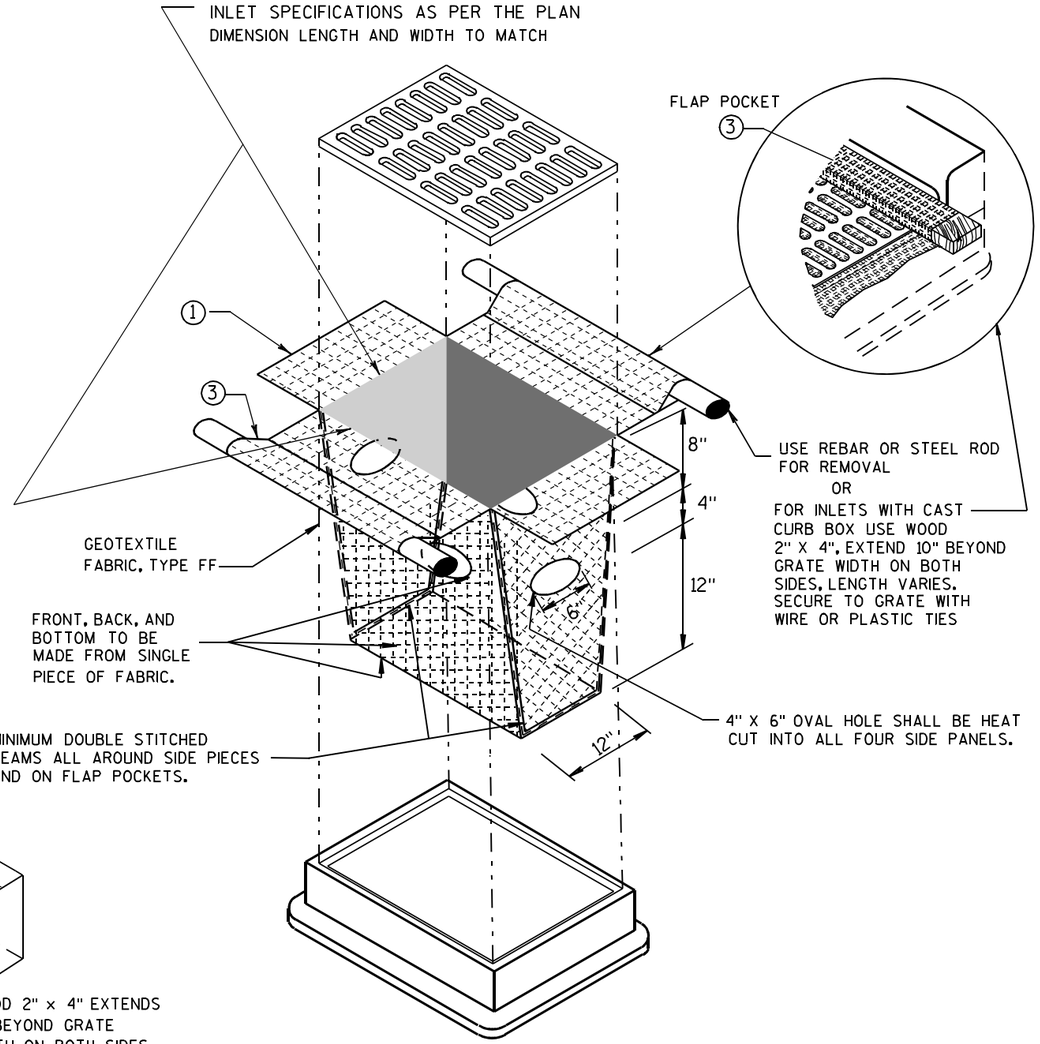


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

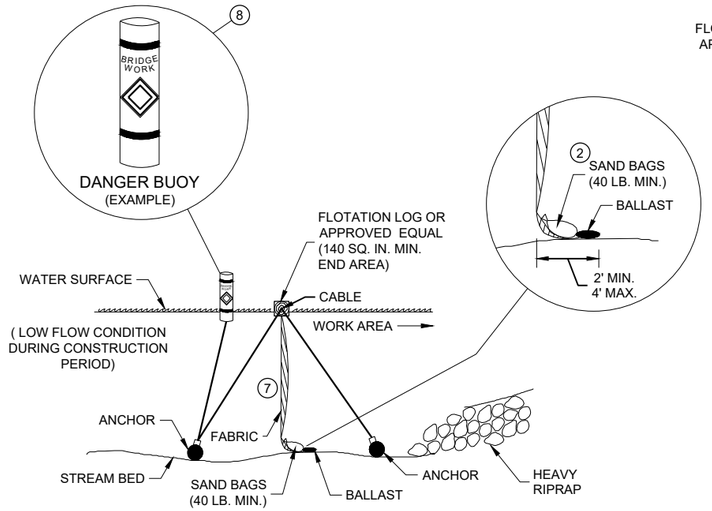
APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

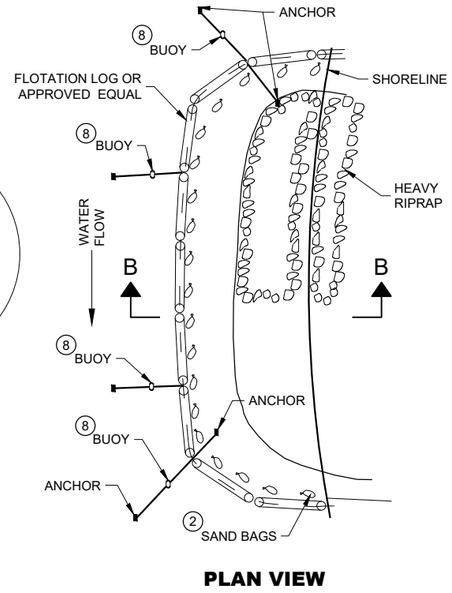
S.D.D. 8 E 10-2

6

S.D.D. 8 E 10-2

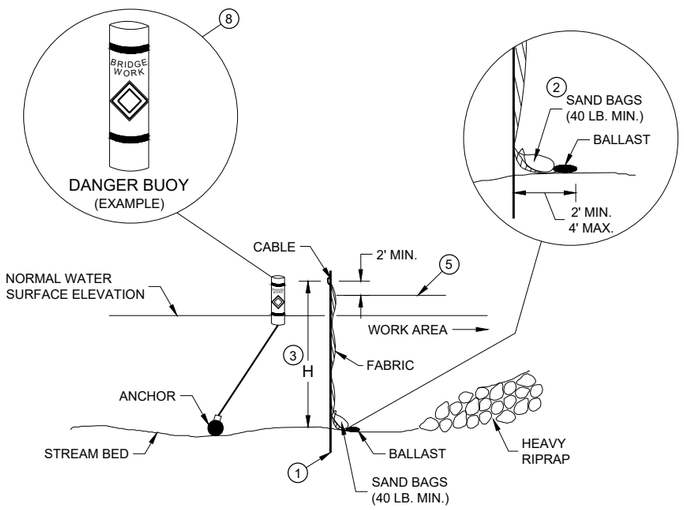


SECTION B - B

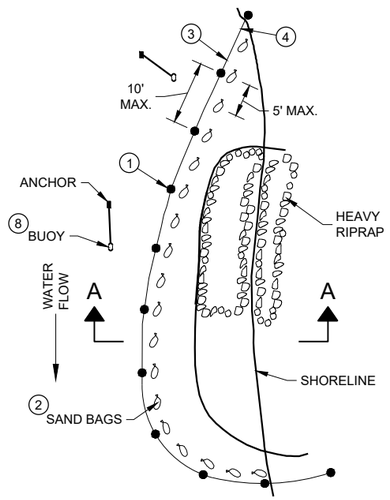


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

(1) DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

(2) SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

(3) WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.

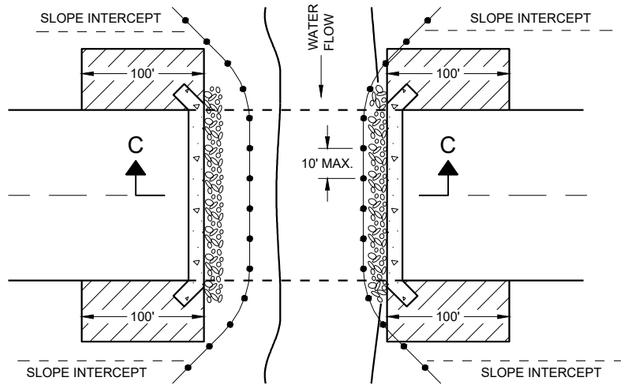
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(5) ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.

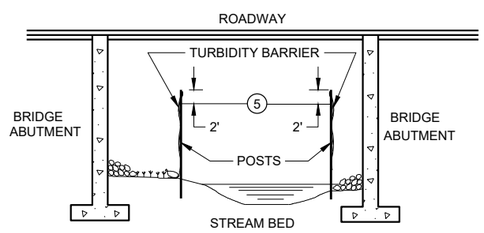
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(7) ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

(8) USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

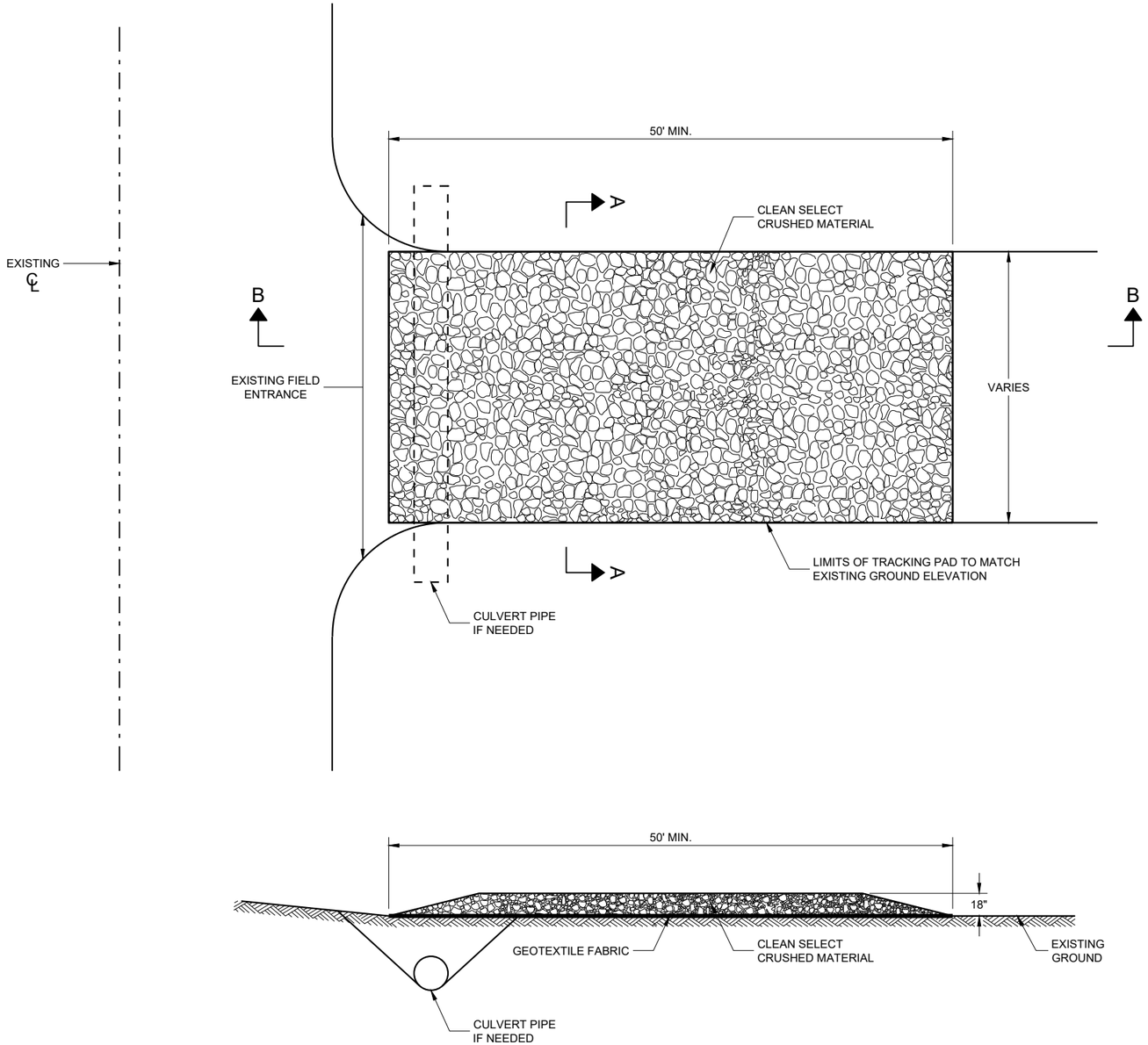
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6
SDD 08E11 - 02



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.

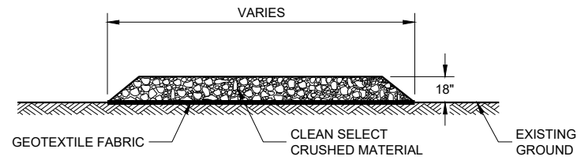
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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SDD 08E14 - 01

TRACKING PAD

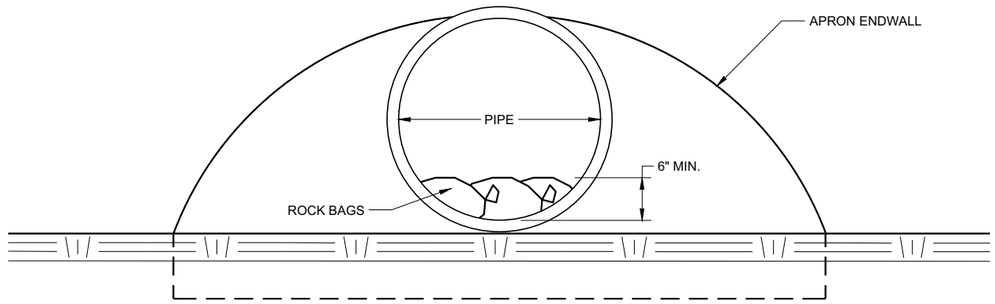
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

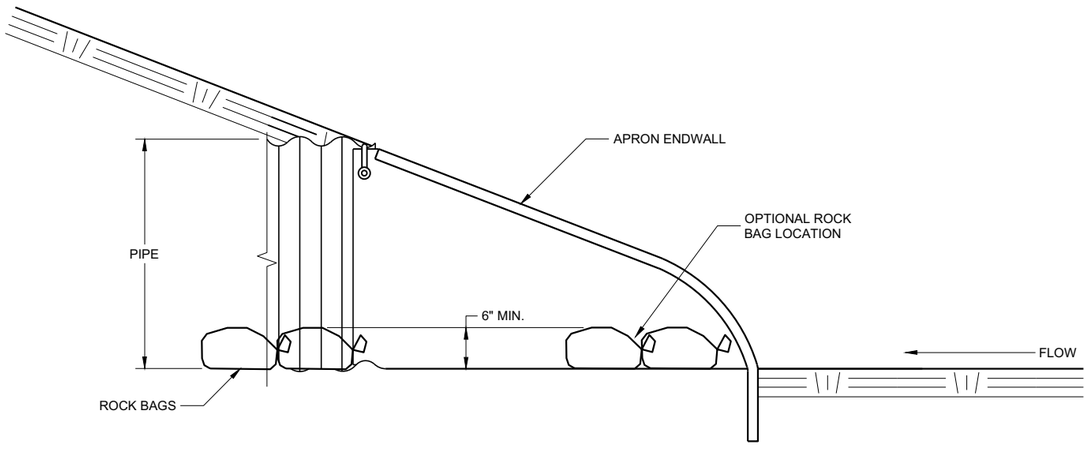
FHWA

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SDD 08E14 - 01



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI
FHWA	

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SDD 08E15 - 01

METAL APRON ENDWALLS

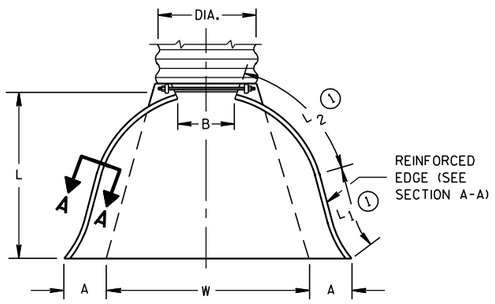
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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

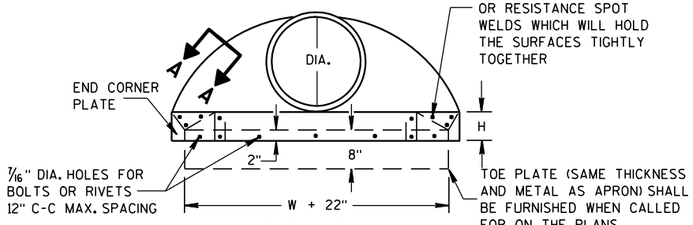
REINFORCED CONCRETE APRON ENDWALLS

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

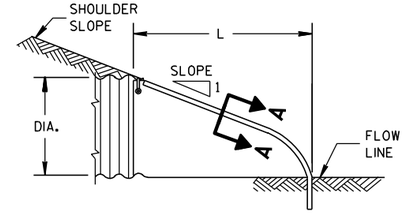
*MINIMUM
**MAXIMUM



PLAN VIEW

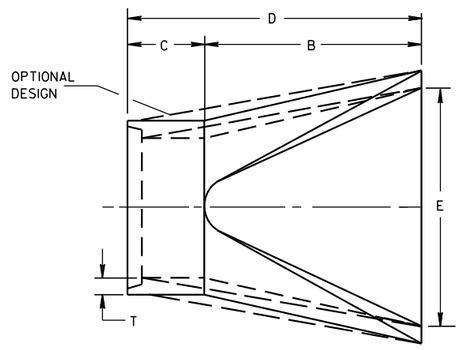


END VIEW

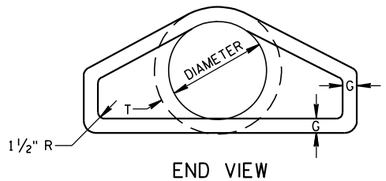


SIDE ELEVATION

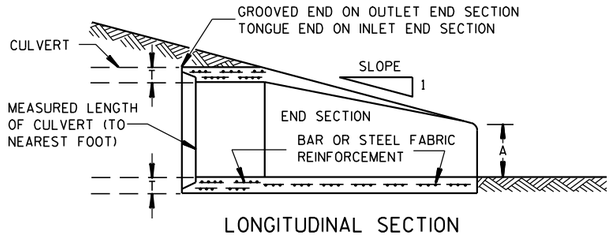
METAL ENDWALLS



PLAN

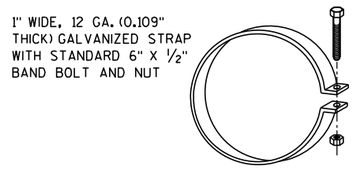


END VIEW



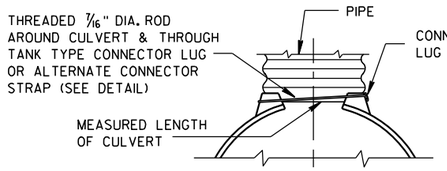
LONGITUDINAL SECTION

CONCRETE ENDWALLS

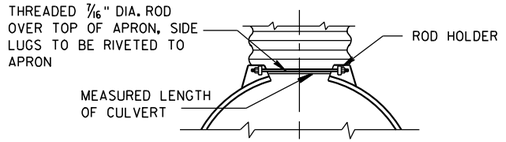


ALTERNATE FOR TYPE 1 CONNECTION

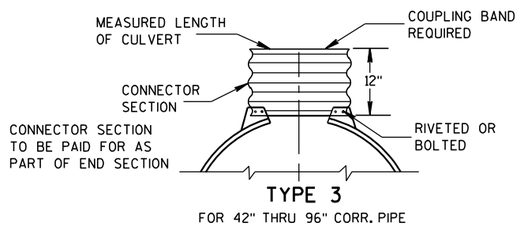
END SECTION CONNECTOR STRAP



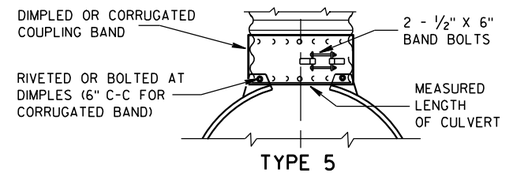
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

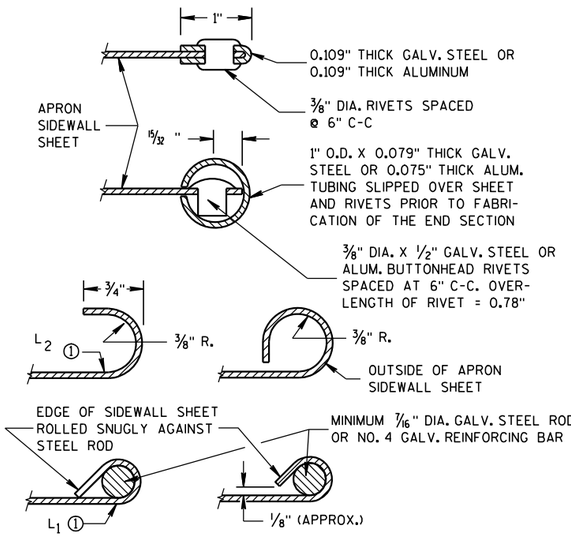
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

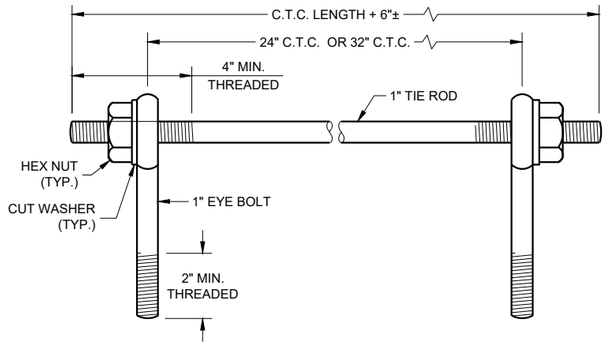
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

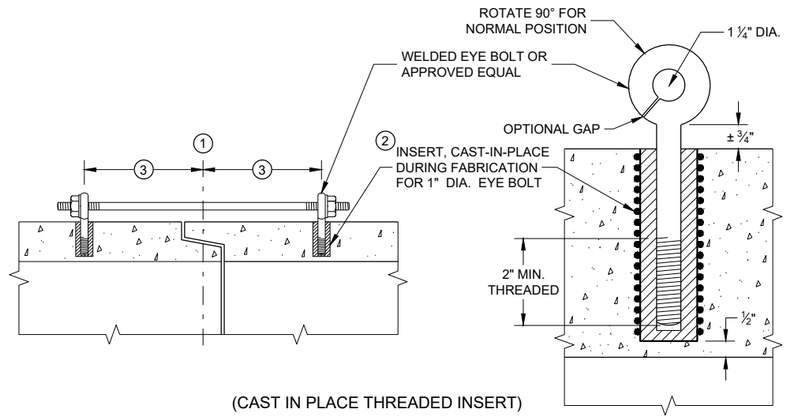
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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

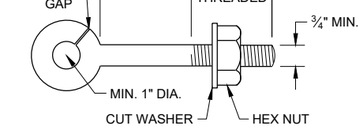
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

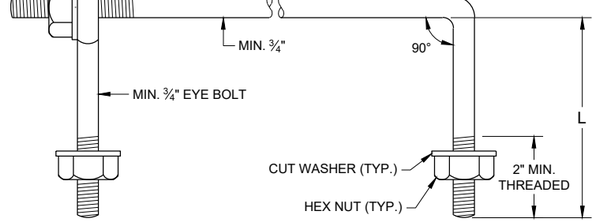
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

1. CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
2. THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
3. HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
4. BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
5. OPENING TO BE ROD DIAMETER PLUS 1 INCH.
6. LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.
7. EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

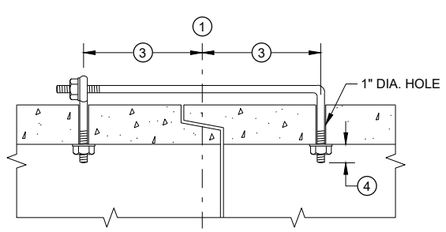


EYE BOLT 7

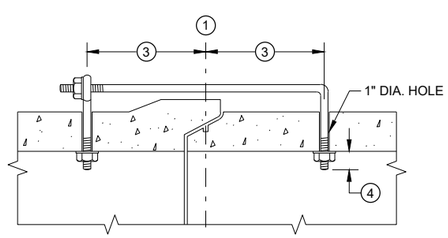
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

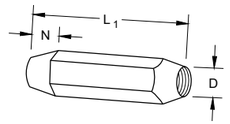
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

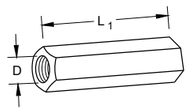
ADJUSTABLE TIE ROD TABLE

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

DIMENSIONS SHOWN ARE IN INCHES



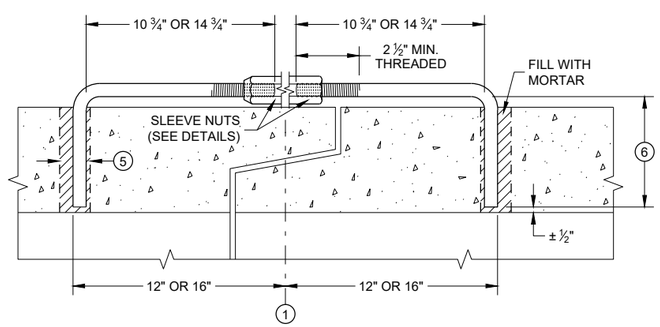
TAPERED



PLAIN

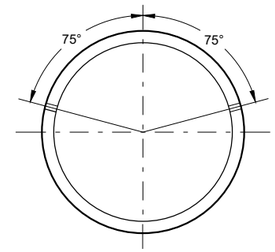
RIGHT AND LEFT THREADS

SLEEVE NUTS



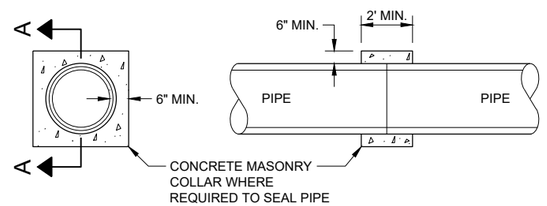
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

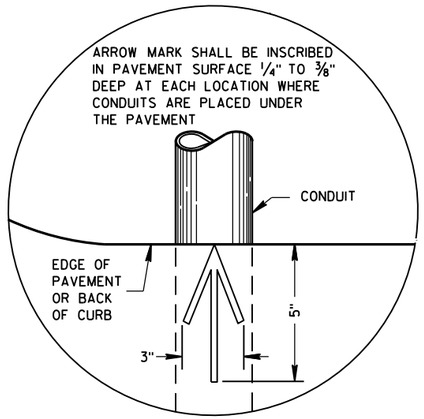
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

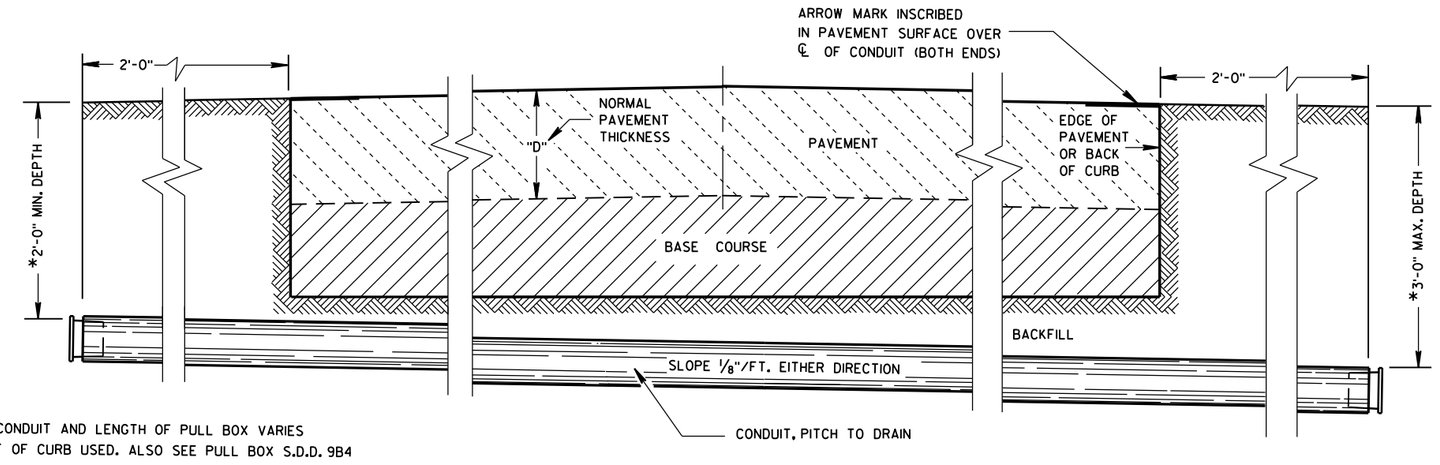
SDD 08F04 - 08

SDD 08F04 - 08



PLAN VIEW

ARROW MARK



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

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

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

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

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

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

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

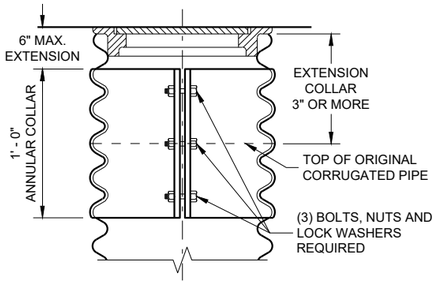
CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

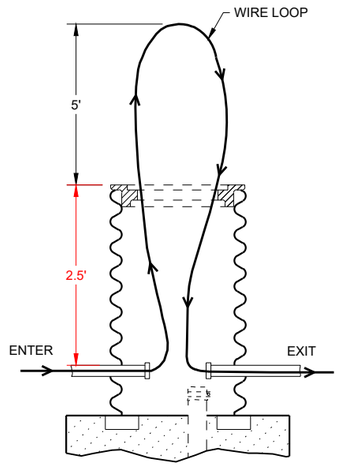
APPROVED
March, 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

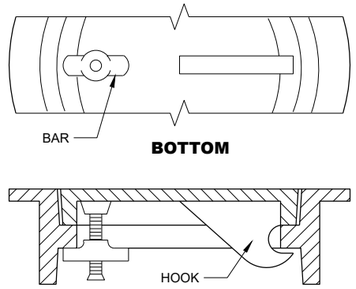
S.D.D. 9 B 2-10



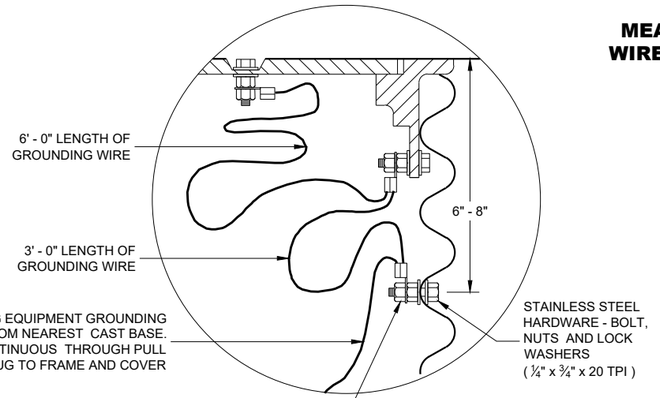
CORRUGATED PIPE EXTENDER



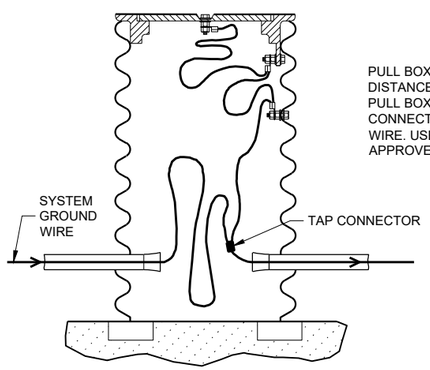
MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



ALTERNATE COVER (LOCKING)
TIGHTENING BAR TYPE

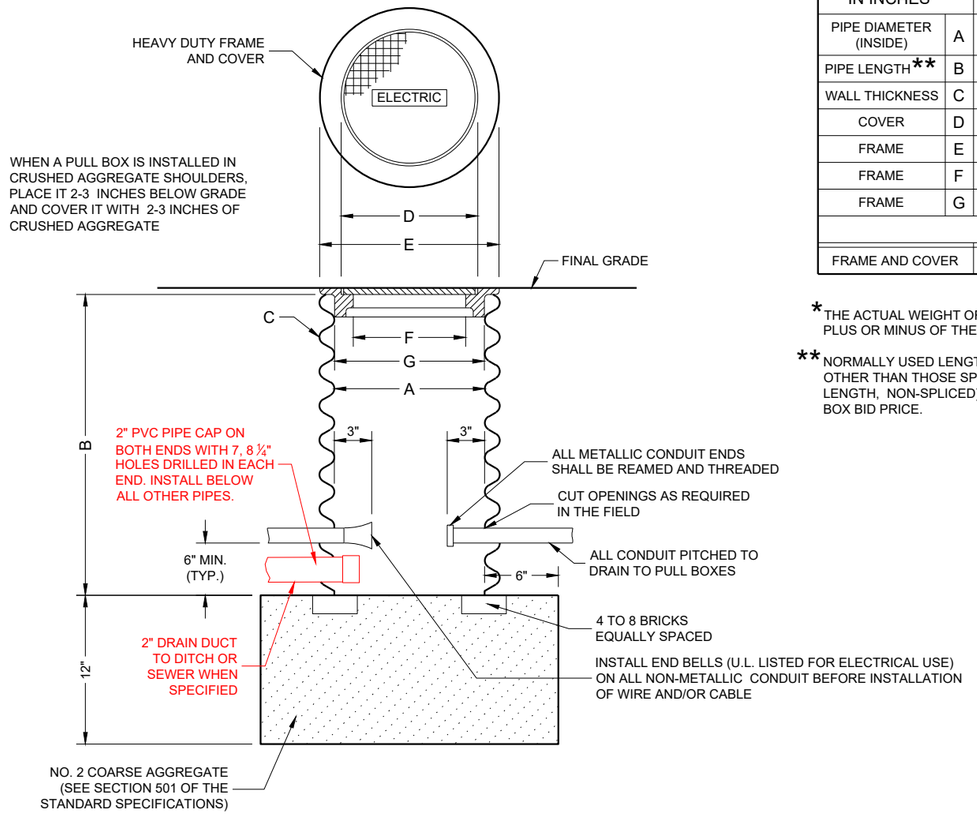


EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



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

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX

GENERAL NOTES

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

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

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

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

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

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

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

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

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

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

PULL BOX

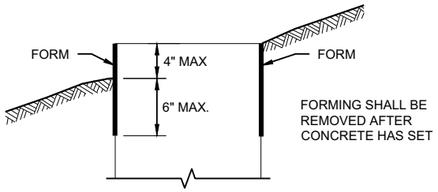
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI 152

FHWA

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



FORMING DETAIL

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

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

CONDUIT SIZES AND LOCATIONS SHALL BE SHOWN ON THE PLANS

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

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

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

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

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

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

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

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

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

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

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

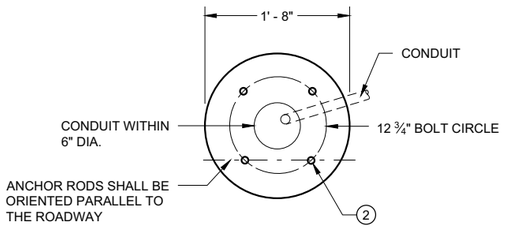
WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

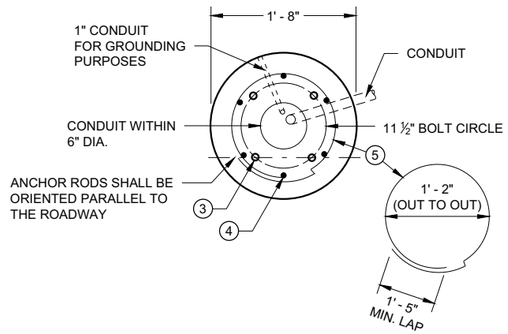
WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4 INCH"L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND SHALL NOT BE THREADED.

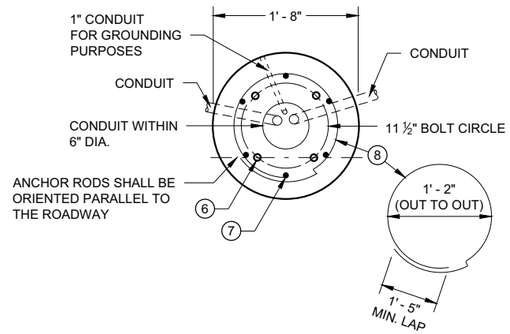
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

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

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







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

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

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

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

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

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

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

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

9 EXOTHERMIC CONNECTION TO EUIPMENT GROUNDING CONDUCTOR

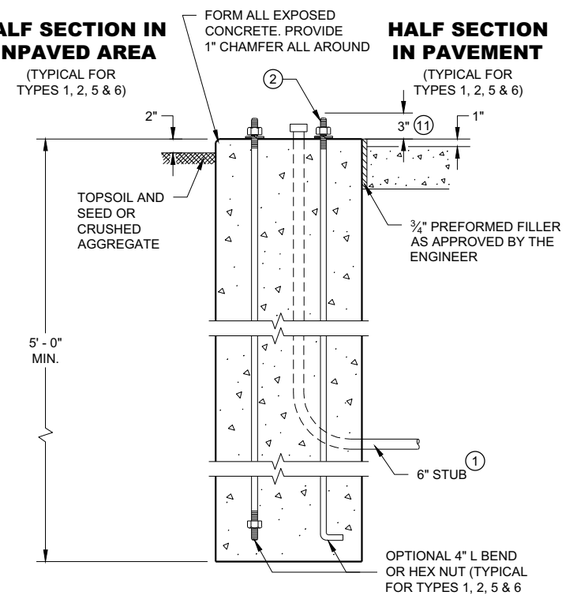
10 ⅝" DIA. X 8' -0" COPPERCLAD EQUIPMENT GROUNDING ELECTRODE REQUIRED

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

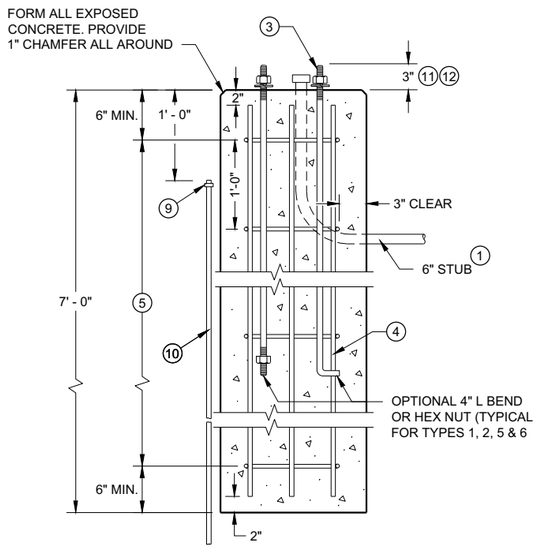
12 FOR NON - BREAKAWAY INSTALLATIONS, 4 ½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

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

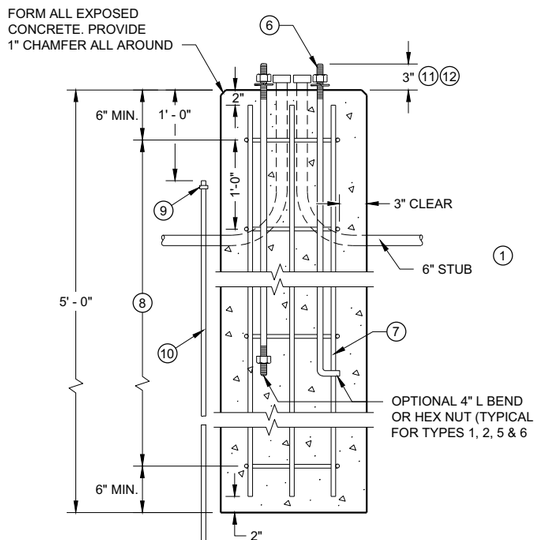
HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5 & 6)



TYPE 1



TYPE 2



TYPE 5 & 6

CONCRETE BASES

CONCRETE BASES
TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6
SDD 09C02 - 09

GENERAL NOTES

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

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

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

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

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

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

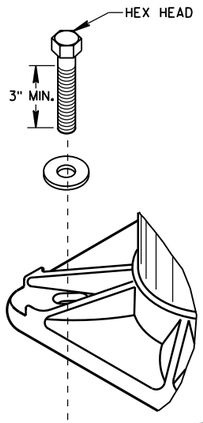
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

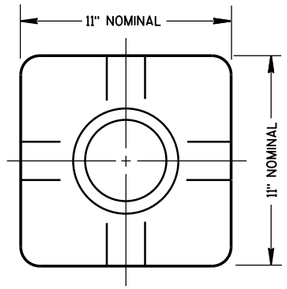
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

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

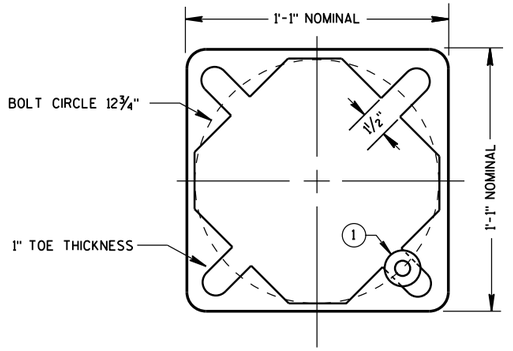
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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

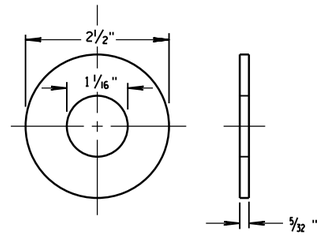




TOP VIEW
(PEDESTAL BASE)

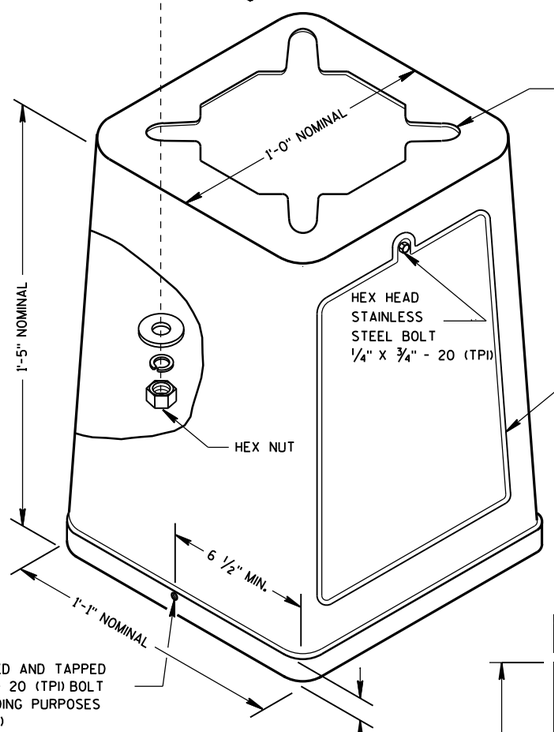


BOTTOM VIEW
(PEDESTAL BASE)

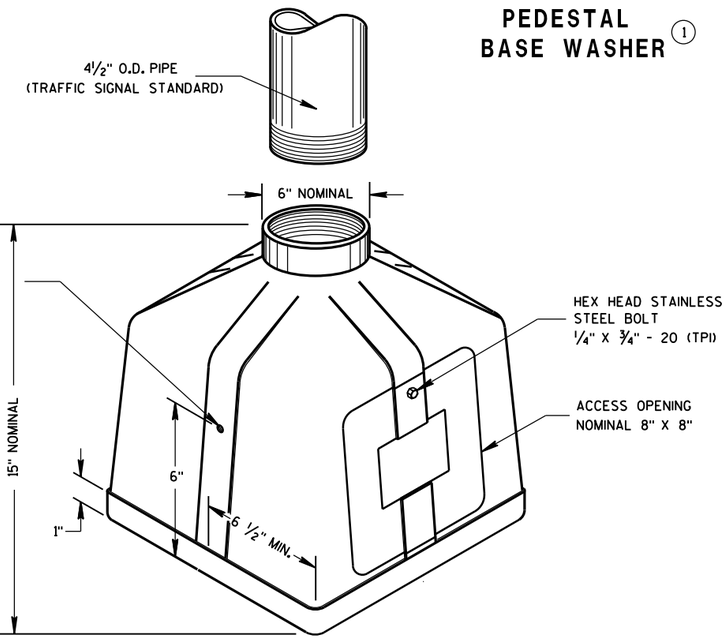


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

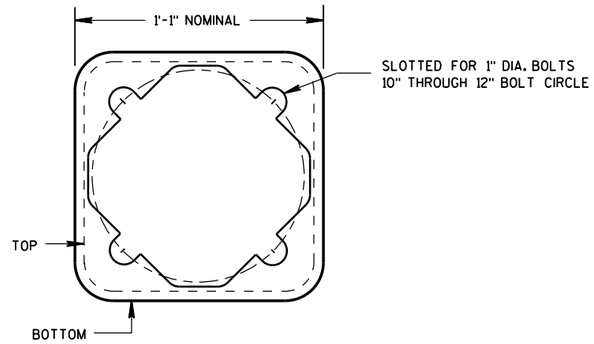


ISOMETRIC VIEW

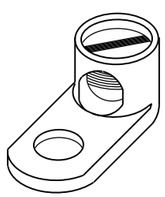


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

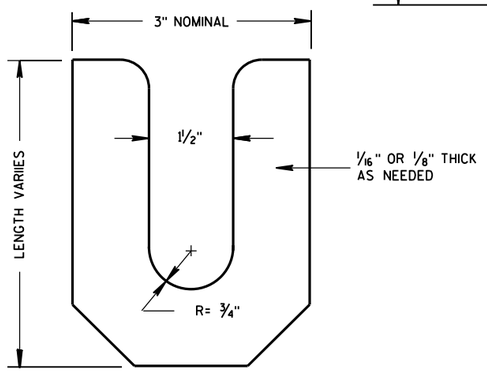


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

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



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

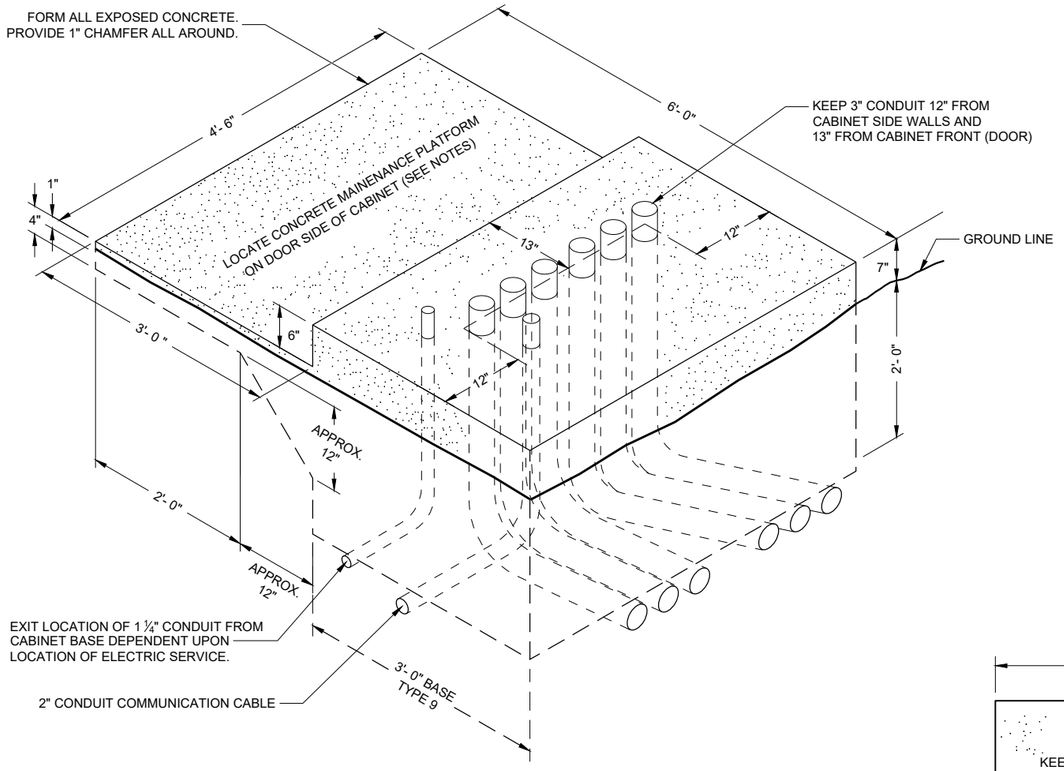
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S.D.D. 9 C 3-4

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S.D.D. 9 C 3-4

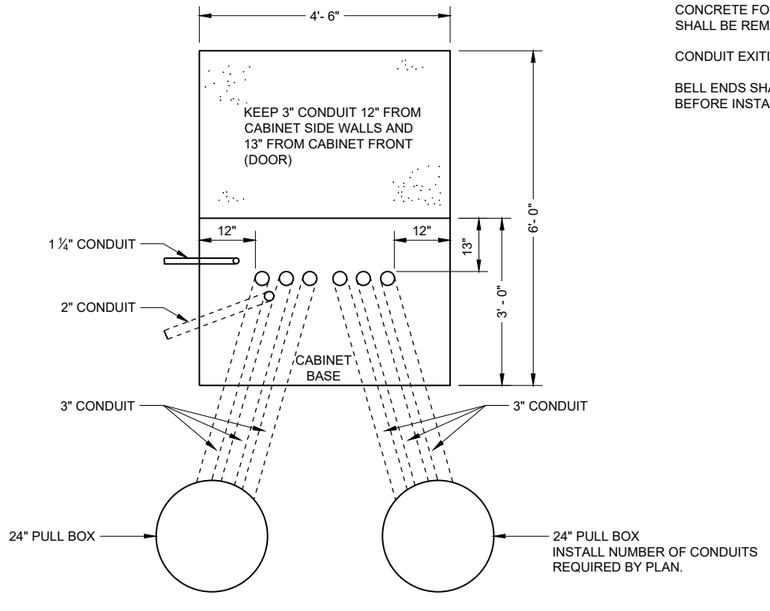
SDD 09C06 Concrete Control Cabinet Base, Type 9, Special



ISOMETRIC VIEW

TYPE 9 SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9 SPECIAL

GENERAL NOTES

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

INSTALL FOUR INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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

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

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

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT EQUALS 6 TIMES THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NON - METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

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

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6 INCHES MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

CONDUIT EXITING THE CONCRETE BASE (SIX 3") SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

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

CONCRETE CONTROL CABINET BASE TYPE 9, SPECIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
September 2014
DATE

/S/ Ahmet Demerbilek
STATE ELECTRICAL ENGI

FHWA

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SDD 09C06 - 07

GENERAL NOTES

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

THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

BASES (SHAFT) SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING. A STEEL CASING OR CORRUGATED METAL PIPE IS ALLOWED TO REMAIN. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BASE IN LAYERS OF ONE FOOT OR LESS.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

ANY DAMAGE TO THE CONCRETE BASE AND ANCHOR RODS DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE ENGINEER'S DIRECTION, AT THE EXPENSE OF THE CONTRACTOR.

THE REINFORCEMENT AND ANCHOR RODS SHALL BE ADEQUATELY SUPPORTED IN THE PROPER POSITIONS SO NO MOVEMENT OCCURS DURING CONCRETE PLACEMENT.

ORIENT ANCHOR RODS IN FOUNDATION AND PROVIDE ANCHOR RODS STICK OUT ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.

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

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

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

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

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

FORM ALL EXPOSED CONCRETE CORNERS WITH 1" CHAMFER ALL AROUND. TOP OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE SHOWN ON THE PLANS.

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

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 4 ½" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NON-METALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

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

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

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

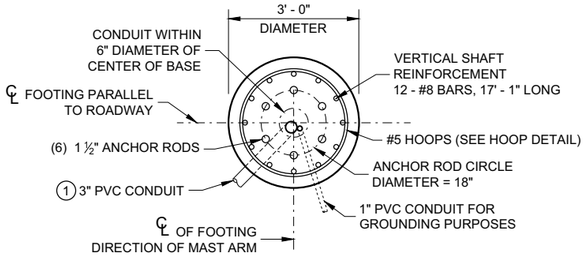
A NO. 4 AWG STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

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

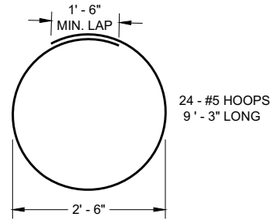
THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN A THE ENTRANCE OF THE BASE.

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

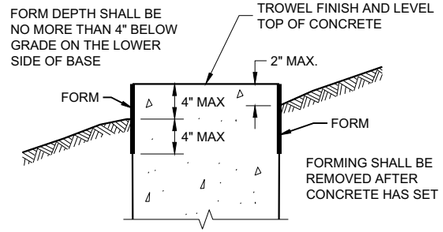
CONCRETE MASONRY.....fc = 3,500 p.s.i
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60.....fy = 60,000 p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 531.2.2 OF THE STANDARD SPECIFICATION).....fy = 55,000 p.s.i.
TEMPLATES, ASTM A709, GRADE 36.....fy = 36,000 p.s.i.



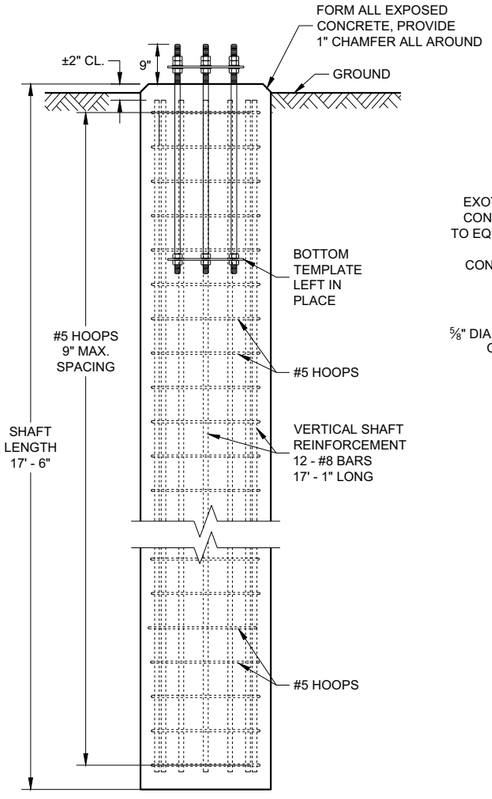
PLAN VIEW



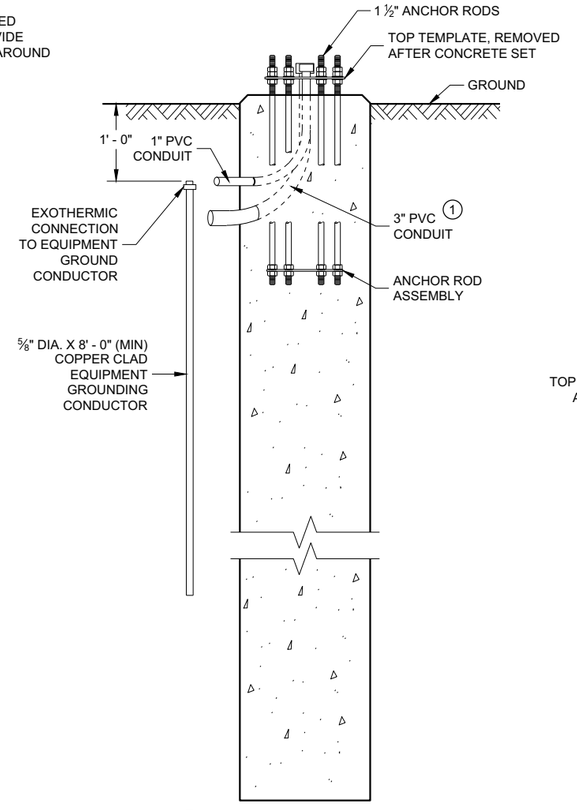
HOOP DETAIL



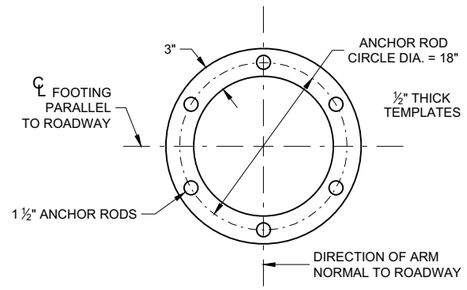
FORMING DETAIL



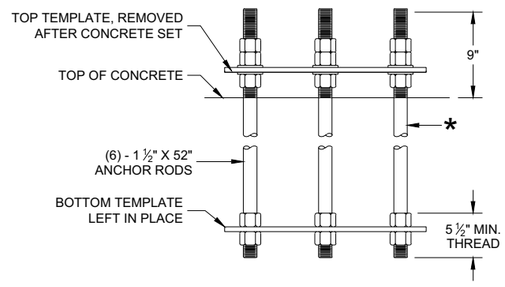
ELEVATION VIEW
(CONDUITS NOT SHOWN ON THIS VIEW FOR CLARITY)



SIDE VIEW
(HOOPS AND VERTICAL SHAFT REINFORCEMENT NOT SHOWN ON THIS VIEW FOR CLARITY)



TOP AND BOTTOM TEMPLATE



ANCHOR ROD ASSEMBLY DETAILS

* THREAD TOP 10" OF ANCHOR ROD FOR 3 NUTS AND 2 WASHERS AND BOTTOM 5 ½" FOR 2 NUTS PER ANCHOR ROD. HOT DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR ROD (ASTM A123) AND HOT DIP NUTS AND WASHERS (ASTM A153. USE ZINC COATED NUTS MANUFACTURED WITH SUFFICIENT ALLOWANCE TO ALLOW NUTS TO RUN FREELY ON THE THREADS.

CONCRETE BASE, TYPE 10 SPECIAL
(FOR TYPE 9 SPECIAL AND TYPE 10 SPECIAL POLES)

CONCRETE = 4.6 CUBIC YARD
H.S. REINFORCEMENT = 779 LBS.

FOR USE WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.

CONCRETE BASE TYPE 10 SPECIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

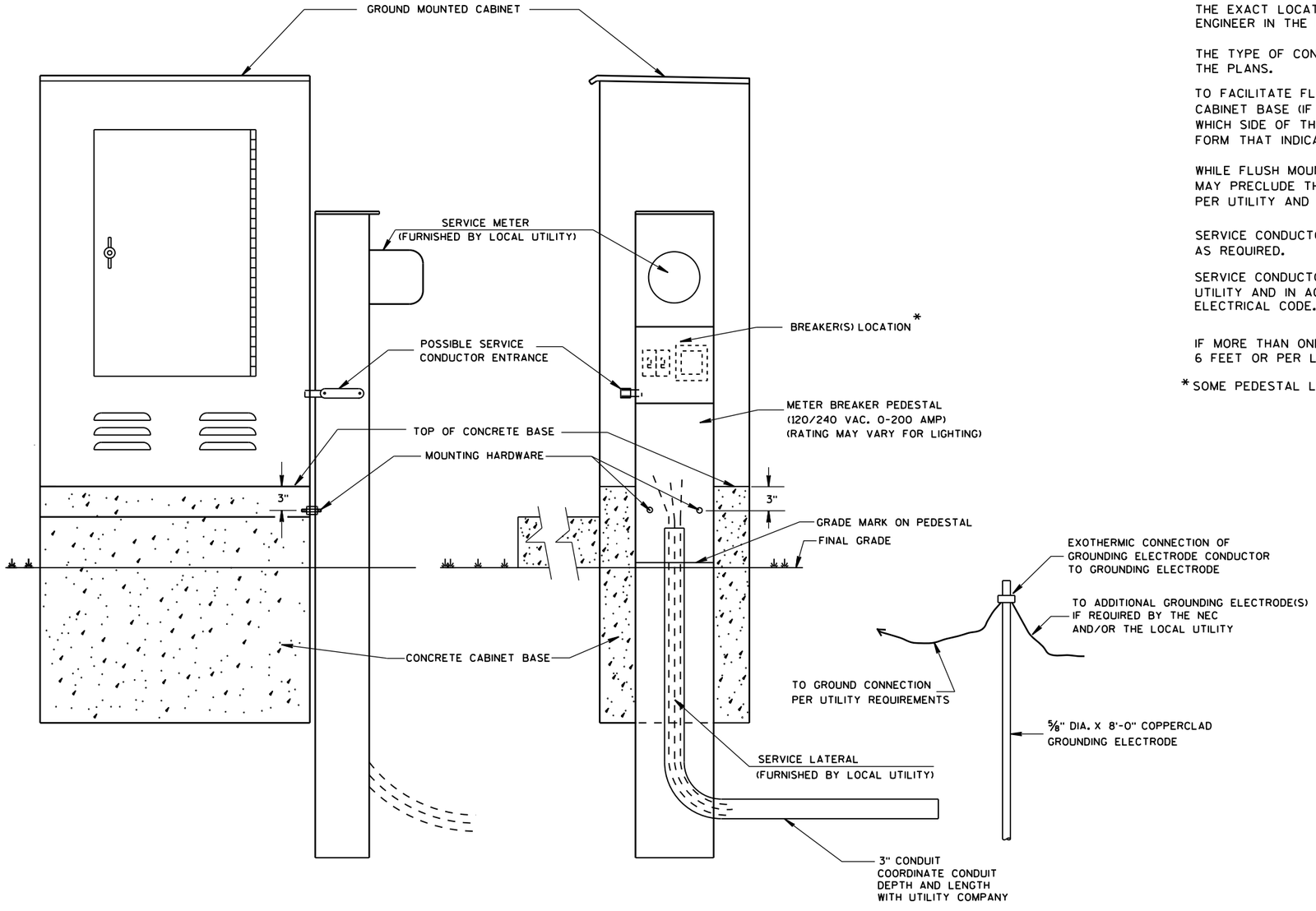
APPROVED
August 2020 — DATE
/S/ Alex Crabtree — WIND LOADED STRUCTU PROGRAM LEADER
FHWA

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SDD 09C15 - 01

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SDD 09C15 - 01



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

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

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

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

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

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

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

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

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

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S.D.D. 9 D 1-5

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S.D.D. 9 D 1-5

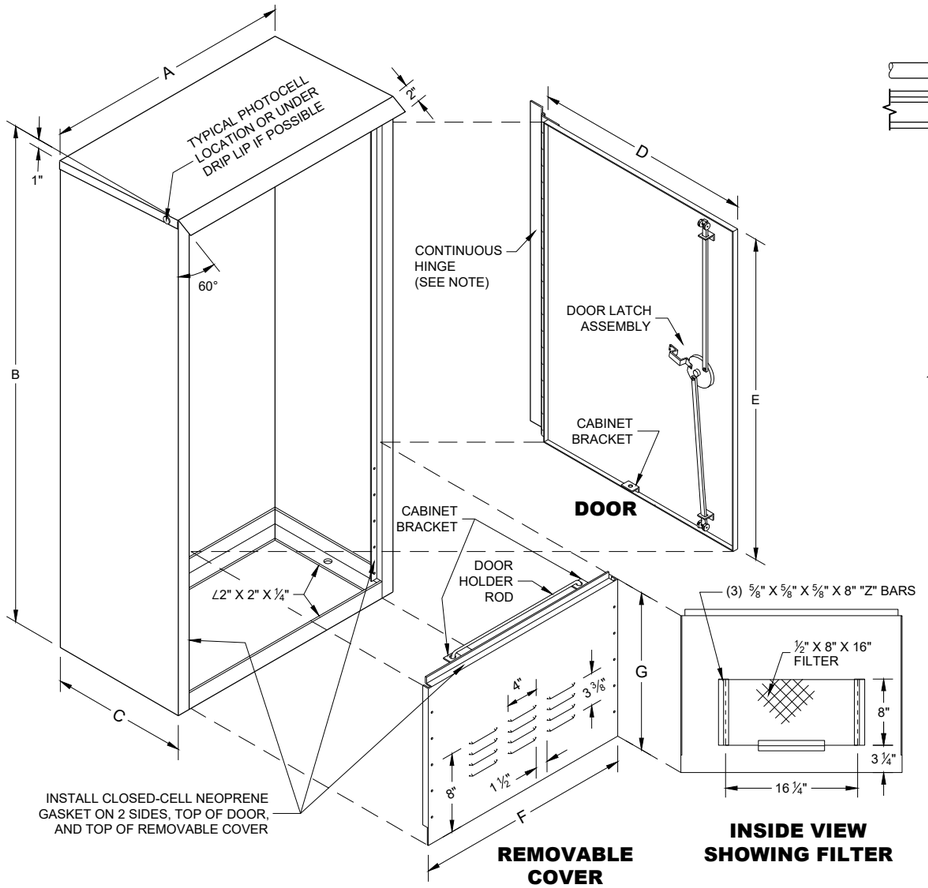
CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

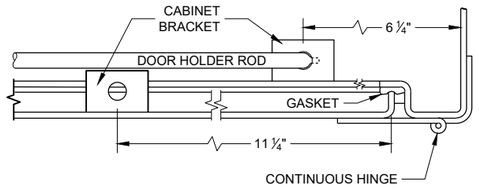
FHWA



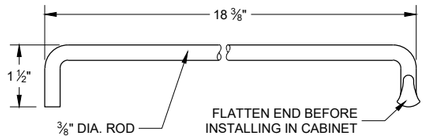
DOOR

REMOVABLE COVER

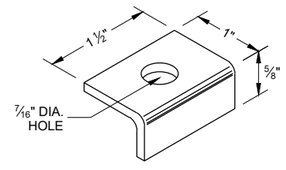
INSIDE VIEW SHOWING FILTER



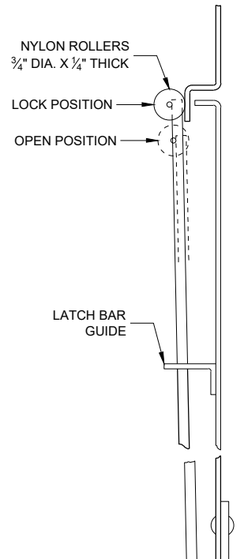
HINGE AND DOOR HOLDER

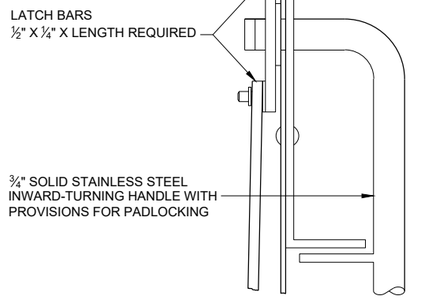


HOLDER ROD

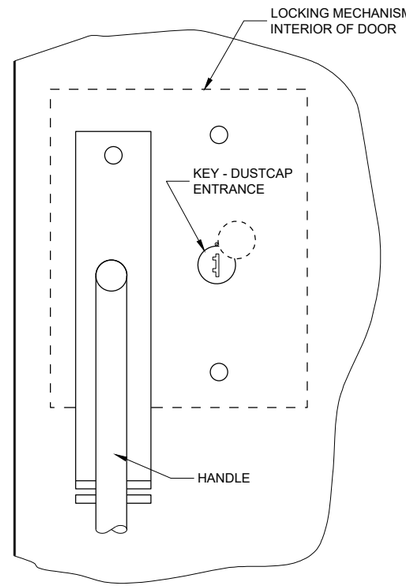


CABINET BRACKET





SIDE VIEW



FRONT VIEW

LATCH ASSEMBLY

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.

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

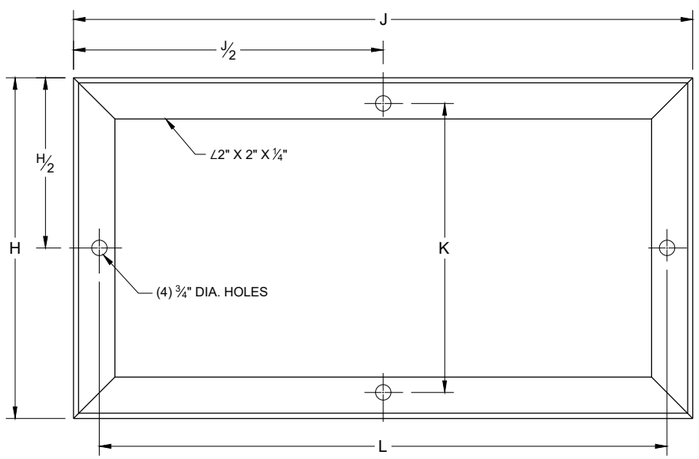
ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH ¼" DIAMETER STAINLESS STEEL HINGE PIN. HINGE IS SECURED WITH ¼" X 20 TPI STAINLESS STEEL CARRIAGE BOLTS AND STAINLESS STEEL NYLOCK NUTS.

A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH - NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST.

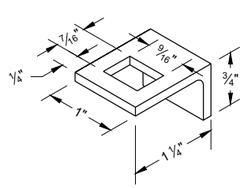
DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.



MOUNTING BASE

TABLE OF DIMENSIONS (INCHES)

MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 ½	16 ½	24
D	26 ½	34 ¾	33 ¾
E	38 ¾	38 ¾	38 ¾
F	26 ½	34 ¾	33 ¾
G	19	19	25
H	16 ½	16 ½	24
H/2	8 ¼	8 ¼	12
J	30	38	38
J/2	15	19	19
K	13 ¾	13 ¾	21 ¼
L	27 ½	35 ½	35 ½



LATCH BAR GUIDE

SIGNAL CONTROL CABINET

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
September 2014
DATE

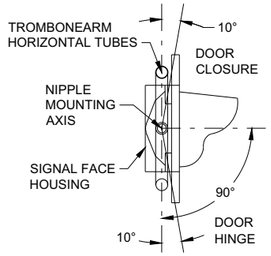
/S/ Ahmet Demerbilek
STATE ELECTRICAL ENGI

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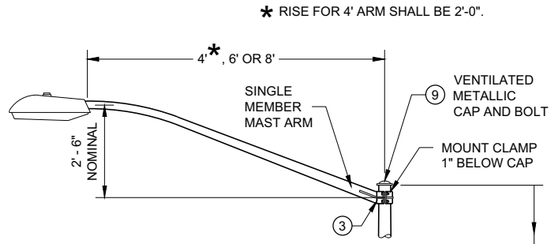
FHWA

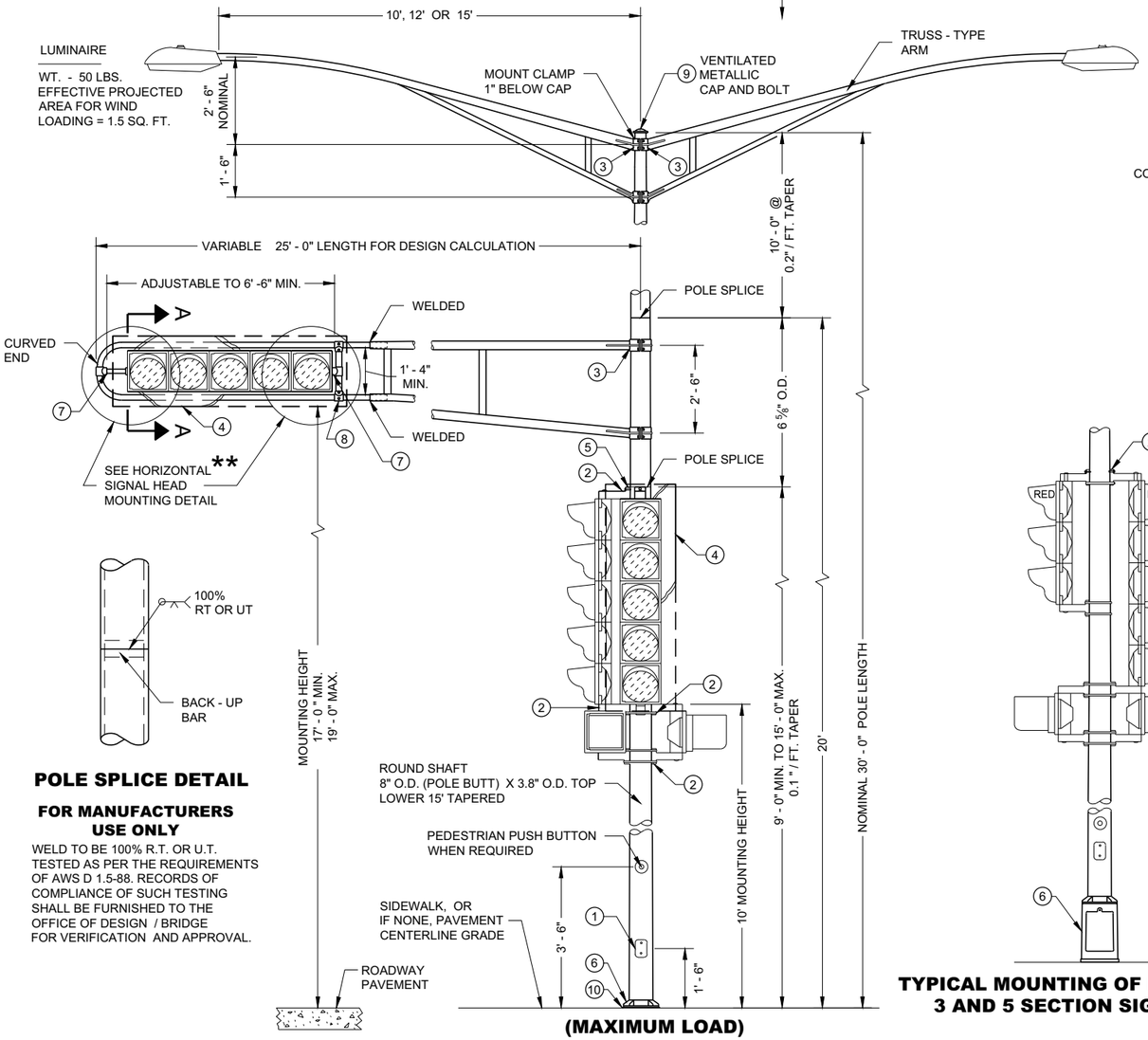
SDD 09D02 - 03

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SECTION A-A



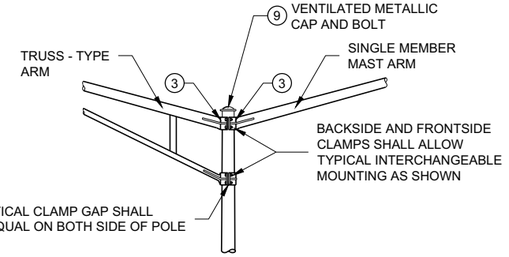


(MAXIMUM LOAD)

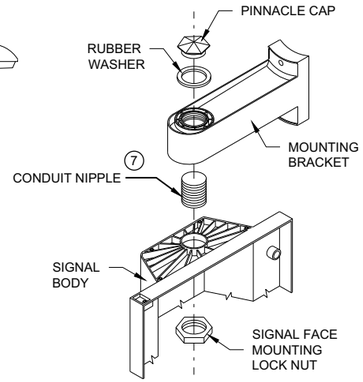
POLE SPLICE DETAIL

FOR MANUFACTURERS USE ONLY

WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN / BRIDGE FOR VERIFICATION AND APPROVAL.

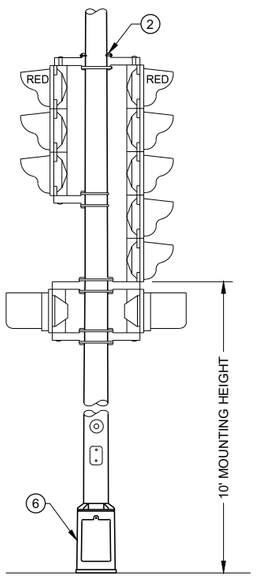


INTERCHANGEABLE MOUNTING DETAIL

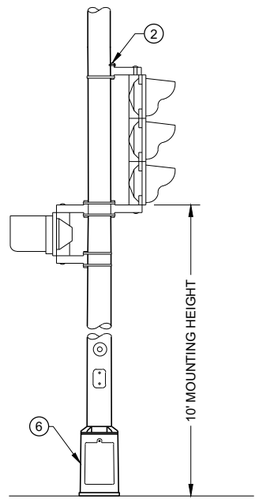


SIGNAL FACE MOUNTING DETAIL

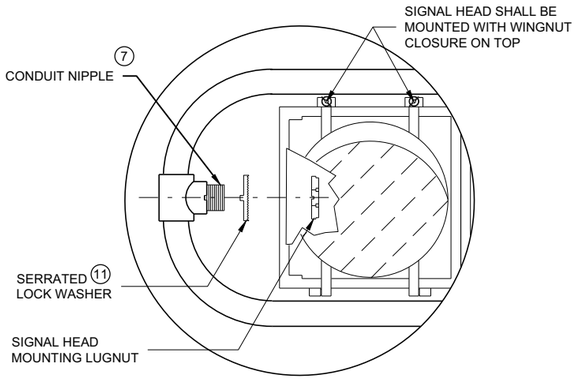
(BANDED)



TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE



HORIZONTAL SIGNAL HEAD ** MOUNTING DETAIL

** SIGNAL HEAD ATTACHMENT ALSO APPLIES TO MOUNTING AT CROSS BAR

GENERAL NOTES

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

ALL TYPE 3 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL.

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE / ROPE SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 3/8 INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

(1) 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2) ¼" X ¾" - 20 TPI , STAINLESS STEEL, HEX HEAD BOLTS.

(2) SIGNAL FACE MOUNTING BRACKETS. MOUNT WITH CAP SCREWS AND BANDING.

(3) GROMMETS. 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 3/8" HOLE IN POLE SHAFT FOR WIRING.

(4) SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.

(5) POLE MOUNTED SIGNAL FACES SHALL REQUIRE ONE OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.

(6) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED. UNDER MAX LOADING, TYPE 3 POLE SHALL BE MOUNTED DIRECTLY TO ITS CONCRETE BASE.

(7) USE 1 ½" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 ½" OPENING IN SIGNAL FACES AND BRACKET ENDS.

(8) VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.

(9) FURNISH AND INSTALL VENTILATED, CAST METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(10) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.

(11) USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.

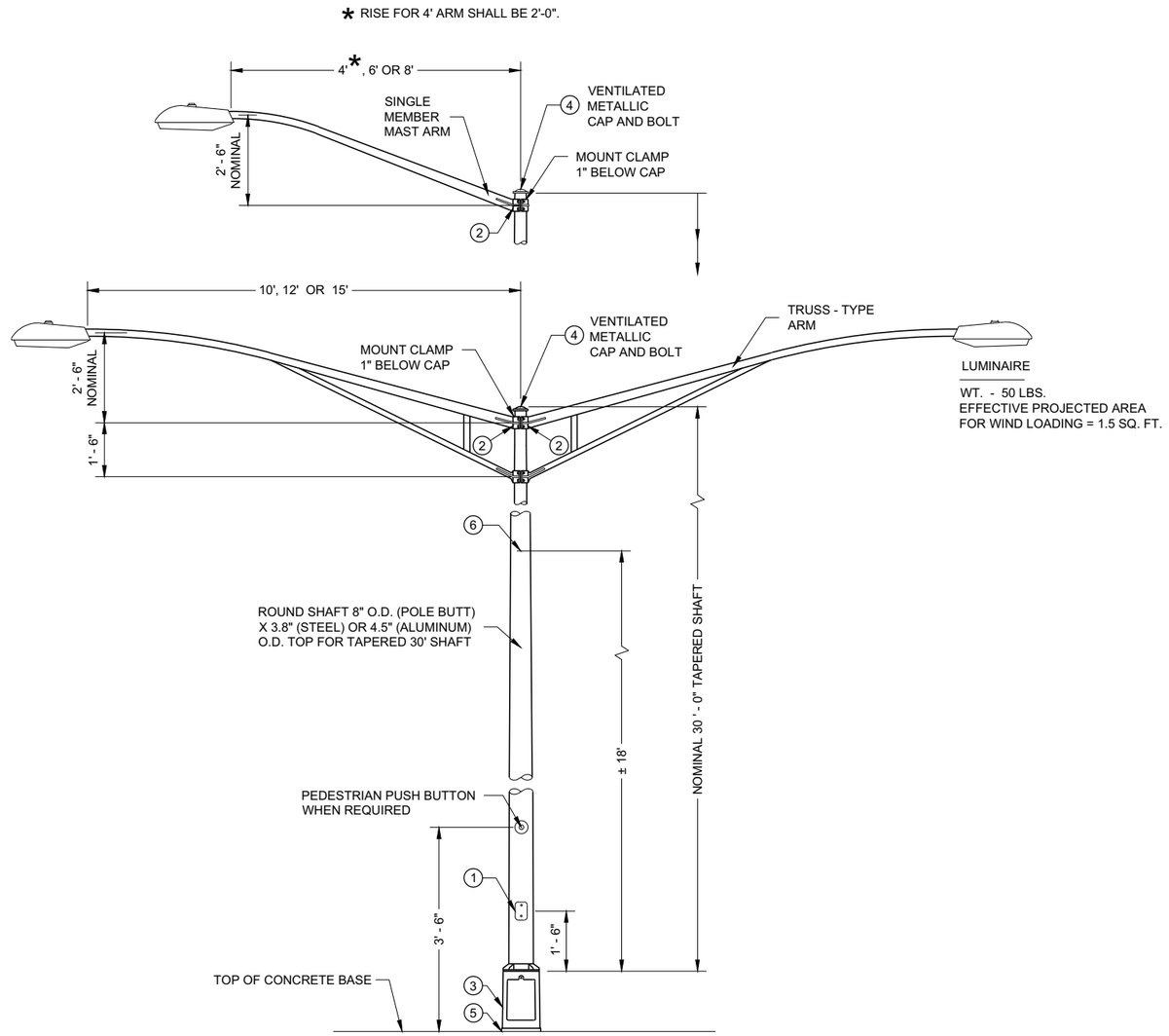
TYPE 3 POLE MOUNTING CONFIGURATION

POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS TYPE 3 (HEAVY DUTY)

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TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY

GENERAL NOTES

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

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063 - T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.1888".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (0.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 ⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

(1) 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2) ¼" X ¾" - 20 TPI , STAINLESS STEEL, HEX HEAD BOLTS.

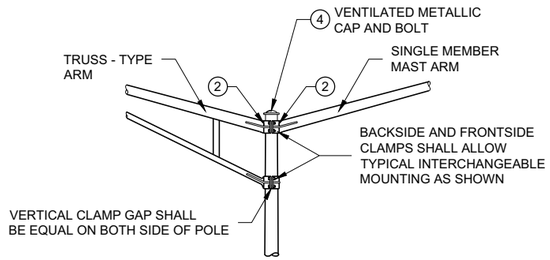
(2) GROMMETS. 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 ⅜" HOLE IN POLE SHAFT FOR WIRING.

(3) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

(4) FURNISH AND INSTALL VENTILATED, CAST METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(5) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.

(6) INTERNAL DUMBBELL - TYPE VIBRATION DAMPER.

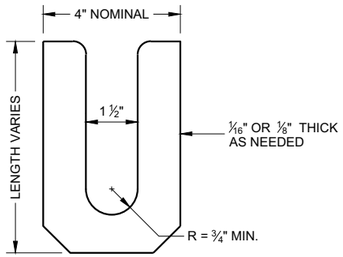


INTERCHANGEABLE MOUNTING DETAIL

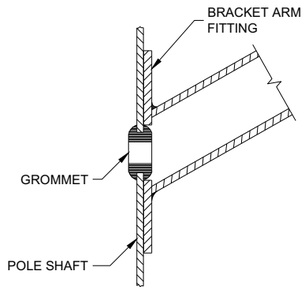
POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA 160

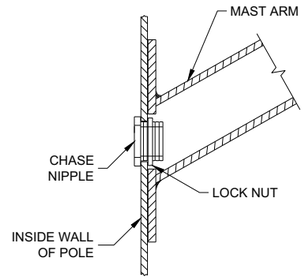
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LEVELING SHIM (1)
SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

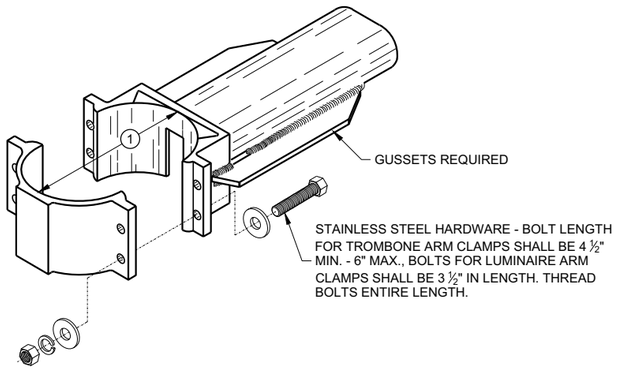
(1) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP. 6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(2) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

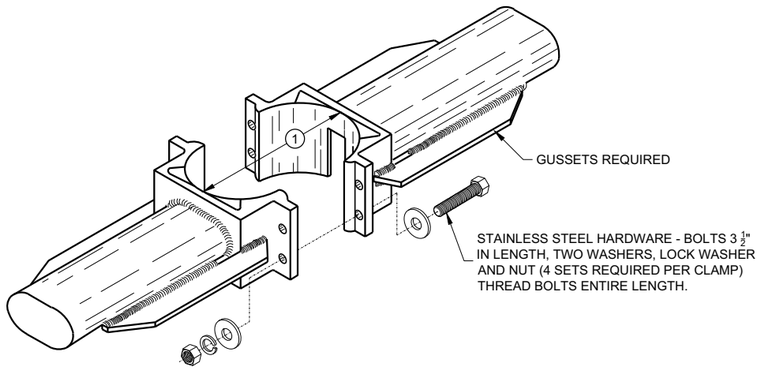
(3) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(4) LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

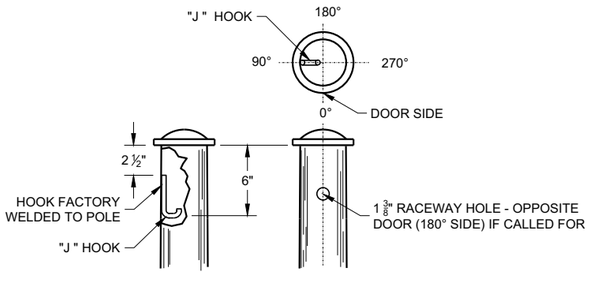
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



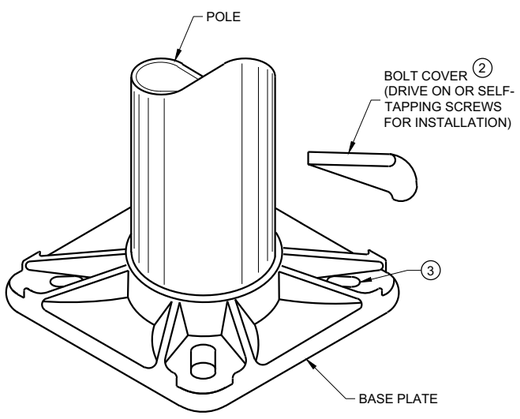
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



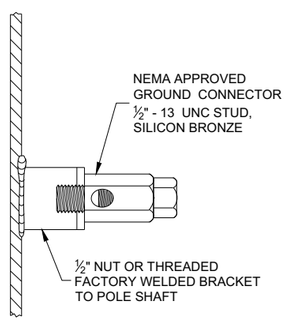
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

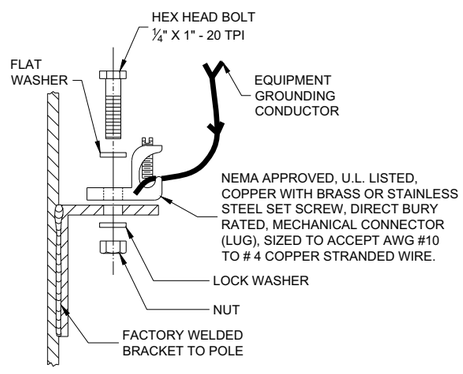


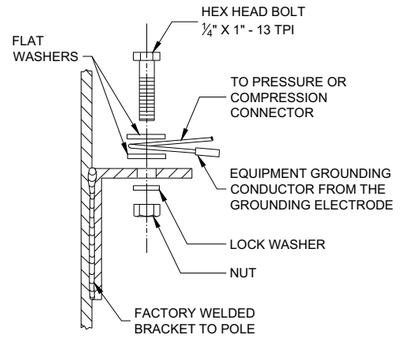
TYPICAL "J" HOOK LOCATION



BASE PLATE







TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

HARDWARE DETAILS FOR POLE MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Ahmet Demirbilek
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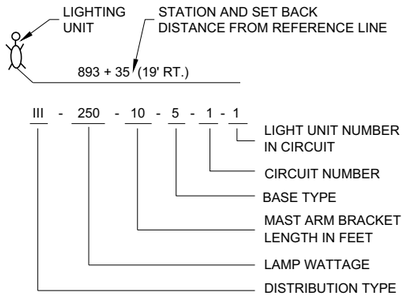
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GENERAL NOTES

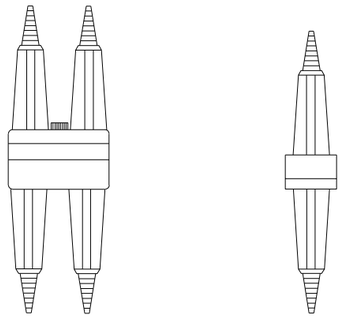
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EQUIPMENT GROUND CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

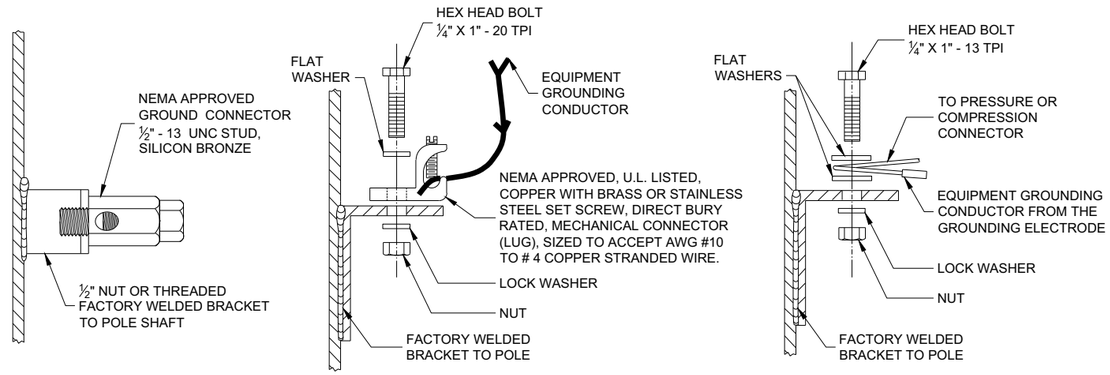


LIGHTING UNIT CODE
(TYPICAL)

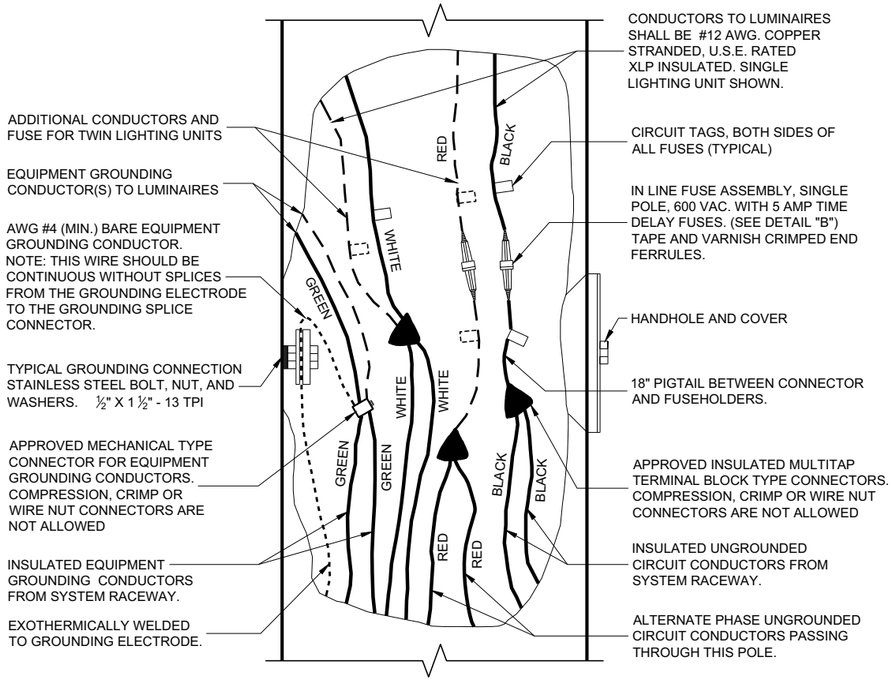


DETAIL "A"
BREAKAWAY DOUBLE POLE WITH WATERPROOF INSULATING BOOT

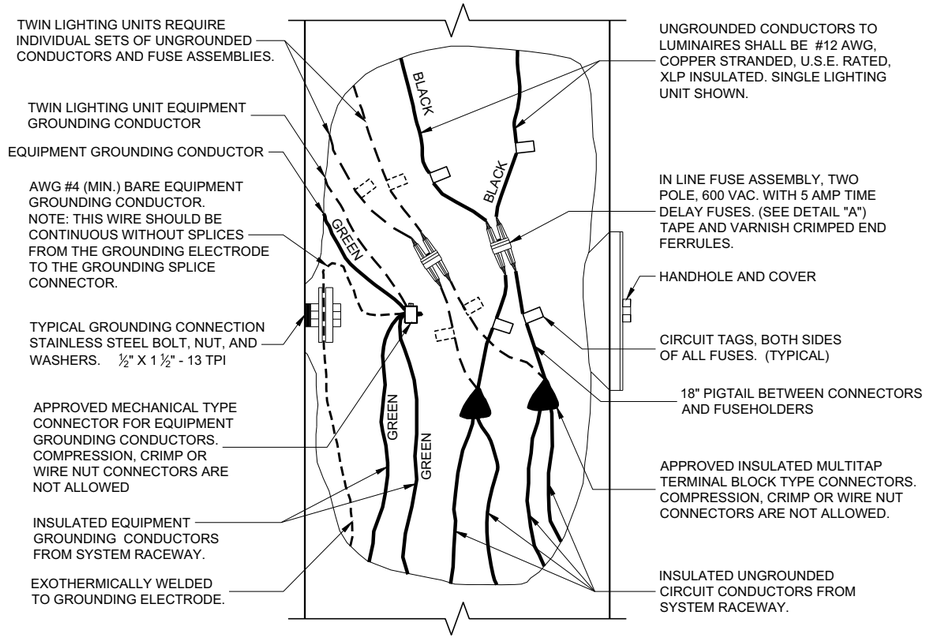
DETAIL "B"
BREAKAWAY SINGLE POLE WITH WATERPROOF INSULATING BOOT



TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH GROUNDING CONDUCTOR AND EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

NON - FREEWAY LIGHTING UNIT POLE WIRING

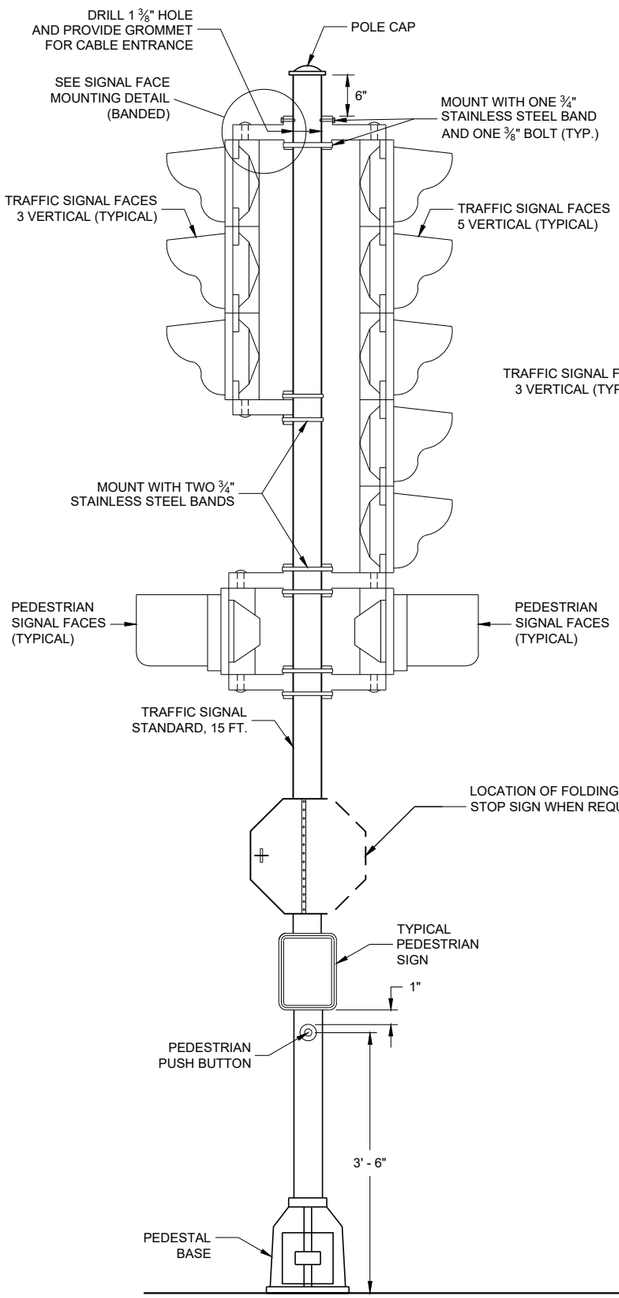
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

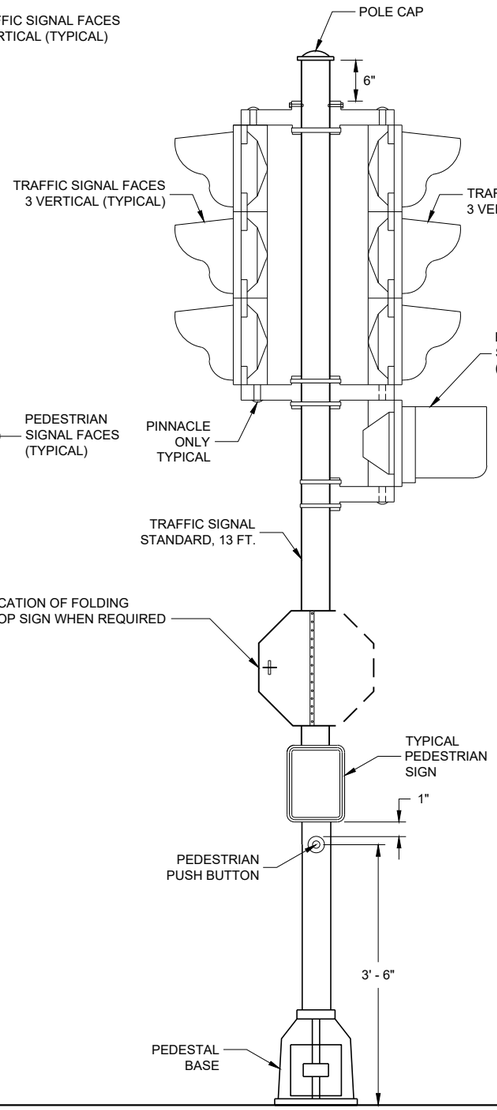
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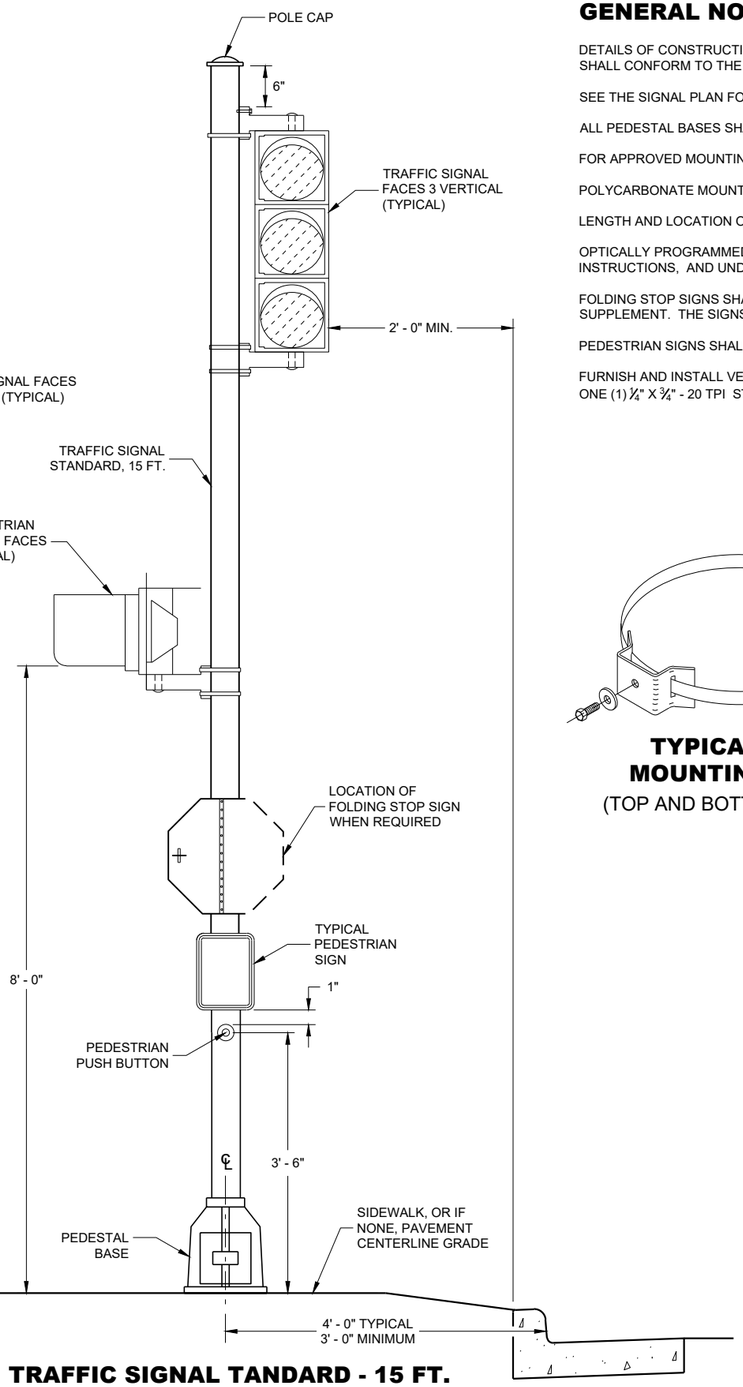
SDD 09E03 - 06



TRAFFIC SIGNAL STANDARD - 15 FT.



TRAFFIC SIGNAL STANDARD - 13 FT.



TRAFFIC SIGNAL TANDARD - 15 FT.
3M MOUNTING (TYPICAL)

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

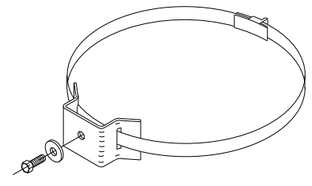
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

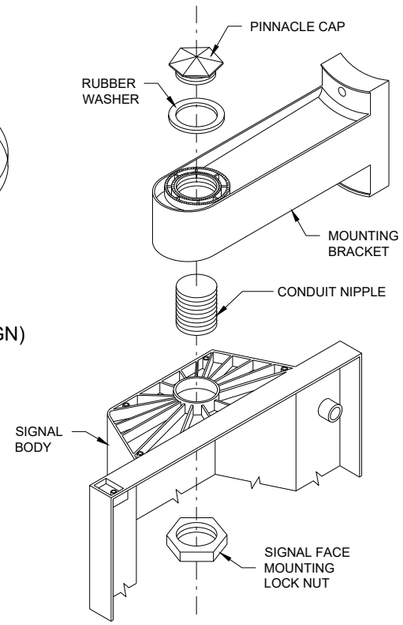
FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



SIGNAL FACE MOUNTING DETAIL (BANDED)

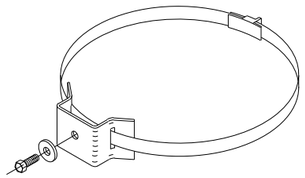
TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.

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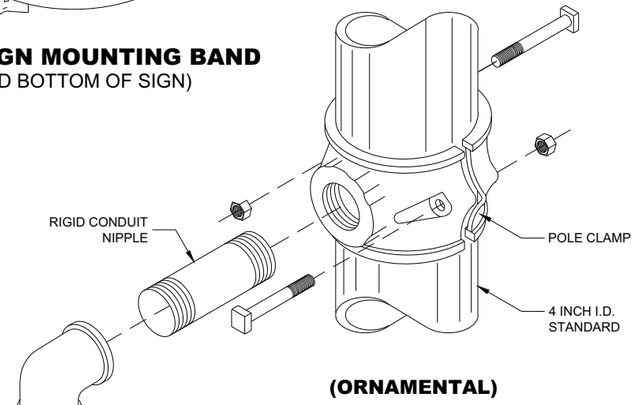
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2/28/2013
DATE
/S/ Ahmet Demirbilek
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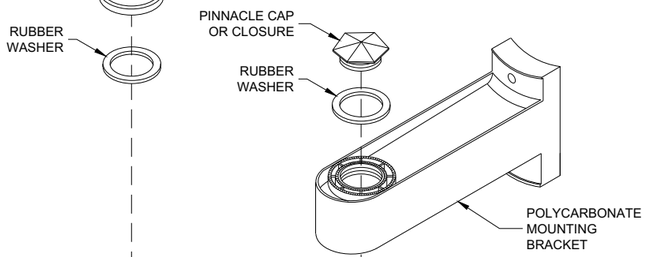
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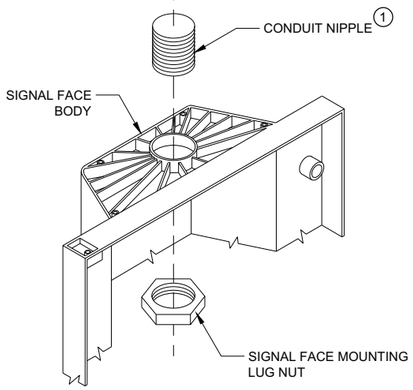
TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



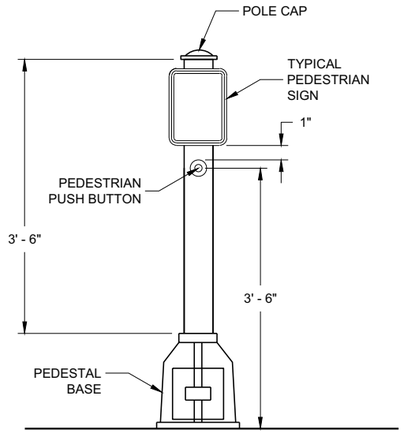
(ORNAMENTAL)



(BANDED)



SIGNAL FACE MOUNTING DETAILS



PEDESTRIAN PUSH BUTTON TYPICAL MOUNTING

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS, UNLESS APPROVED BY THE ENGINEER IN THE FIELD.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

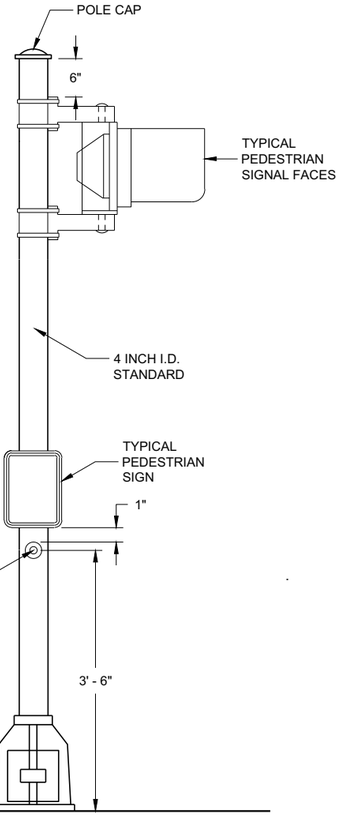
LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE REGION TRAFFIC ENGINEER).

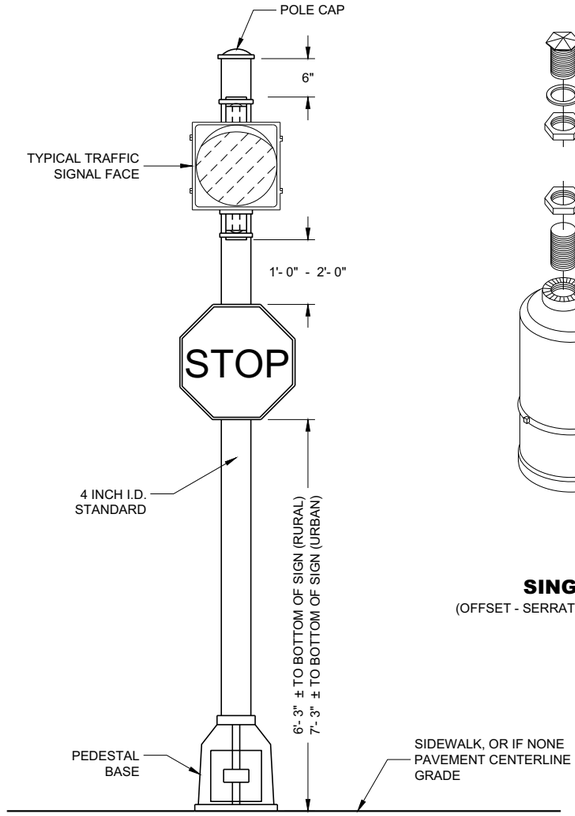
PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

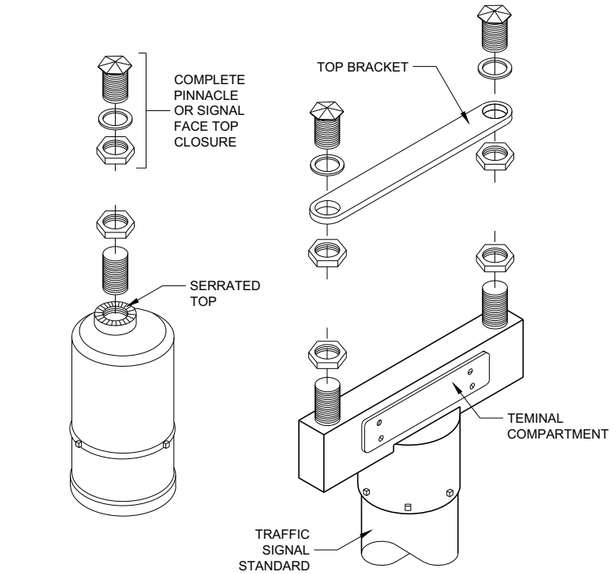
(1) USE 1 ½" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 ½" OPENING IN SIGNAL FACESAND BRACKET ENDS.



PEDESTRIAN FACE STANDARD - 10 FT.
(WALK - DON'T WALK)



STANDARD FLASHER
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED



SINGLE
(OFFSET - SERRATED MOUNTING)

DOUBLE
(SERRATED MOUNTING)

SLIPFITTERS

TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS

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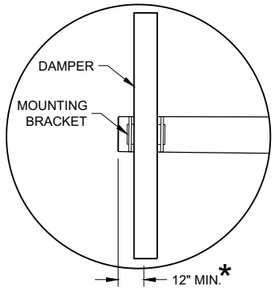
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November 2018
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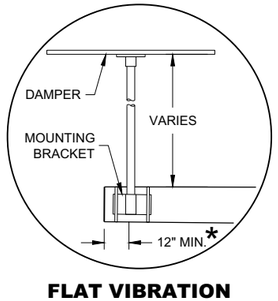
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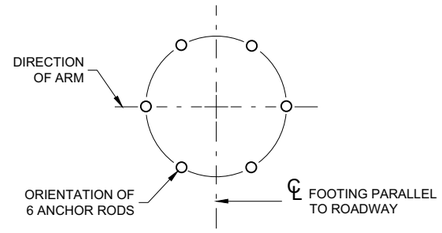


DUMBBELL VIBRATION DAMPER

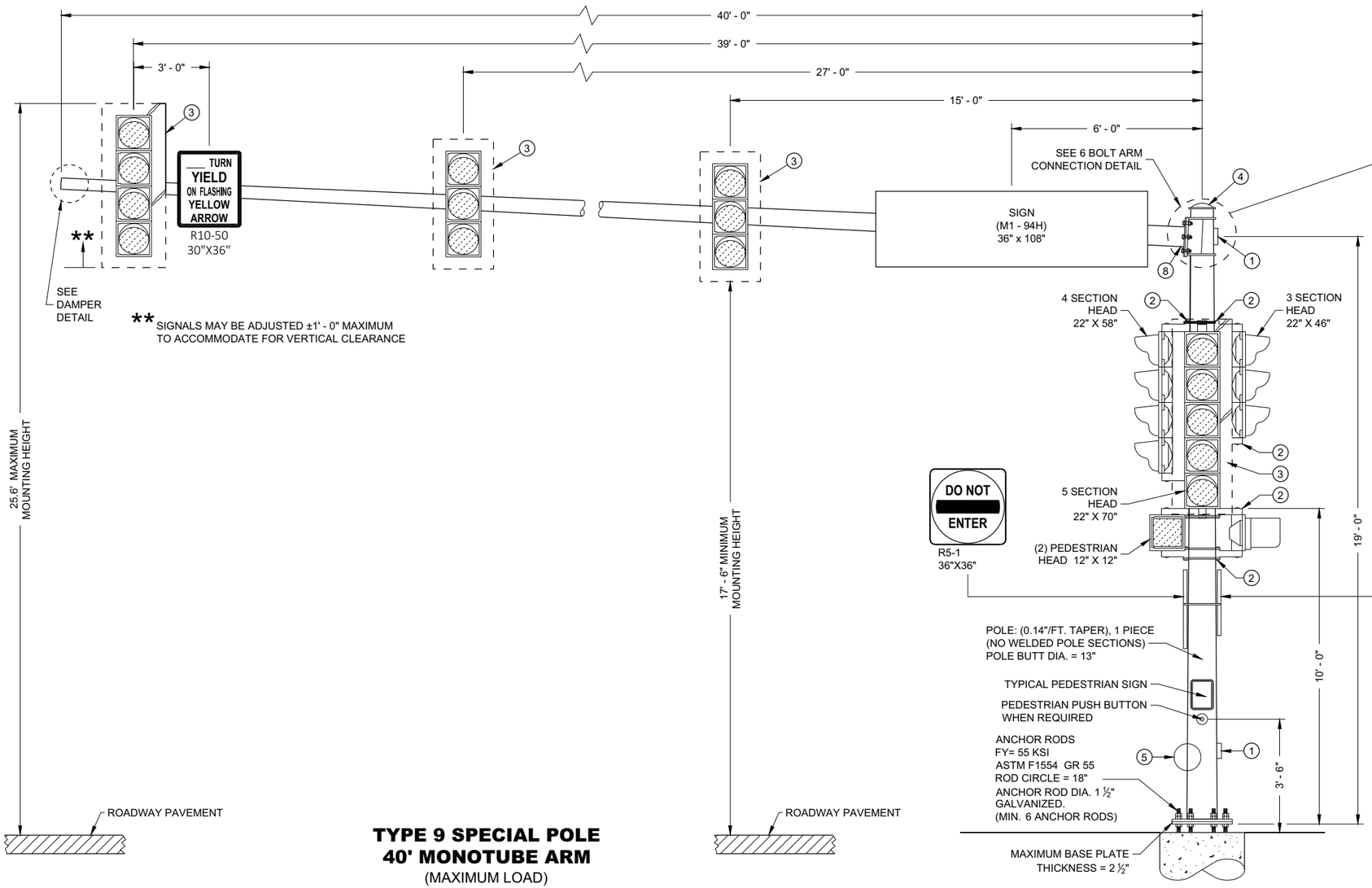


FLAT VIBRATION DAMPER

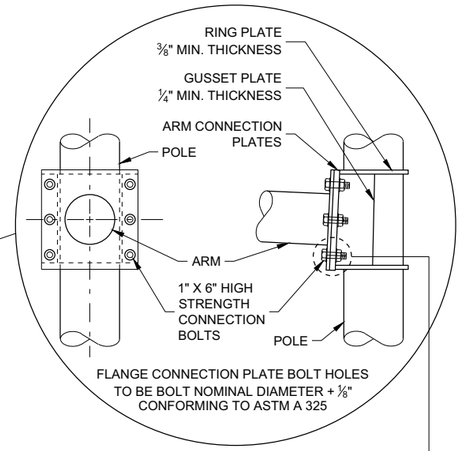
* MOUNT AS CLOSE TO END OF MAST ARM FOR MAXIMUM DAMPING PER MANUFACTURER'S RECOMMENDATIONS.



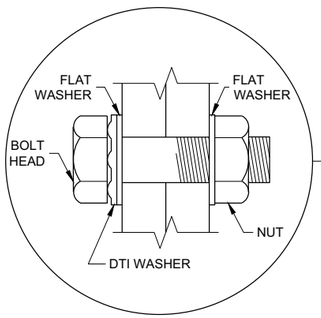
ANCHOR ROD LOCATION



TYPE 9 SPECIAL POLE 40' MONOTUBE ARM
(MAXIMUM LOAD)



6 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL

TYPE 9 SPECIAL POLE 40' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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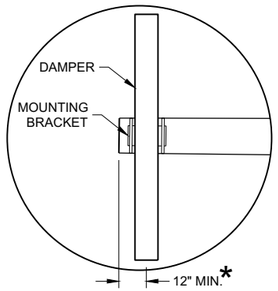
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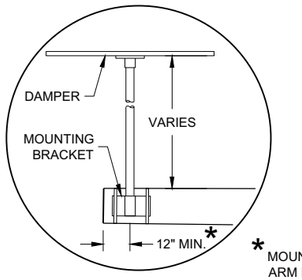
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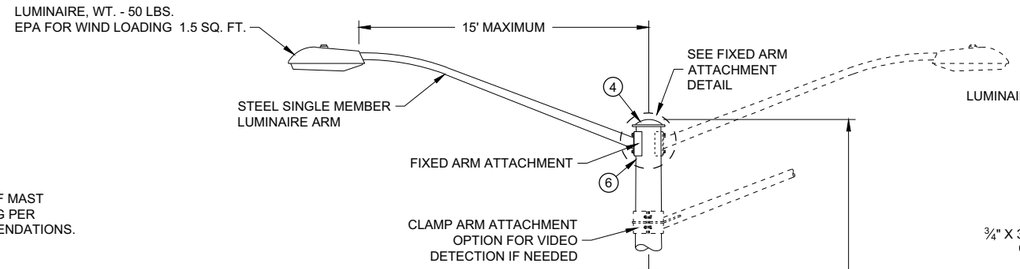


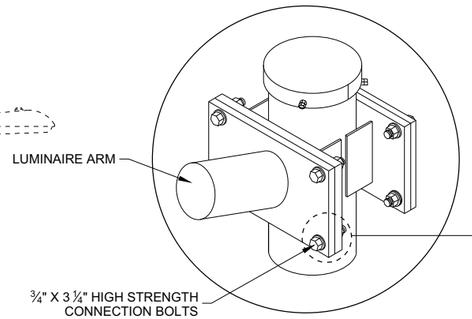
DUMBBELL VIBRATION DAMPER



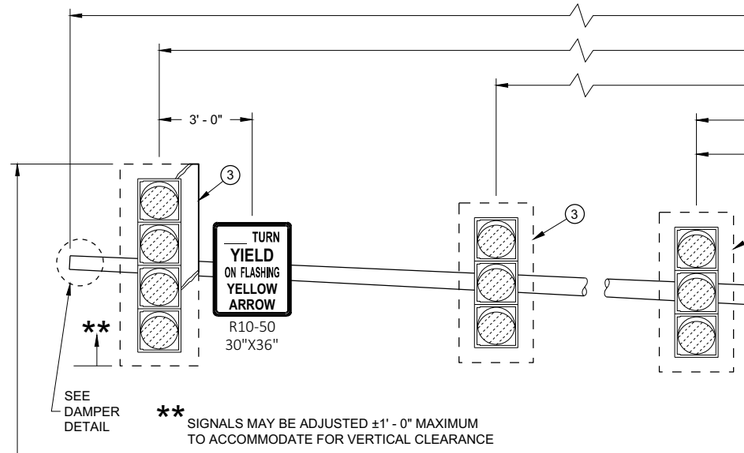
FLAT VIBRATION DAMPER

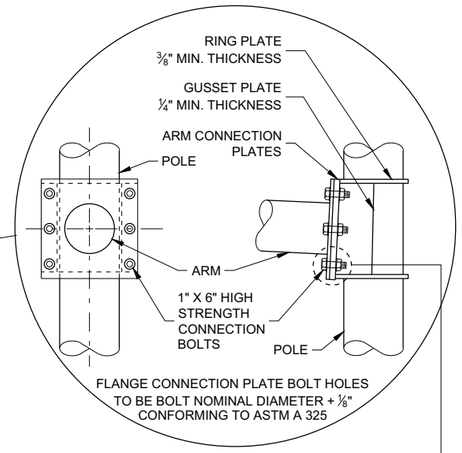
* MOUNT AS CLOSE TO END OF MAST ARM FOR MAXIMUM DAMPING PER MANUFACTURER'S RECOMMENDATIONS.



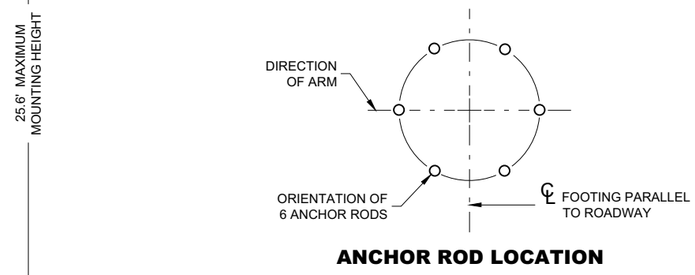


FIXED ARM ATTACHMENT DETAIL

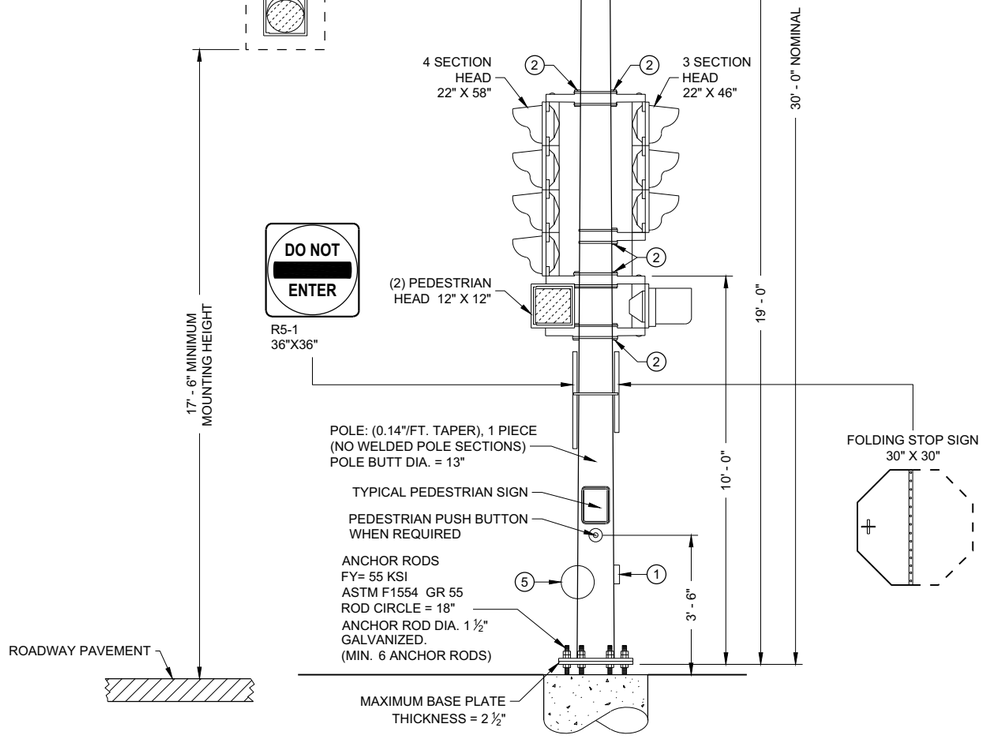


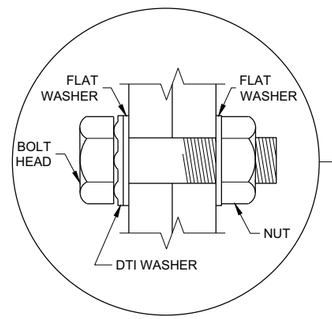


6 BOLT ARM CONNECTION DETAIL



ANCHOR ROD LOCATION





RECOMMENDED BOLT ASSEMBLY DETAIL

TYPE 10 SPECIAL POLE
45' MONOTUBE ARM
(MAXIMUM LOAD)

TYPE 10 SPECIAL POLE
45' MONTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

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GENERAL NOTES

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

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15 FOOT TO 30 FOOT.

POLE TYPES 9 SPECIAL AND 10 SPECIAL ARE FOR ARM LENGTHS 35 FOOT, 40 FOOT, AND 45 FOOT.

POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35 FOOT TO 55 FOOT.

MONOTUBE POLES AND ARMS SHALL BE GALVANIZED STEEL.

RING STIFFENED BUILT UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3% ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATION SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNAL 2015 1ST EDITION (INCLUDING INTERIM REVISIONS)" AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR THE LIGHTING STRUCTURES AS FOLLOWS:

CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.

CATEGORY II FATIGUE LOADS OF TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 SPECIAL AND TYPE 10 SPECIAL STRUCTURES. IN LIEU OF DESIGNING FOR GALLOPING, A VIBRATION DAMPER MITIGATION DEVICE IS REQUIRED TO BE SUPPLIED AND INSTALLED AT THE END OF THE MAST ARM.

CATEGORY II FATIGUE FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE12 AND TYPE 13 STRUCTURES.

115 MPH (700 YEAR MRI BASIC WIND SPEED).

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" STAINLESS STEEL BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR A S DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEAD AT SAME ELEVATION.

SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

(1) DESIGN FOR MAXIMUM ALLOWABLE HAND HOLE WITH COVER ASSEMBLY WITH TWO ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

(2) SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING (SEE SPECIFICATION SECTION 658).

(3) SECURELY MOUNT BACK PLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

(4) THE TOP OF THE POLE SHAFT AND THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.

(5) FACTORY WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HAND HOLD, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

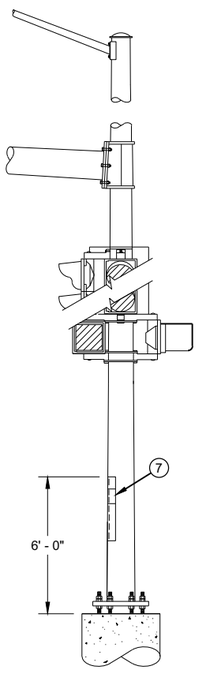
(6) FACTORY WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

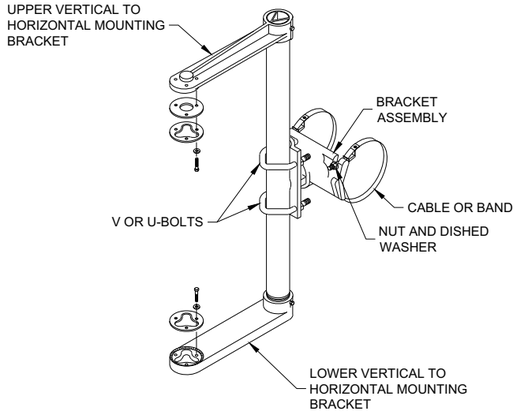
STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

MOUNTING HEIGHT SHALL BE 6' - 0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.



STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT

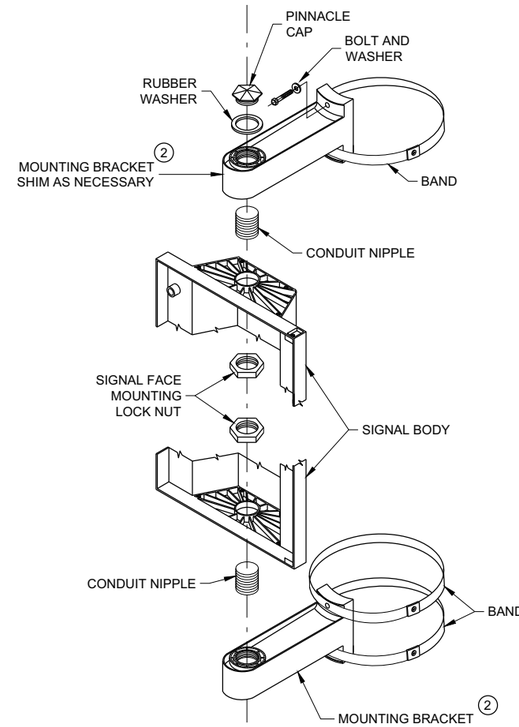


SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

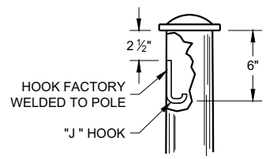
(MOUNT PER MANFACTURER'S RECOMMENDATION)

TYPICAL GROUNDING (5) CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



SIGNAL FACE VERTICAL MOUNTING DETAIL



TYPICAL "J" HOOK (6) WIRE SUPPORT

GENERAL NOTES AND HARDWARE FOR TYPES 9,10, 9/10 SPECIAL, 12 AND 13 POLES WITH MONOTUBE ARMS

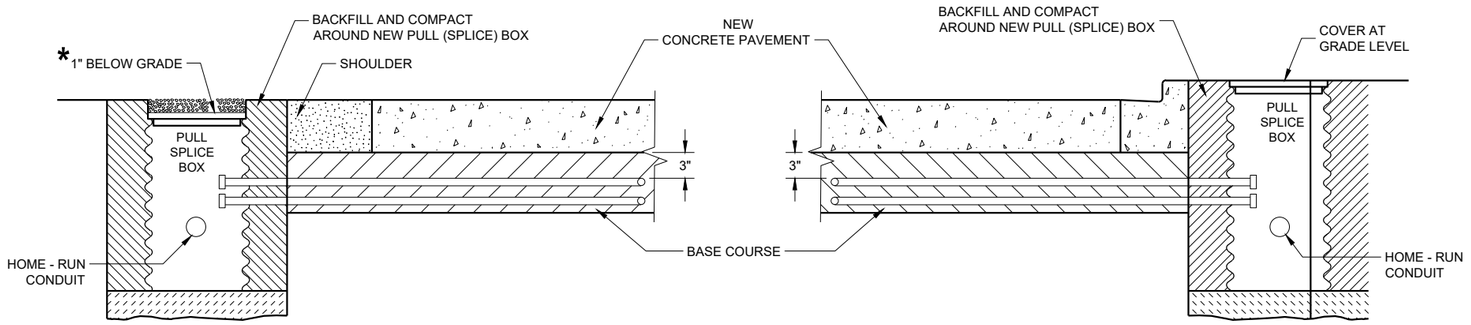
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL ENGINEER

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SECTION A - A
NO CURB AND GUTTER

SECTION B - B
CURB AND GUTTER

* RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READING TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

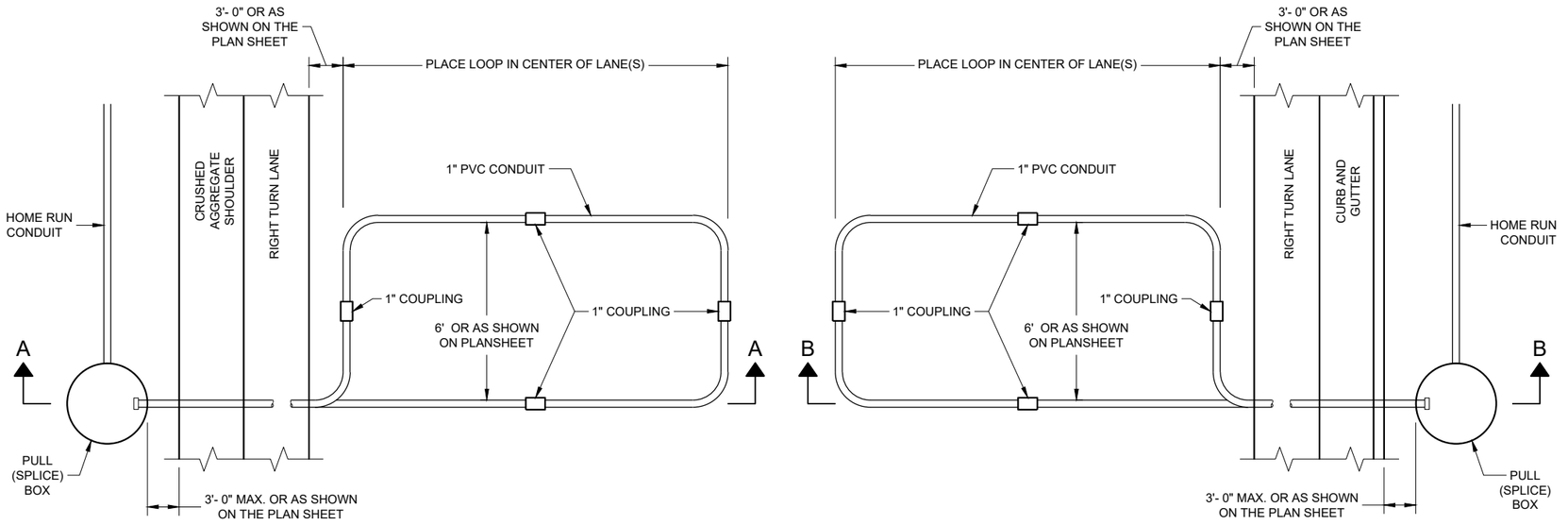
THE #12 AWG LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

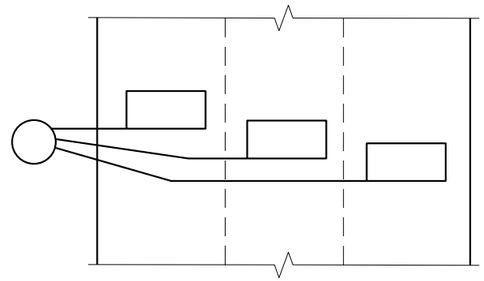
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE NON-SPLICED, CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



TYPICAL PLAN LOOP DETECTOR WITH 24" PULL (SPLICE) BOX



MULTI-LANE INSTALLATION

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
September 2014
DATE
/S/ Ahmet Demirbilek
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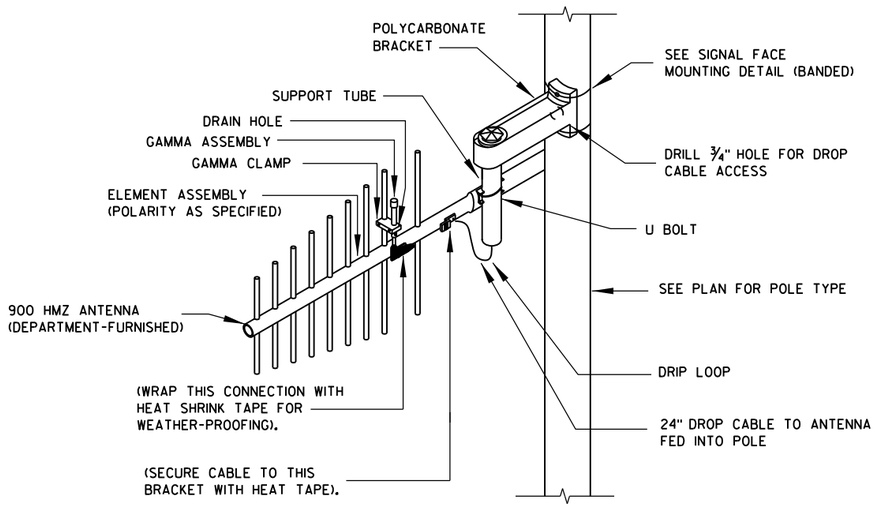
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SDD 09F15 - 04b

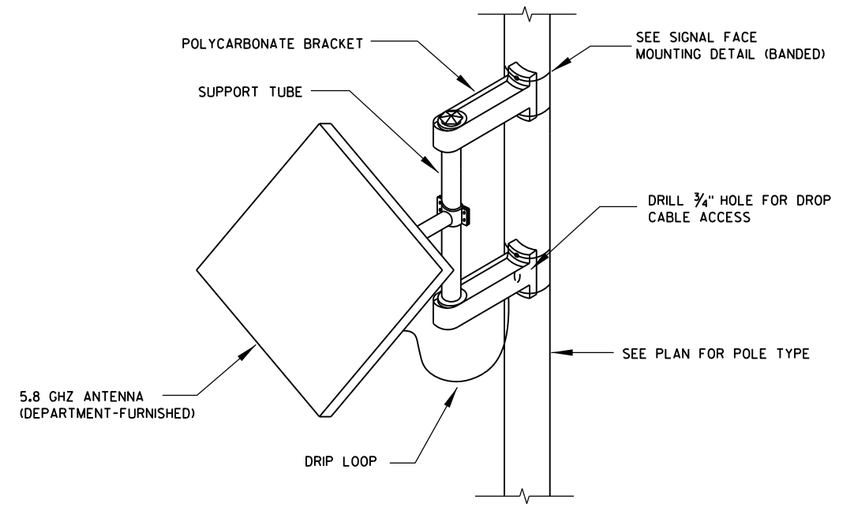
GENERAL NOTES

INSTALL DRIP LOOPS ON LOOSE CABLES TO PREVENT
WATER FROM FLOWING ON CABLE AND ENTERING POLES/ENCLOSURES.

ALL MOUNTING EQUIPMENT REQUIRED IS INCIDENTIAL TO BID ITEM
"INSTALL WIRELESS ANTENNA".



900 MHZ ANTENNA



5.8 GHZ ANTENNA

INSTALL WIRELESS ANTENNA

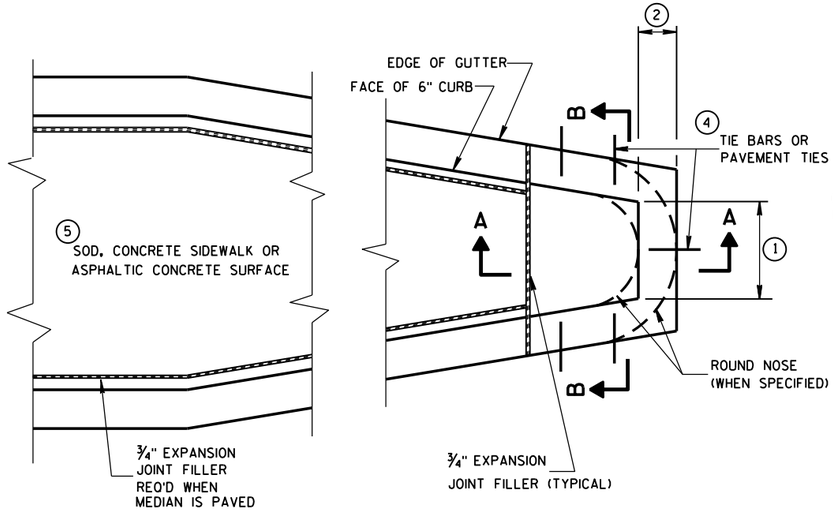
INSTALL WIRELESS ANTENNA	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2017 DATE FHWA	/S/ Ahmet Demirbilek STATE ELECTRICAL

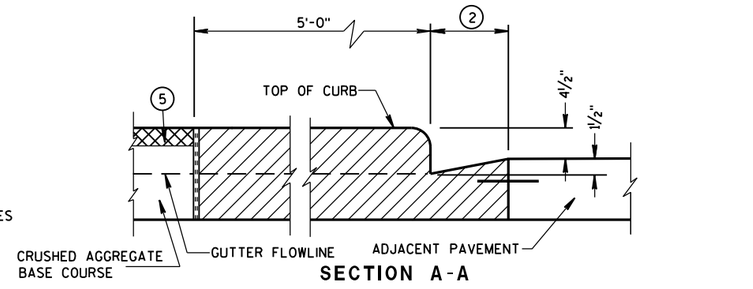
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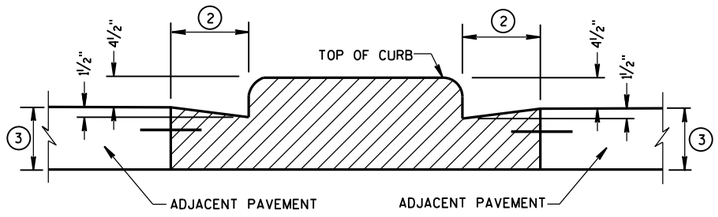
S.D.D. 9 H 16-1

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S.D.D. 9 H 16-1







CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

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

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

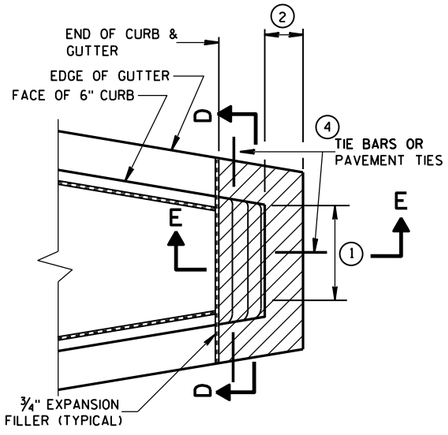
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

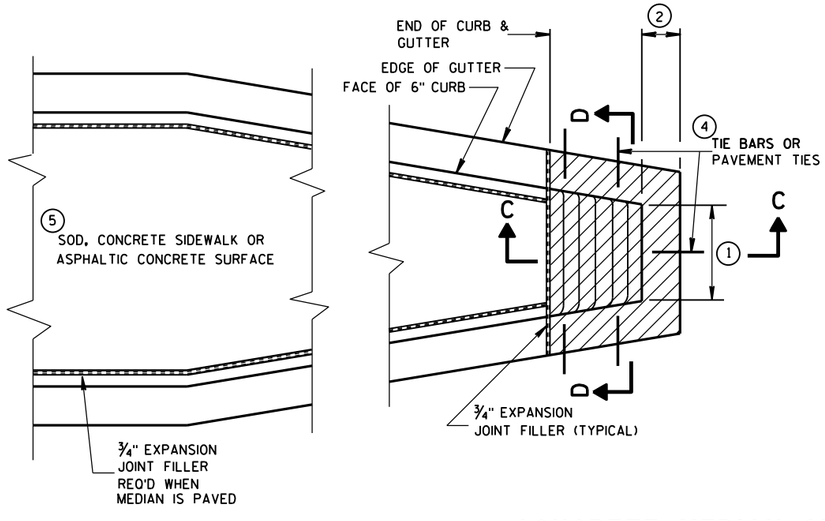
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

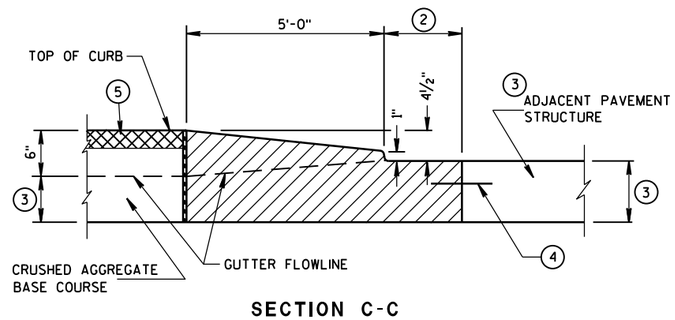
PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

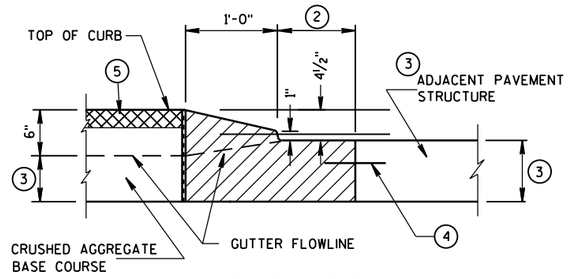
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.



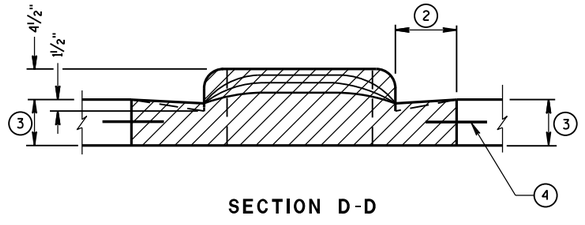


CONCRETE MEDIAN SLOPED NOSE TYPE 1





CONCRETE MEDIAN SLOPED NOSE TYPE 2



CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

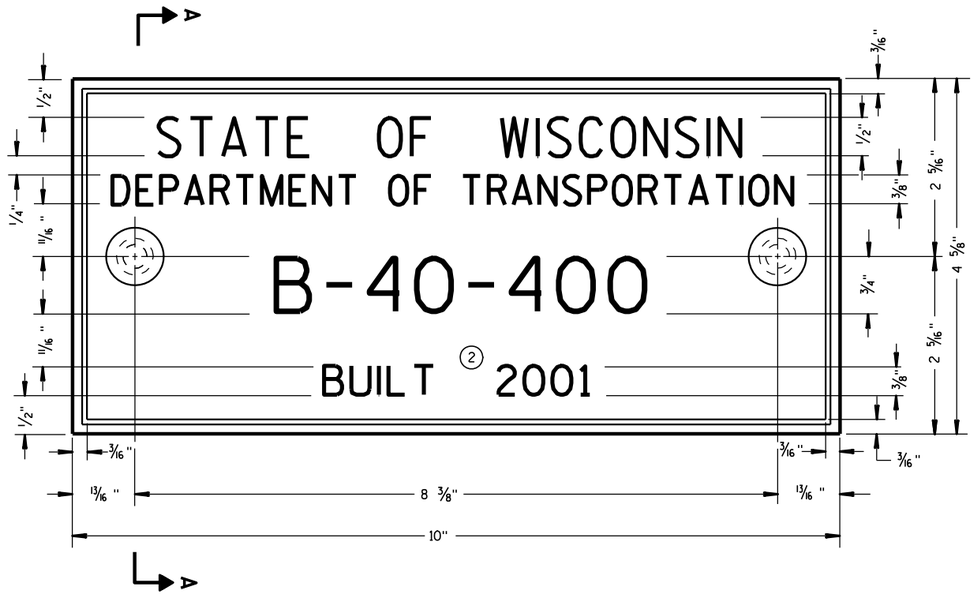
APPROVED
6/8/2006 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 11 B 2-2

6

S.D.D. 11 B 2-2



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

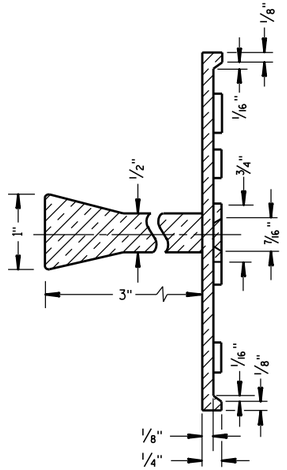
GENERAL NOTES

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

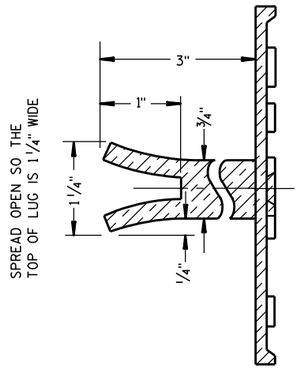
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

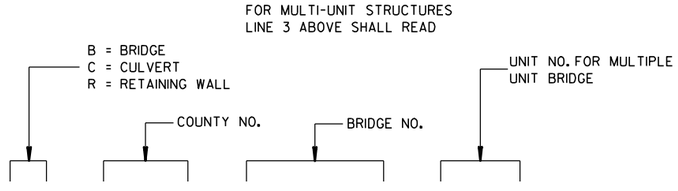
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



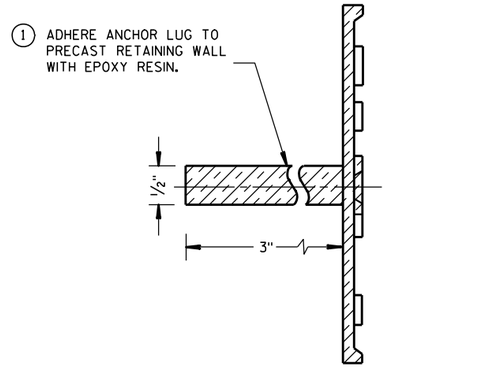
SECTION A-A



ALTERNATE LUG



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

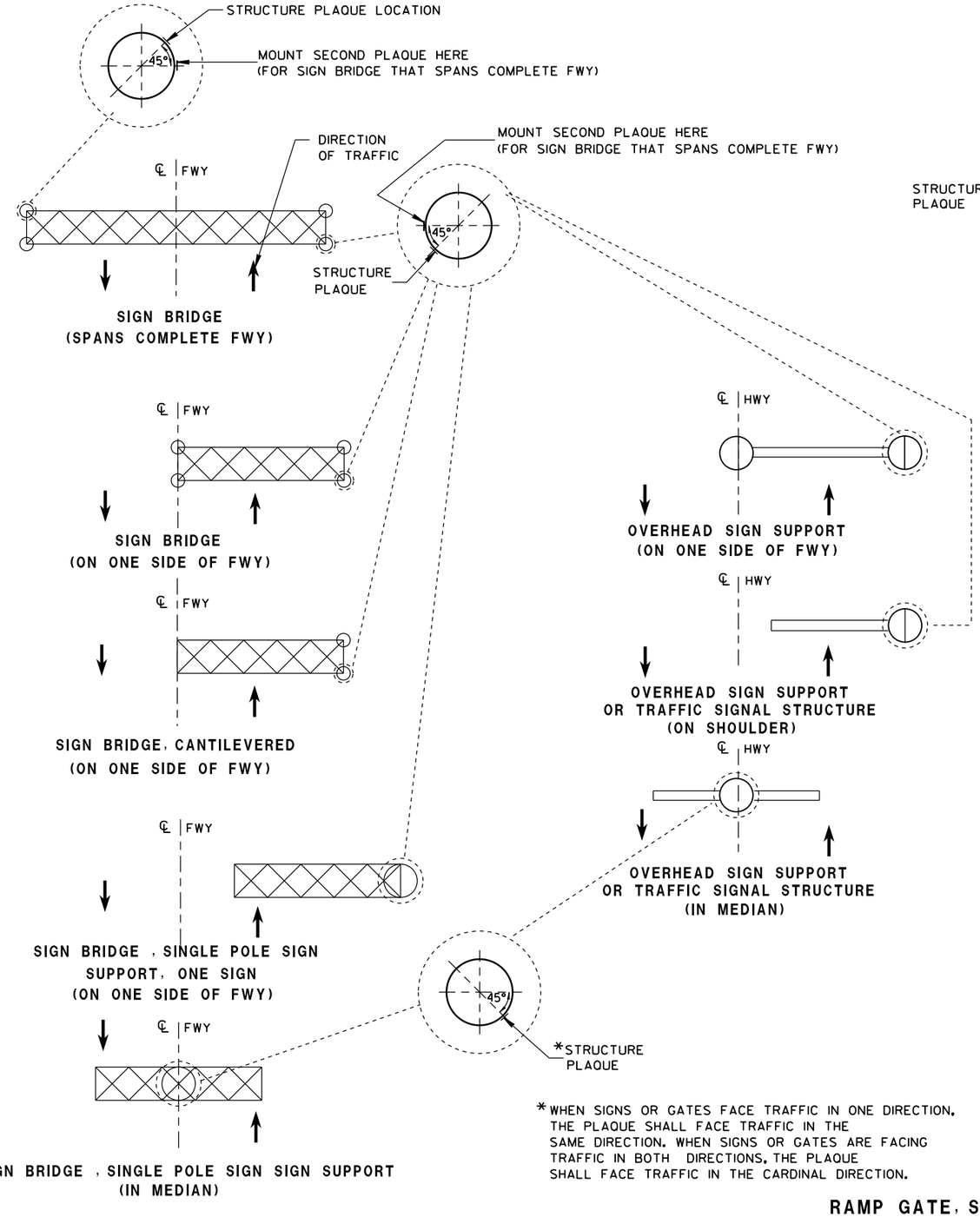
3/26/10 DATE

/S/ Scot Beck-- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

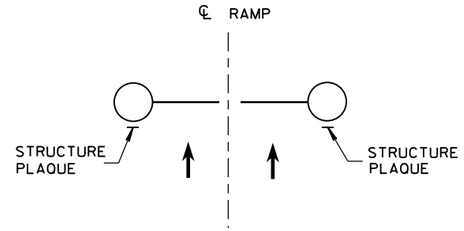
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S.D.D. 12 A 3-10

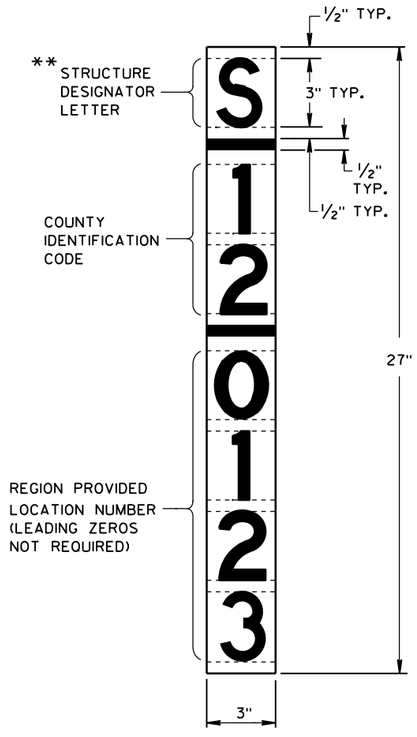


LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES

*WHEN SIGNS OR GATES FACE TRAFFIC IN ONE DIRECTION, THE PLAQUE SHALL FACE TRAFFIC IN THE SAME DIRECTION. WHEN SIGNS OR GATES ARE FACING TRAFFIC IN BOTH DIRECTIONS, THE PLAQUE SHALL FACE TRAFFIC IN THE CARDINAL DIRECTION.



RAMP GATE
(ACROSS FWY ON-RAMP)



** LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

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

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

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

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

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

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

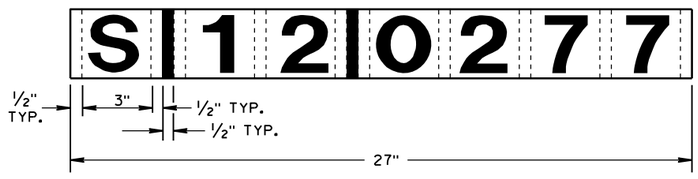
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, ½" WIDE, SELF-ADHESIVE

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

FOR SIGN BRIDGES, STRUCTURE MOUNTED, THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY AS SHOWN ON THE DRAWING. THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY TO THE BACK OF THE SIGN, BETWEEN THE ALUMINUM EXTRUSIONS, NEAR THE TOP LEFT HAND CORNER OF THE SIGN. THE BASE MATERIAL SHALL BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE ALUMINUM SURFACE. PRIOR TO ADHERING THE MATERIAL, THE ALUMINUM SURFACE SHALL BE SMOOTH, CLEAN AND DRY.

WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.



IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED

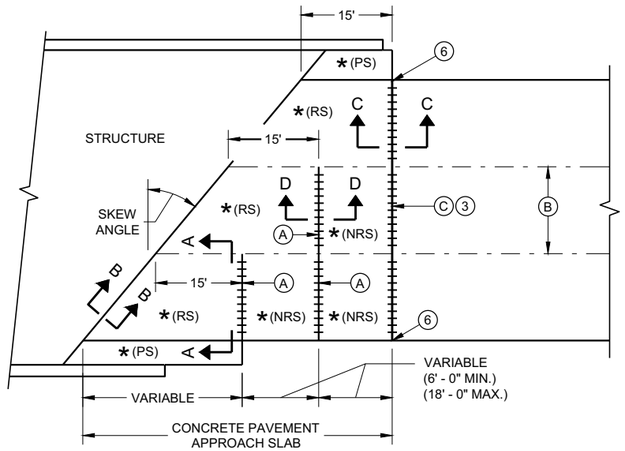
STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, & TRAFFIC SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/4/2012 DATE
/S/ Travis Feltes STATE TRAFFIC ENGINEER
FHWA

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S.D.D. 12 A 4-3



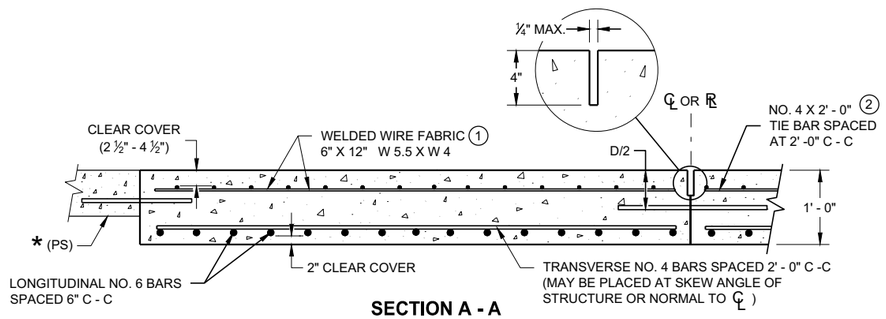
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

* (RS) = REINFORCED CONCRETE SLAB

* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

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



SECTION A - A
REINFORCEMENT POSITIONING DETAIL

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

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

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

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

(4) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

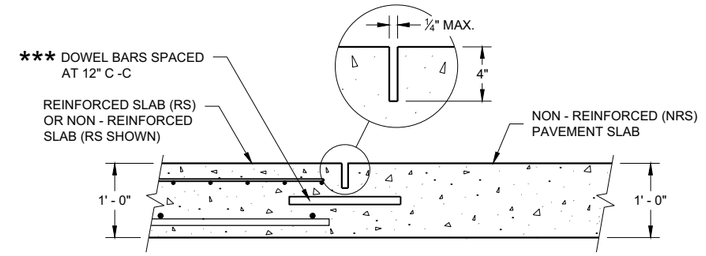
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

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

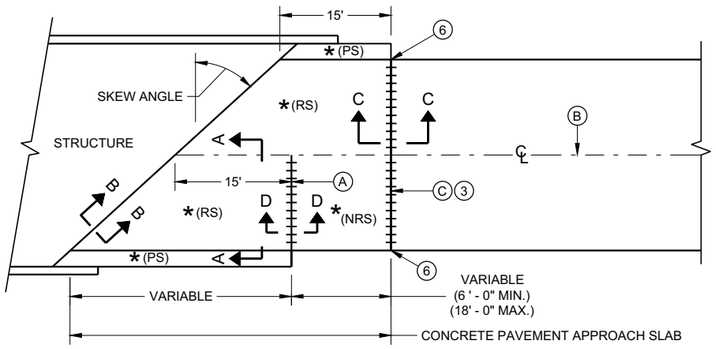
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

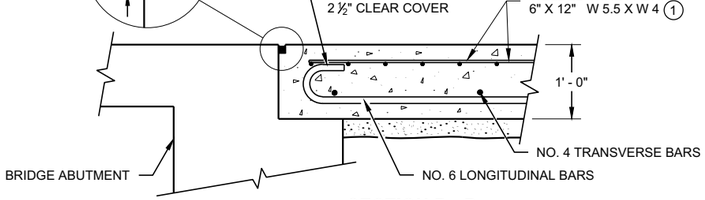
(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .



SECTION D - D
CONTRACTION JOINT

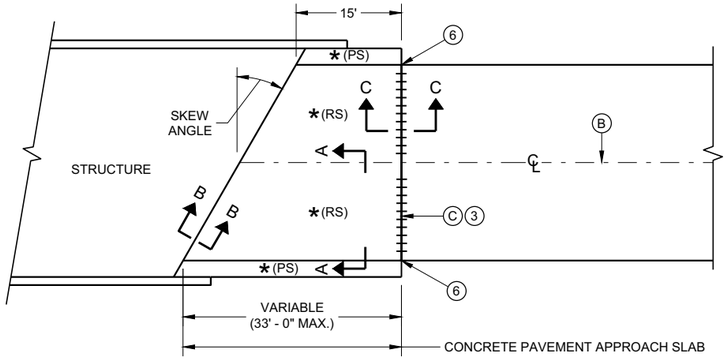


SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



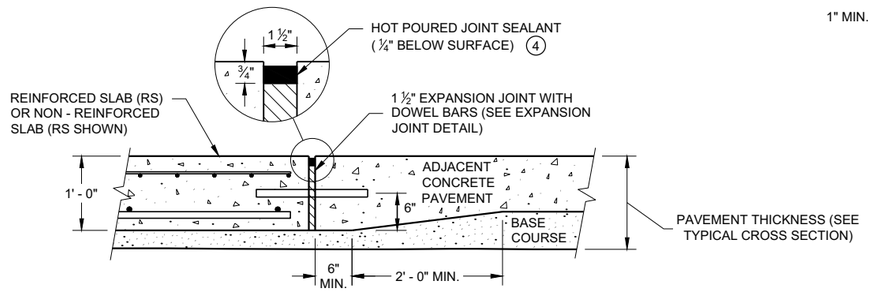
SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT

EXPANSION JOINT DETAIL



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

APPROACH SLAB AND ADJACENT PAVEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

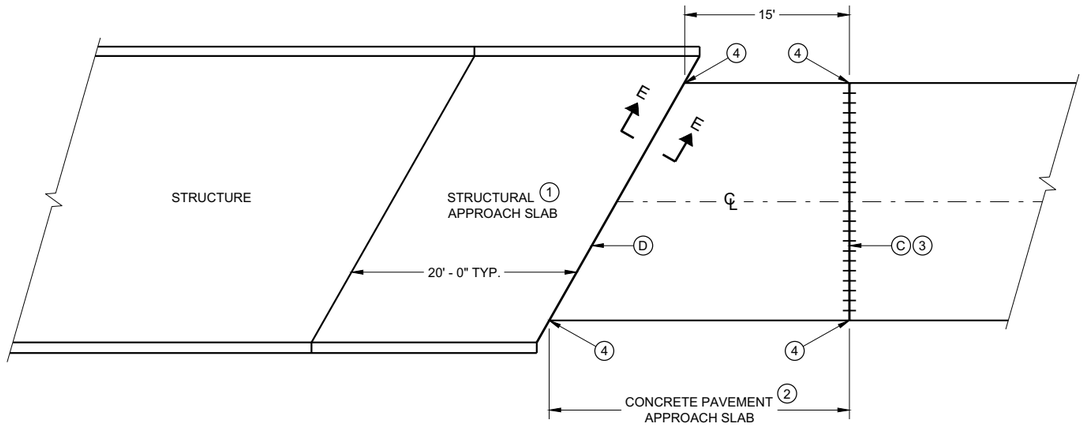
/S/ Peter Kemp, P.E.
PAVEMENT SUPERVISO

FHWA

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SDD 13B02 - 09a

SDD 13B02 - 09a



BRIDGE APPROACHES

GENERAL NOTES

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

(1) SEE BRIDGE PLAN.

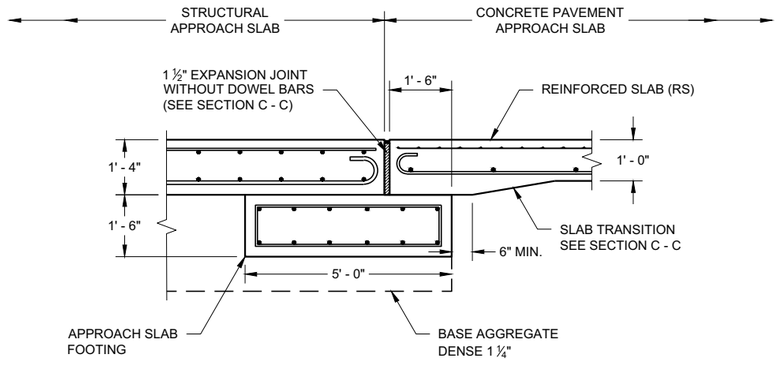
(2) CONFORM TO SDD 13B02 SHEET A FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS

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

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

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

(D) 1 ½" EXPANSION JOINT (NO DOWELS)



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

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

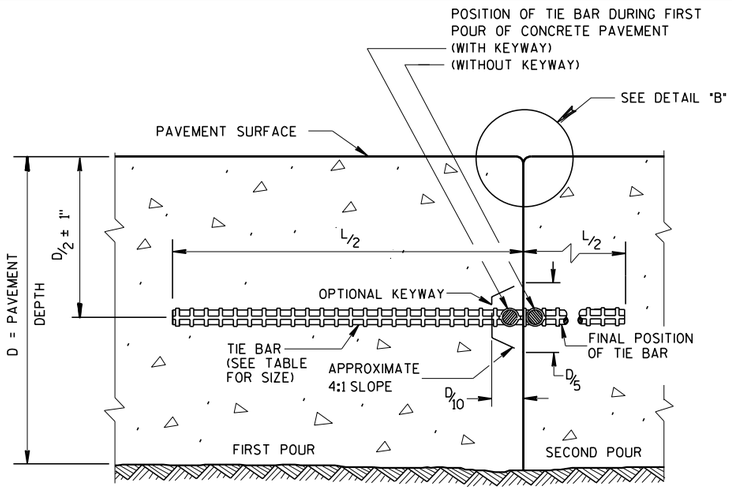
APPROVED
November 2018
DATE
/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

FHWA

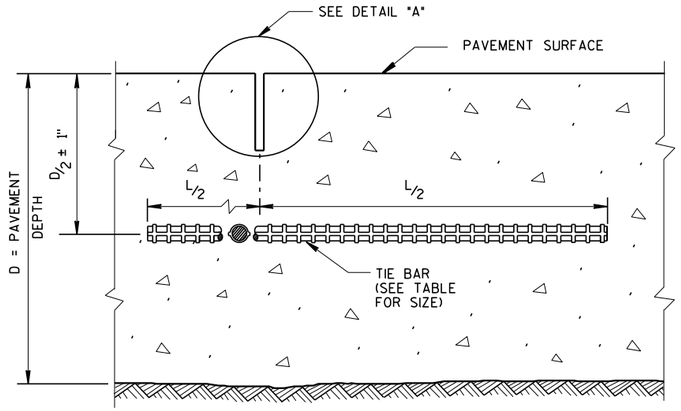
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SDD 13B02 - 09b

SDD 13B02 - 09b



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

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

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

DETAIL "C"

TIE BAR TABLE

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

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

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

PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

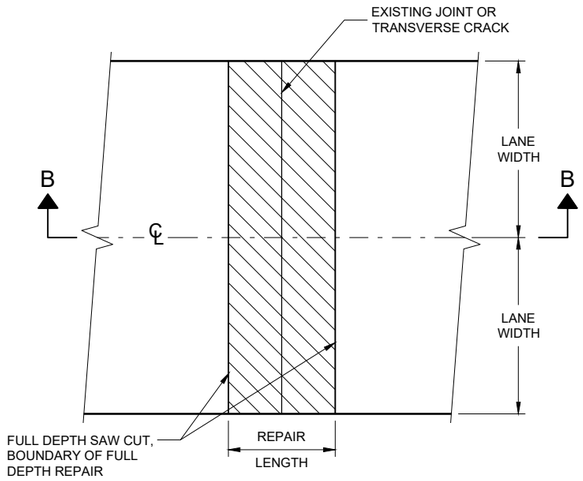
APPROVED
March 2018
DATE
/S/ Peter Kemp, PE
PAVEMENT SUPE
FHWA

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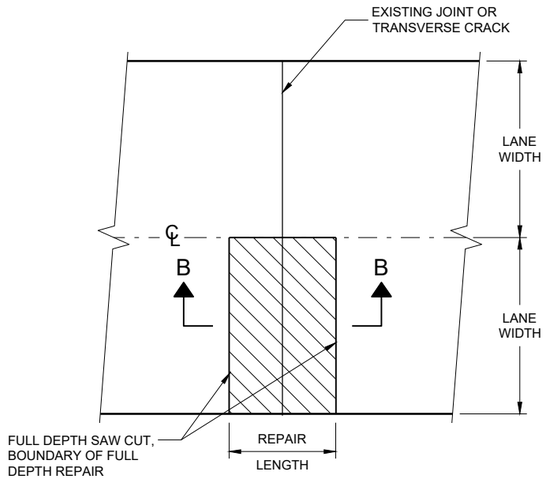
S.D.D. 13 C 1-19

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S.D.D. 13 C 1-19



PLAN VIEW
DOUBLE LANE REPAIR



PLAN VIEW
SINGLE LANE REPAIR

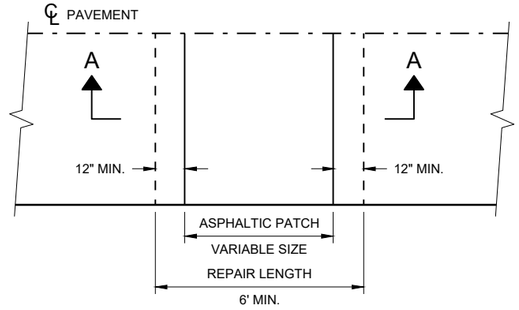
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

PROVIDE A 6 FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREA TO ADJACENT TRANSVERSE JOINT OR CRACK.

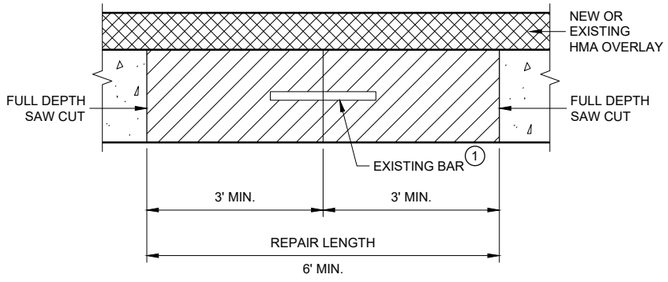
THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NON-DOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

(1) DOWEL BARS MAY NOT BE PRESENT.

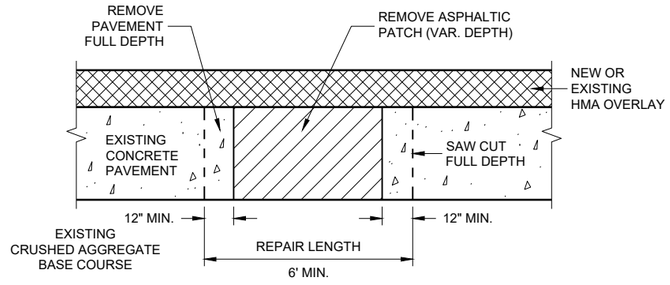


PLAN VIEW

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION B - B
CONCRETE REMOVAL



SECTION A - A

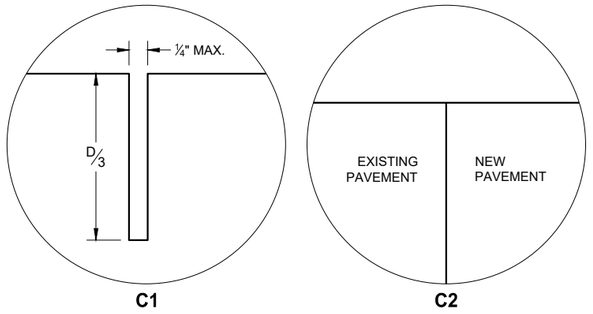
HMA PATCH REMOVAL

BASE PATCHING CONCRETE

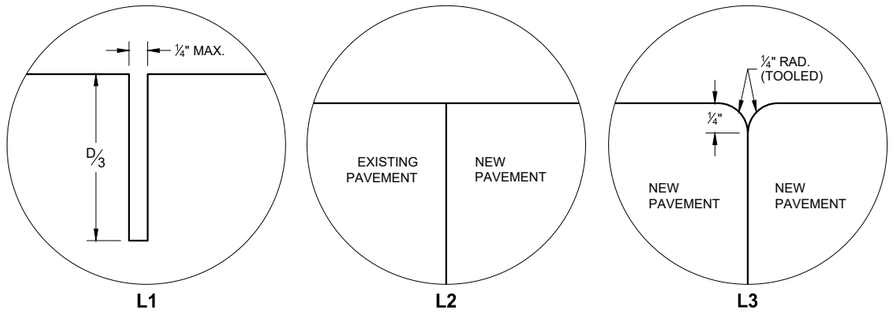
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

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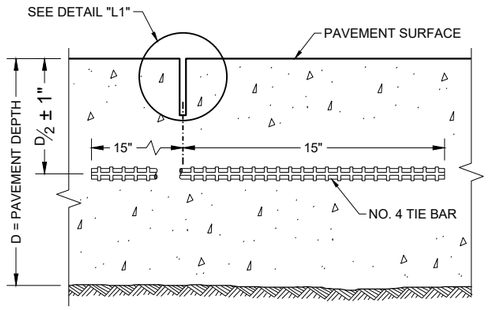
SDD 13C14 - 07a



TRANSVERSE JOINTS

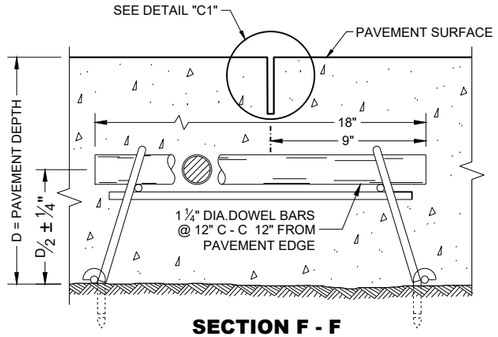


LONGITUDINAL JOINTS



SECTION C - C

SAWED LONGITUDINAL JOINT



SECTION F - F

CONTRACTION JOINT

GENERAL NOTES

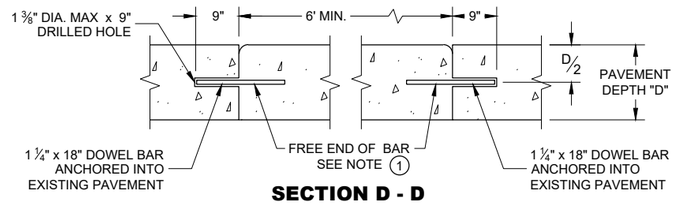
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE BASE PATCHES OF EXISTING NON-DOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

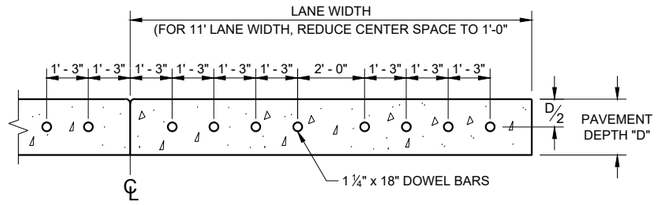
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT O EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

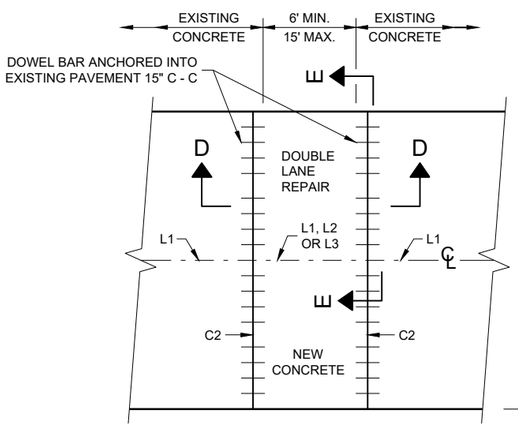


SECTION D - D



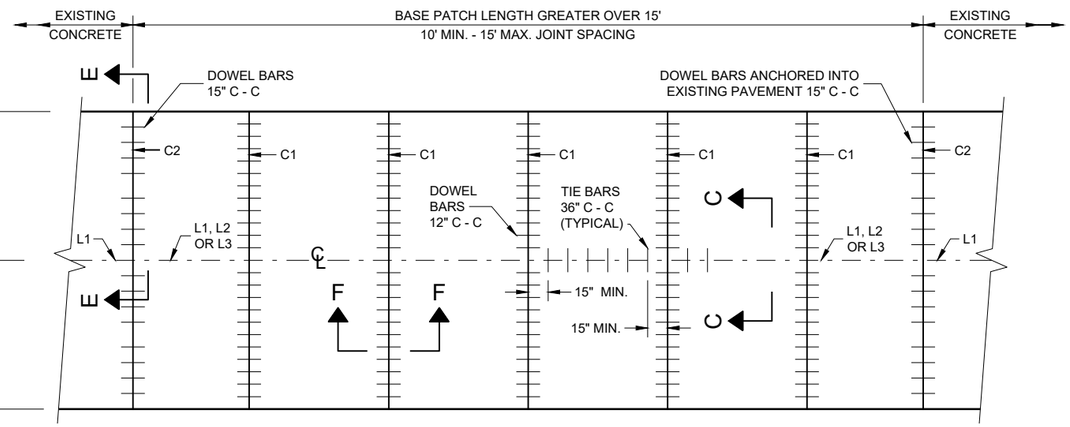
SECTION E - E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT



PLAN VIEW

MULTILANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



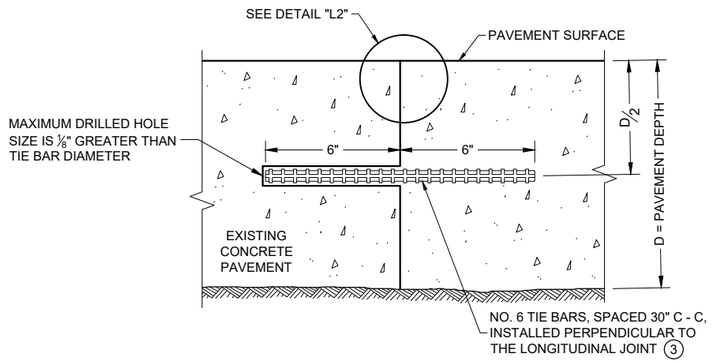
PLAN VIEW

MULTILANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

BASE PATCHING CONCRETE

6

SDD 13C14 - 07b

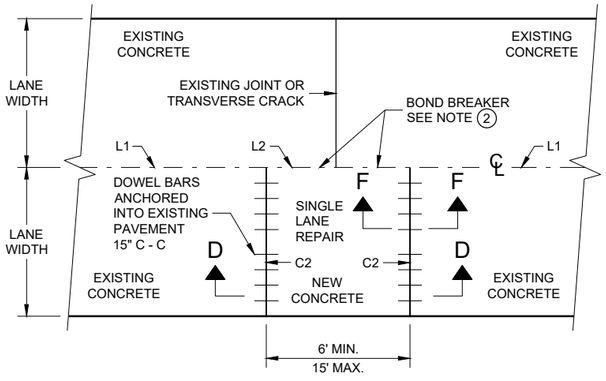


SECTION G - G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

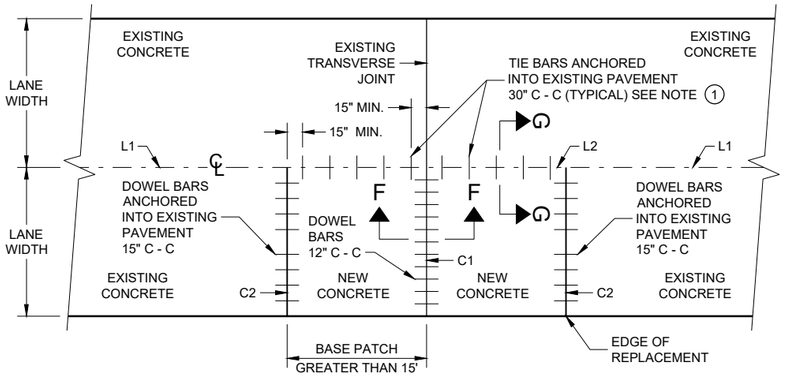
GENERAL NOTES

1. WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
2. USE AN ENGINEER APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.
3. ANCHOR TIE BARS INTO DRILLED HOES WITH AN EPOXY.



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH
15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH
GREATER THAN 15' LENGTH

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

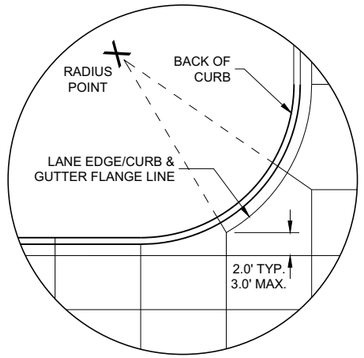
APPROVED
March 2018
DATE

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

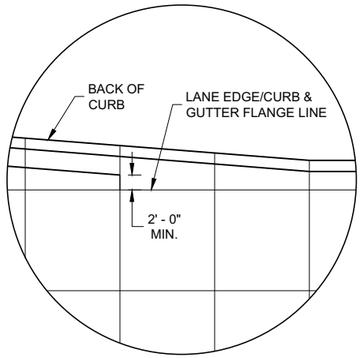
FHWA

SDD 13C14 - 07c

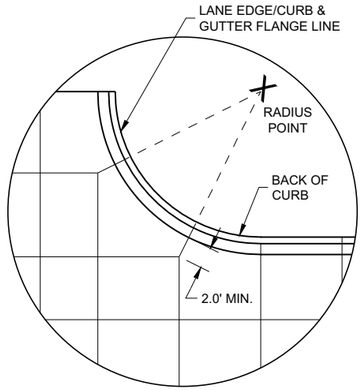
SDD 13C14 - 07c



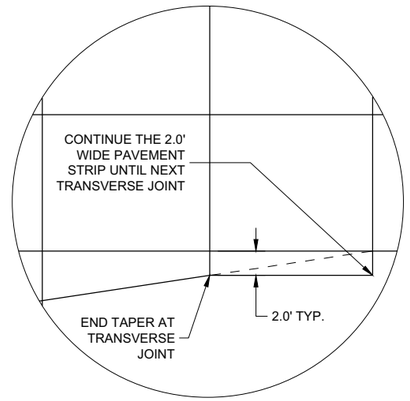
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

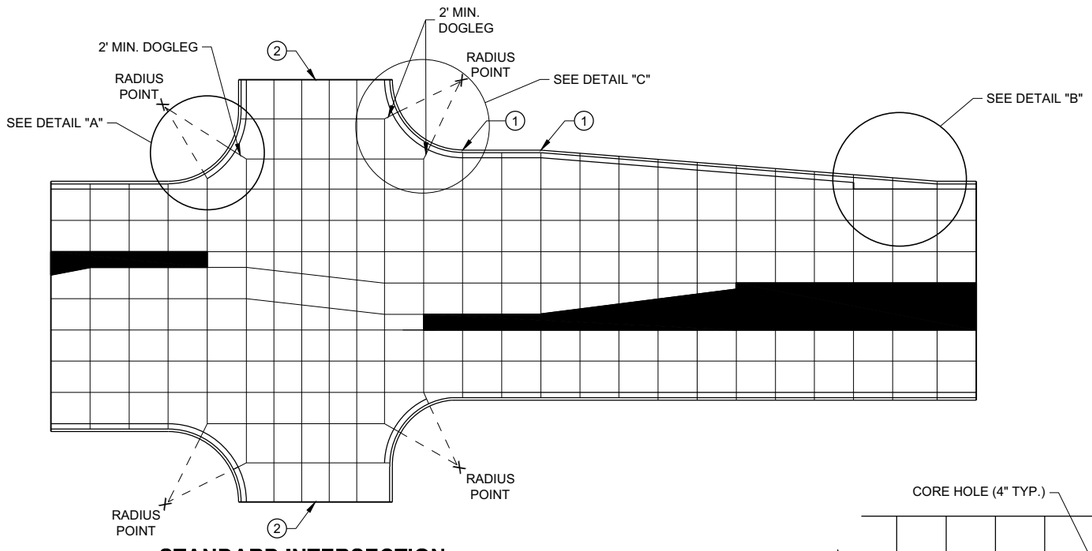
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

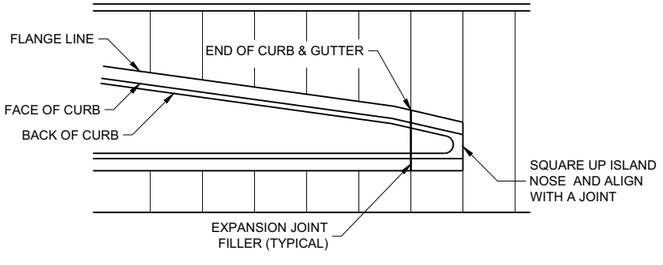


STANDARD INTERSECTION

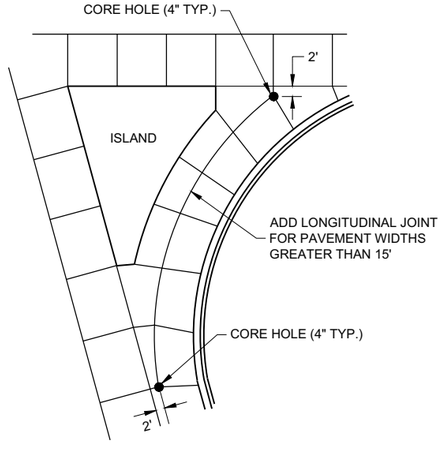
PAVEMENT DEPTH AND JOINT SPACING TABLE

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

SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

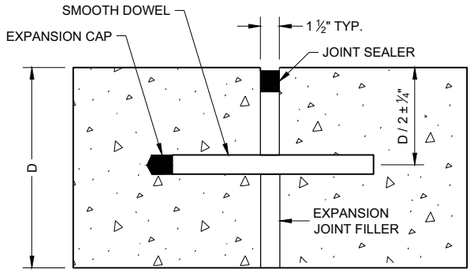
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

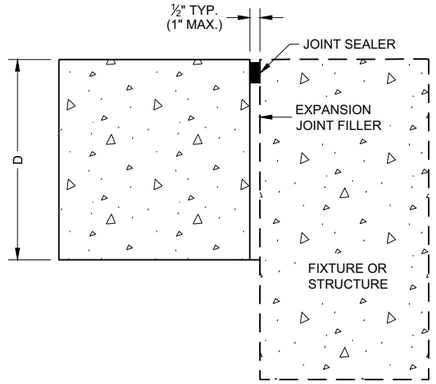
SDD 13C18 - 07a

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SDD 13C18 - 07a



DOWELED TRANSVERSE (1)



UNTIED - LONGITUDINAL

EXPANSION JOINTS

TIE BAR TABLE

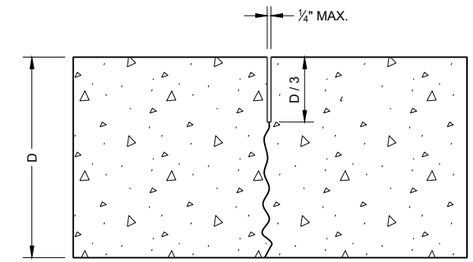
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4*	30"	24"**

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

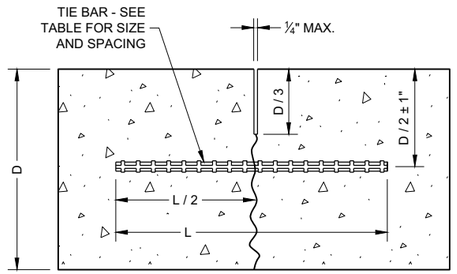
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

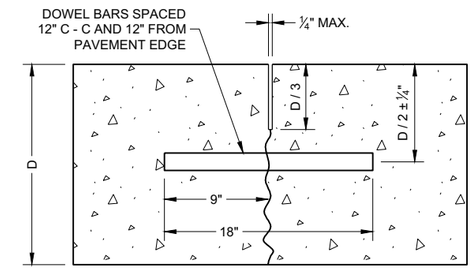
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATETHE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A ¼" RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



UNDOWELED TRANSVERSE

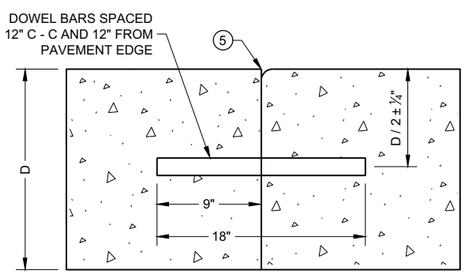


TIED LONGITUDINAL

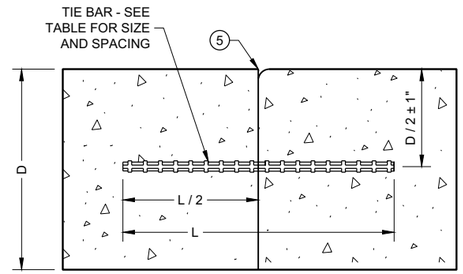


DOWELED TRANSVERSE

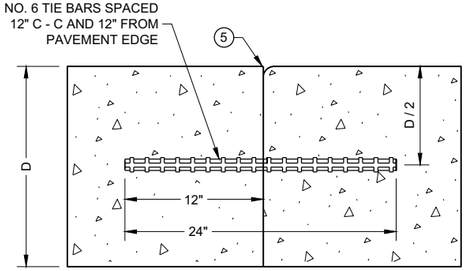
CONTRACTION JOINTS (2)



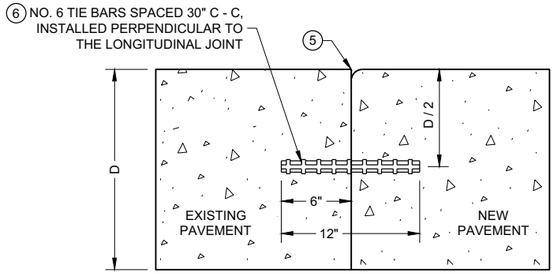
DOWELED TRANSVERSE (3)



TIED LONGITUDINAL



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



TIED LONGITUDINAL TO EXISTING

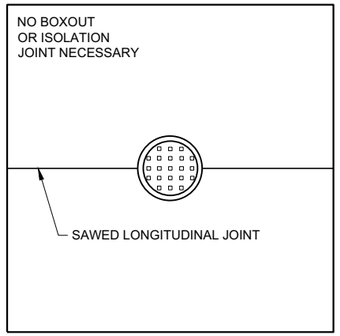
CONSTRUCTION JOINTS (4)

CONCRETE PAVEMENT JOINT TYPES

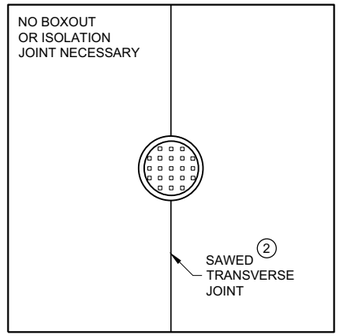
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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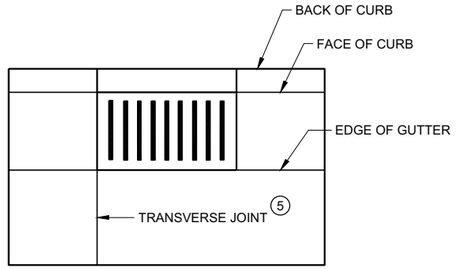
SDD 13C18 - 07c



MANHOLE WITH LONGITUDINAL JOINT



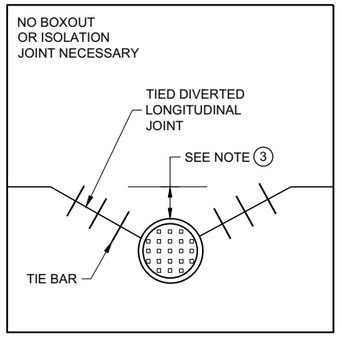
MANHOLE WITH TRANSVERSE JOINT



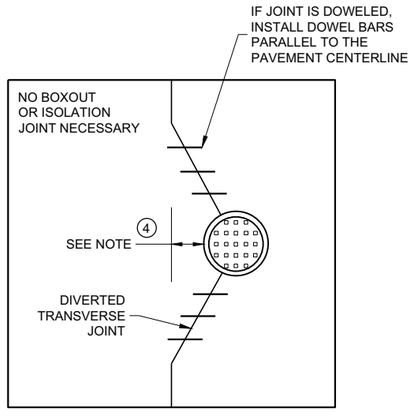
INLET WITH TRANSVERSE JOINT

GENERAL NOTES

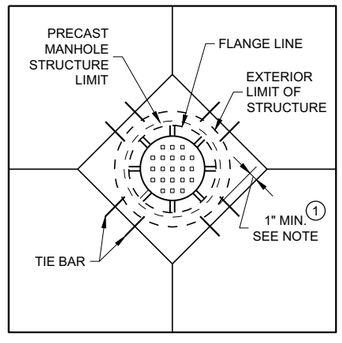
1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF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



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT



DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

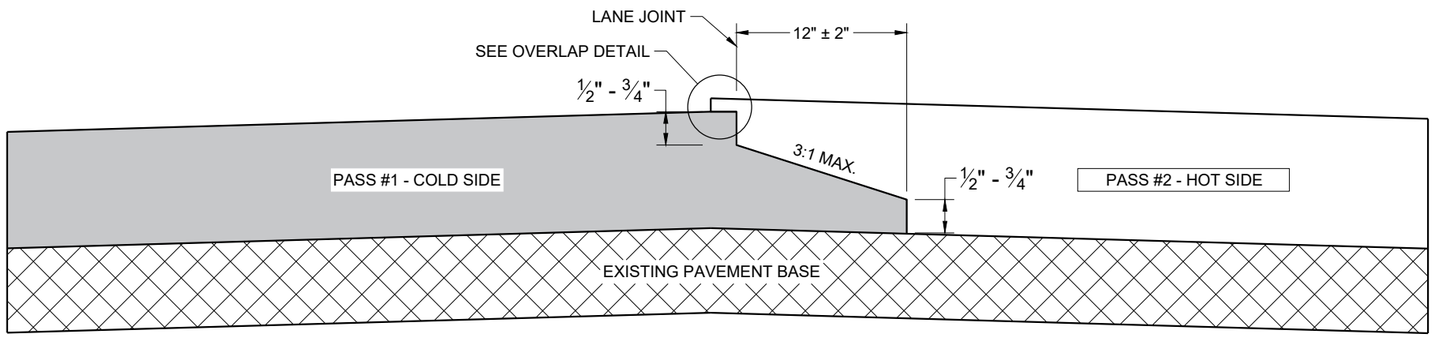
FHWA

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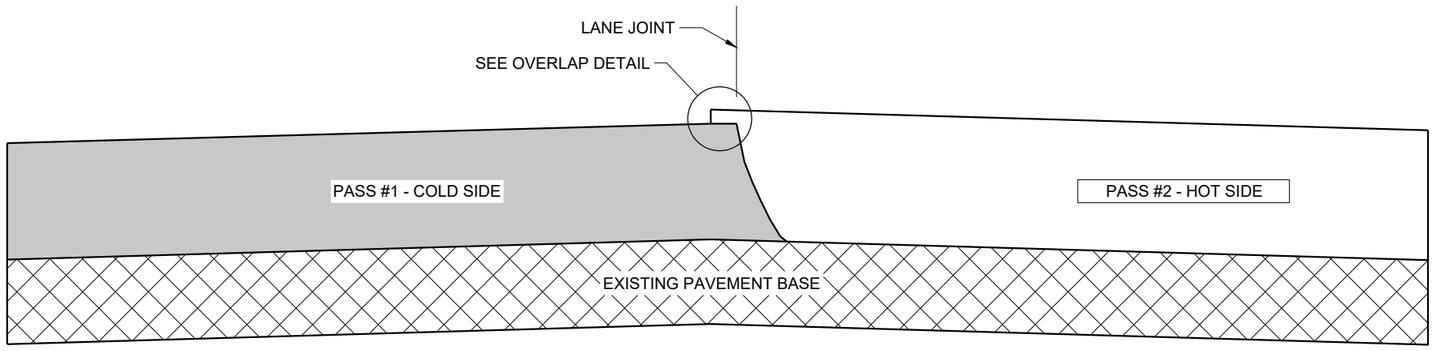
SDD13C18 - 07d

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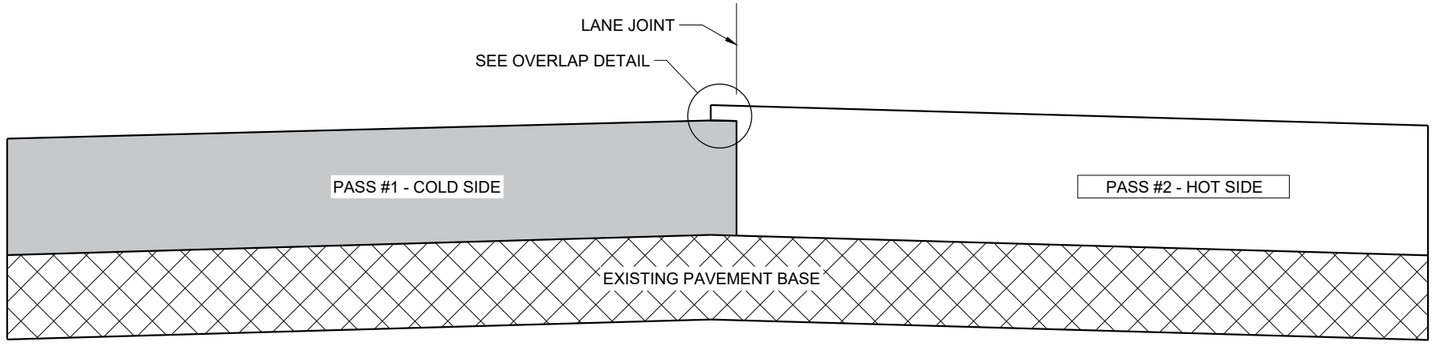
SDD13C18 - 07d



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

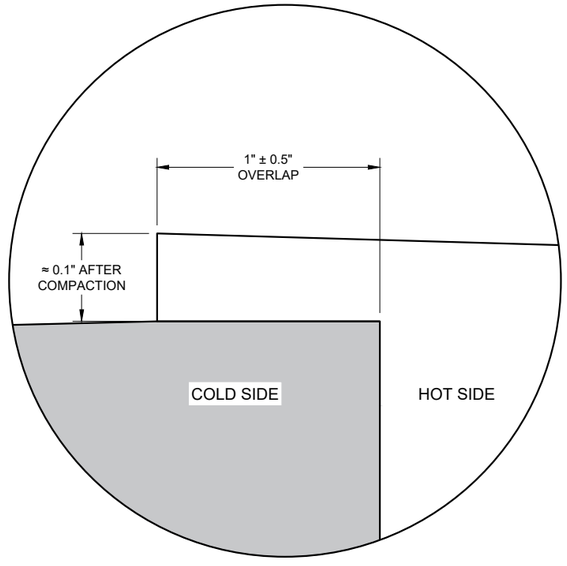
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

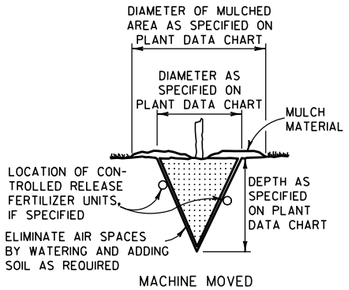
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

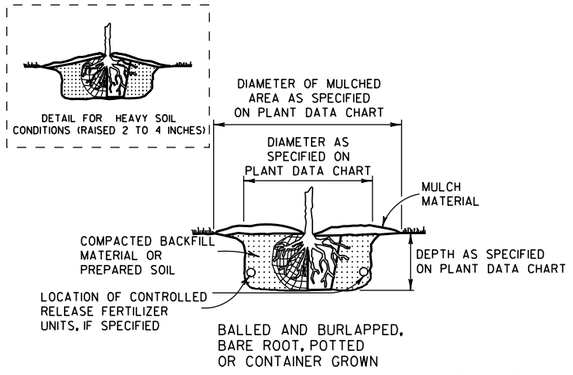
APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

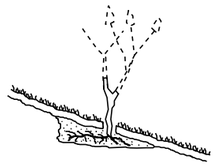
FHWA



MACHINE MOVED

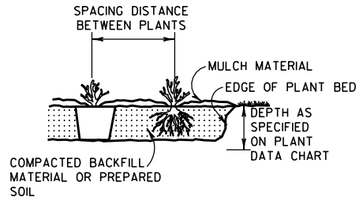


BALLED AND BURLAPPED, BARE ROOT, POTTED OR CONTAINER GROWN



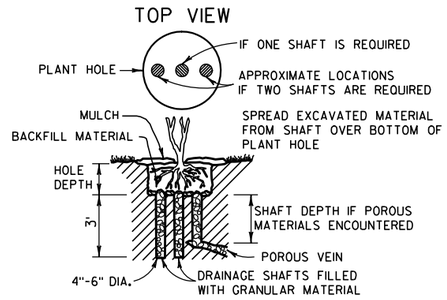
ACCOMMODATE ROOTS (SMOOTH AND STAGHORN SUMAC)

NOTE:
1) ENGINEER SHALL REQUIRE 3 SLITS IN POT TO SPEED DETERIORATION
2) METAL, PLASTIC OR OTHER NONDEGRADABLE POTS SHALL BE REMOVED PRIOR TO PLANTING



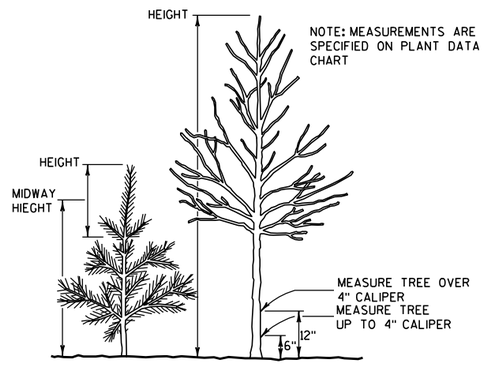
PREPARED BED (BARE ROOT AND POTTED)

PLANTING

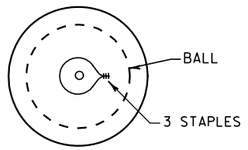


NOTE:
DRAINAGE SHAFT AS SPECIFIED ON PLANT DATA CHART

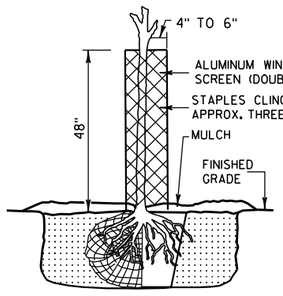
DRAINING



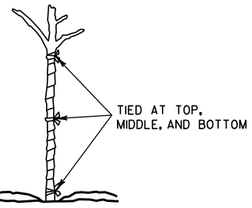
MEASURING



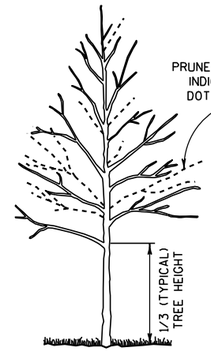
TOP VIEW



RODENT PROTECTION



WRAPPING

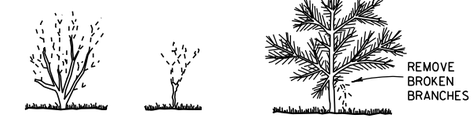


TALL DECIDUOUS TREES (ASH, MAPLE, LINDEN, OAK)

SINGLE STEMMED LOW DECIDUOUS TREES (CRABS AND OTHER SINGLE STEM TYPE)

MULTI-STEMMED LOW DECIDUOUS TREES OR LARGE SHRUBS (HAWTHORN, SERVICEBERRY)

NOTE: WHEN PRUNING, PRESERVE CHARACTER AND SHAPE OF TREE. AVOID LEAVING STUBS - REMOVE BRANCH OR TWIG BACK TO THE NEAREST CROTCH
1) PRUNE TO REMOVE DEAD AND BROKEN BRANCHES
2) PRUNE TO REMOVE BRANCHES THAT TOUCH OR ARE TOO CLOSE TO OTHER BRANCHES

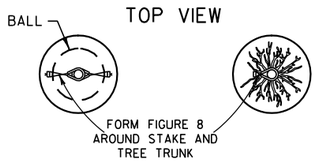


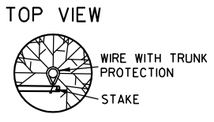
SHRUBS (GRAY DOGWOOD ARROWWOOD VIBURNUM)

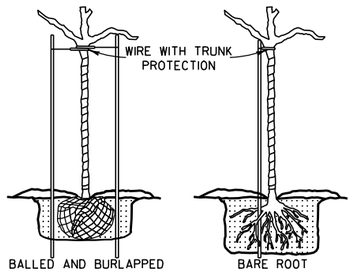
SUMAC

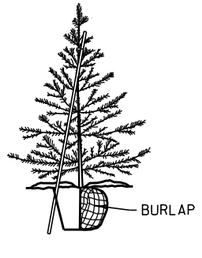
TREE TYPE EVERGREENS (PINE, SPRUCE, FIR) EVERGREENS USUALLY ARE NOT PRUNED

PRUNING



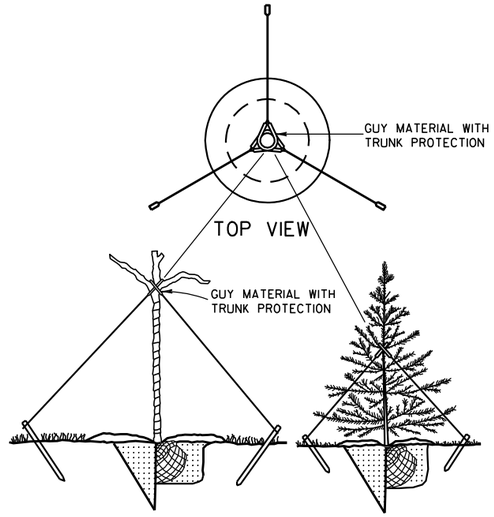






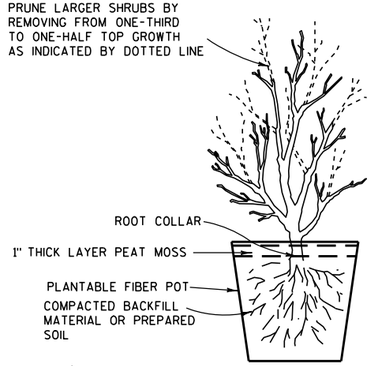
NOTE: BRACING STAKE
1) SHALL BE DRIVEN INTO THE GROUND AS CLOSE TO THE TREE AS POSSIBLE WITHOUT DAMAGING THE BRANCHES.
2) MAY BE DRIVEN AT SUCH AN ANGLE THAT IT DOES NOT PENETRATE THE BALL OR POT.
3) SHALL NOT PROTRUDE ABOVE THE TOP OF THE TREE; AND
4) SHALL HAVE A HOLE NEAR THE TOP TO HOLD THE WIRE IN PLACE.

BRACING



GUYING

PRUNE LARGER SHRUBS BY REMOVING FROM ONE-THIRD TO ONE-HALF TOP GROWTH AS INDICATED BY DOTTED LINE



POTTING

NOTES

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

BRACING, WRAPPING, GUYING, RODENT PROTECTION, FERTILIZER AND MULCH SHALL BE USED ONLY WHEN SPECIFIED ON THE PLANT DATA CHART (PART OF PLAN) OR SPECIAL PROVISIONS.

TREE PLANTING DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/11/94 DATE
/S/ Rory L. Rhinesmith
CHIEF METHODS DEVELOPMENT ENGINEER
FHWA

S.D.D. 14 A 2-1

S.D.D. 14 A 2-1

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

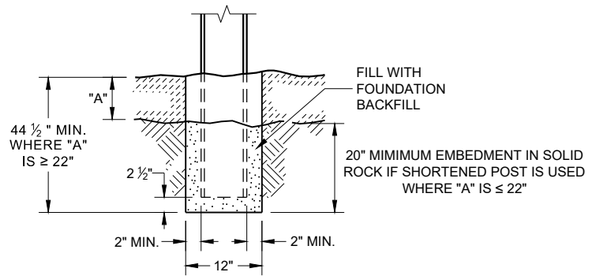
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

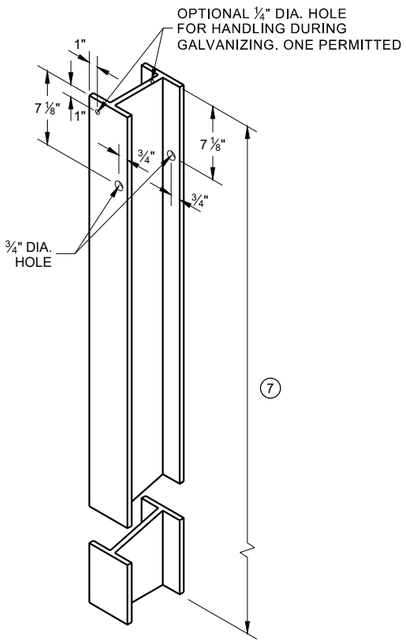
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

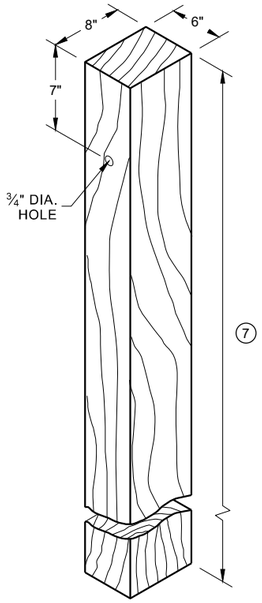
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



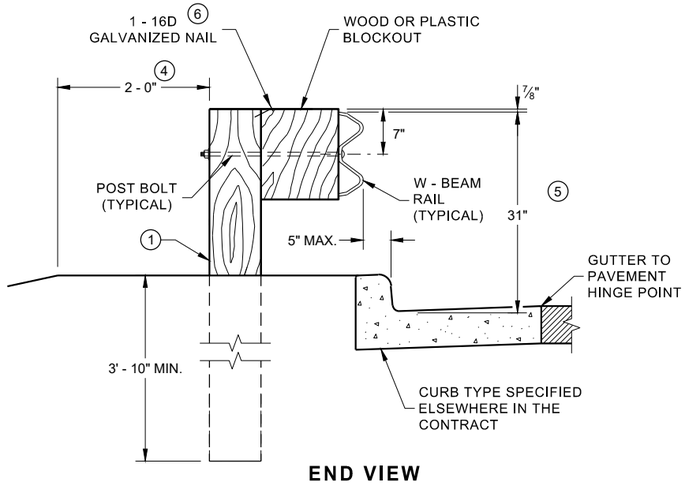
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



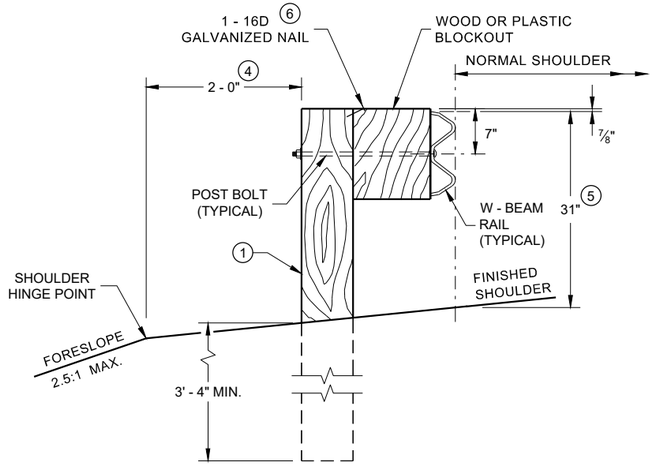
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



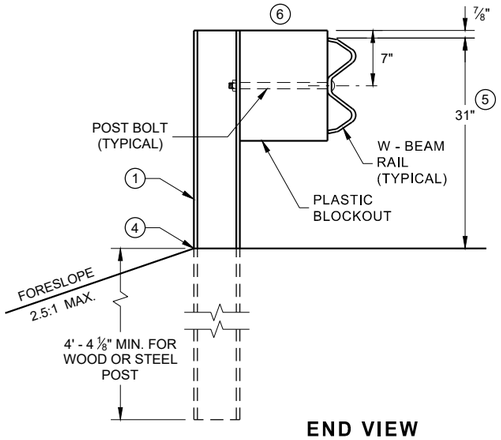
WOOD POST (6" X 8") NOMINAL (1)



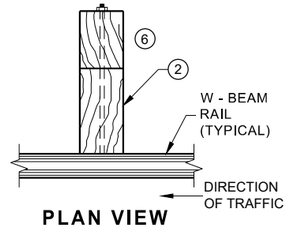
END VIEW
LOCATED ALONG A CURBED ROADWAY



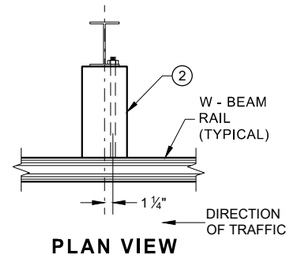
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



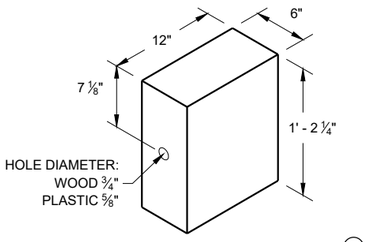
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

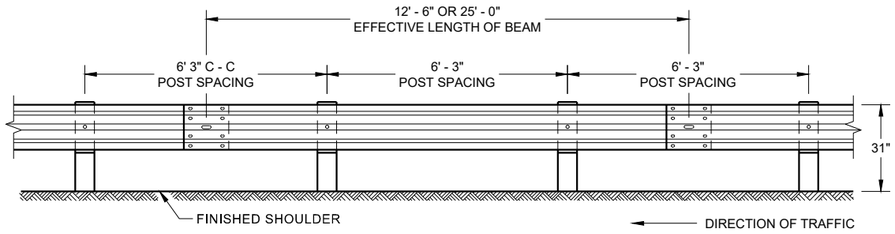
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

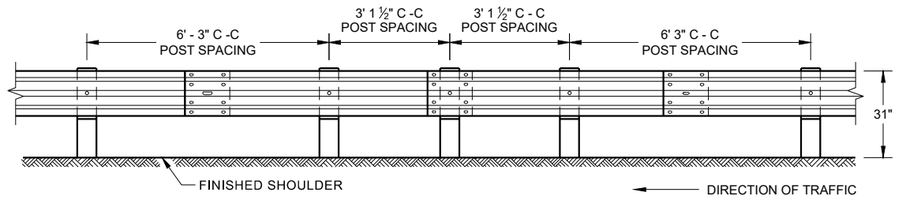
SDD 14B42 - 07a

6

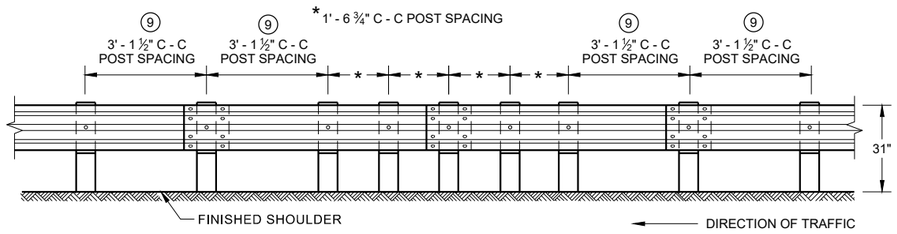
SDD 14B42 - 07a



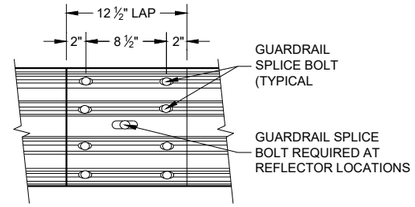
FRONT VIEW
POST SPACING STANDARD INSTALLATION



FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

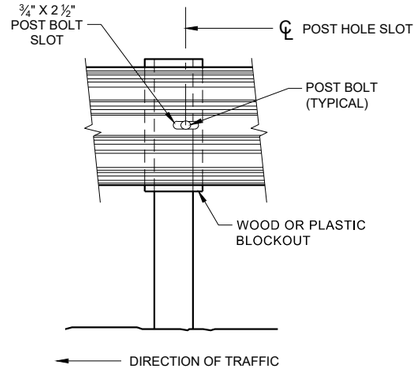
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

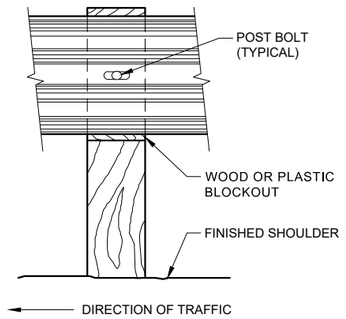
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

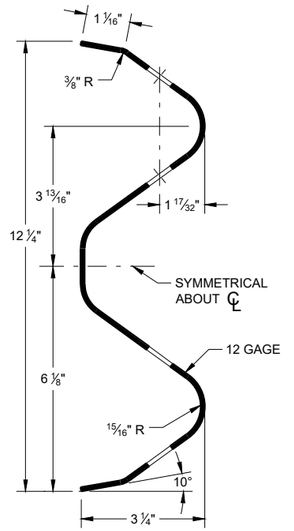
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



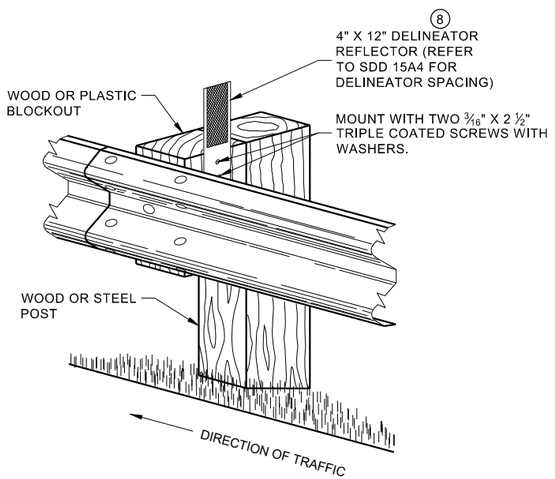
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



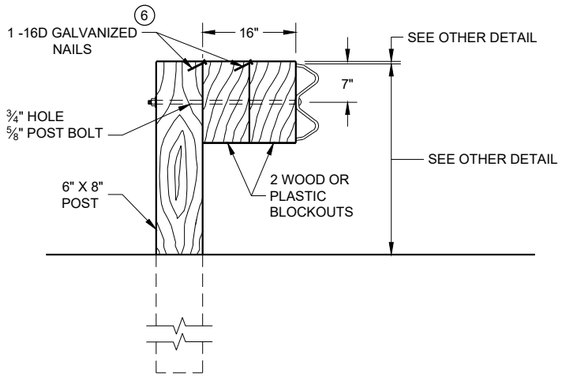
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 07b
SDD 14B42 - 07b

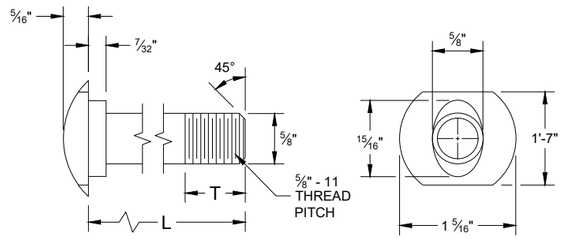


DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

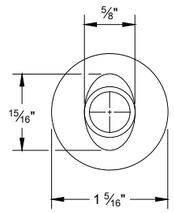
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

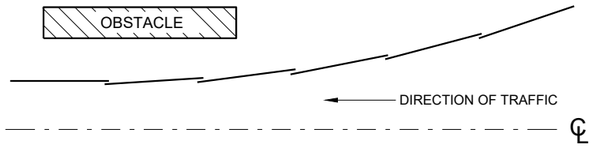


POST BOLT TABLE

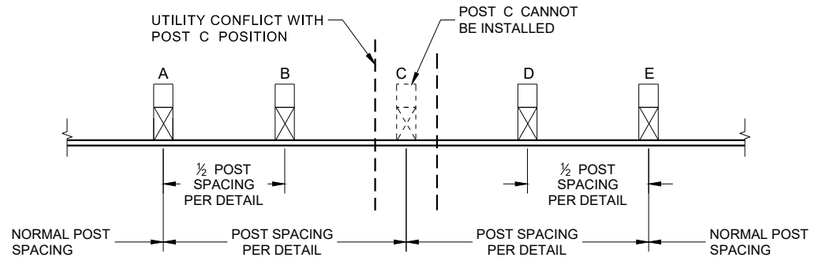
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



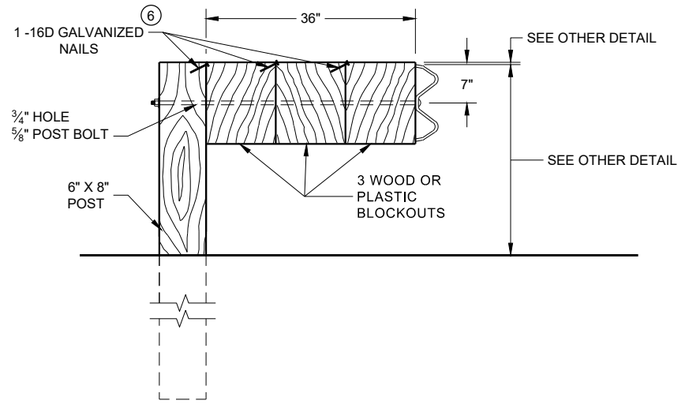
ALTERNATE BOLT HEAD



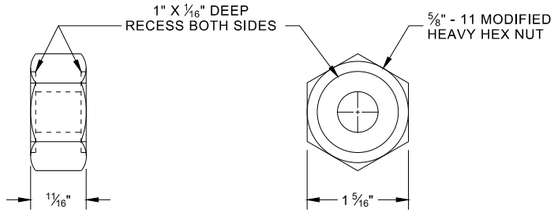
PLAN VIEW
BEAM LAPPING DETAIL



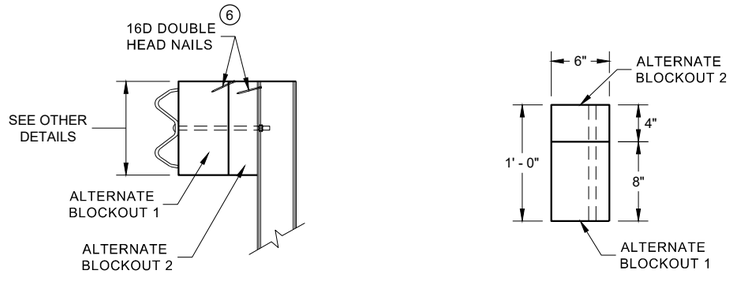
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW

PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

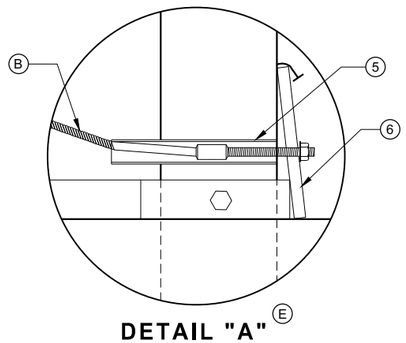
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

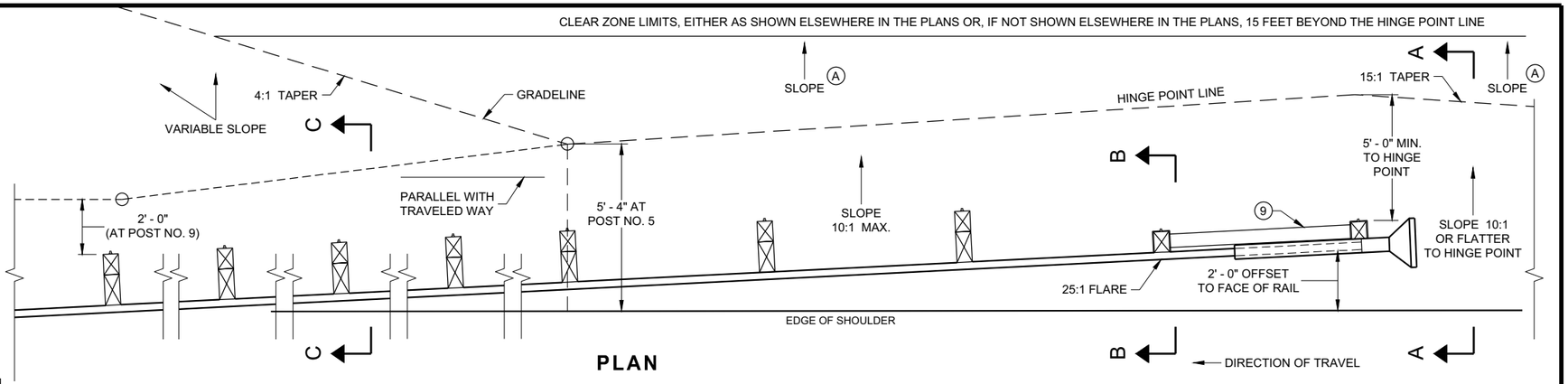
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

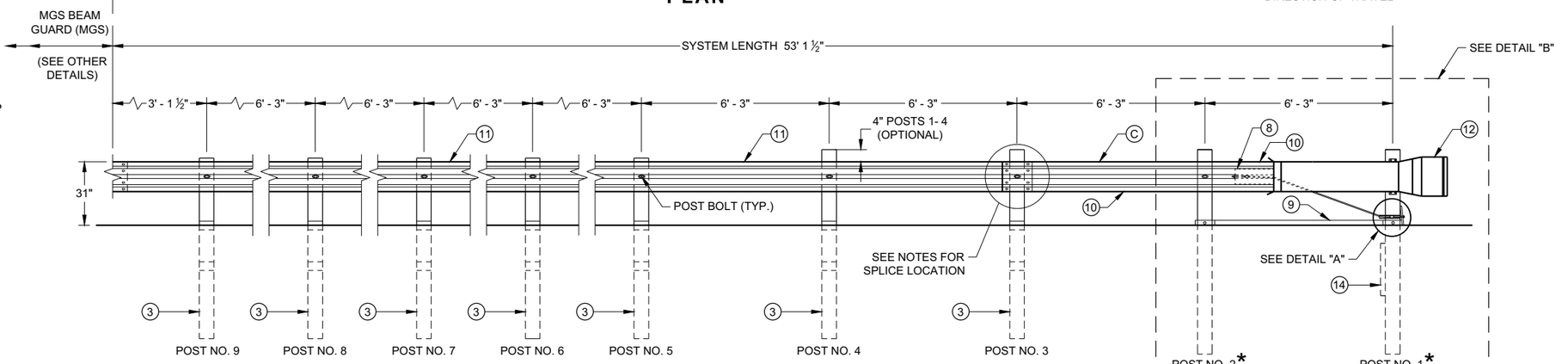
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



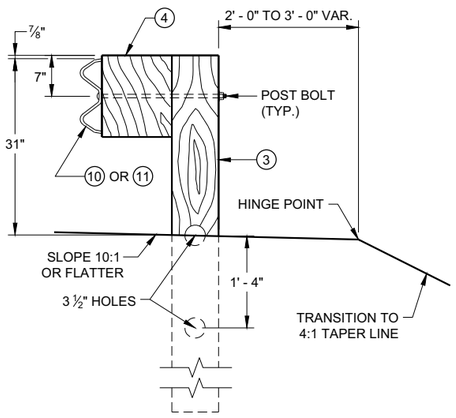
DETAIL "A" (E)



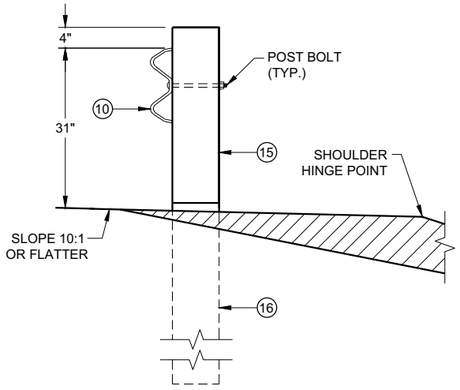
PLAN



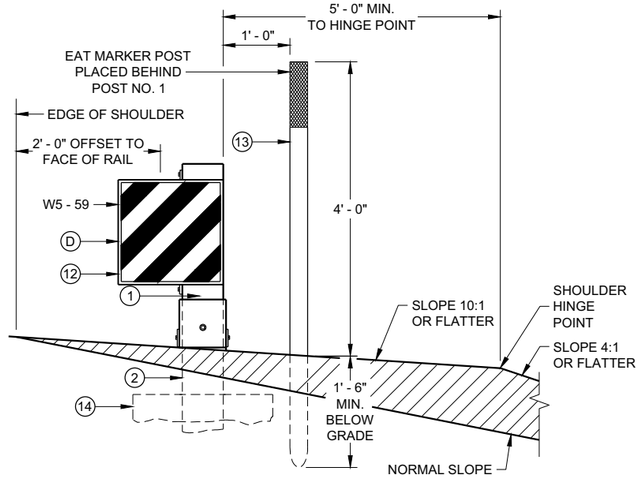
ELEVATION



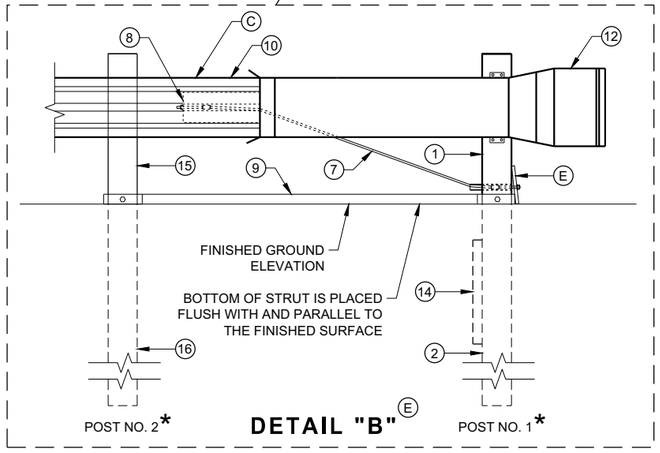
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



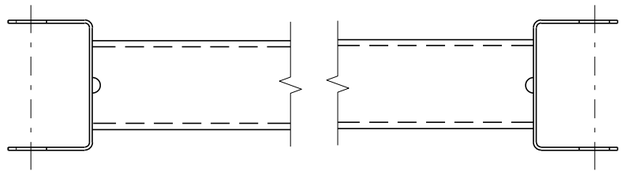
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

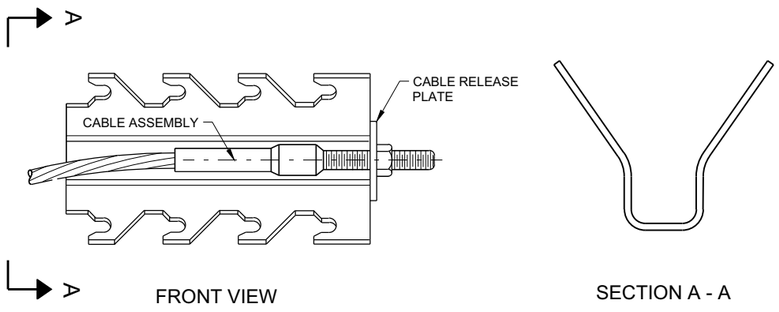
SDD 14B44 - 04a



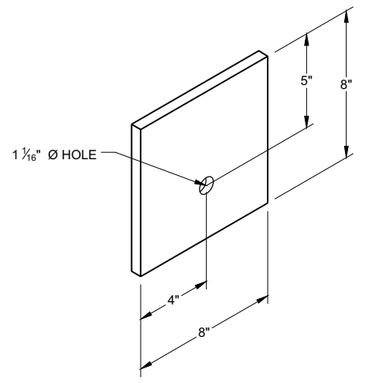
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

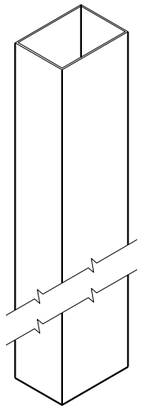
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SDD 14B44 - 04b

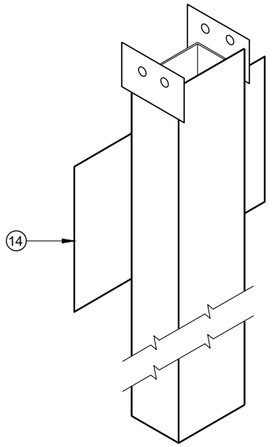
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

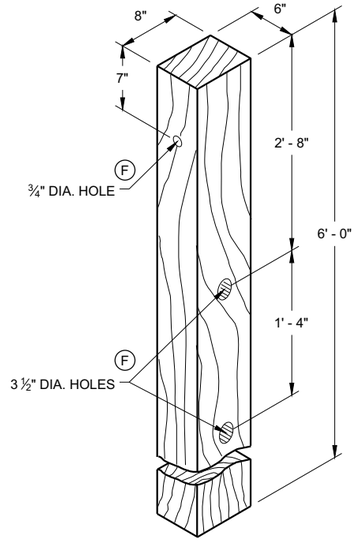
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA



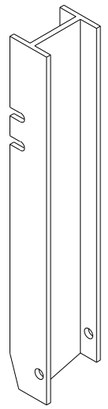
UPPER POST NO. 1 (1) (E)



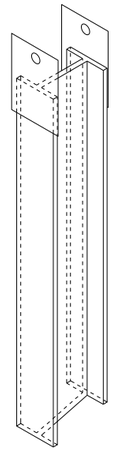
LOWER POST NO. 1 (2) (E)



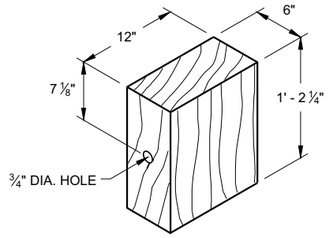
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



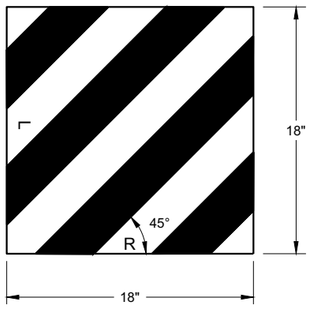
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

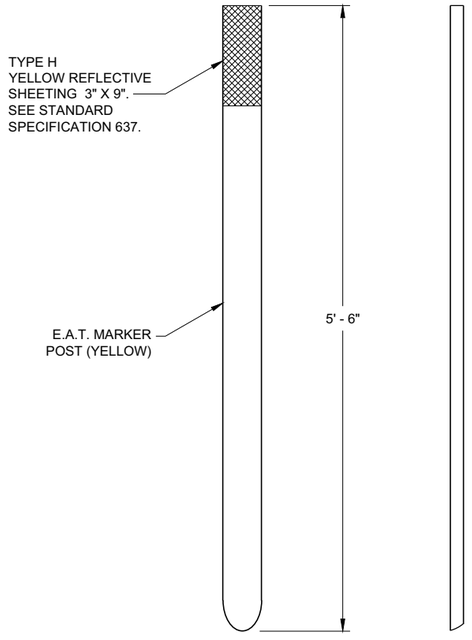


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



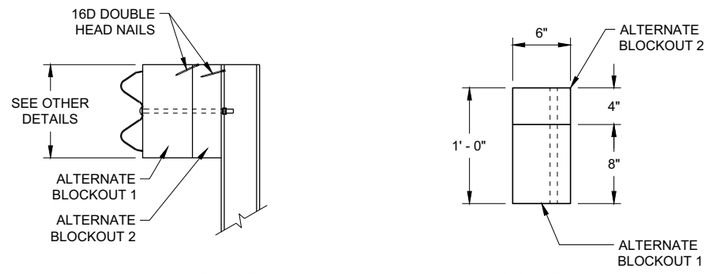
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

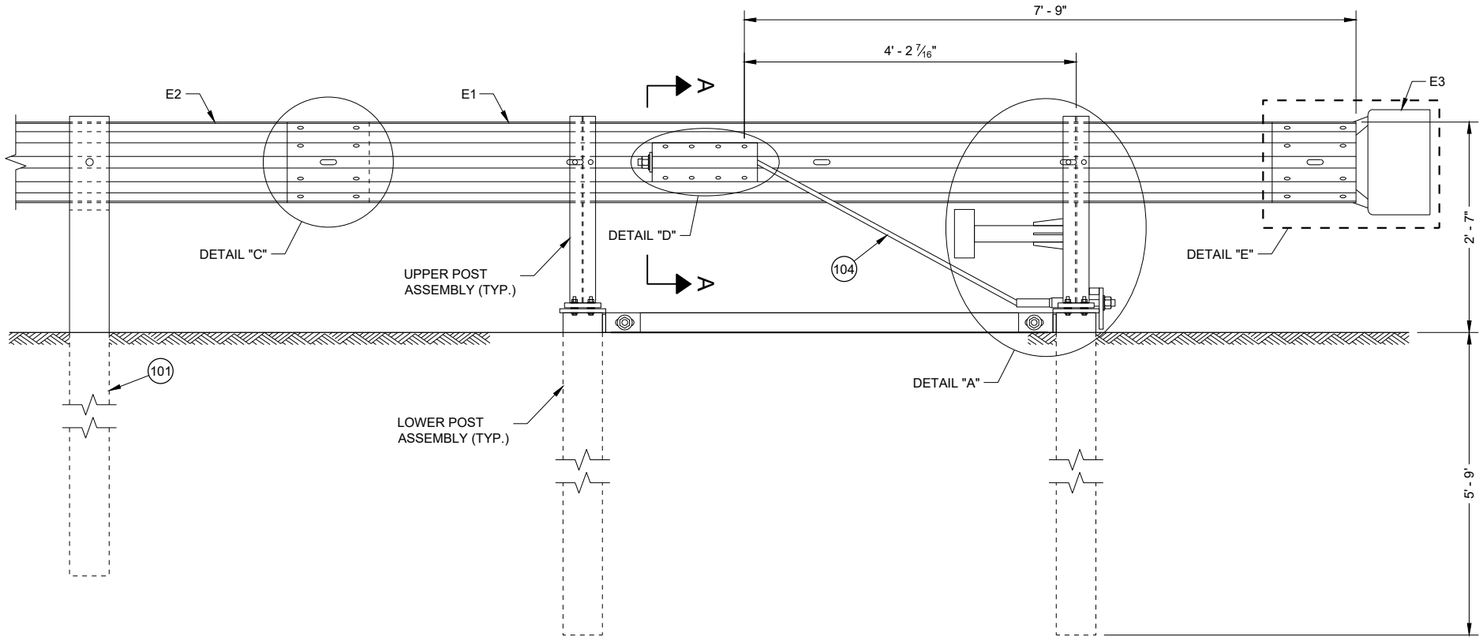
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

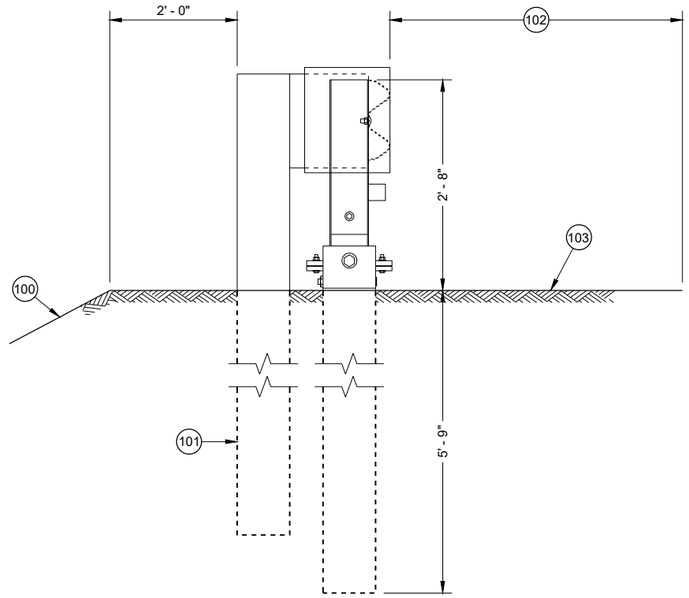
FHWA

6

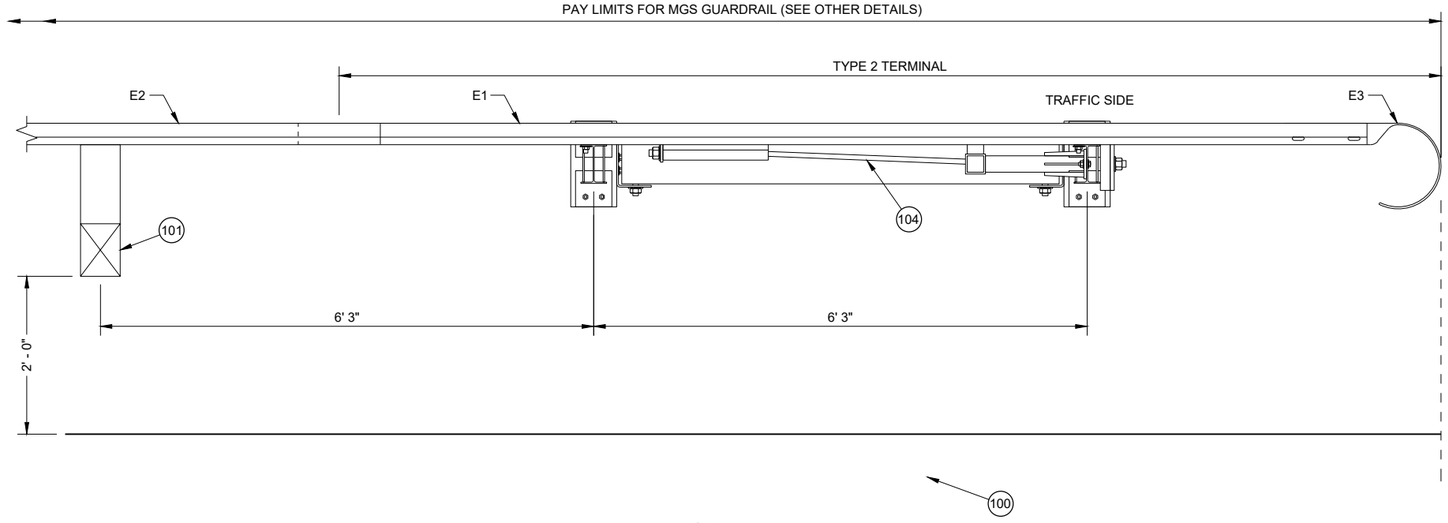
SDD 14B44 - 04c



BACK VIEW
TYPE 2 TERMINAL



SIDE VIEW
TYPE 2 TERMINAL



TOP VIEW
TYPE 2 TERMINAL

GENERAL NOTES

(100) MAXIMUM SLOPE IS 2.5:1.

(101) SEE SDD 14B42 FOR MORE INFORMATION.

(102) SHOULDER

(103) MAXIMUM SLOPE IS 10:1.

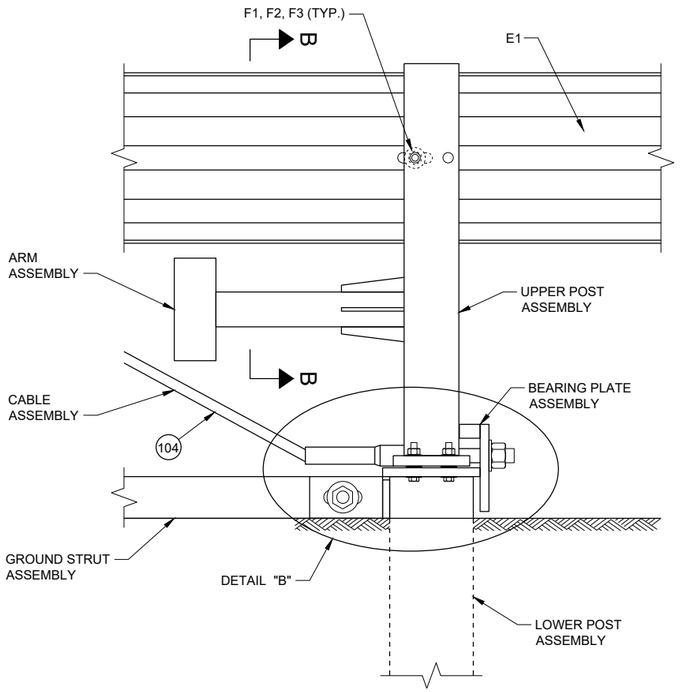
(104) AFTER ASSEMBLY, CABLE IS TO BE TIGHTENED WITHOUT TWISTING THE CABLE.

MIDWEST GUARDRAIL SYSTEM (MGS)
TYPE 2 TERMINAL

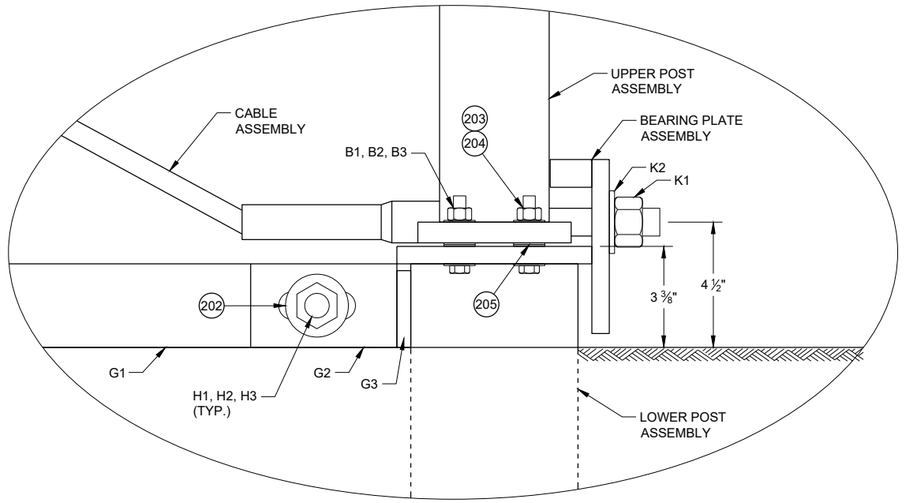
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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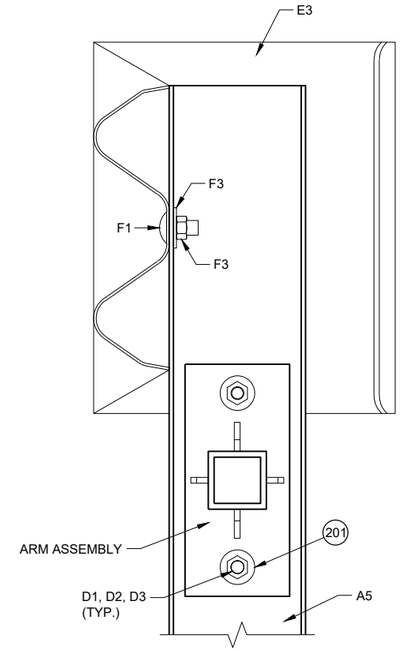
SDD 14B47 - 03a



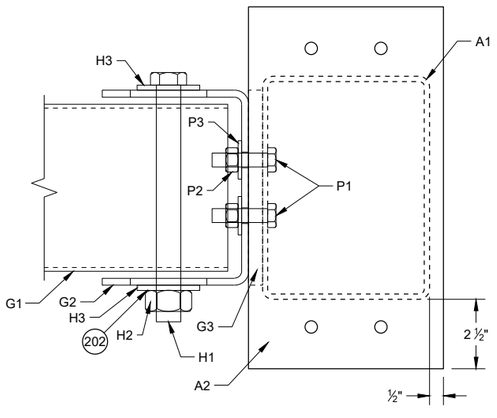
DETAIL "A"



DETAIL "B"

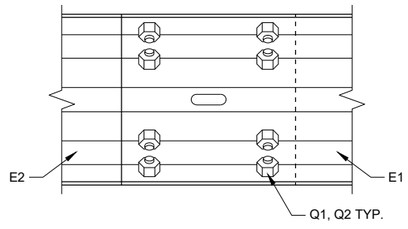


SECTION B - B



TOP VIEW

GROUND STRUT CONNECTION DETAIL



DETAIL "C"

GENERAL NOTES

200 INSTALL ONE WASHER UNDER BOLT HEAD AND RAIL AND ON WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

201 INSTALL ONE WASHER UNDER BOLT HEAD AND UPPER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND ARM PLATE.

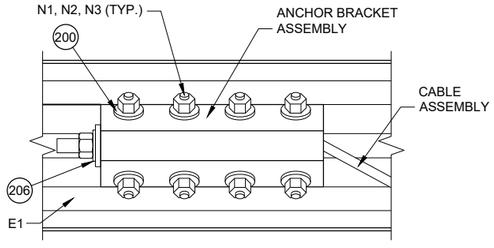
202 INSTALL ONE WASHER UNDER BOLT HEAD AND GROUND STRUT CONNECTOR AND ONE WASHER BETWEEN NUT AND GROUND STRUT CONNECTOR.

203 INSTALL ONE WASHER UNDER BOLT HEAD AND LOWER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND UPPER POST ASSEMBLY.

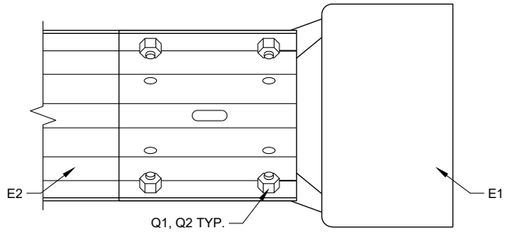
204 TORQUE VALUE IS BETWEEN 60 - 75 FT-LB.

205 TWO WASHERS BETWEEN UPPER AND LOWER POST ASSEMBLY.

206 INSTALL ONE WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.



DETAIL "D"



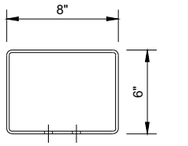
DETAIL "E"

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

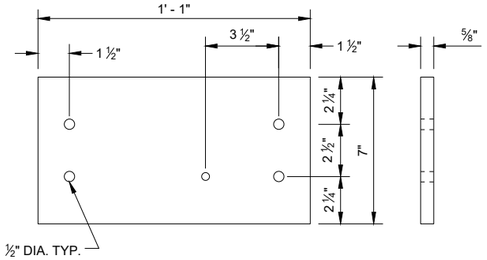
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DEPARTMENT OF TRANSPORTA

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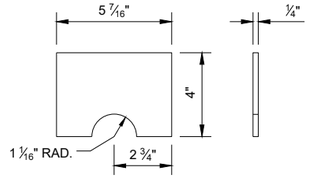
SDD 14B47 - 03b



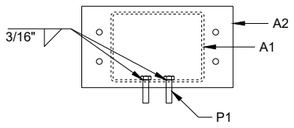
TOP VIEW



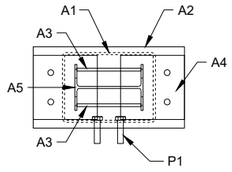
LOWER PLATE (A2)

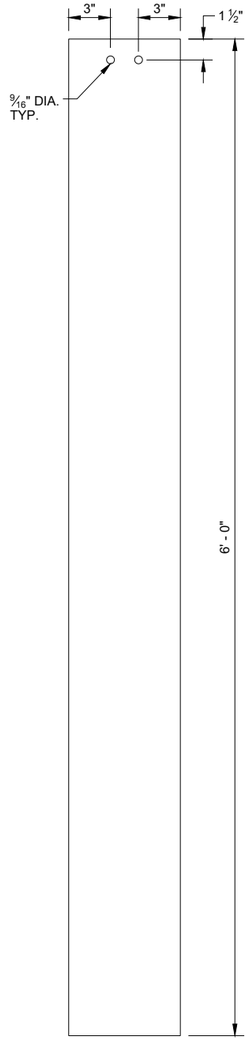


POST GUSSET (A3)



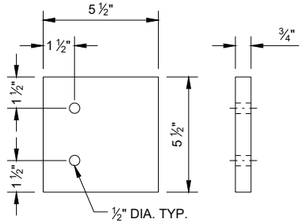
PLAN VIEW



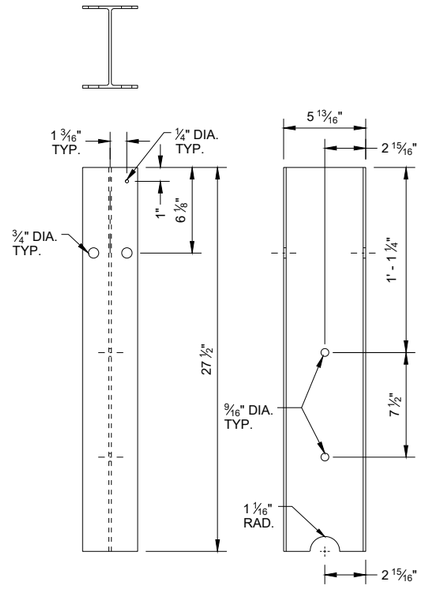


SIDE VIEW

FOUNDATION TUBE (A1)

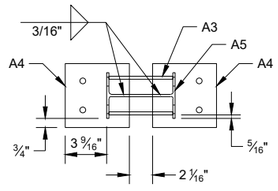


UPPER PLATE (A4)

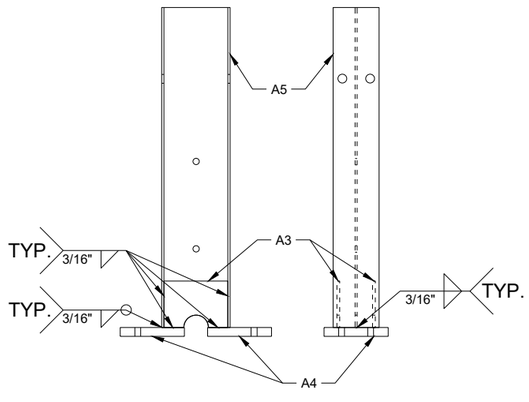


FRONT VIEW SIDE VIEW

TYPE 2 POST (A5)

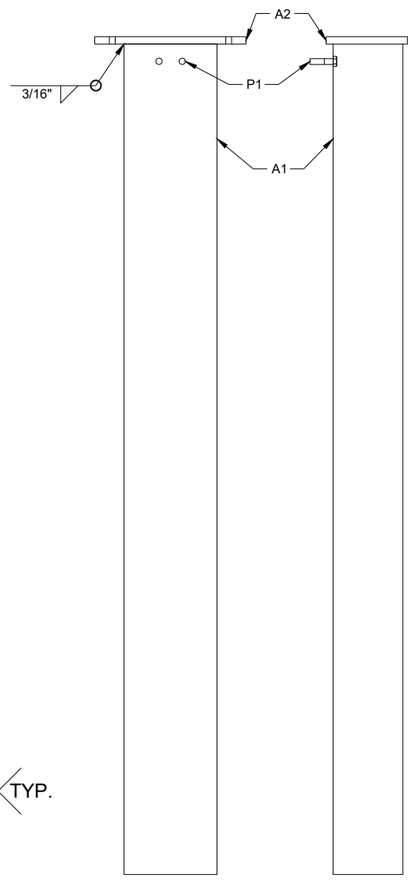


PLAN VIEW



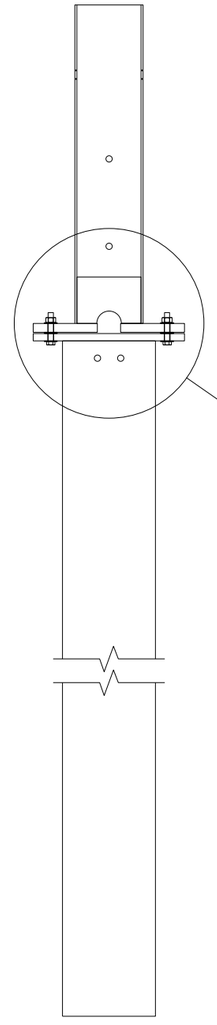
SIDE VIEW FRONT VIEW

UPPER POST ASSEMBLY

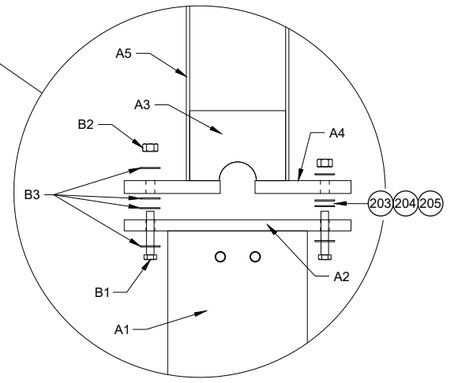


FRONT VIEW SIDE VIEW

LOWER POST ASSEMBLY



ASSEMBLED POST



POST CONNECTION DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

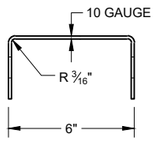
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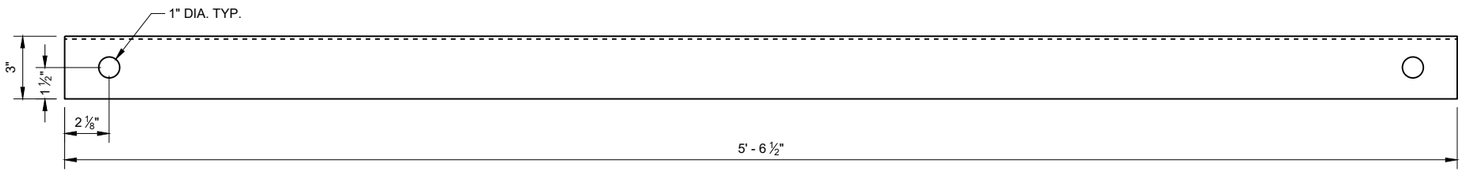
SDD14B47 - 03c

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SDD14B47 - 03c

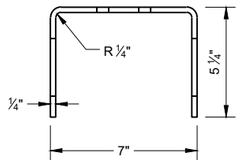


SIDE VIEW

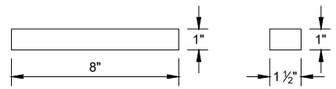


FRONT VIEW

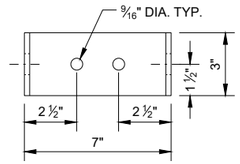
GROUND STRUT CHANNEL (G1)



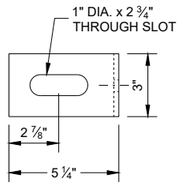
TOP VIEW



BEARING PLATE FLANGE (L2)

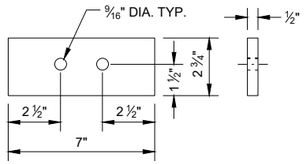


FRONT VIEW

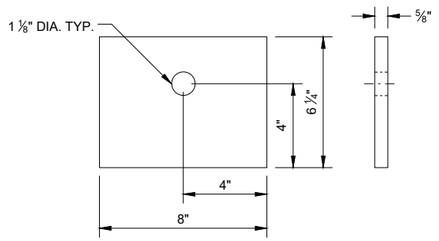


SIDE VIEW

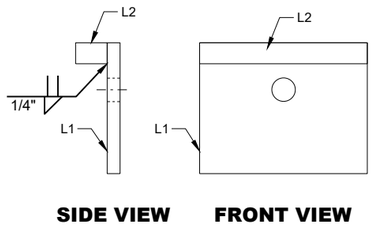
GROUND STRUT CONNECTOR (G2)



GROUND STRUT PLATE (G3)



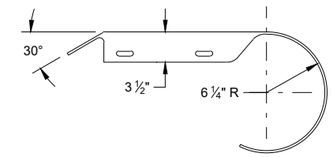
BEARING PLATE (L1)



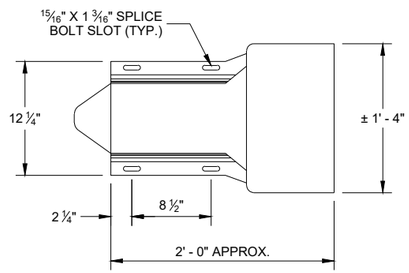
SIDE VIEW

FRONT VIEW

BEARING PLATE ASSEMBLY

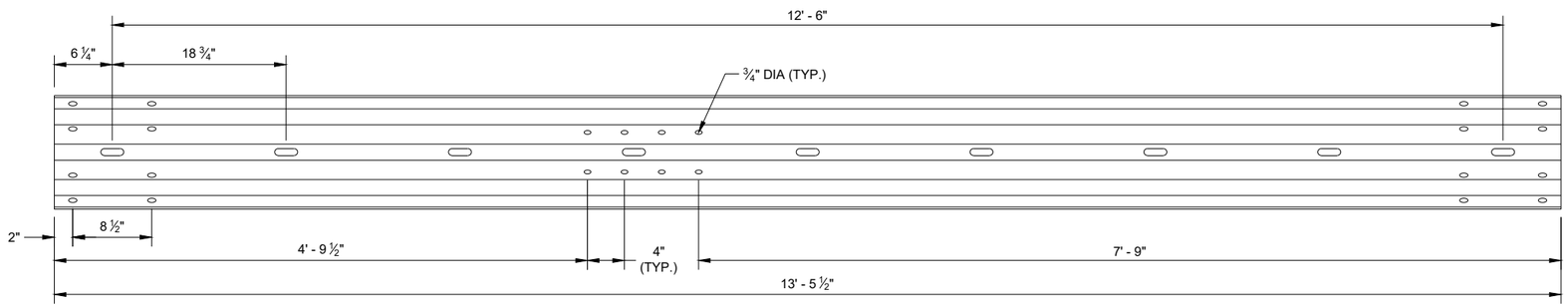


PLAN VIEW

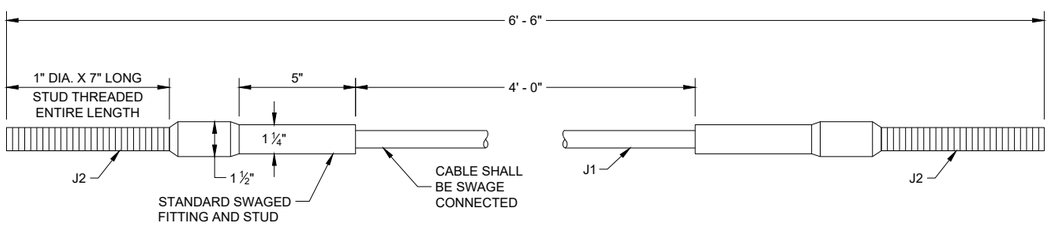


ELEVATION VIEW

ROUNDED BUFFER END (E3)



TYPE 2 GUARDRAIL (E1)



CABLE ASSEMBLY

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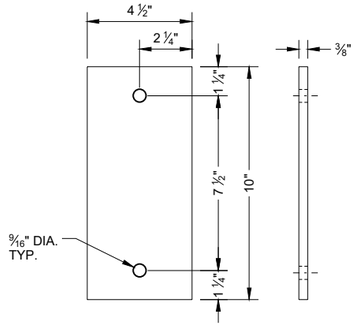
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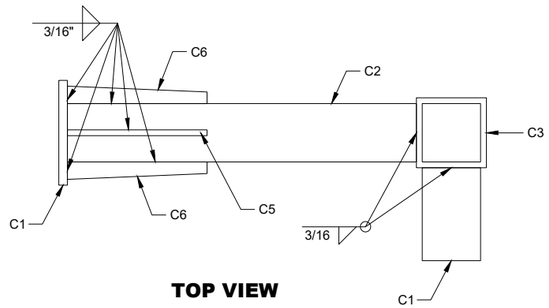
SDD 14B47 - 03d

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

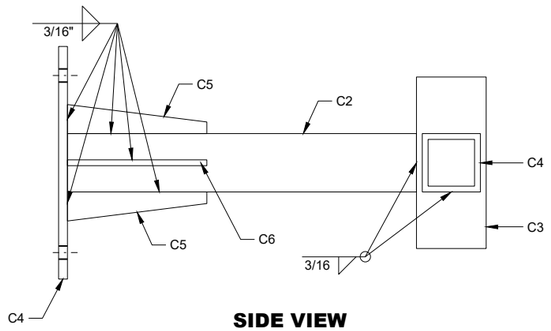
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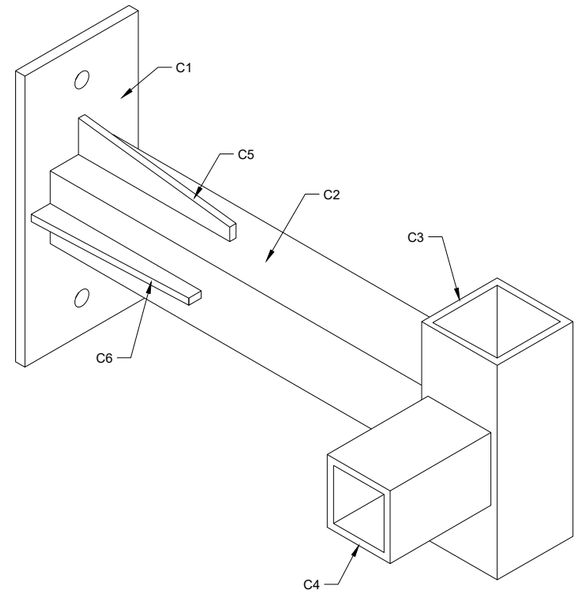
ARM PLATE (C1)



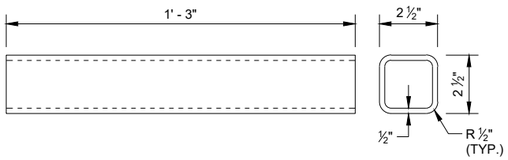
TOP VIEW
ARM ASSEMBLY



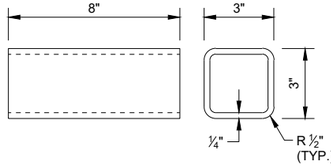
SIDE VIEW
ARM ASSEMBLY



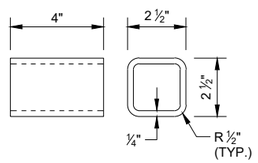
ISOMETRIC VIEW
ARM ASSEMBLY



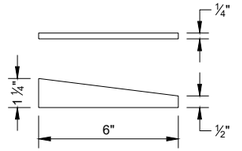
ARM TUBE 1 (C2)



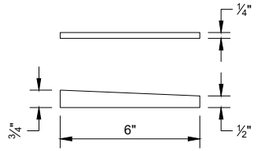
ARM TUBE 2 (C3)



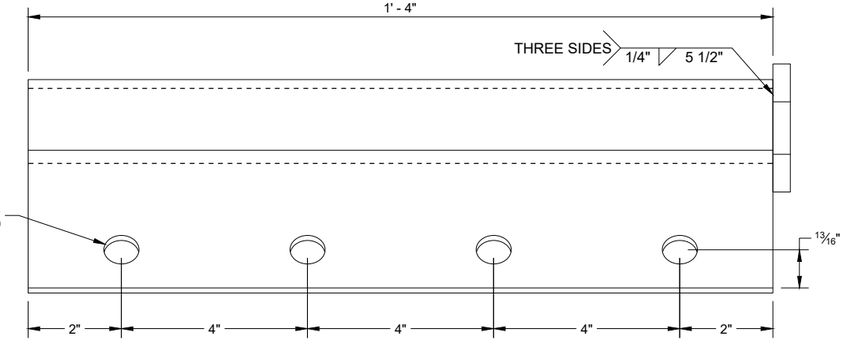
ARM TUBE 3 (C4)

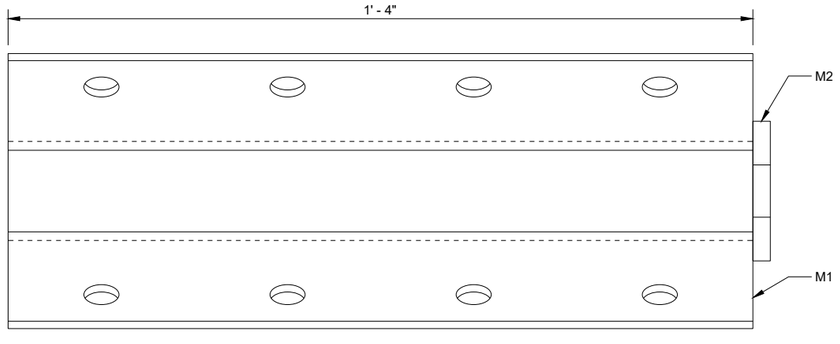


ARM GUSSET PLATE 1 (C5)

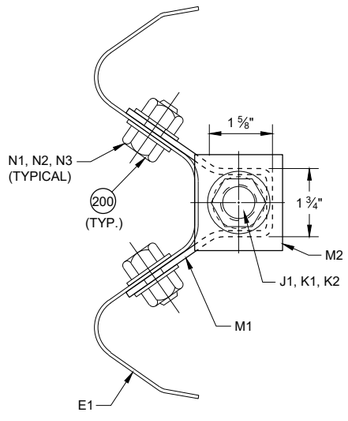


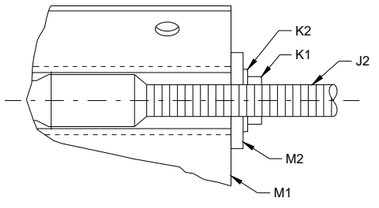
ARM GUSSET PLATE 2 (C6)



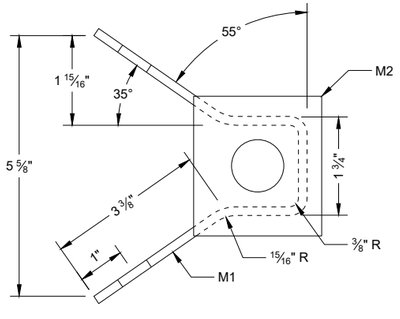


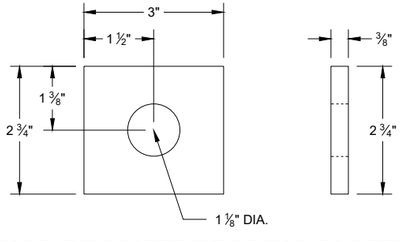
ANCHOR BRACKET (M1, M2)





SECTION A - A





ANCHOR BRACKET BEARING PLATE (M2)

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
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SDD 14B47 - 03e

BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	TYPE 2 FOUNDATION TUBE	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 8" x 6" x 3/16"
A2	LOWER PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	5/8" THICKNESS
A3	POST GUSSET	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
A4	UPPER PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	3/4" THICKNESS
A5	TYPE 2 POST	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	
B1	BREAKAWAY BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED . PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT.	7/16" DIA.
B2	BREAKAWAY BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	7/16" DIA.
B3	BREAKAWAY BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
C1	ARM ASSEMBLY PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	3/8" THICKNESS
C2	ARM ASSEMBLY TUBE 1	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 8" x 6" x 3/16"
C3	ARM ASSEMBLY TUBE 2	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 3" x 3" x 1/4"
C4	ARM ASSEMBLY TUBE 3	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 2 1/2" x 2 1/2" X 1/4"
C5	ARM ASSEMBLY GUSSET PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
C6	ARM ASSEMBLY GUSSET PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
D1	ARM ASSEMBLY BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	1/2" DIA.
D2	ARM ASSEMBLY WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	1/2" DIA.
D3	ARM ASSEMBLY NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1/2" DIA.
E1	TYPE 2 GUARD RAIL	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
E2	BEAM GUARD RAIL	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
E3	BEAM GUARD ROUNDED BUFFER END	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
F1	POST BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	5/8" DIA.
F2	POST BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	5/8" DIA.
F3	POST BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
G1	GROUND STRUT CHANNEL	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/2" x 11 3/4" x 10 GAUGE
G2	GROUND STRUT CONNECTOR	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/4" THICKNESS
G3	GROUND STRUT PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1/2" THICKNESS

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MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
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SDD 14B47 - 03f

BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
H1	GROUND STRUT BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	7/8" DIA.
H2	GROUND STRUT BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	7/8" DIA.
H3	GROUND STRUT BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	
J1	BCT CABLE	AASHTO M30 / ASTM A741 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS), 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS) TYPE II OR IIC, CLASS C ZINC COATED MIN. BREAKING STRENGTH OF 42.7 KIPS	**3/4" DIA.**
J2	BCT CABLE	UNC 1" ASTM A576 GRADE 1035 SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. MIN BREAKING STRENGTH OF 42.7 KIPS ASME B30.26 "FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING IN TO CONNECTION: NAME OF MANUFACTURE OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE FOR ALLOY EYEBOLTS."	
K1	CABLE ASSEMBLY NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1" DIA.
K2	CABLE ASSEMBLY WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1	1" DIA.
L1	BEARING PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	5/8" THICKNESS
L2	BEARING PLATE FLANGE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	1" THICKNESS
M1	BEAM GUARD ANCHOR BRACKET	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	
M2	BEAM GUARD ANCHOR END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI, OR ASTM A709 MAX STRENGTH 50 KSI, OR ASTM A992 MAX STRENGTH 50 KSI	3/8" THICKNESS
N1	ANCHOR BRACKET BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	5/8" DIA.
N2	ANCHOR BRACKET BOLT WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)	5/8" DIA.
N3	ANCHOR BRACKET BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 /ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
P1	FOUNDATION TUBE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 /ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	1/2" DIA.
P2	FOUNDATION TUBE WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 7/8" ASTM F844 TYPE 1 (HARDENED WASHER ONLY)	1/2" DIA.
P3	FOUNDATION TUBE NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
Q1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	
Q2	SPLICE NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	5/8" DIA.

6

6

SDD 14B47 - 03g

SDD 14B47 - 03g

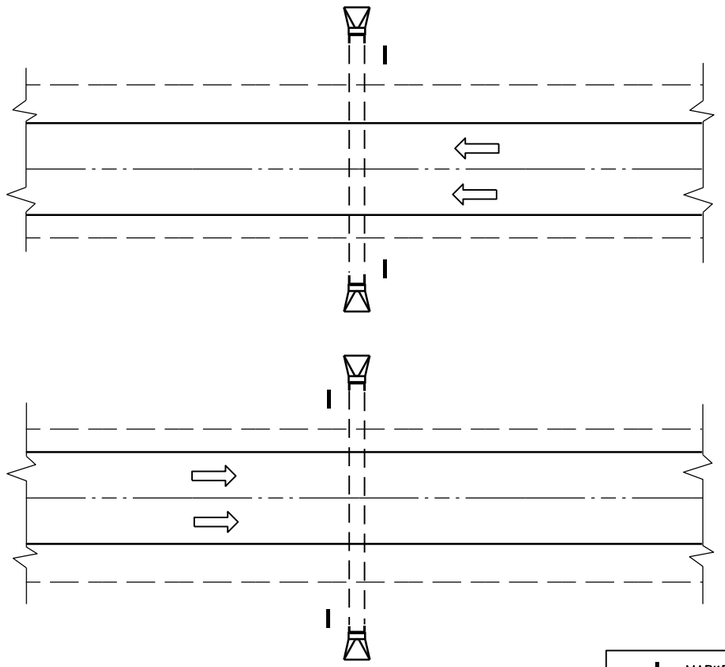
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2021
DATE

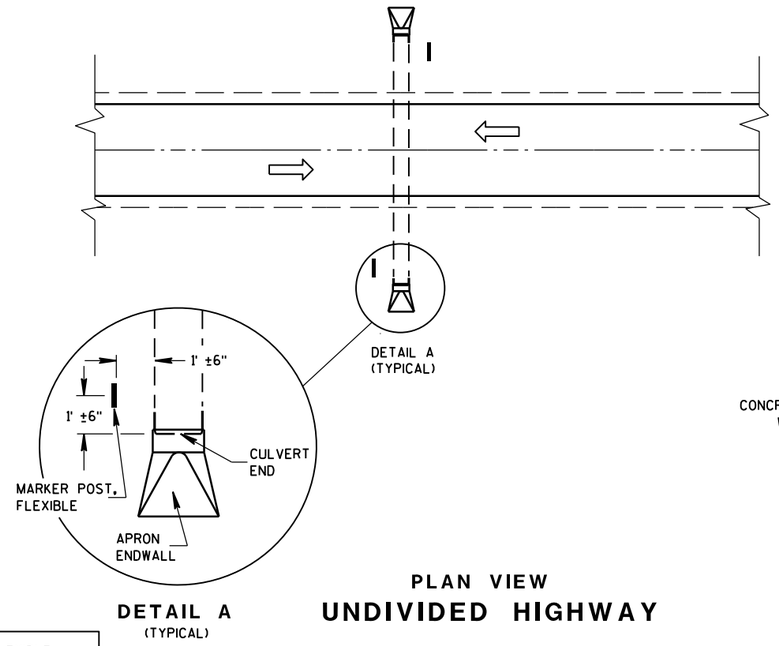
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

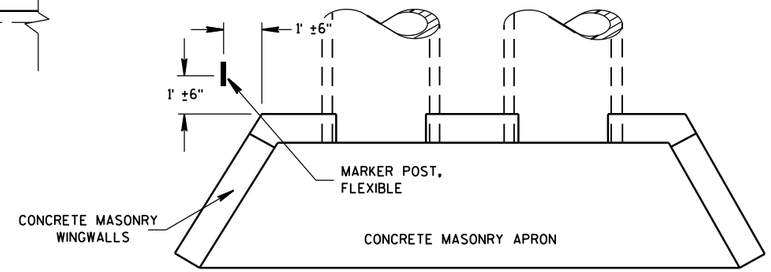
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

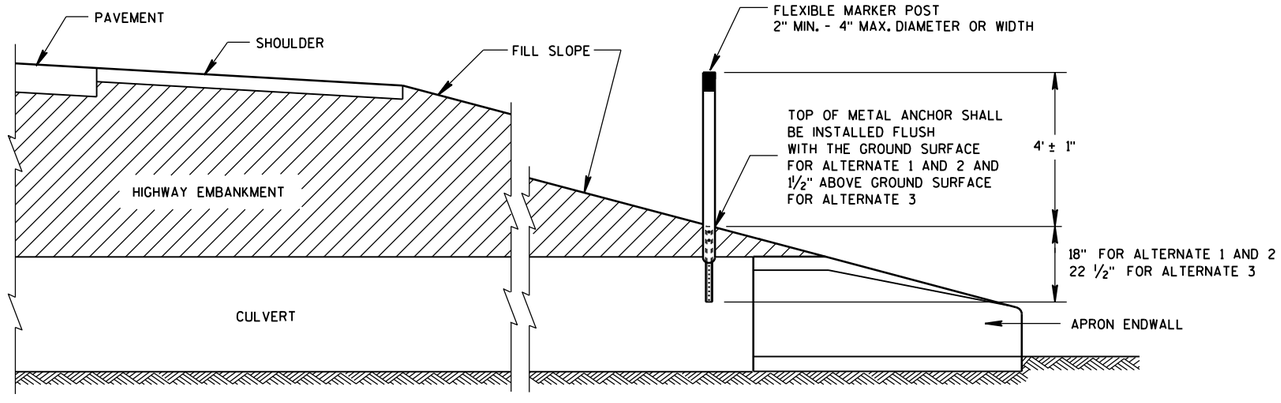
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

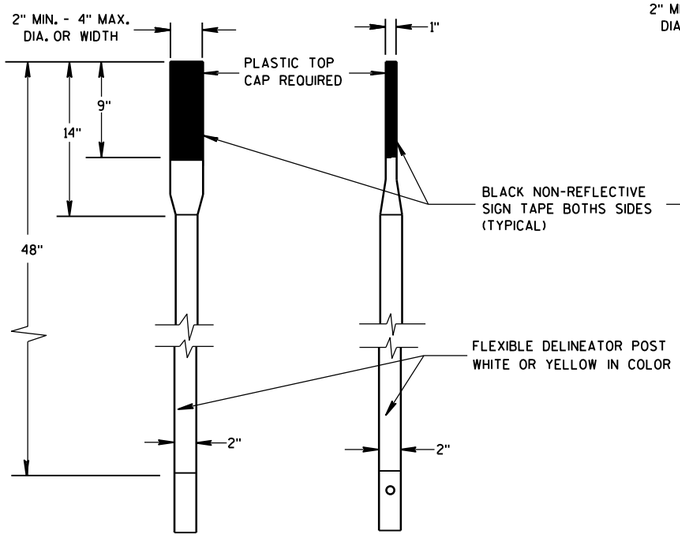
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

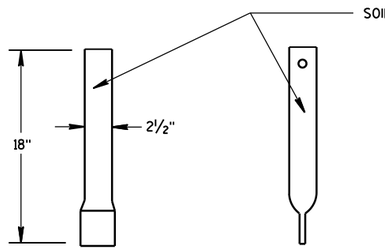
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S.D.D. 15 A 3-2a

6

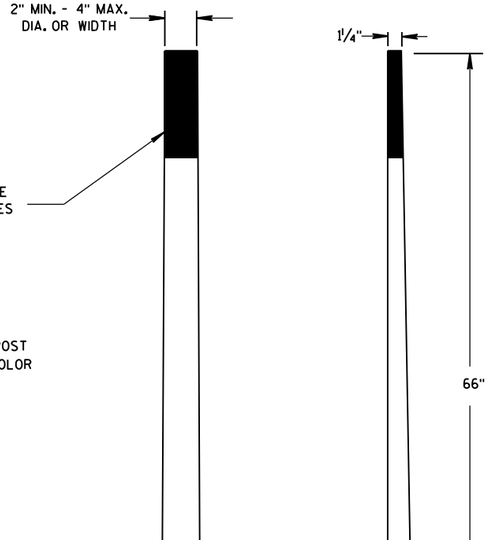
S.D.D. 15 A 3-2a





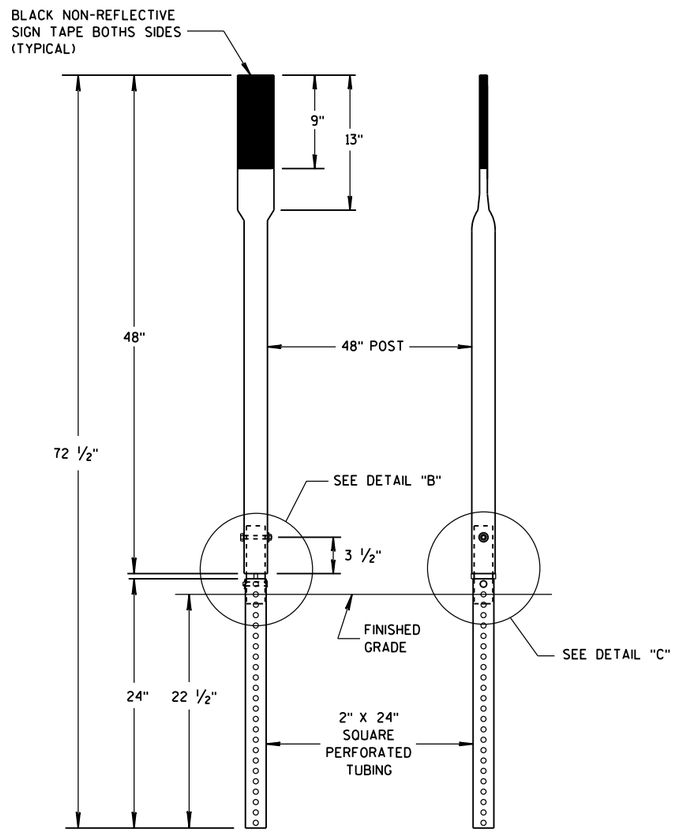
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

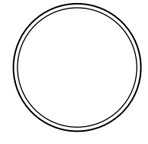
ALTERNATE 2



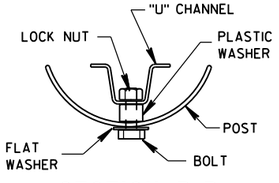
FRONT VIEW SIDE VIEW

ALTERNATE 3

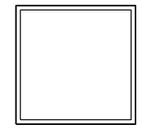
FLEXIBLE MARKER POSTS



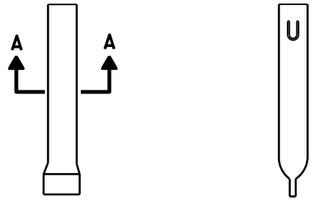
SECTION A-A



SECTION B-B

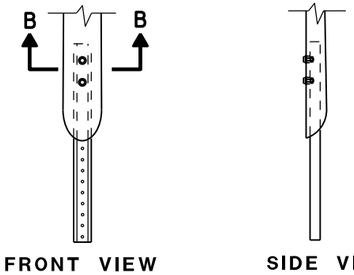


SECTION C-C



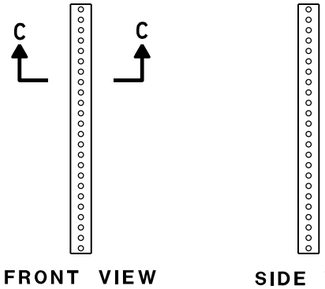
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

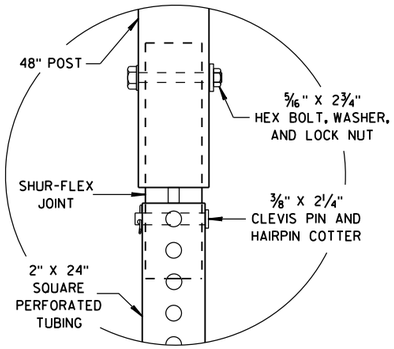
ALTERNATE 2



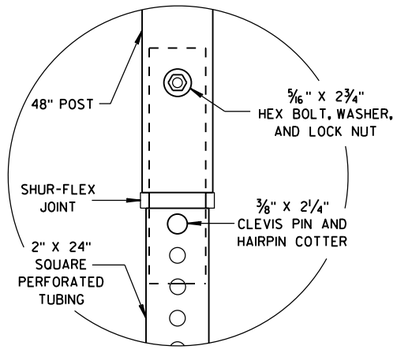
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

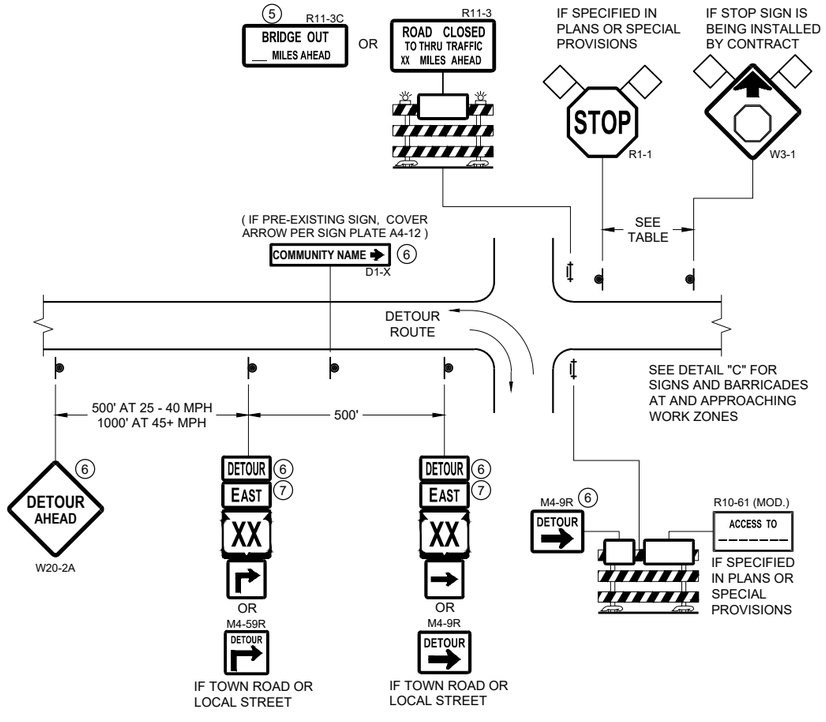
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 A 3-2b

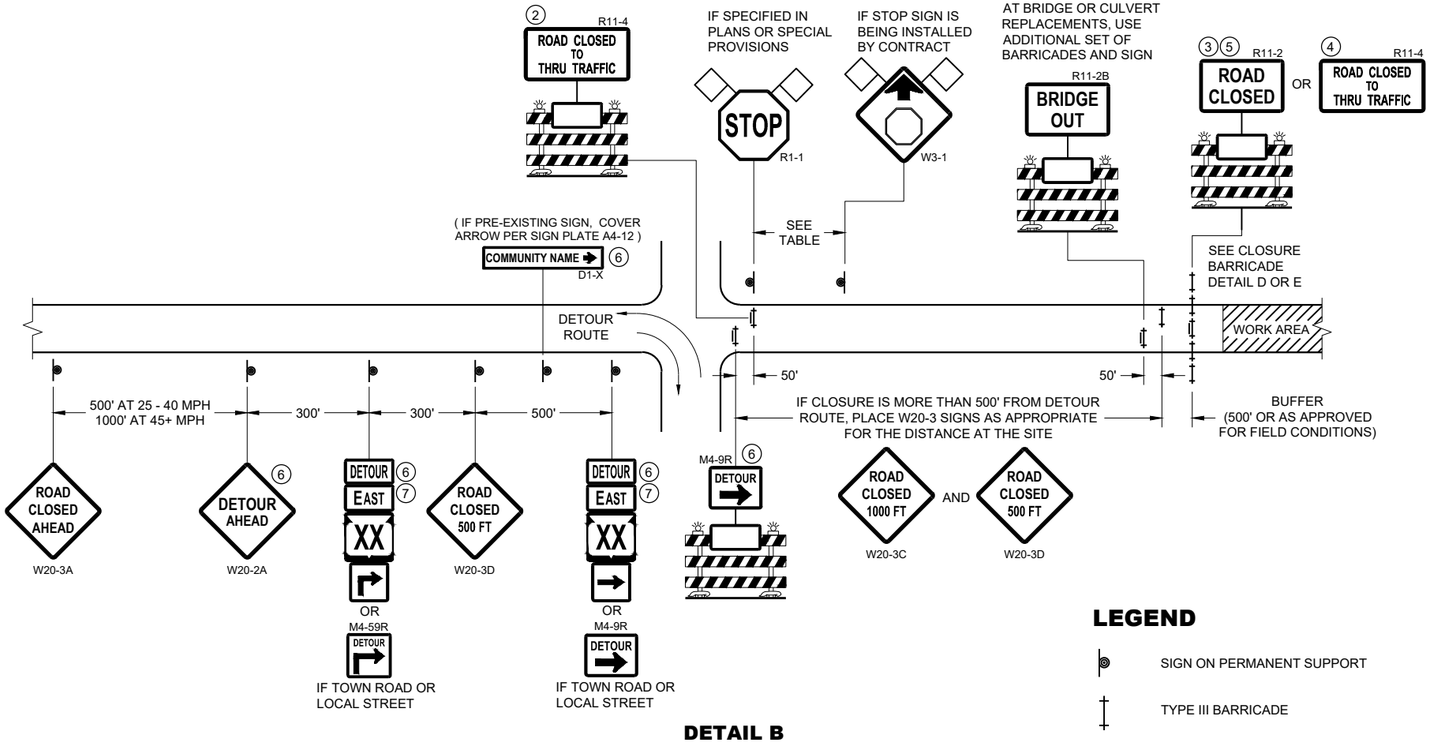
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S.D.D. 15 A 3-2b



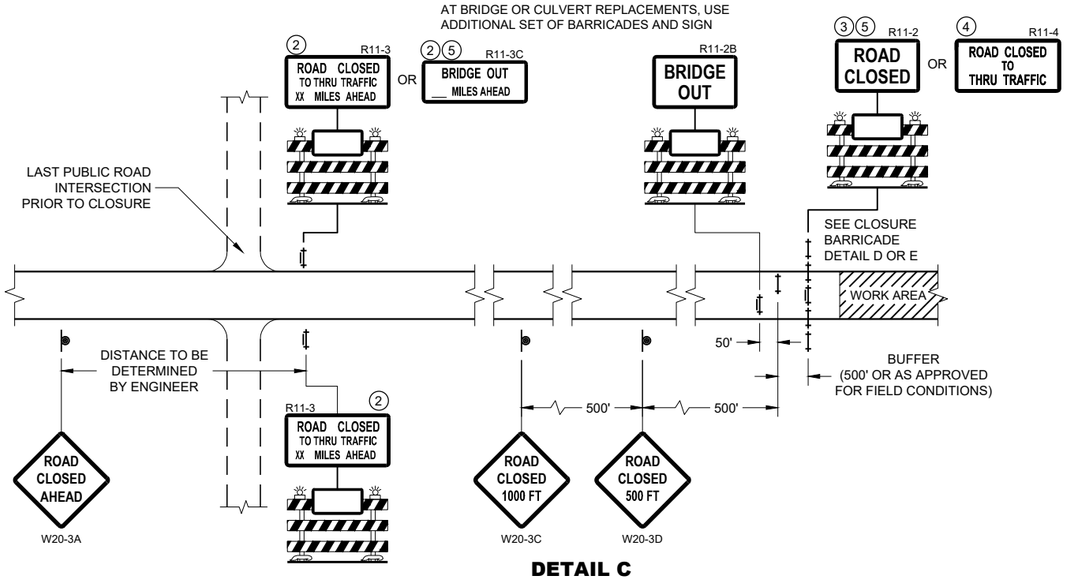
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



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
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

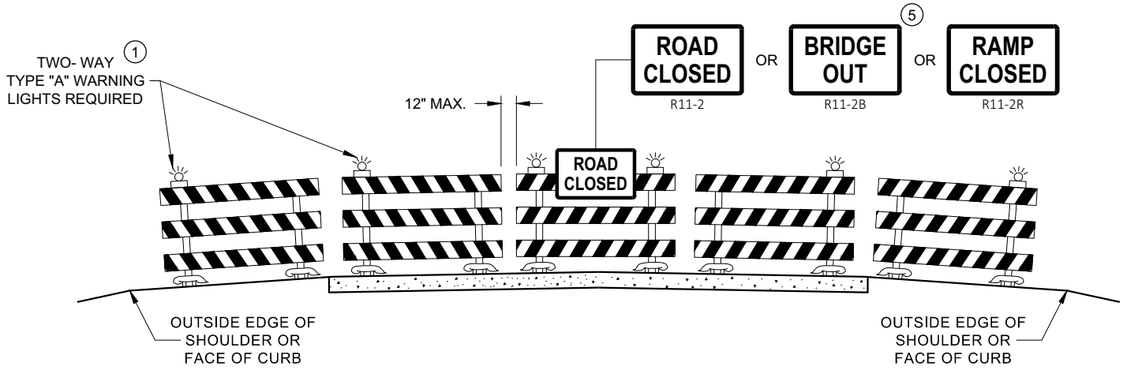
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

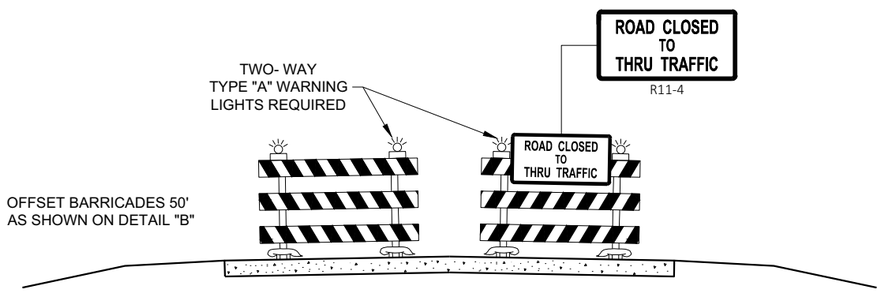
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SDD 15C02 - 08a

SDD 15C02 - 08a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C02 - 08b

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

LEGEND

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

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

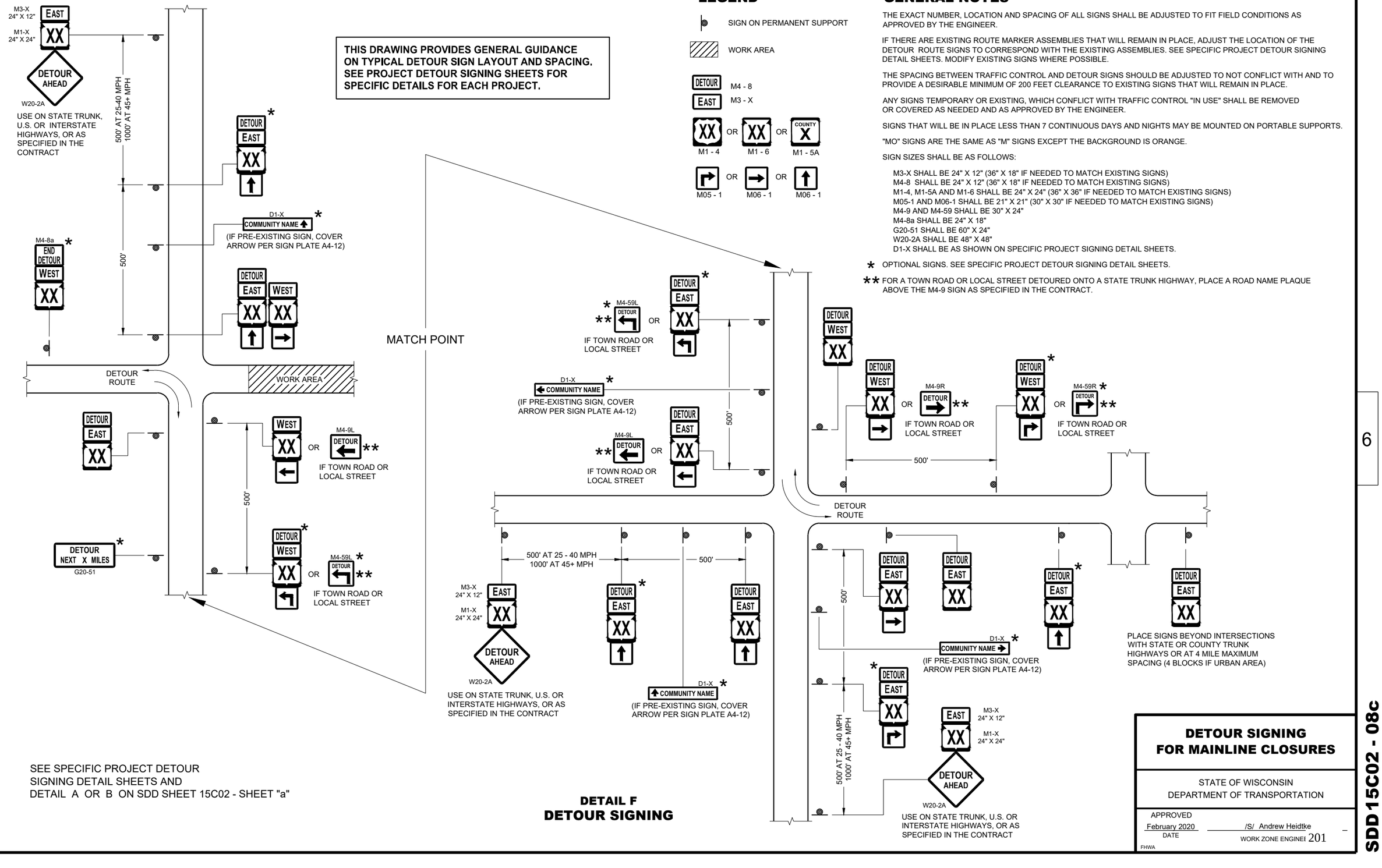
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
M4-9 AND M4-59 SHALL BE 30" X 24"
M4-8a SHALL BE 24" X 18"
G20-51 SHALL BE 60" X 24"
W20-2A SHALL BE 48" X 48"
D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

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

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



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

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

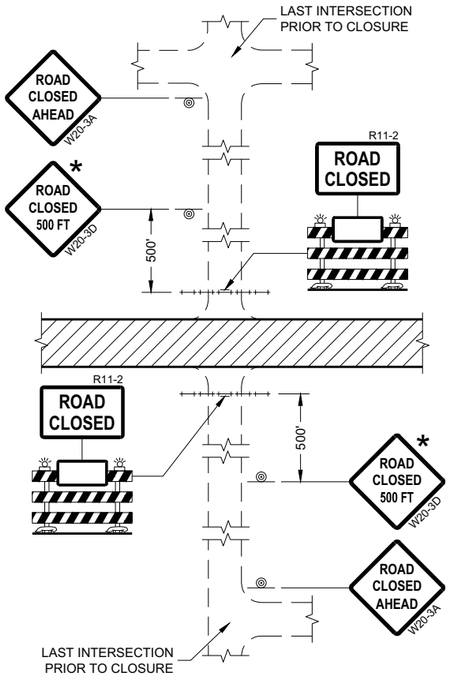
APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

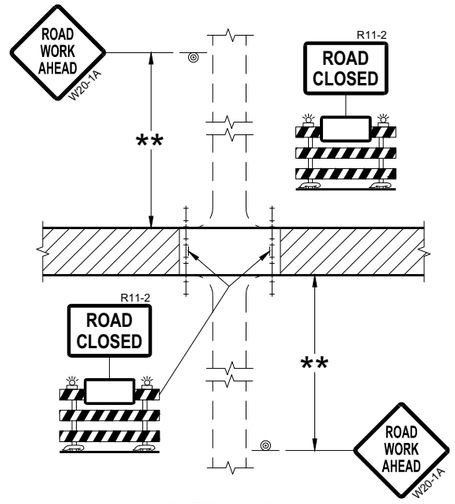
FHWA

SDD 15C02 - 08c

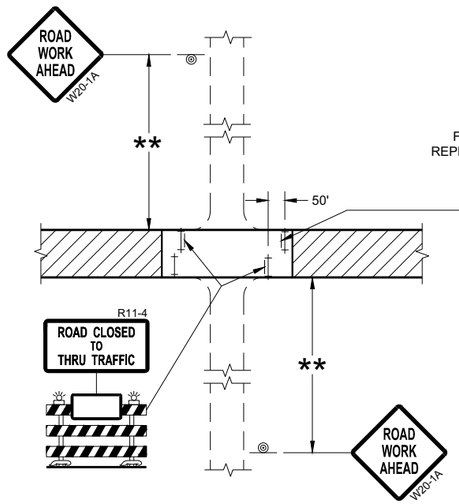
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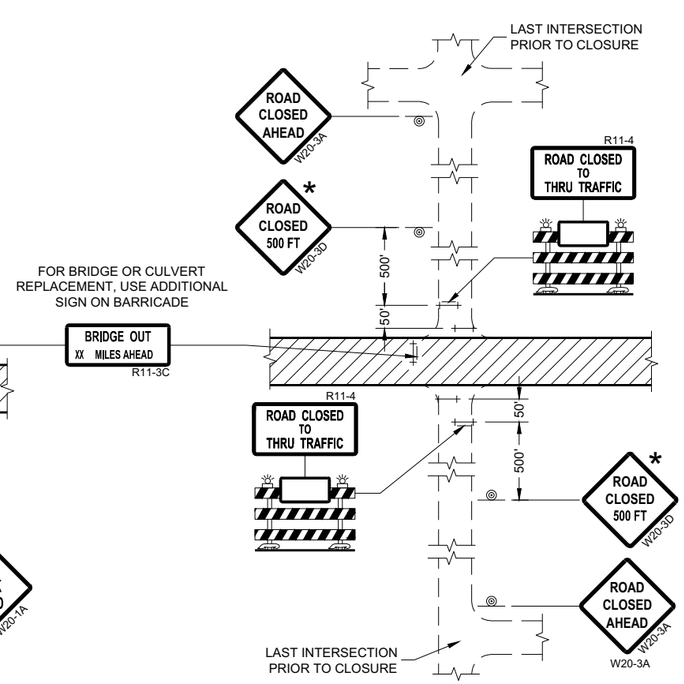
DETAIL 1
(NO ACCESS TO PROJECT)



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



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



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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C03 - 05

GENERAL NOTES

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

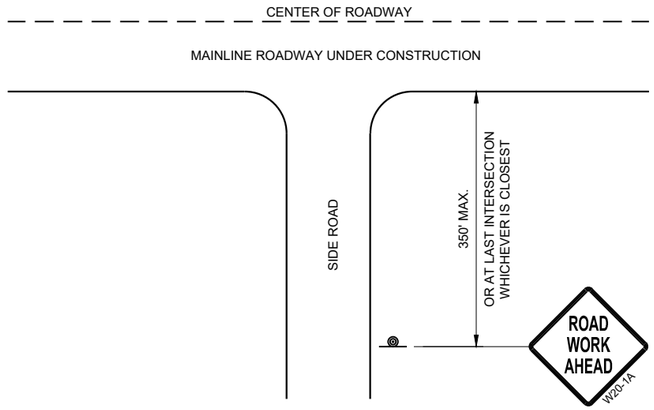
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

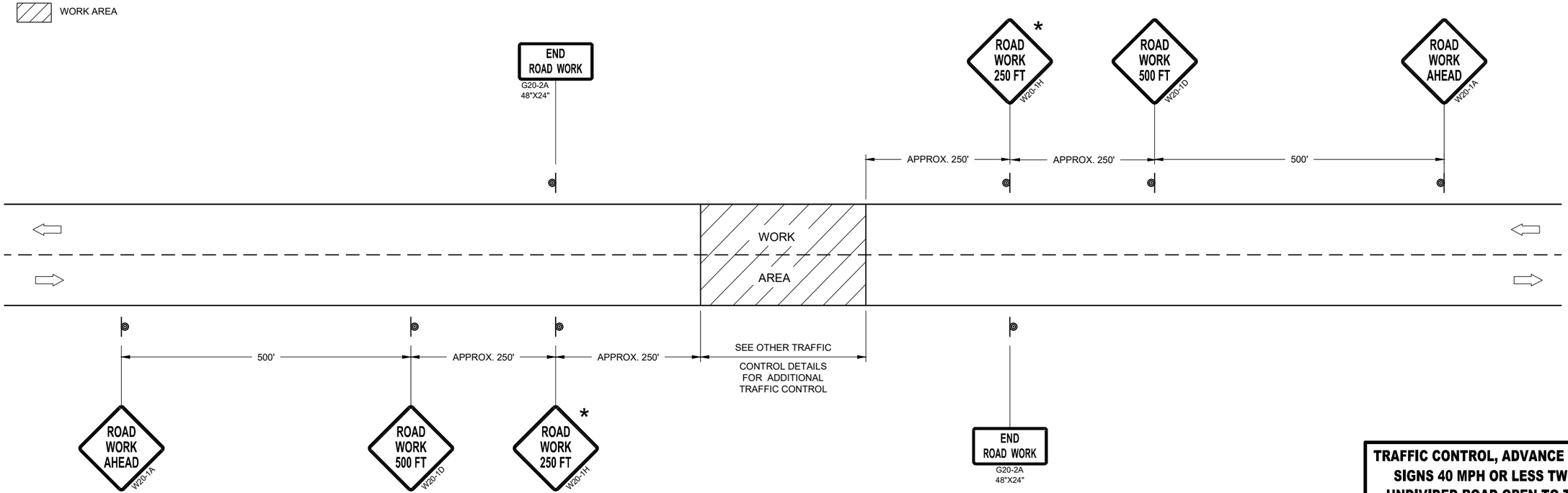
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

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



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

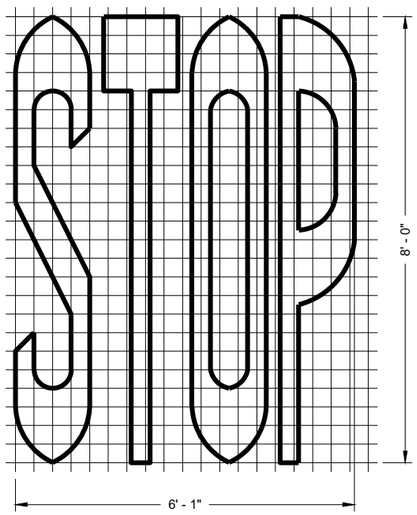
APPROVED
July 2018
DATE

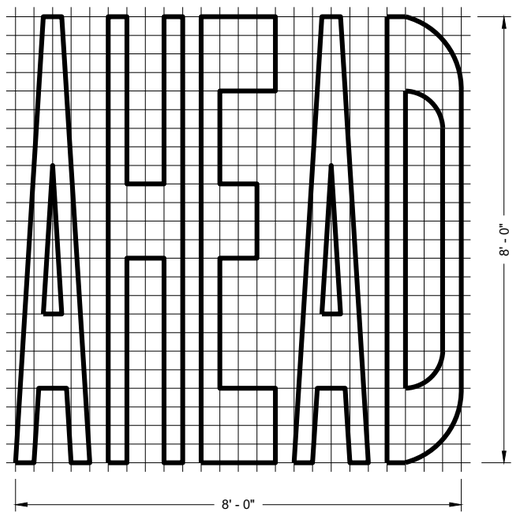
/S/ Andrew Heidtke
WORK ZONE ENGINEE

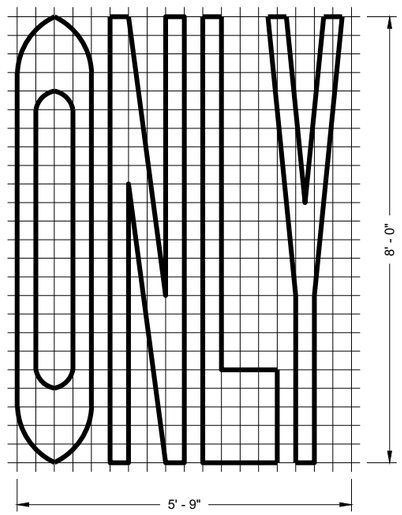
FHWA

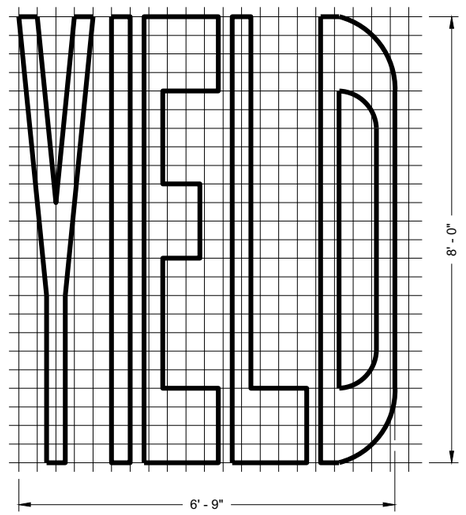
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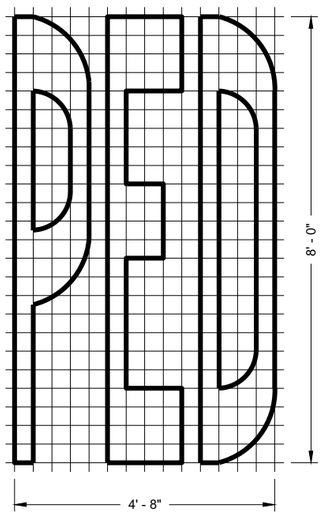
SDD 15C05 - 05

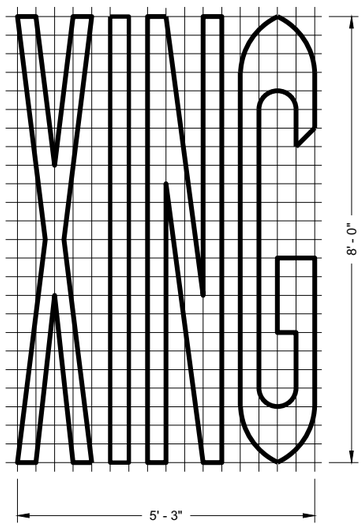


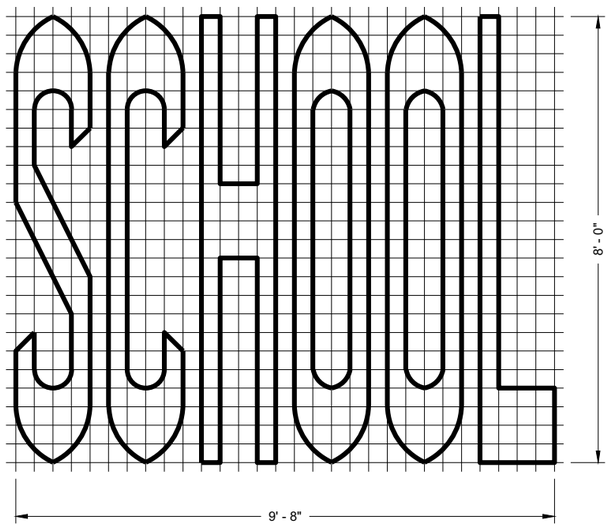




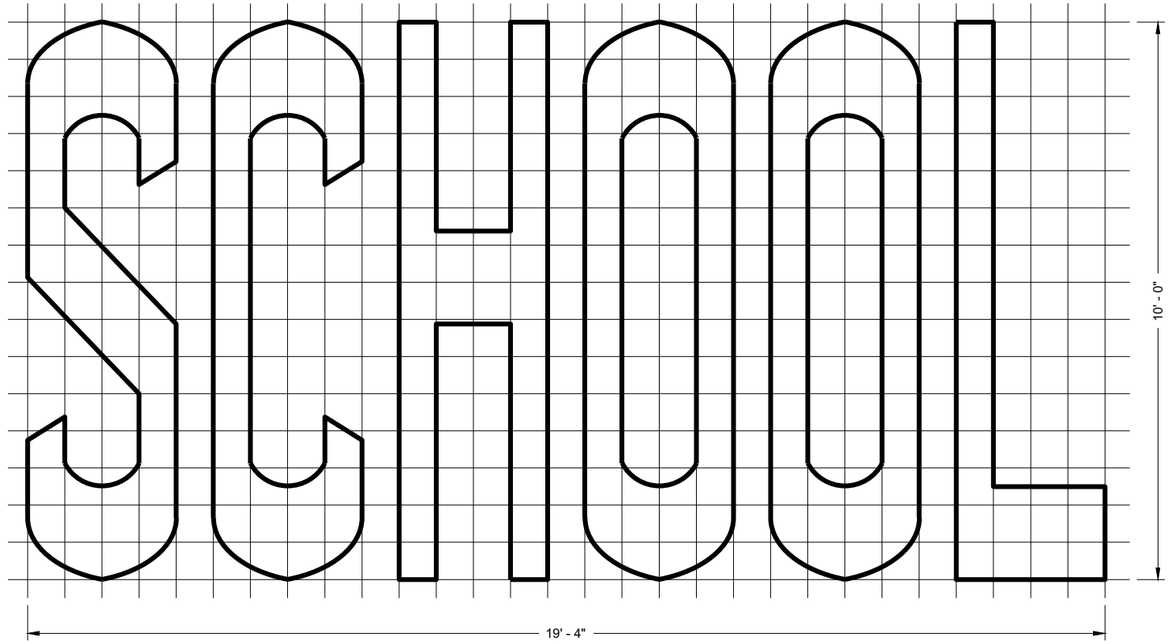








SINGLE LANE



TWO - LANE

GENERAL NOTES

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

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MAF ENGINEER

FHWA

6

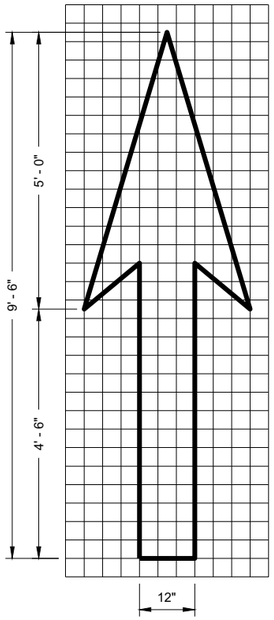
SDD 15C07 - 15b

6

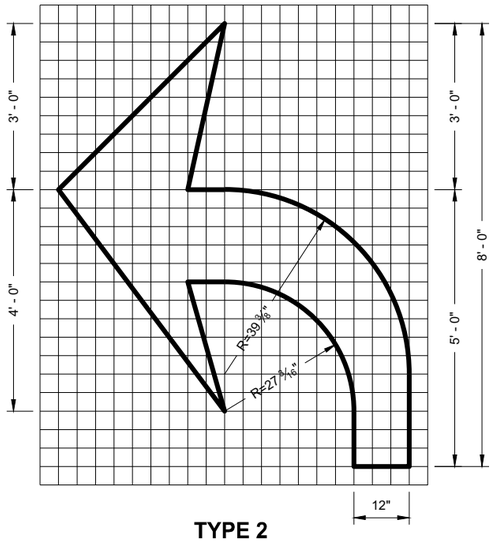
SDD 15C07 - 15b

GENERAL NOTES

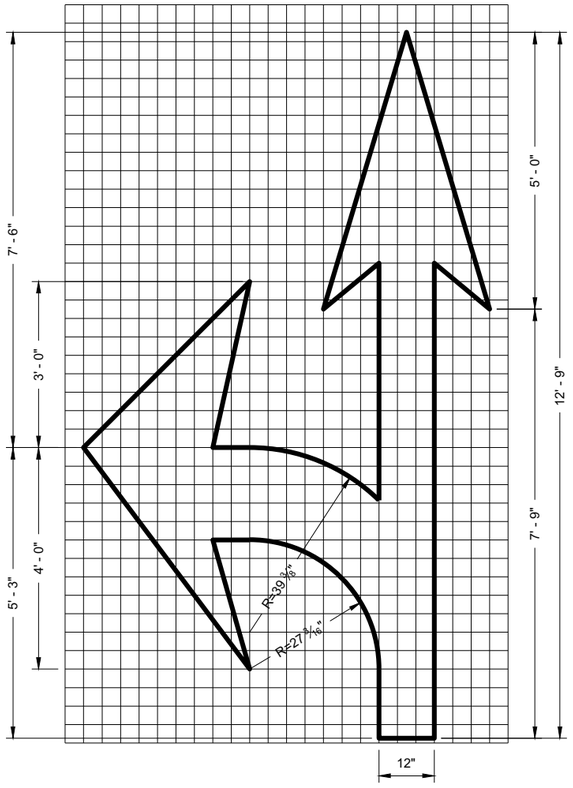
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



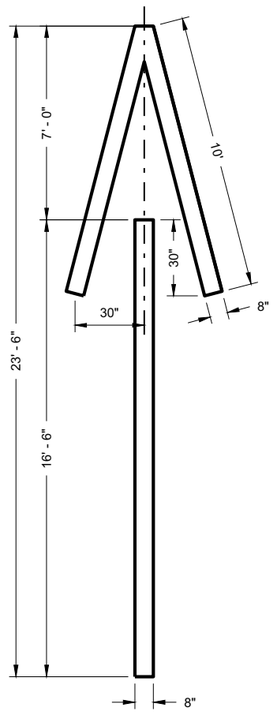
TYPE 1



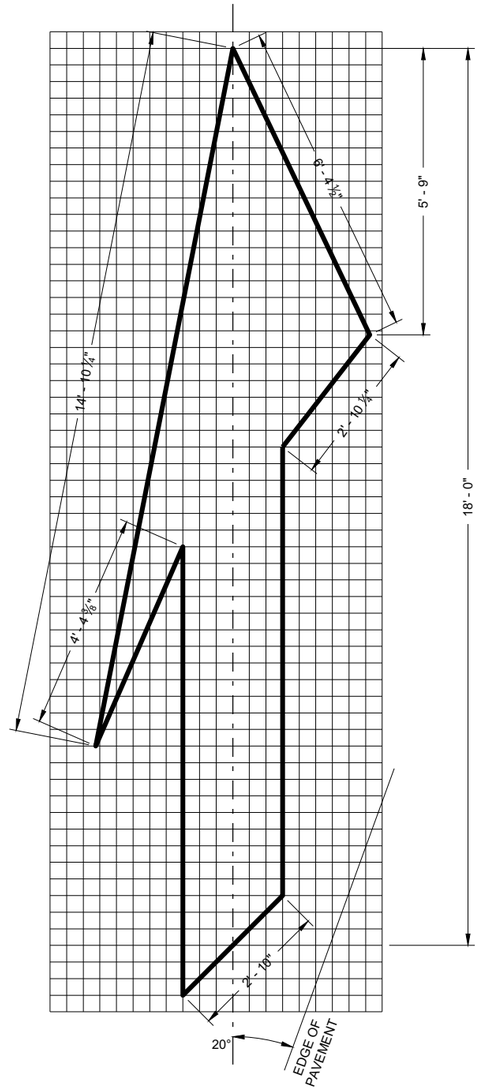
TYPE 2



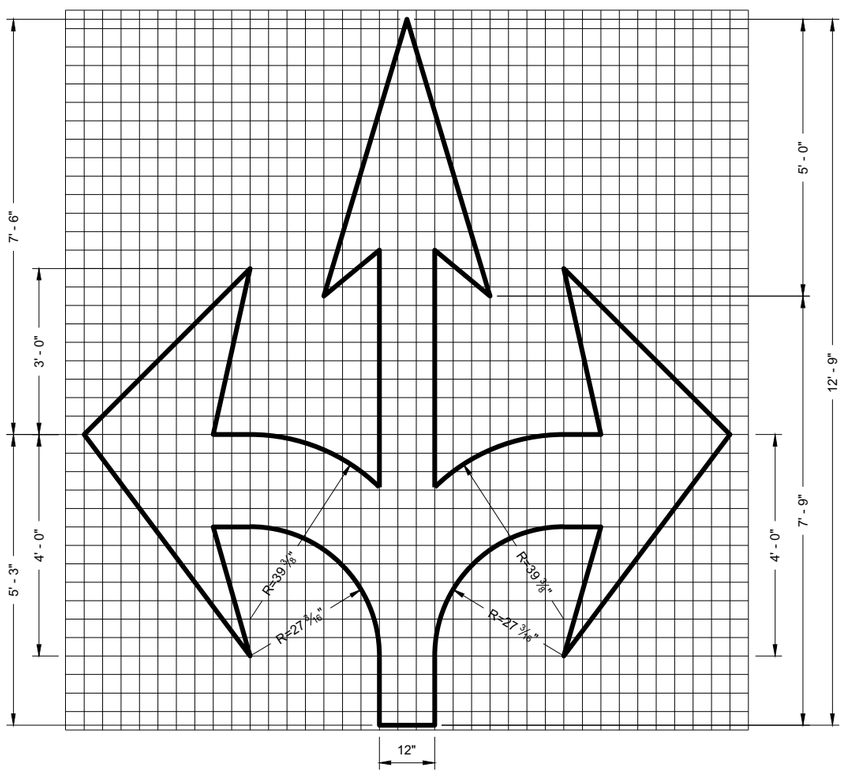
TYPE 3



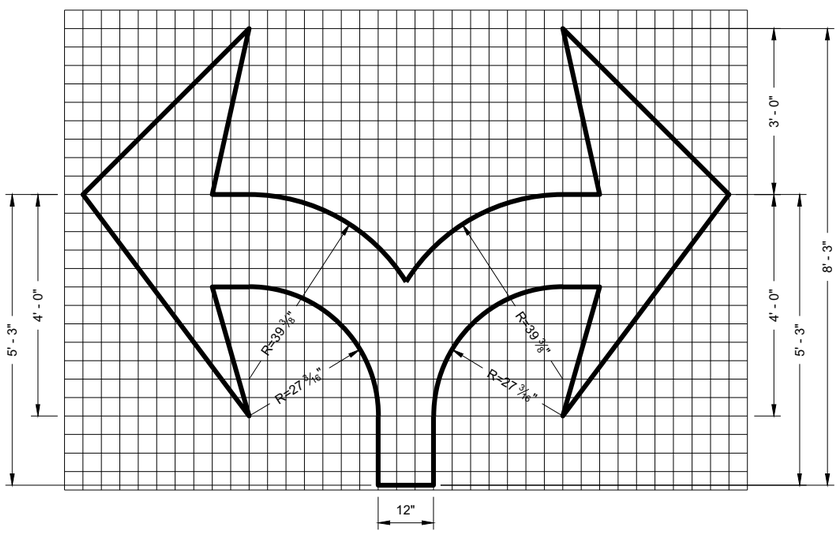
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

SDD 15C07 - 15c

SDD 15C07 - 15c

GENERAL NOTES

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

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

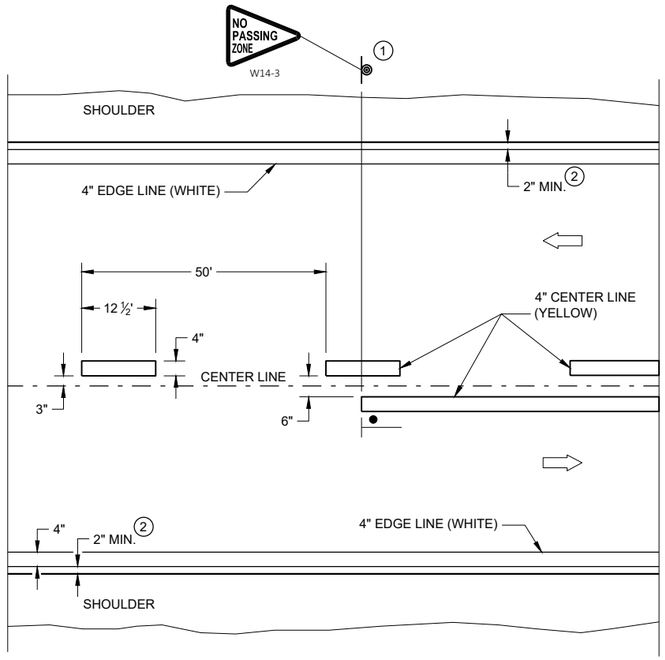
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

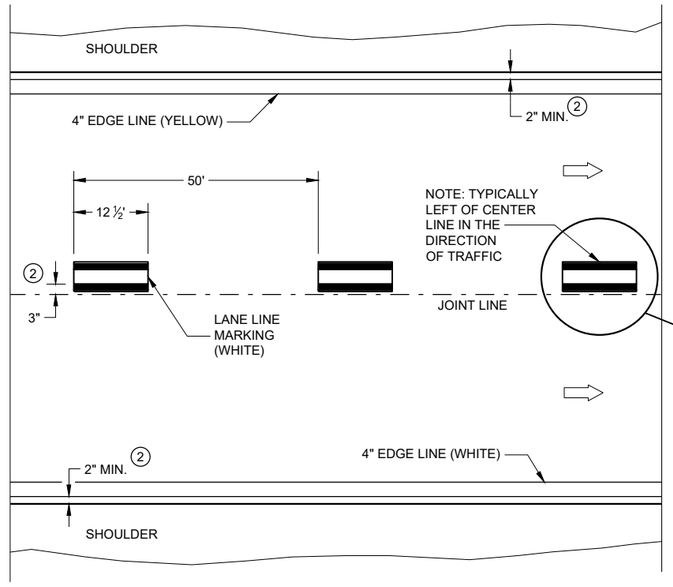
"T" MARKING

SIGN ON PERMANENT SUPPORT

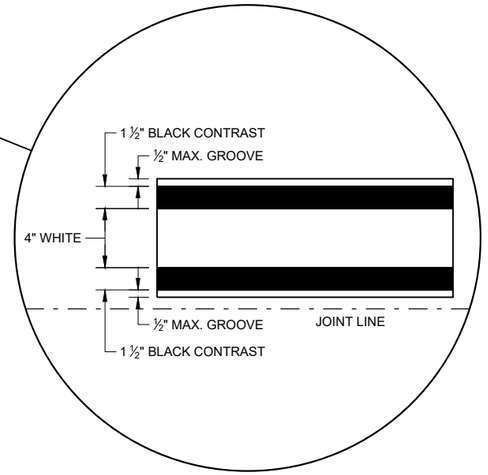
DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC



PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER

FHWA

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SDD 15C08 - 21a

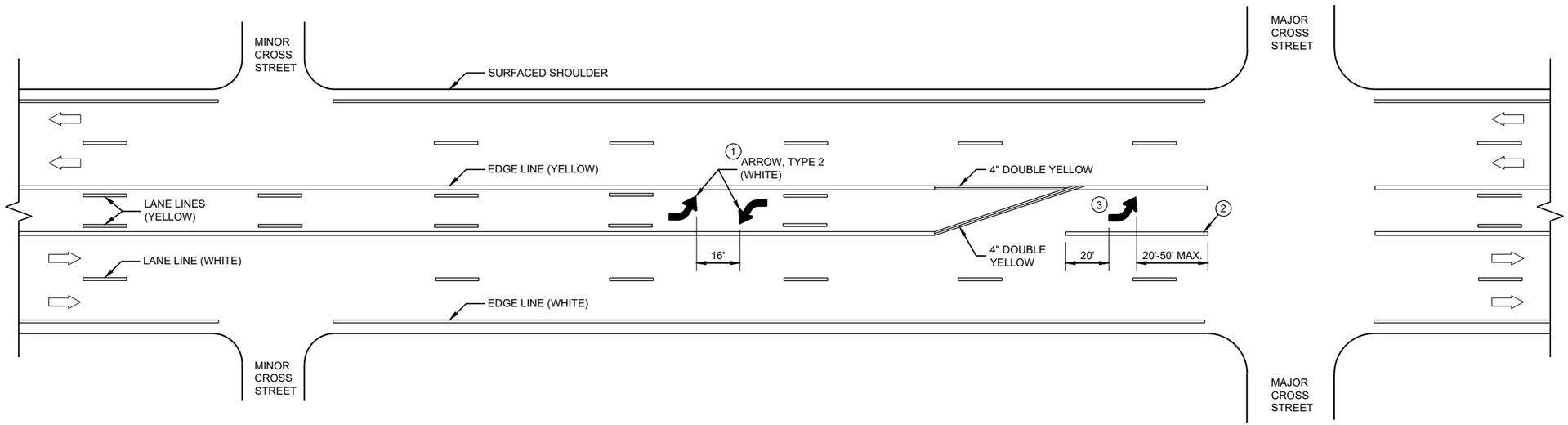
6

SDD 15C08 - 21a

GENERAL NOTES

1. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
2. 8" WHITE
3. TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

6

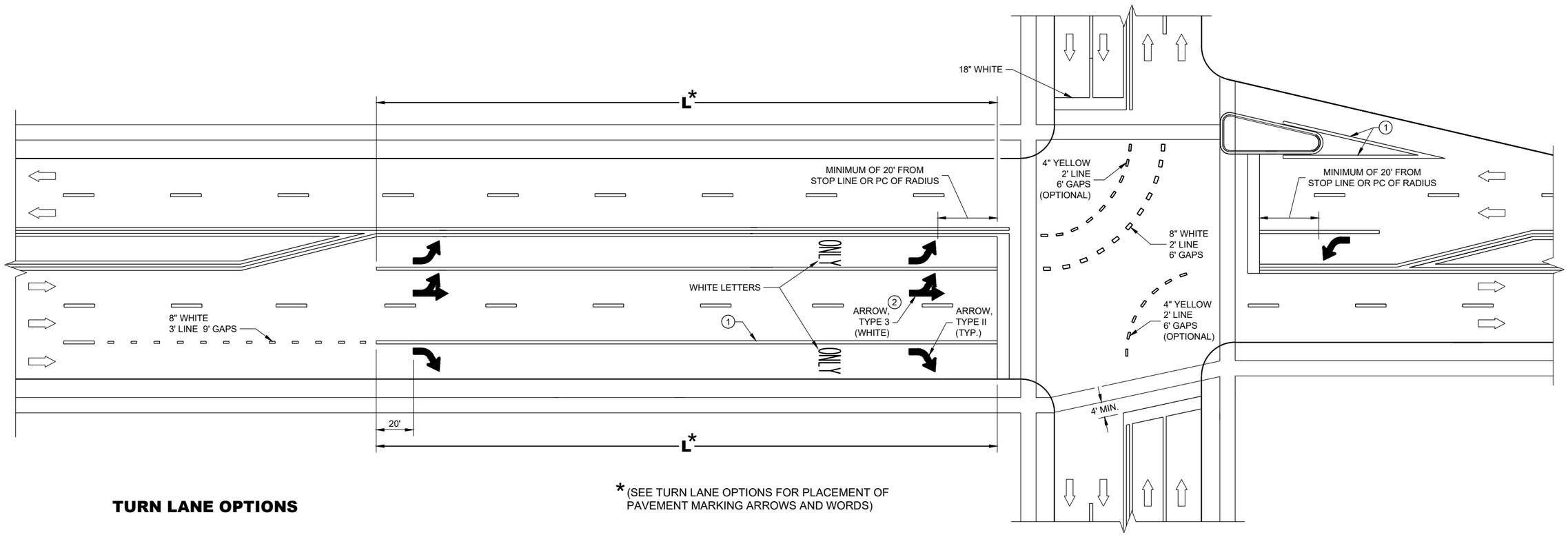
SDD 15C08 - 21c

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

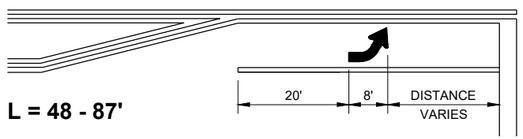
SDD 15C08 - 21c



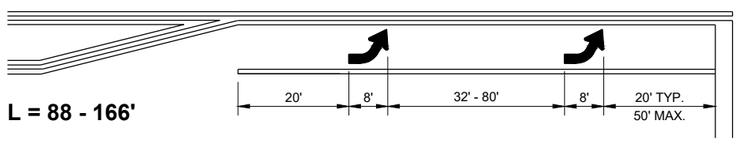
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

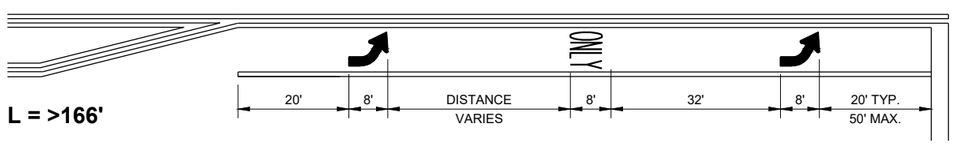
LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48 - 87'



L = 88 - 166'



L = >166'

GENERAL NOTES

1. 8" WHITE
2. QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

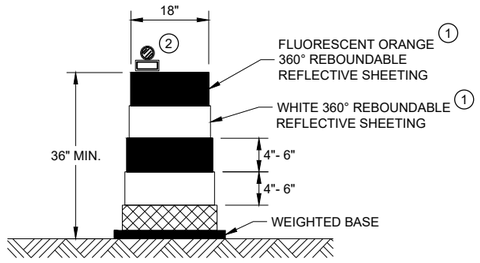
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

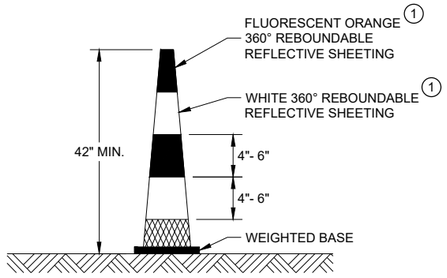
SDD 15C08 - 21d

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.

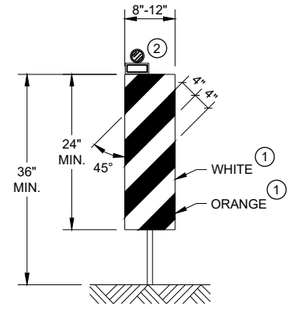


DRUM



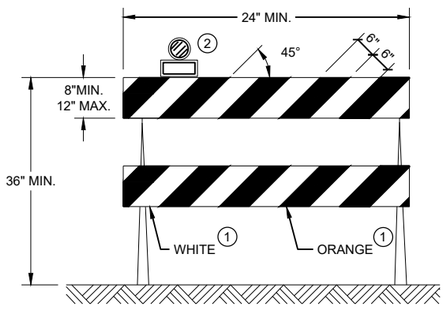
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



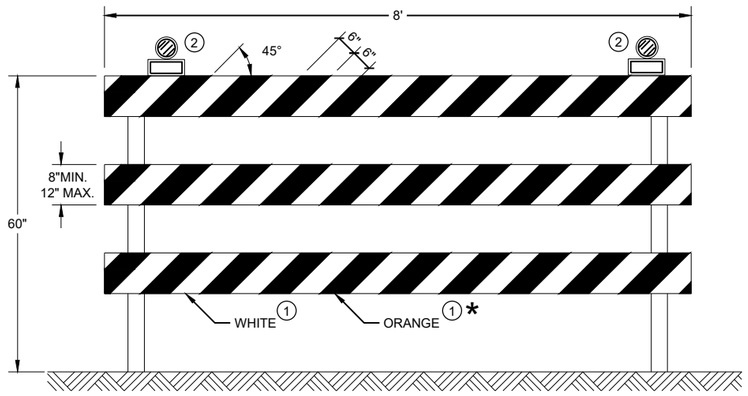
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

6

SDD15C11 - 09b

6

SDD15C11 - 09b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

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

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

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

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

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

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

FLAGGING

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

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

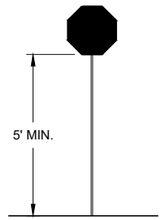
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



STOP/SLOW PADDLE ON SUPPORT STAFF

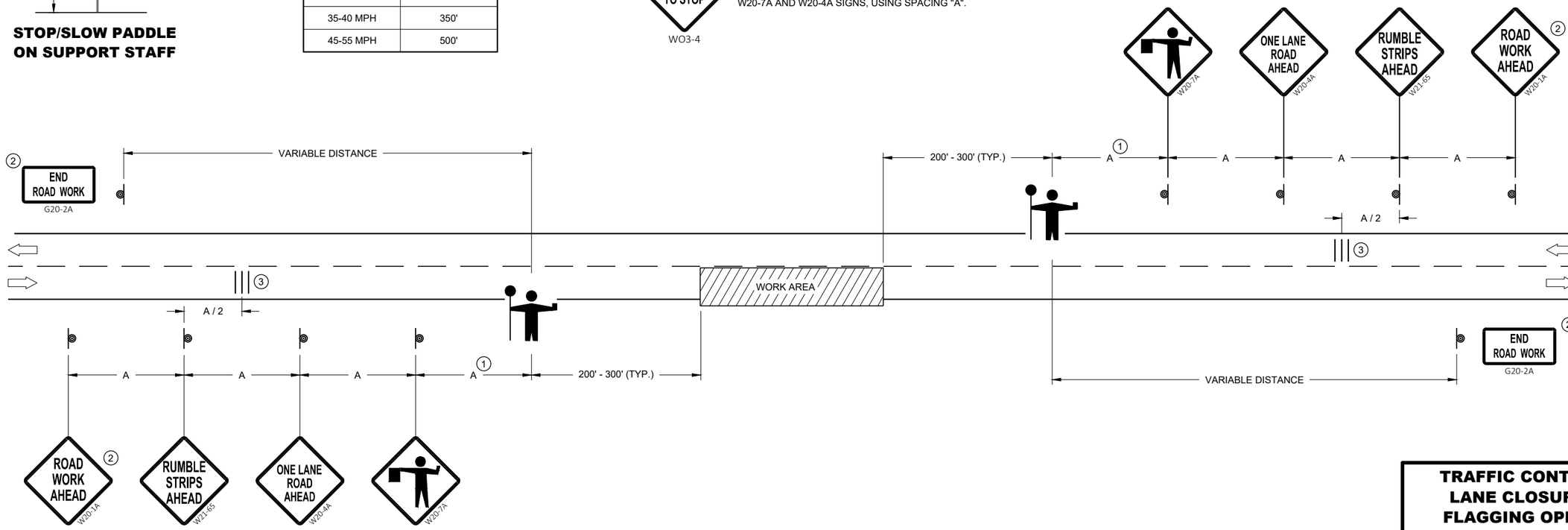
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

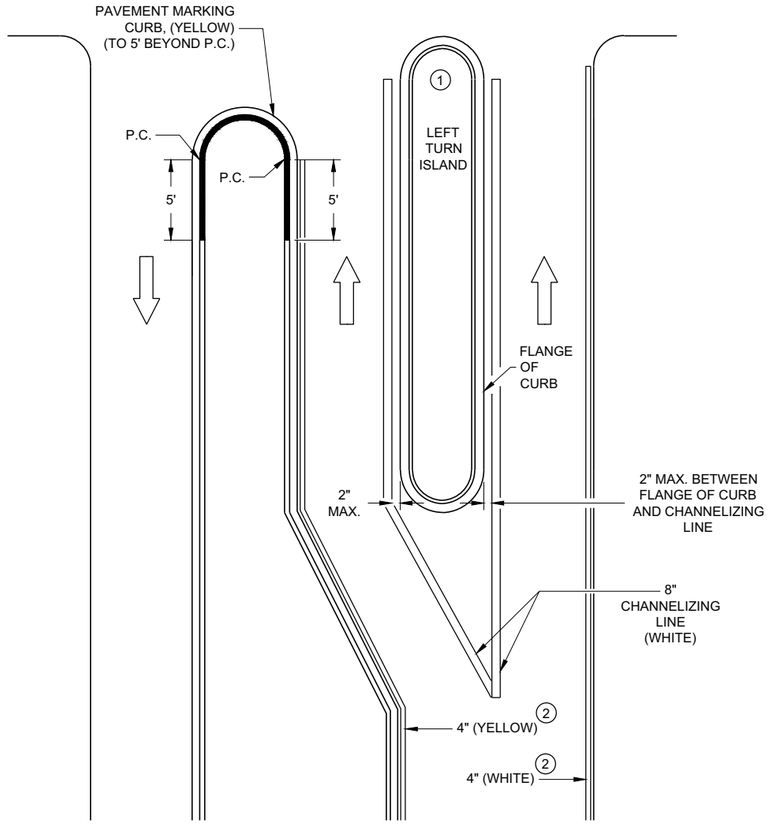
6

SDD 15C12 - 09a

6

SDD 15C12 - 09a

REQUIREMENTS FOR EDGE LINES		
POSTED SPEED	IS THERE CONTINUOUS LIGHTING?	
	YES	NO
≤ 30 MPH	NO	OPTIONAL
35 OR 40 MPH	OPTIONAL	RECOMMENDED
≥ 45 MPH	RECOMMENDED	REQUIRED



LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

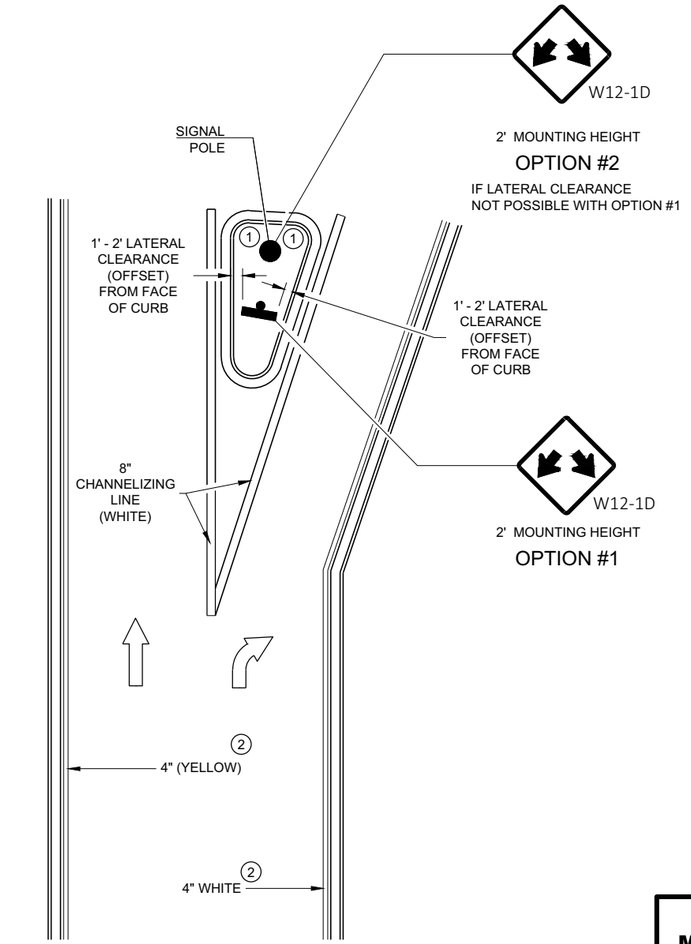
APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

(1) MARK CURB NOSES YELLOW.

(2) MARK ACCORDING TO TABLE.

DIRECTION OF TRAVEL



RIGHT TURN ISLAND

MEDIAN PAVEMENT MARKINGS, DOUBLE ARROW WARNING SIGN PLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

February 2021
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAF ENGINEER

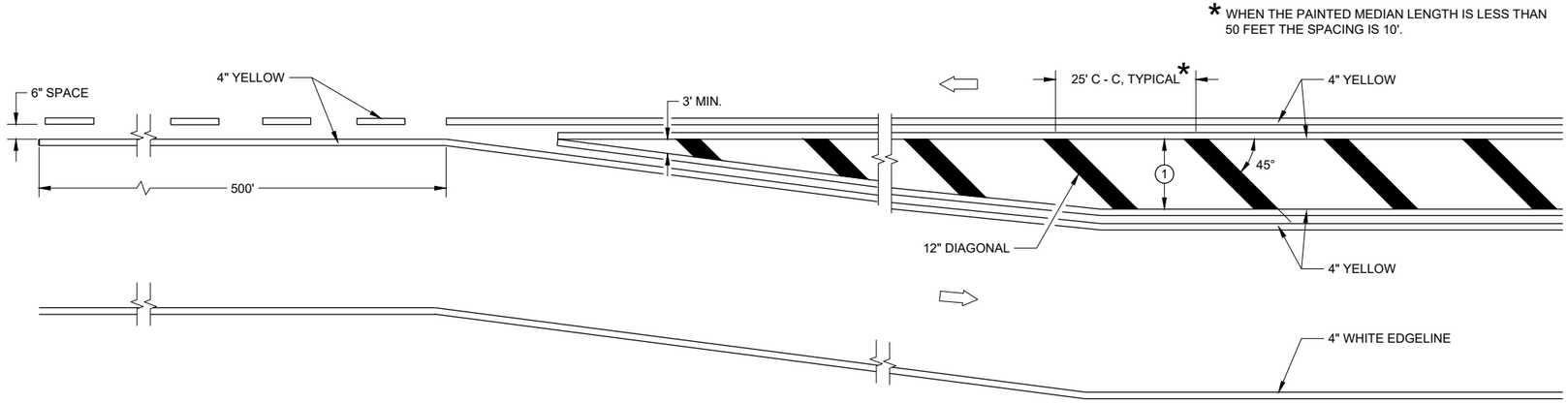
FHWA

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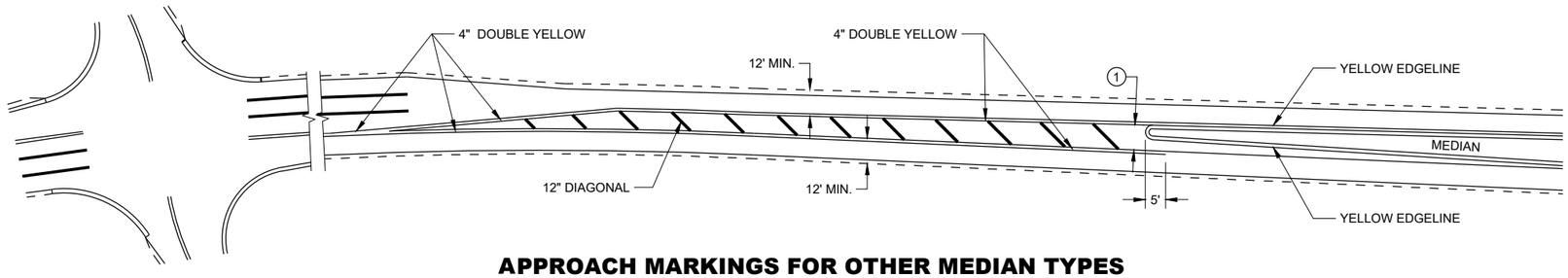
SDD 15C18 - 05c

6

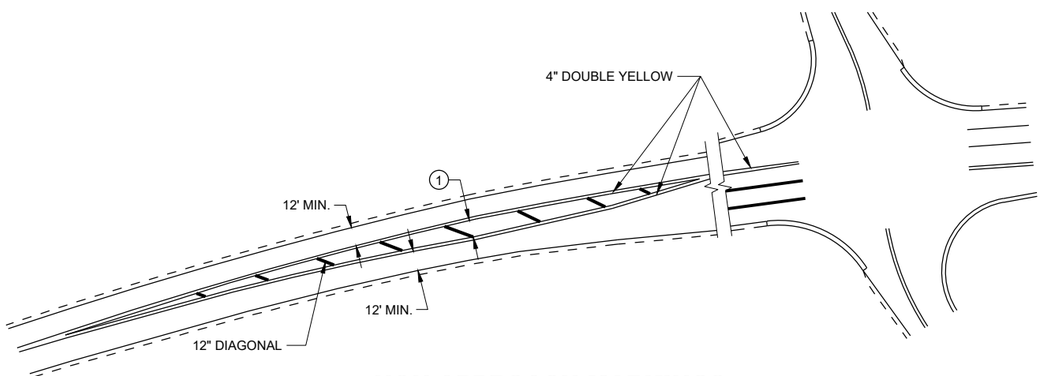
SDD 15C18 - 05c



MEDIAN ISLAND DETAIL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON-APPROACH MARKINGS

GENERAL NOTES

1. DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT THE WIDEST POINT. OMIT DIAGONALS IF WIDTH IS LESS THAN 4 FEET.

⇨ DIRECTION OF TRAVEL

MEDIAN ISLAND PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2022
DATE

/S/ Jeannie Silver
STATE SIGNING AND MAR ENGINEER

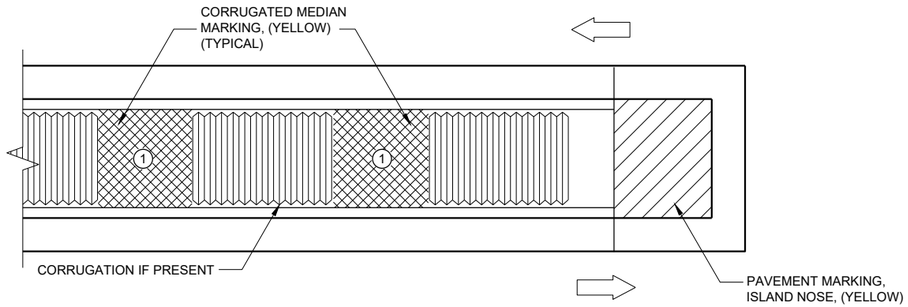
FHWA

6

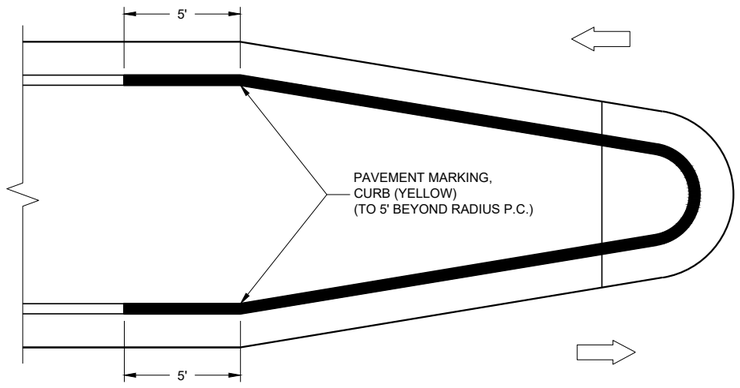
SDD 15C18 - 06a

6

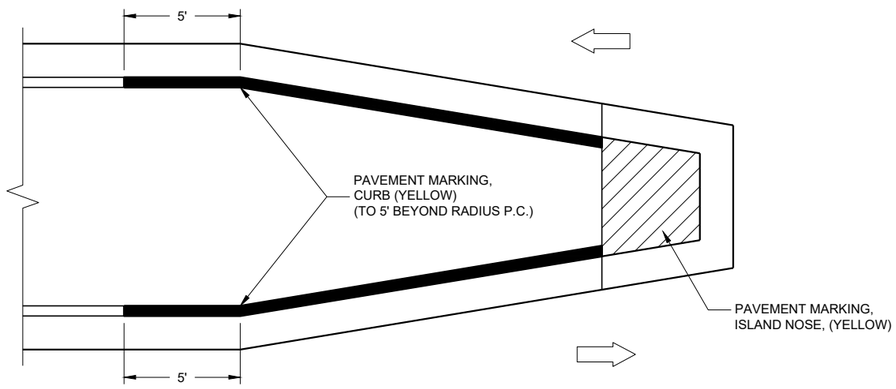
SDD 15C18 - 06a



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

(1) APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL

PAVEMENT MARKINGS, MEDIAN ISLAND NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2022
DATE

/S/ Jeannie Silver
STATE SIGNING AND MAR ENGINEER

FHWA

6

SDD 15C18 - 06b

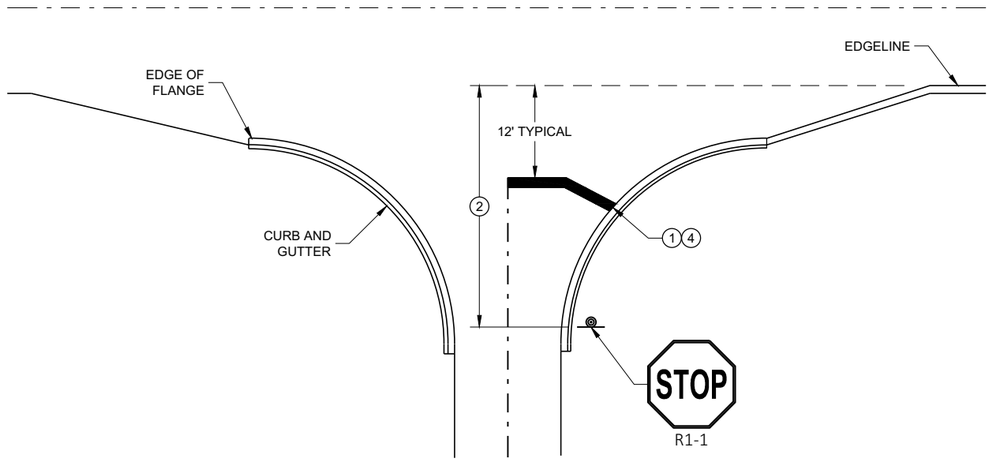
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SDD15C18 - 06b

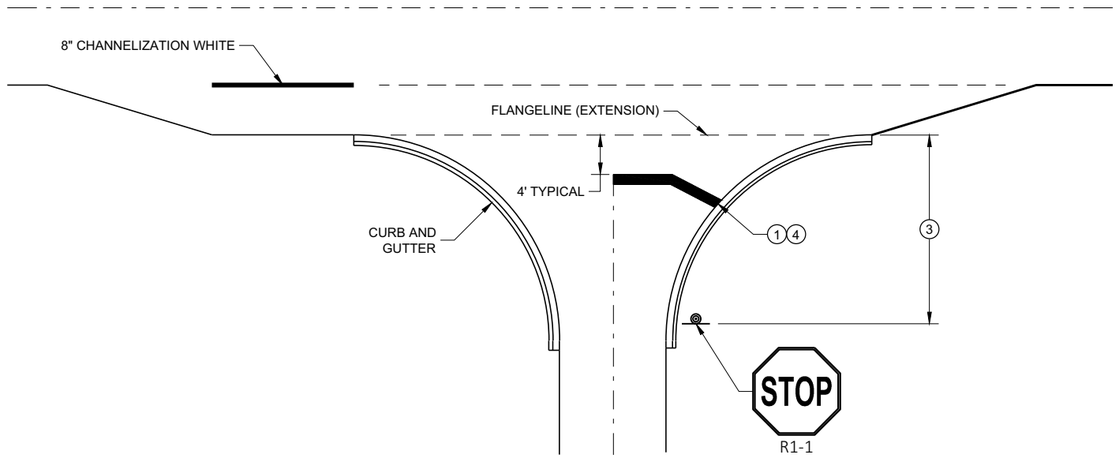
GENERAL NOTES

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

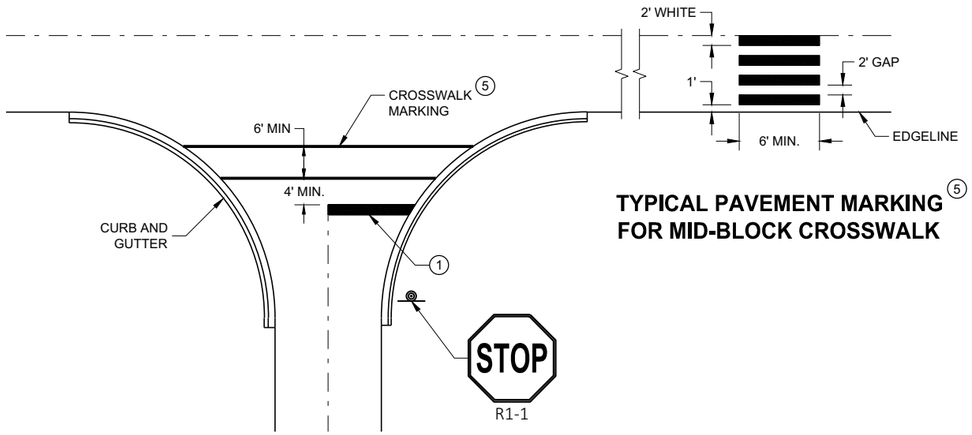
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE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



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

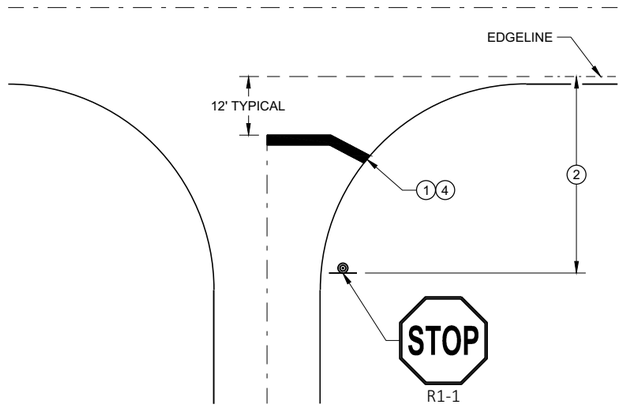


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK 5

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

6

SDD 15C33 - 04

6

SDD 15C33 - 04

GENERAL NOTES

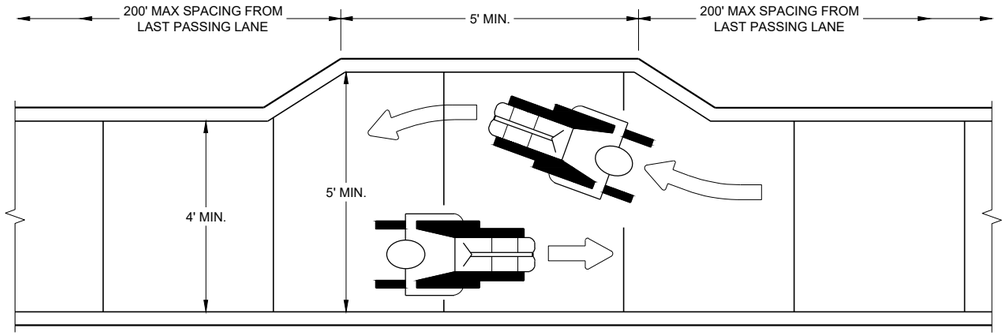
BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

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

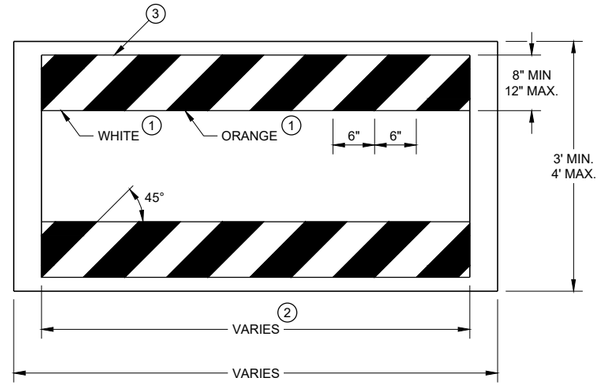
(2) SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.

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

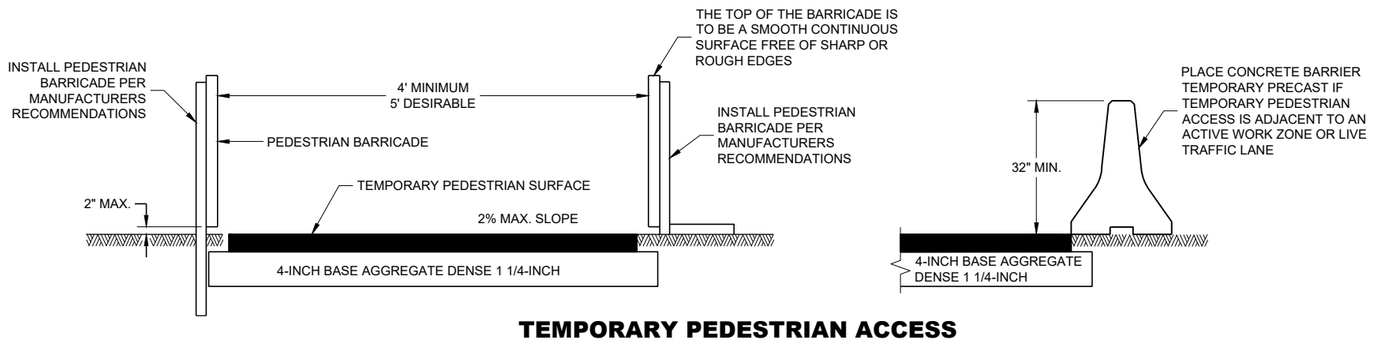
* USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.



NARROW SIDEWALK PASSING DETAIL



TEMPORARY PEDESTRIAN BARRICADE*



TEMPORARY PEDESTRIAN ACCESS

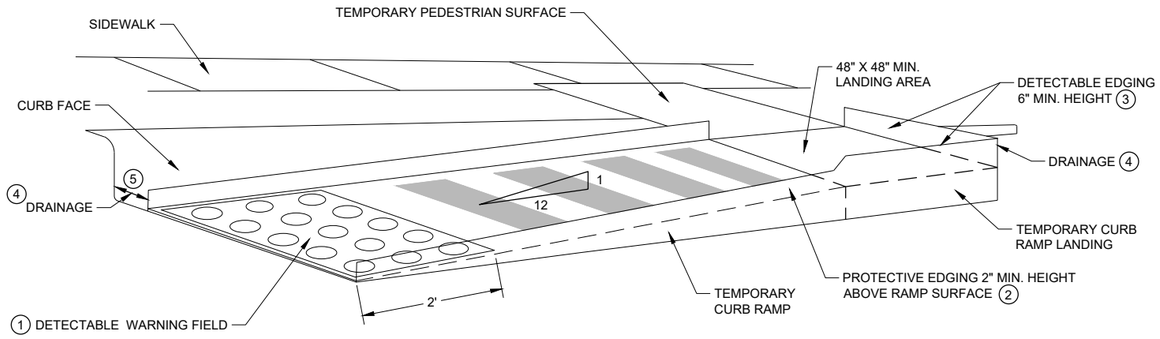
6

6

SDD 15D30 - 07a

SDD 15D30 - 07a

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION



PERSPECTIVE VIEW

GENERAL NOTES

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

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

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

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

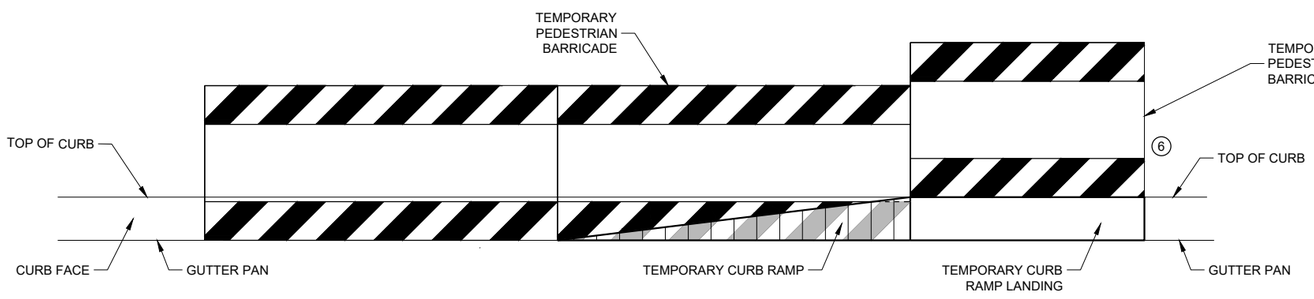
(2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

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

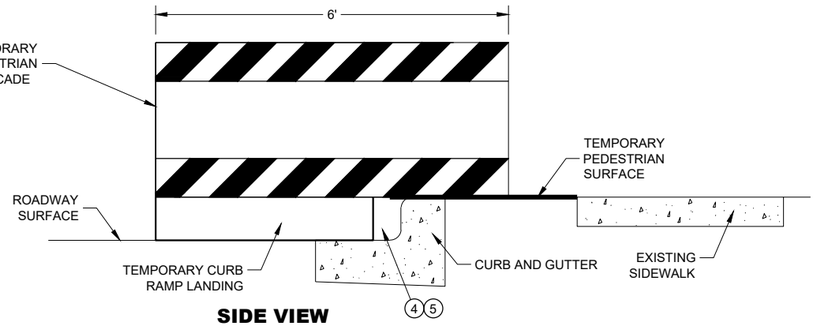
(4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

(5) 6" MINIMUM BETWEEN CURB FACE AND EDGE OF RAMP

(6) IF ONLY PART OF THE END PANEL OF TEMPORARY PEDESTRIAN BARRICADE PANEL IS NEEDED, EXTEND EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL HERE.



FRONT VIEW



SIDE VIEW

TEMPORARY CURB RAMP PARALLEL TO CURB

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

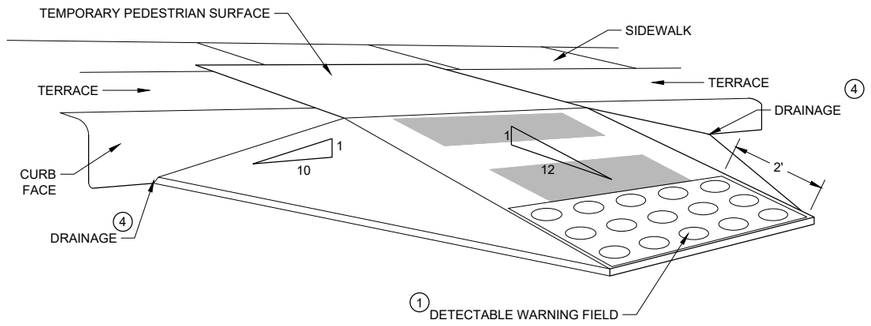
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

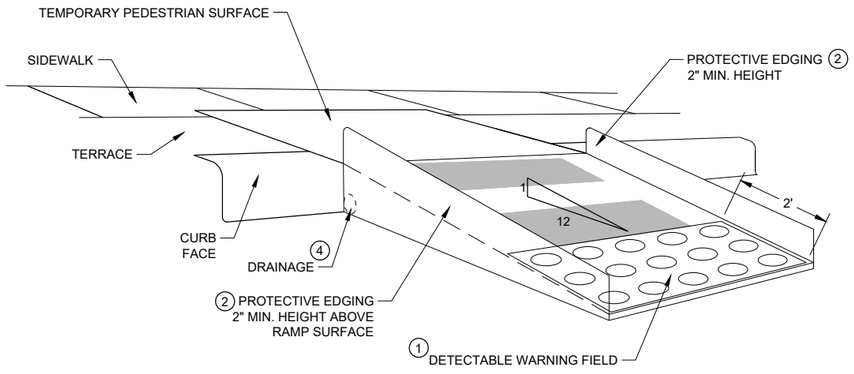
SDD 15D30 - 07b

6

SDD 15D30 - 07b



WITH SIDE APRON (5)



WITH PROTECTIVE EDGE

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

GENERAL NOTES

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

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

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

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

LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

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

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

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

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

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

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

6

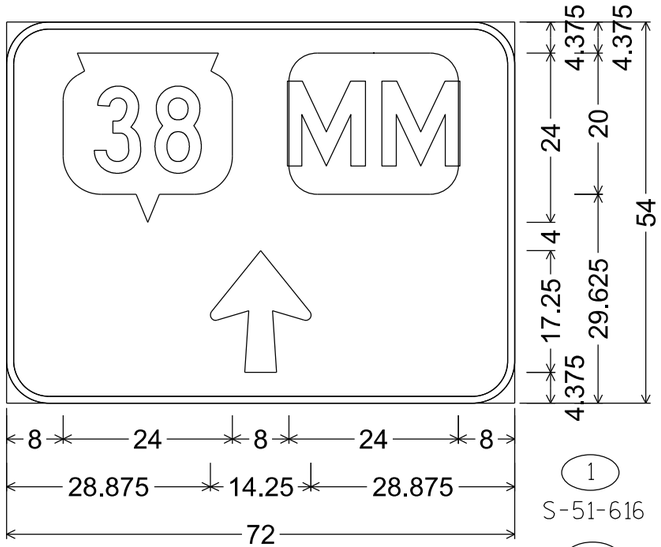
SDD 15D30 - 07c

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

NOTES

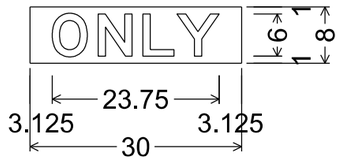
1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E except as noted
4. Only Plaque background on Yellow Type F Reflective Sheeting with Black Non-Reflective Message



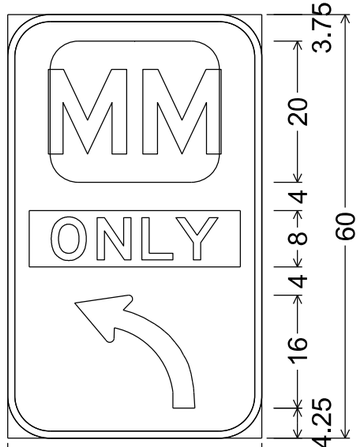
1
S-51-616

10
S-51-615

D16-1; 6.000" Radius, 1.000" Border

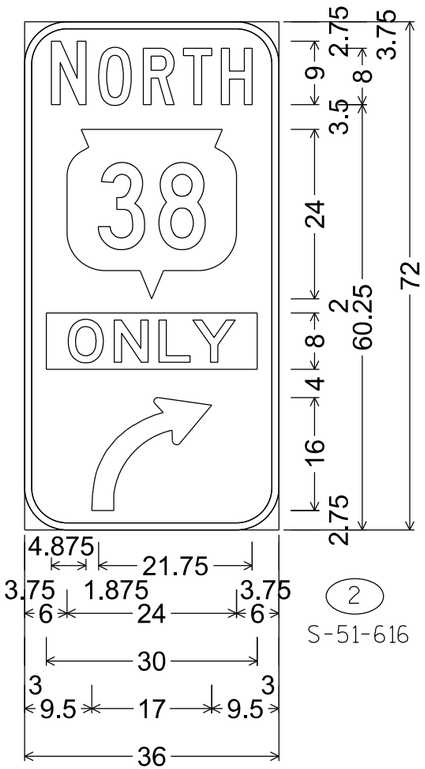


No border, Black on, Fluorescent yellow



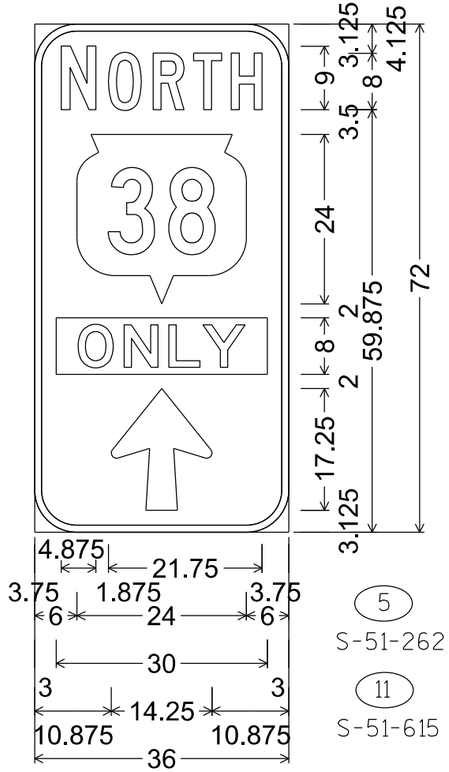
3
4
S-51-262

D16-1R; 6.000" Radius, 1.000" Border



2
S-51-616

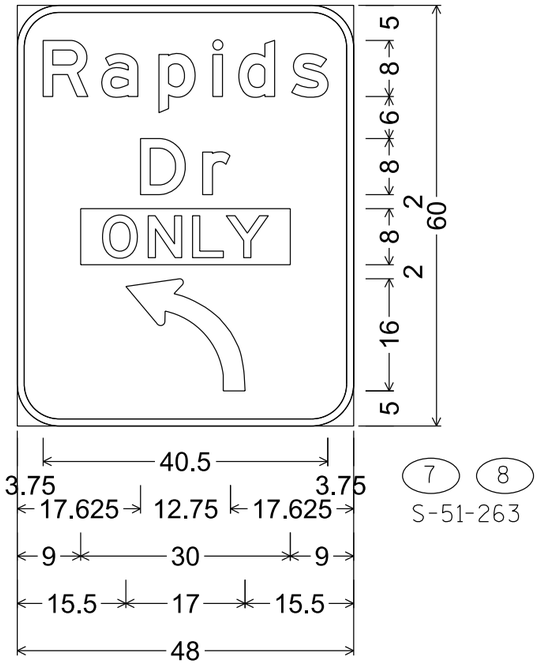
D16-1; 6.000" Radius, 1.000" Border
"NORTH", C



5
S-51-262

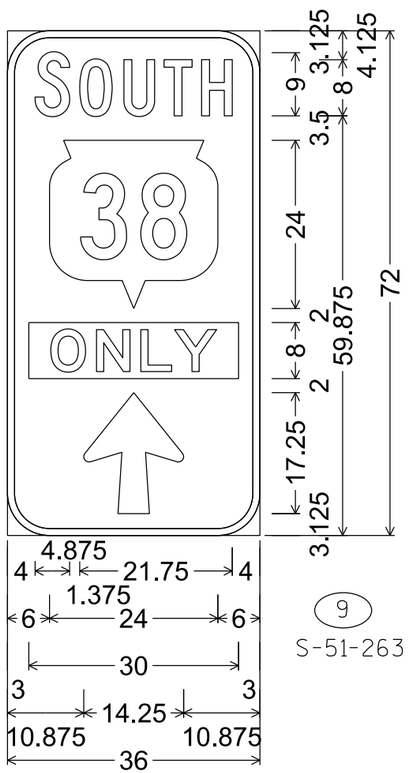
11
S-51-615

D16-1; 6.000" Radius, 1.000" Border
"NORTH", C



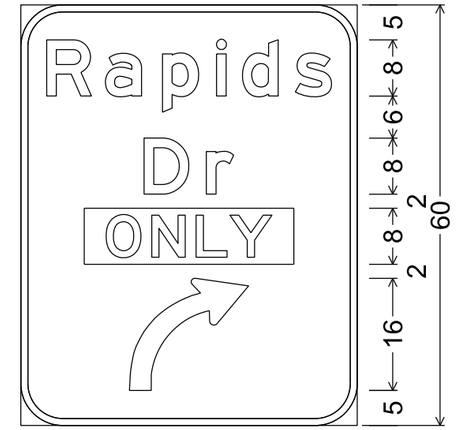
7 8
S-51-263

D16-1; 6.000" Radius, 1.000" Border
"Rapids", E; "Dr", E



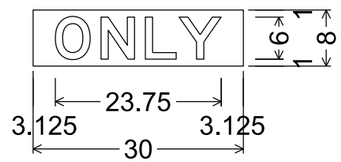
9
S-51-263

D16-1; 6.000" Radius, 1.000" Border
"SOUTH", C



12
S-51-615

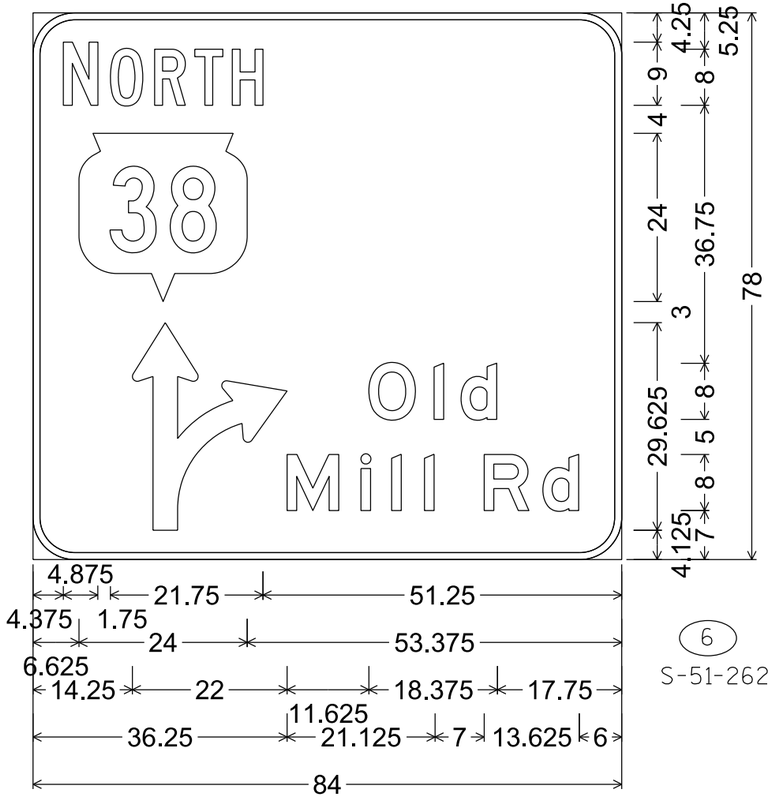
D16-1; 6.000" Radius, 1.000" Border
"Rapids", E; "Dr", E



No border, Black on, Fluorescent yellow

NOTES

1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E except as noted
4. Only Plaque background on Yellow Type F Reflective Sheeting with Black Non-Reflective Message



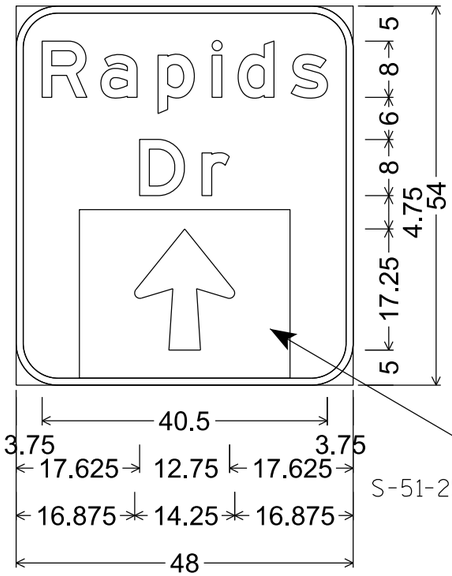
6
S-51-262

6.000" Radius, 1.000" Border
"NORTH", C; "Old", E; "Mill Rd", E

NOTES

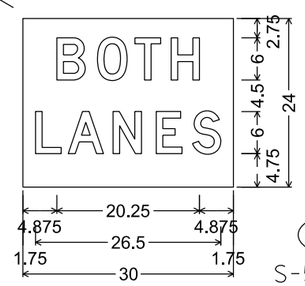
1. Signs are Type II- Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - D
4. Plaque overlay base material on .040" aluminum blank

EXISTING SIGN



S-51-257

D16-1;
6.000" Radius, 1.000" Border



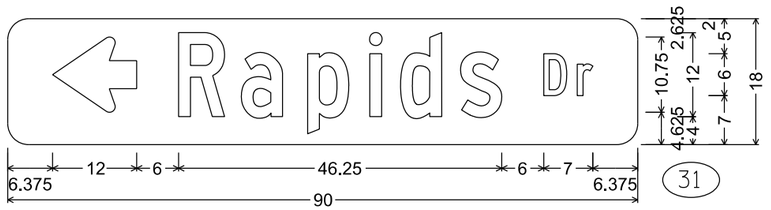
77
S-51-257

No border

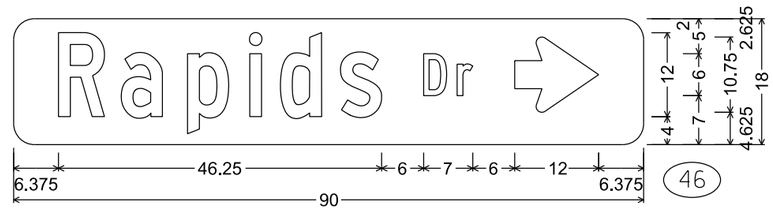
Place plaque at the top of white border to cover arrow

NOTES

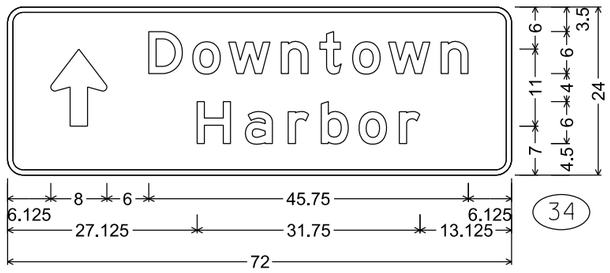
1. Signs are Type II - Type H Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - C except as noted



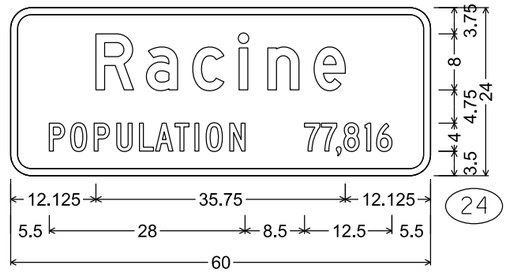
M1-94H; 3.000" Radius, No border



M1-94H; 3.000" Radius, No border



D1-2; 2.250" Radius, 0.750" Border,
"Downtown", E; "Harbor", E;



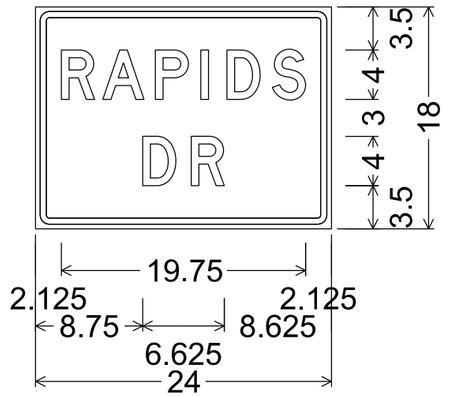
I2-3; 3.000" Radius, 1.000" Border,
"Racine", D; "POPULATION", C; "77,816", C

7

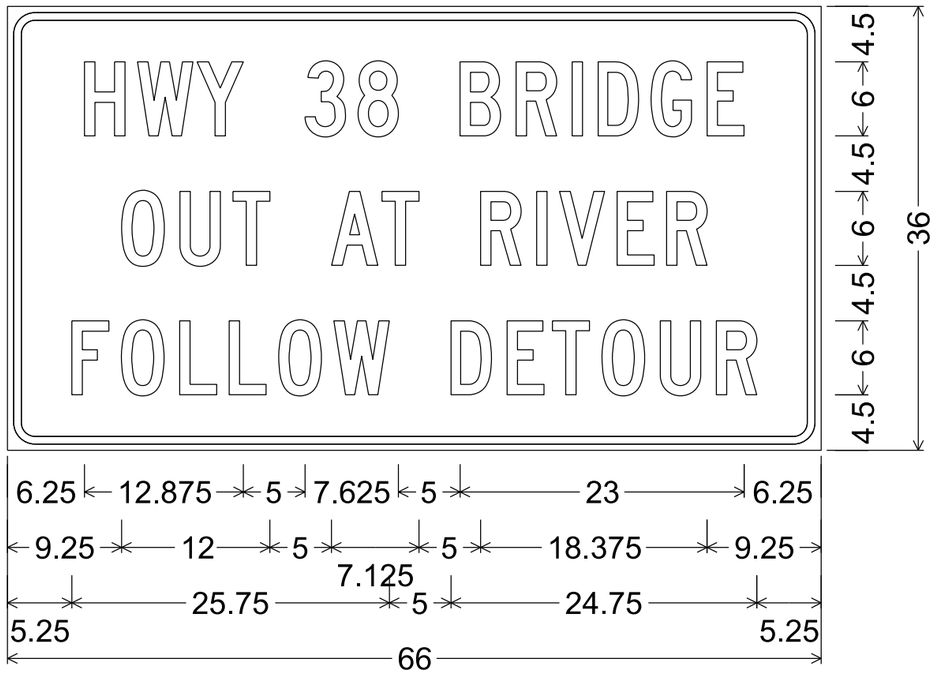
7

NOTES

1. Fixed Message signs are Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - As noted



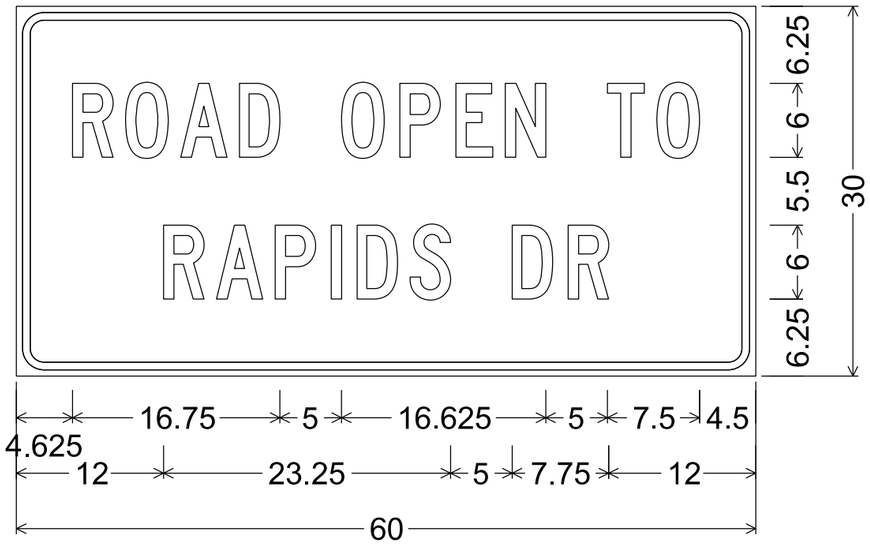
1.125" Radius, 0.500" Border, 0.375" Indent
"RAPIDS", D; "DR", D



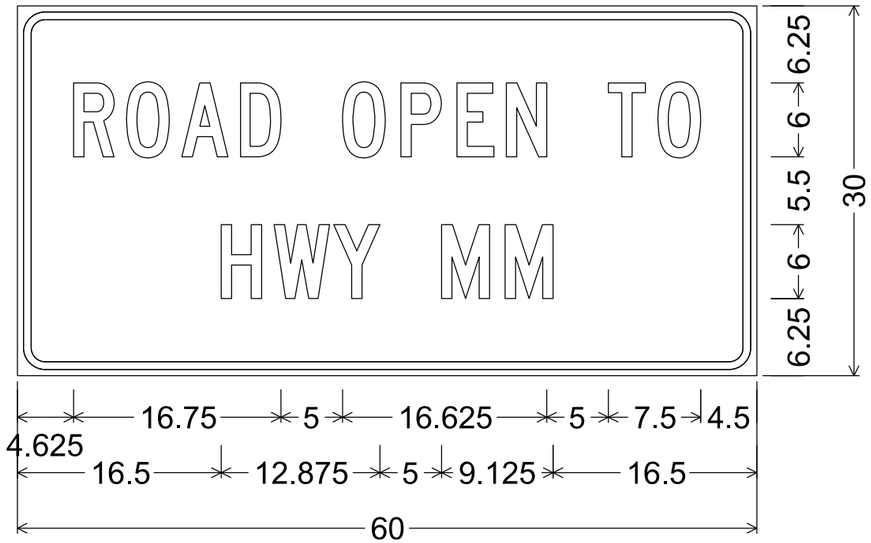
2.250" Radius, 0.625" Border, 0.500" Indent
"HWY", C; "38", C; "BRIDGE", C; "OUT", C;
"AT", C; "RIVER", C; "FOLLOW", C; "DETOUR", C

7

7



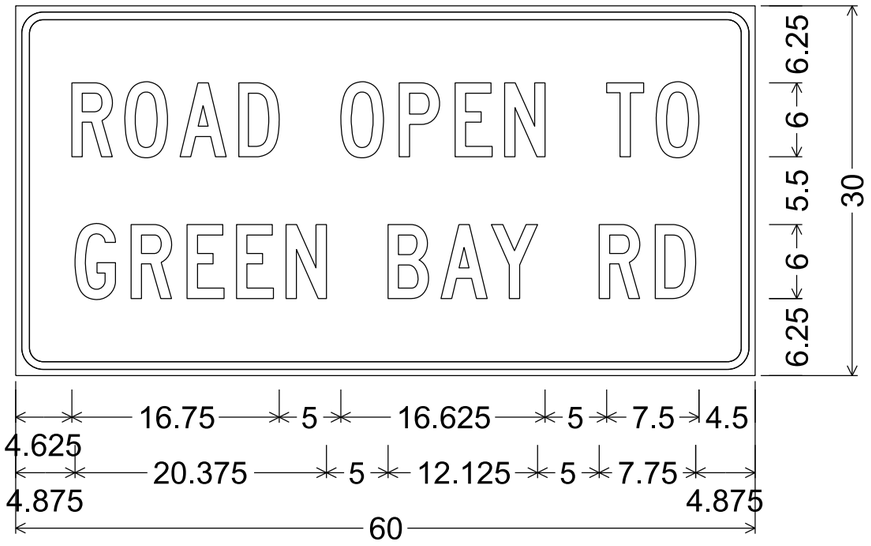
2.250" Radius, 0.625" Border, 0.500" Indent



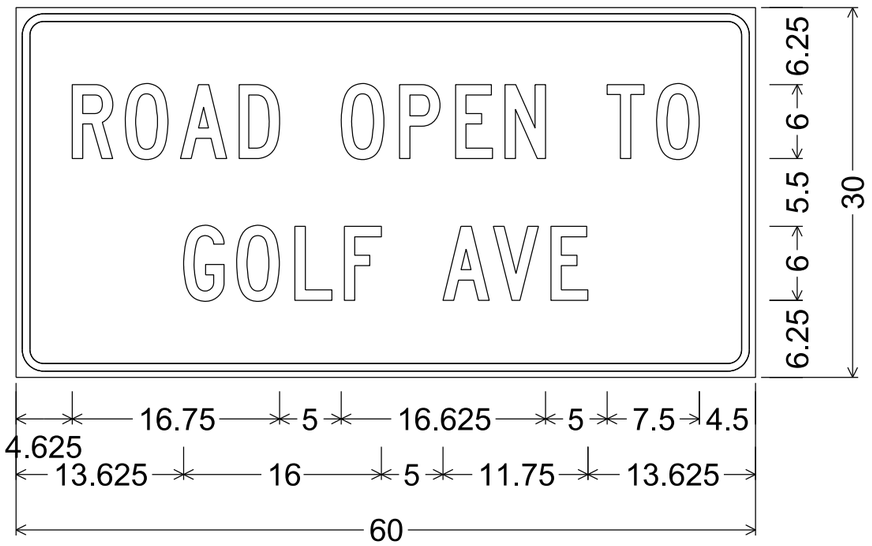
2.250" Radius, 0.625" Border, 0.500" Indent

NOTES

1. Fixed Message signs are Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C

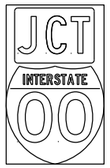


2.250" Radius, 0.625" Border, 0.500" Indent

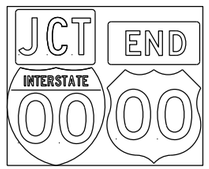


2.250" Radius, 0.625" Border, 0.500" Indent

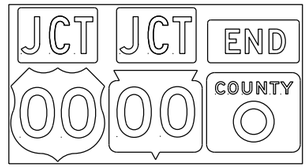
TYPICAL ASSEMBLIES



J1-1



J1-2



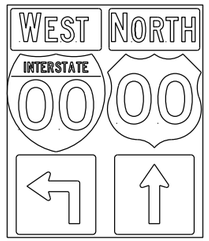
J1-3



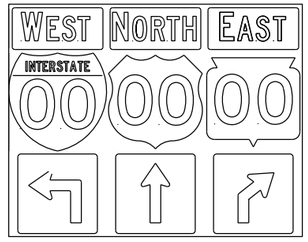
JR1-1



J2-1



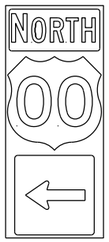
J2-2



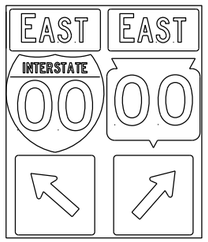
J2-3



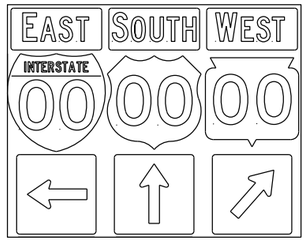
JV
(Typical Vertical J-Assembly
See Note 10 and 11)



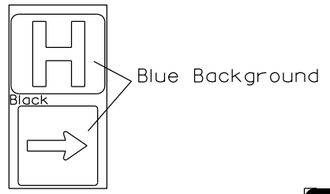
J3-1



J3-2



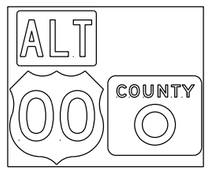
J3-3



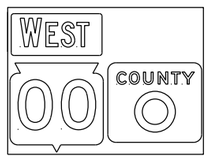
Blue Background
JH-1



J4-1



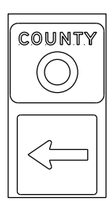
J4-2



J4-2



J12-1



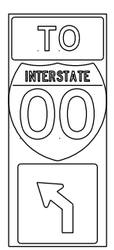
J13-1



J32-1



J33-1



J22-1



J23-1



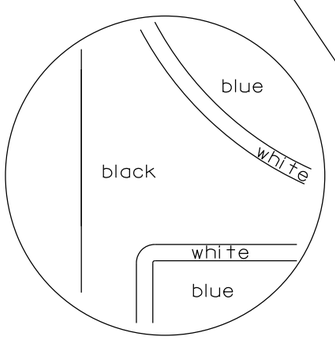
JR13-1

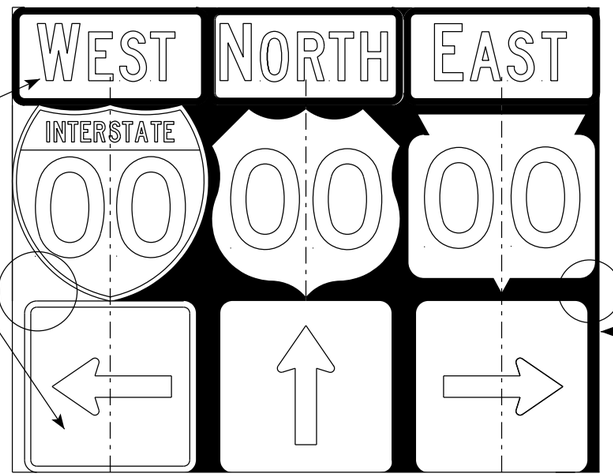


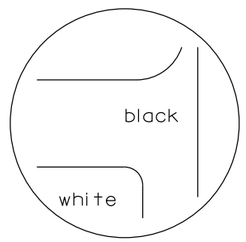
JR23-1



JR99-1







black background

NOTES

1. Signs are Type II - Type H Reflective
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/21 PLATE NO. A2-1S.9

PROJECT NO:

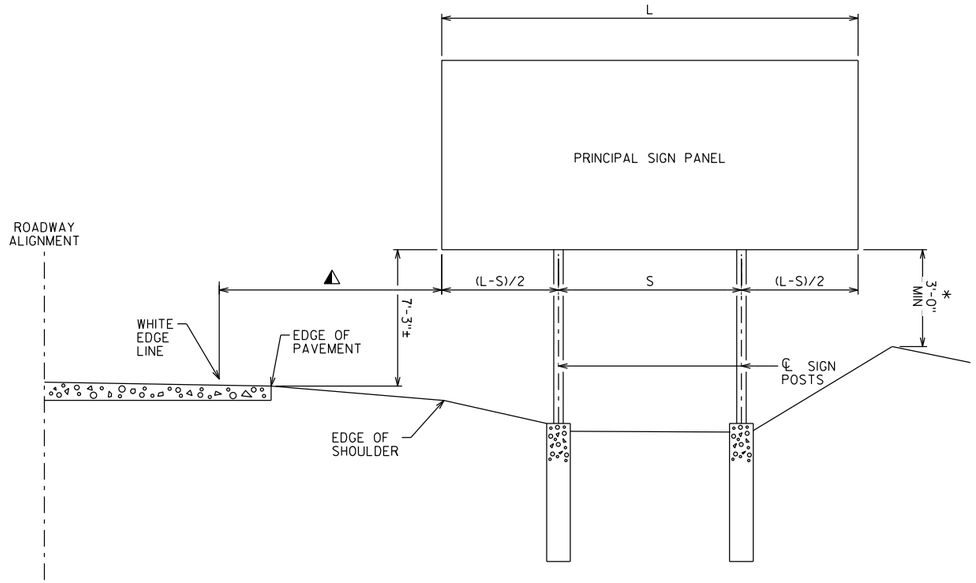
SHEET NO: 224 **E**

FILE NAME : C:\CAEfiles\Projects\tr_stdplate_A21S.dgn PLOT DATE : 18-MAR 2021 1:37 PLOT BY : mscj9h PLOT NAME :

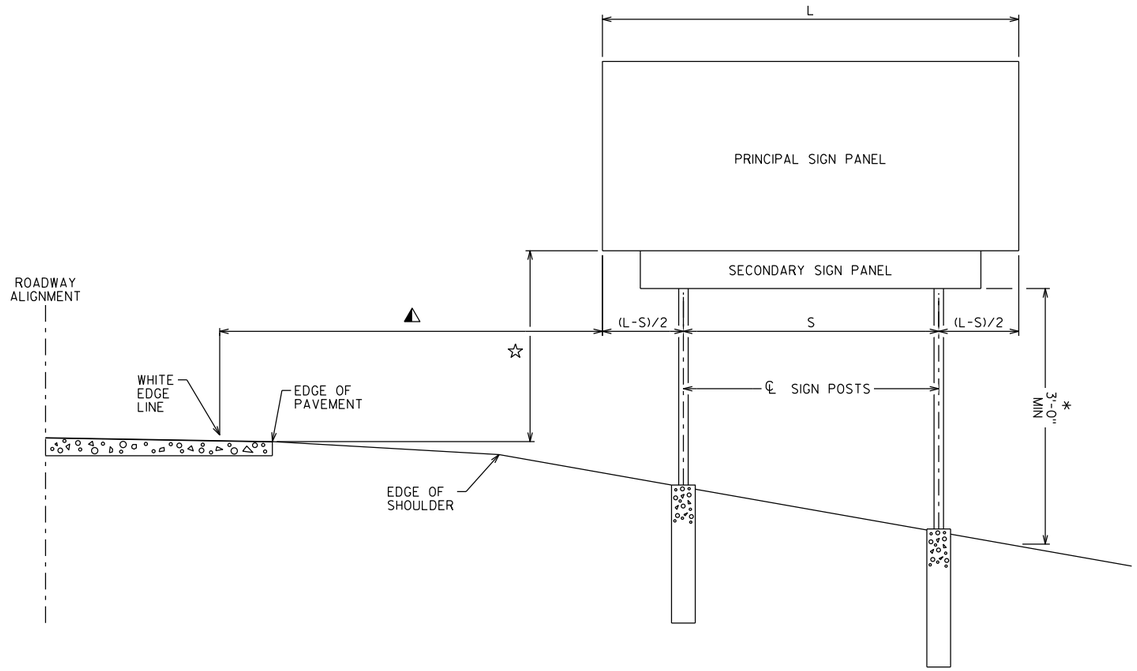
WISDOT/CADDS SHEET 42

7

7



INSTALLATION WITHOUT SECONDARY SIGN



INSTALLATION WITH SECONDARY SIGN

TYPE 1 SIGN INSTALLATION NOTES:

FOR A 2-POST INSTALLATION, "S" EQUALS 3L/5, BUT SHALL NOT BE LESS THAN 6'-0".

FOR A 3-POST INSTALLATION, "S" EQUALS 5L/7, BUT SHALL NOT BE LESS THAN 12'-0". THE SPACING BETWEEN ANY TWO POSTS SHALL NOT BE LESS THAN 6'-0".

⚠ UNLESS NOTED IN THE PLANS, THE SIGN OFFSET DISTANCE SHALL BE A MINIMUM OF 17'-6" FROM THE WHITE EDGE LINE, DESIRABLE 30'-0".

THE ± TOLERANCE SHOWN ON THIS SHEETS IS 3".

THE VERTICAL SIGN HEIGHT CLEARANCES SHOWN ON THIS SHEET ARE MEASURED FROM THE BOTTOM OF THE SIGN PANEL TO THE NEAR EDGE OF PAVEMENT.

☆ THE VERTICAL CLEARANCE SHALL BE 8'-3"± WHEN THE SECONDARY SIGN HEIGHT IS 3'-0" OR LESS. FOR SECONDARY SIGN HEIGHTS LARGER THAN 3'-0", THE VERTICAL CLEARANCE TO THE BOTTOM OF THE SECONDARY SIGN PANEL SHALL BE 5'-3"±.

* THE VERTICAL SIGN GROUND CLEARANCE ON RIGHT END OF SIGN SHALL BE A MINIMUM OF 3'-0"±.

POST LENGTHS SHOWN IN THE MISCELLANEOUS QUANTITIES ARE ESTIMATED LENGTHS. THE CONTRACTOR SHALL VERIFY POST LENGTHS AT THE TIME OF FINAL GRADING.

REFER TO THE TRAFFIC ENGINEERING OPERATIONS AND SAFETY MANUAL FOR FURTHER GUIDANCE ON MINIMUM VERTICAL CLEARANCE REQUIREMENTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

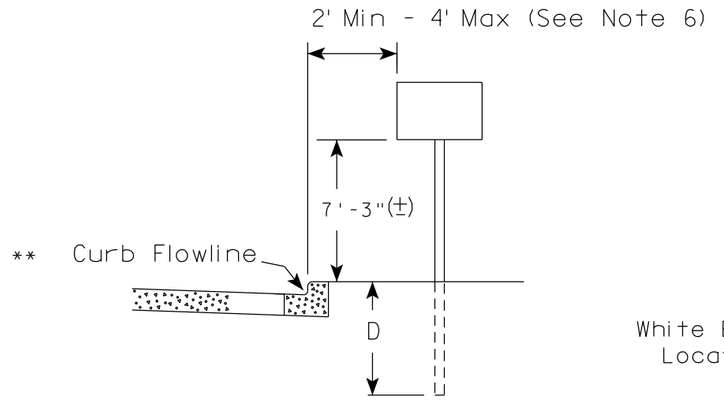
DRAWN BY | PLANS CK'D.

TYPICAL TYPE I SIGN INSTALLATION

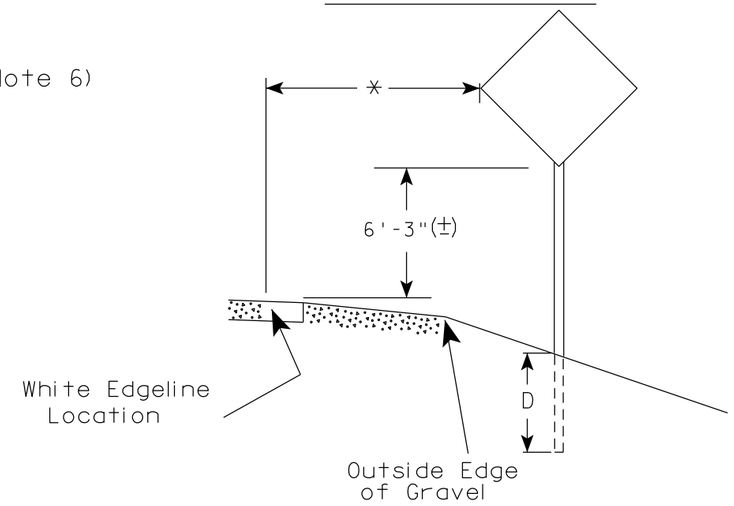
SHEET A4-1.10

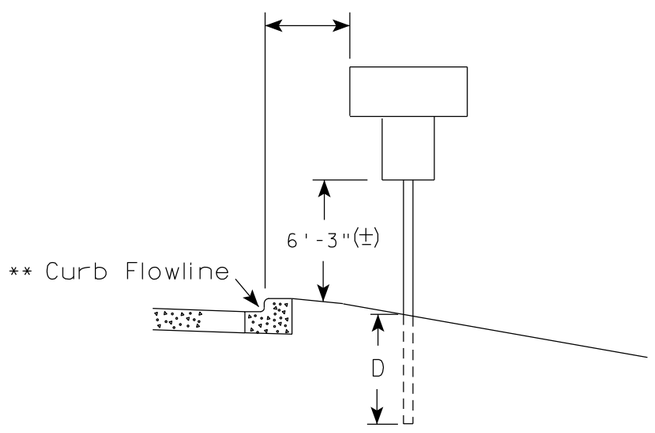
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 225 | E

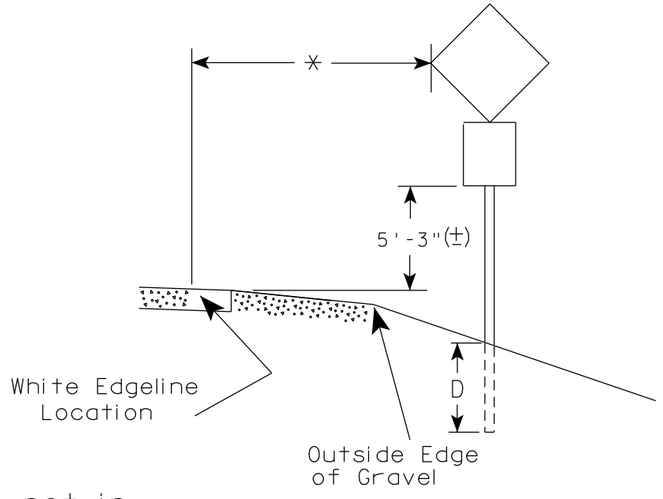
URBAN AREA



RURAL AREA (See Note 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. 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.

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

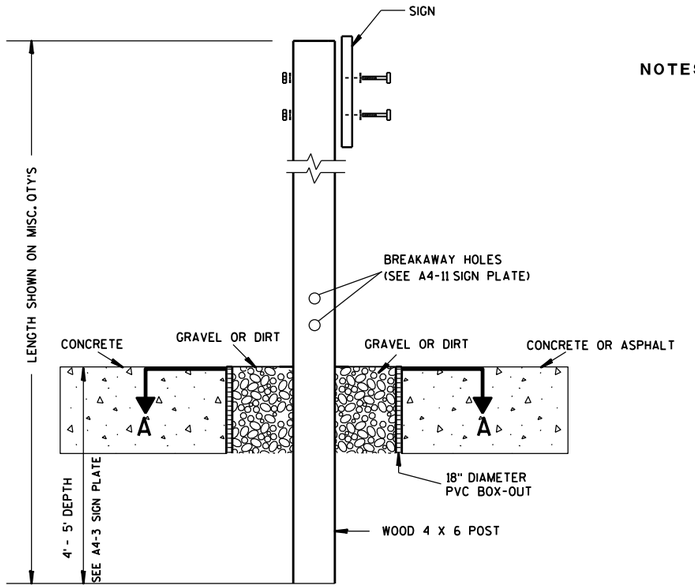
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

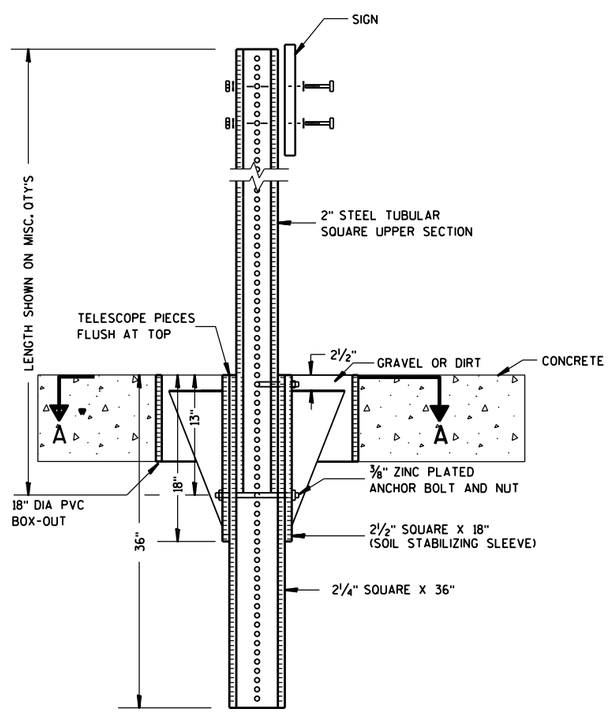
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 226	E



ELEVATION VIEW

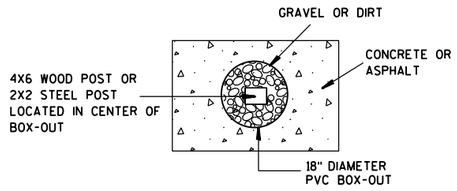
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

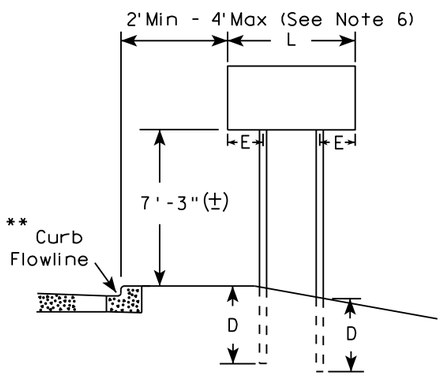
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

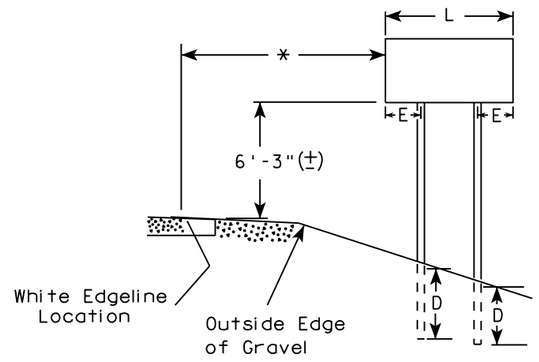
DATE 1/27/14 PLATE NO. A4-3B.1

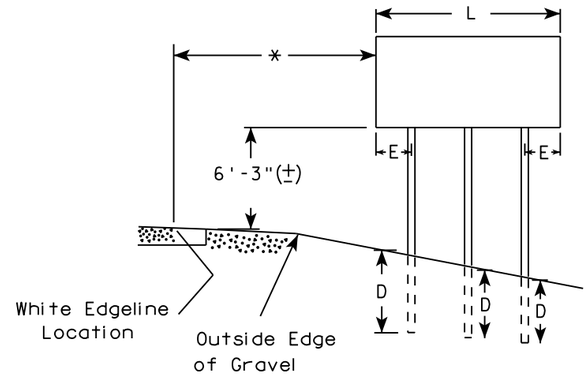
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

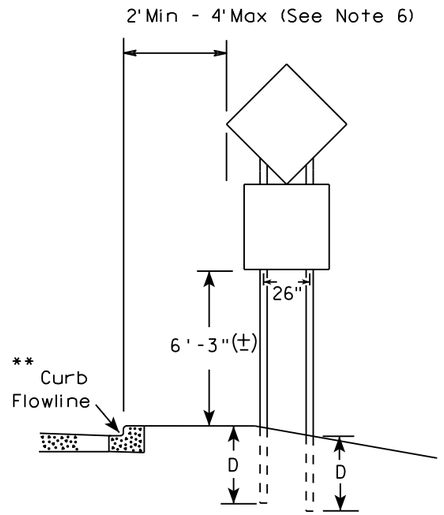
URBAN AREA



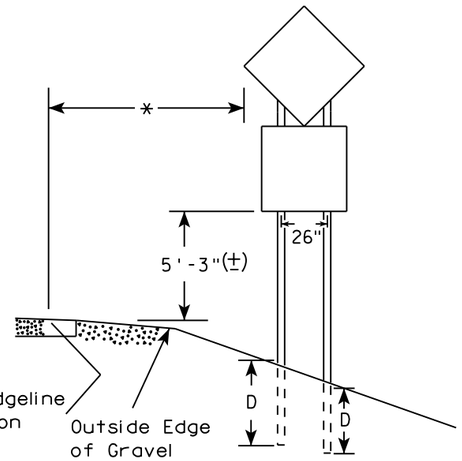
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

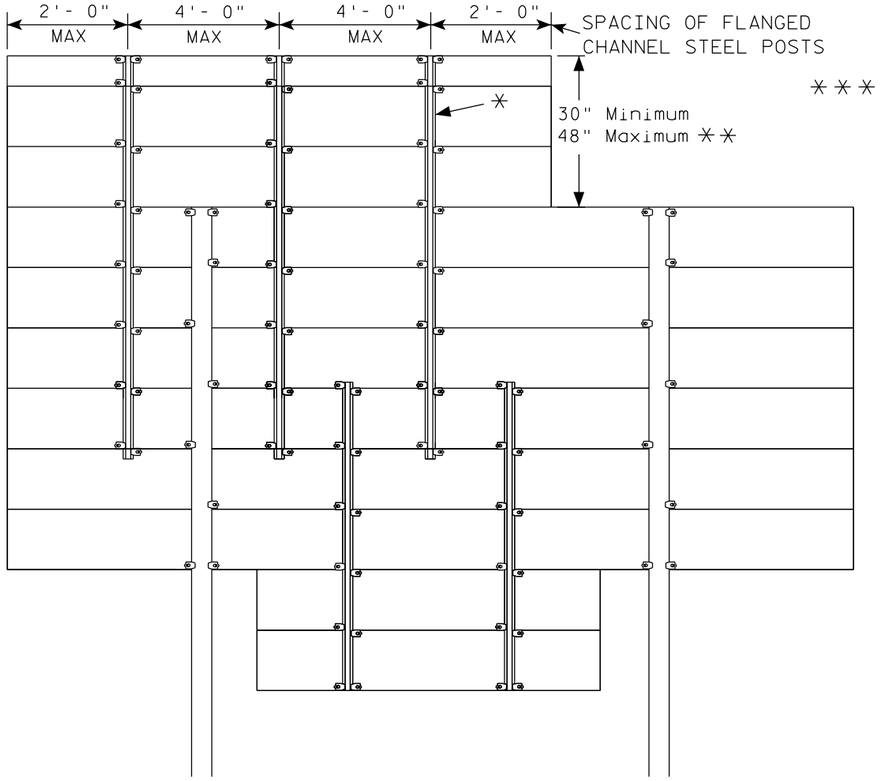
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 228	E

GROUND MOUNTED SIGN



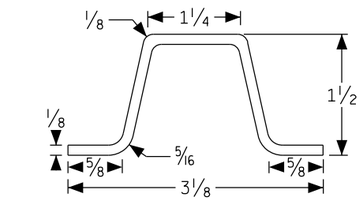
✳=2.00 lb/ft AND 4.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

✳✳=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

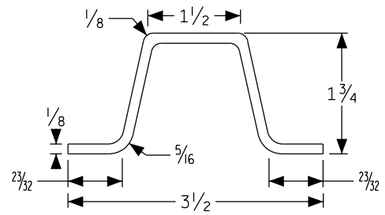
✳✳✳ THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 15 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 15 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAILS

NOT TO SCALE

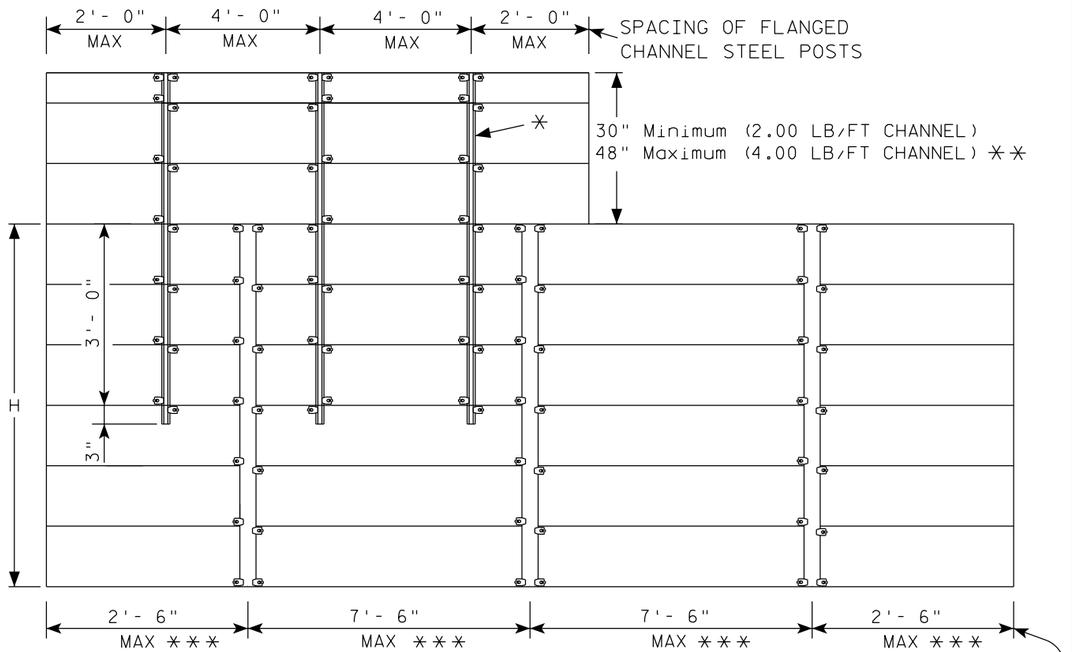


2.00 LB/FT CHANNEL



4.00 LB/FT CHANNEL

SIGN BRIDGE MOUNTED SIGN



SPACING OF ALUMINUM SIGN SUPPORTS
5" X 3.5" X 3.7 LBS./ft.

GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

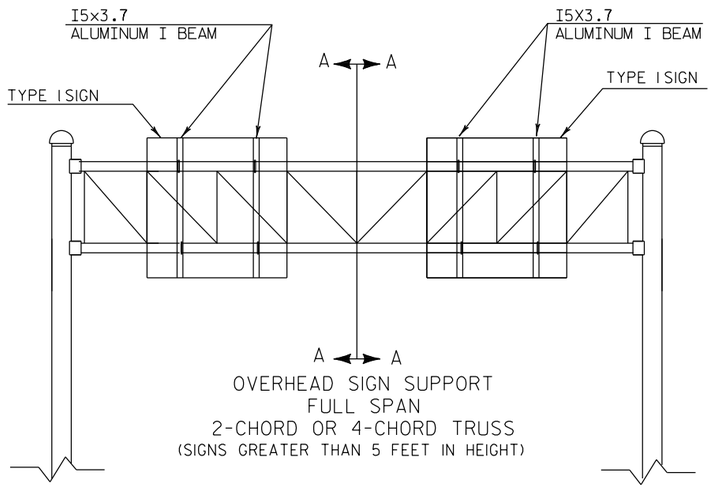
   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

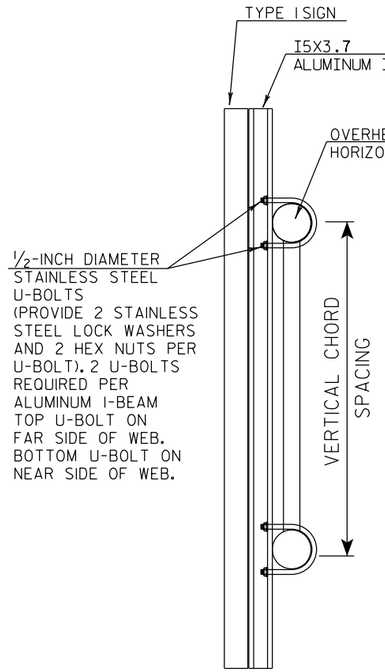
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

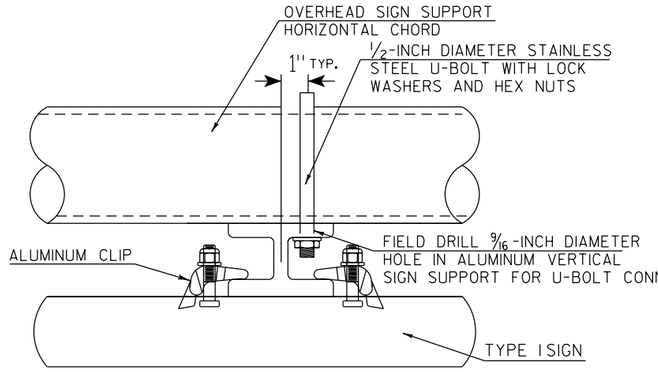
DATE 1/07/20 PLATE NO. A4-6.12



OVERHEAD SIGN SUPPORT
FULL SPAN
2-CHORD OR 4-CHORD TRUSS
(SIGNS GREATER THAN 5 FEET IN HEIGHT)



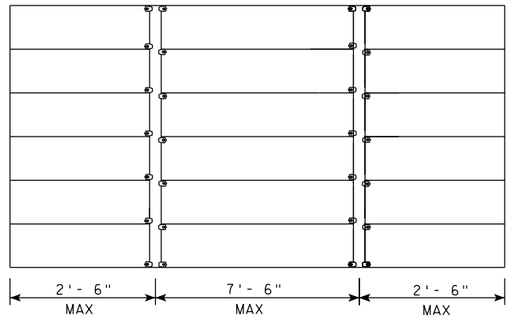
CUT SECTION A-A



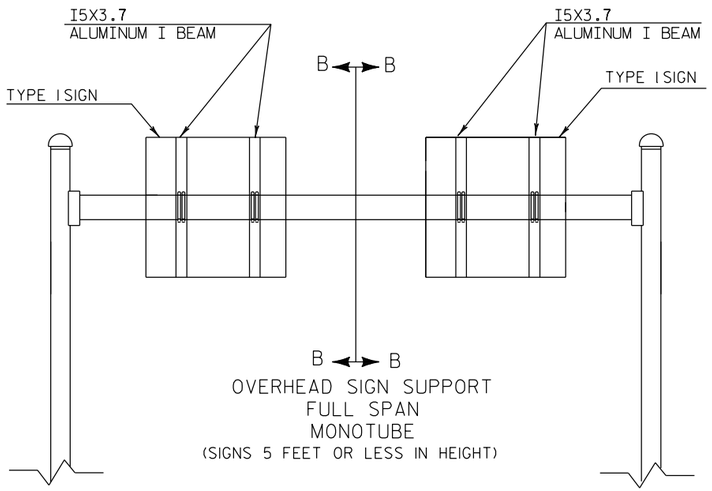
TYPICAL SIGN CONNECTION FOR
2-CHORD OR 4-CHORD TRUSS
PLAN VIEW

GENERAL NOTES

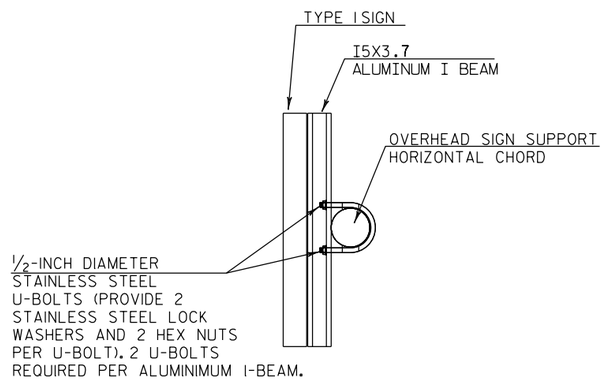
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:
   STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.
   STAINLESS STEEL HEX NUTS ASTM A276.
   ALUMINUM I-BEAMS ARE 6061-T6.
9. SLOTTED HOLES IN I-BEAMS ARE NOT ALLOWED



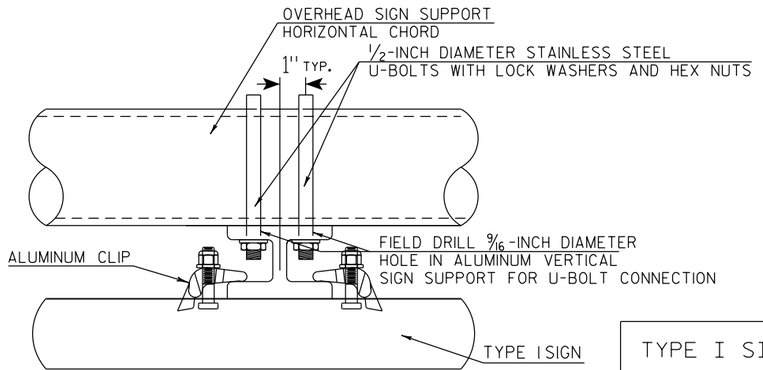
SPACING OF I5X3.7 ALUMINUM
VERTICAL SIGN SUPPORT



OVERHEAD SIGN SUPPORT
FULL SPAN
MONOTUBE
(SIGNS 5 FEET OR LESS IN HEIGHT)



CUT SECTION B-B



TYPICAL SIGN CONNECTION FOR
MONOTUBE
PLAN VIEW

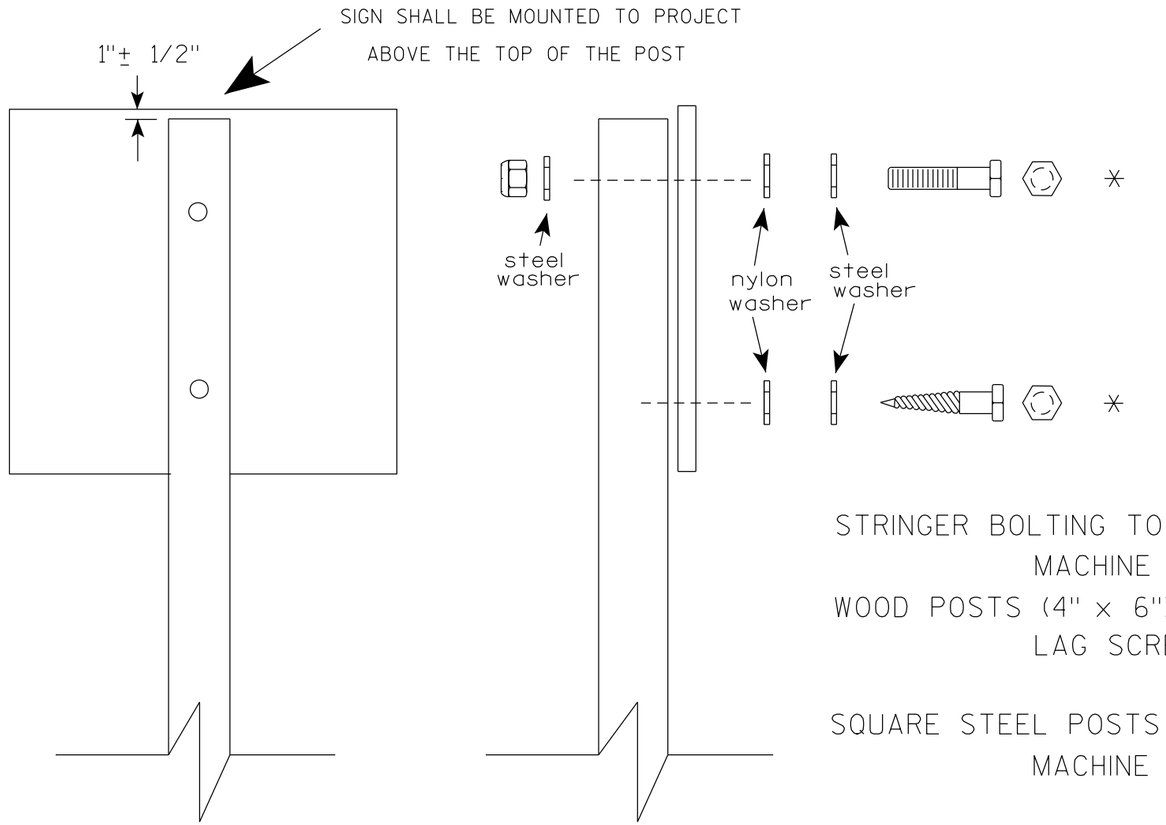
TYPE I SIGN CONNECTION
TO OVERHEAD SIGN SUPPORT

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
State Traffic Engineer

DATE 1/07/20 PLATE NO. A4-7A.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 230	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 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

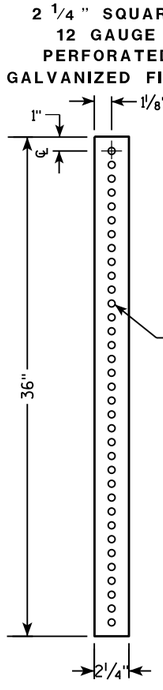
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

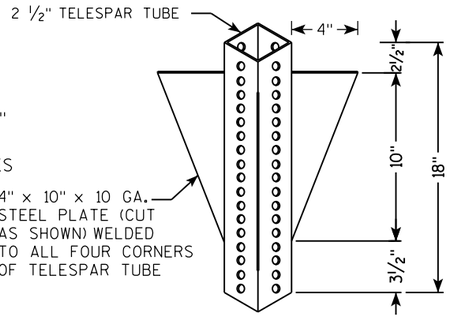
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

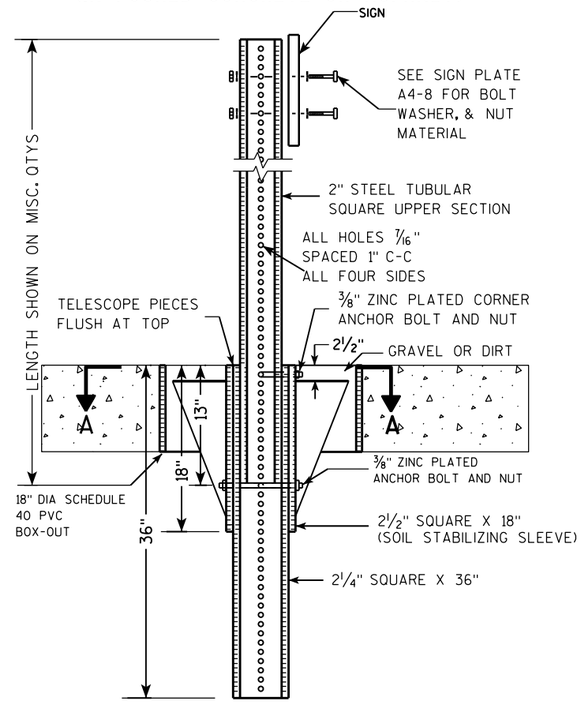
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



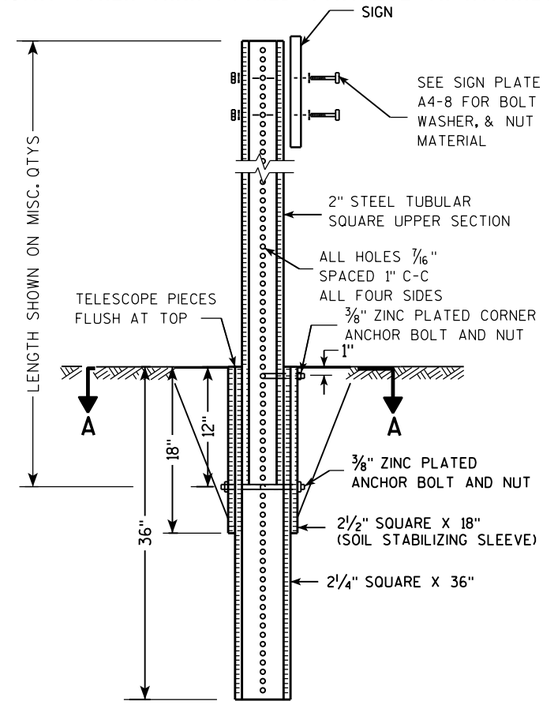
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

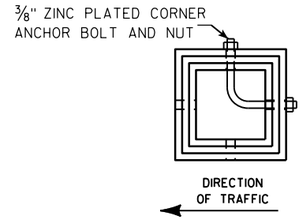


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

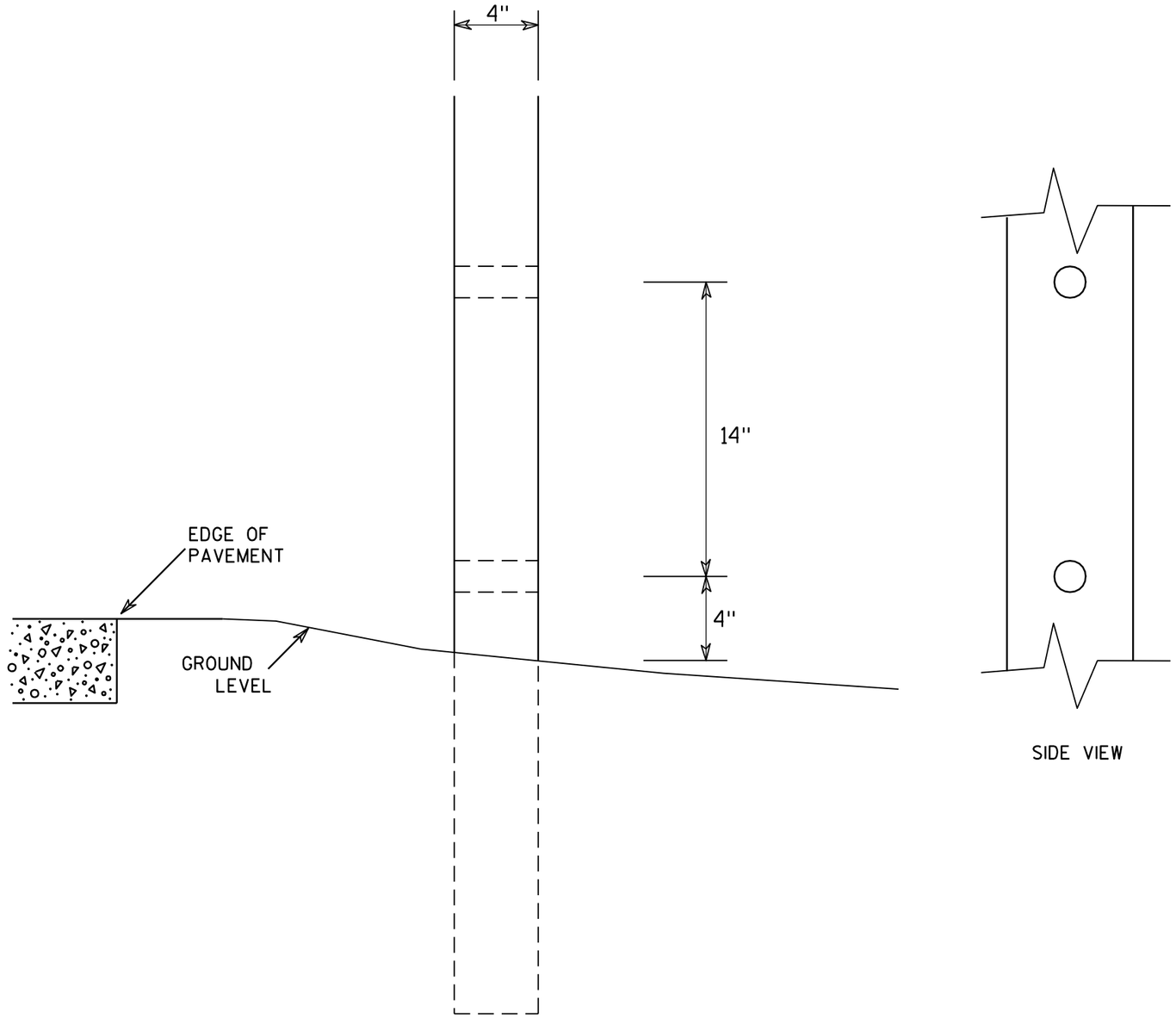
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



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.

7

7

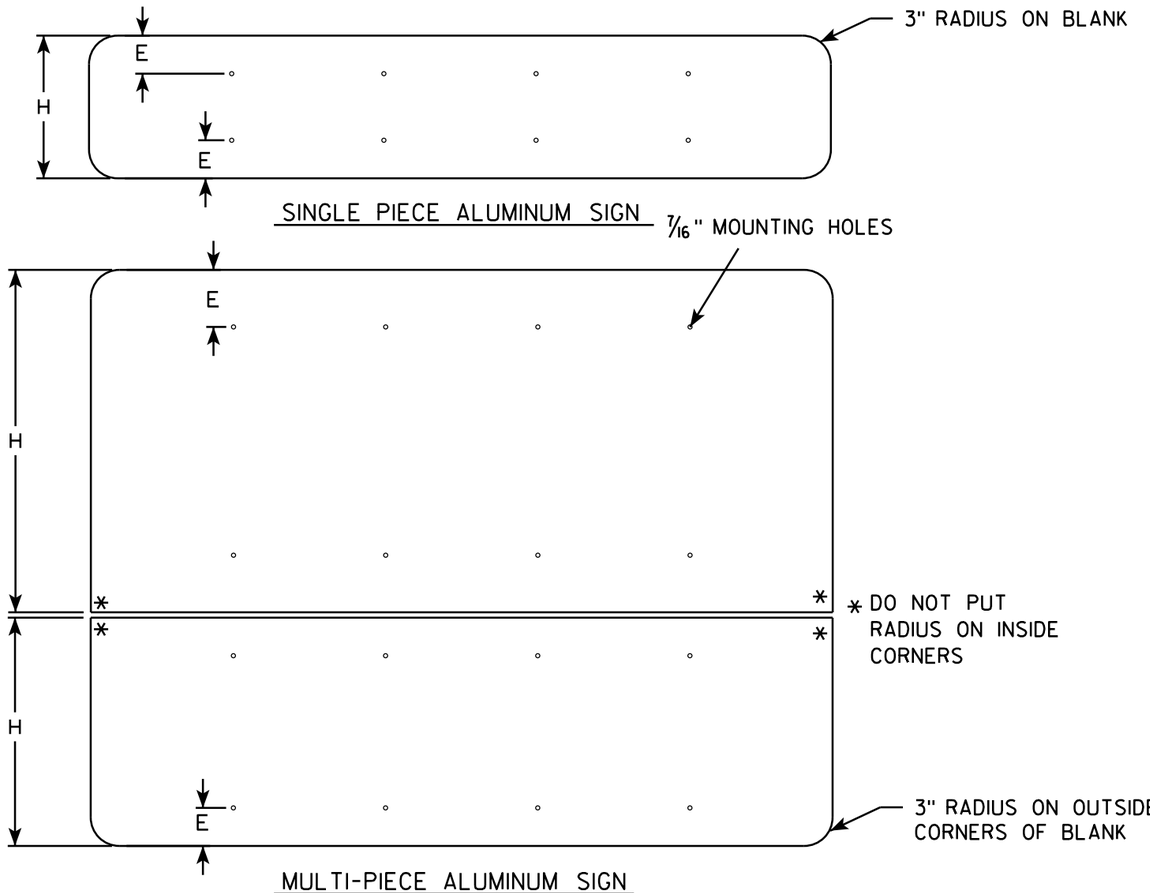
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

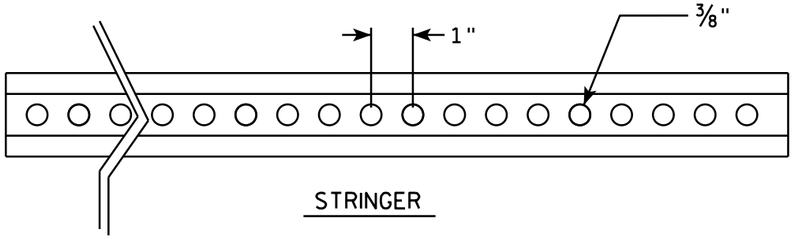
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 233	E



GENERAL NOTES

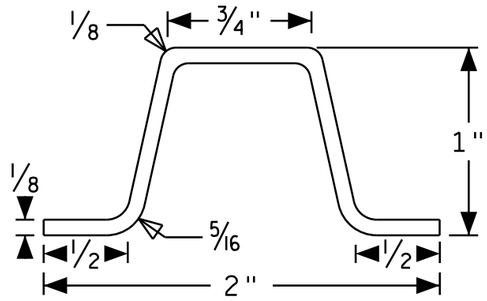
- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES
78"	72"	2	16"	15" 31" 47" 63"
84"	72"	2	17"	16½" 33½" 50½" 67½"
90"	72"	2	18"	18" 36" 54" 72"
96"	90"	2	19"	19½" 38½" 57½" 76½"
102"	90"	2	20"	21" 41" 61" 81"
108"	90"	2	21"	22½" 43½" 64½" 85½"
114"	108"	3	15"	12" 27" 42" 57" 72" 87" 102"
120"	108"	3	16"	12" 28" 44" 60" 76" 92" 108"
126"	108"	3	17"	12" 29" 46" 63" 80" 97" 114"
132"	126"	3	18"	12" 30" 48" 66" 84" 102" 120"
138"	126"	3	19"	12" 31" 50" 69" 88" 107" 126"
144"	126"	3	20"	12" 32" 52" 72" 92" 112" 132"

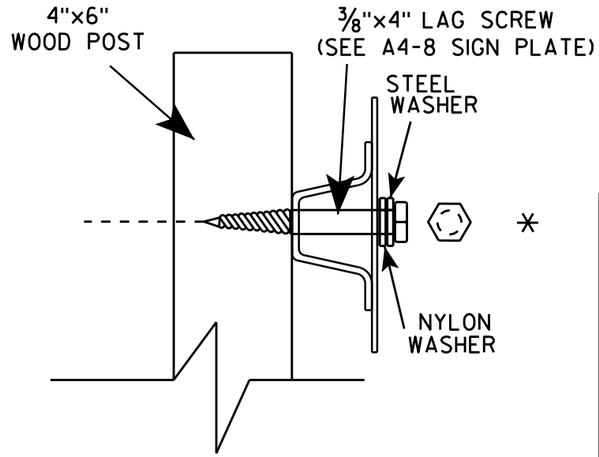


STRINGER

CROSS SECTION VIEW OF CHANNEL



POST MOUNTING



SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

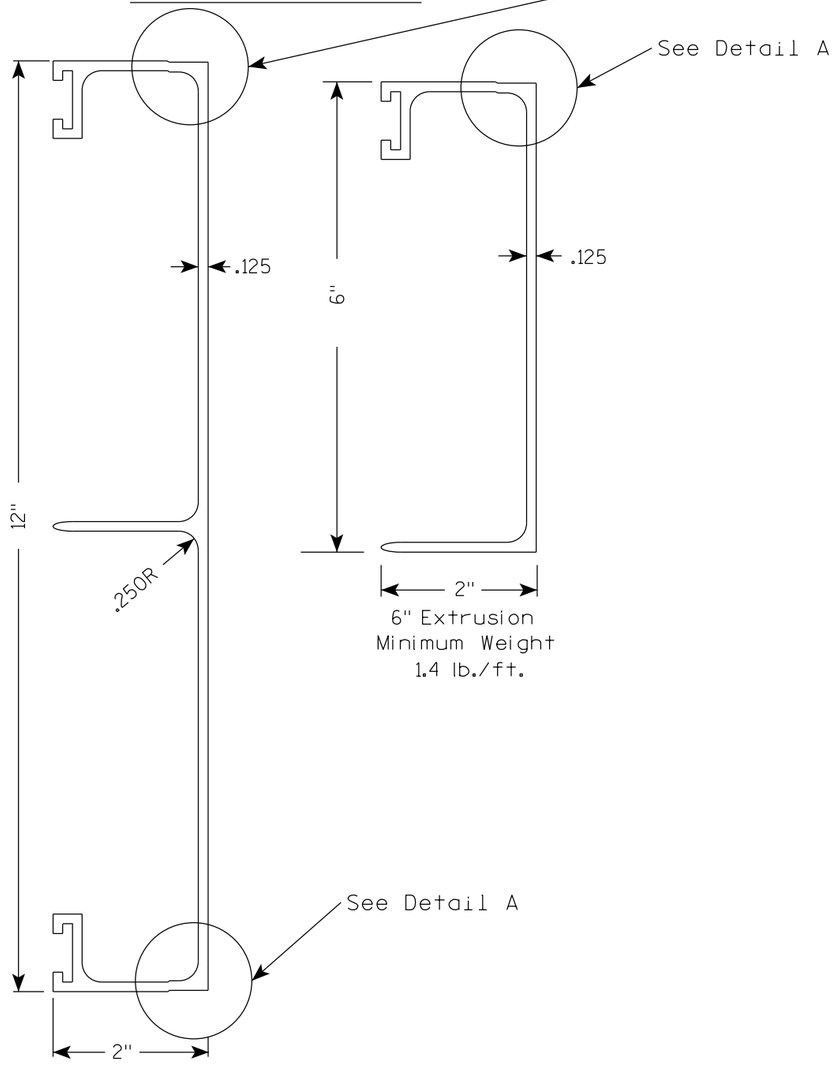
for State Traffic Engineer

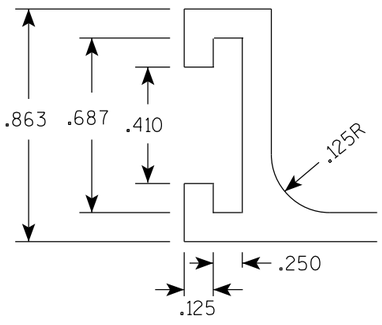
DATE 4/26/16 PLATE NO A4-18.1

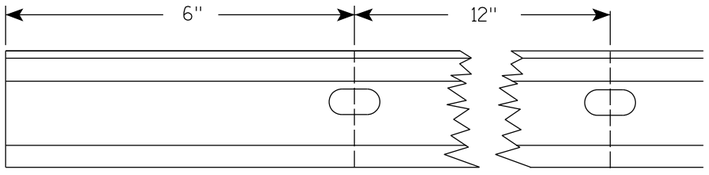
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A418.dgn PLOT DATE : 27-APR-2016 13:56 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 41.805205:1.000000 WISDOT/CADDS SHEET 42

Extruded Shape







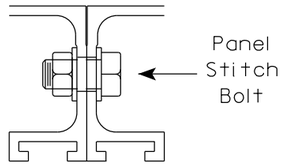
Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

Hardware

STITCH BOLT, WASHER & NUT

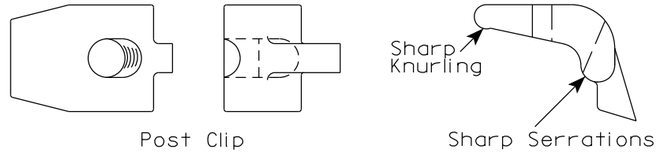
The hardware includes:

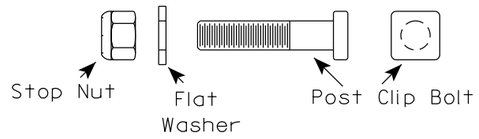
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

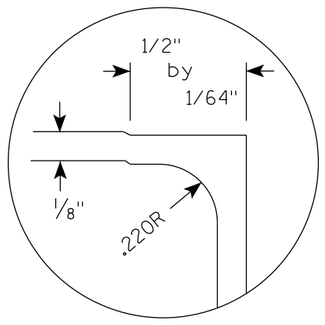
Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.
4. Edge wrapping of sign sheeting required on all extrusions joints shown in Detail A.



DETAIL A (EDGE WRAP JOINT)

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

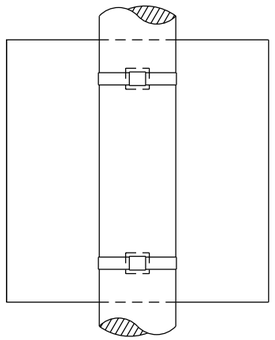
DATE 1/07/20 PLATE NO. A5-2.10

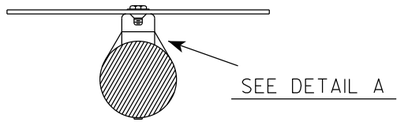
PROJECT NO:

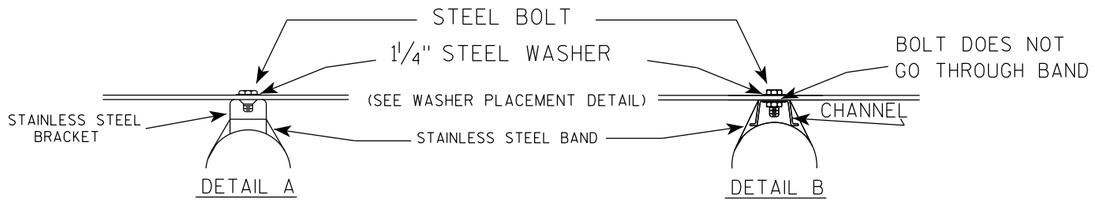
SHEET NO: 235 E

BANDING

SINGLE SIGN



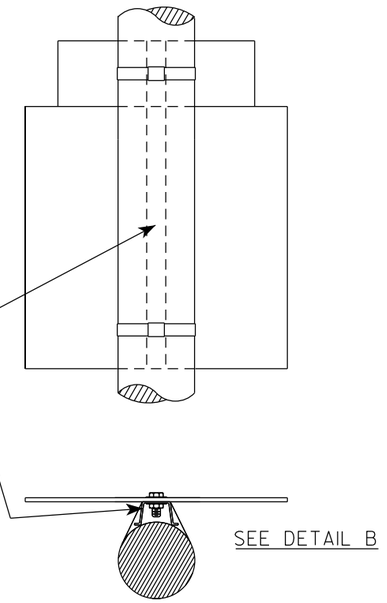




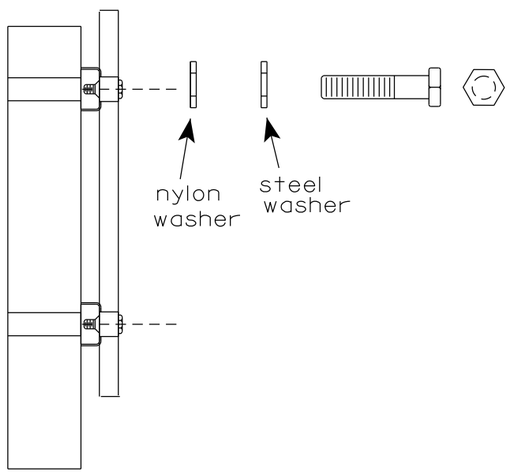
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

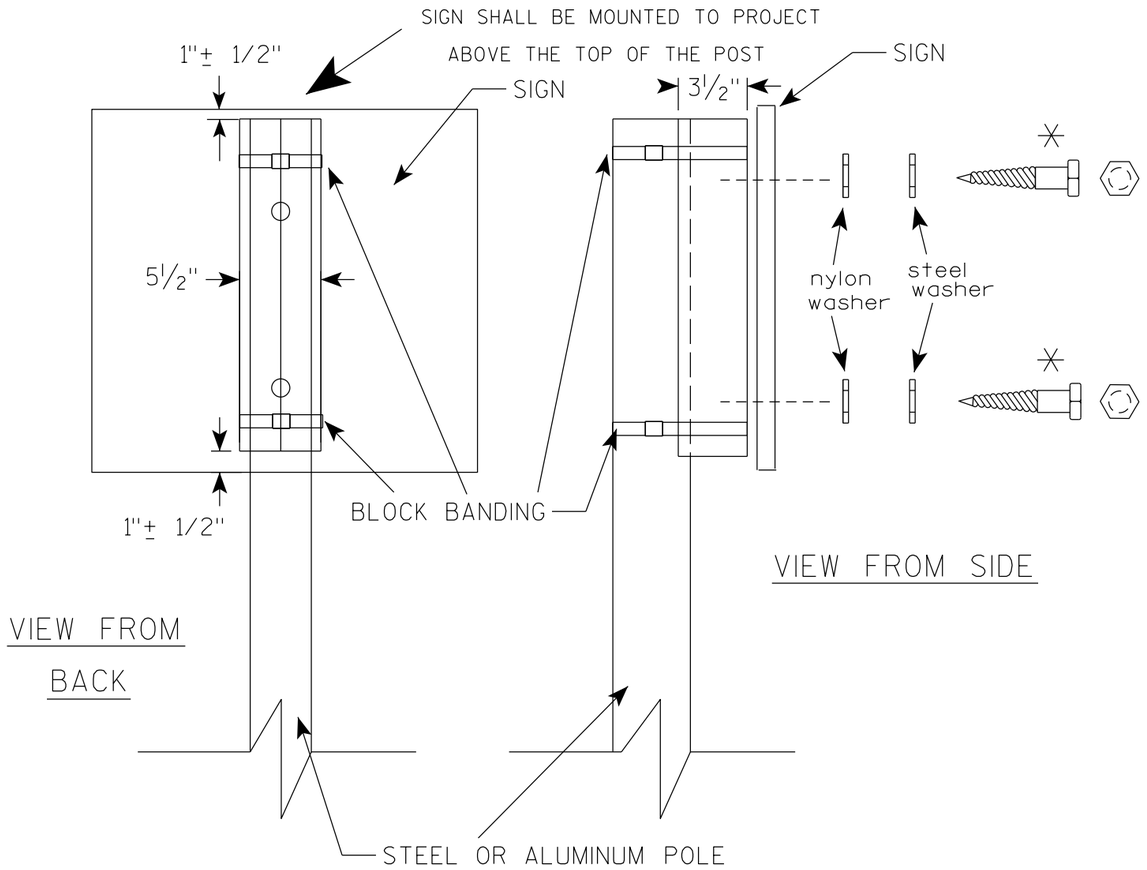
DATE 6/10/19 PLATE NO. A5-9.4

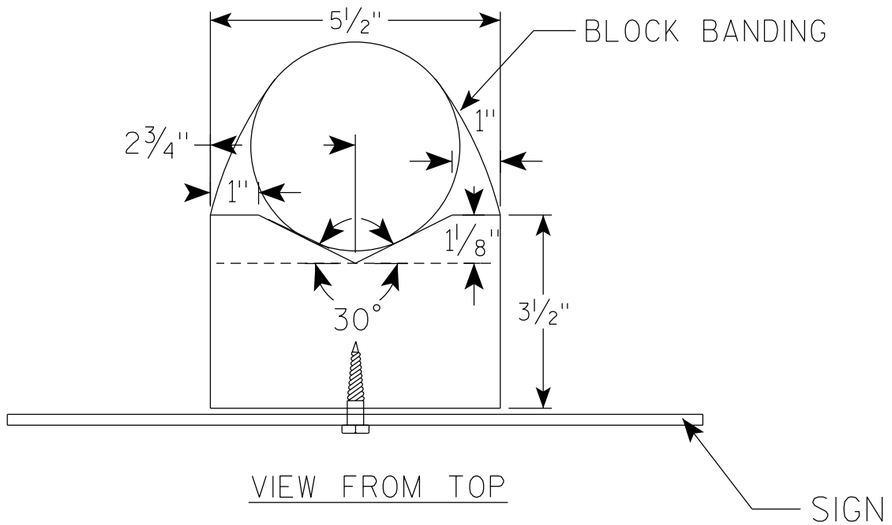
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 236	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

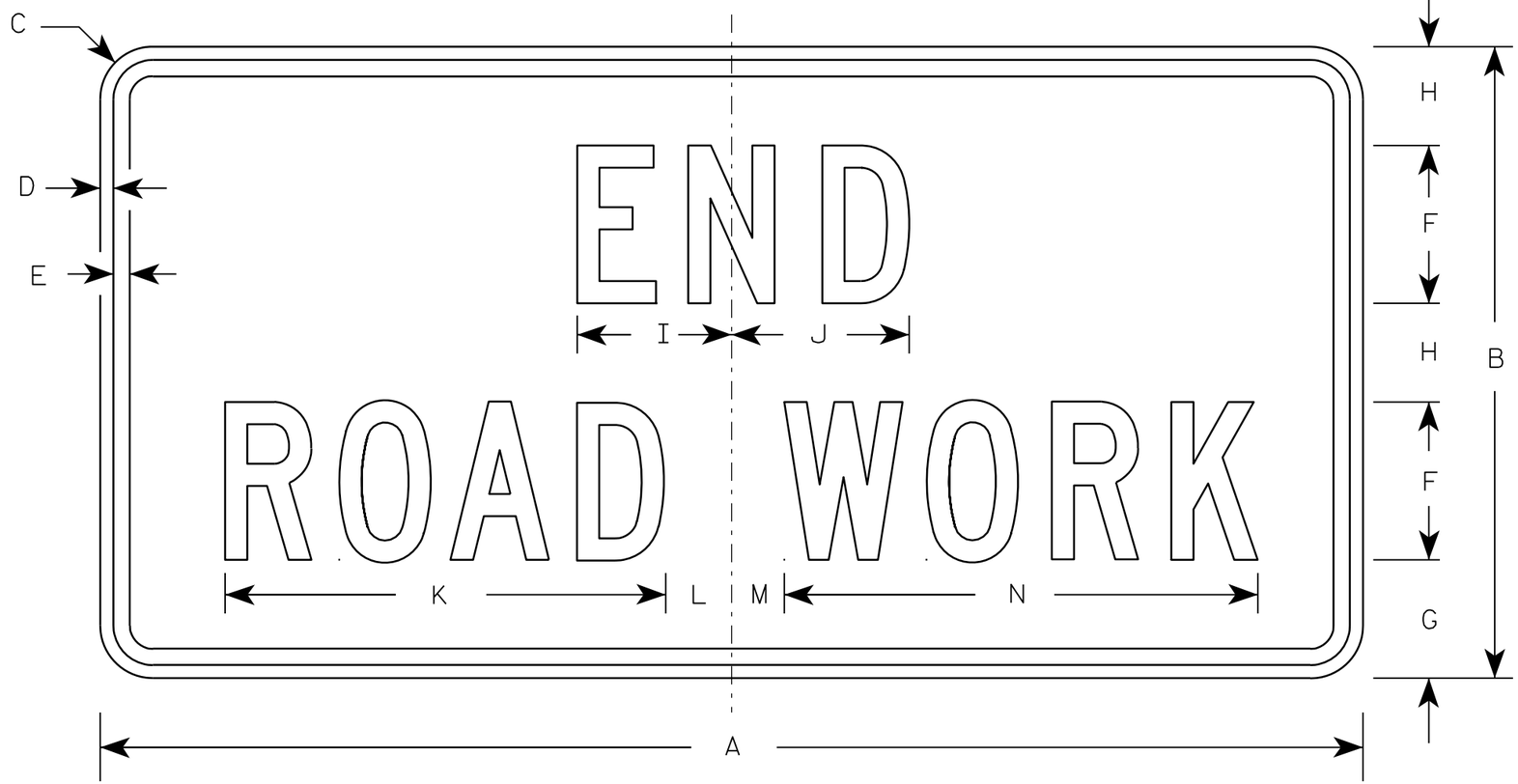
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 237 E



G20-2A

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

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.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

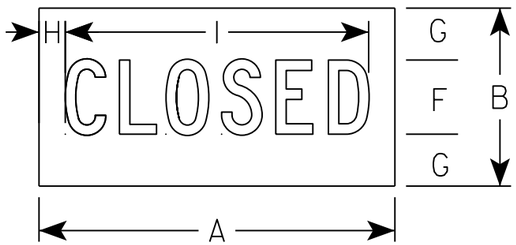
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 238	E

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Material shall be .040 aluminmum



G20-62

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3																											
4	48	24				10	7	3 ½	40 ⅞																		8.0
5																											

STANDARD SIGN
G20-62

WISCONSIN DEPT OF TRANSPORTATION

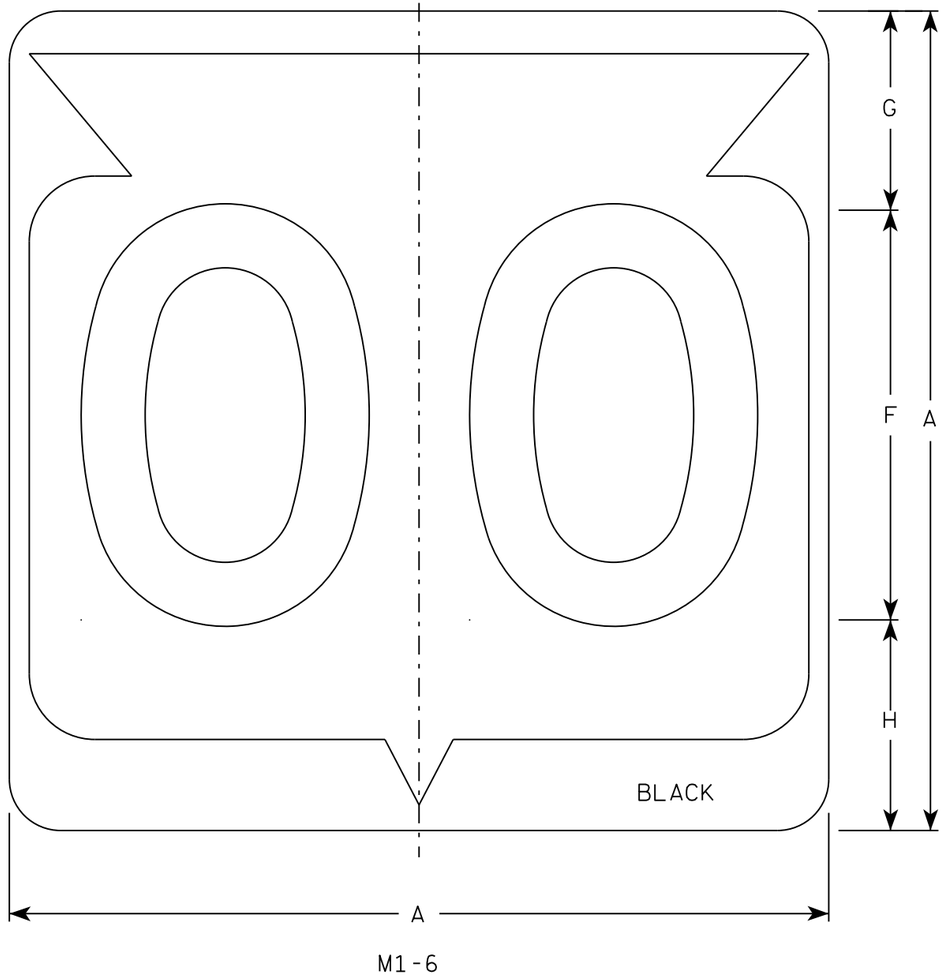
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/24/15 PLATE NO G20-62.1

239

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

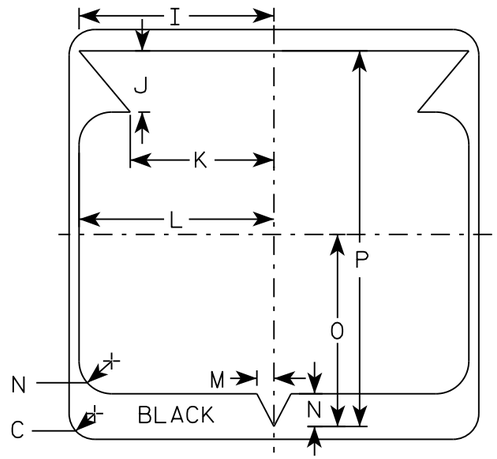
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\G2062.DGN PLOT DATE : 01-DEC-2015 17:53 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 20.431338:1.000000



M1-6

NOTES

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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

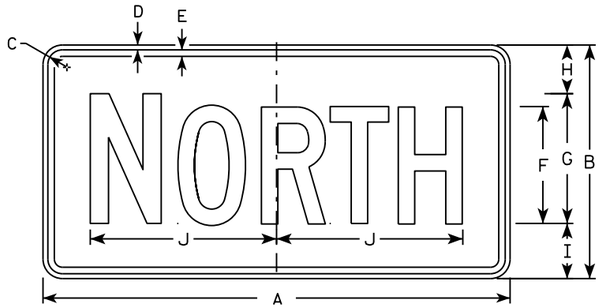
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

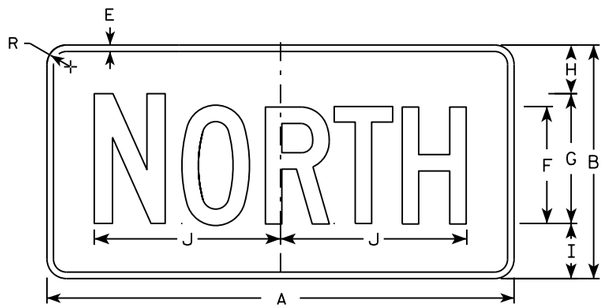
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-6.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 240 E



M3-1
MM3-1
MP3-1



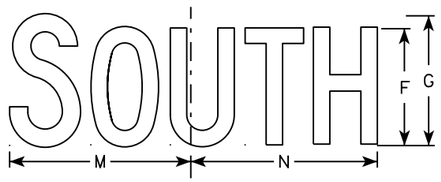
MB3-1
MK3-1
MN3-1



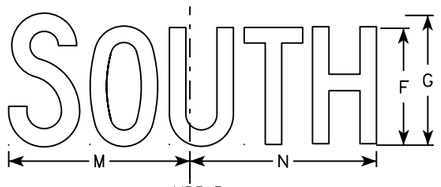
M3-2
MM3-2
MP3-2



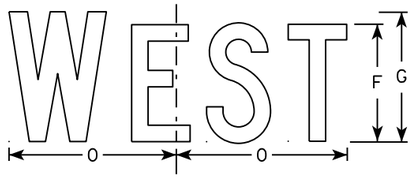
MB3-2
MK3-2
MN3-2



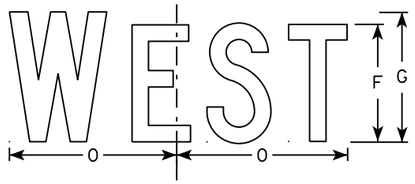
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

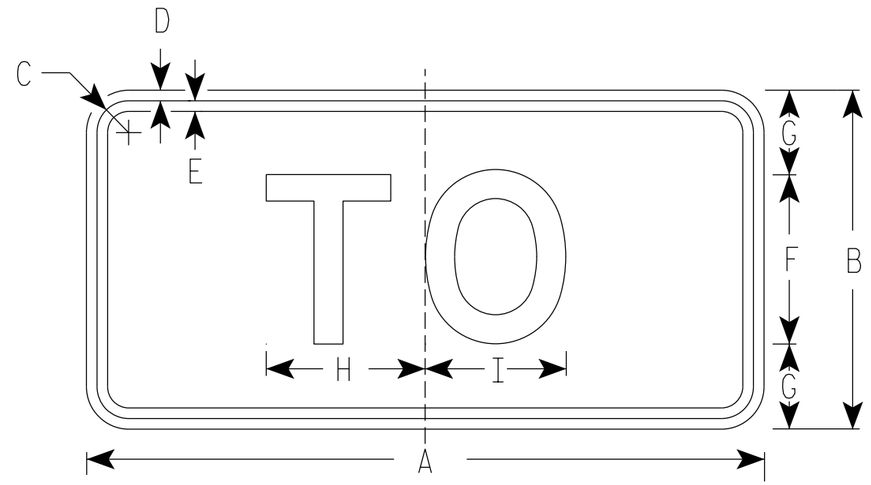
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

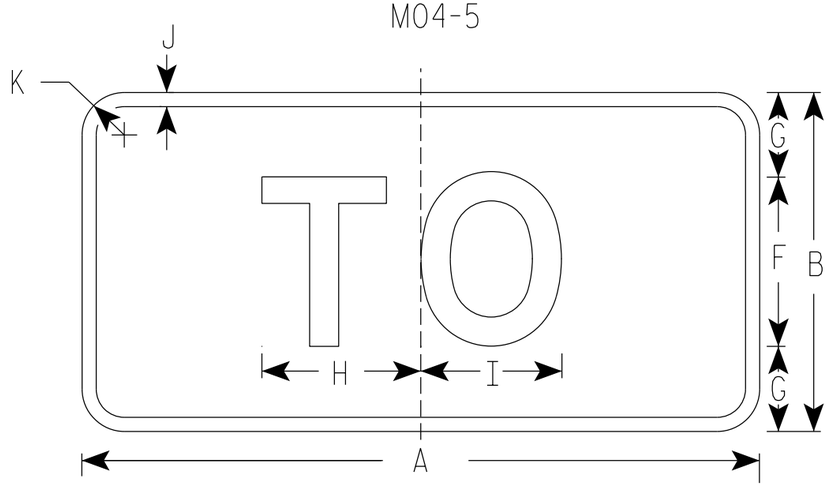
DATE 10/15/15 PLATE NO M3-1.14

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



M4-5
MM4-5
MP4-5
M04-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
   Message - Black

   MB4-5 Background - Blue
   Message - White

   MK4-5 Background - Green
   Message - White

   MM4-5 Background - White
   Message - Green

   MN4-5 Background - Brown
   Message - White

   MP4-5 Background - White
   Message - Blue

   M04-5 Background - Orange Type F Reflective
   Message - Black

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	5 3/8	5 1/4	1/2	1 1/2																2.00
3	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
4	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
5	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5

STANDARD SIGN
M4-5

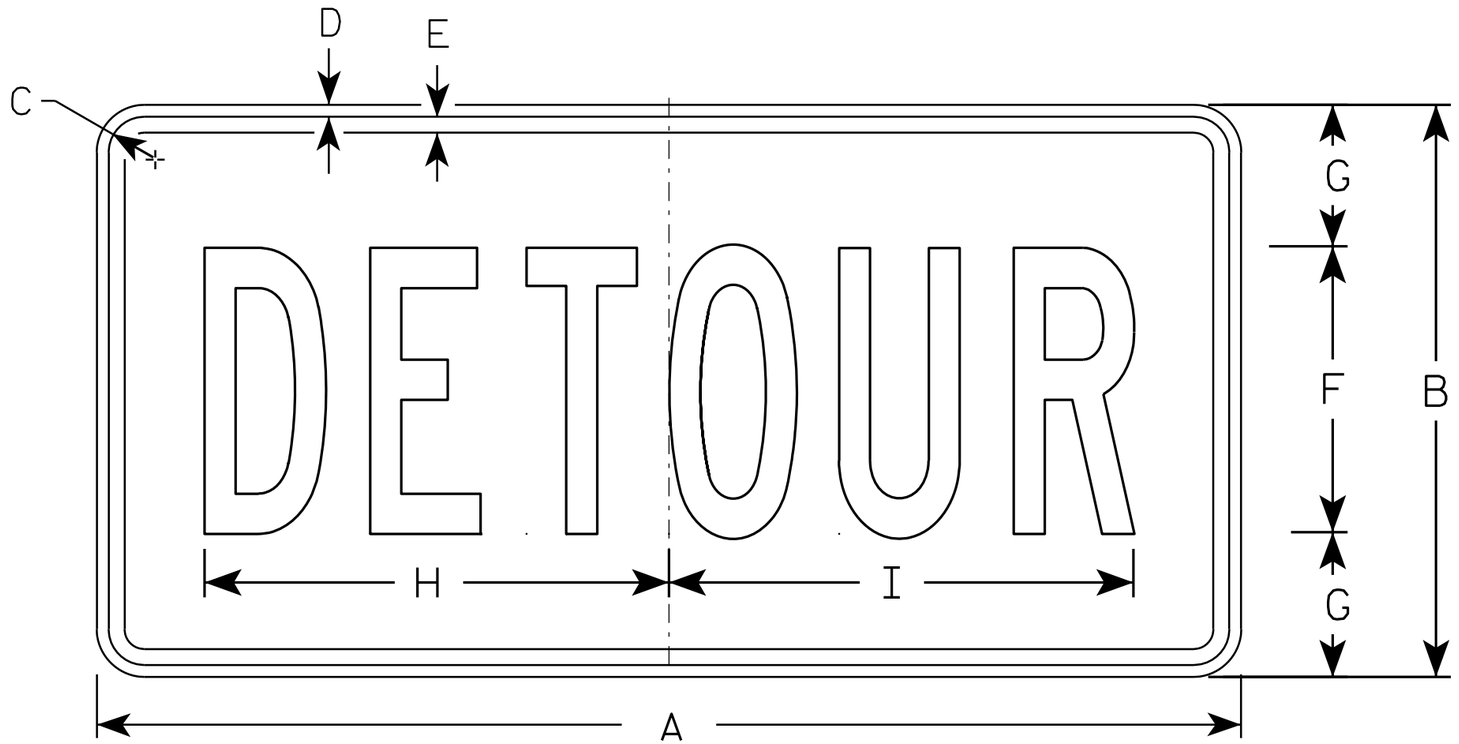
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/7/19 PLATE NO. M4-5.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 242 | E

7



M4-8

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

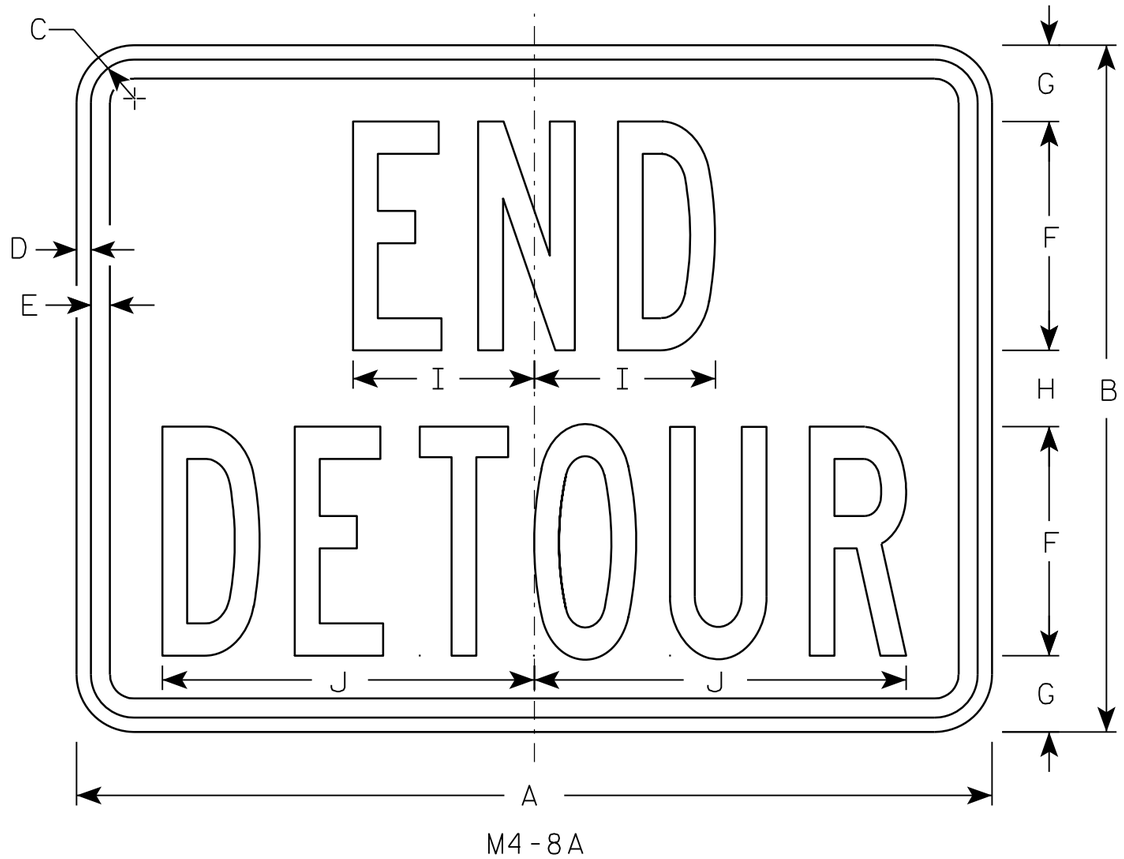
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 243	E



M4-8A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

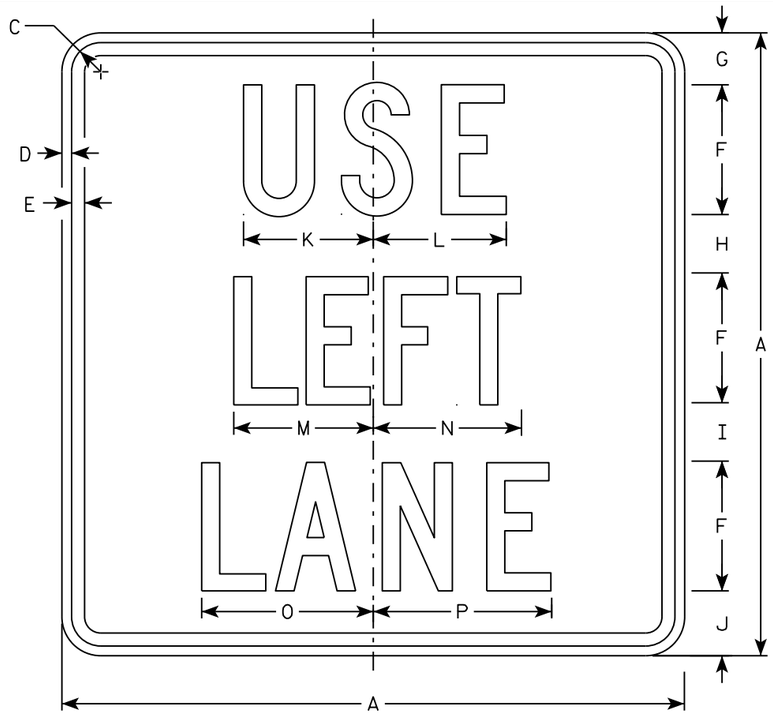
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

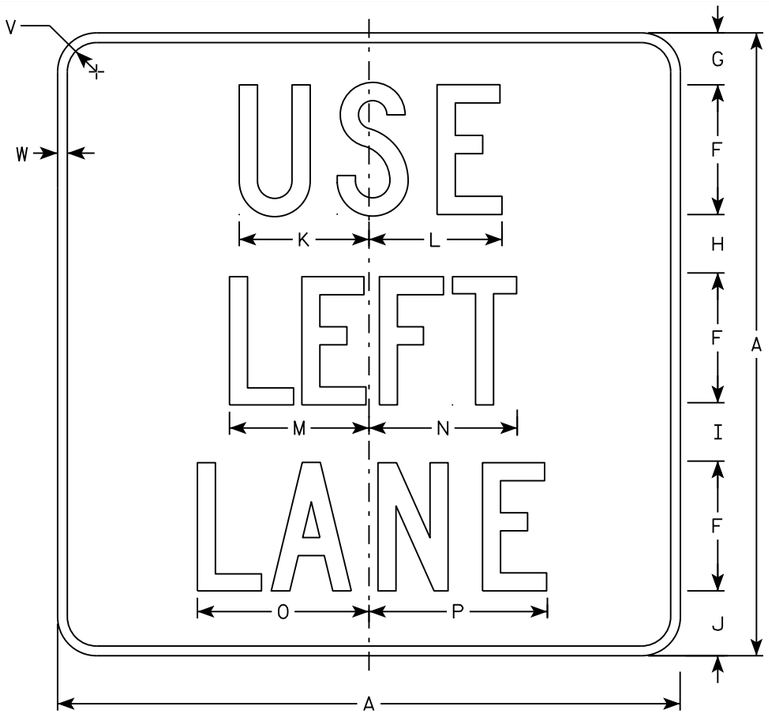
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 244	E



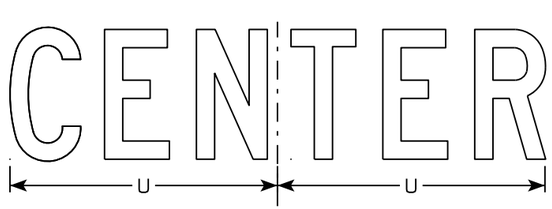
M4-20L



MB4-20L

M4-20L
MM4-20L
M04-20L
MP4-20L

MB4-20L
MK4-20L
MN4-20L
MR4-20L



M4-20C
MB4-20C
MK4-20C
MM4-20C
MN4-20C
M04-20C
MP4-20C
MR4-20C



M4-20R
MB4-20R
MK4-20R
MM4-20R
MN4-20R
M04-20R
MP4-20R
MR4-20R

NOTES

1. Sign is Type II - Type H except as Shown
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-20 Background - White
   Message - Black
   MB4-20 Background - Blue
   Message - White
   MK4-20 Background - Green
   Message - White
   MM4-20 Background - White
   Message - Green
   MN4-20 Background - Brown
   Message - White
   M04-20 Background - Orange - Type F Reflective
   Message - Black
   MP4-20 Background - White
   Message - Blue
   MR4-20 Background - Brown
   Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/8	3/8	1/2	5	2	2 1/4	2 1/4	2 1/2	5	5 1/8	5 3/8	5 3/4	6 5/8	6 7/8			7	7 5/8	10 1/4	1 1/2	1/2				4.0
3	36		1 5/8	5/8	3/4	7	4	3	3 1/2	4 1/2	7 1/2	7 3/4	8	8 5/8	9 7/8	10 1/4			10 3/8	11 3/8	14 3/8	1 7/8	1/2				9.0
4																											
5																											

STANDARD SIGN
M4-20

WISCONSIN DEPT OF TRANSPORTATION

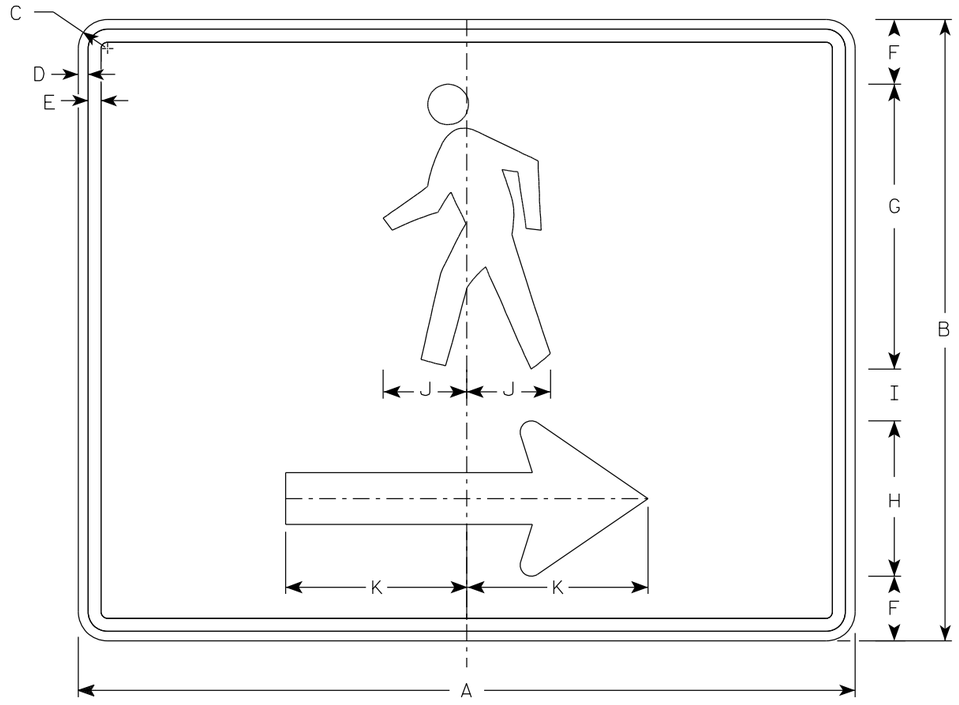
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 10/15/15 PLATE NO M4-20.5

245

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

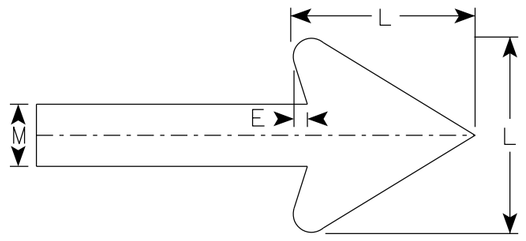
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M420.DGN PLOT DATE : 01-DEC-2015 18:03 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.837526:1.000000



M4-60R

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Orange
   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. M4-60L is the same as M4-60R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	2 1/2	11	6	2	3 1/4	7	6	2														5.00
3																											
4																											
5																											

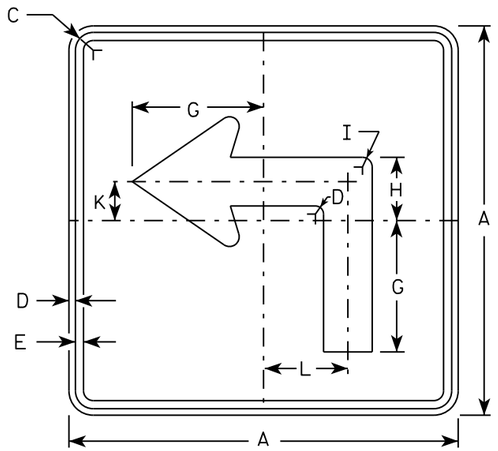
STANDARD SIGN
M4-60 L&R

WISCONSIN DEPT OF TRANSPORTATION

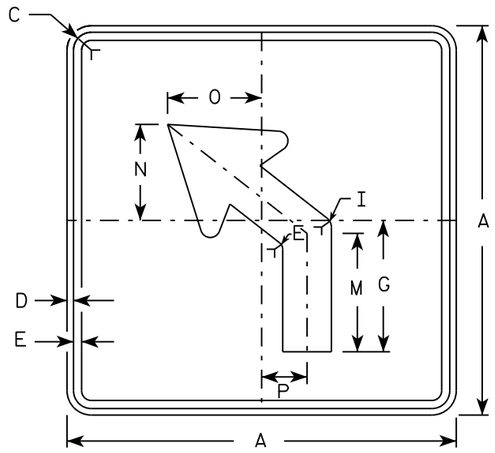
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/16/2021 PLATE NO. M4-60.1

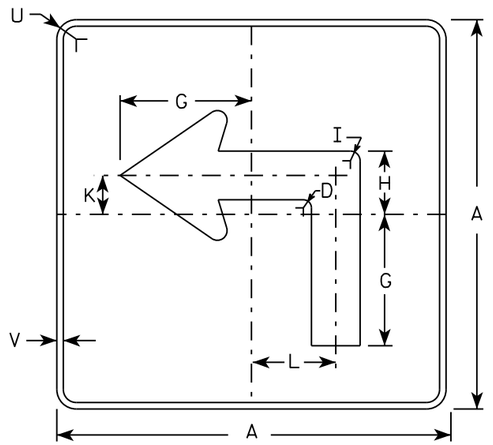
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 246 | E



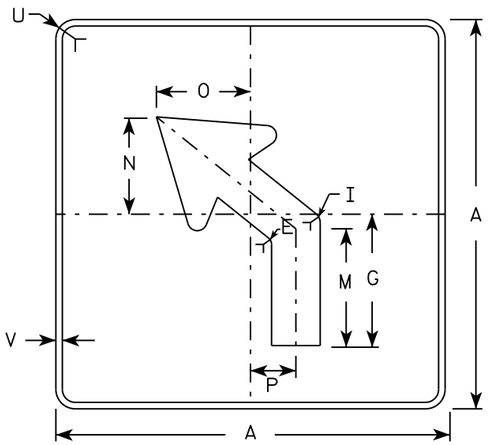
M5-1L
MM5-1L
MO5-1L
MP5-1L



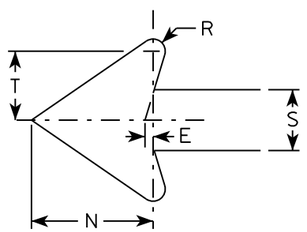
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
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. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

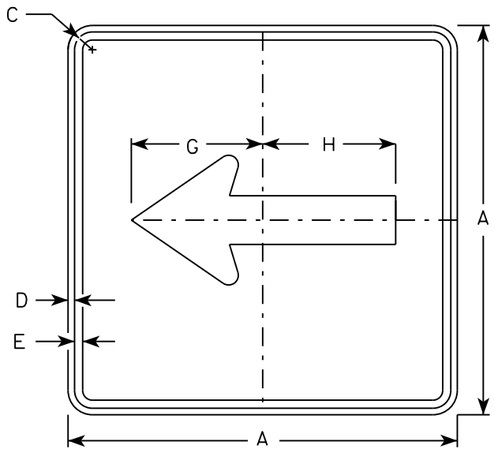
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

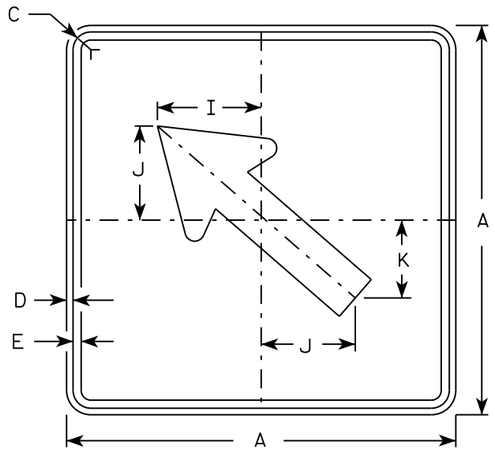
DATE 10/15/15 PLATE NO. M5-1.13

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



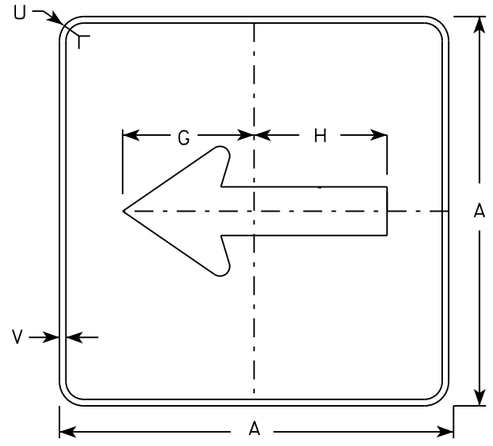
M6-1
MM6-1
MO6-1
MP6-1



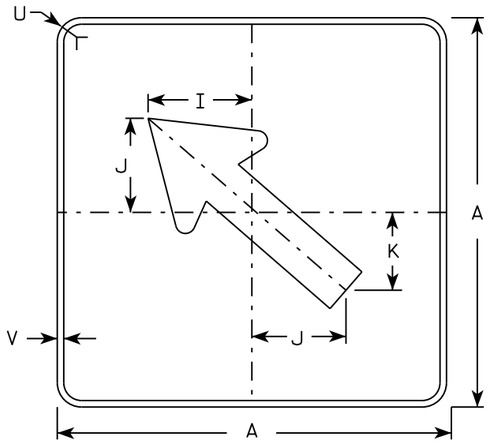
M6-2
MM6-2
MO6-2
MP6-2

NOTES

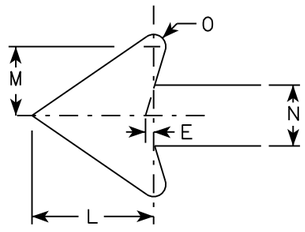
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

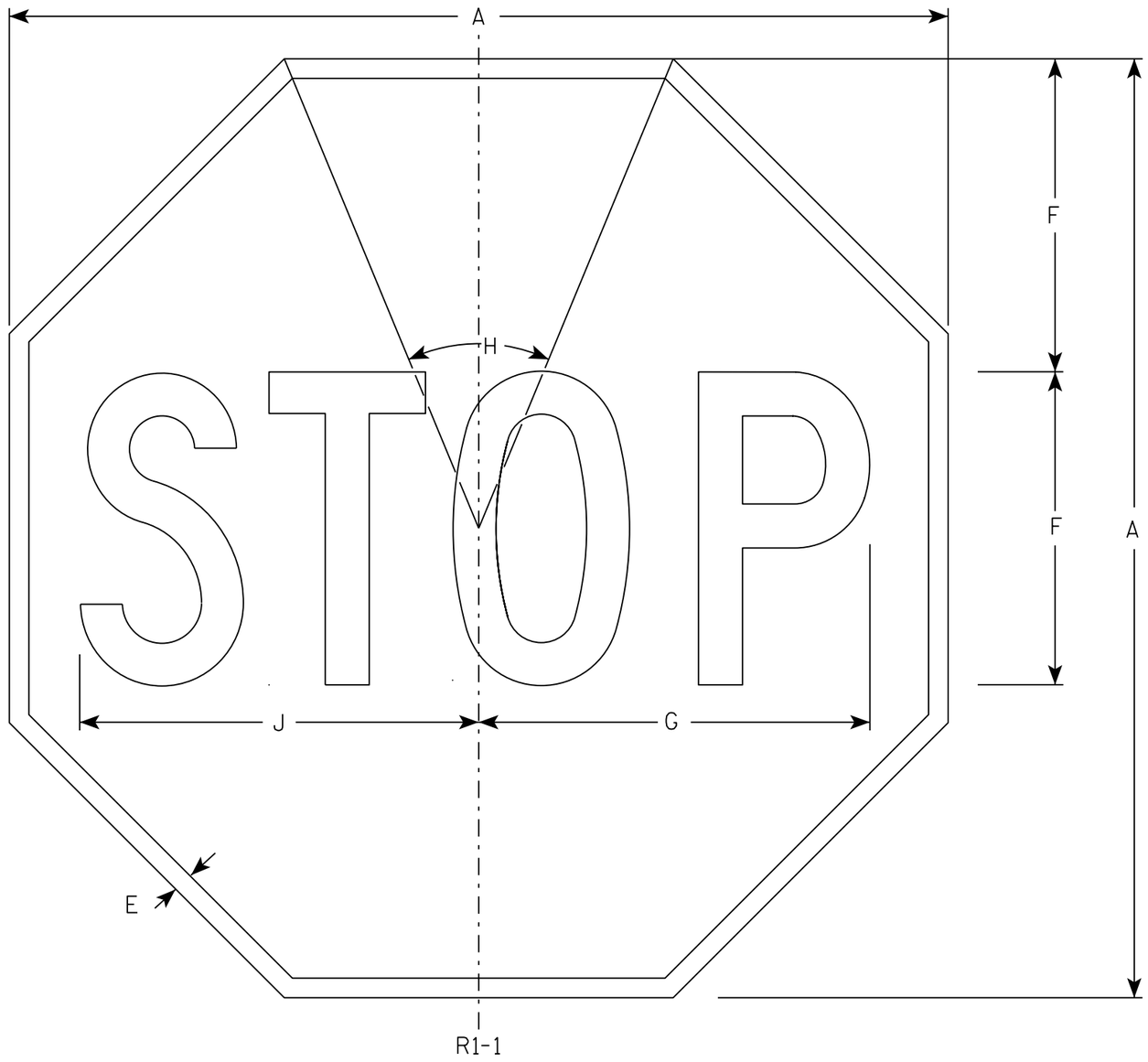
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 248 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



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

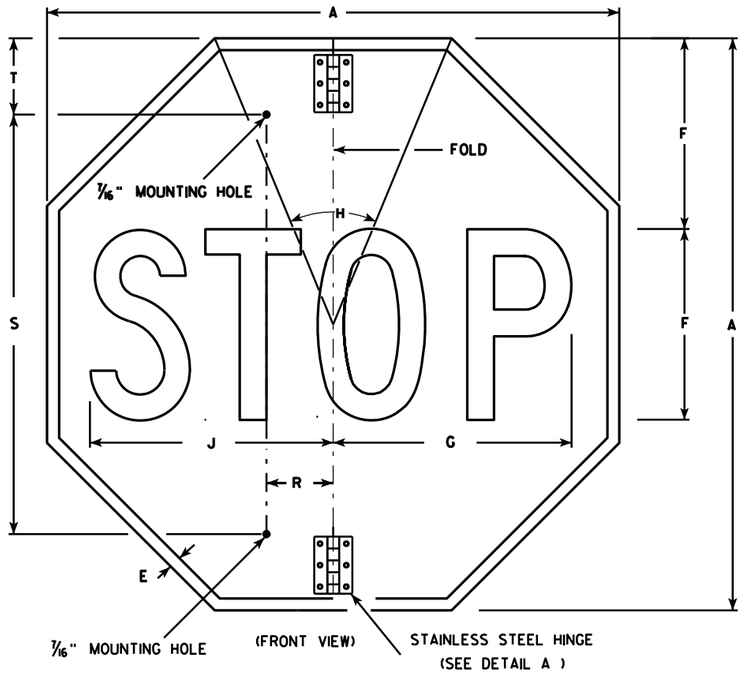
WISCONSIN DEPT OF TRANSPORTATION

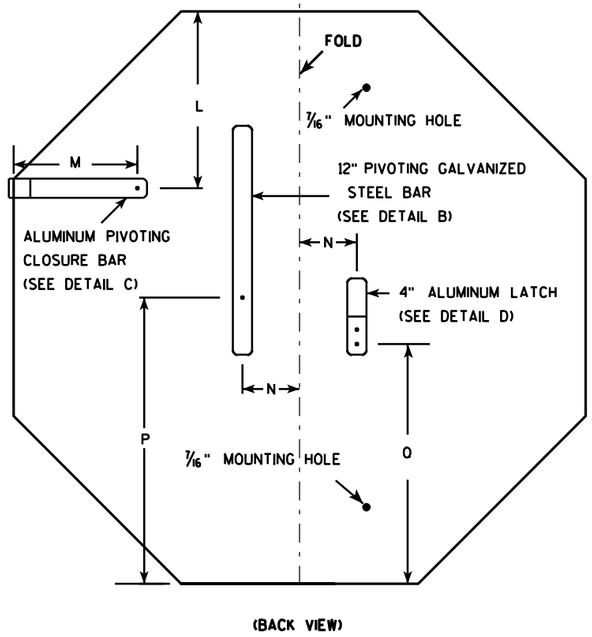
APPROVED Matthew R Rauch

for State Traffic Engineer

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

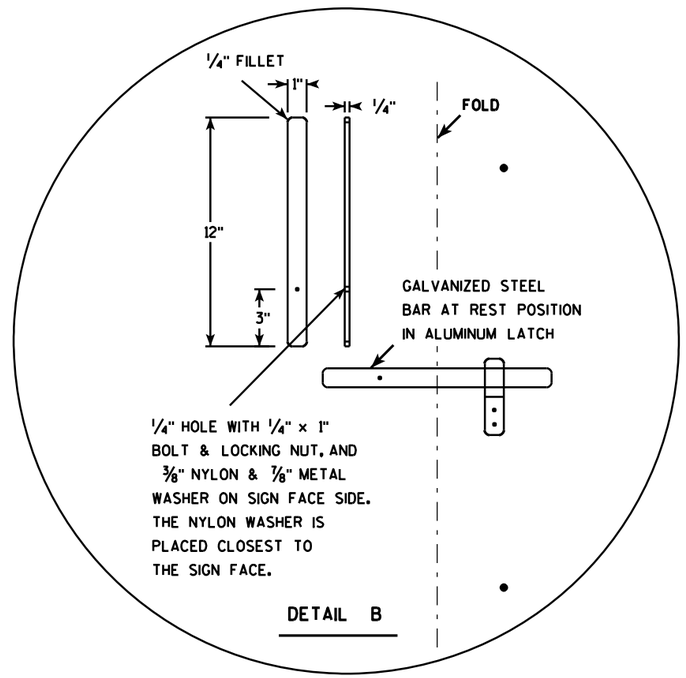
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 249	E



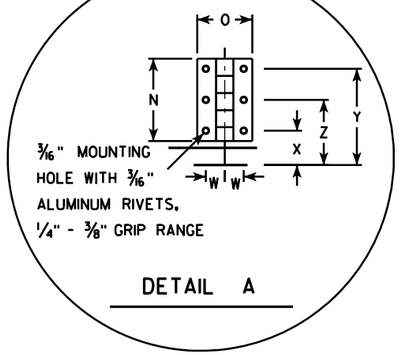


NOTES

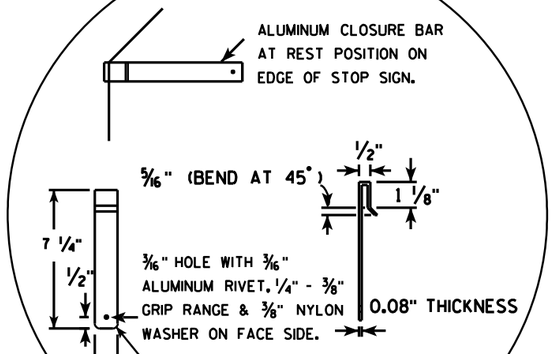
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



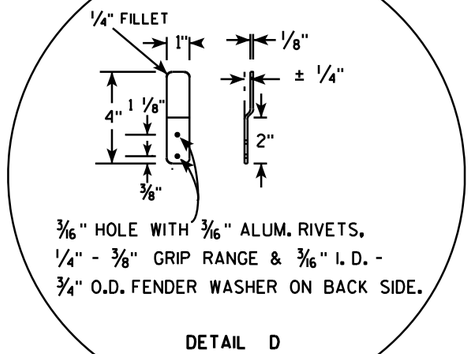
DETAIL B



DETAIL A



DETAIL C



DETAIL D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

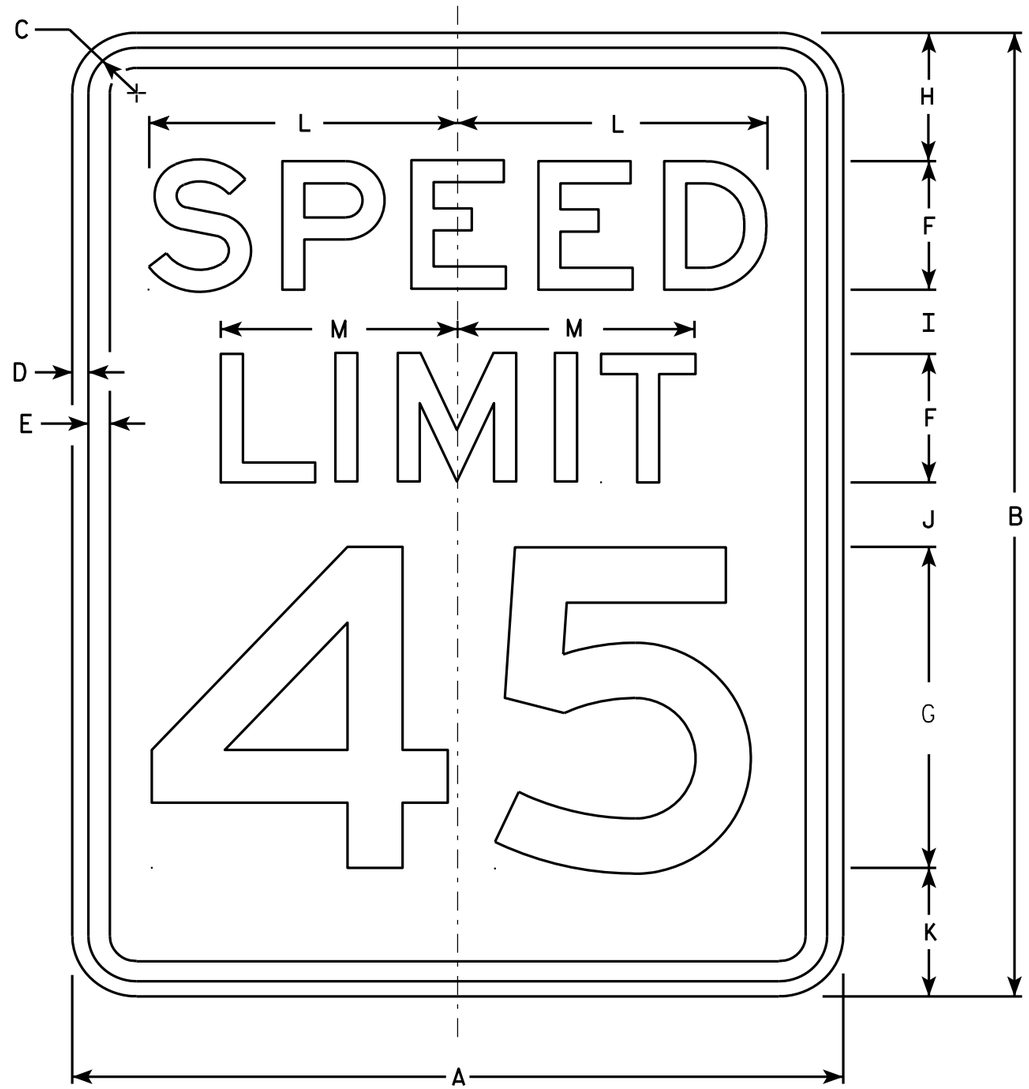
STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 250	E



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

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	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

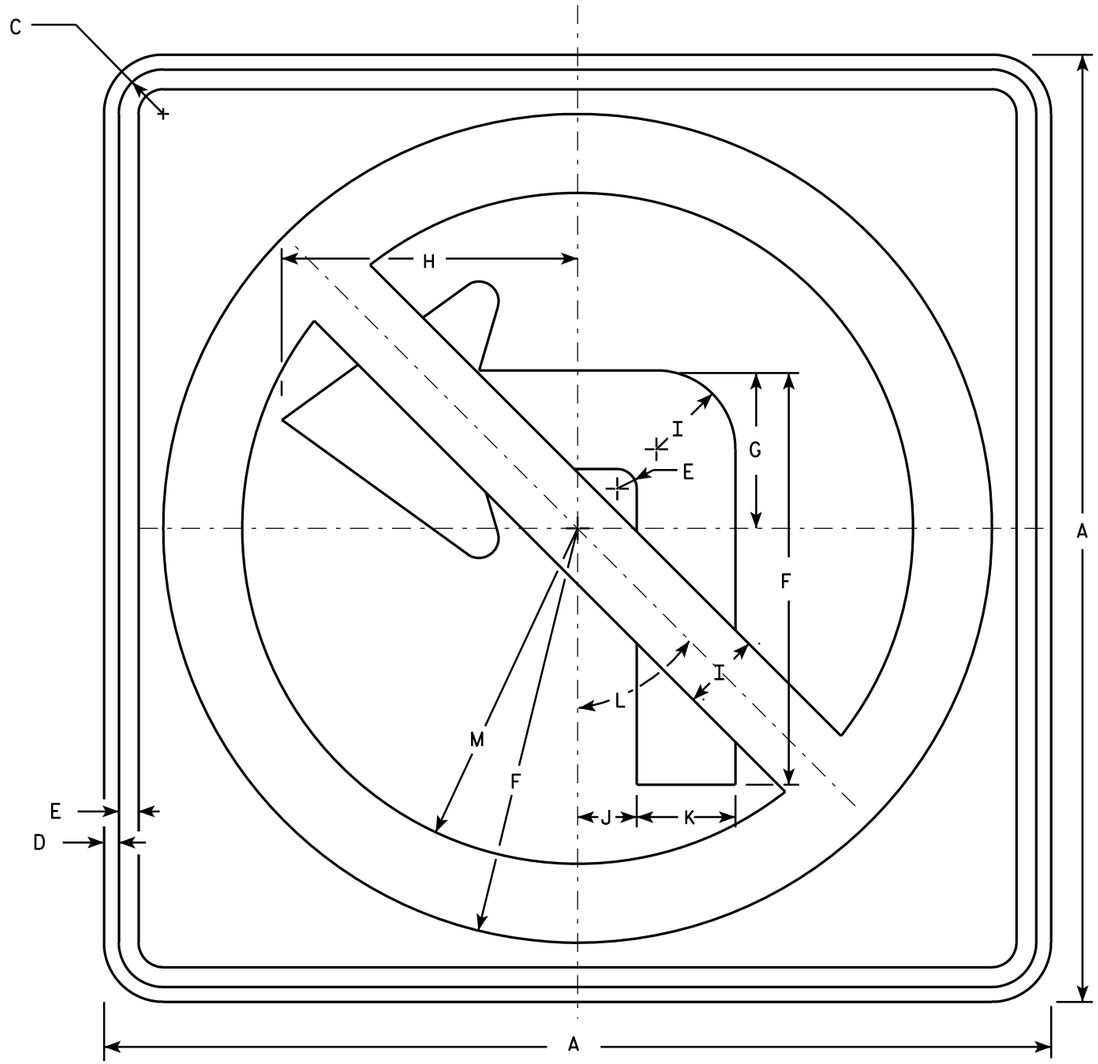
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

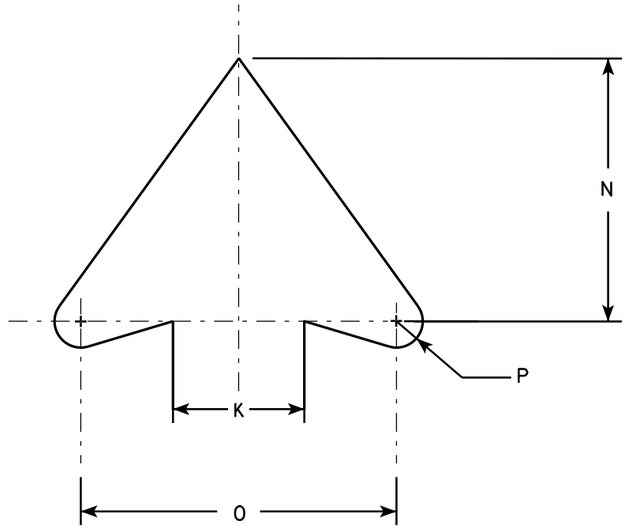
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 251	E



R3-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
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. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

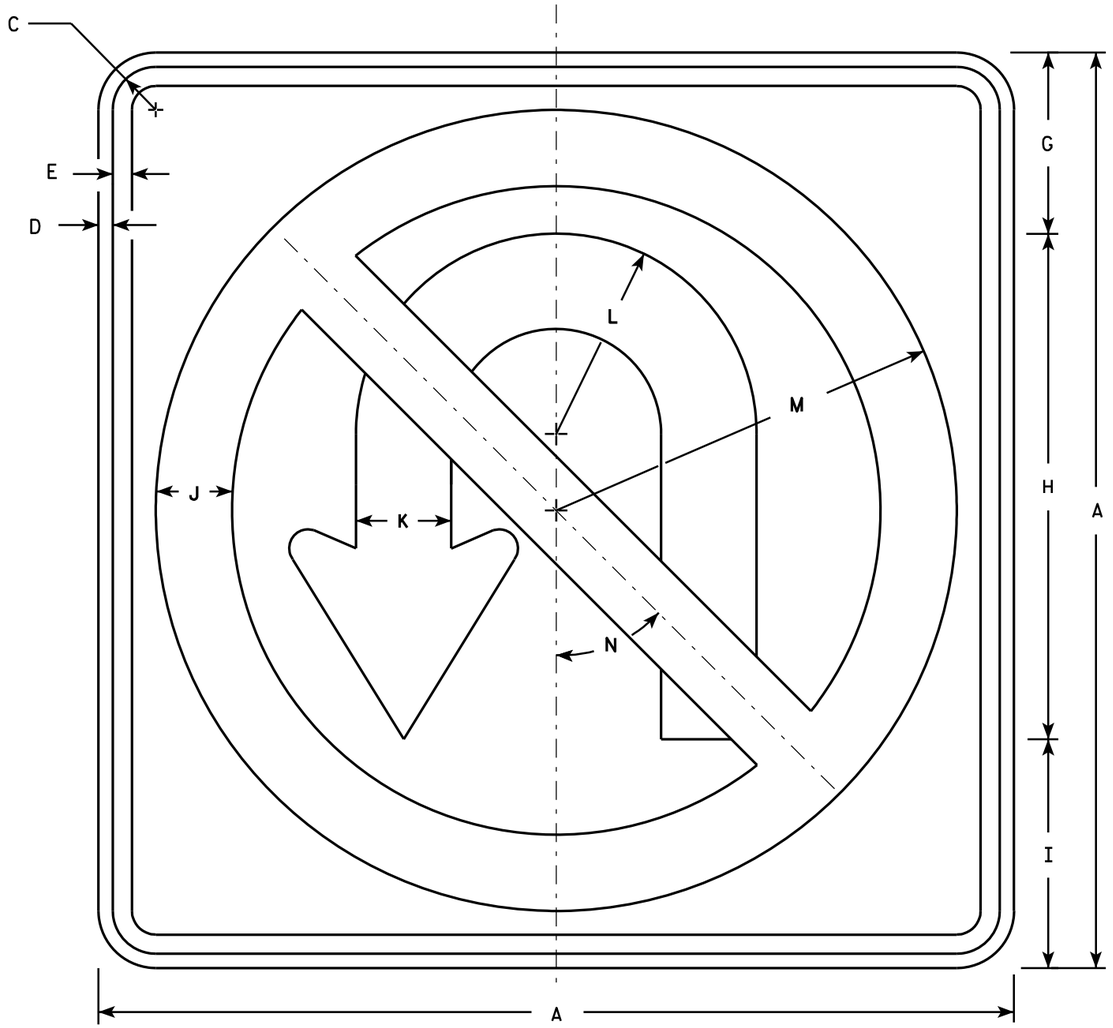
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

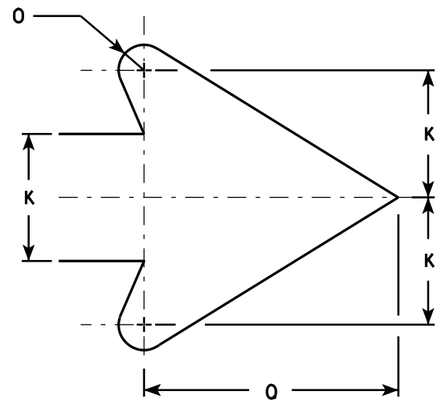
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 252	E



R3-4

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
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. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2		4 3/4	13 1/4	6	2	2 1/2	5 1/4	10 1/2	45°	1/2		5										4.0
2M	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
3	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
4	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
5	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0

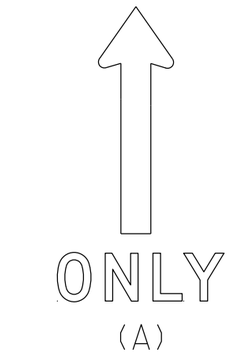
STANDARD SIGN
R3-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-4.11

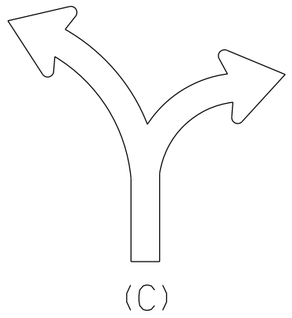
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 253	E

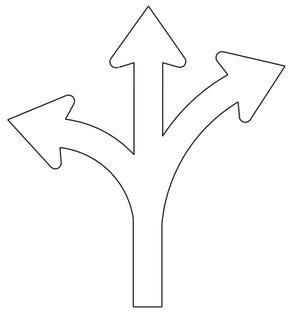


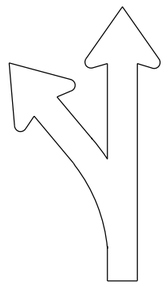
(A)

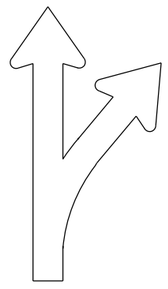


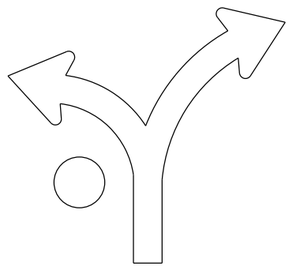
(B)

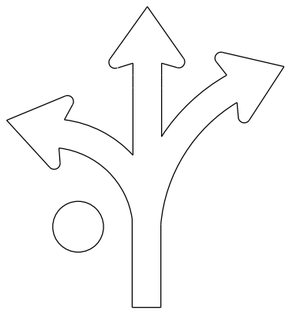

(C)

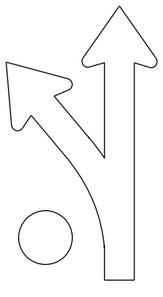

(D)

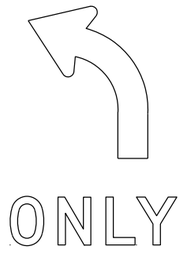

(E)


(F)

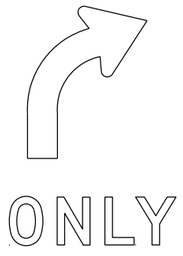

(G)


(H)

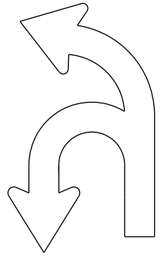

(I)



(L)



(R)


(U)

NOTES

1. Sigs are Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Use appropriate Letter for Sign Code
   Each letter added makes sign wider. Example R3-8EAR
5. Square footage of sign varies by letters

1	Letter =	3.75 sq ft for Size 2
		6.0 sq ft for Size 3
		10.0 sq ft for Size 4 or 5
2	Letters =	7.5 sq ft for Size 2
		12.0 sq ft for Size 3
		20.0 sq ft for Size 4 or 5
3	Letters =	11.25 sq ft for Size 2
		18.0 sq ft for Size 3
		30.0 sq ft for Size 4 or 5
4	Letters =	15.0 sq ft for Size 2
		24.0 sq ft for Size 3
		40.0 sq ft for Size 4 or 5
5	Letters =	18.75 sq ft for Size 2
		30.0 sq ft for Size 3
		50.0 sq ft for Size 4 or 5
6	Letters =	22.5 sq ft for Size 2
		36.0 sq ft for Size 3
		60.0 sq ft for Size 4 or 5

6. When letters C,D,G,H are used on the Left or Right end of the sign the Sq. Ft. changes.
   Add the amounts when these letters are used:
   1.25 sq ft for Size 2
   1.5 sq ft for Size 3
   2.0 sq ft for Size 4 or 5

STANDARD SIGN
R3-8 Series

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

7

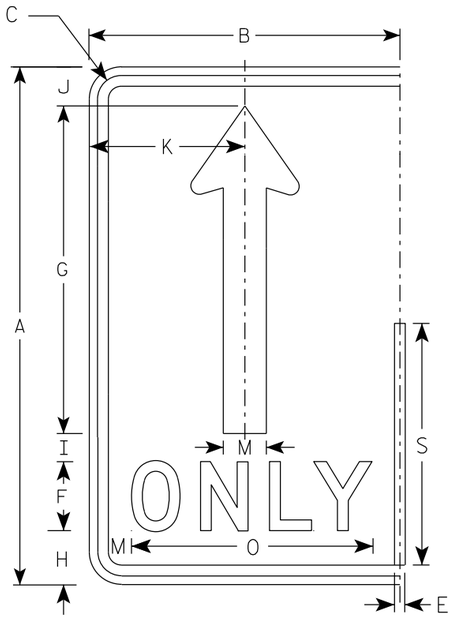
7

PROJECT NO:

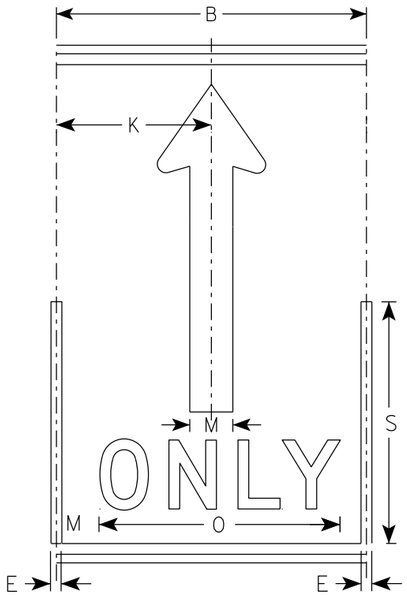
SHEET NO: 254 E

NOTES

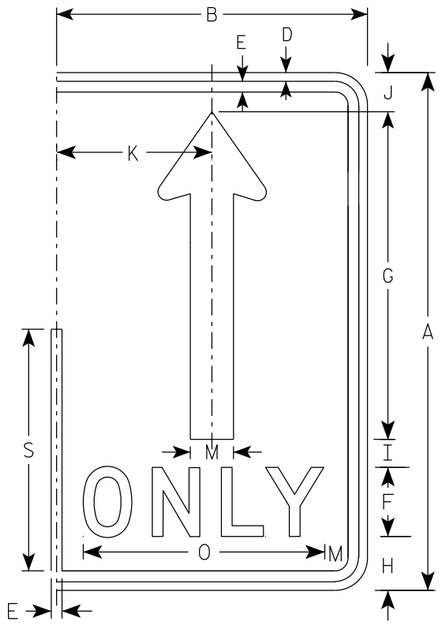
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D



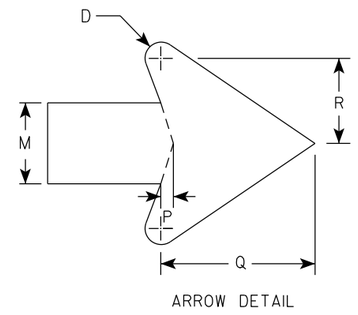
(A)



(A)



(A)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	19	3 1/8	1 5/8	2 1/4	9		2 1/2		14	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8	4	19	3 1/8	1 5/8	2 1/4	9		2 1/2		14	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8	5	22 3/4	3 3/4	1 3/4	2 3/4	12		3		17 5/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1	6	30 3/8	5 1/8	2 7/8	3 5/8	15		4		21 3/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1	6	30 3/8	5 1/8	2 7/8	3 5/8	15		4		21 3/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN
R3-8 (A) Arrow

WISCONSIN DEPT OF TRANSPORTATION

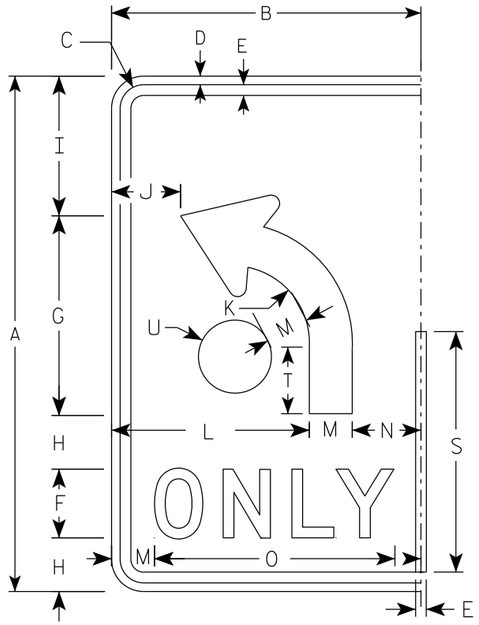
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

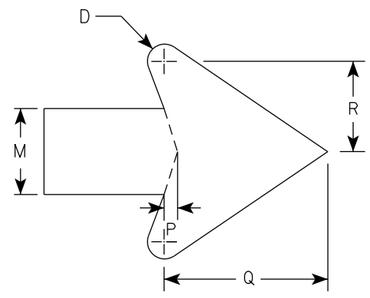
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 255 | E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
   Message Series - D



(B)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8	2 1/8						3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8	2 1/8						3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4	6	5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8	2 1/2						6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4	3 3/8						10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4	3 3/8						10.0

STANDARD SIGN

R3-8 (B) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

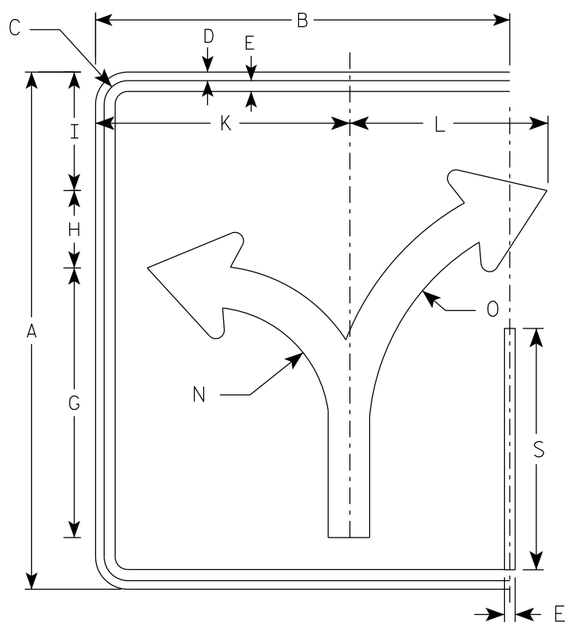
DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO:

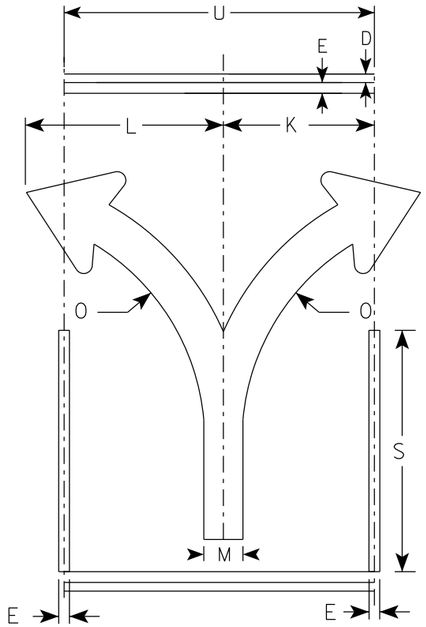
SHEET NO: 256 E

NOTES

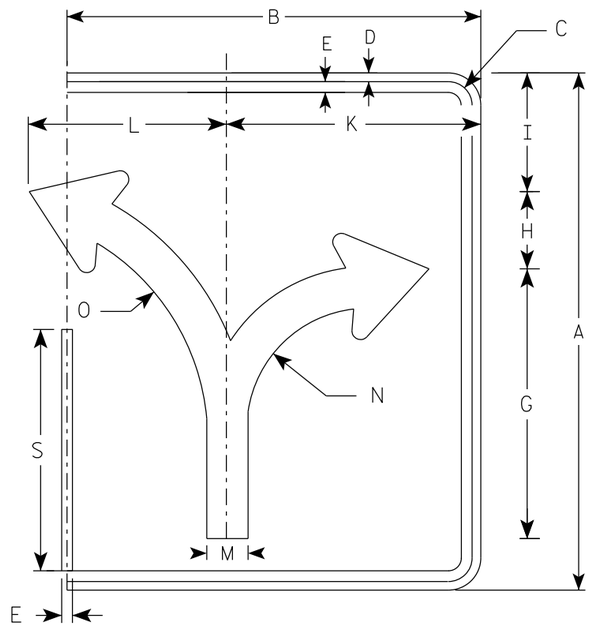
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



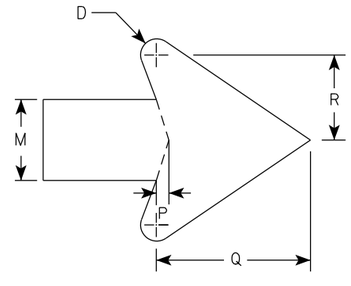
(C)



(C)



(C)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	ENDS Area sq. ft.	MIDDLE Area sq. ft.
1																												
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	8 1/4		17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		24						7.5	6.0
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0

STANDARD SIGN
R3-8 (C) Arrow

WISCONSIN DEPT OF TRANSPORTATION

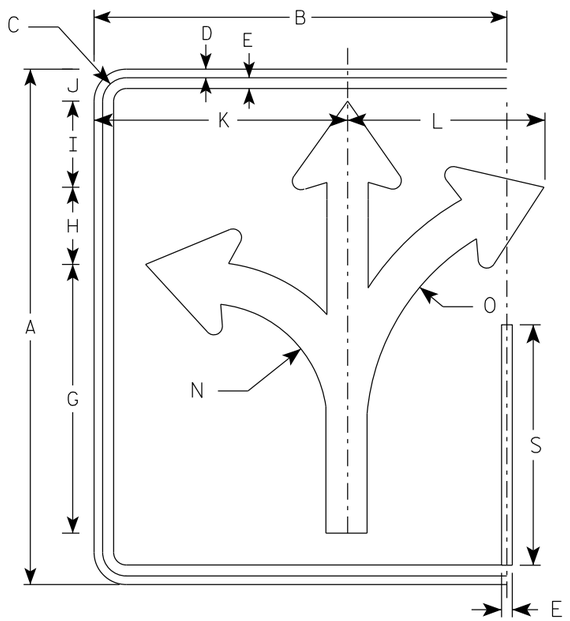
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

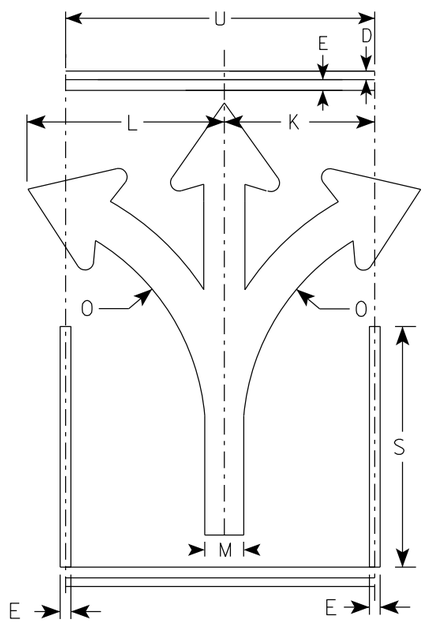
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 257 | E

NOTES

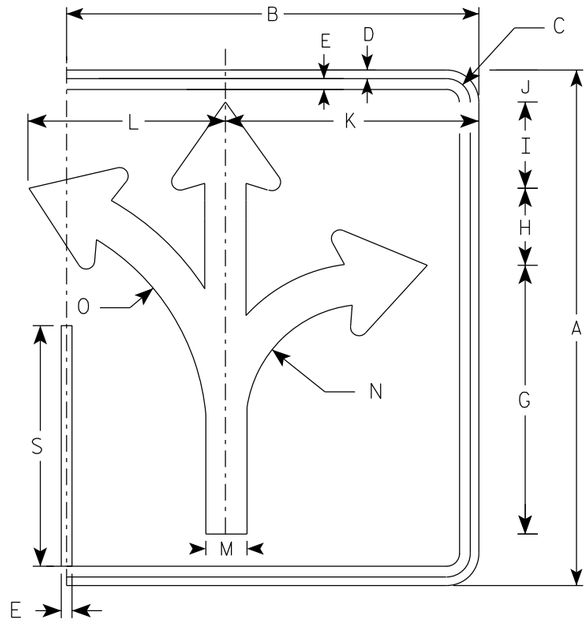
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



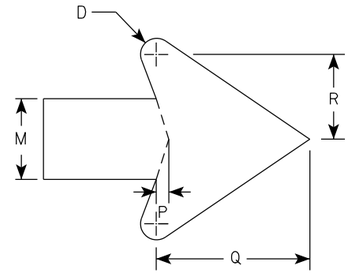
(D)



(D)



(D)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	ENDS Area sq. ft.	MIDDLE Area sq. ft.
1																												
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	6	2 1/4	17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		24						7.5	6.0
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0

STANDARD SIGN
R3-8 (D) Arrow

WISCONSIN DEPT OF TRANSPORTATION

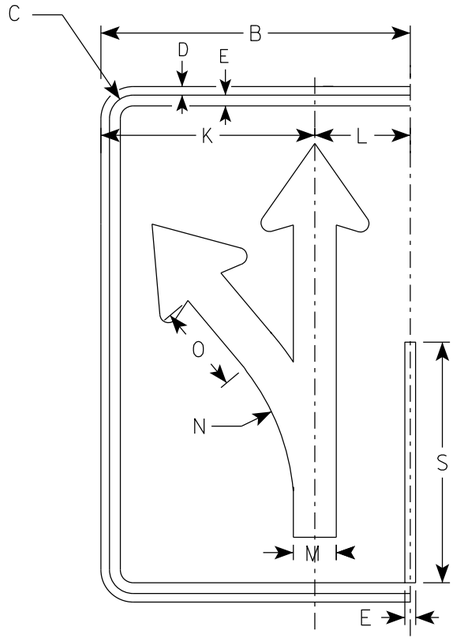
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

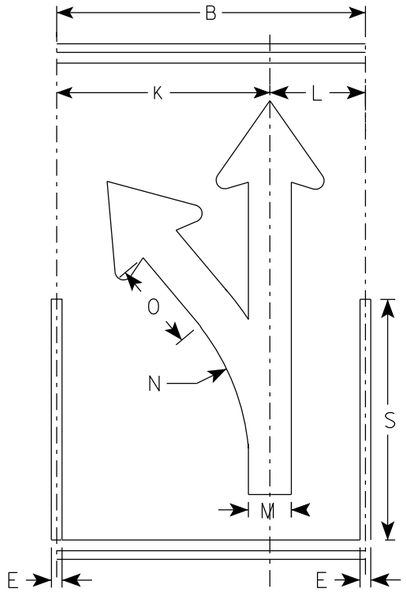
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 258 | E

NOTES

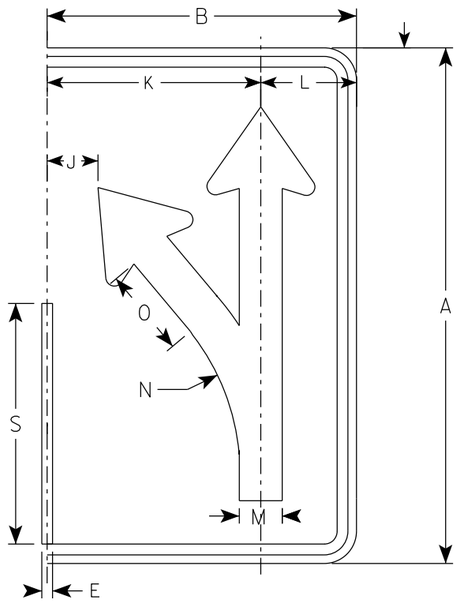
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



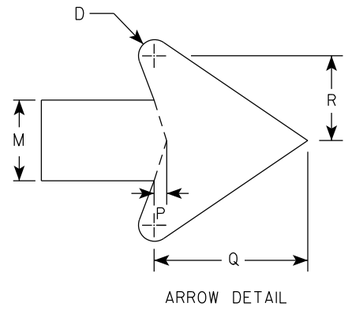
(E)



(E)



(E)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN
R3-8 (E) Arrow

WISCONSIN DEPT OF TRANSPORTATION

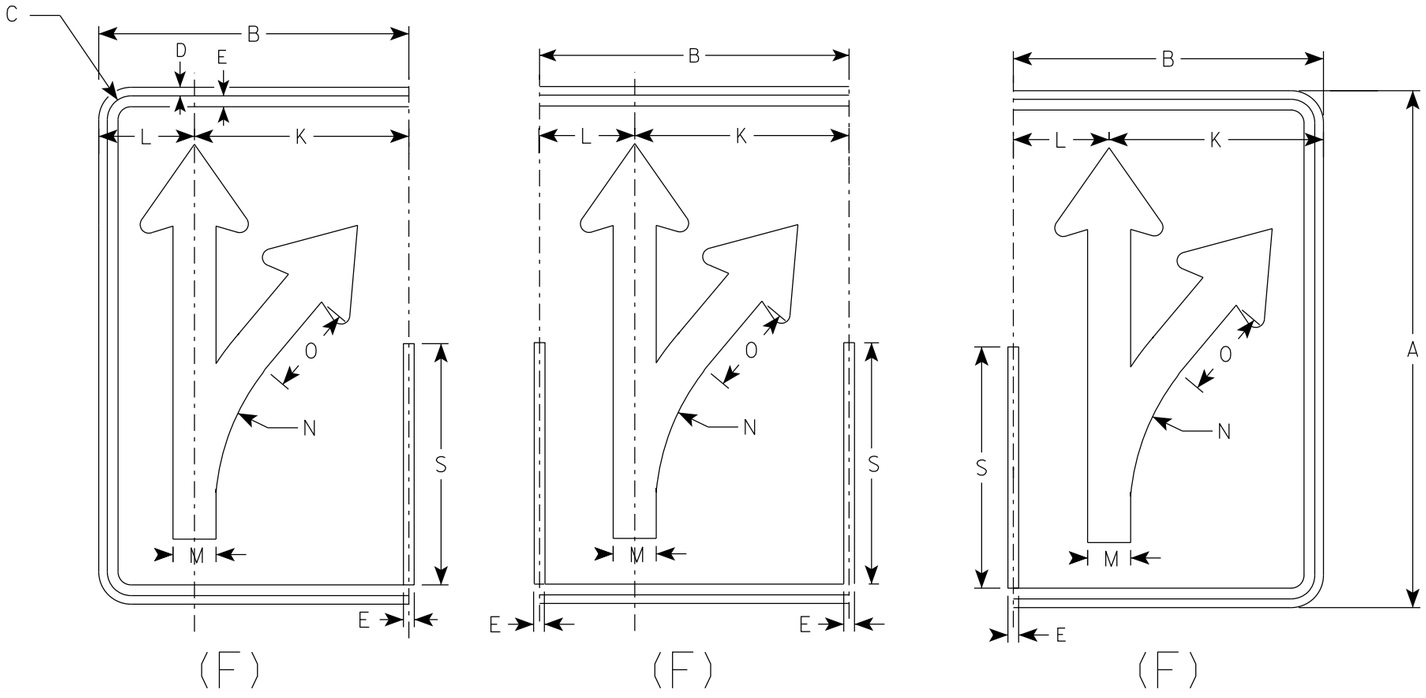
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

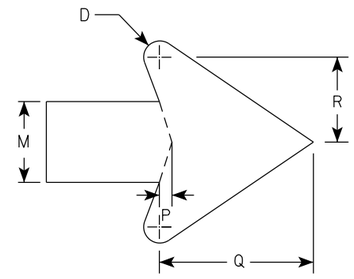
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 259 | E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



(F) (F) (F)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN
R3-8 (F) Arrow

WISCONSIN DEPT OF TRANSPORTATION

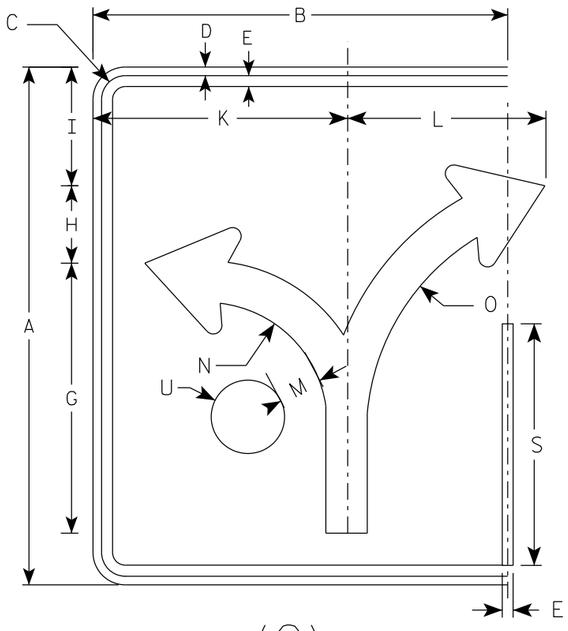
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

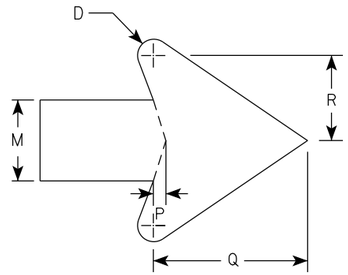
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 260 | E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



(G)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	8 1/4		17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		2 1/2						7.5
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0

STANDARD SIGN
R3-8 (G) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

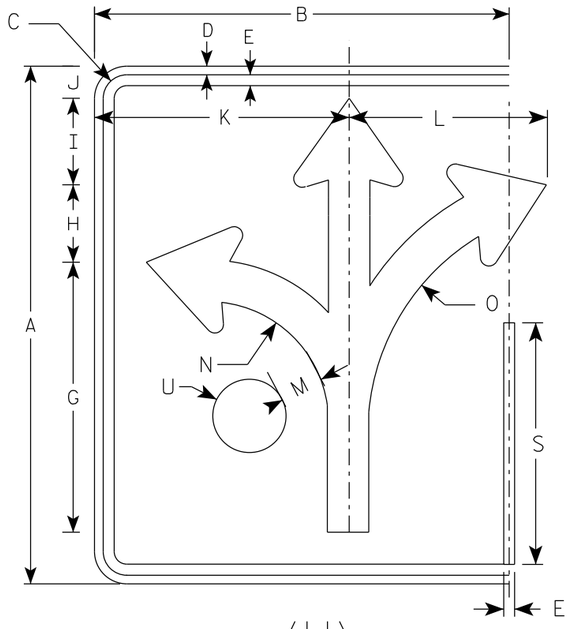
DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 261 | E

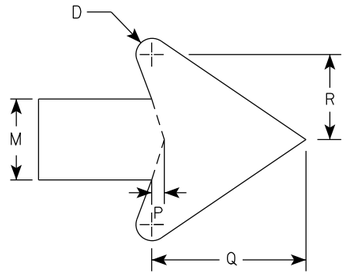
FILE NAME : C:\CAEfiles\Projects\stdplate_R38.dgn PLOT DATE : 21-MAY 2019 4:38 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



(H)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		2 1/8						5.0
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	6	3 1/8	17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		2 1/2						7.5
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		3 3/8						12.0

STANDARD SIGN
R3-8 (H) Arrow

WISCONSIN DEPT OF TRANSPORTATION

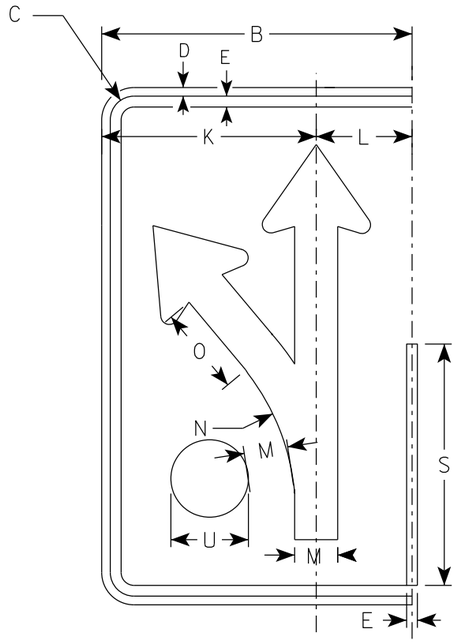
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

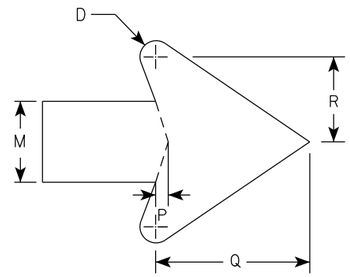
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 262	E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



(I)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14		2 1/8						3.75
2M	30	18	1 3/8	1/2	5/8		18 1/4	4 3/4	3 1/4	3	12 1/2	5 1/2	2 1/2	13 1/4	5 1/8	3/8	4 3/4	2 5/8	14		2 1/8						3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	5 5/8	4	4 7/8	16 1/8	7 3/4	3	15 7/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4		2 1/2						6.0
4	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8		3 3/8						10.0
5	48	30	2 1/4	3/4	1		29 1/8	7 1/2	5 1/4	5 3/8	20 1/2	9 1/2	4	21 1/4	8 1/4	5/8	7 5/8	4 1/4	22 3/8		3 3/8						10.0

STANDARD SIGN
R3-8 (I) Arrow

WISCONSIN DEPT OF TRANSPORTATION

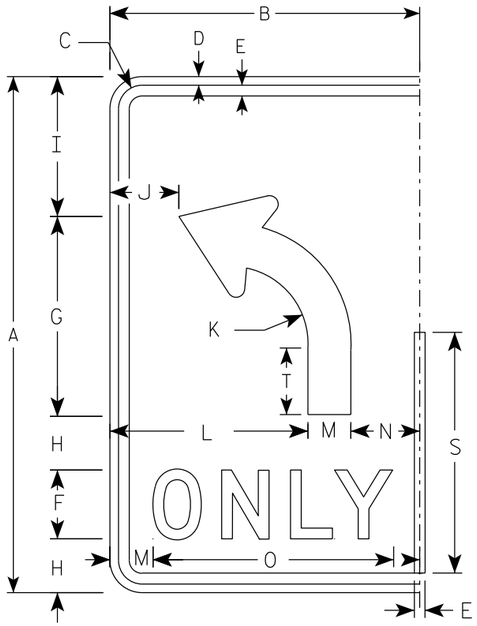
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

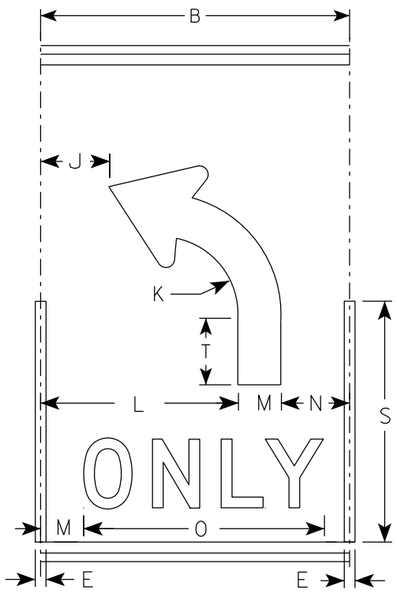
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 263 | E

NOTES

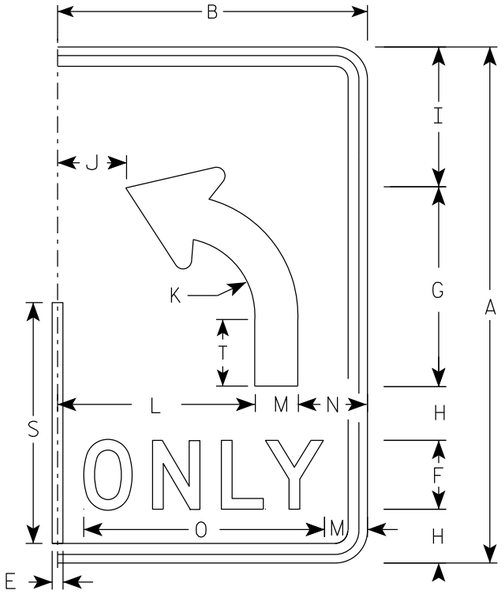
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D



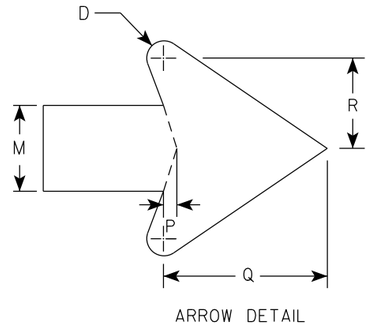
(L)



(L)



(L)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4		5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8							6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0

STANDARD SIGN

R3-8 (L) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

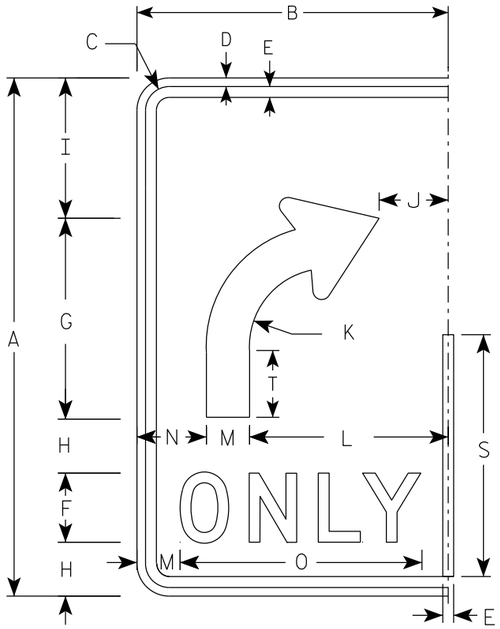
DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO:

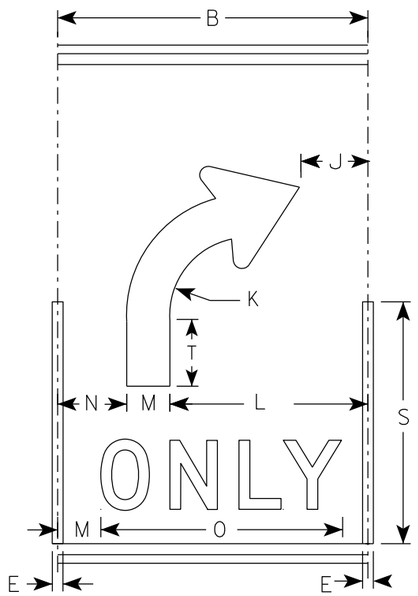
SHEET NO: 264 E

NOTES

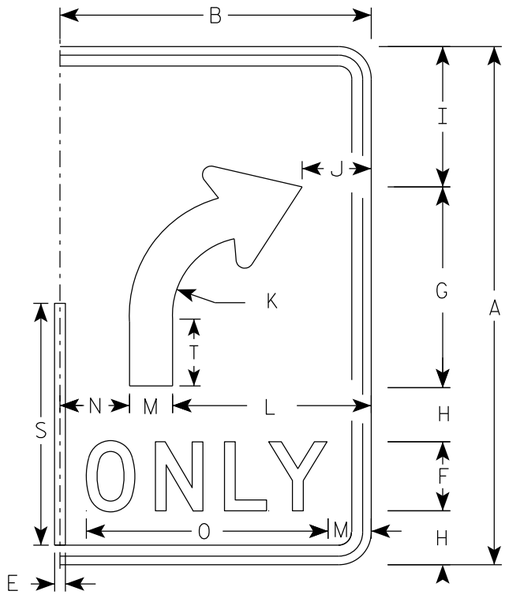
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D



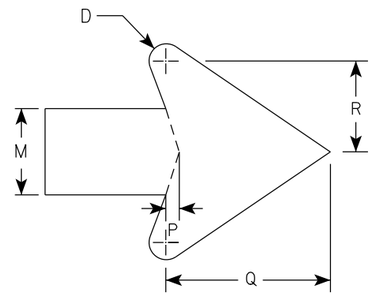
(R)



(R)



(R)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4	6	5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8							6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0

STANDARD SIGN
R3-8 (R) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

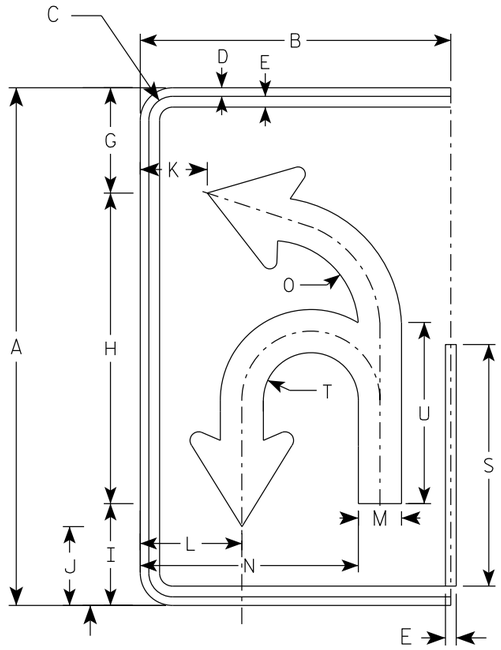
DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO:

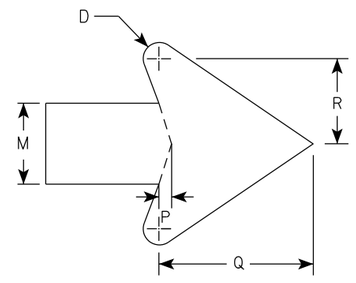
SHEET NO: 265 **E**

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - None



(U)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8		6 1/8	18	5 7/8	4 5/8	3 7/8	5 7/8	2 1/2	12 5/8	5 1/8	3/8	4 3/4	2 5/8	14	2 3/4	10 1/2						3.75
2M	30	18	1 3/8	1/2	5/8		6 1/8	18	5 7/8	4 5/8	3 7/8	5 7/8	2 1/2	12 5/8	5 1/8	3/8	4 3/4	2 5/8	14	2 3/4	10 1/2						3.75
3	36	24	1 3/8	1/2	5/8		21 7/8	21 5/8	7 1/8	5 1/2	5 7/8	8 1/4	3	16 3/8	6 1/8	1/2	5 3/4	3 1/8	16 3/4	3 1/4	12 5/8						6.0
4	48	30	2 1/4	3/4	1		29 1/8	28 3/4	9 3/8	7 1/4	6 7/8	10	4	20 7/8	8 1/8	5/8	7 5/8	4 1/4	22 3/8	4 3/8	16 3/4						10.0
5	48	30	2 1/4	3/4	1		29 1/8	28 3/4	9 3/8	7 1/4	6 7/8	10	4	20 7/8	8 1/8	5/8	7 5/8	4 1/4	22 3/8	4 3/8	16 3/4						10.0

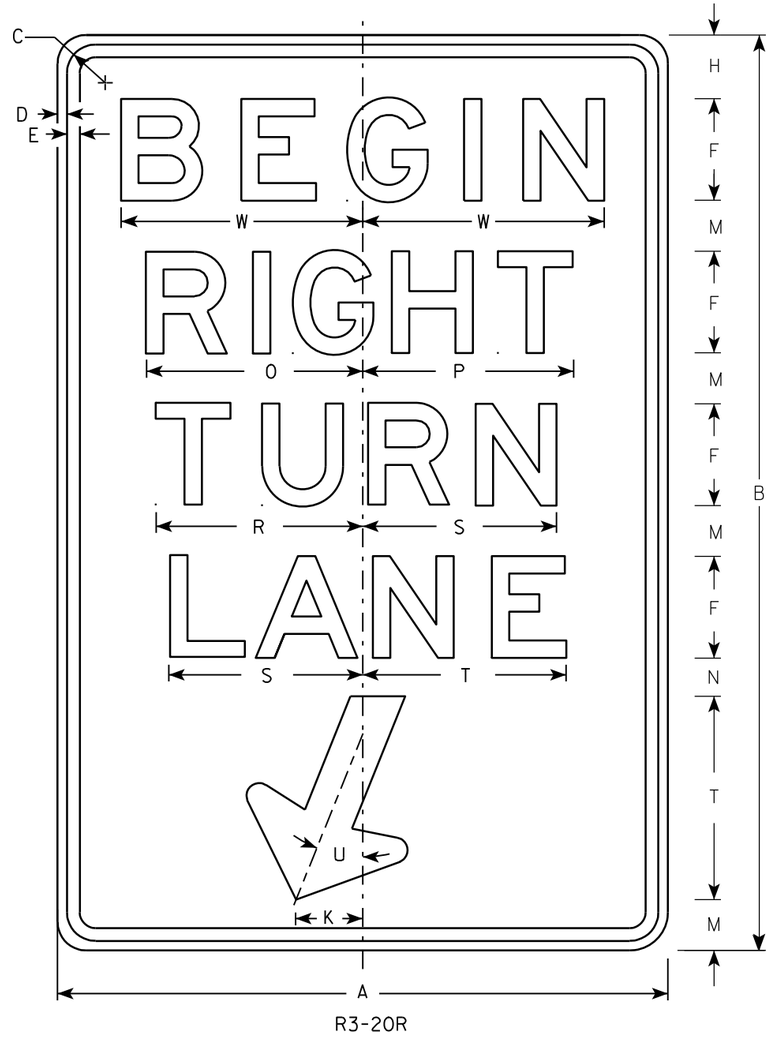
STANDARD SIGN
R3-8 (U) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

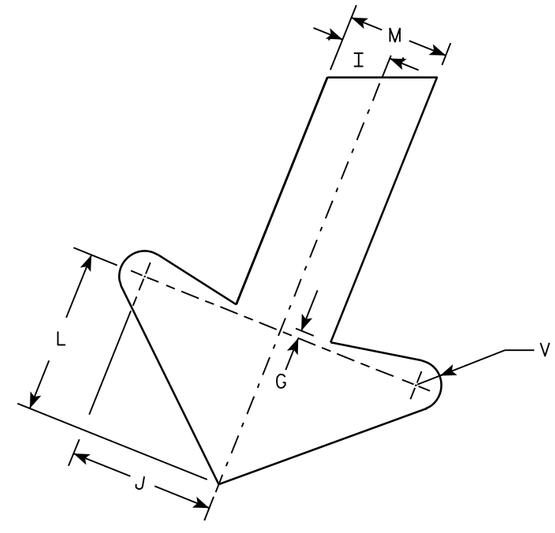
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 266 | E



R3-20R

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

STANDARD SIGN
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

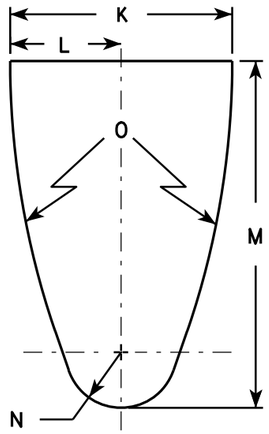
APPROVED Matthew R Rauch
for State Traffic Engineer

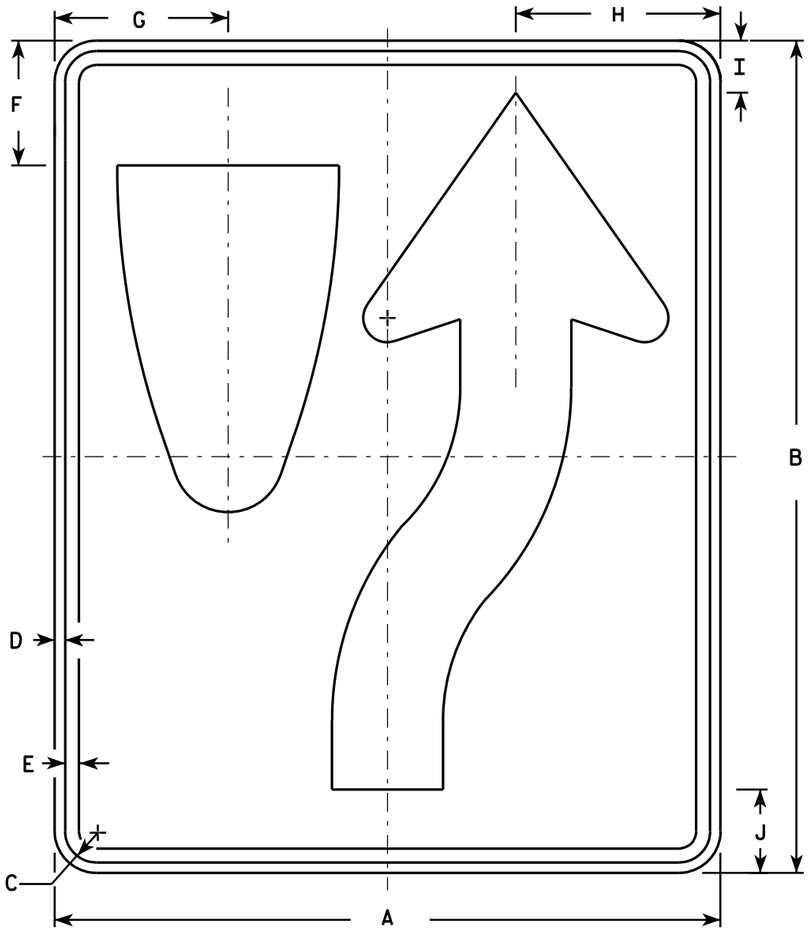
DATE 10/18/10 PLATE NO. R3-20R.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 267 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R320R.DGN PLOT DATE : 15-OCT-2010 14:59 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 5.959043:1.000000

WISDOT/CADDS SHEET 42

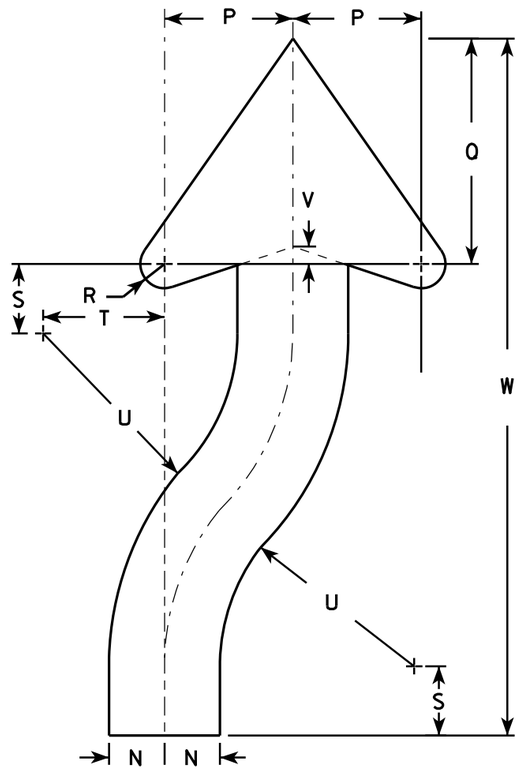




R4-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

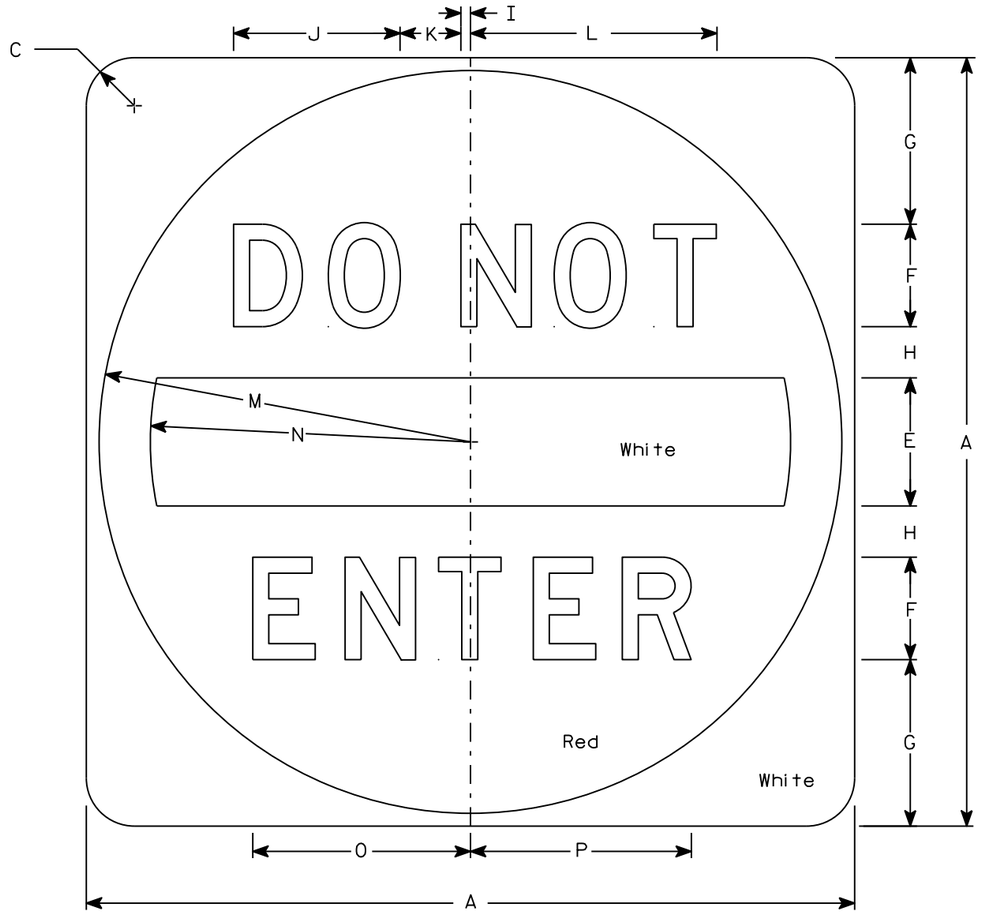
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 268	E



R5-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See detail
   Message - White
3. Message Series - D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.25
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

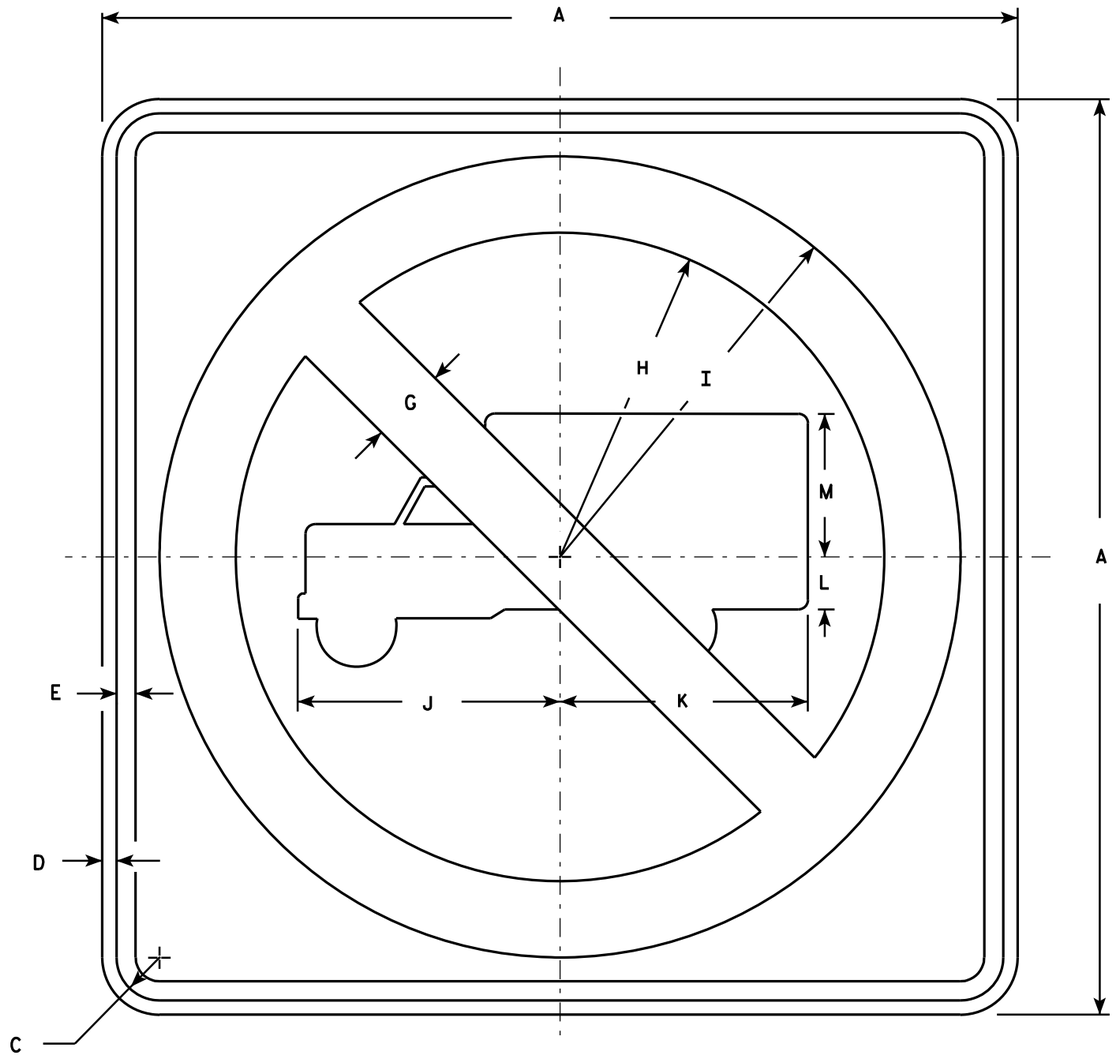
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/15/18 PLATE NO. R5-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 269 | E



R5-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See Note 4
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. Circle & Diagonal - Reflective red.
   Truck Symbol & Border - Non-reflective black.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2		2	8 1/2	10 1/2	6 7/8	6 1/2	1 3/8	3 3/4														4.0
2M	24		1 1/8	3/8	1/2		2	8 1/2	10 1/2	6 7/8	6 1/2	1 3/8	3 3/4														4.0
3	30		1 3/8	1/2	5/8		2 1/2	10 5/8	13 1/8	8 1/2	8 1/8	1 5/8	4 3/4														6.25
4	36		1 5/8	5/8	3/4		3	12 3/4	15 3/4	10 1/4	9 3/4	2	5 3/4														9.0
5	48		2 1/4	3/4	1		4	17	21	13 5/8	13	2 5/8	7 5/8														16.0

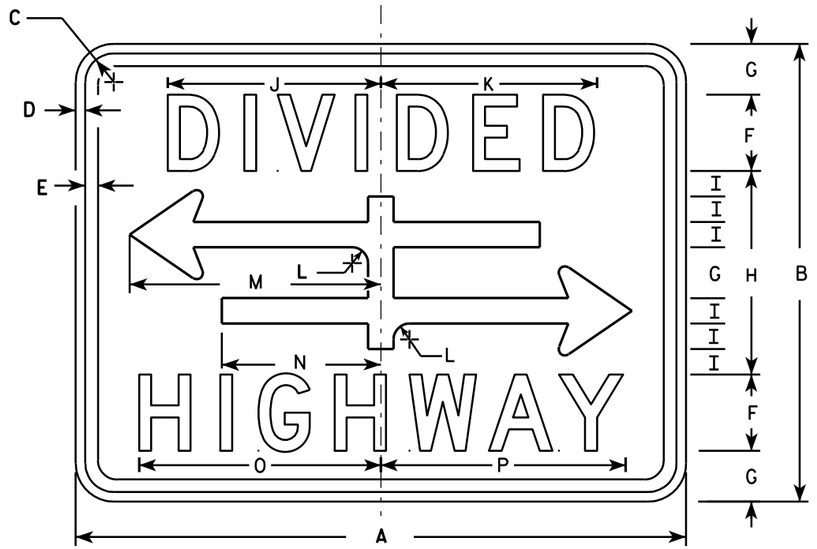
STANDARD SIGN
R5-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-2.6

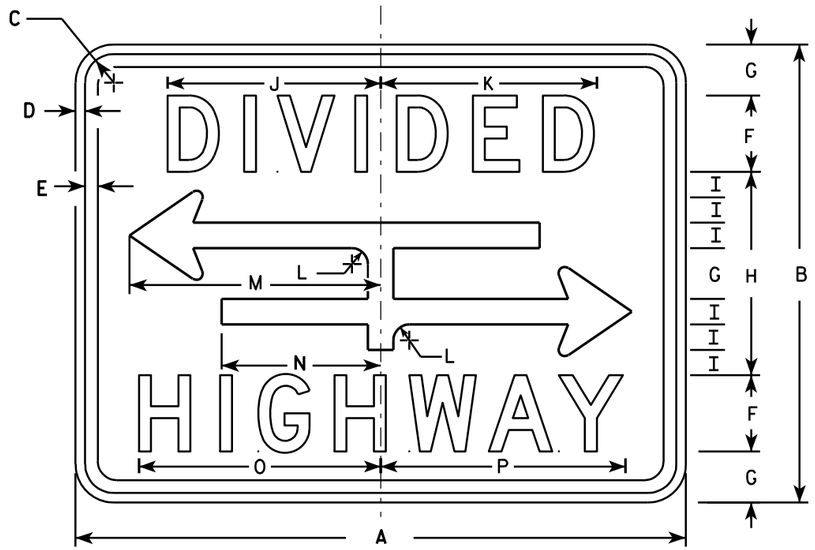
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 270	E



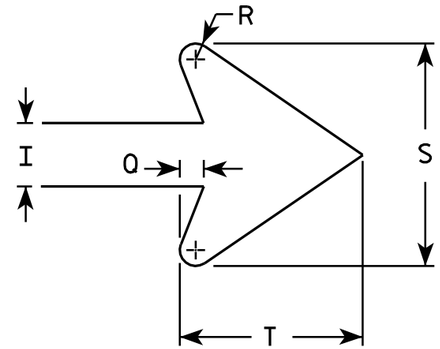
R6-3

NOTES

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



R6-3A



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	18	1 1/8	3/8	3/8	3	2	8	1	8 3/8	8 1/2	5/8	9 7/8	6 1/4	9 1/2	9 5/8	3/8	1/4	3 1/2	2 3/4							3.0
2S	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
2M	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
3																											
4																											
5																											

STANDARD SIGN
R6-3 & R6-3A

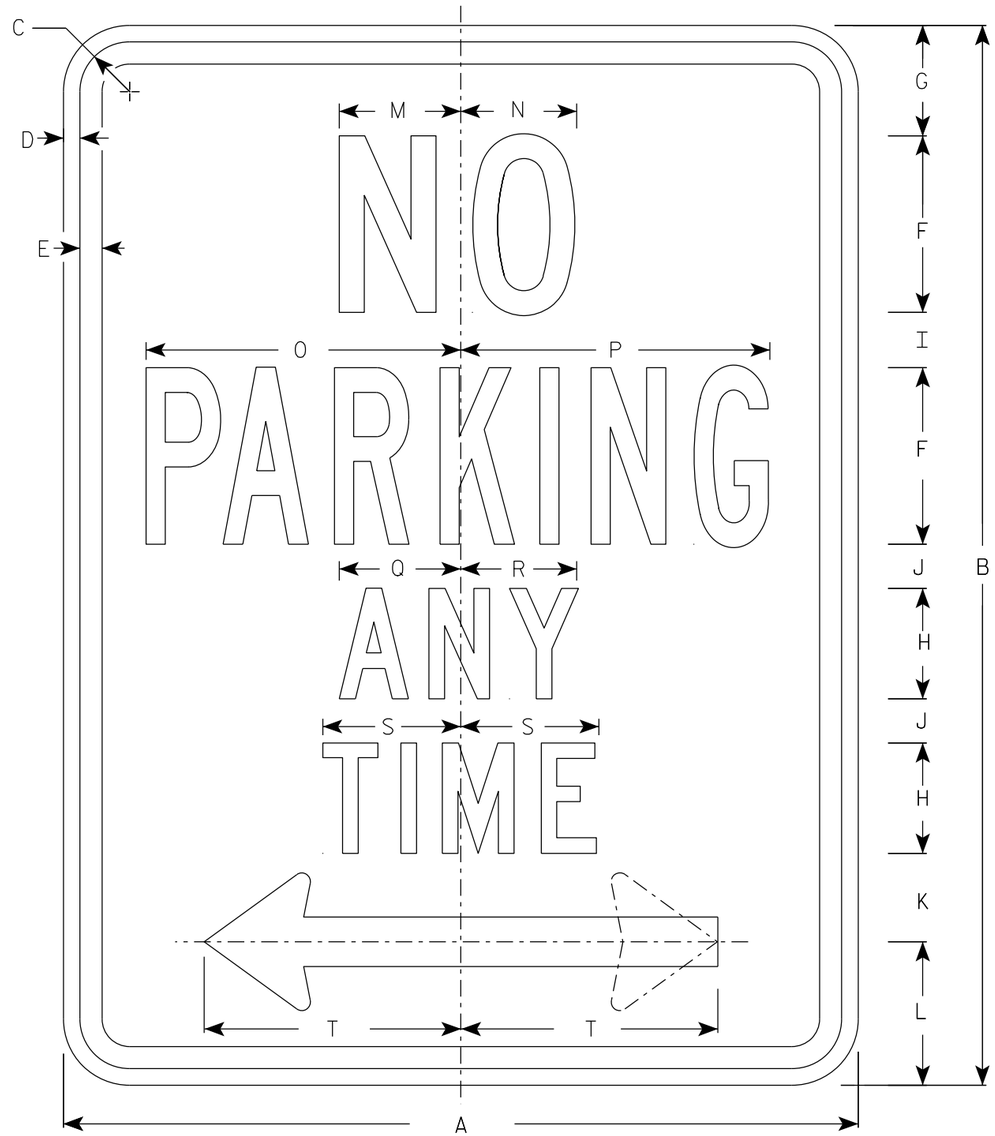
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

PROJECT NO:

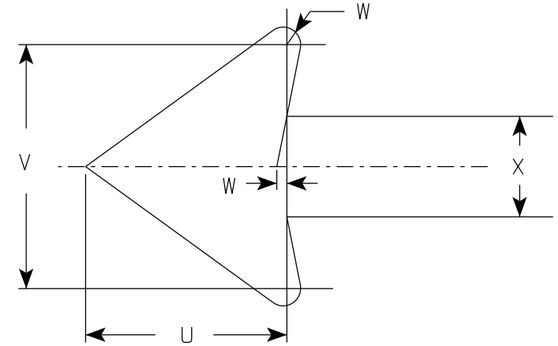
SHEET NO: 271 E



R7-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 5
4. Lines 1, 3 and 4 are series C, line 2 is series B.
5. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



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	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

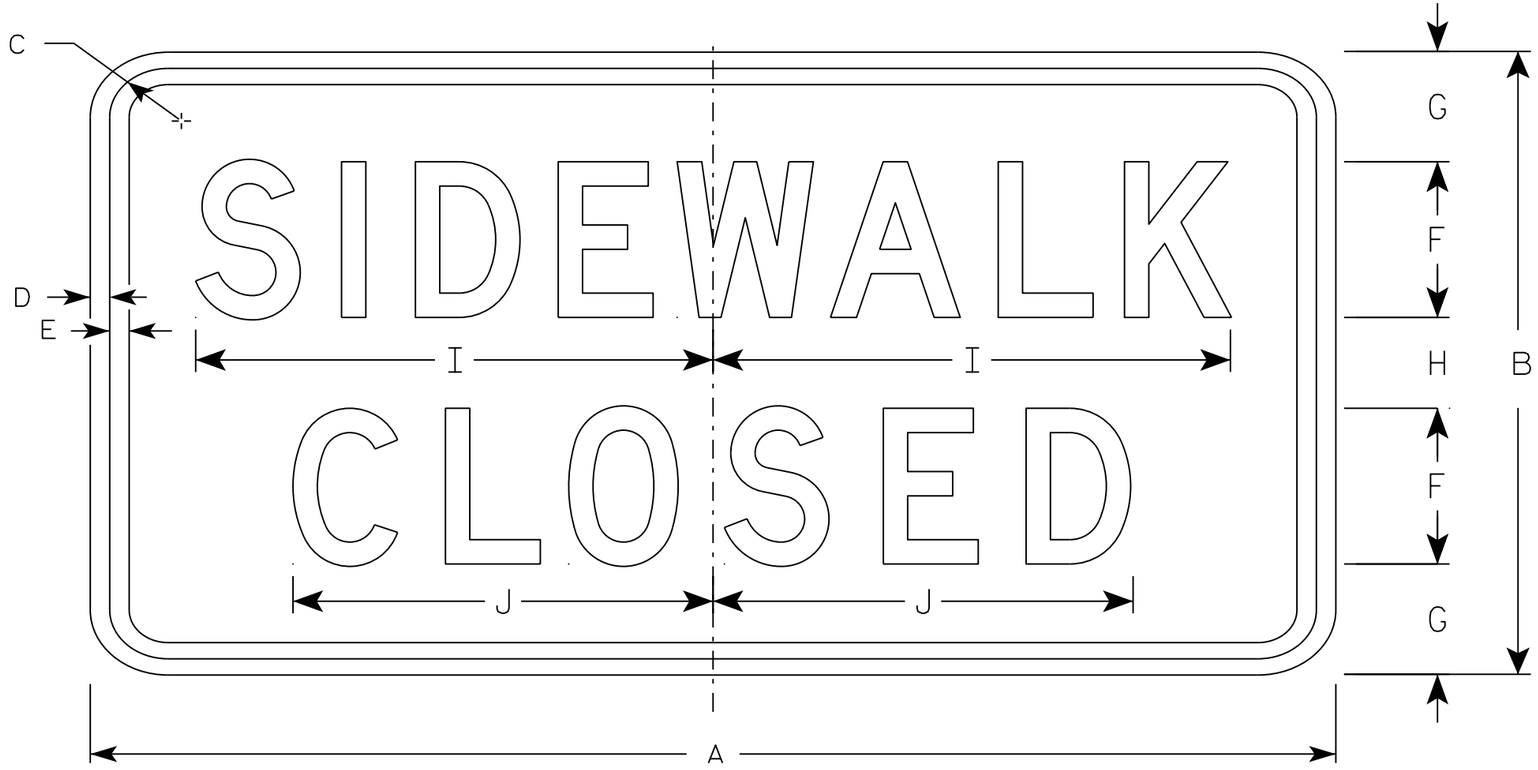
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2021 PLATE NO. R7-1.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 272 E

7

7



R9-9

NOTES

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

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

STANDARD SIGN
R9-9

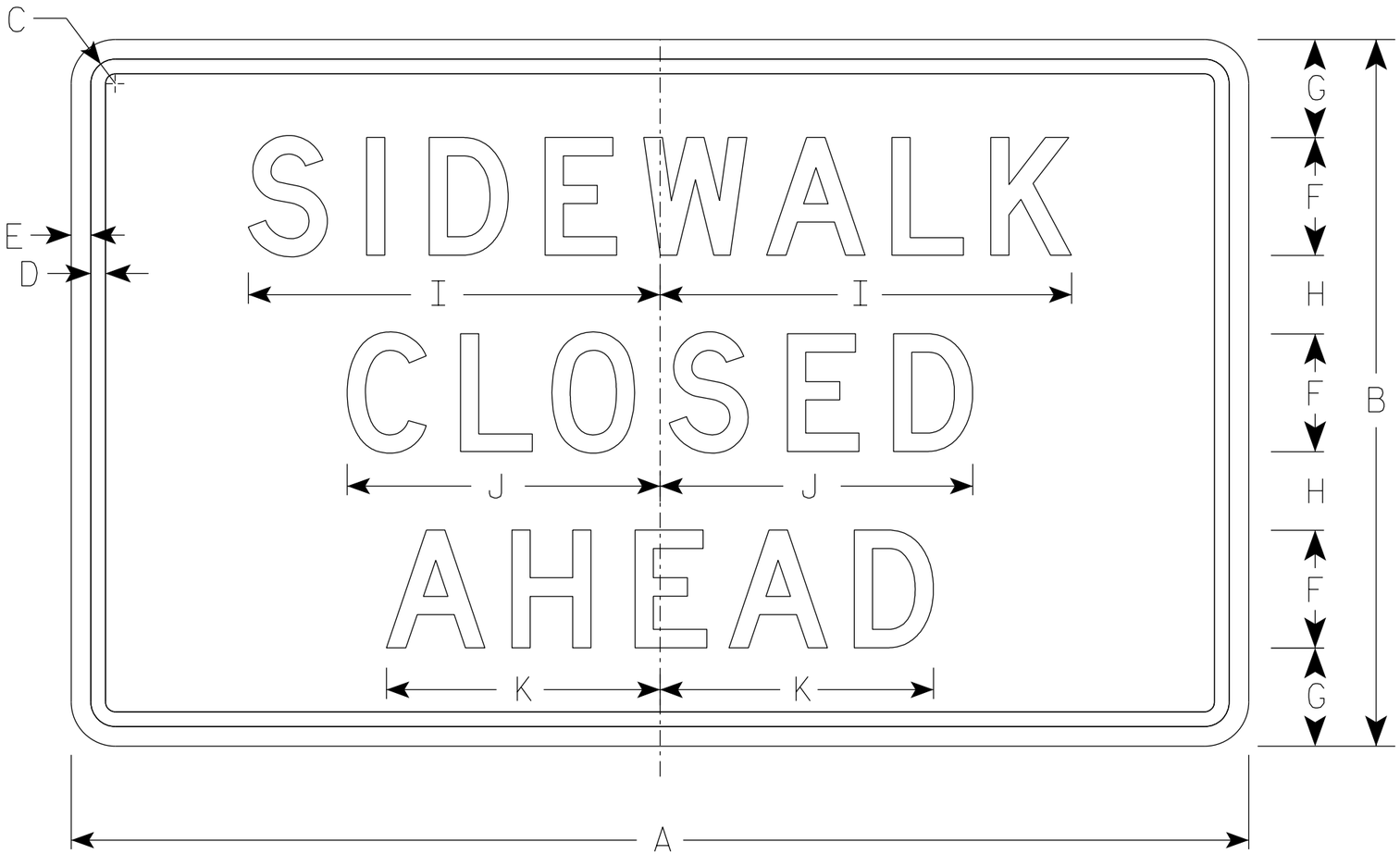
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/11/16 PLATE 273 R9-9.6

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R99.DGN PLOT DATE : 11-AUG-2016 11:33 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 2.918761:1.000000



R9-9A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 1/8	3/8	1/2	3	2 1/2	2	10 1/2	8	7																3.75
2M	30	18	1 1/8	3/8	1/2	3	2 1/2	2	10 1/2	8	7																3.75
3																											
4																											
5																											

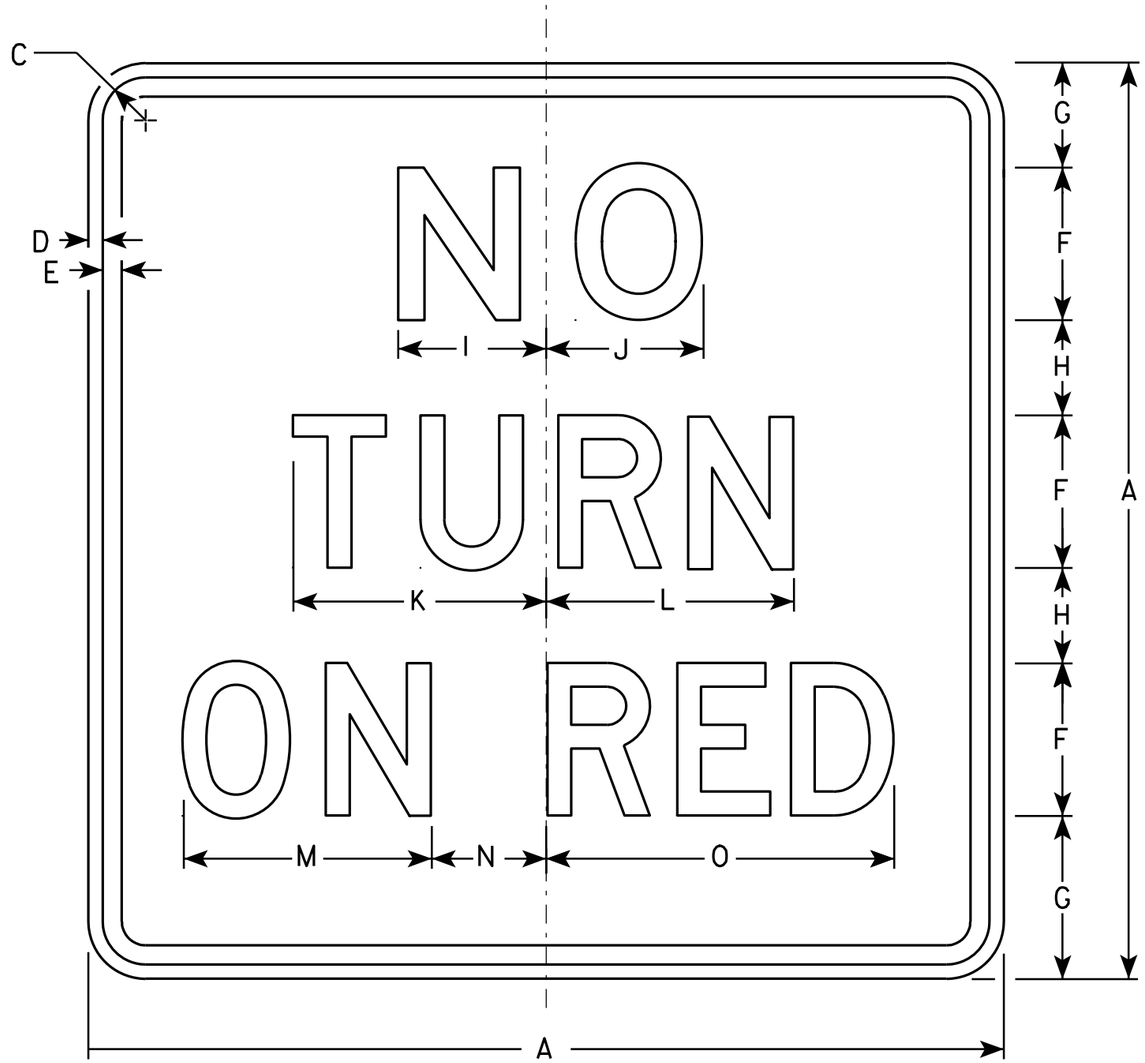
STANDARD SIGN
R9-9A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/31/2020 PLATE NO. R9-9A.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 274 | E



R10-11B

NOTES

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

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	18		1 1/8	3/8	3/8	3	2 3/4	1 3/4	3	3 1/8	5	4 7/8	5 1/4	1 7/8	7 1/8												2.25
2S	24		1 1/8	3/8	1/2	4	3 1/2	2 1/2	3 7/8	4 1/8	6 5/8	6 1/2	6 1/2	3	9 1/8												4.0
2M	24		1 1/8	3/8	1/2	4	3 1/2	2 1/2	3 7/8	4 1/8	6 5/8	6 1/2	6 1/2	3	9 1/8												4.0
3	30		1 3/8	1/2	5/8	5	4 1/2	3	4 7/8	5 1/4	8 1/4	8 1/8	7 3/4	4 1/8	11 7/8												6.25
4																											
5																											

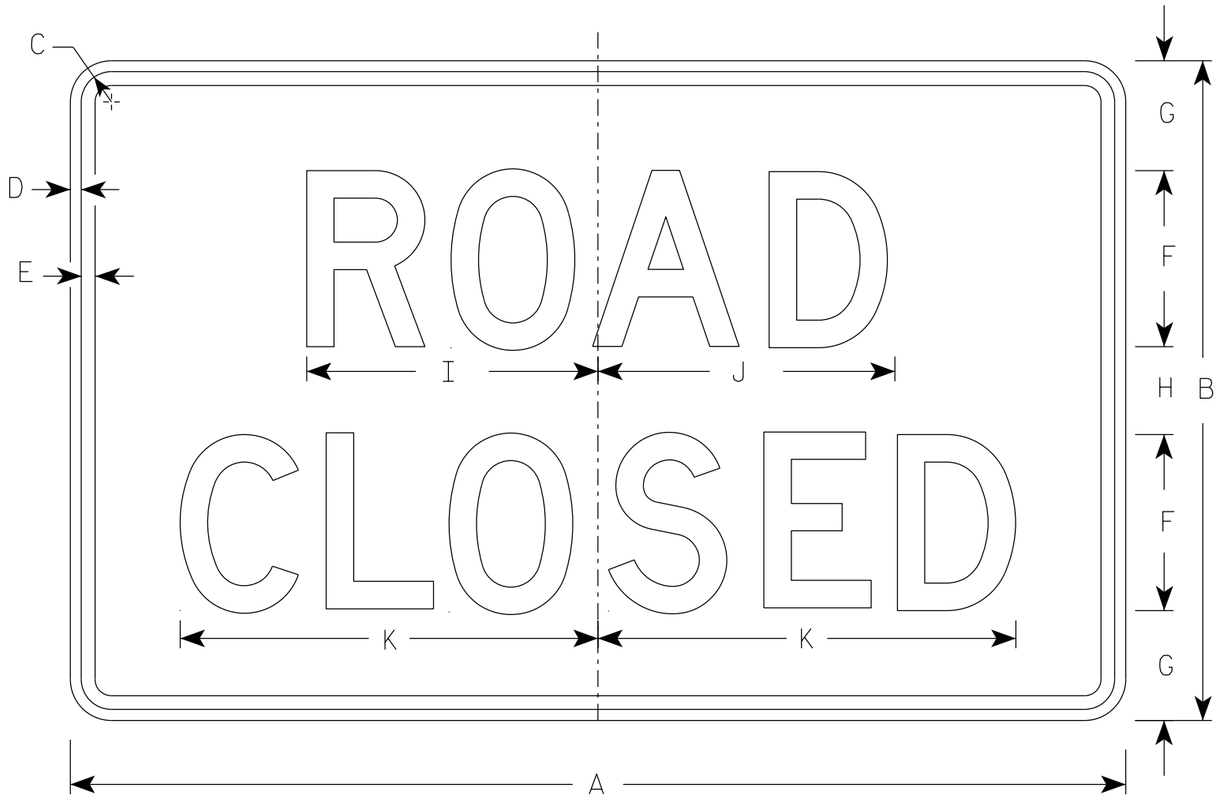
STANDARD SIGN
R10-11B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-11B.4

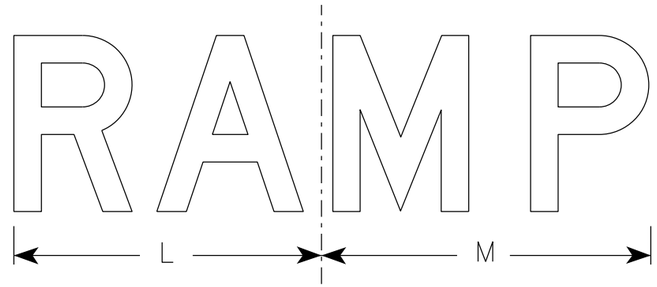
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 275 | E



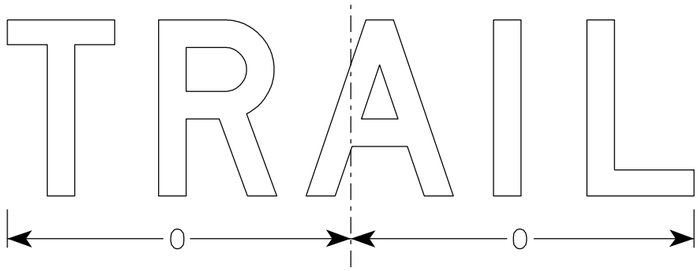
R11-2

NOTES

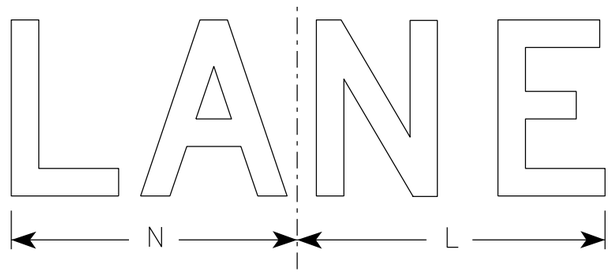
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2T



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

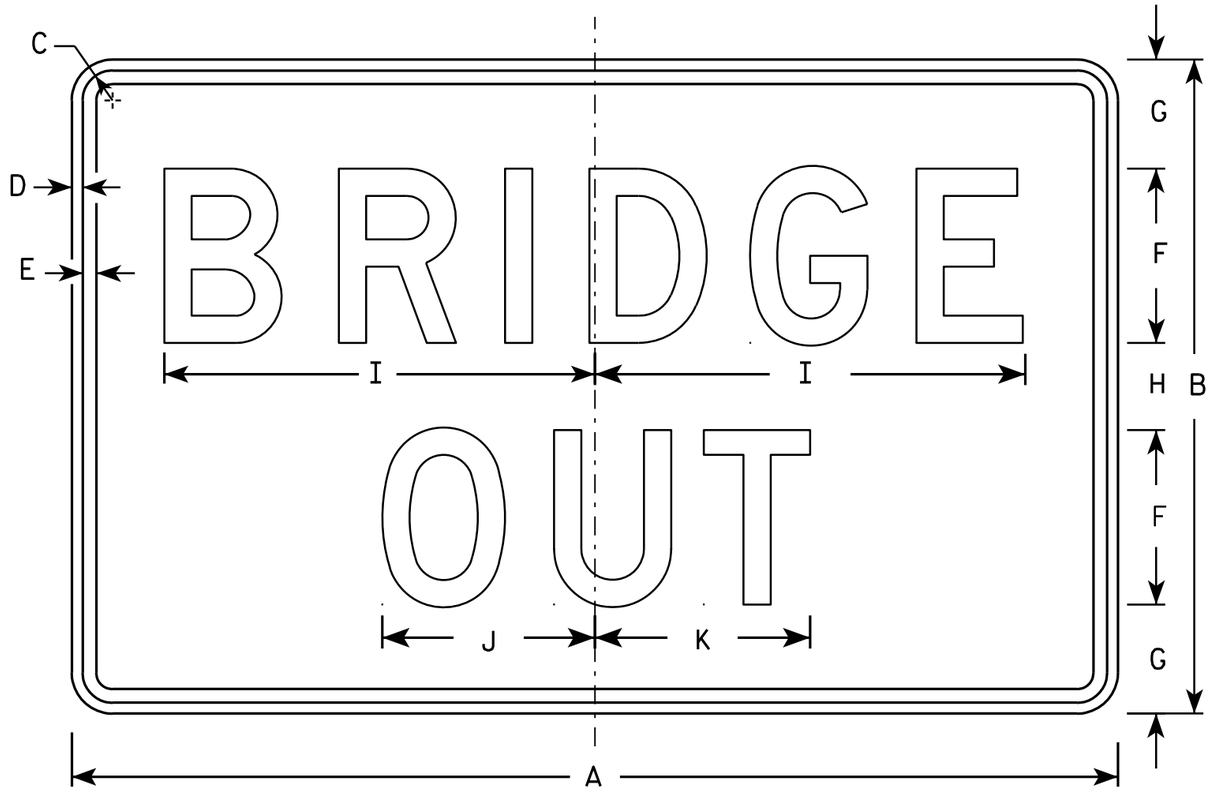
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 276	E



R11-2B

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

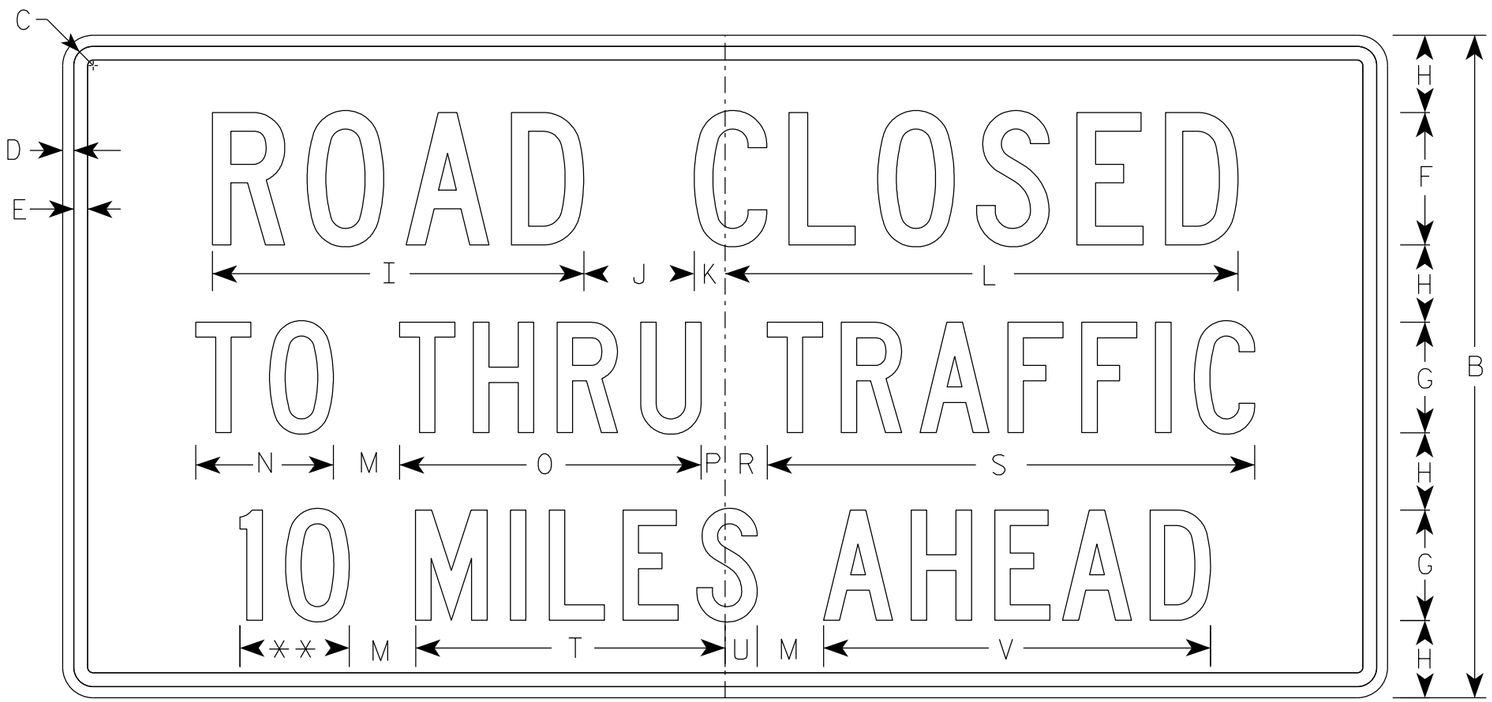
DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

SHEET NO: 277 E

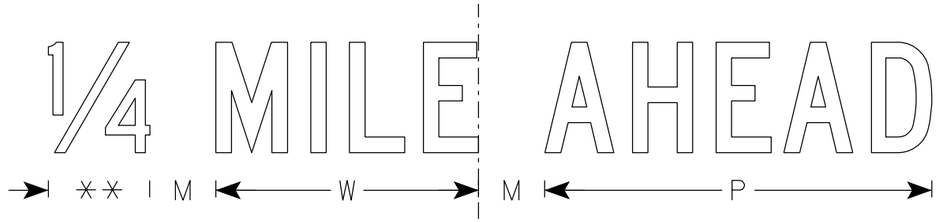
NOTES

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



R11-3

** See Note 5



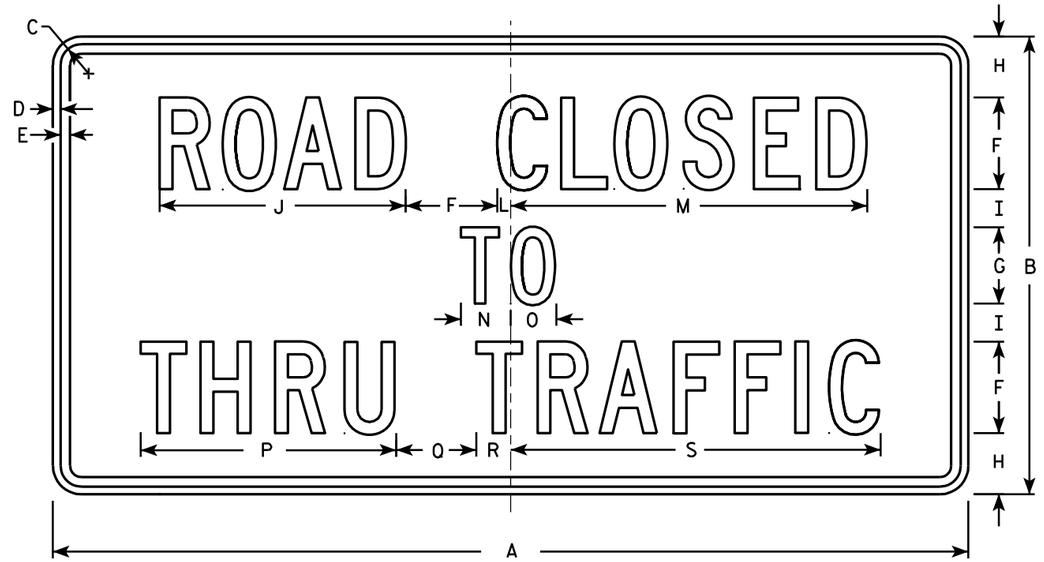
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/4	3/8	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8				4.5
2S	60	30	1 3/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5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

STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 6/14/2021 PLATE NO. R11-3.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 278	E



R11-4

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

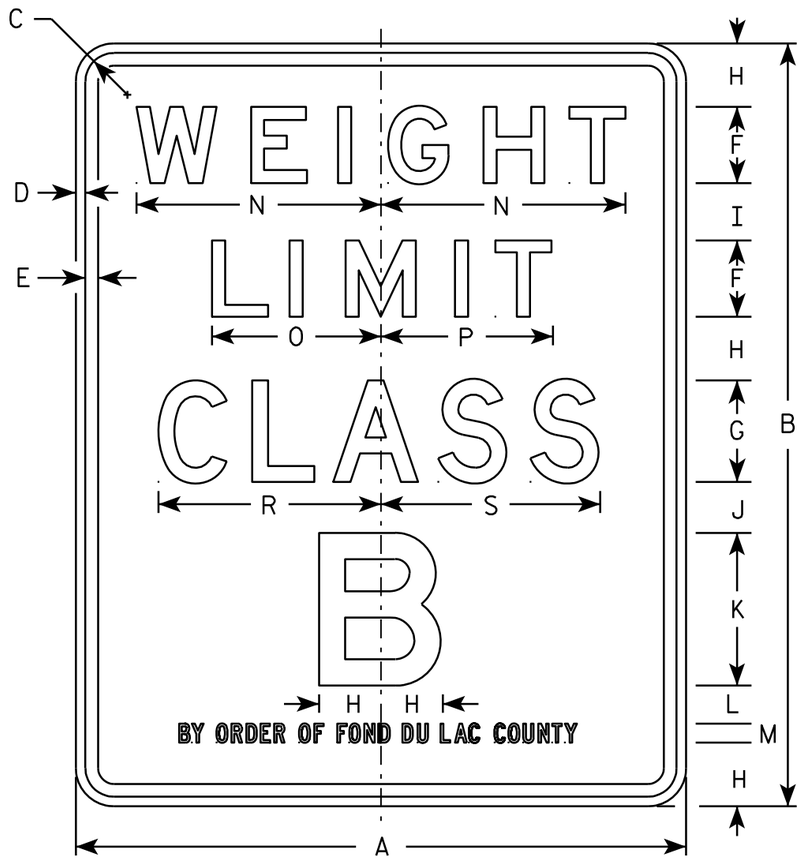
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 279 | E



R12-53

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 2 & 4 are Series E.
   Line 3 is Series D.
   Line 5 is Series C.
6. Line 5 of the sign shall vary with the name of the maintaining authority.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	30	1 1/8	3/8	1/2	3	4	2 1/2	2 1/4	2	6	1 1/2	3/4	9 5/8	6 5/8	6 3/4		8 3/4	8 5/8								5.0
2M	24	30	1 1/8	3/8	1/2	3	4	2 1/2	2 1/4	2	6	1 1/2	3/4	9 5/8	6 5/8	6 3/4		8 3/4	8 5/8								5.0
3																											
4																											
5																											

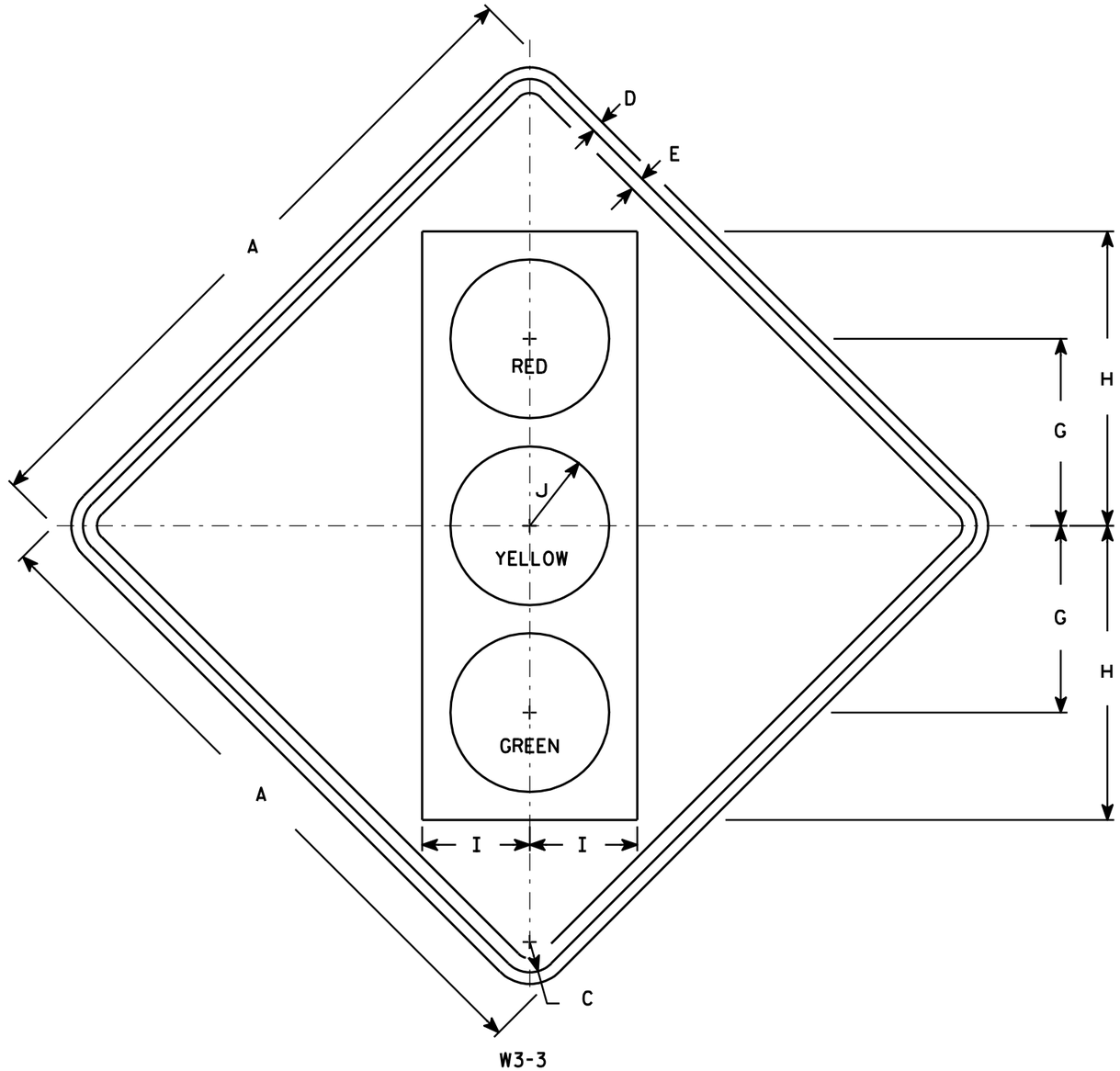
STANDARD SIGN
R12-53

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R12-53.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 280 | E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - See Note 4
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. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

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		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

STANDARD SIGN
W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

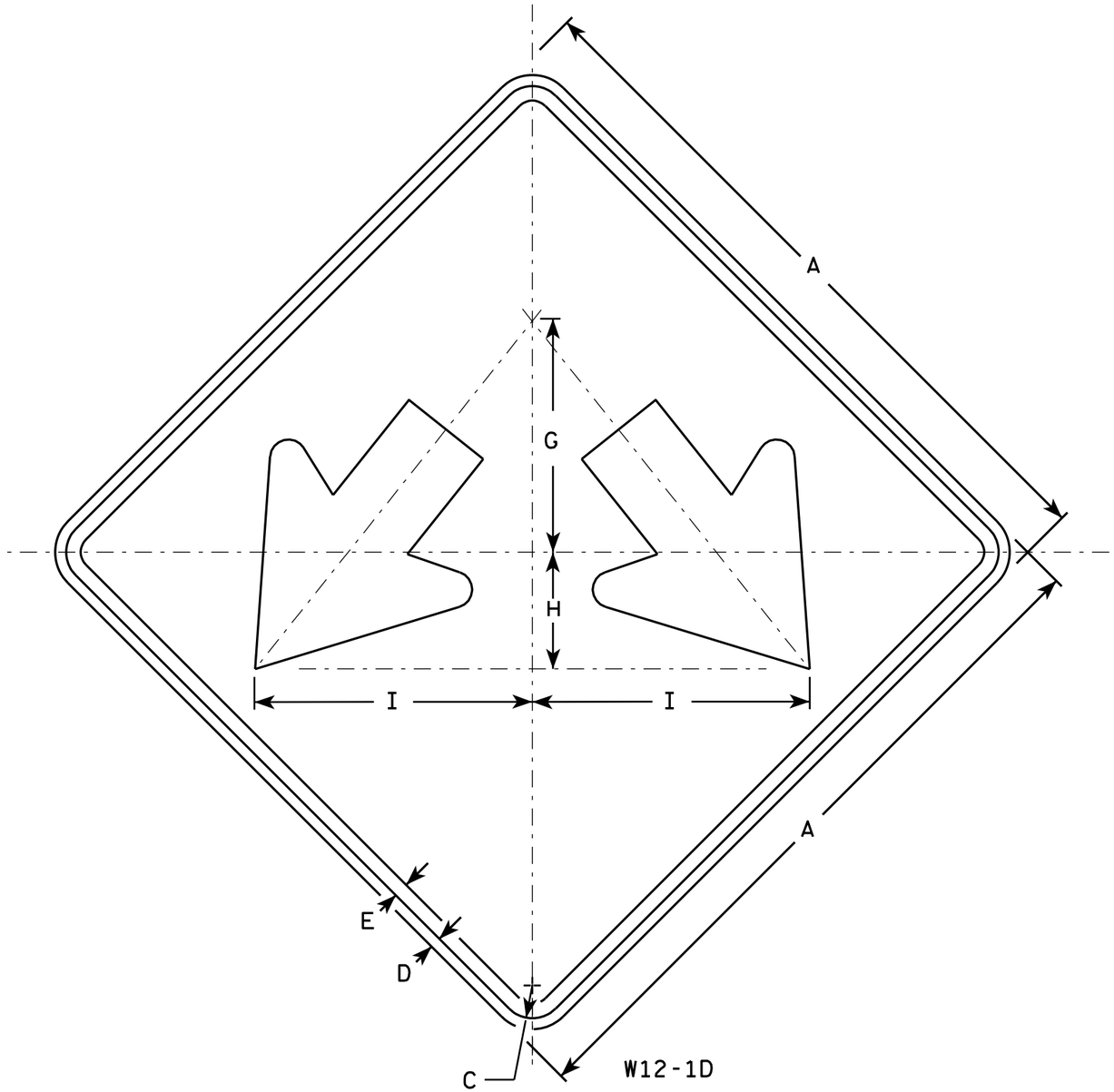
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 281 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W33.DGN PLOT DATE : 07-JUN-2010 13:07 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 7.448805:1.000000

WISDOT/CADDS SHEET 42

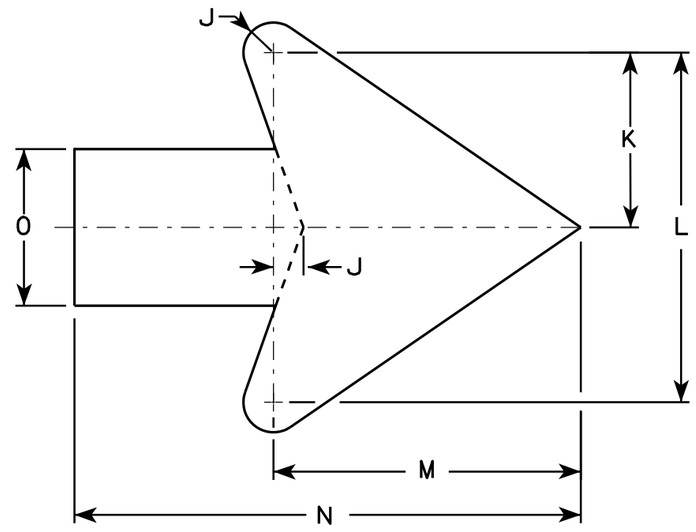
7

7



NOTES

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



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

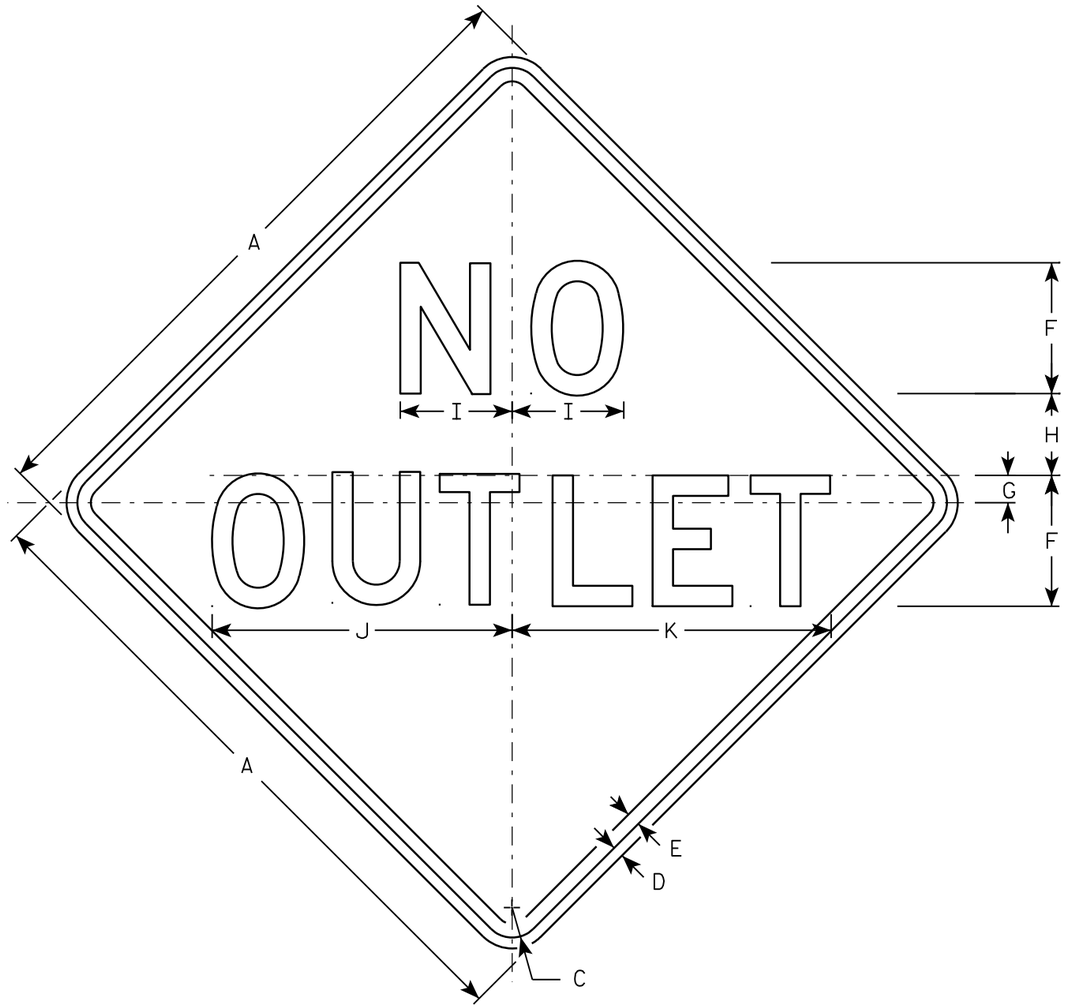
STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-1D.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 282	E



W14-2

NOTES

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

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		1 1/8	3/8	1/2	5	1	2 3/4	4 1/8	11 3/4	12 3/8																4.0
2S	30		1 3/8	1/2	5/8	6	1 1/4	3 3/4	5 1/8	13 3/4	14 5/8																6.25
2M	30		1 3/8	1/2	5/8	6	1 1/4	3 3/4	5 1/8	13 3/4	14 5/8																6.25
3	36		1 5/8	5/8	3/4	7	1 3/8	4 5/8	6	16 1/8	17 1/8																9.0
4																											
5																											

STANDARD SIGN
W14-2

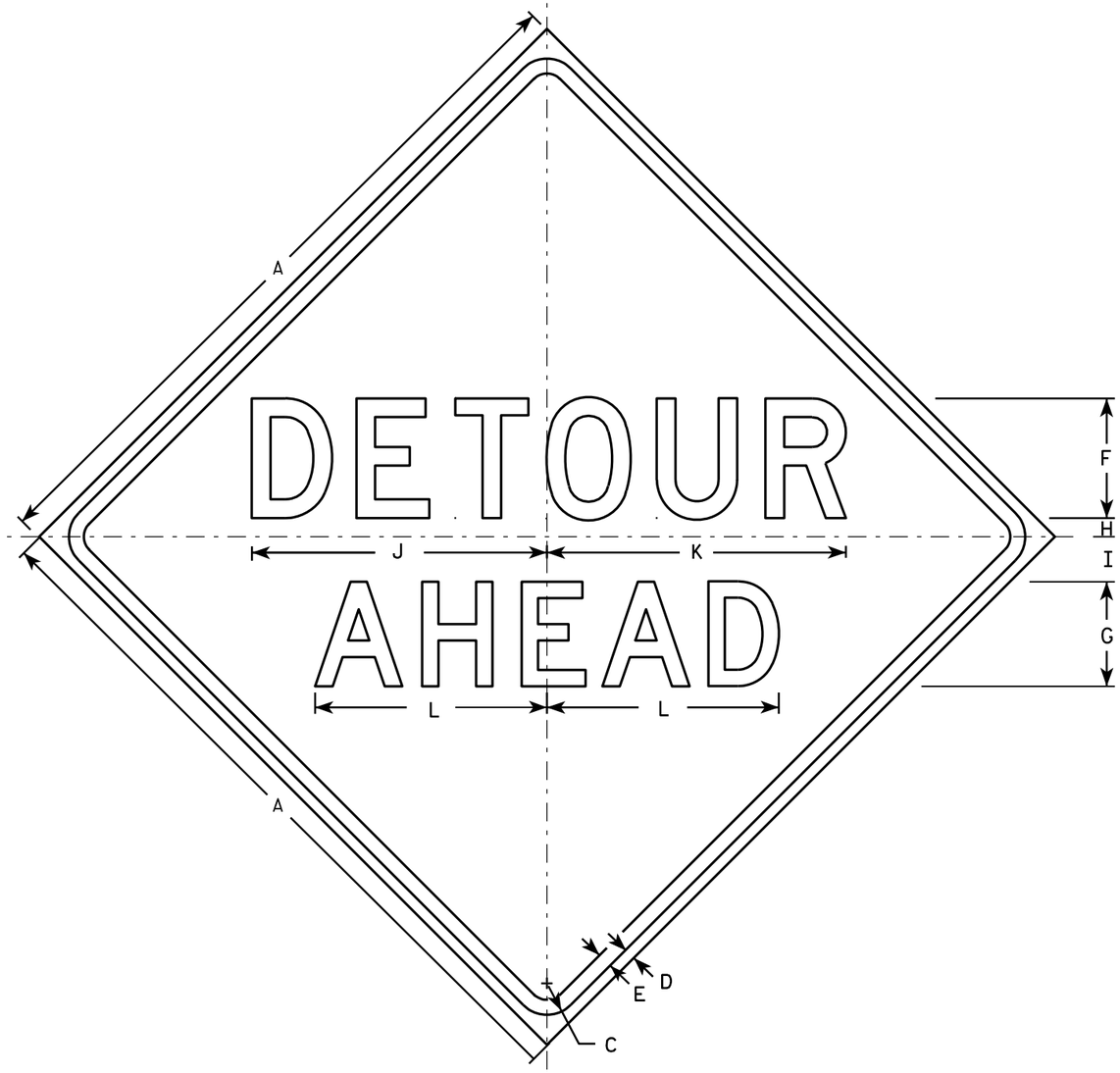
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

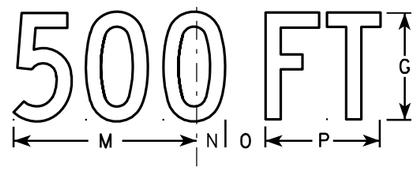
DATE 3/13/13 PLATE NO. W14-2.3

PROJECT NO:

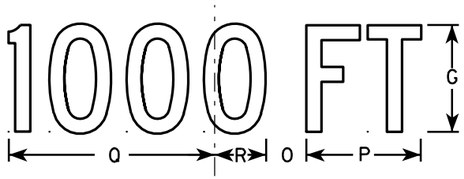
SHEET NO: 283 E



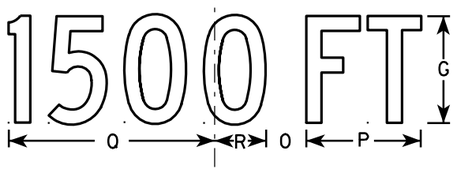
W20-2A



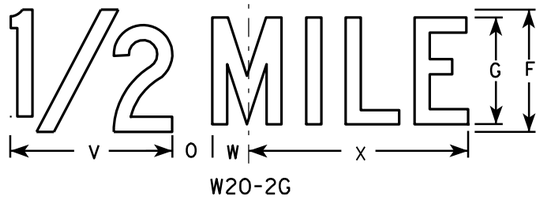
W20-2D



W20-2C



W20-2B



W20-2G



W20-2F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

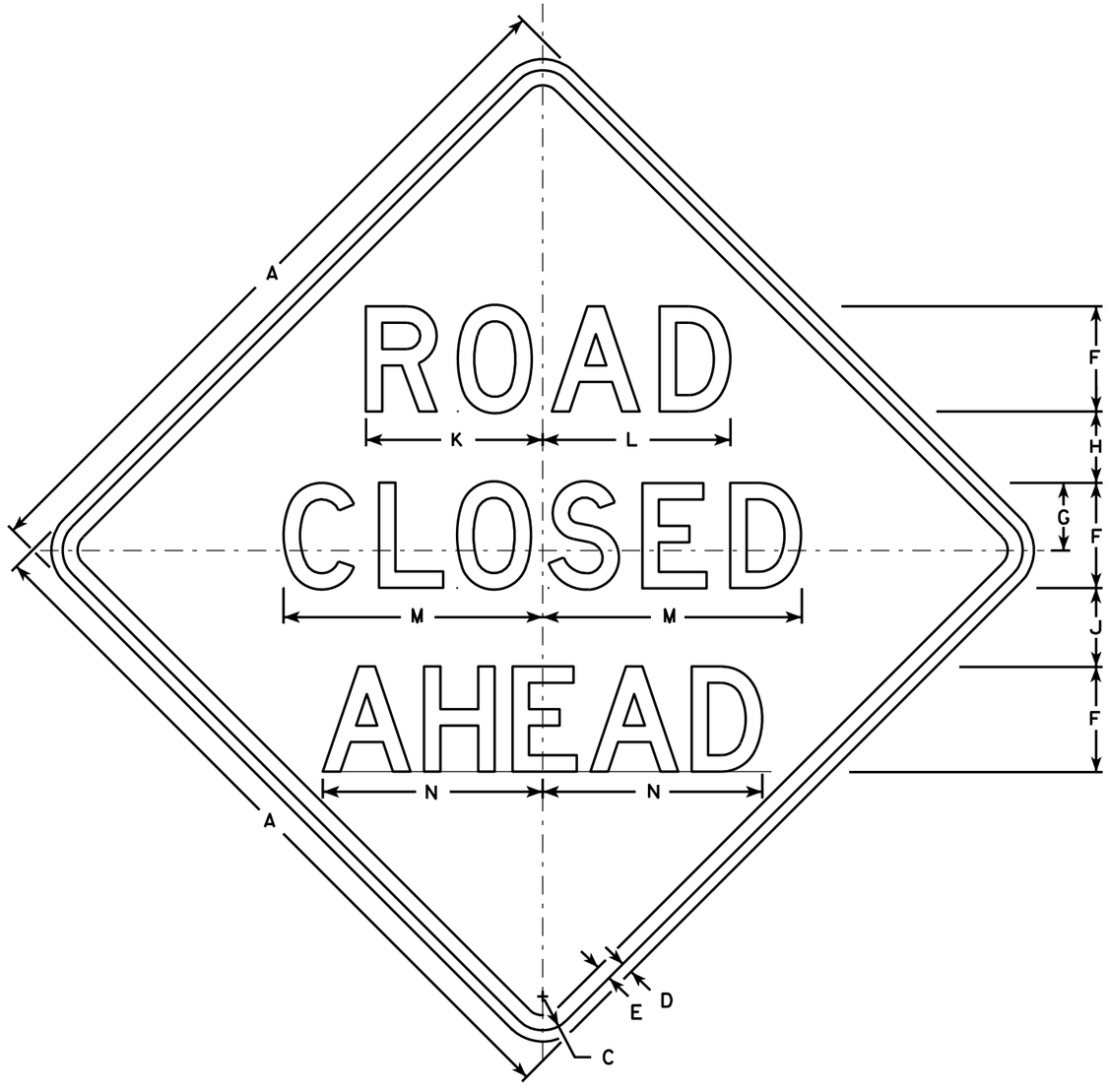
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

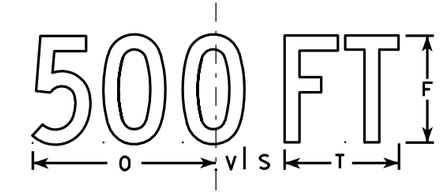
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 284 | E

7

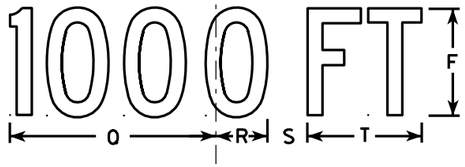
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WISDOT/CADDS SHEET 42



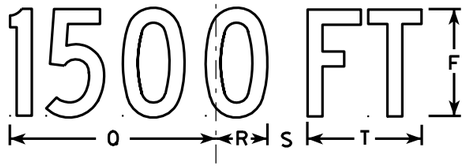
W20-3A



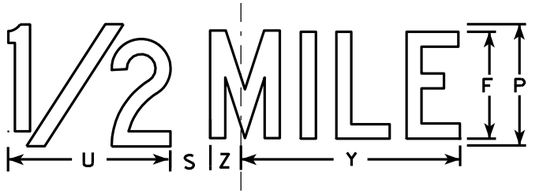
W20-3D



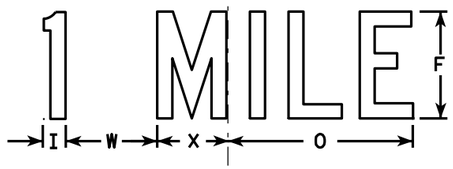
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

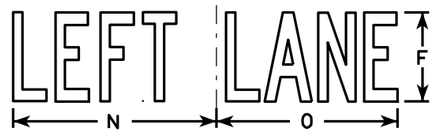
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

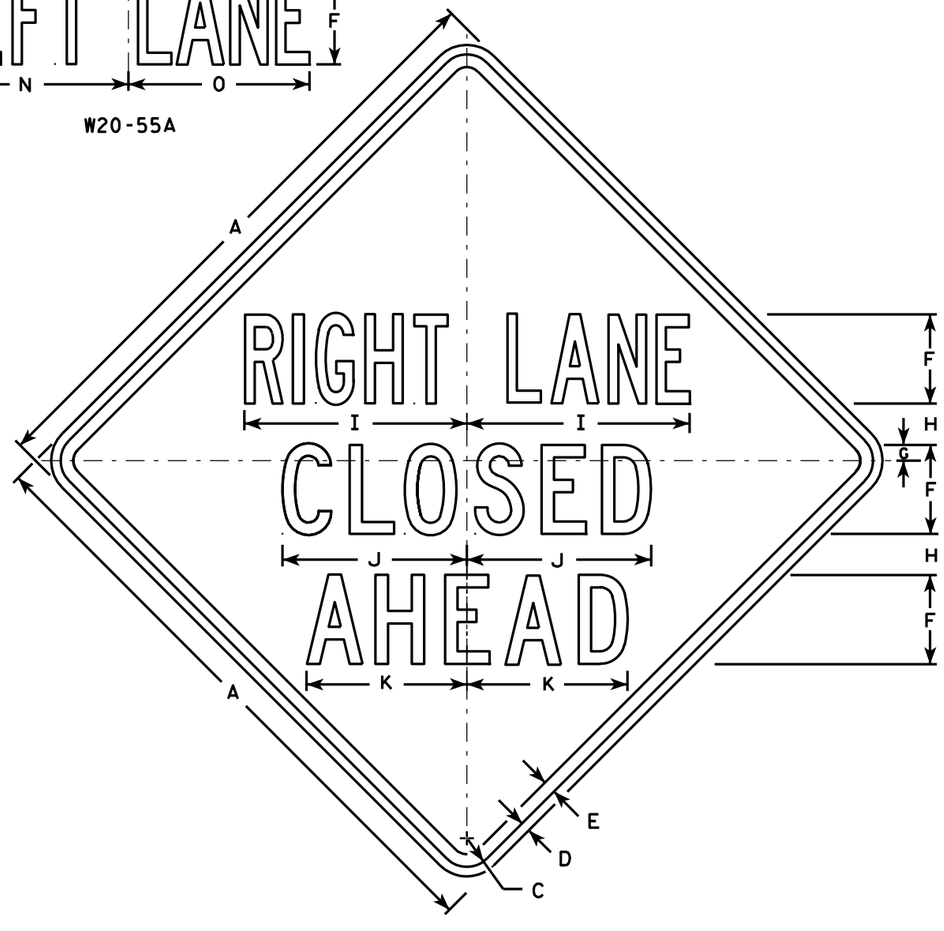
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 285 | E



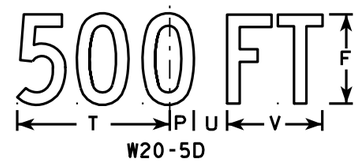
W20-56A



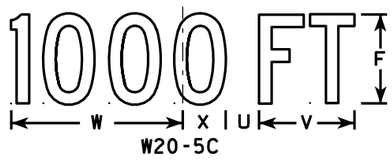
W20-55A



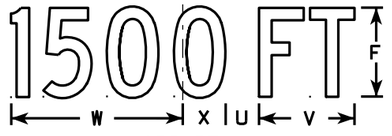
W20-5A



W20-5D



W20-5C



W20-5B



W20-5G



W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
   All other copy is 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	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

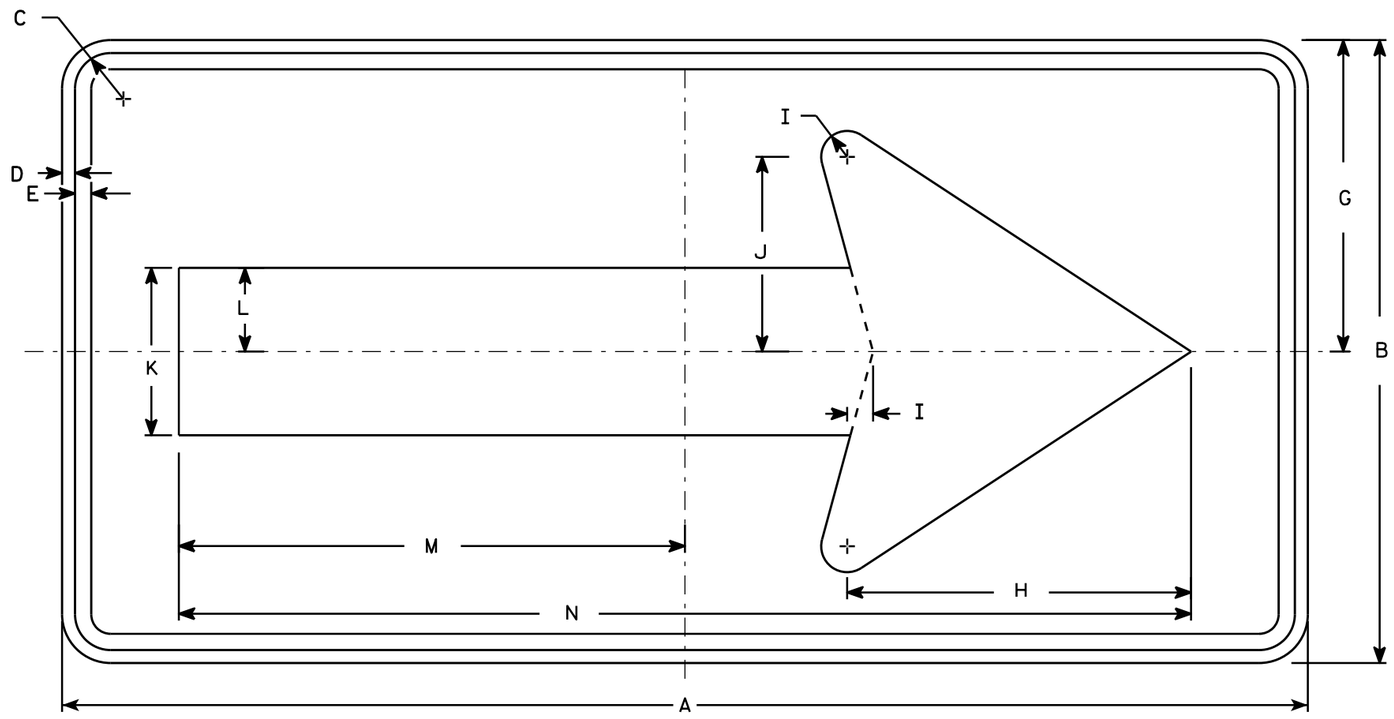
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 286	E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000 WISDOT/CADDS SHEET 42



W01-6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   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																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN
W01-6

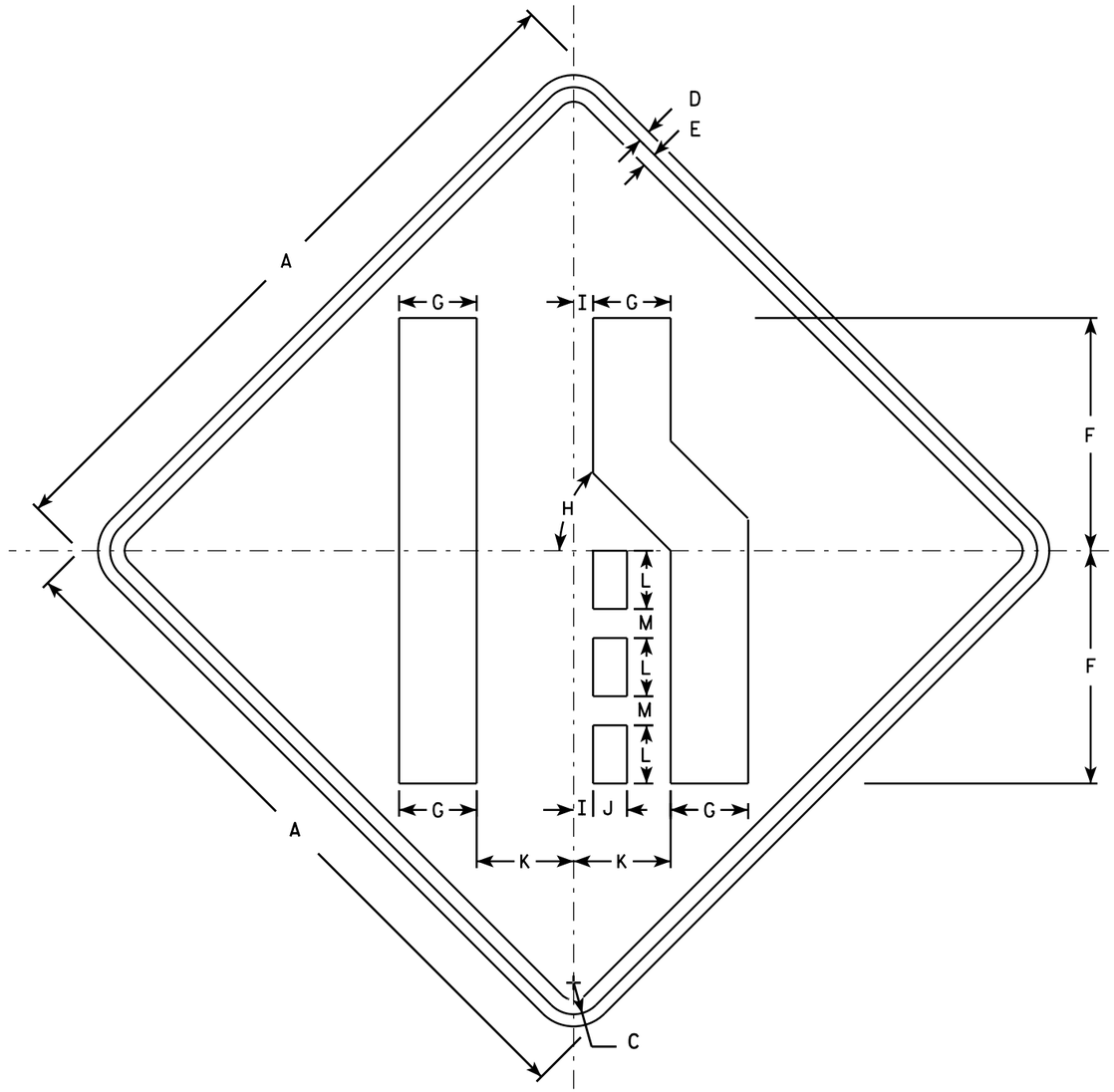
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000 WISDOT/CADDS SHEET 42



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   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. W04-2L is the same as W04-2R except the symbol 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	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W04-2

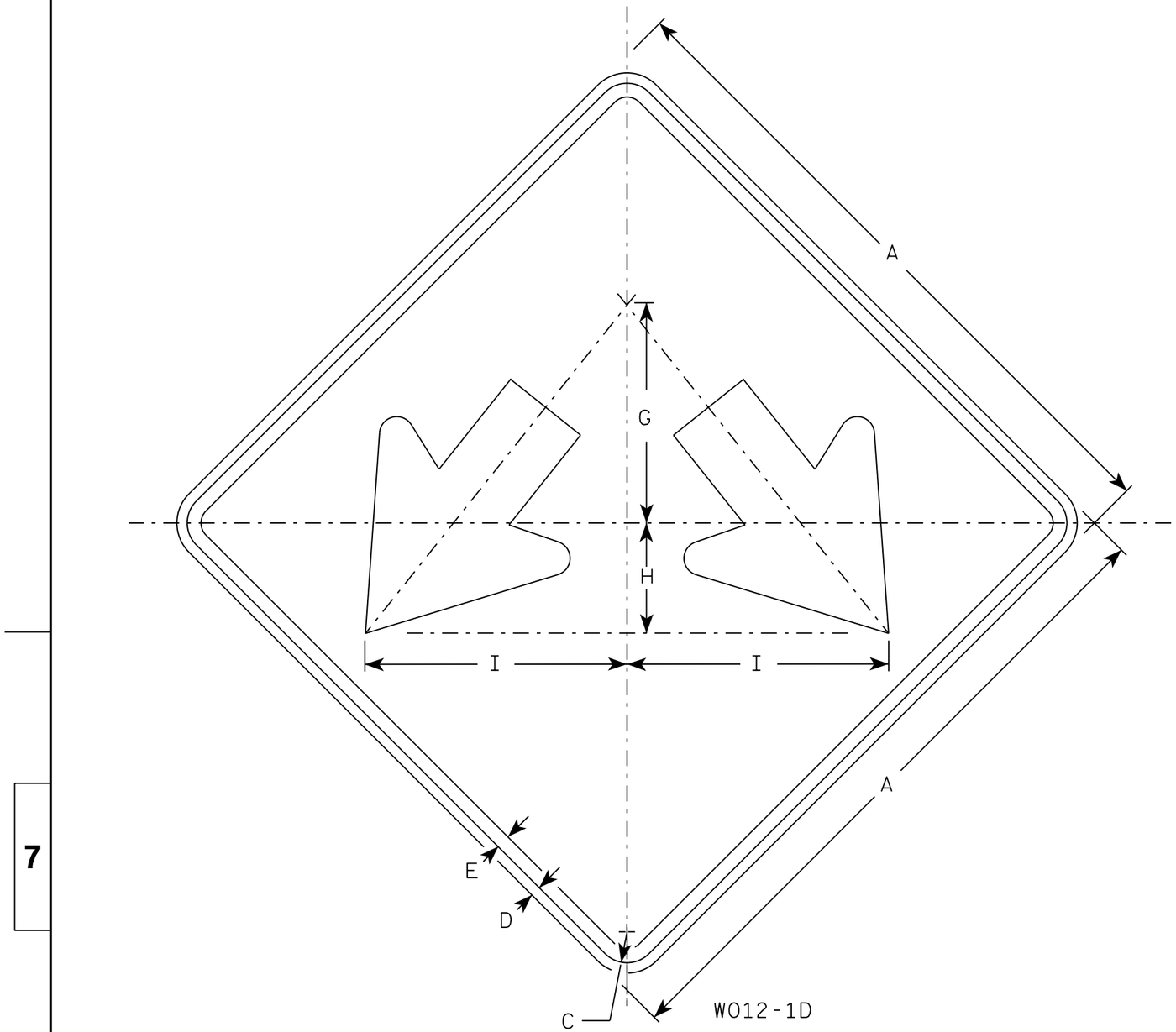
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 288 W04-2.1

PROJECT NO: | SHEET NO: E

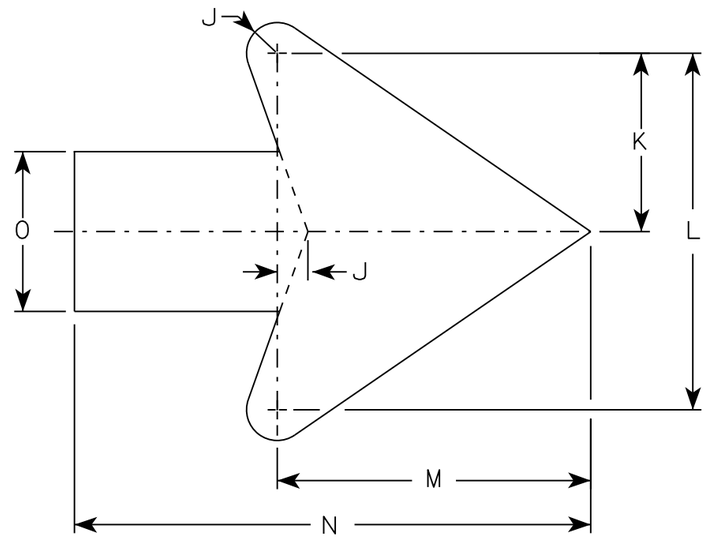
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W042.DGN PLOT DATE : 20-NOV-2013 11:43 PLOT BY : mscsja



W012-1D

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   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.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0

STANDARD SIGN
W012-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

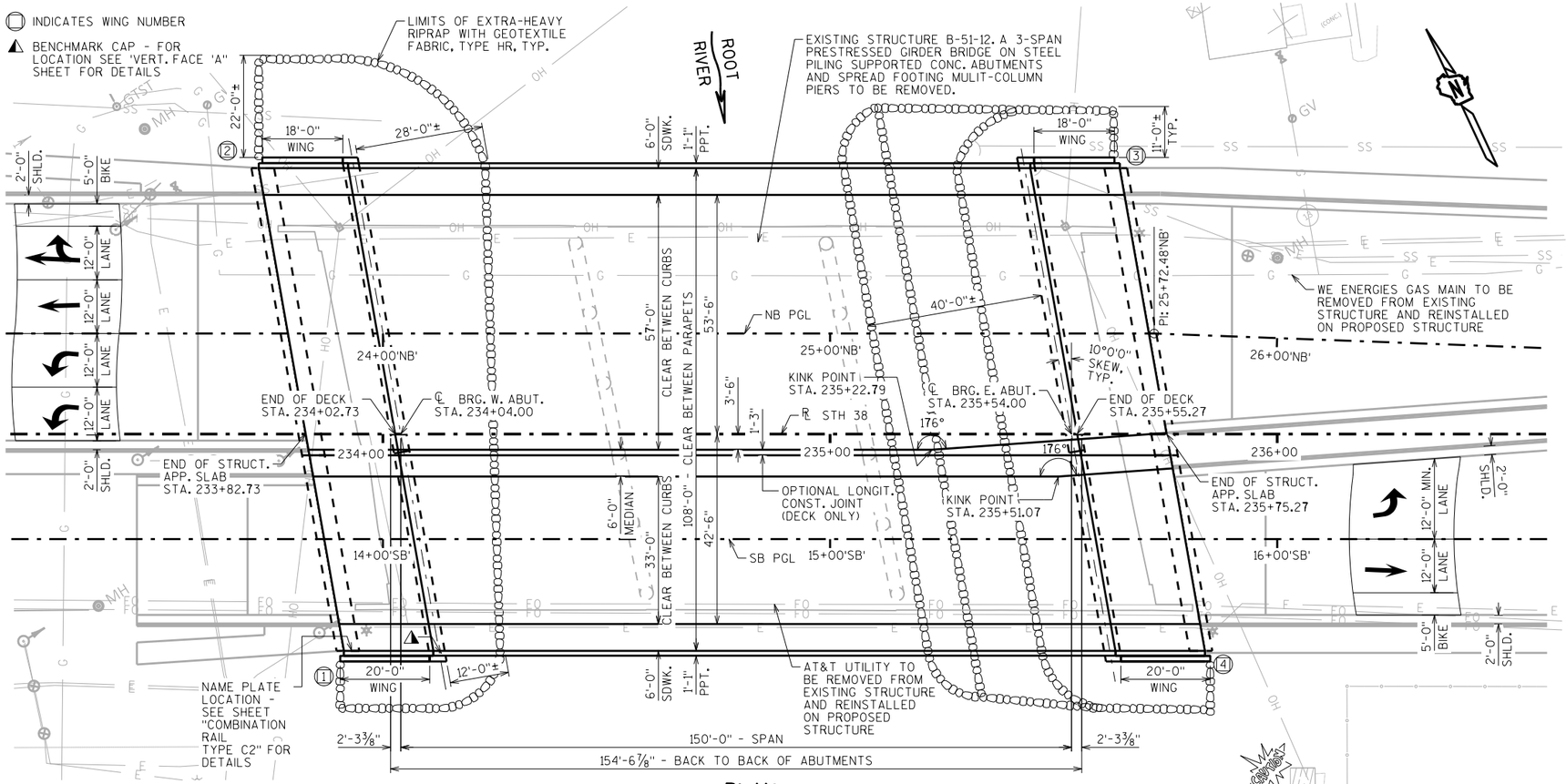
DATE 7/28/16 PLATE NO W012-1D.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CADfiles\Projects\tr_stdplate\W0121D.DGN PLOT DATE : 11-AUG-2016 11:28 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.621375:1.000000

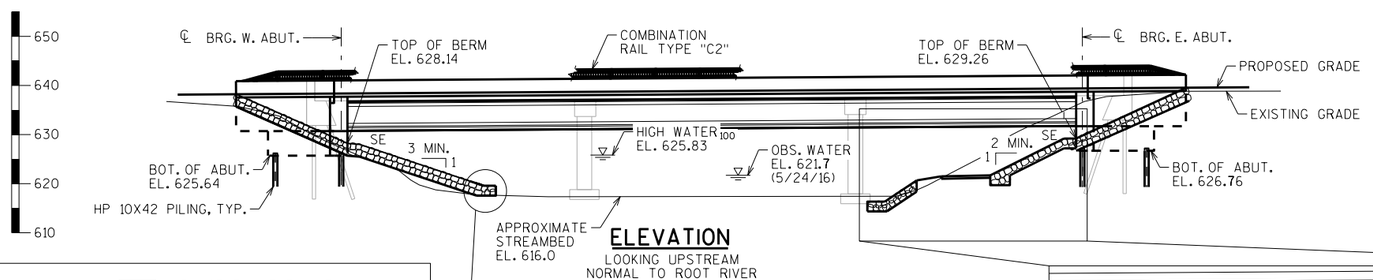
STATE PROJECT NUMBER

2290-03-73



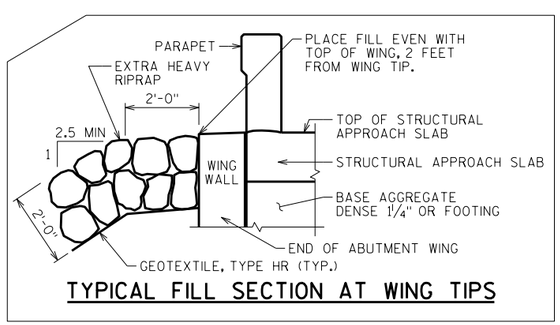
PLAN

SINGLE SPAN - 72W" PRESTRESSED GIRDER

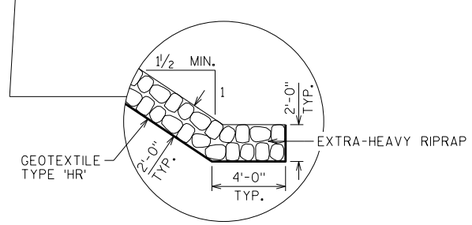


ELEVATION

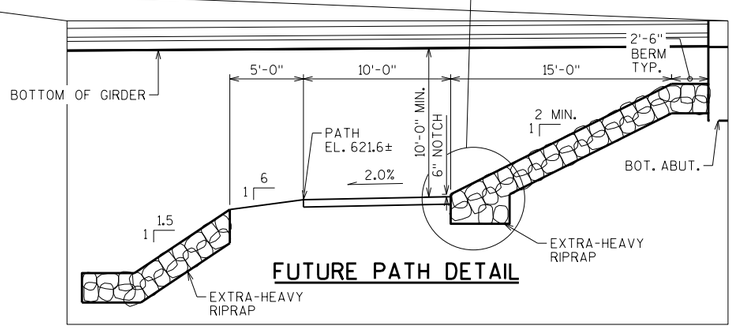
LOOKING UPSTREAM
NORMAL TO ROOT RIVER



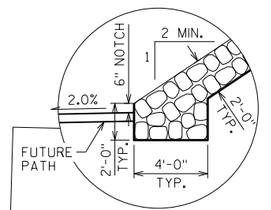
TYPICAL FILL SECTION AT WING TIPS



TOE OF SLOPE DETAIL



FUTURE PATH DETAIL



TOE OF SLOPE AT PATH DETAIL

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.29
OPERATING RATING FACTOR: RF = 2.19
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 250(KIPS)

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

STRUCTURE IS DESIGNED FOR UTILITIES UP TO 34 POUNDS PER LINEAL FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE & STRUCTURAL APPROACH SLAB — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT:
GRADE 60 — fy = 60,000 P.S.I.
STAINLESS, GRADE 60 — fy = 60,000 P.S.I.

72W" PRESTRESSED GIRDERS:
CONCRETE MASONRY — f'c = 8,000 P.S.I.
STRANDS: 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10X42 PILING SEATED IN PREBORED HOLES CORED A MINIMUM OF 3'-0" INTO BEDROCK. ESTIMATED 15'-0" LONG AT BOTH ABUTMENTS.

PILES PLACED IN PREBORED HOLES BORED INTO ROCK DO NOT REQUIRE DRIVING. PILING SHALL BE FIRMLY SEATED AFTER PLACEMENT. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 180 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5.

HYDRAULIC DATA

100 YEAR FREQUENCY

Q_{100} = 6,380 C.F.S.
$VEL._{100}$ = 7.96 F.P.S.
$HW._{100}$ = EL. 625.83
WATERWAY AREA = 801.50 SQ. FT.
DRAINAGE AREA = 186 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

2 YEAR FREQUENCY

Q_2 = 3,520 C.F.S.
$VEL._2$ = 6.22 F.P.S.
$HW._2$ = EL. 623.35

TRAFFIC VOLUME

STH 38

ADT = 34,700 (2042)
R.D.S. = 40 M.P.H.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. 72W" PRESTRESSED GIRDER DETAILS 1
9. 72W" PRESTRESSED GIRDER DETAILS 2
10. STEEL DIAPHRAGM
11. SUPERSTRUCTURE
12. SUPERSTRUCTURE DETAILS 1
13. SUPERSTRUCTURE DETAILS 2
14. SUPERSTRUCTURE DETAILS 3
15. VERTICAL FACE PARAPET "A"
16. COMBINATION RAIL TYPE "C2"
17. COMBINATION RAIL TYPE "C2" DETAILS
18. WEST STRUCT. APP. SLAB
19. EAST STRUCT. APP. SLAB
20. CONDUIT DETAILS
21. ALTERNATE CONSTRUCTION JOINT

STRUCTURE DESIGN CONTACTS:

STACIE WEIS (608) 261-6109
DOMINIQUE BECHLE (608) 261-8205

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED DMB 09/06/22
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-51-157

STH 38 OVER ROOT RIVER

COUNTY	VILLAGE MOUNT PLEASANT & CITY RACINE
RACINE	

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY SEW/TBB	DESIGNED CK'D. WAH	DRAWN BY SEW	PLANS CK'D. WAH

GENERAL PLAN

SHEET 1 OF 21

290

I.D. 2290-03-03A DATE: AUG. 2022

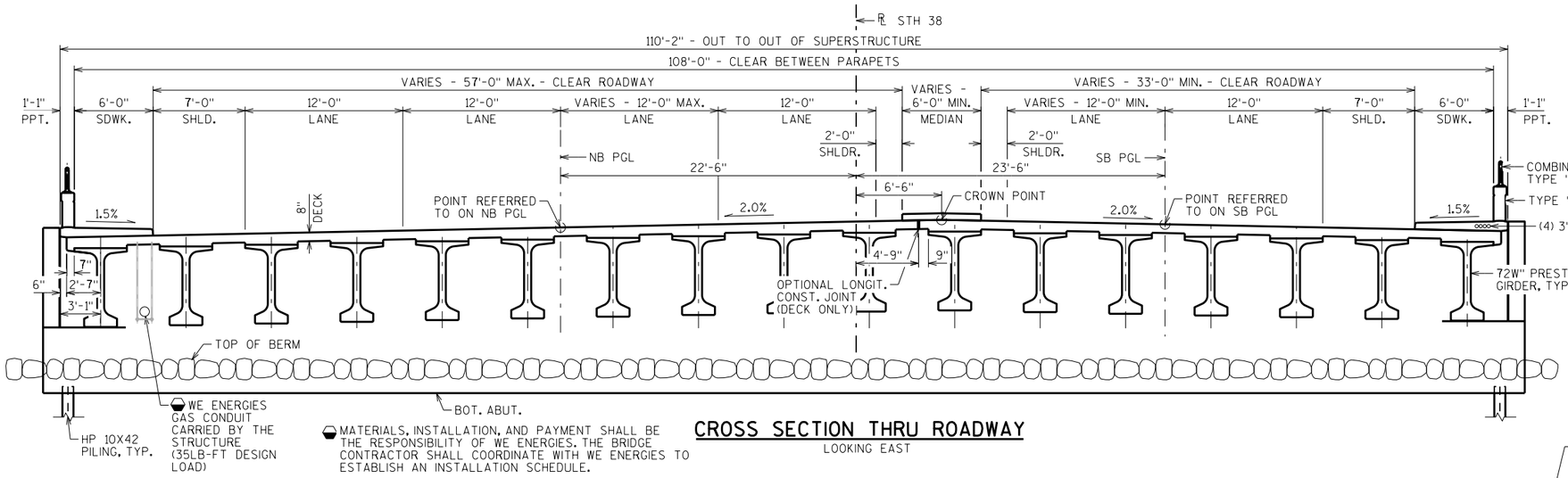
SCALE = 15.00

8

8

STATE PROJECT NUMBER

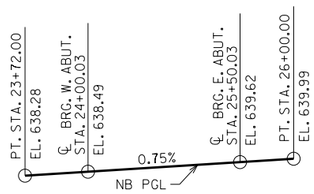
2290-03-73



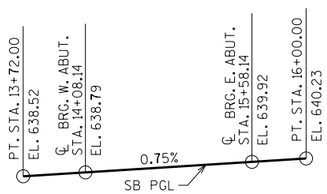
MATERIALS, INSTALLATION, AND PAYMENT SHALL BE THE RESPONSIBILITY OF WE ENERGIES. THE BRIDGE CONTRACTOR SHALL COORDINATE WITH WE ENERGIES TO ESTABLISH AN INSTALLATION SCHEDULE.

CROSS SECTION THRU ROADWAY

LOOKING EAST

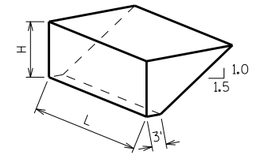


NB PROFILE GRADE LINE



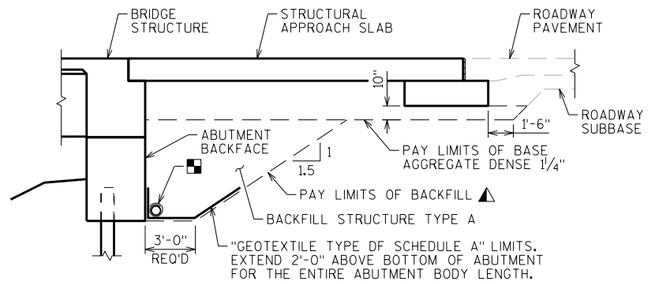
SB PROFILE GRADE LINE

NOTE:
STA. 23+72.00 NB PGL = STA. 233+72.00 ℄ STH 38
STA. 13+72.00 SB PGL = STA. 233+72.00 ℄ STH 38



ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY

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



TYPICAL SECTION THRU ABUTMENT

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

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

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER	W. STRUCT. APP. SLAB	WEST ABUT.	EAST ABUT.	E. STRUCT. APP. SLAB	CAT. 0090 *	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-51-12	EACH	---	---	---	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-51-157	EACH	---	---	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	---	---	750	750	---	---	1,500
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	---	340	---	---	340	---	680
502.0100	CONCRETE MASONRY BRIDGES	CY	816.7	154.2	112.8	113.1	154.2	---	1,351
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,900	245	---	---	245	---	2,390
502.3210	PIGMENTED SURFACE SEALER	SY	125	17	---	---	17	---	159
503.0172	PRESTRESSED GIRDER TYPE I 72W-INCH	LF	2,567	---	---	---	---	---	2,567
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	---	---	10,420	10,420	---	---	20,840
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	104,610	24,010	3,720	3,740	24,040	---	160,120
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	3,810	---	---	---	---	---	3,810
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	---	---	17	17	---	---	34
506.4000	STEEL DIAPHRAGMS B-51-157	EACH	32	---	---	---	---	---	32
513.7011	RAILING STEEL TYPE C2	LF	306	---	40	40	---	---	386
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	---	---	30	30	---	---	60
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	---	---	160	160	---	---	320
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	---	---	510	510	---	---	1,020
606.0400	RIPRAP EXTRA-HEAVY	CY	---	---	270	290	---	---	560
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	---	---	175	175	---	---	350
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	---	---	110	110	---	---	220
645.0120	GEOTEXTILE TYPE HR	SY	---	---	490	580	---	---	1,070
652.0135	CONDUIT RIGID METALLIC 3-INCH	LF	---	---	---	---	---	96	96
652.0235	CONDUIT RIGID NON-METALLIC SCHEDULE 40 3-INCH	LF	---	---	---	---	---	698	698
SPV.0090	REMOVING EXISTING STEEL PILING	LF	---	---	210	210	---	---	420
	NON-BID ITEMS								
	FILLER	SIZE	---	---	---	---	---		½", ¾", 1½"

* BID ITEMS ARE SOLELY REQUIRED TO CARRY AT&T UTILITIES. MATERIALS AND INSTALLATION ARE THE RESPONSIBILITY OF THE CONTRACTOR. PAYMENT FOR THE MATERIALS AND INSTALLATION IS THE RESPONSIBILITY OF AT&T.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-51-157" SHALL BE THE EXISTING GROUNDLINE.

AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A. ALSO EXCLUDED IS THE "BASE AGGREGATE DENSE 1 1/4-INCH" AS DETAILED ON THE STRUCTURAL APPROACH SLAB SHEETS.

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

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

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK AND APPROACH SLAB SURFACES AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENT DIAPHRAGMS AND THE SIDEWALKS AND MEDIAN.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS, INCLUDING PARAPETS ON APPROACH SLABS.

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

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

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE "72W PRESTRESSED GIRDER DETAILS 2" SHEET.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY SEW | PLANS CK'D. WAH

CROSS SECTION & QUANTITIES

SHEET 2

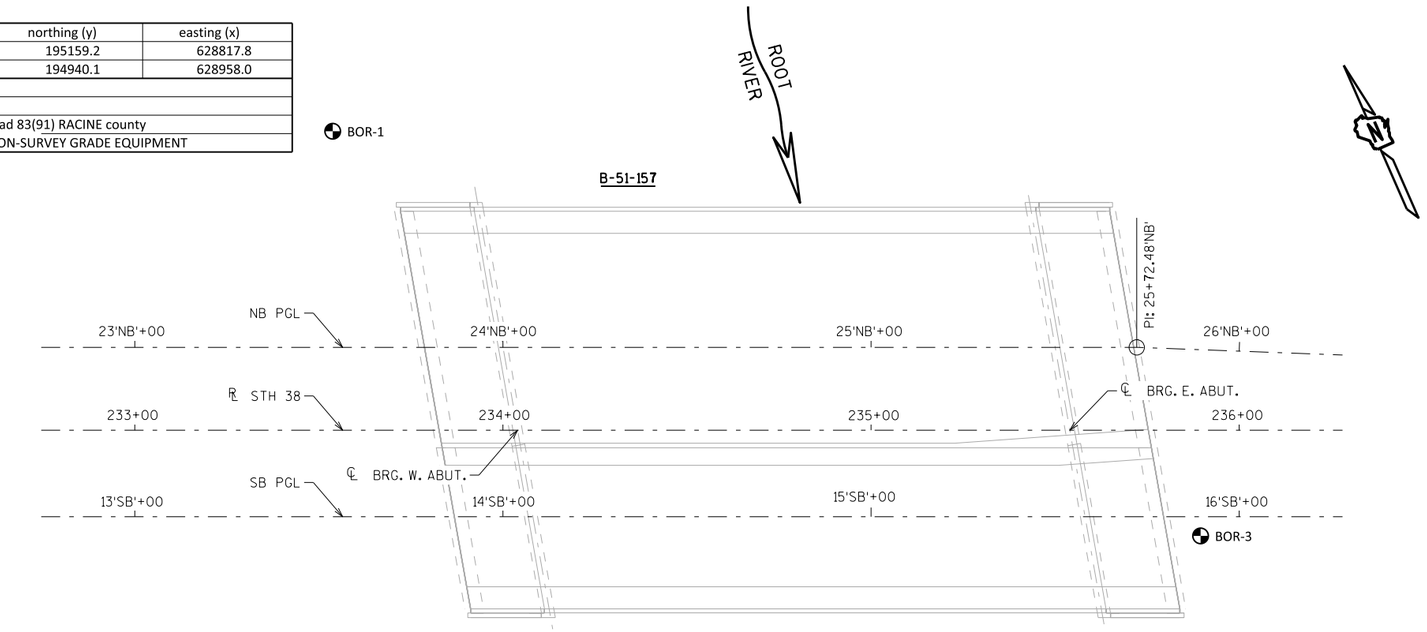
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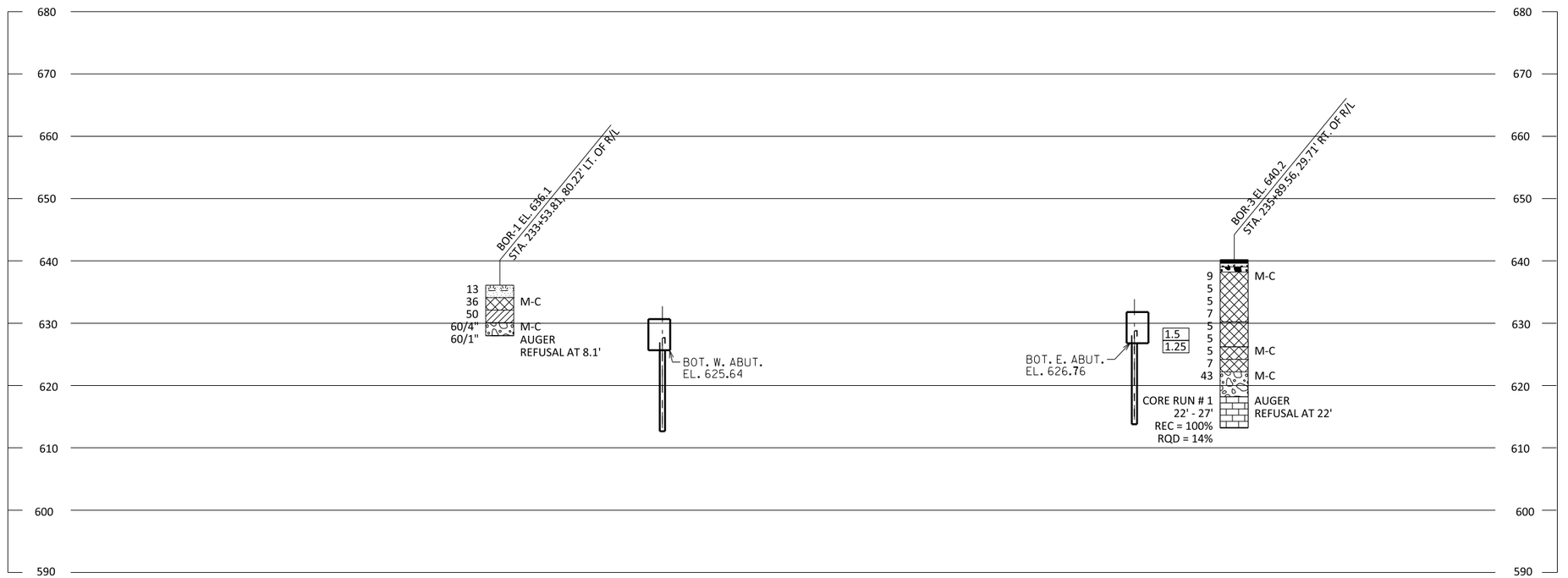
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boring #	date completed	northing (y)	easting (x)
1	10/12/2021	195159.2	628817.8
3	10/07/2021	194940.1	628958.0
borings completed by: GESTRA			
report completed by: WISDOT			
all coordinates referenced to wccs nad 83(91) RACINE county			
COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT			





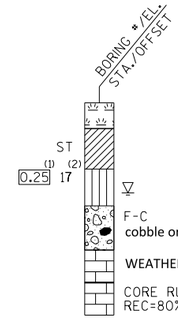
STATE PROJECT NUMBER

2290-03-73

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
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY TLP/SEW · PLANS CK'D. WAH

SUBSURFACE EXPLORATION

SHEET 3

292

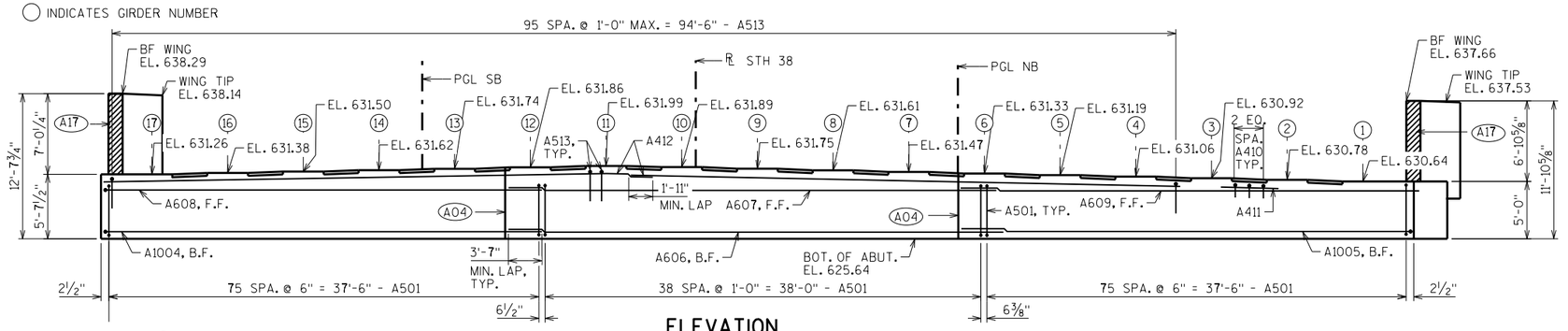
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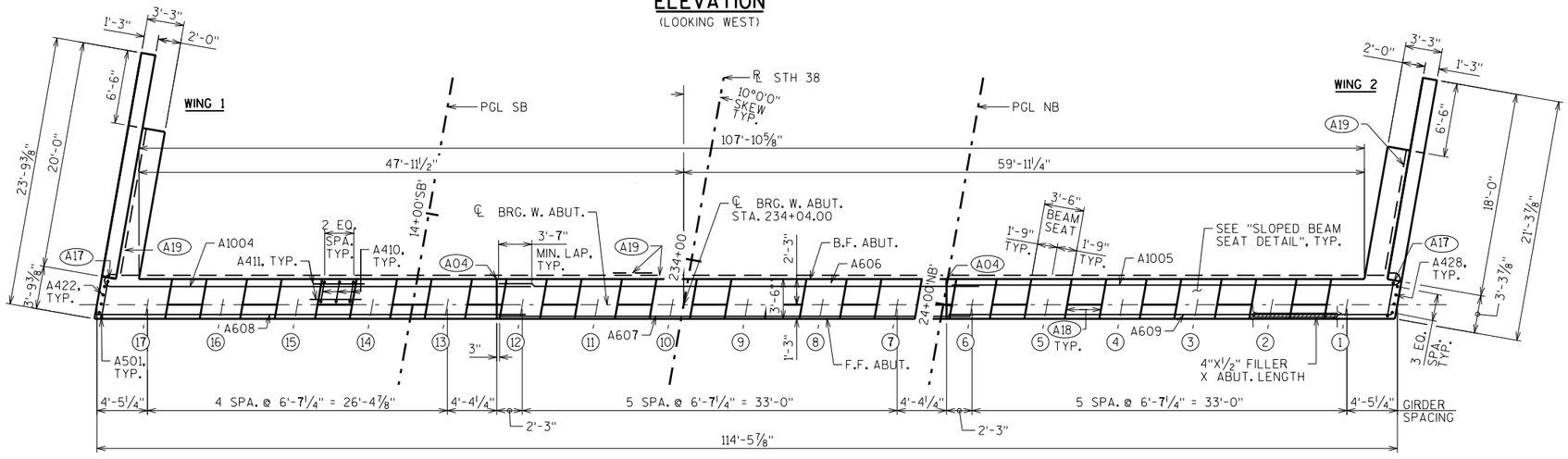
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STATE PROJECT NUMBER
2290-03-73

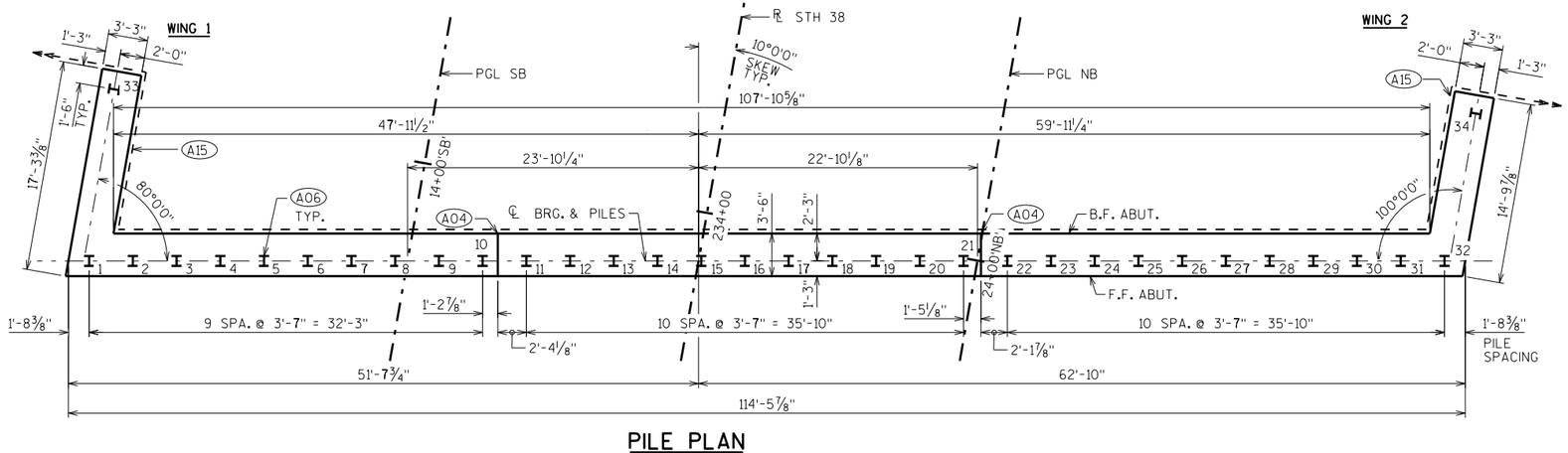
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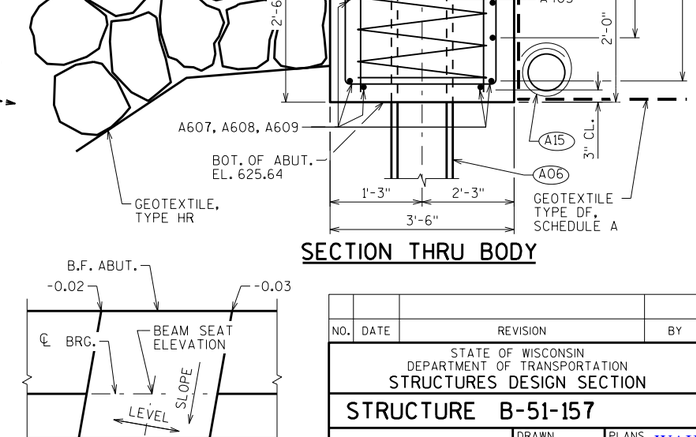
ELEVATION
(LOOKING WEST)



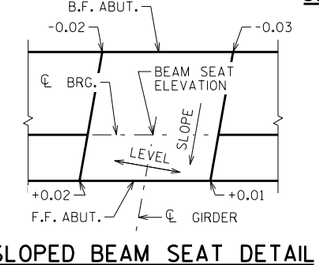
PLAN



PILE PLAN



SECTION THRU BODY



SLOPED BEAM SEAT DETAIL

(A04) VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

(A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 15'-0" LONG FIRMLY SEATED IN PRE-BORED HOLES CORED AT A MIN. OF 3'-0" INTO ROCK. PILE DRIVING IS NOT REQUIRED.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY SEW | PLANS CK'D. WAH

WEST ABUTMENT

SHEET 4

293

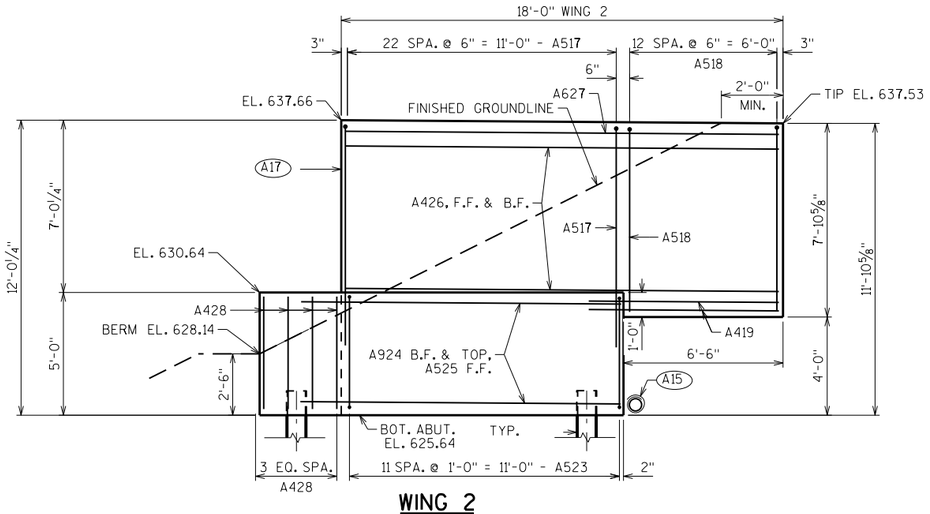
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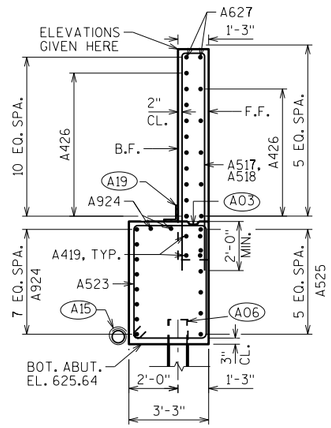
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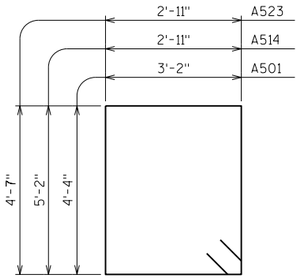
2290-03-73



WING 2



WING 2 SECTION

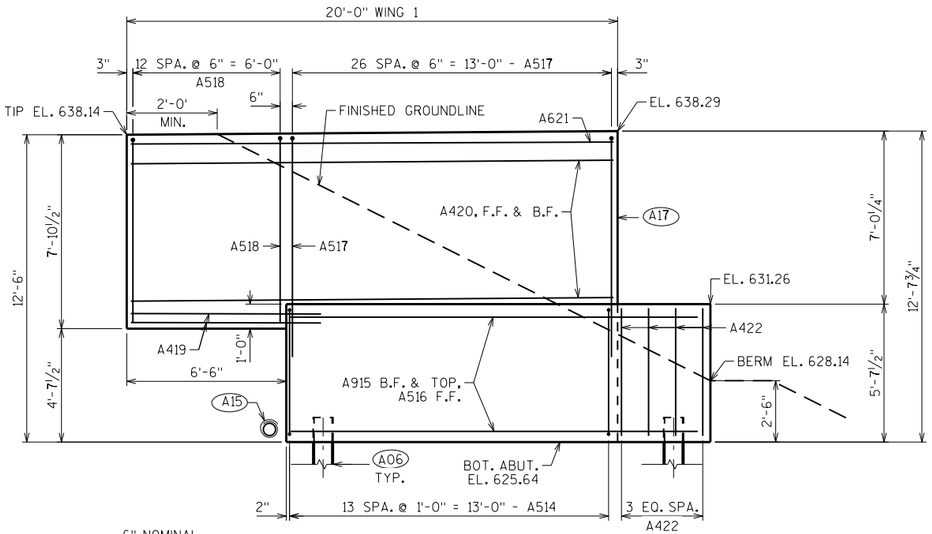


A501, A514, A523

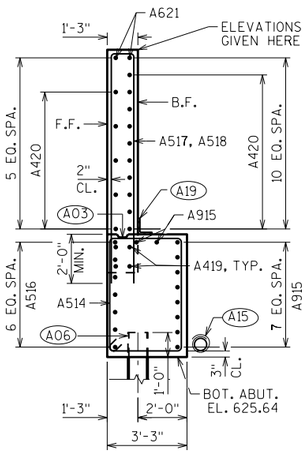
BILL OF BARS

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

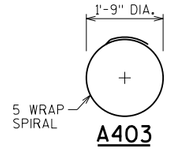
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		191	15'-8"	X		BODY - STIRRUP - VERT.
A402		64	2'-3"			PILE - 2 PER PILE - VERT.
A403		32	28'-0"	X		PILE - 1 PER PILE
A1004		8	39'-10"	X		BODY - HORIZ. - BF. - S. END
A1005		8	41'-1"	X		BODY - HORIZ. - BF. - N. END
A606		8	43'-3"			BODY - HORIZ. - BF - CENTER
A607		11	43'-3"			BODY - HORIZ. - FF - TOP & BOT. - CENTER
A608		11	39'-0"			BODY - HORIZ. - FF - TOP & BOT. - S. END
A609		11	39'-2"			BODY - HORIZ. - FF - TOP & BOT. - N. END
A410		48	4'-5"	X		BODY - TOP - BTWN GIRDERS - VERT.
A411		32	5'-1"			BODY - TOP - BTWN GIRDERS - HORIZ.
A412		8	48'-3"			BODY - TOP - HORIZ.
A513		96	7'-9"	X		BODY - TOP - VERT.
A514	X	14	16'-10"	X		WING 1 - BODY - STIRRUP - VERT.
A915	X	10	17'-3"	X		WING 1 - BODY - HORIZ. - BF & CENTER
A516	X	7	16'-9"			WING 1 - BODY - HORIZ. - FF
A517	X	50	18'-6"	X		WINGS 1 & 2 - UPPER - VERT.
A518	X	26	15'-6"	X		WINGS 1 & 2 - UPPER - VERT.
A419	X	8	7'-9"			WINGS 1 & 2 - UPPER - HORIZ.
A420	X	15	19'-8"			WING 1 - UPPER - HORIZ.
A621	X	2	19'-8"			WING 1 - UPPER - TOP - HORIZ.
A422	X	4	5'-2"			BODY - S. END
A523	X	12	15'-8"	X		WING 2 - BODY - STIRRUP - VERT.
A924	X	10	15'-10"	X		WING 2 - BODY - HORIZ. - BF & CENTER
A525	X	6	14'-5"			WING 2 - BODY - HORIZ. - FF
A426	X	15	17'-8"			WING 2 - UPPER - HORIZ.
A627	X	2	17'-8"			WING 2 - UPPER - TOP - HORIZ.
A428	X	4	4'-7"			BODY - N. END



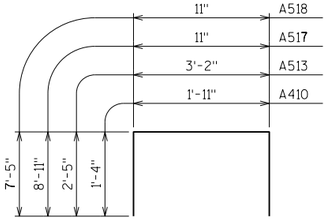
WING 1



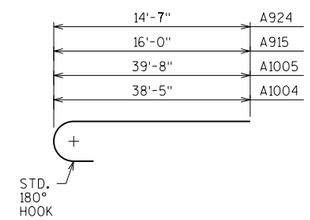
WING 1 SECTION



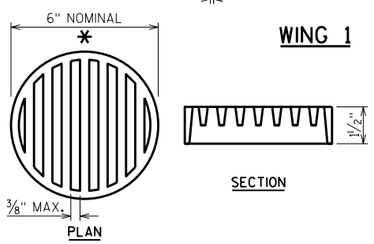
A403



A410, A513, A517, A518



A1004, A1005, A915, A924

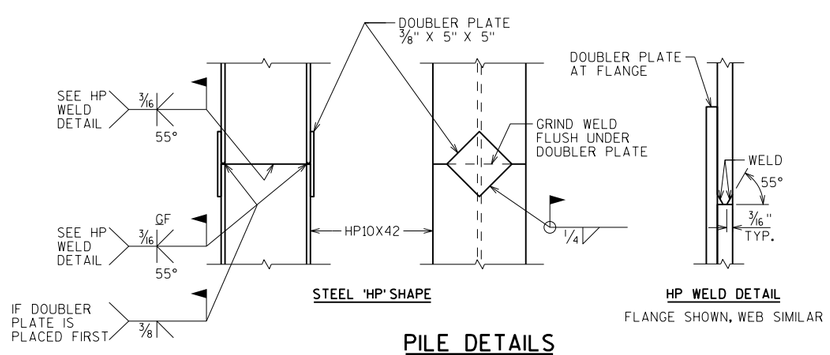


RODENT SHIELD DETAIL

* 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 STAINLESS STEEL SHEET METAL SCREWS.



PILE DETAILS

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

(A04) VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

(A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 15'-0" LONG FIRMLY SEATED IN PRE-BORED HOLES CORED AT A MIN. OF 3'-0" INTO ROCK. PILE DRIVING IS NOT REQUIRED.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY SEW | PLANS CK'D. WAH

WEST ABUTMENT DETAILS

SHEET 5

294

SCALE = 3.00

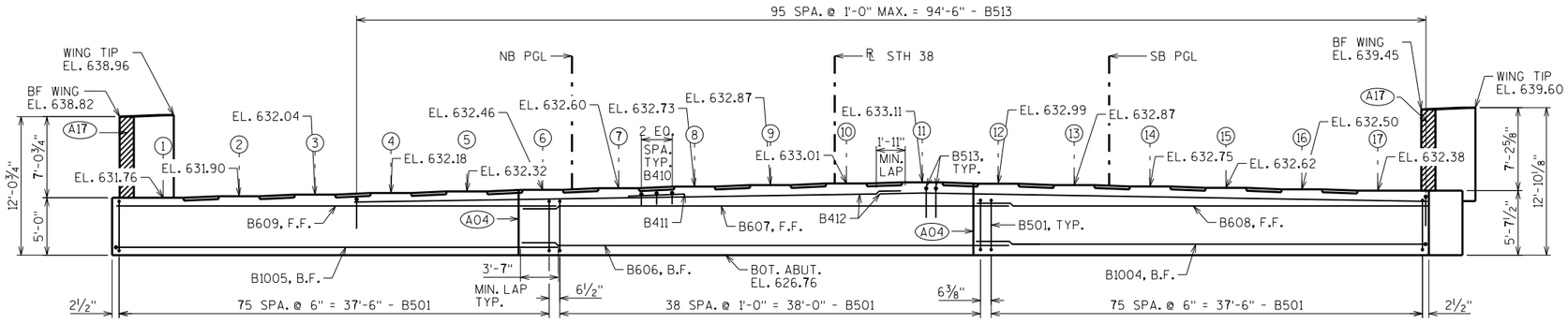
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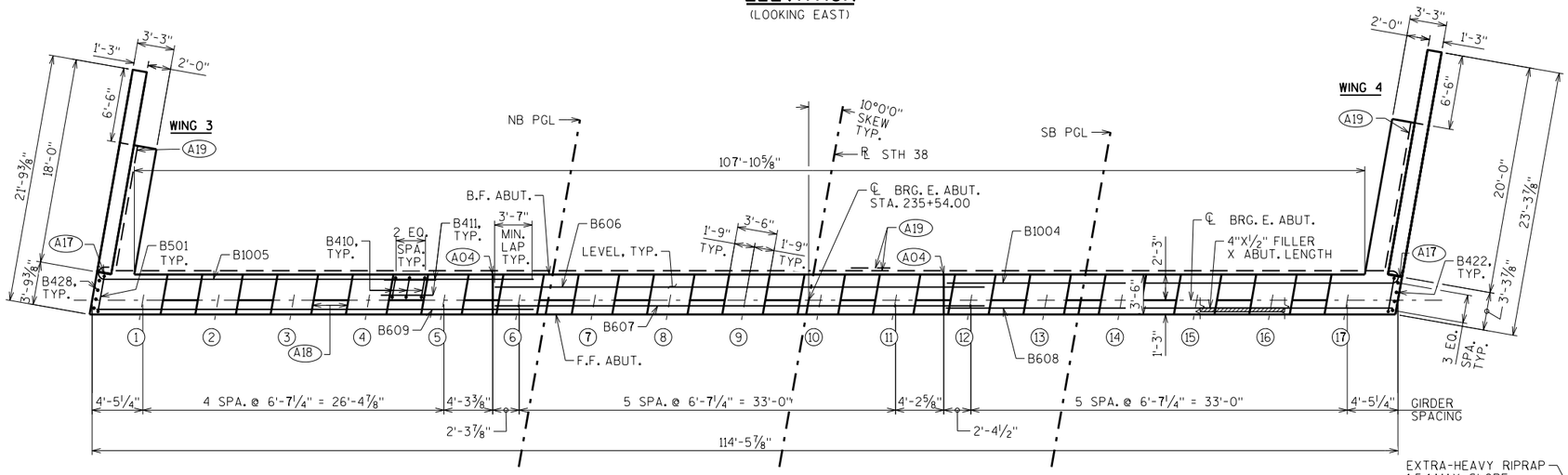
STATE PROJECT NUMBER

2290-03-73

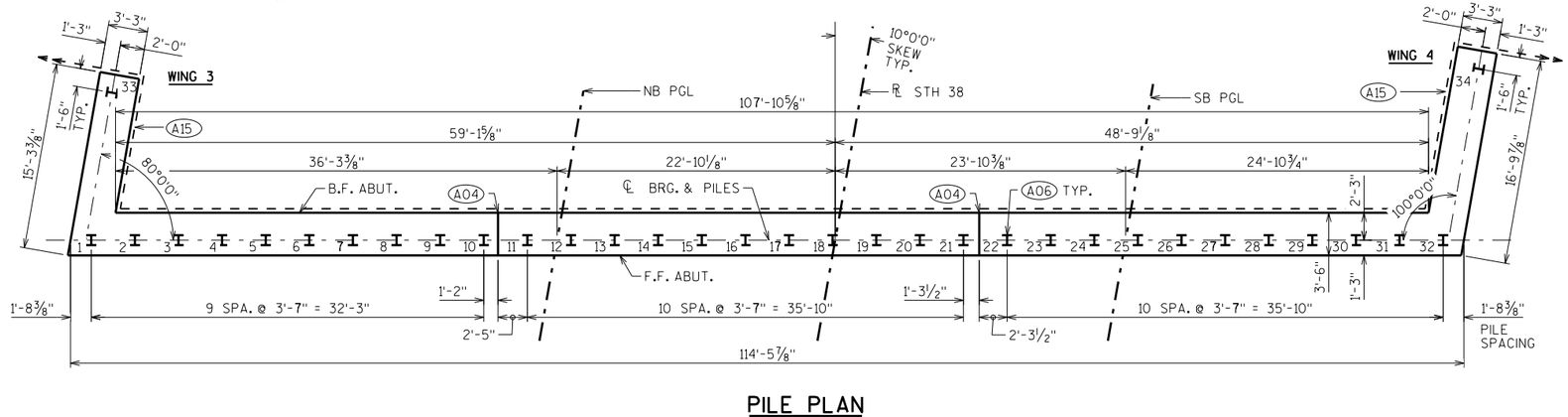
○ INDICATES GIRDER NUMBER



ELEVATION
(LOOKING EAST)



PLAN



PILE PLAN

(A04) VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

(A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 15'-0" LONG FIRMLY SEATED IN PRE-BORED HOLES CORED AT A MIN. OF 3'-0" INTO ROCK. PILE DRIVING IS NOT REQUIRED.

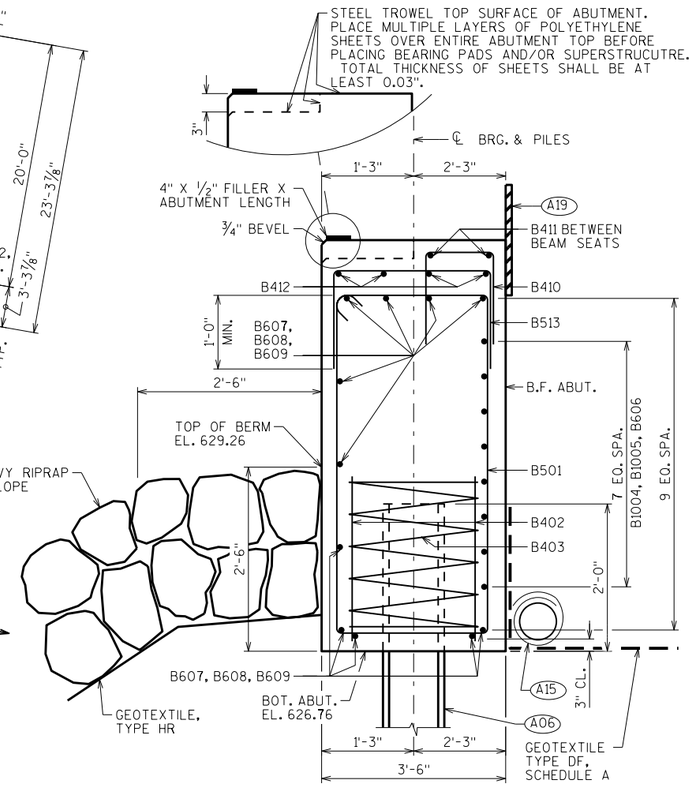
(A15) PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

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

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCUTRE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".



SECTION THRU BODY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY SEW | PLANS CK'D. WAH

EAST ABUTMENT

SHEET 6

295

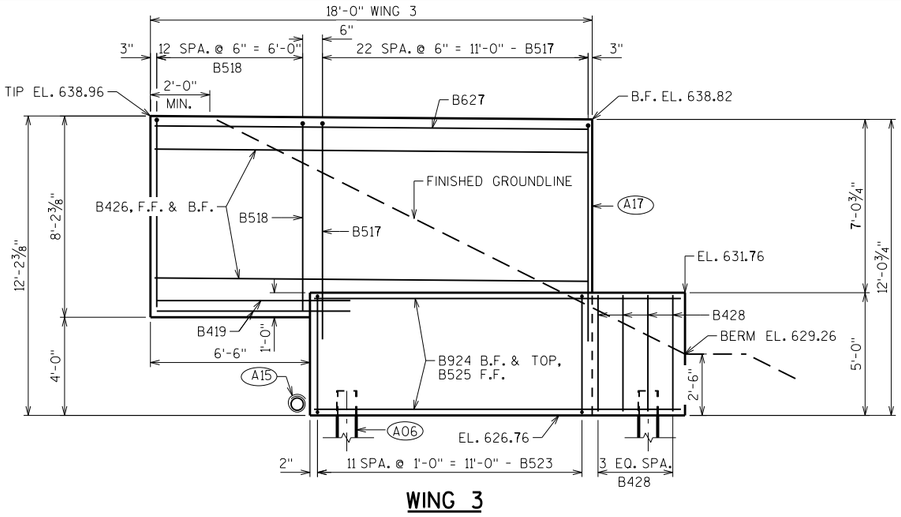
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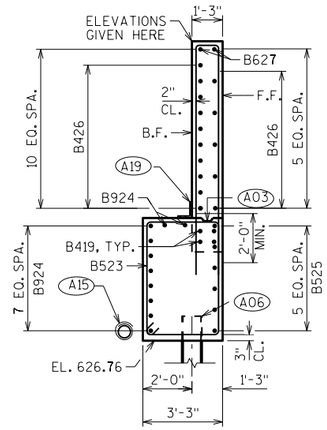
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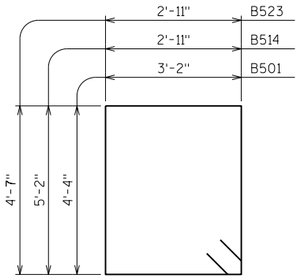
2290-03-73



WING 3



WING 3 SECTION

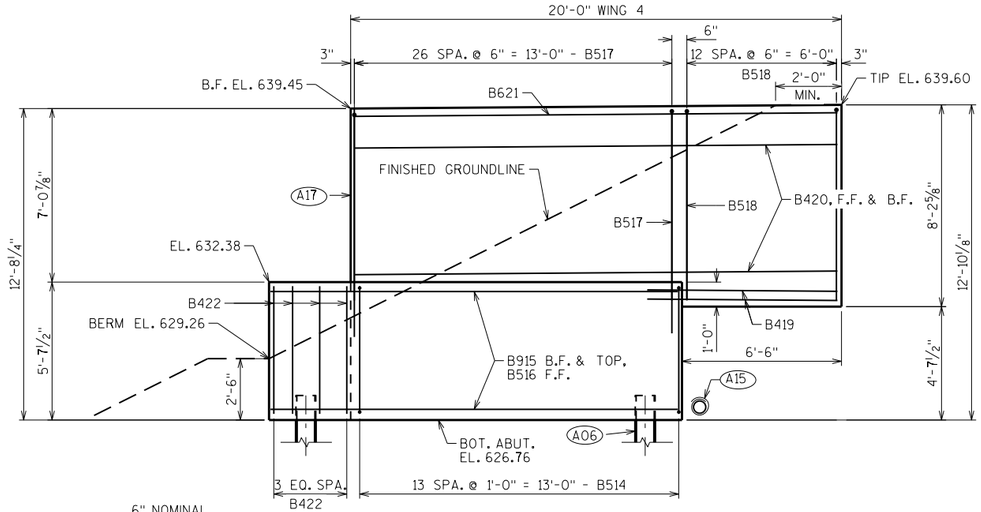


B501, B514, B523

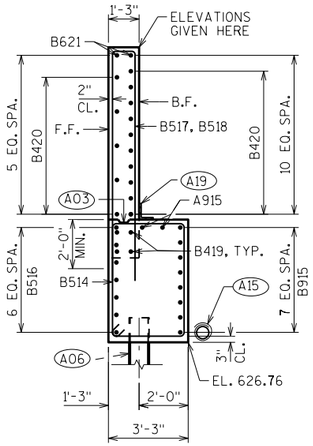
BILL OF BARS

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

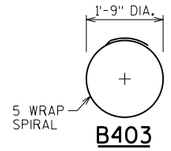
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		191	15'-8"	X		BODY - STIRRUP - VERT.
B402		64	2'-3"			PILE - 2 PER PILE - VERT.
B403		32	28'-0"	X		PILE - 1 PER PILE
B1004		8	41'-3"	X		BODY - HORIZ. - BF. - S. END
B1005		8	39'-9"	X		BODY - HORIZ. - BF. - N. END
B606		8	43'-2"			BODY - HORIZ. - BF - CENTER
B607		11	43'-2"			BODY - HORIZ. - FF - TOP & BOT. - CENTER
B608		11	39'-4"			BODY - HORIZ. - FF - TOP & BOT. - S. END
B609		11	39'-0"			BODY - HORIZ. - FF - TOP & BOT. - N. END
B410		48	4'-5"	X		BODY - TOP - BTWN GIRDERS - VERT.
B411		32	5'-1"			BODY - TOP - BTWN GIRDERS - HORIZ.
B412		8	48'-3"			BODY - TOP - HORIZ.
B513		96	7'-9"	X		BODY - TOP - VERT.
B514	X	14	16'-10"	X		WING 4 - BODY - STIRRUP - VERT.
B915	X	10	17'-3"	X		WING 4 - BODY - HORIZ. - BF & CENTER
B516	X	7	16'-5"			WING 4 - BODY - HORIZ. - FF
B517	X	50	18'-8"	X		WINGS 3 & 4 - UPPER - VERT.
B518	X	26	16'-2"	X		WINGS 3 & 4 - UPPER - VERT.
B419	X	8	7'-9"			WINGS 3 & 4 - UPPER - HORIZ.
B420	X	15	19'-8"			WING 4 - UPPER - HORIZ.
B621	X	2	19'-8"			WING 4 - UPPER - TOP - HORIZ.
B422	X	4	5'-2"			BODY - S. END
B523	X	12	15'-8"	X		WING 3 - BODY - STIRRUP - VERT.
B924	X	10	15'-6"	X		WING 3 - BODY - HORIZ. - BF & CENTER
B525	X	6	14'-9"			WING 3 - BODY - HORIZ. - FF
B426	X	15	17'-8"			WING 3 - UPPER - HORIZ.
B627	X	2	17'-8"			WING 3 - UPPER - TOP - HORIZ.
B428	X	4	4'-7"			BODY - N. END



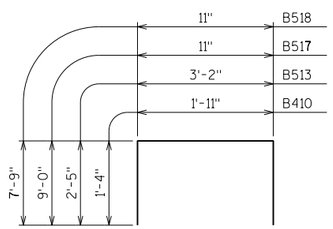
WING 4



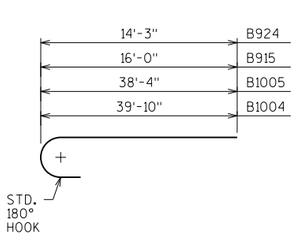
WING 4 SECTION



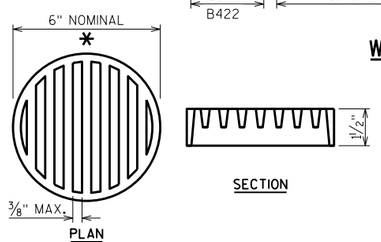
B403



B410, B513, B517, B518



B1004, B1005, B915, B924

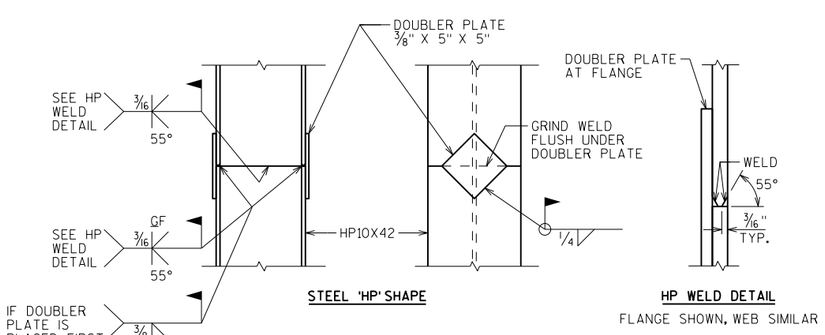


RODENT SHIELD DETAIL

* 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 STAINLESS STEEL SHEET METAL SCREWS.



PILE DETAILS

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

(A04) VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

(A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 15'-0" LONG FIRMLY SEATED IN PRE-BORED HOLES CORED AT A MIN. OF 3'-0" INTO ROCK. PILE DRIVING IS NOT REQUIRED.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

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EAST ABUTMENT DETAILS

SHEET 7

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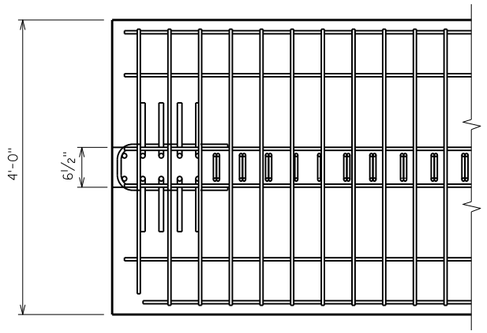
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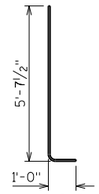
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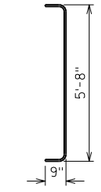
STATE PROJECT NUMBER

2290-03-73

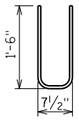




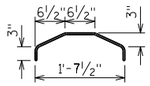
#6 BAR
2 @ EACH END



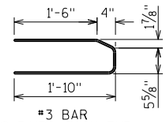
#6 BAR
8 @ EACH END



#5 BAR
1 @ EACH END



#3 BAR
3 @ EACH END
(EPOXY COATED)



#3 BAR
29 PAIRS EACH END
(EPOXY COATED)

NOTES

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

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

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

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

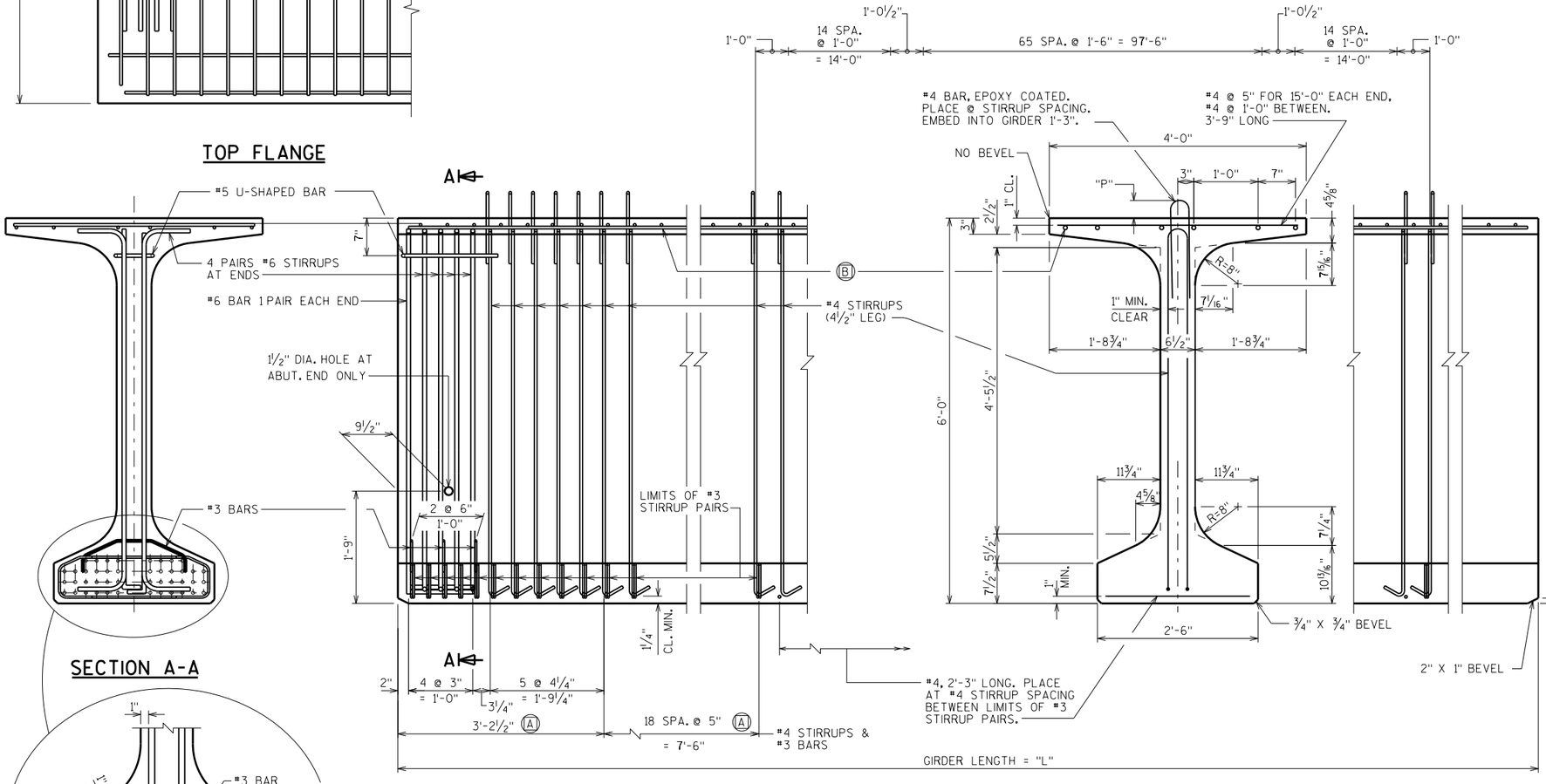
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

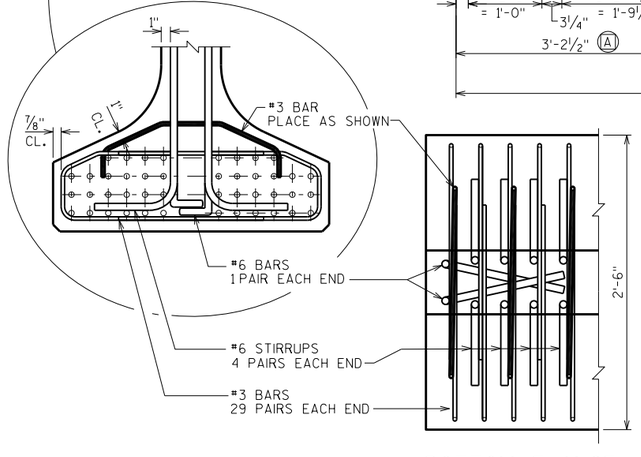
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

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

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

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





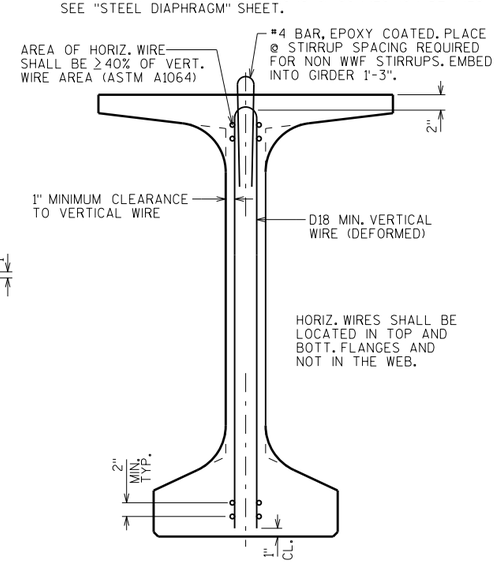
BOTTOM FLANGE

SECTION A-A

SIDE VIEW & TYP. SECTION IN SPAN

(A) DETAIL TYP. AT EACH END

(B) 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-8"



SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS ASTM A1064 (FY = 70 KSI)

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

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L" (FEET)	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" (IN.) 1ST 1/3 OF GIRDER	MID 1/3 OF GIRDER	END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳
1	ALL	151	0.8	1.5	2.0	2.4	2.5	2.4	2.0	1.5	0.8	8,000	9	8	9	0.6	46	6,800	67	20.5	23.5	5		

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

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72W" PRESTRESSED GIRDER DETAILS 1

SHEET 8

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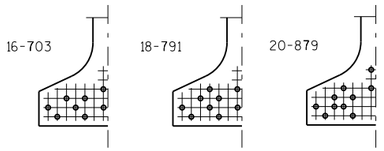
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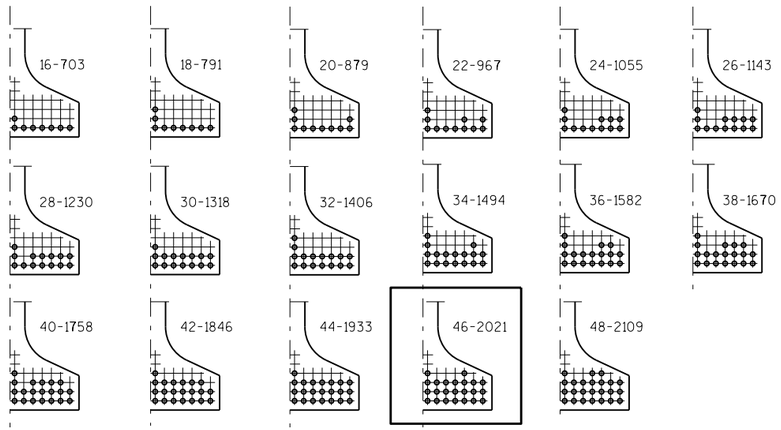
STATE PROJECT NUMBER

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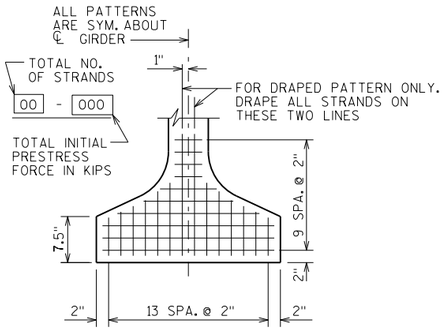
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6" DIA. STRANDS

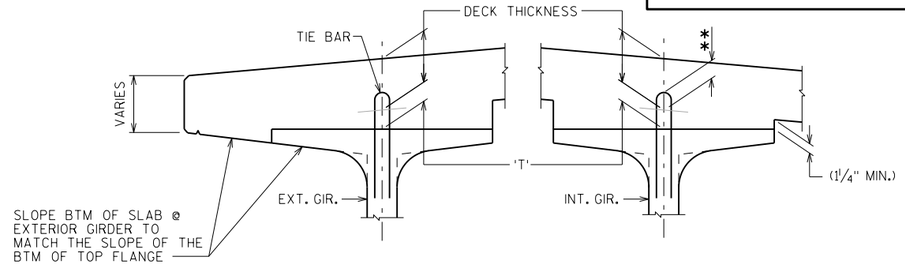


ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6" DIA. STRANDS



TYP. STRAND PATTERN



DECK HAUNCH DETAIL

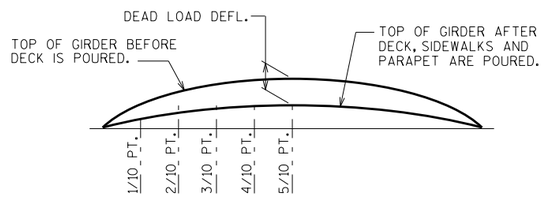
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

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

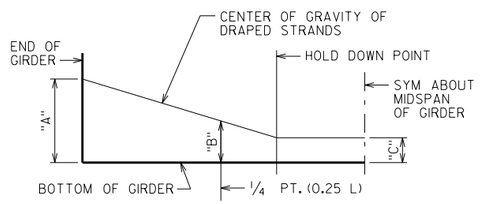
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

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

NOTE: AN AVERAGE HAUNCH ('T') OF 3.5" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE

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

SPAN	CAMBER (IN.) *
1	4.54

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

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

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STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY SEW | PLANS CK'D. WAH

72W" PRESTRESSED GIRDER DETAILS 2

SHEET 9

298

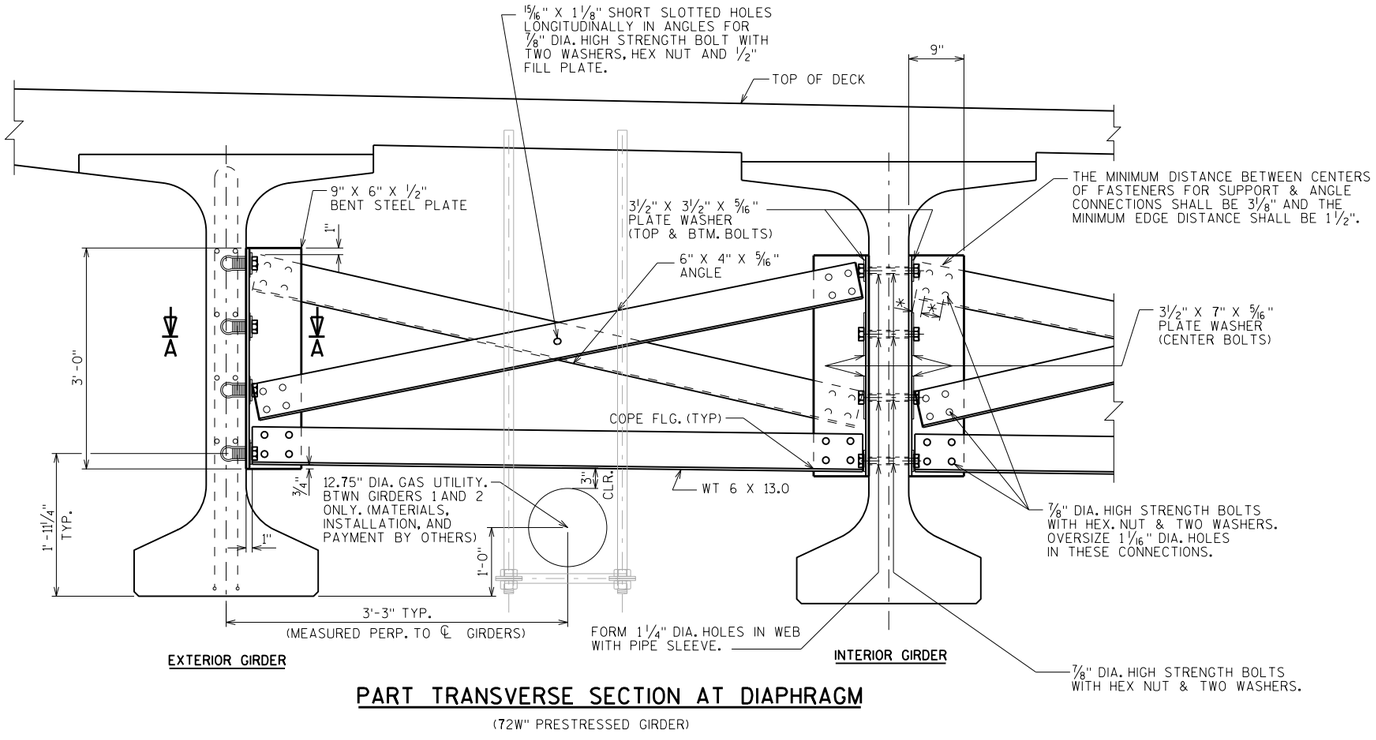
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SCALE = 1.00

STATE PROJECT NUMBER

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PART TRANSVERSE SECTION AT DIAPHRAGM

(72W" PRESTRESSED GIRDER)

NOTES

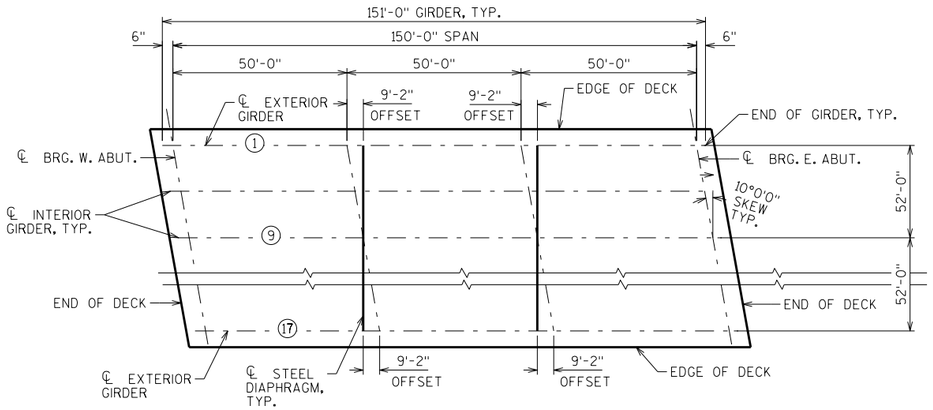
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-51-157", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

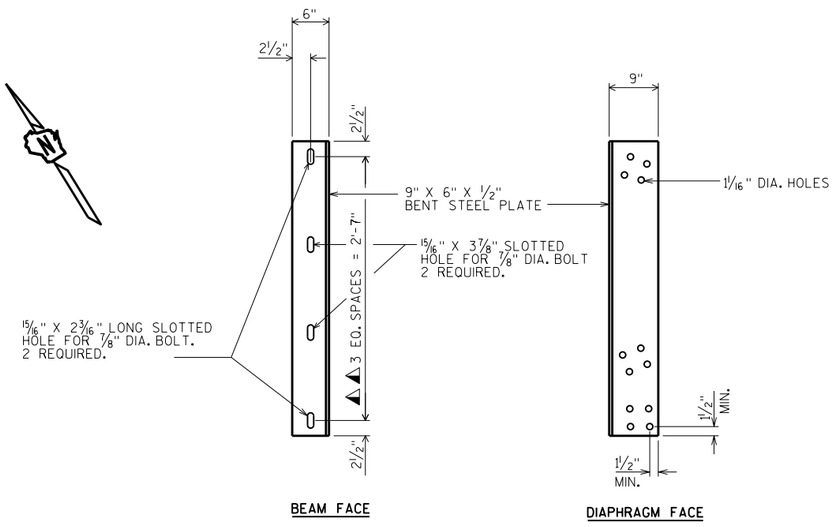
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

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

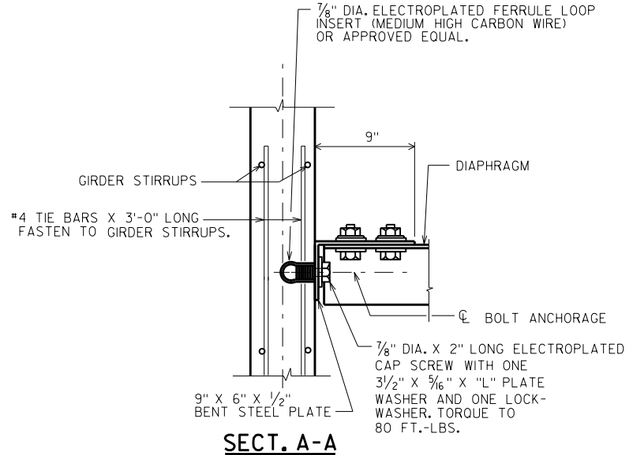


DIAPHRAGM PLAN

○ INDICATES GIRDER NUMBER



DIAPHRAGM SUPPORT



SECT. A-A

(FOR EXTERIOR ATTACHMENT)

"L" = 3 1/2"; TOP AND BOTTOM BOLTS
"L" = 7"; CENTER BOLTS

▲▲ BOLT HOLES SHALL BE SPACED SO AS TO MISS PRESTRESSED STRANDS IN CONCRETE BEAMS.

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STRUCTURE B-51-157

DRAWN BY SEW | PLANS CK'D. WAH

STEEL DIAPHRAGM

SHEET 10

299

SCALE = 1.00

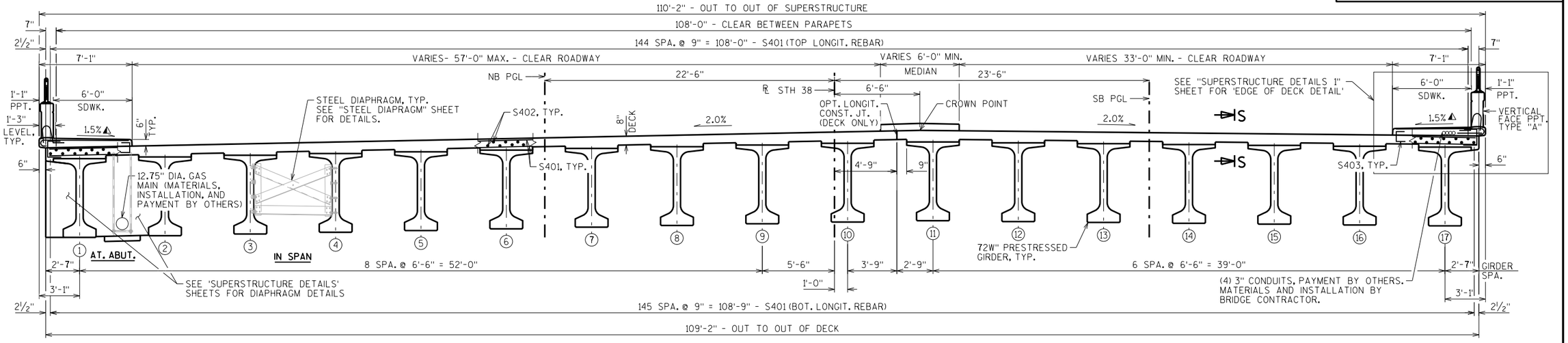
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STATE PROJECT NUMBER

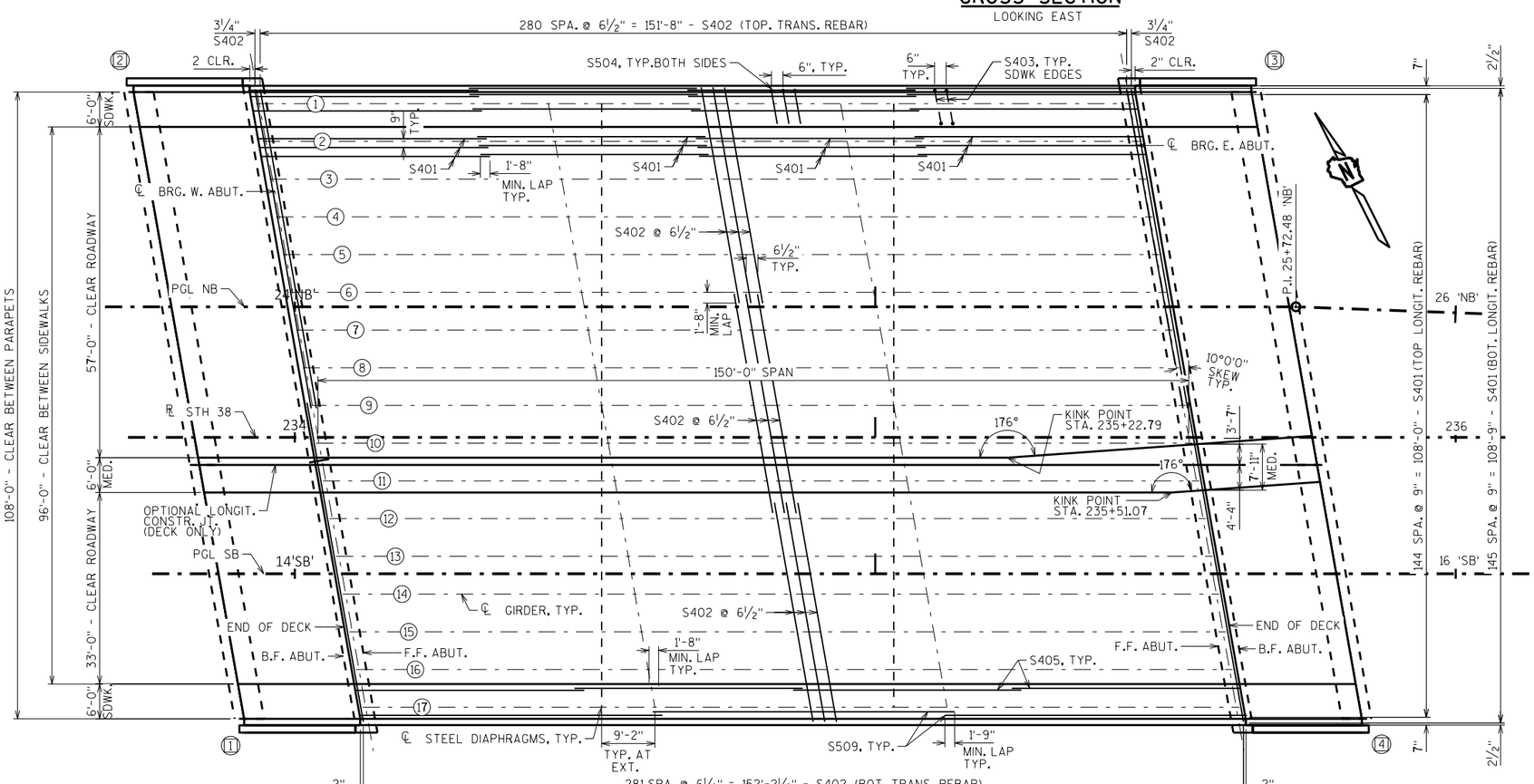
2290-03-73

⚠ CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

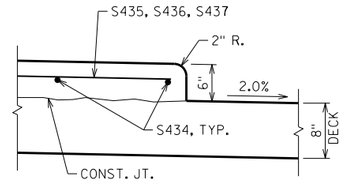


CROSS SECTION

LOOKING EAST

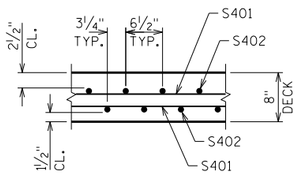


PLAN



MEDIAN REINFORCEMENT DETAIL

CLEAN ALL LOOSE MATERIAL ON THE DECK AT THE MEDIAN LOCATION PRIOR TO MEDIAN PLACEMENT USING HIGH PRESSURE WATER OR AIR, ENSURING ALL FREE-STANDING WATER IS REMOVED PRIOR TO MEDIAN PLACEMENT. NEAT CEMENT IS REQUIRED AS PER 509.3.9.2 OF THE STANDARD SPECIFICATIONS UNLESS THE MEDIAN IS POURED WITHIN 45 DAYS OF COMPLETING THE DECK POUR.



SECTION S-S

○ INDICATES GIRDER NUMBER

⬡ INDICATES WING NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY SEW | PLANS CK'D. WAH

SUPERSTRUCTURE

SHEET 11

300

SCALE = 11.50

8

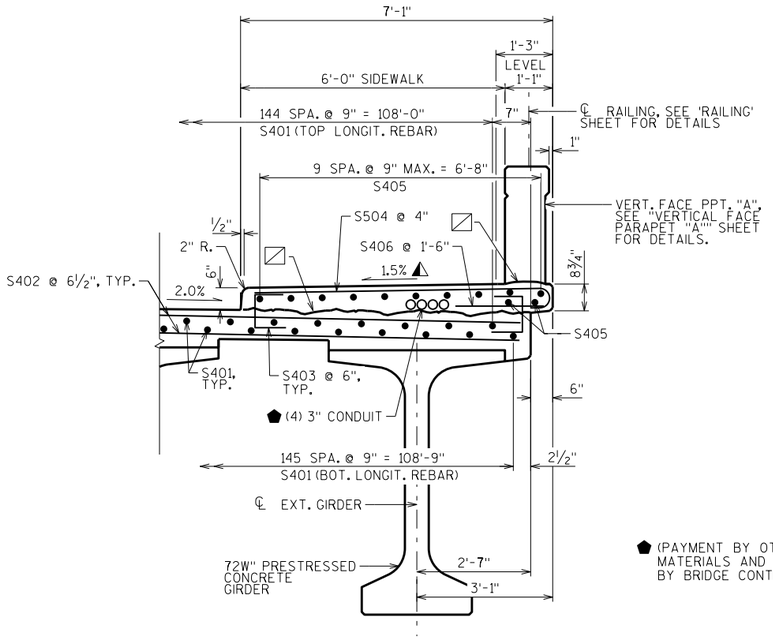
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STATE PROJECT NUMBER

2290-03-73

▲ CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

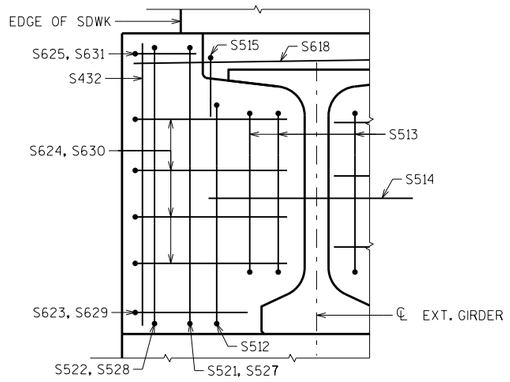
▨ CONSTR. JT. - STRIKE OFF AS SHOWN AND LEAVE ROUGH



⬟ (PAYMENT BY OTHERS. MATERIALS AND INSTALLATION BY BRIDGE CONTRACTOR.)

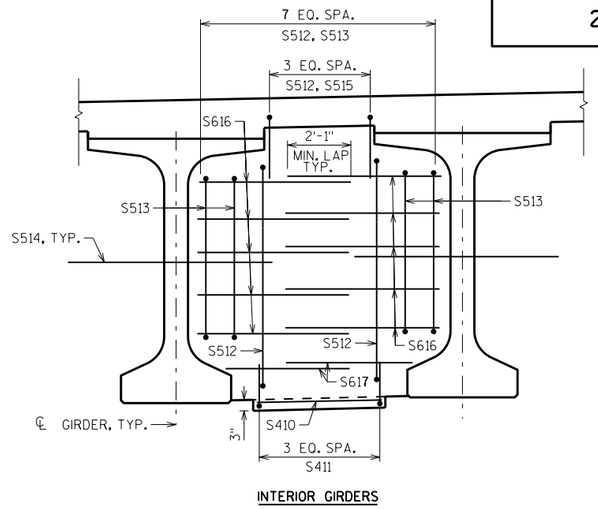
EDGE OF DECK DETAIL

SOUTH SIDEWALK SHOWN. NORTH SIDEWALK SIMILAR



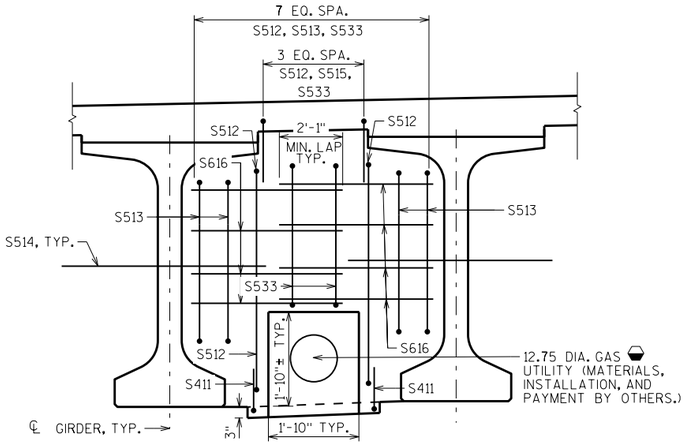
EXTERIOR GIRDERS

SEE "SUPERSTRUCTURE DETAILS 2" FOR SIDEWALK/DIAPHRAGM REBAR



INTERIOR GIRDERS

ABUT. DIAPHRAGM

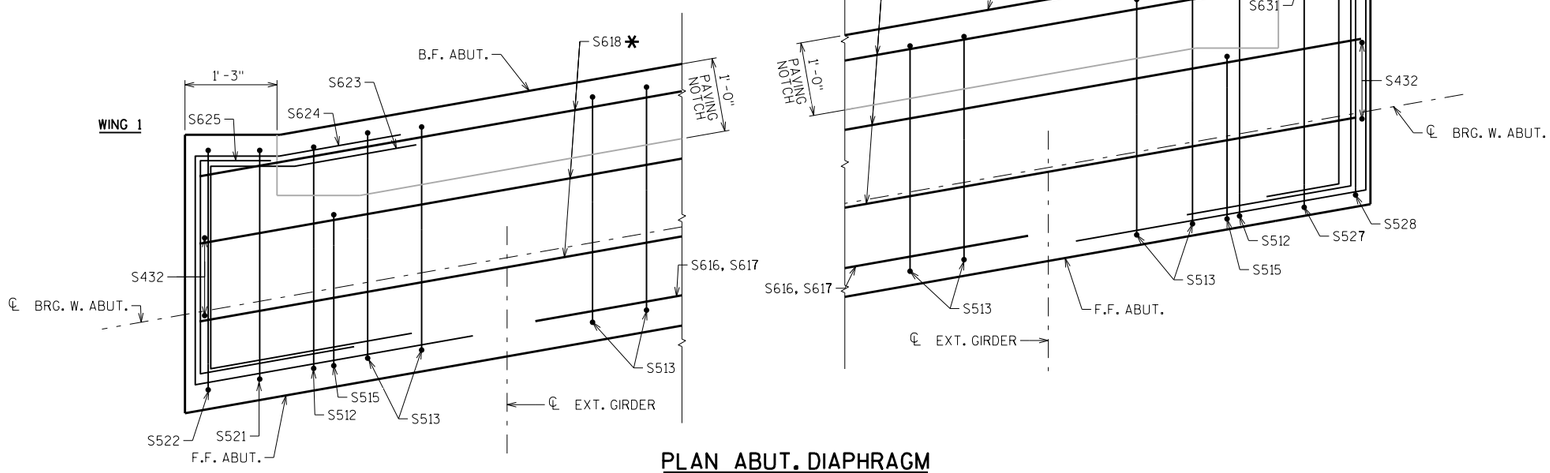


12.75 DIA. GAS ⬙ UTILITY (MATERIALS, INSTALLATION, AND PAYMENT BY OTHERS.)

ABUT. DIA. UTILITY BLOCKOUT

BTWN. GIRDERS 1 AND 2 ONLY

⬙ CONTRACTOR SHALL COORDINATE BLOCKOUTS IN ABUTMENT DIAPHRAGMS AS REQUIRED FOR THE WE ENERGIES UTILITY. WRAP UTILITY IN ⅜" THICK COMPRESSIBLE EXPANSION MATERIAL AT CONCRETE DIAPHRAGMS AND GROUT BLOCKOUTS FULL AFTER INSTALLATION OF CONDUIT. USE NON-SHRINK GROUT FROM THE DEPARTMENT'S APPROVED PRODUCTS LIST. EXPANSION MATERIAL AND GROUT INCIDENTAL TO "CONCRETE MASONRY BRIDGES".



PLAN ABUT. DIAPHRAGM

WEST ABUT. SHOWN, EAST ABUT. SIMILAR

SEE "SUPERSTRUCTURE DETAILS 2" FOR SIDEWALK/DIAPHRAGM REBAR

✱ (3) BARS PER ROW, 2'-1" MIN. LAP. FIELD CUT AT UTILITY BLOCK-OUT AS DIRECTED BY THE ENGINEER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY SEW | PLANS CK'D. WAH

SUPERSTRUCTURE DETAILS 1

SHEET 12

301

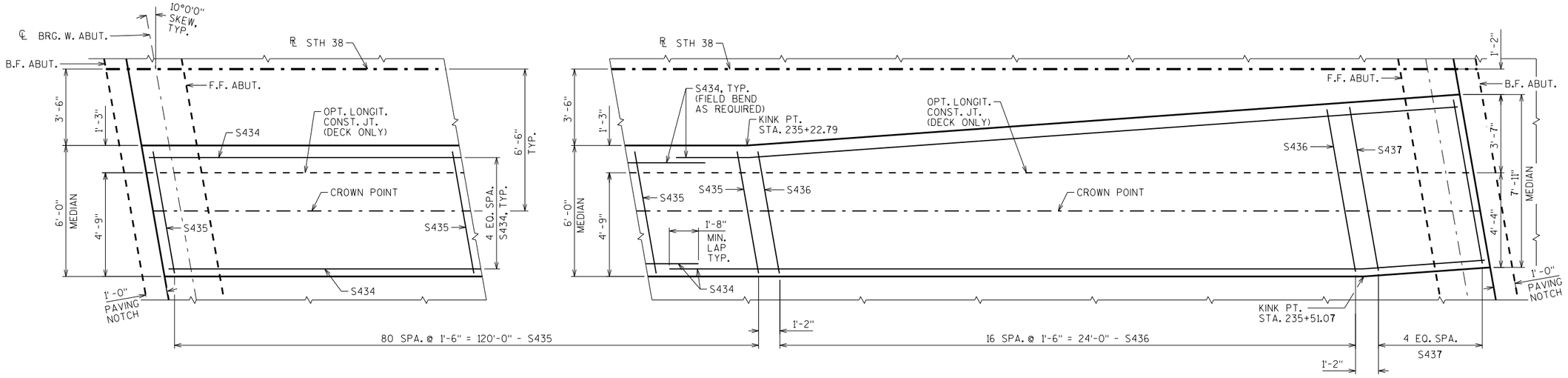
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8

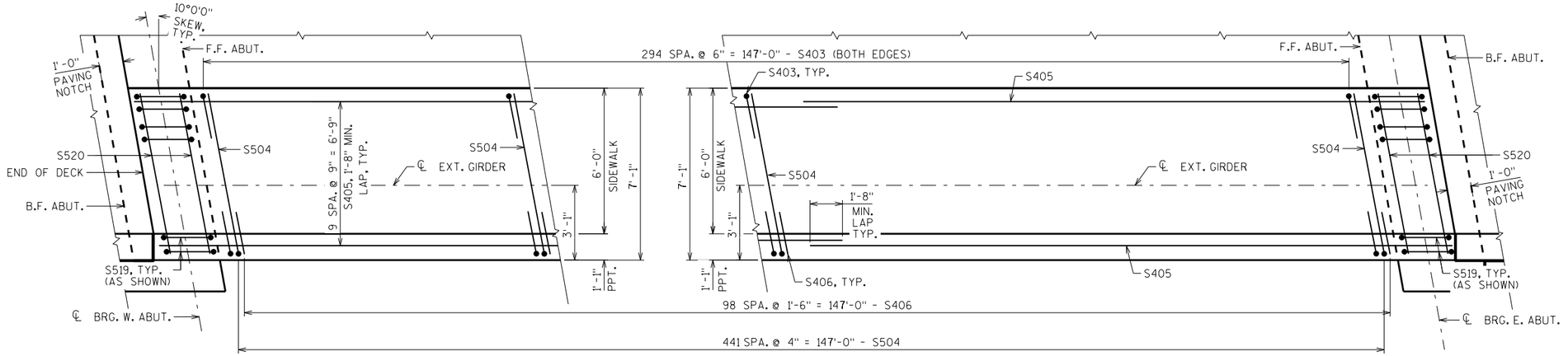
SCALE = 1.00

STATE PROJECT NUMBER

2290-03-73



MEDIAN PLAN



SIDEWALK PLAN

OTHER SIDEWALK SIMILAR
(PARAPET REBAR AND CONDUIT NOT SHOWN FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY SEW | PLANS CK'D. WAH

SUPERSTRUCTURE DETAILS 2

SHEET 13

302

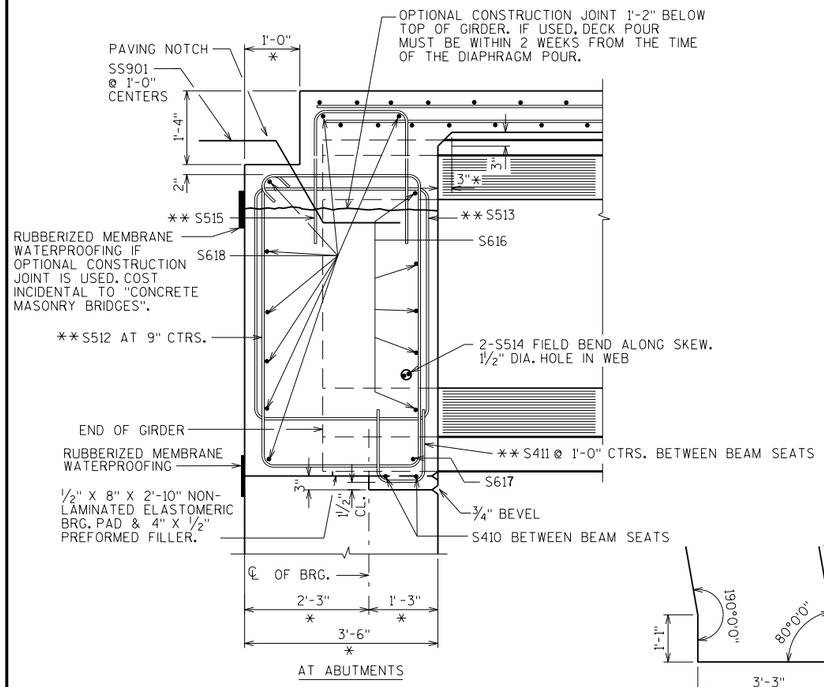
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STATE PROJECT NUMBER

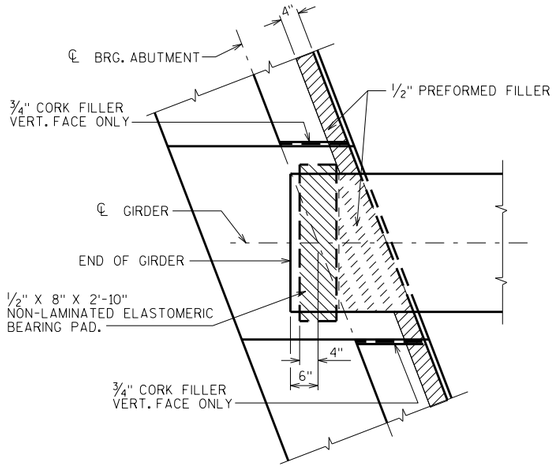
2290-03-73



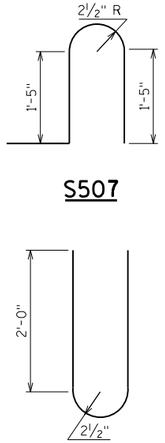
PART LONGIT. SECTION

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS

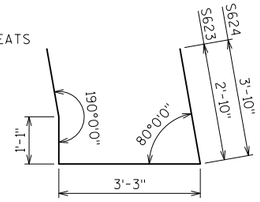


BEARING PAD DETAIL

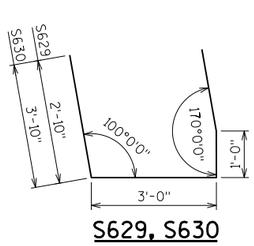


S507

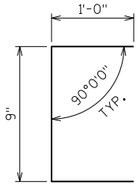
S508



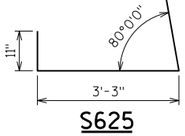
S623, S624



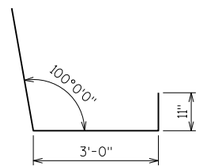
S629, S630



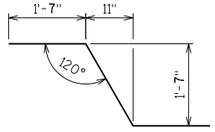
S403



S625



S631



SS901

TOP OF DECK ELEVATIONS

EOD = EDGE OF DECK

	℄ BRG. W. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	℄ BRG. E. ABUT.
N. EOD	637.68	637.79	637.90	638.02	638.13	638.24	638.35	638.47	638.58	638.69	638.80
GIRDER 1	637.74	637.86	637.97	638.08	638.19	638.31	638.42	638.53	638.64	638.76	638.87
GIRDER 2	637.88	638.00	638.11	638.22	638.33	638.45	638.56	638.67	638.78	638.90	639.01
GIRDER 3	638.02	638.13	638.25	638.36	638.47	638.58	638.70	638.81	638.92	639.03	639.15
GIRDER 4	638.16	638.27	638.38	638.50	638.61	638.72	638.83	638.95	639.06	639.17	639.28
GIRDER 5	638.30	638.41	638.52	638.64	638.75	638.86	638.97	639.09	639.20	639.31	639.42
GIRDER 6	638.44	638.55	638.66	638.77	638.89	639.00	639.11	639.22	639.34	639.45	639.56
PGL NB	638.49	638.60	638.72	638.83	638.94	639.05	639.17	639.28	639.39	639.50	639.62
GIRDER 7	638.58	638.69	638.80	638.91	639.03	639.14	639.25	639.36	639.48	639.59	639.70
GIRDER 8	638.71	638.83	638.94	639.05	639.16	639.28	639.39	639.50	639.61	639.73	639.84
GIRDER 9	638.85	638.97	639.08	639.19	639.30	639.42	639.53	639.64	639.75	639.87	639.98
GIRDER 10	638.99	639.10	639.22	639.33	639.44	639.55	639.67	639.78	639.89	640.00	640.12
CROWN	639.11	639.22	639.33	639.45	639.56	639.67	639.78	639.90	640.01	640.12	640.23
GIRDER 11	639.09	639.20	639.31	639.43	639.54	639.65	639.76	639.88	639.99	640.10	640.21
GIRDER 12	638.97	639.08	639.19	639.31	639.42	639.53	639.64	639.76	639.87	639.98	640.09
GIRDER 13	638.85	638.96	639.07	639.18	639.30	639.41	639.52	639.63	639.75	639.86	639.97
PGL SB	638.79	638.90	639.02	639.13	639.24	639.35	639.47	639.58	639.69	639.80	639.92
GIRDER 14	638.73	638.84	638.95	639.06	639.18	639.29	639.40	639.51	639.63	639.74	639.85
GIRDER 15	638.60	638.72	638.83	638.94	639.05	639.17	639.28	639.39	639.50	639.62	639.73
GIRDER 16	638.48	638.60	638.71	638.82	638.93	639.05	639.16	639.27	639.38	639.50	639.61
GIRDER 17	638.36	638.47	638.59	638.70	638.81	638.92	639.04	639.15	639.26	639.37	639.49
S. EOD	638.30	638.42	638.53	638.64	638.75	638.87	638.98	639.09	639.20	639.32	639.43

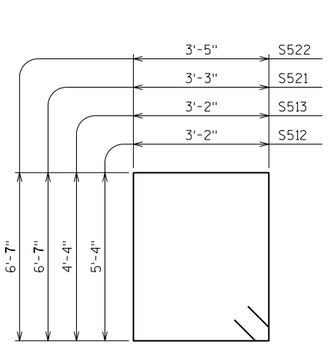
BILL OF BARS

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

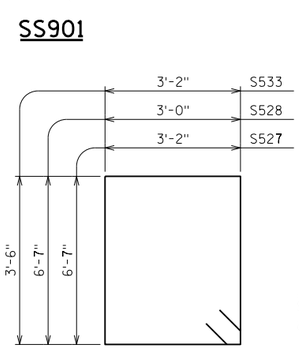
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	1,164	39'-4"			DECK - TOP & BOT. - LONGIT.
S402	X	1,695	38'-4"			DECK - TOP & BOT. - TRANS.
S403	X	1180	2'-7"	X		DECK/SDWK - TRANS. - BOTH EDGES
S504	X	884	7'-4"	X		SDWK - TRANS.
S405	X	96	39'-4"			SDWK. - LONGIT.
S406	X	198	1'-6"			SDWLK. - TRANS. - EDGES
S507	X	368	4'-4"	X		PPT. - VERT. - TRANS.
S508	X	368	4'-9"	X		PPT. - VERT. - TRANS.
S509	X	48	51'-11"			PPT. - LONGIT.
S410	X	60	2'-8"			DIA. - HORIZ. - BTWN BEAM SEATS
S411	X	124	3'-3"	X		DIA. - VERT. - BTWN BEAM SEATS
S512	X	124	17'-8"	X		DIA. - VERT. - STIRRUP
S513	X	136	15'-8"	X		DIA. - VERT. - STIRRUP
S514	X	68	6'-0"			DIA. - HORIZ. - THRU GIRDERS
S515	X	132	6'-7"	X		DIA. - VERT. - TOP
S616	X	316	4'-1"			DIA. - HORIZ. - F.F.
S617	X	60	3'-0"			DIA. - HORIZ.- F.F.
S618	X	48	39'-3"			DIA. - HORIZ. - B.F./TOP
S519	X	24	7'-7"	X		DIA./SDWK. - VERT. - TOP
S520	X	8	6'-9"			DIA./SDWK. - HORIZ. - TOP
S521	X	2	20'-4"	X		DIA. ENDS - STIRRUP - VERT. - WINGS 1& 3
S522	X	2	20'-8"	X		DIA. ENDS - STIRRUP - VERT. - WINGS 1& 3
S623	X	2	8'-8"	X		DIA. ENDS - HORIZ. - WINGS 1& 3
S624	X	8	9'-8"	X		DIA. ENDS - HORIZ. - WINGS 1& 3
S625	X	2	6'-3"	X		DIA. ENDS - HORIZ. - WINGS 1& 3
—			NOT USED			
S527	X	2	20'-2"	X		DIA. ENDS - STIRRUP - VERT. - WINGS 2 & 4
S528	X	2	19'-10"	X		DIA. ENDS - STIRRUP - VERT. - WINGS 2 & 4
S629	X	2	8'-8"	X		DIA. ENDS - HORIZ. - WINGS 2 & 4
S630	X	8	9'-8"	X		DIA. ENDS - HORIZ. - WINGS 2 & 4
S631	X	2	5'-10"	X		DIA. ENDS - HORIZ. - WINGS 2 & 4
S432	X	8	6'-7"			DIA. ENDS - VERT.
S533	X	4	14'-0"	X		DIA.- BWTN - STIRRUP - BTWN. GIRDERS 1& 2
S434	X	15	52'-1"			MEDIAN - LONGIT.
S435	X	81	5'-9"			MEDIAN - TRANS.
S436	X	17	6'-9"		⚠	MEDIAN - TRANS.
S437	X	5	7'-8"			MEDIAN - TRANS.
SS901		224	5'-0"	X		CONC. ABUT. DIA. TO APP. SLAB

STAINLESS STEEL

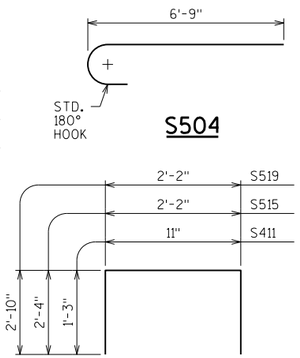
⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



S512, S513, S521, S522



S527, S528, S533



S504

S411, S515, S519

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
S436	1 SERIES OF 17	5'-10" TO 7'-7"

BUNDLE AND TAG EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY SEW | PLANS CK'D. WAH

SUPERSTRUCTURE DETAILS 3

SHEET 14

303

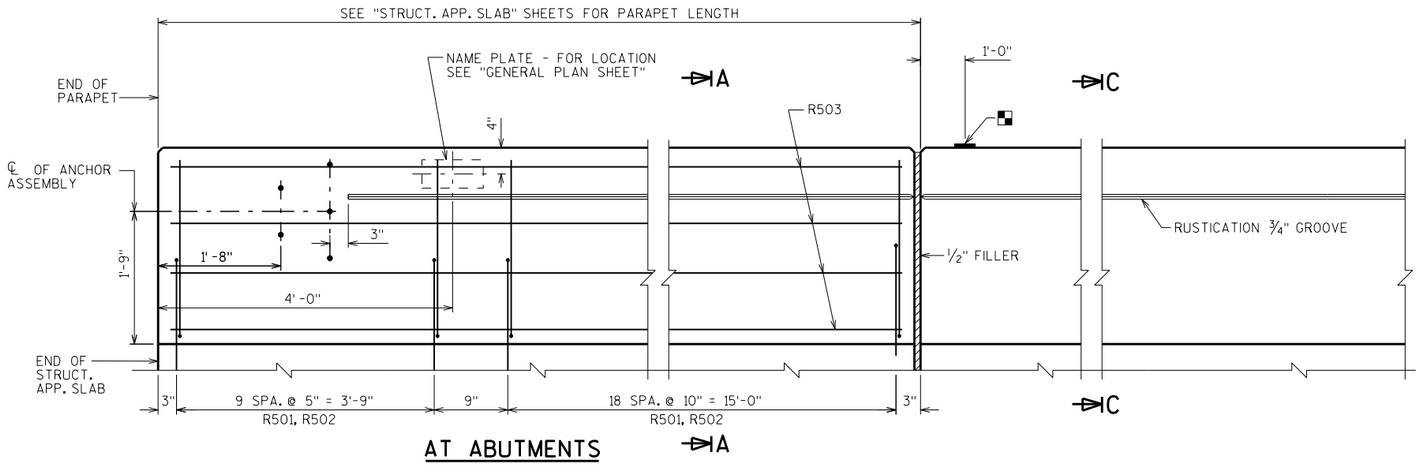
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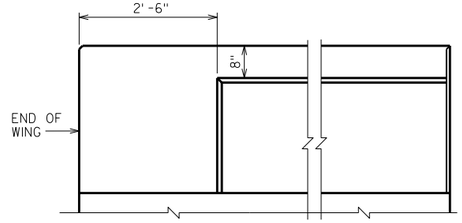
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STATE PROJECT NUMBER

2290-03-73



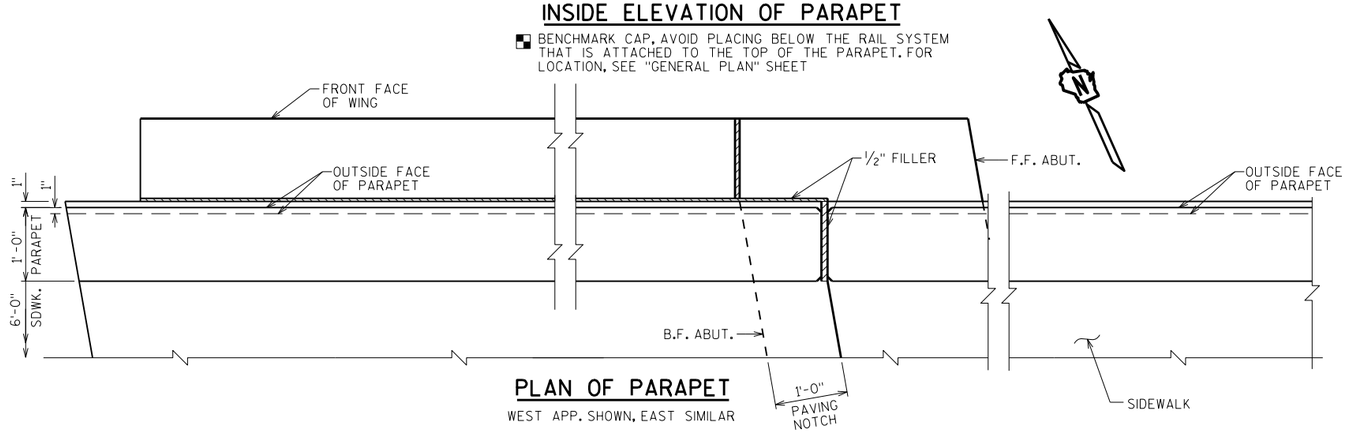
AT ABUTMENTS



OUTSIDE FACE OF PARAPET

INSIDE ELEVATION OF PARAPET

■ BENCHMARK CAP, AVOID PLACING BELOW THE RAIL SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET. FOR LOCATION, SEE "GENERAL PLAN" SHEET

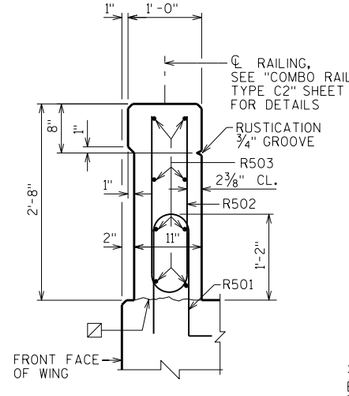


PLAN OF PARAPET

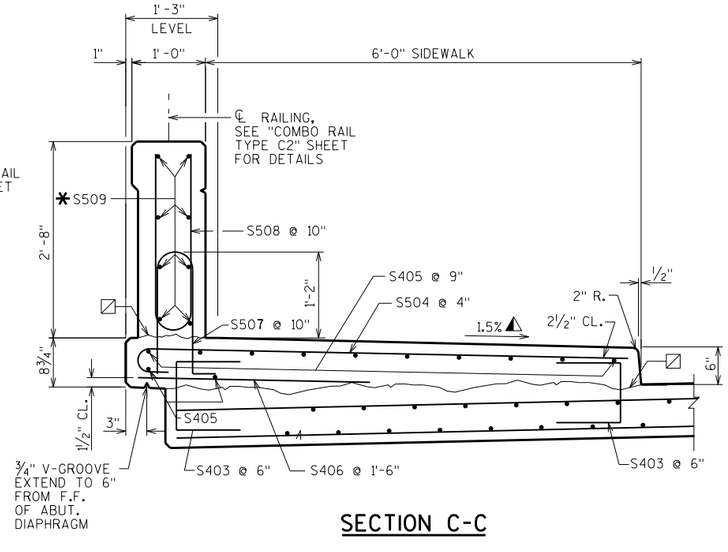
WEST APP. SHOWN, EAST SIMILAR

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	116	4'-4"	X		PARAPET VERT.
R502	X	116	4'-9"	X		PARAPET VERT.
R503	X	32	19'-8"			PARAPET HORIZ.



SECTION A-A

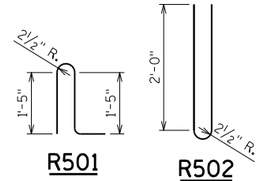


SECTION C-C

▨ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

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

* OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT, LAP LONGIT. BARS A MIN. 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



R501 R502

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY SEW | PLANS CK'D. WAH

VERTICAL FACE PARAPET "A"

SHEET 15

304

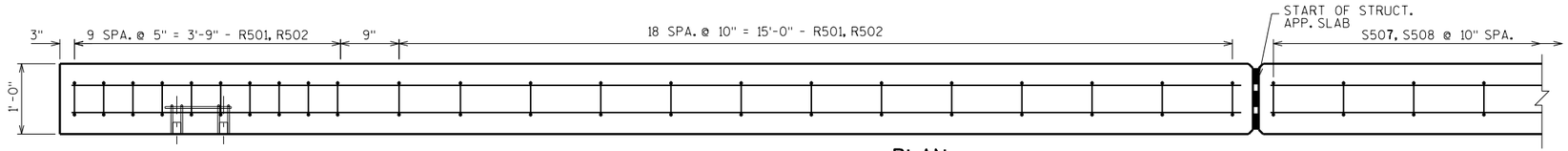
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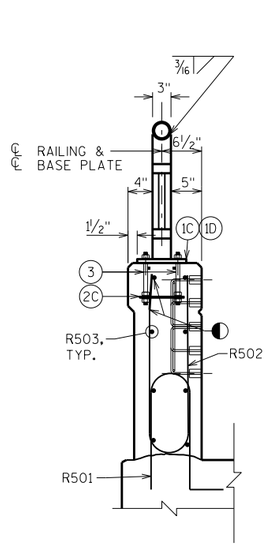
STATE PROJECT NUMBER

2290-03-73

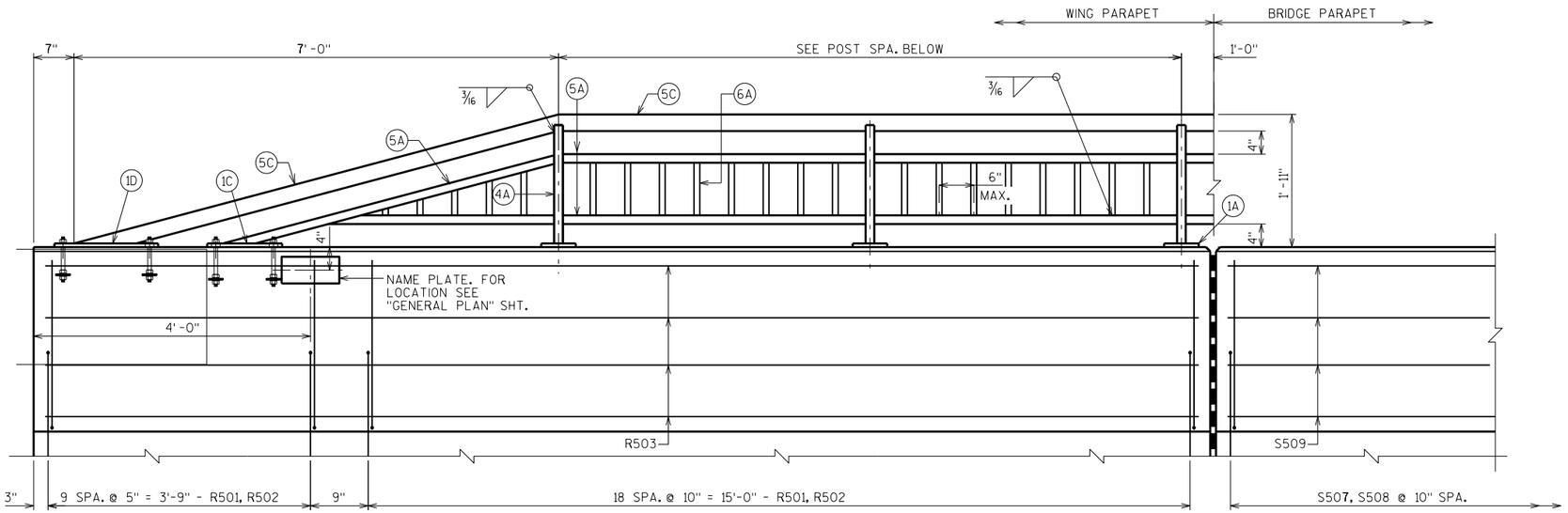


PLAN

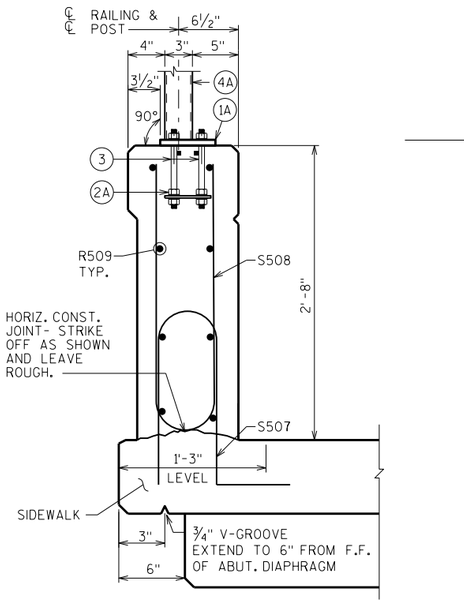
◐ WHEN ADHESIVE ANCHORS ARE USED, FIELD BEND AND/OR DISPLACE TO AVOID HITTING LONGITUDINAL BAR WHEN DRILLING FOR ADHESIVE ANCHORS.



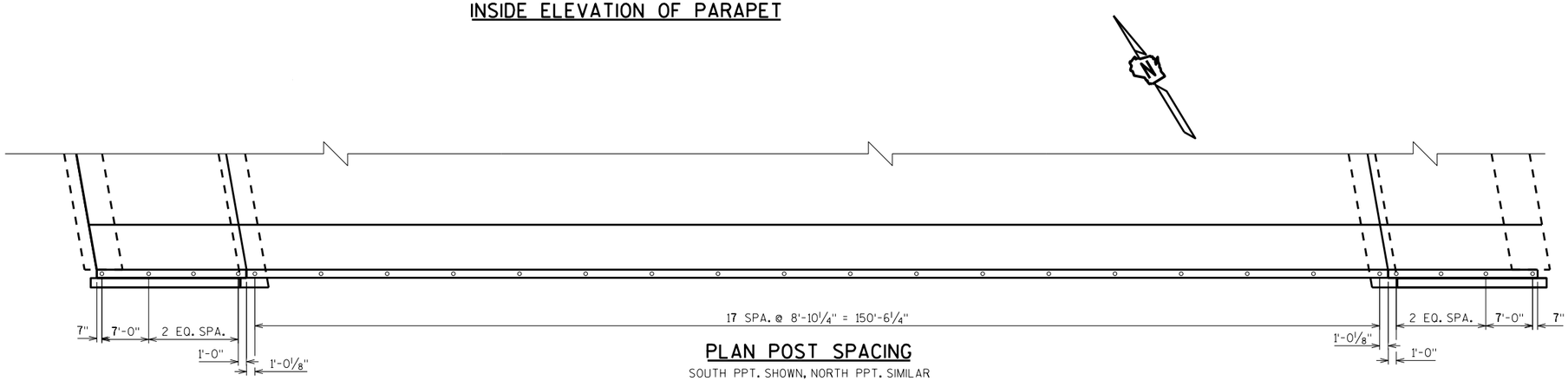
END VIEW



INSIDE ELEVATION OF PARAPET



SECTION THRU PARAPET ON BRIDGE



PLAN POST SPACING

SOUTH PPT. SHOWN, NORTH PPT. SIMILAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY SEW | PLANS CK'D. WAH

COMBINATION RAIL TYPE "C2"

SHEET 16

305

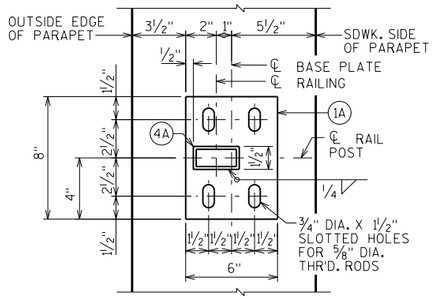
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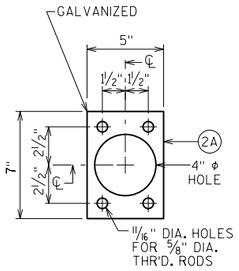
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STATE PROJECT NUMBER

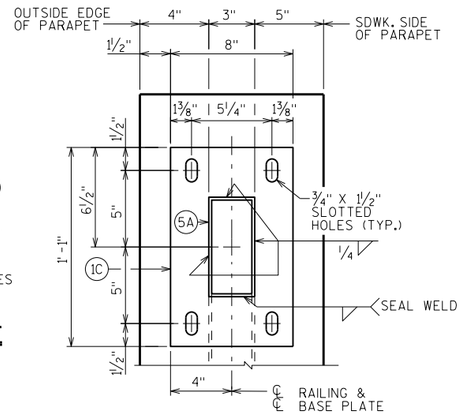
2290-03-73



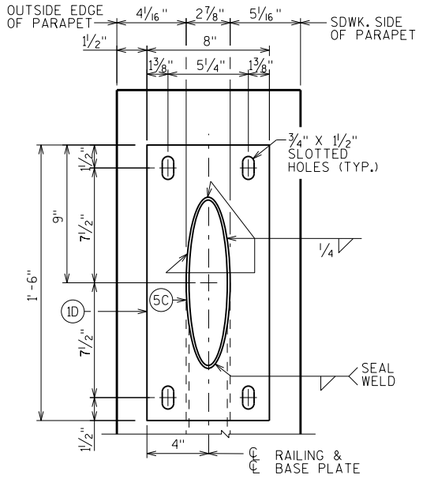
TYPICAL RAIL POST BASE PLATE



ANCHOR PLATE



END RAIL BASE PLATE



END RAIL BASE PLATE

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.

(1D) PLATE ⅝" X 8" X 1'-6" WITH ¾" X 1½" SLOTTED HOLES.

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

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

(3) ⅝" DIA. X 9" LONG, TYPE 316 STAINLESS STEEL THREADED RODS (MIN. TENSILE STRENGTH = 70 KSI) WITH NUT AND WASHERS OF SAME ALLOY GROUP. ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS ⅝-INCH. EMBED 7" IN CONCRETE FOR RAIL POSTS. EMBED 5" IN CONCRETE FOR END RAILS. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS.

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

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

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

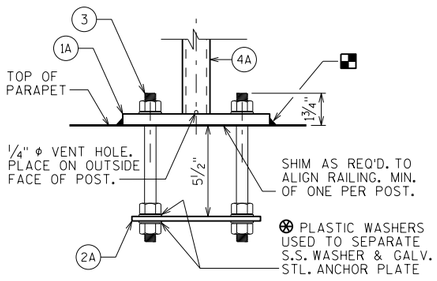
(6A) BAR 1" X 1" PICKETS. WELD TO NO. 5. PLACE VERTICAL.

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

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

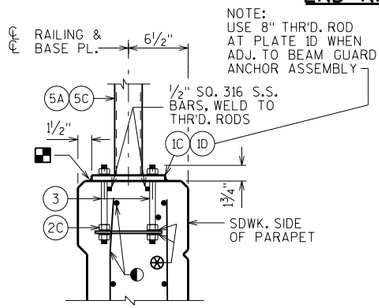
(10A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL JTS.)

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



ANCHORAGE FOR RAIL POSTS

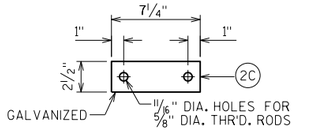
NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



ANCHORAGE FOR END RAIL

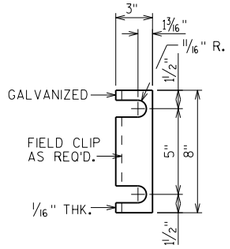
NOTE: ANCHOR PLATES NOT REQ'D. WHEN ADHESIVE ANCHORS ARE USED.

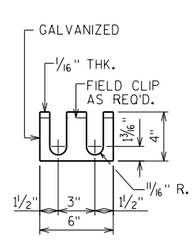
◐ WHEN ADHESIVE ANCHORS ARE USED, FIELD BEND AND/OR DISPLACE TO AVOID HITTING LONGITUDINAL BAR WHEN DRILLING FOR ADHESIVE ANCHORS.



END RAIL ANCHOR PLATE

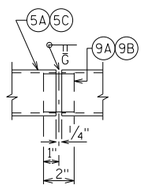
2 REQ'D. PER END RAIL BASE PLATE





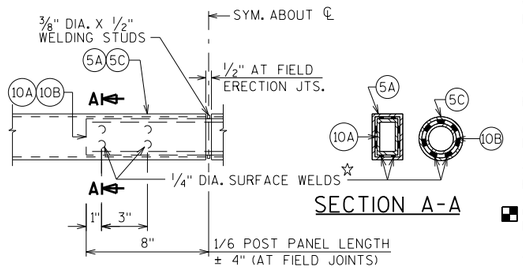
RAIL POST SHIM DETAIL

(2 SETS PER POST)



SHOP RAIL SPLICE DETAIL

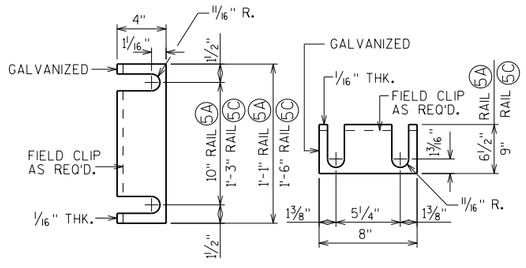
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



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)

RAILING NOTES

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

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME 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 & 12) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED AMS STD. COLOR NO. 27038, BLACK.

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

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY SEW | PLANS CK'D. WAH

COMBINATION RAIL TYPE "C2" DETAILS

SHEET 17

306

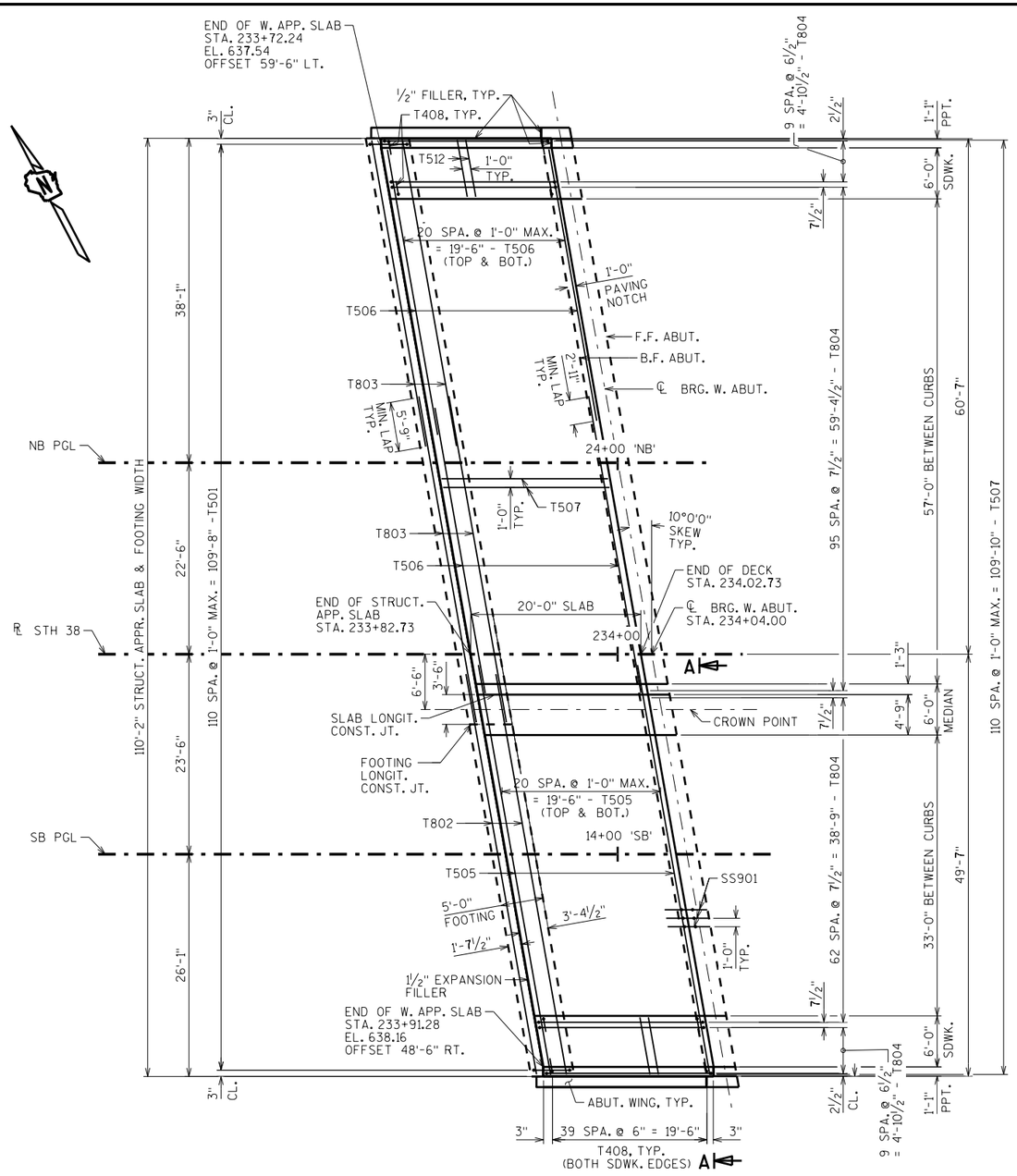
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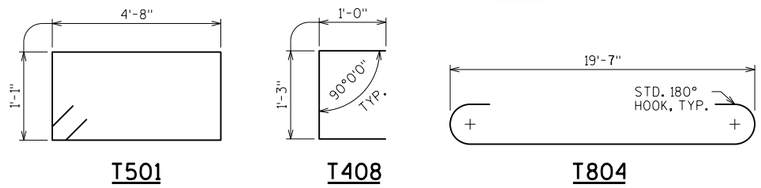
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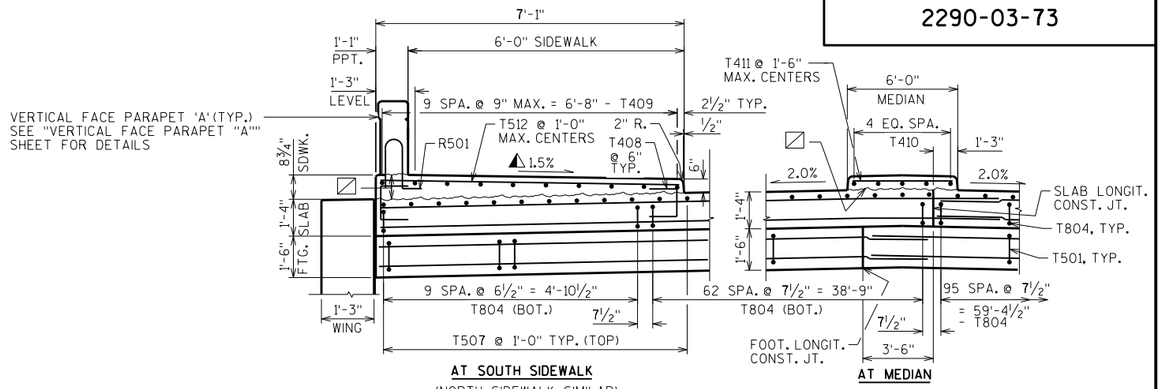
STATE PROJECT NUMBER

2290-03-73



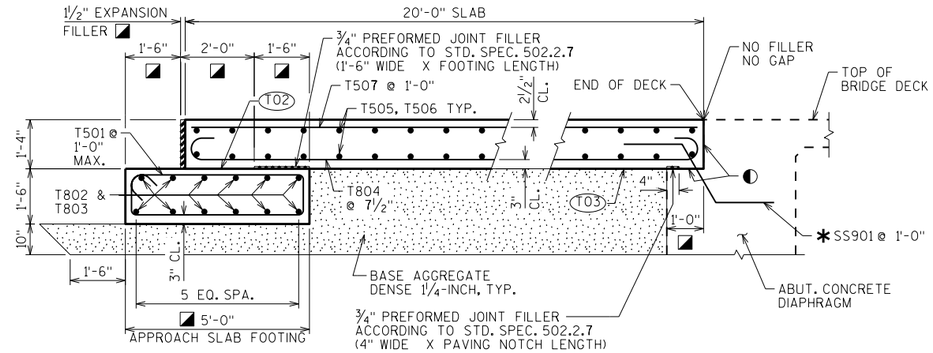
PLAN





(NORTH SIDEWALK SIMILAR)
(CONDUIT IN SOUTH SIDEWALK NOT SHOWN FOR CLARITY)

SECTION A-A



SECTION THRU APPROACH SLAB

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
T501	X	111	12'-2"	X		FOOTING - STIRRUP
T802	X	12	47'-10"			FOOTING - TRANS. - TOP & BOT.
T803	X	24	37'-8"			FOOTING - TRANS. - TOP & BOT.
T804	X	179	21'-5"	X		SLAB - LONGIT. - BOT.
T505	X	42	48'-6"			SLAB - TRANS. - TOP & BOT.
T506	X	84	34'-5"			SLAB - TRANS. - TOP & BOT.
T507	X	111	19'-7"			SLAB - LONGIT. - TOP
T408	X	160	3'-1"	X		SLAB/SDWK - VERT. - TRANS. - BOTH EDGES
T409	X	20	19'-7"			SDWK - LONGIT. - TOP
T410	X	5	19'-7"			MEDIAN - LONGIT.
T411	X	14	5'-8"			MEDIAN - TRANS.
T512	X	42	6'-9"			SDWK - TRANS.

* INCLUDED IN SUPERSTRUCTURE BILL OF BARS

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

(T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.

(T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH SURFACES PRIOR TO POURING STRUCTURAL APPROACH SLAB.

MEASURED NORMAL TO ABUTMENT

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY	SEW	PLANS CK'D.	WAH

WEST STRUCT. APP. SLAB

SHEET 18

307

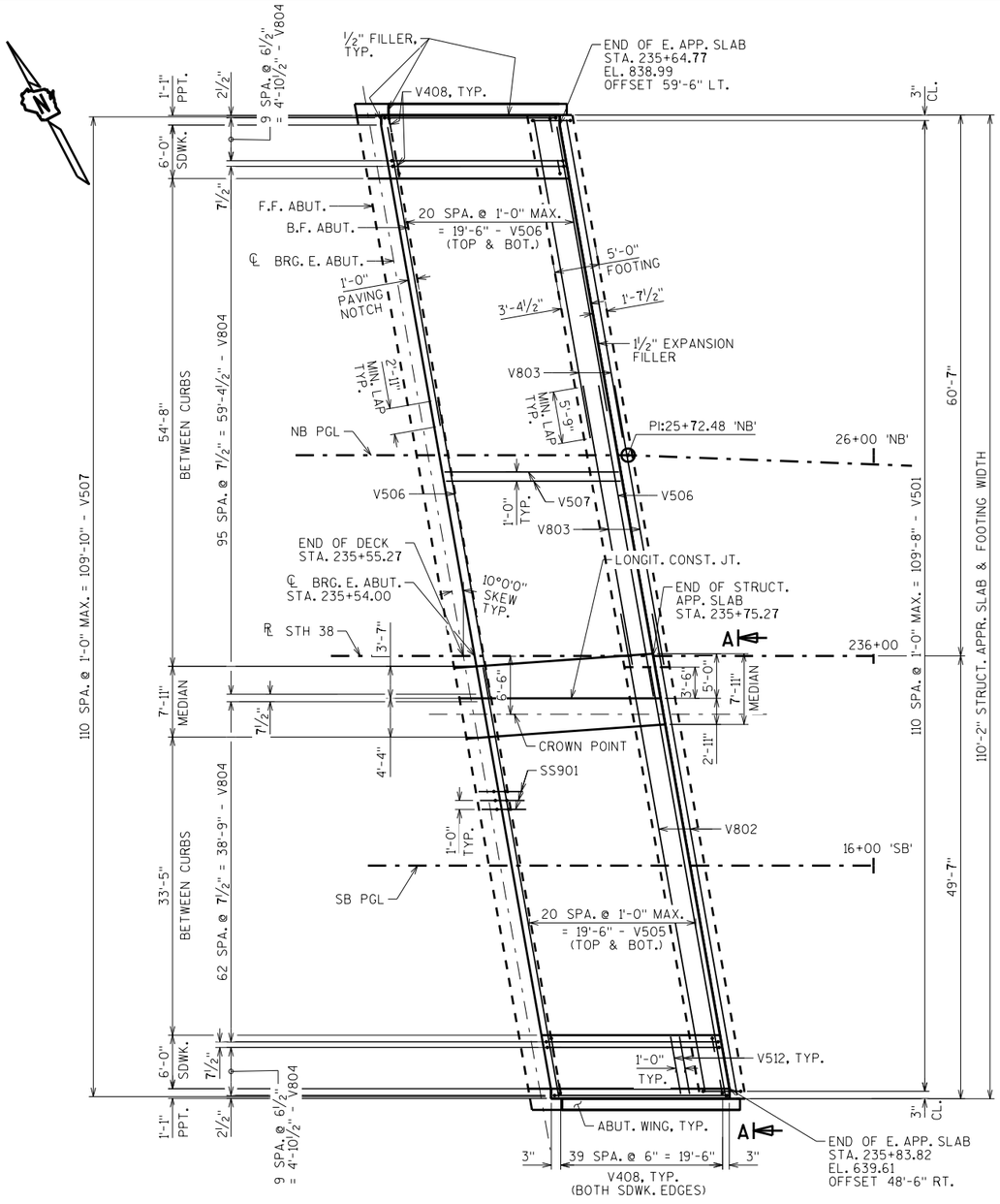
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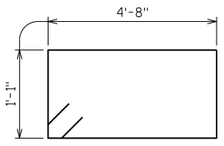
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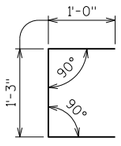
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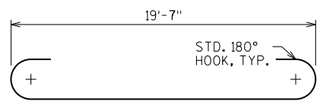
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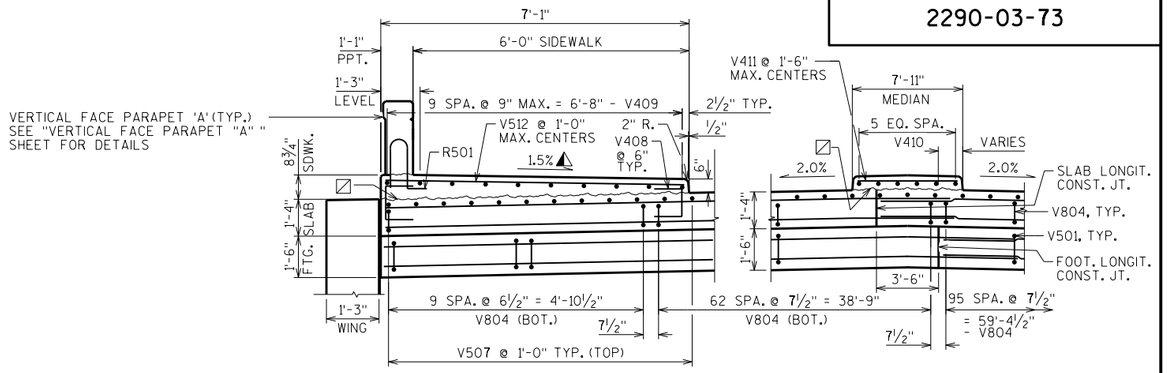
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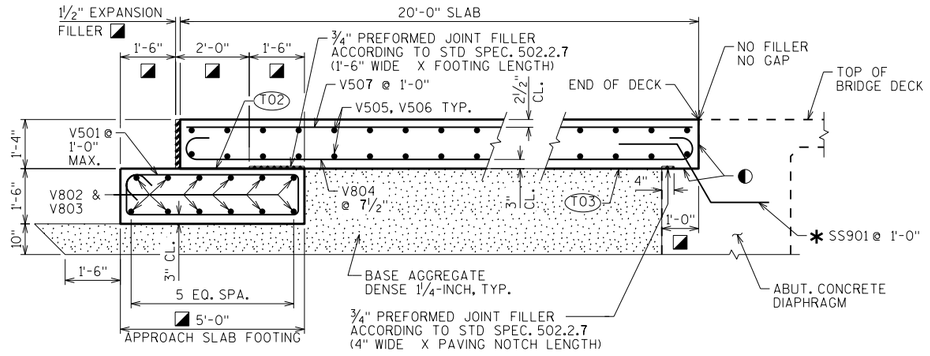
V408



V804



SECTION A-A



SECTION THRU APPROACH SLAB

* INCLUDED IN SUPERSTRUCTURE BILL OF BARS

CONST. JT. - STRIKE OFF AND LEAVE ROUGH AS SHOWN.

(T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.

(T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH SURFACES PRIOR TO POURING STRUCTURAL APPROACH SLAB.

MEASURED NORMAL TO ABUTMENT

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

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
V501	X	111	12'-2"	X		FOOTING - STIRRUP
V802	X	12	54'-11"			FOOTING - TRANS. - TOP & BOT.
V803	X	24	34'-2"			FOOTING - TRANS. - TOP & BOT.
V804	X	179	21'-5"	X		SLAB - LONGIT. - BOT.
V505	X	42	48'-6"			SLAB - TRANS. - TOP & BOT.
V506	X	84	34'-5"			SLAB - TRANS. - TOP & BOT.
V507	X	111	19'-7"			SLAB - LONGIT. - TOP
V408	X	160	3'-1"	X		SLAB/SDWK - VERT. - TRANS. - BOTH EDGES
V409	X	20	19'-7"			SDWK - LONGIT. - TOP
V410	X	6	19'-7"			MEDIAN - LONGIT.
V411	X	14	7'-7"			MEDIAN - TRANS.
V512	X	42	6'-9"			SDWK - TRANS.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY SEW | PLANS CK'D. WAH

EAST STRUCT. APP. SLAB

SHEET 19

308

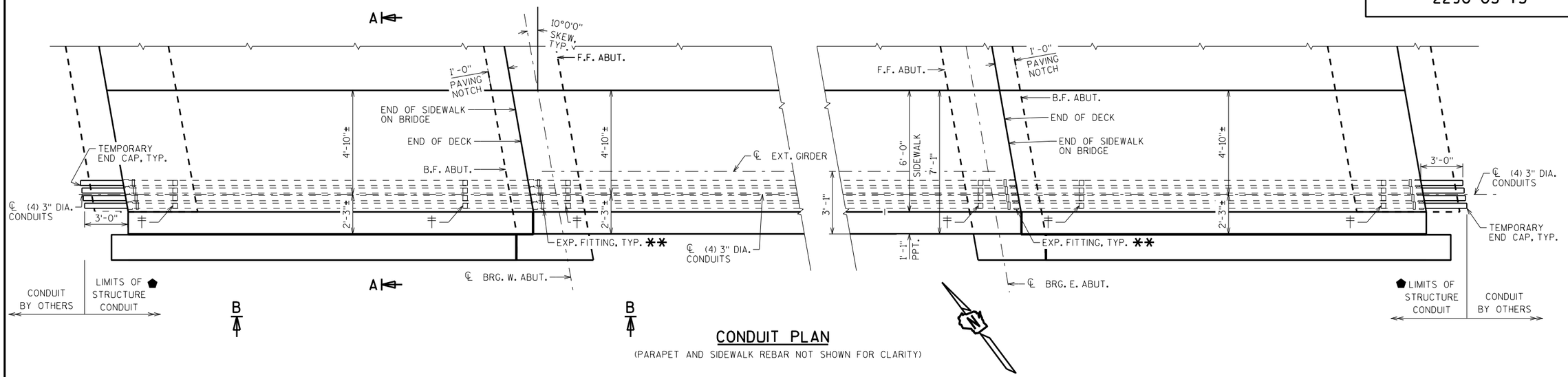
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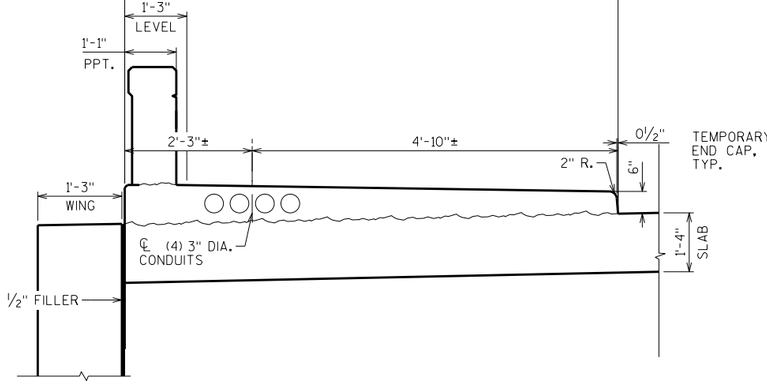
STATE PROJECT NUMBER

2290-03-73

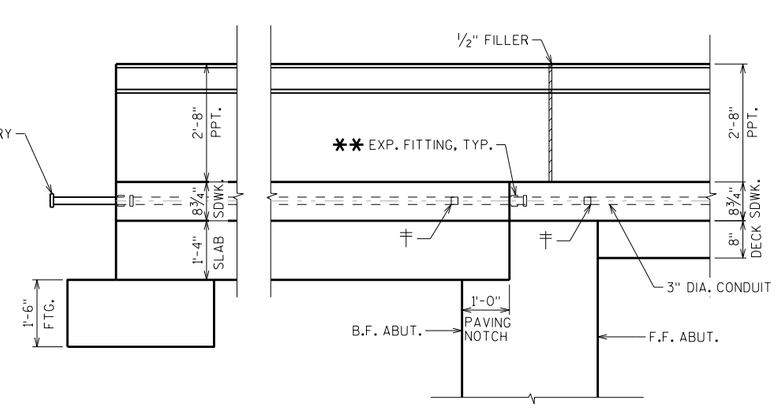


CONDUIT PLAN

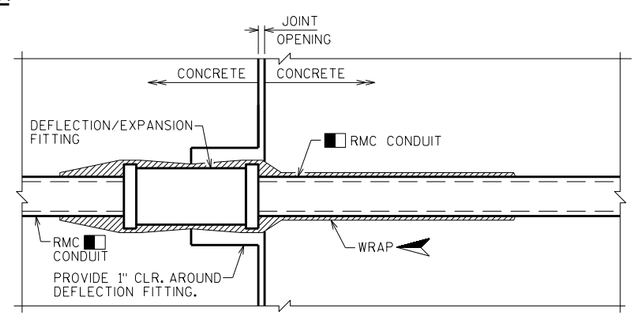
(PARAPET AND SIDEWALK REBAR NOT SHOWN FOR CLARITY)



SECTION A-A



SECTION B-B



DEFLECTION/EXPANSION FITTING

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

NOTES

CONDUIT SHALL BE EMBEDDED 2" CLEAR.

USE 3" DIA. RIGID NONMETALLIC CONDUIT (PVC) UNLESS NOTED OTHERWISE.

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

CONDUIT BENDS SHALL CONFORM TO THE NATIONAL ELECTRIC CODE.

LEGEND

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

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

◥ SPONGE RUBBER WRAP TO BE AASHTO M153, TYPE 1 OR EQUIVALENT - ¼" MINIMUM THICKNESS. PROVIDE WRAP FOR THE ENTIRE LENGTH OF THE FITTING OR AS SHOWN. SPONGE RUBBER WRAP INCIDENTAL TO "CONDUIT RIGID METALLIC 3-INCH".

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

⬟ MATERIALS AND INSTALLATION BY BRIDGE CONTRACTOR. PAYMENT FOR CONDUIT BY OTHERS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY SEW | PLANS CK'D. WAH

CONDUIT DETAILS

SHEET 20

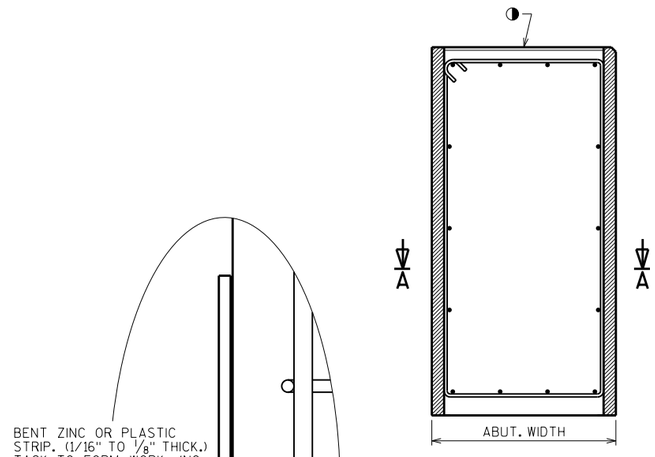
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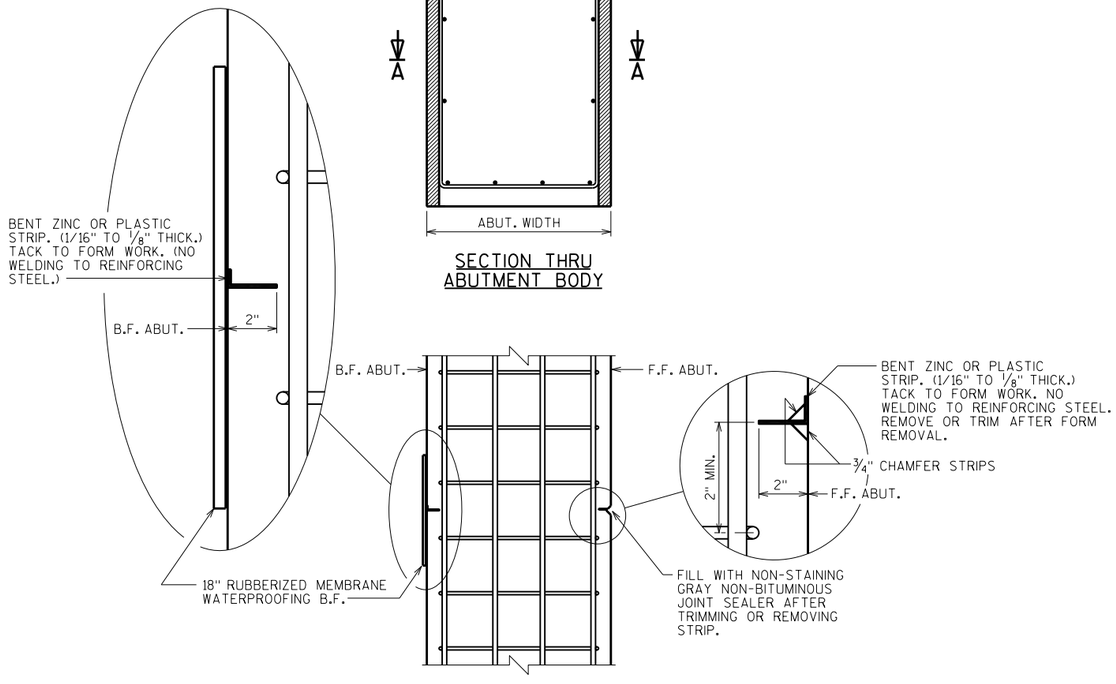
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8

STATE PROJECT NUMBER
2290-03-73



SECTION THRU ABUTMENT BODY



SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

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.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-51-157

DRAWN BY	SEW	PLANS CK'D.	WAH

ALTERNATE CONSTRUCTION JOINT

SHEET 21

310

SCALE = 1.00

8

8

DESIGN DATA

CONTRACTOR DESIGNED OVERHEAD SIGN STRUCTURES SHALL BE DESIGNED ACCORDING TO THE AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", 1ST EDITION AND INTERIM SPECIFICATIONS, AND THE WISDOT BRIDGE MANUAL.

STANDARD FOUNDATIONs DESIGNED ACCORDING TO THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION.

DEAD LOAD: WT. OF SIGN AND SUPPORTING STRUCTURE
ICE LOAD: 3 PSF TO ONE FACE OF SIGN & SURFACE OF MEMBERS
WIND PRESSURE: 115 MPH (3-SEC. GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS (700 YEAR MEAN RECURRENCE INTERVAL)

WIND COMPONENTS	NORMAL	TRANSVERSE
LOAD CASE 1:	1.00	0.00
LOAD CASE 2:	0.00	1.00
LOAD CASE 3:	0.75	0.75

LOAD COMBINATIONS	
STRENGTH:	1.25 DC + 1.0 LL
EXTREME I (MAX DC):	1.1 DC + 1.0 W + 1.0 ICE
EXTREME I (MIN DC):	0.9 DC + 1.0 W
SERVICE I:	1.0 DC + 1.0 W
FATIGUE:	1.0 NW (NATURAL WIND GUST)
	1.0 TrG (TRUCK INDUCED GUST)
	1.0 GVW (GALLOPING - CANTILEVER ONLY)

MATERIAL PROPERTIES

CONCRETE MASONRY ——— f'_c = 3,500 PSI

HIGH STRENGTH STEEL REINFORCEMENT, GRADE 60 ——— f_y = 60,000 PSI

STRUCTURAL ANGLES, PLATES & BARS - ASTM A709 GRADE 36 ——— f_y = 36,000 PSI

HIGH STRENGTH BOLTS - ASTM A3125 GRADE A325 ——— f_y = 92,000 PSI

ANCHOR RODS - ASTM F1554 GRADE 55 ——— f_y = 55,000 PSI

HEAVY HEX NUTS - ASTM A563 GRADE DH OR ASTM A194 GRADE 2H

WASHERS - ASTM F436

DIRECT TENSION INDICATING WASHER (DTI) - ASTM F959 TYPE 325

FOUNDATION DATA

SIGN STRUCTURE FOUNDATIONS S-51-262 & S-51-263 ARE SUPPORTED ON DRILLED SHAFTS THAT HAVE BEEN DESIGNED FOR SITES WHERE SOILS EXHIBIT A PHI-ANGLE GREATER THAN OR EQUAL TO 24° (GRANULAR SOILS), OR A COHESION VALUE GREATER THAN OR EQUAL TO 750 PSF (COHESIVE SOILS) AND A UNIT WEIGHT OF 125 PCF. THE GROUND WATER TABLE FOR DESIGN IS ASSUMED TO BE AT A DEPTH OF 10'-0" BELOW THE GROUND SURFACE, ACTUAL WATER LEVEL AT SITE MAY VARY. THE REGION GEOTECHNICAL ENGINEER SHALL VISUALLY INSPECT THE SUBSURFACE SOILS DURING THE DRILLING OF THE SHAFT HOLE TO CONFIRM THESE PROPERTIES PRIOR TO PLACEMENT OF THE DRILLED SHAFT CONCRETE.

SEE SHEETS 6 & 7 FOR NON-STANDARD DRILLED SHAFTS SUPPORTING SIGN STRUCTURES S-51-615 & S-51-616. GEOTECHNICAL INVESTIGATION REPORT AVAILABLE UPON REQUEST, AND SUBSURFACE EXPLORATION BORING DATA IS SHOWN ON SHEET 8. S-51-615 FOUNDATION WAS DESIGNED PER SOIL BORING "S-2" AND S-51-616 PER BORING "S-1". BEDROCK IS ASSUMED TO BE LOCATED AT (AND BELOW) THE APPROX. ELEVATION SHOWN ON EACH FOUNDATION DETAIL SHEET. CORE/DRILL A MINIMUM OF 2'-0" INTO COMPETENT BEDROCK, OR TO A DEPTH TO ACHIEVE THE LENGTH OF SHAFT SHOWN. MODIFY LENGTH OF VERTICAL REINFORCEMENT TO MEET CLEAR REQUIREMENTS, AND MAINTAIN HOOP SPACING SHOWN. CONTACT A REGIONAL SOILS ENGINEER TO DETERMINE COMPETENT ROCK PRIOR TO MODIFYING DEPTH OF DRILLED SHAFT. CONTACT THE BUREAU OF STRUCTURES FOR FOUNDATION MODIFICATION IF BEDROCK IS DISCOVERED AT A HIGHER ELEVATION.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALTERNATE DESIGNS ARE NOT ALLOWED.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), RACINE COUNTY ZONE, NAD 83 (2011). ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD 88 (2012).

ALL REINFORCING BARS ARE IN ENGLISH UNITS. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

SIGN BRIDGE ID PLAQUES SHALL BE CONSIDERED INCIDENTAL TO THE TRUSS OR MONOTUBE BID ITEMS FOR EACH APPLICABLE SIGN STRUCTURE IN THE PLAN SET. LOCATE THE ID PLAQUE ON THE FREEWAY SIDE OF THE SUPPORT COLUMN SO THAT IT CAN BE SEEN FROM THE ROADWAY. FABRICATE AND INSTALL THE ID PLAQUE IN ACCORDANCE WITH S.D.D. 12 A4-3.

UNLESS DETAILED OTHERWISE IN THE PLANS, ALL H.S. BOLTED CONNECTIONS SHALL BE MADE WITH ¾" DIA. A325 GALVANIZED BOLTS. FIELD CONNECTIONS SHALL BE INSTALLED WITH DTI WASHERS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF A TRUSS UNIT CAN BE GALVANIZED IN ONE PIECE.

WELD TEST AS PER AWS D1.1.

SEE SIGN PLATE NO. A4-6, A4-7A & A4-7B OF THE SIGN PLATE MANUAL FOR INSTRUCTIONS ON CENTERING SIGNS VERTICALLY ON THE TRUSS.

SIGNS OR BLANKS SHALL BE INSTALLED ON TRUSS AT TIME OF ERECTION. BLANKS SHALL BE ¼ THE LENGTH OF THE CANTILEVER SPAN, 2'-0" DEEPER THAN THE C/L TO C/L OF CHORDS, AND SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED ON THE PLANS.

THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION OF THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PER THE REQUIREMENTS IN THE STANDARD SPECIFICATIONS PRIOR TO FABRICATION OF THE STRUCTURE. CONTRACTOR SHALL SHOW SIGNS ON THE SHOP DRAWINGS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DRILLING OR EXCAVATING AND MAINTAINING A STABLE AND OPEN HOLE FOR SUBSEQUENT INSTALLATION OF CONCRETE MASONRY FOR THE DRILLED SHAFTS. PARTIAL OR FULL DEPTH TEMPORARY CASING MAY BE REQUIRED TO MAINTAIN THE STABILITY OF THE EXCAVATED HOLE FOR THE SIGN SUPPORT PRIOR TO FILLING THE HOLE WITH CONCRETE. PERMANENT CASING MADE FROM STEEL OR CORRUGATED METAL PIPE MAY BE USED IN LIEU OF TEMPORARY CASING. TEMPORARY/PERMANENT CASING, IF USED, SHALL BE INCIDENTAL TO THE BID ITEM "DRILLING SHAFT (DIA.)".

STRUCTURE DATA

STRUCTURE ID	SIGN AREA	SIGN DEPTH	STANDARD TYPE
S-51-262	93.5 SF	6'-6"	TF-I
S-51-263	58 SF	6'-0"	TF-I
S-51-615	65 SF	6'-0"	NON-STD.
S-51-616	45 SF	6'-0"	NON-STD.

LIST OF DRAWINGS:

1. GENERAL NOTES & DESIGN DATA
2. GENERAL LAYOUT S-51-262
3. GENERAL LAYOUT S-51-263
4. GENERAL LAYOUT S-51-615
5. GENERAL LAYOUT S-51-616
6. 2-CHORD FULL SPAN FOUNDATION DETAILS S-51-615
7. 2-CHORD CANT. FOUNDATION DETAILS S-51-616
8. SUBSURFACE EXPLORATION

LIST OF STANDARD DESIGN DRAWINGS

9. I. MONOTUBE & 2-CHORD TRUSS DETAILS 1
10. II. MONOTUBE & 2-CHORD TRUSS DETAILS 2
11. III. MONOTUBE & 2-CHORD TRUSS ELECTRICAL DETAILS
12. IV. MONOTUBE & 2-CHORD TRUSS FOUNDATIONS

STATE PROJECT NUMBER

2290-03-73

TRAFFIC VOLUME

A.D.T. (2042) = 34,700
R.D.S. = 40 MPH

TOTAL ESTIMATED QUANTITES

BID ITEM NO.	BID ITEM	UNIT	S-51-262	S-51-263	S-51-615	S-51-616	TOTALS
204.0246	REMOVING ANCILLARY STRUCTURE (S-51-009)	EACH	---	---	1	---	1
204.0246	REMOVING ANCILLARY STRUCTURE (S-51-010)	EACH	---	---	---	1	1
204.0246	REMOVING ANCILLARY STRUCTURE (S-51-245)	EACH	---	1	---	---	1
204.0246	REMOVING ANCILLARY STRUCTURE (S-51-246)	EACH	1	---	---	---	1
531.1100	CONCRETE MASONRY ANCILLARY STRUCTURES TYPE NS	CY	---	---	7.3	6.1	13
531.1140	STEEL REINFORCEMENT HS ANCILLARY STRUCTURES TYPE NS	LB	---	---	1,200	920	2,120
531.2030	DRILLING SHAFT 30-INCH	LF	34	34	---	---	68
531.2036	DRILLING SHAFT 36-INCH	LF	---	---	28	---	28
531.2048	DRILLING SHAFT 48-INCH	LF	---	---	---	13	13
531.5410	FOUNDATION SINGLE-SHAFT TYPE TF-I (S-51-262)	EA	2	---	---	---	2
531.5410	FOUNDATION SINGLE-SHAFT TYPE TF-I (S-51-263)	EA	---	2	---	---	2
532.5330	TRUSS CANTILEVER 2-CHORD TYPE III (S-51-616)	EA	---	---	---	1	1
532.5410	TRUSS FULL SPAN 2-CHORD TYPE I (S-51-262)	EA	1	---	---	---	1
532.5410	TRUSS FULL SPAN 2-CHORD TYPE I (S-51-263)	EA	---	1	---	---	1
532.5410	TRUSS FULL SPAN 2-CHORD TYPE I (S-51-615)	EA	---	---	1	---	1

STRUCTURE DESIGN CONTACTS:
ISATOU CEESAY 608-266-9557
LAURA SHADEWALD 608-267-9592

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED LLS 10/11/22
CHIEF STRUCTURES DESIGN ENGINEER DATE

MONOTUBE & 2-CHORD PLANS

STH 38 - RAPIDS DR.

COUNTY	CITY
RACINE	RACINE

DESIGN SPEC.
AASHTO LRFDLTS-1 W/INTERIMS

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
IFC	ARC	IFC	ARC

GENERAL NOTES & DESIGN DATA

SHEET 1 OF 12
311

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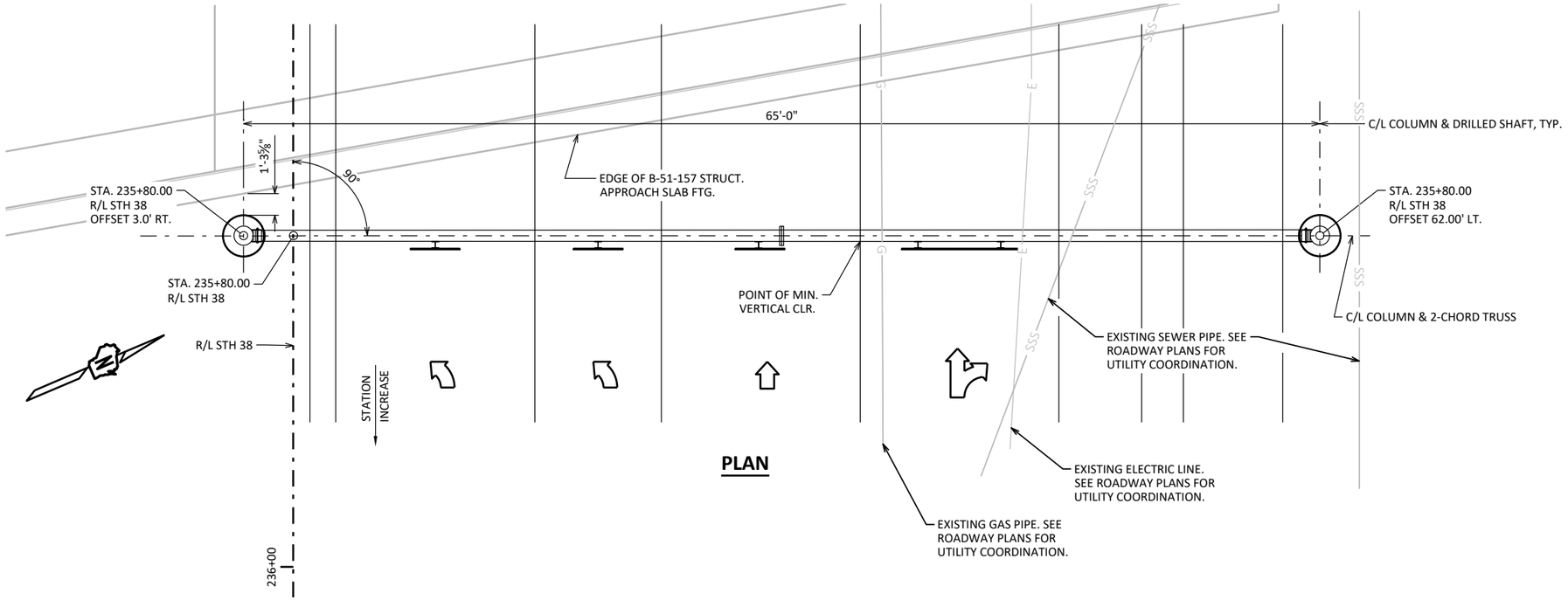
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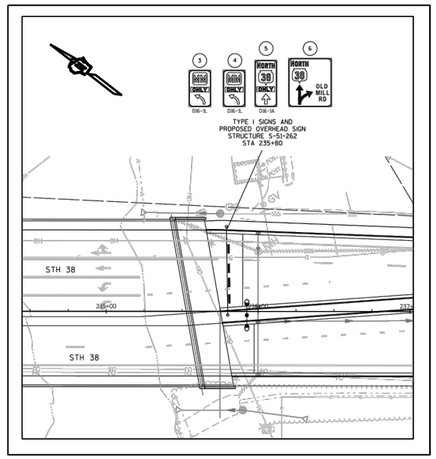
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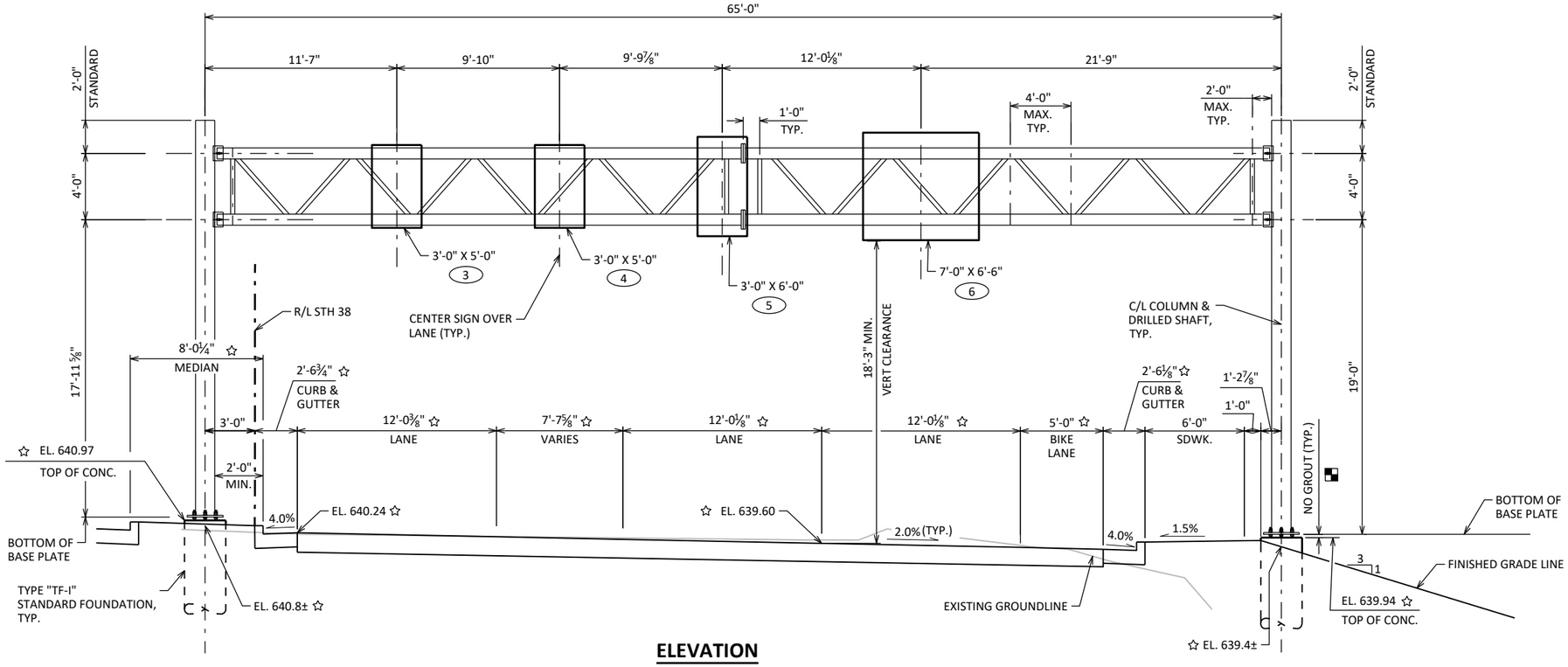
2290-03-73



PLAN



LOCATION MAP



ELEVATION

STA 235+80 STH 38 WB, WEST OF RAPIDS DR.
(LOOKING DOWNSTATION AT FRONT OF SIGN)

NOTE

POINT OF MIN. VERTICAL CLEARANCE
STA. 235+80.00, 34.24' (LEFT)
EL. 639.60

EXISTING SIGN BRIDGE, S-51-246, A 43'-0" FULL-SPAN MONOTUBE SUPPORTED BY DRILLED SHAFTS, IS LOCATED AT STA.236+55.00 TO BE REMOVED. PAID FOR UNDER BID ITEM "REMOVING ANCILLARY STRUCTURE S-51-246."

LEGEND

☆ ELEVATIONS & DIMENSIONS GIVEN ALONG C/L 2-CHORD TRUSS

(XX) SIGN NUMBERS (PERMANENT SIGNING PLAN)

STANDOFF DIMENSION IS ASSUMED TO BE 2½", BUT IS A MAXIMUM OF 2 X ANCHOR ROD DIAMETER. SEE FOUNDATION DETAILS SHEET AND SHOP DRAWINGS FOR MORE INFORMATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-51-262

DRAWN BY IFC | PLANS CK'D ARC

GENERAL LAYOUT S-51-262

SHEET 2
312

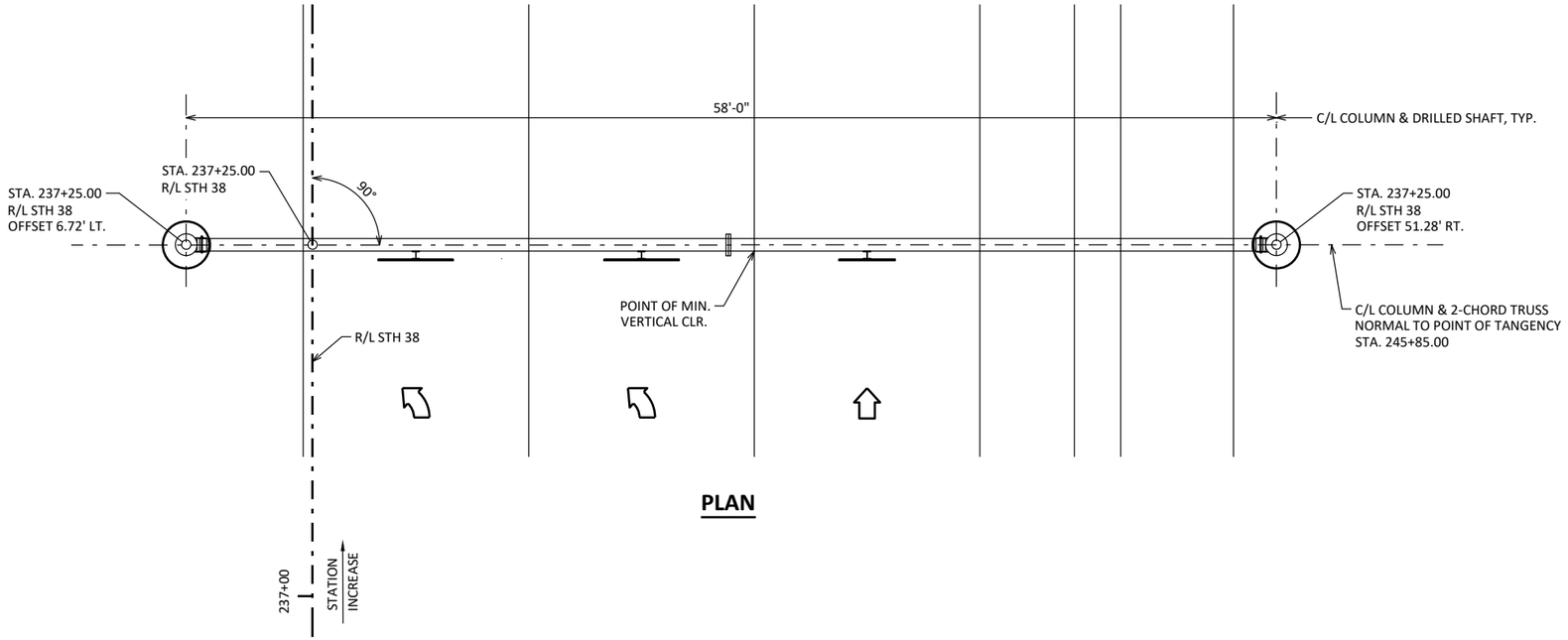
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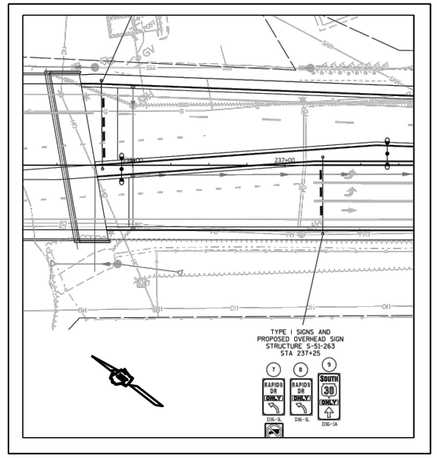
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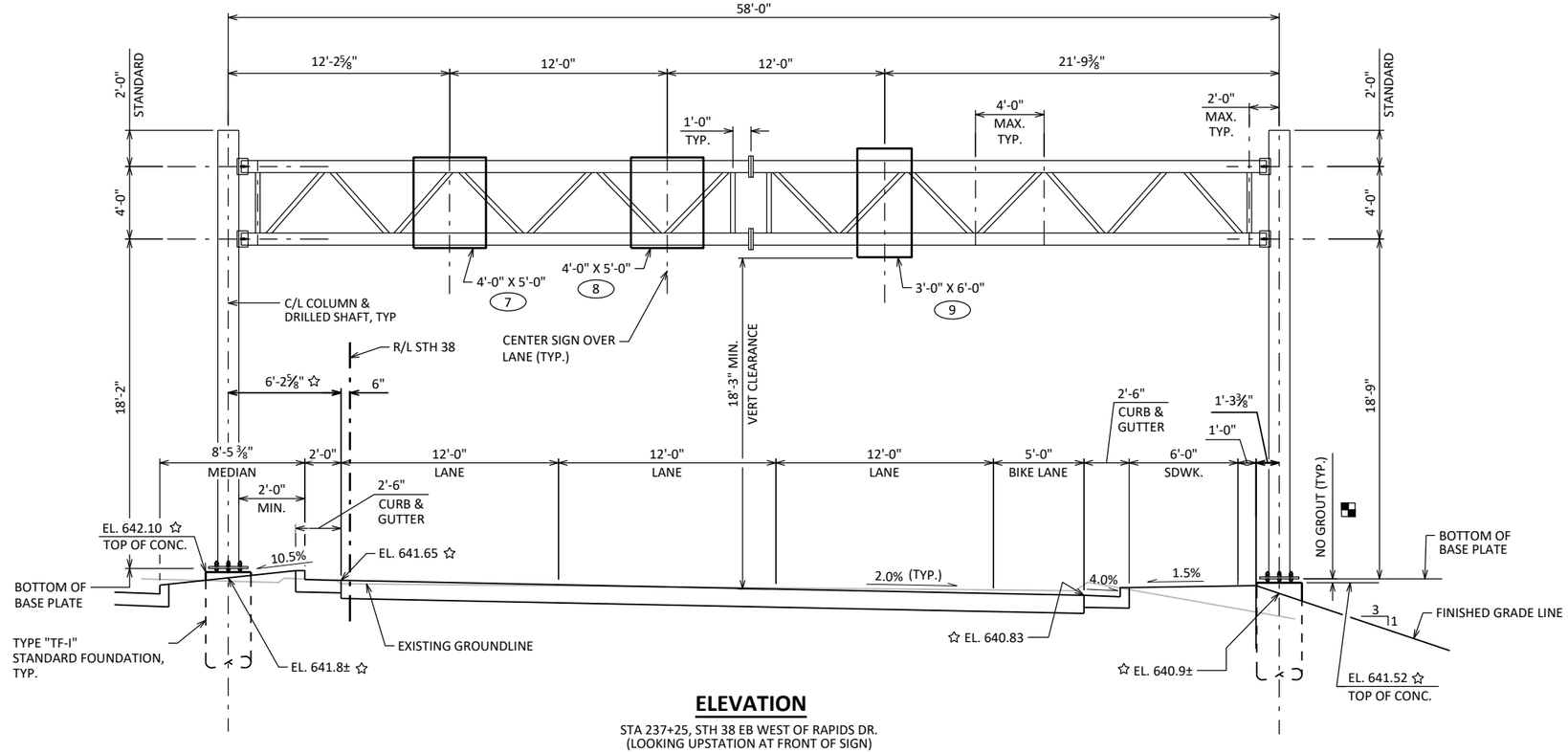
2290-03-73



PLAN



LOCATION MAP



ELEVATION

STA 237+25, STH 38 EB WEST OF RAPIDS DR.
(LOOKING UPSTATION AT FRONT OF SIGN)

NOTE

POINT OF MIN. VERTICAL CLEARANCE
STA 237+25.00, 23.50' (RIGHT)
EL. 641.17

EXISTING SIGN BRIDGE, S-51-245, A 40'-0" FULL-SPAN MONOTUBE SUPPORTED BY DRILLED SHAFTS, IS LOCATED AT STA.236+65.00 TO BE REMOVED. PAID FOR UNDER BID ITEM "REMOVING ANCILLARY STRUCTURE S-51-245."

LEGEND

☆ ELEVATIONS & DIMENSIONS GIVEN ALONG C/L 2-CHORD TRUSS

(XX) SIGN NUMBERS (PERMANENT SIGNING PLAN)

STANDOFF DIMENSION IS ASSUMED TO BE 2 ½", BUT IS A MAXIMUM OF 2 X ANCHOR ROD DIAMETER. SEE FOUNDATION DETAILS SHEET AND SHOP DRAWINGS FOR MORE INFORMATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-51-263

DRAWN BY IFC | PLANS CK'D ARC

GENERAL LAYOUT S-51-263

SHEET 3
313

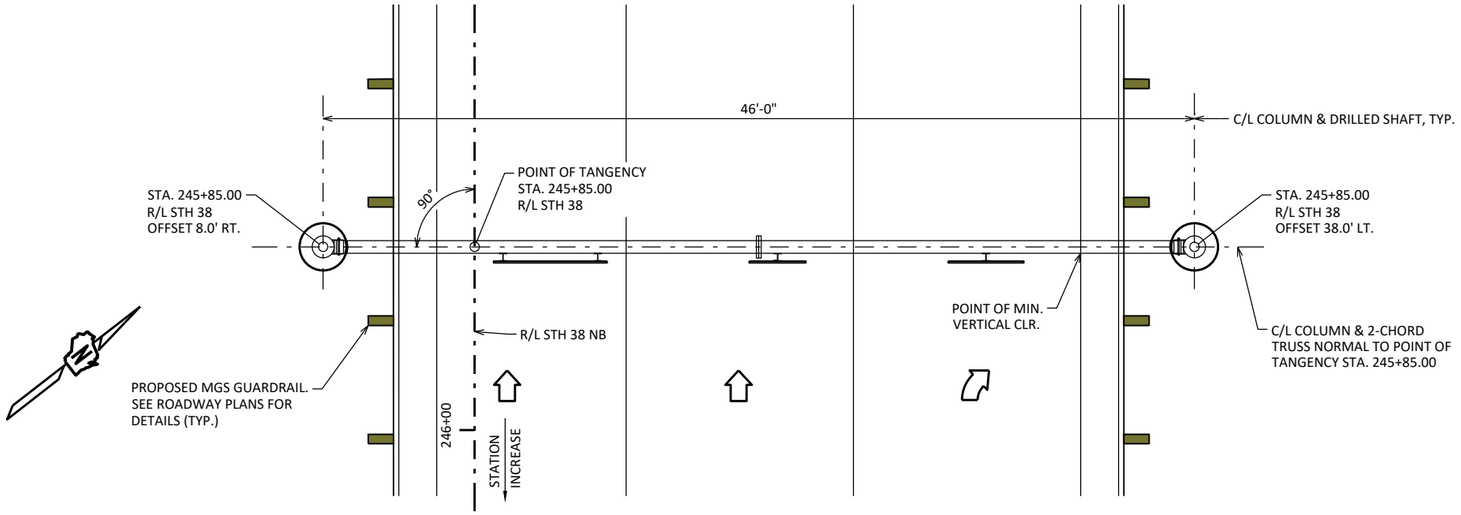
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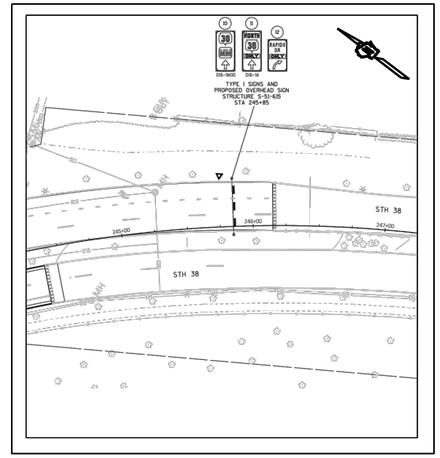
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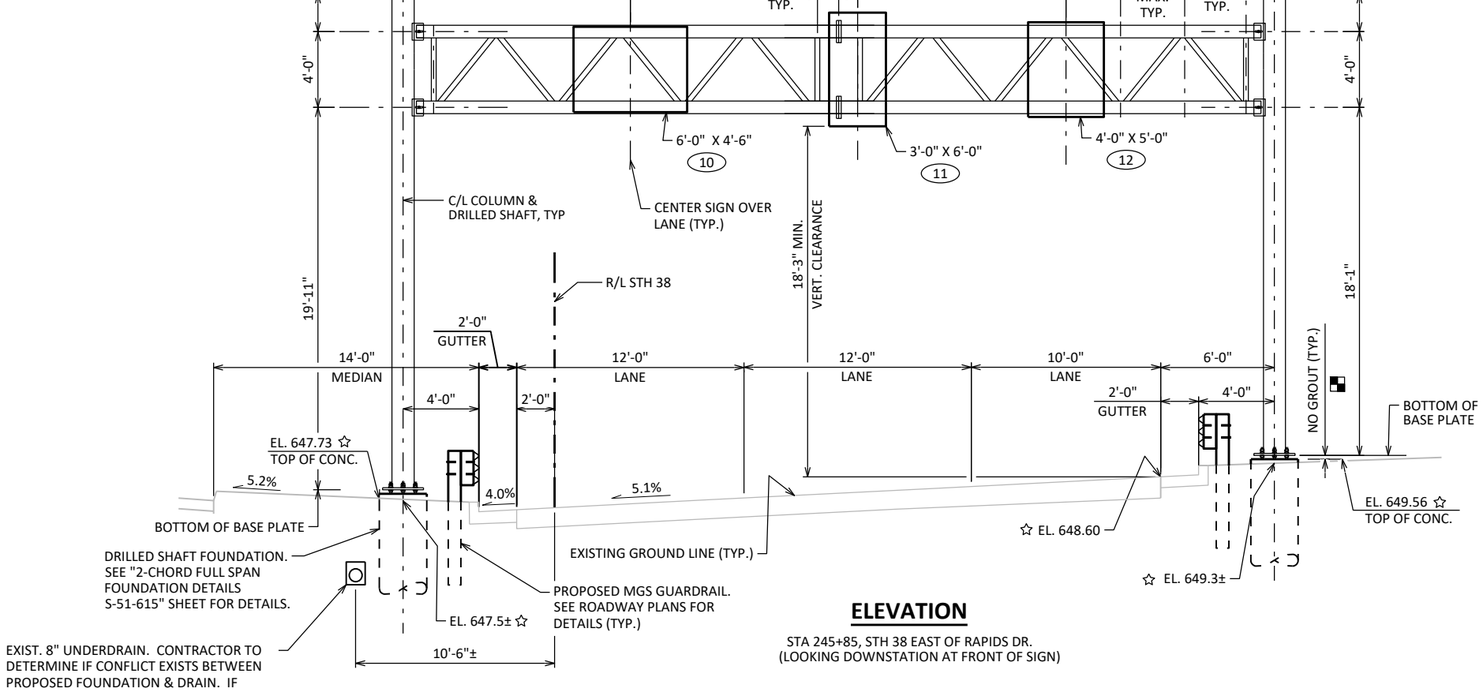
2290-03-73



PLAN



LOCATION MAP



ELEVATION

STA 245+85, STH 38 EAST OF RAPIDS DR.
(LOOKING DOWNSTATION AT FRONT OF SIGN)

NOTE

POINT OF MIN. VERTICAL CLEARANCE
STA 245+85.00, 32.0' (LEFT)
EL. 648.60

EXISTING SIGN BRIDGE, S-51-009, A 47'-0" FULL-SPAN MONOTUBE SUPPORTED BY DRILLED SHAFTS, IS LOCATED AT STA.246+42.00 TO BE REMOVED. PAID FOR UNDER BID ITEM "REMOVING ANCILLARY STRUCTURE S-51-009."

LEGEND

☆ ELEVATIONS GIVEN ALONG C/L 2-CHORD TRUSS

(XX) SIGN NUMBERS (PERMANENT SIGNING PLAN)

STANDOFF DIMENSION IS ASSUMED TO BE 2 ¾", BUT IS A MAXIMUM OF 2 X ANCHOR ROD DIAMETER. SEE FOUNDATION DETAILS SHEET AND SHOP DRAWINGS FOR MORE INFORMATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-51-615

DRAWN BY IFC | PLANS CK'D ARC

GENERAL LAYOUT
S-51-615

SHEET 4
314

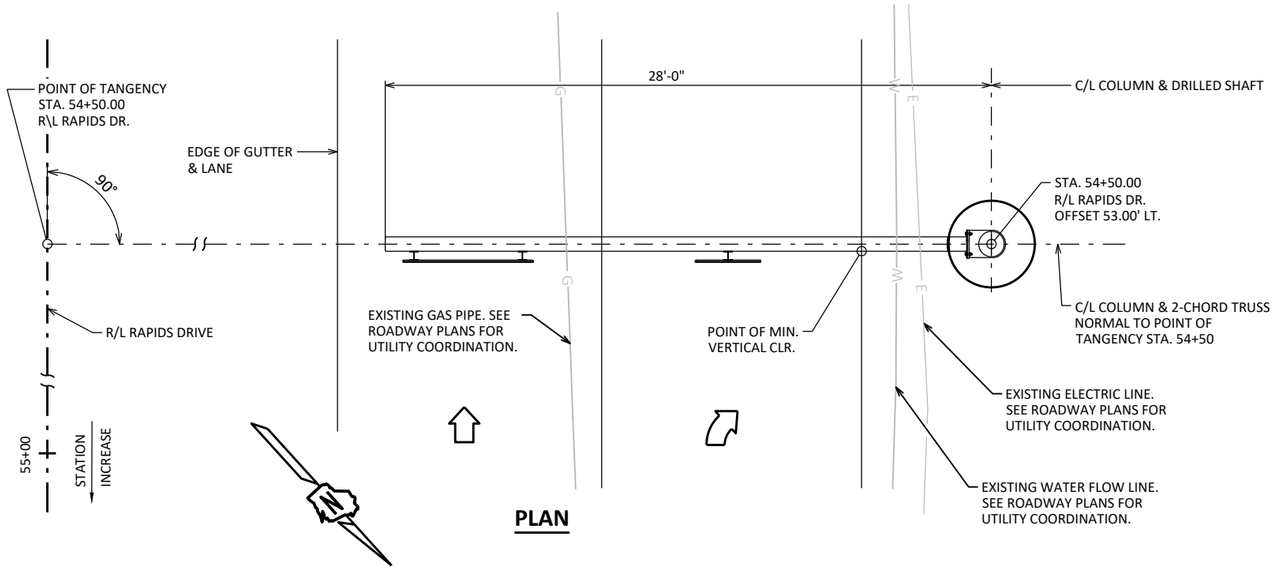
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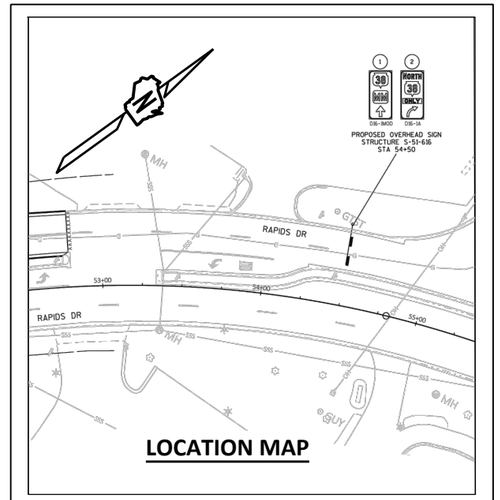
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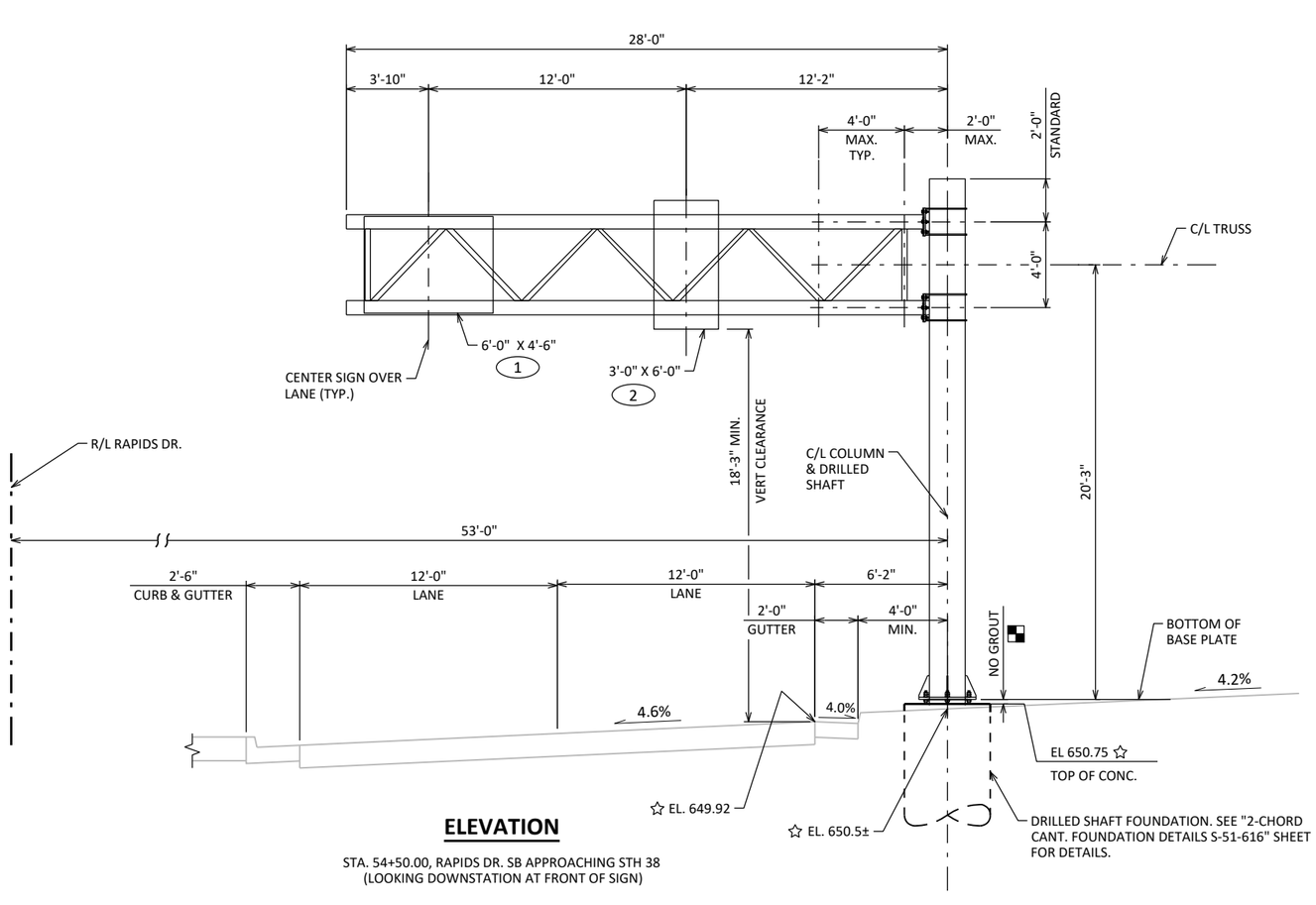
2290-03-73



PLAN



LOCATION MAP



ELEVATION

STA. 54+50.00, RAPIDS DR. SB APPROACHING STH 38
(LOOKING DOWNSTATION AT FRONT OF SIGN)

NOTE

POINT OF MIN. VERTICAL CLEARANCE
STA. 54+50.00, 46.83' (LEFT)
EL 649.92

EXISTING SIGN BRIDGE, S-51-010, A 54'-0" FULL-SPAN MONOTUBE WITH CANTILEVER, SUPPORTED BY DRILLED SHAFTS, IS LOCATED AT STA. 239+25± TO BE REMOVED. PAID FOR UNDER BID ITEM "REMOVING ANCILLARY STRUCTURE S-51-010."

LEGEND

☆ ELEVATIONS GIVEN ALONG C/L 2-CHORD TRUSS

(XX) SIGN NUMBERS (PERMANENT SIGNING PLAN)

■ STANDOFF DIMENSION IS ASSUMED TO BE 2½", BUT IS A MAXIMUM OF 2 X ANCHOR ROD DIAMETER. SEE FOUNDATION DETAILS SHEET AND SHOP DRAWINGS FOR MORE INFORMATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-51-616

DRAWN BY IFC | PLANS CK'D ARC

GENERAL LAYOUT
S-51-616

SHEET 5
315

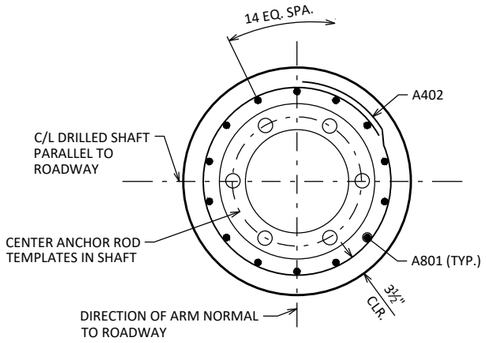
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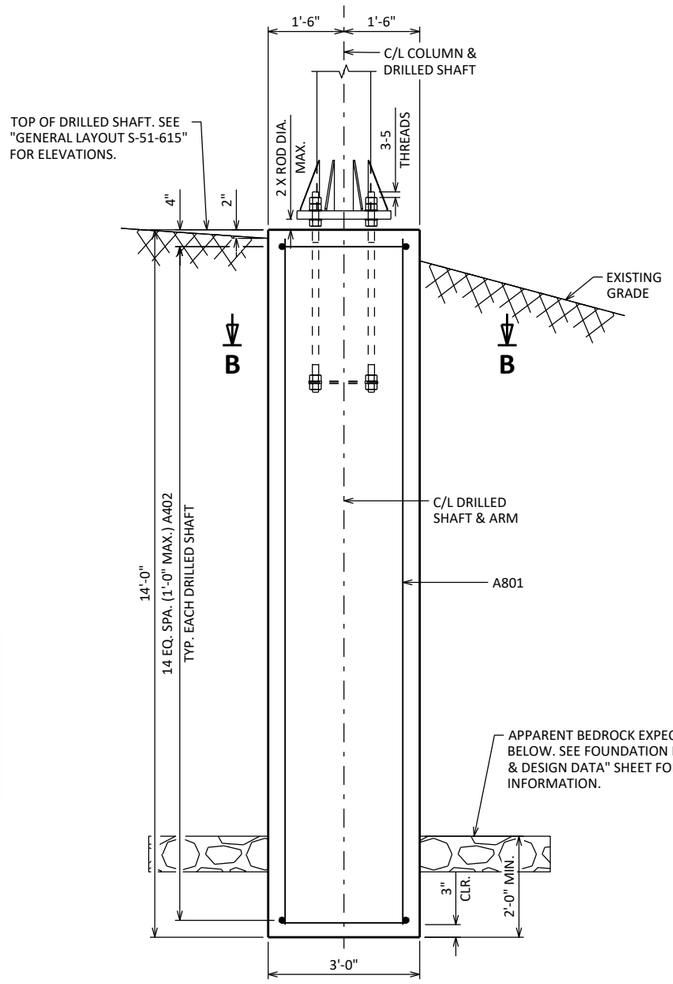
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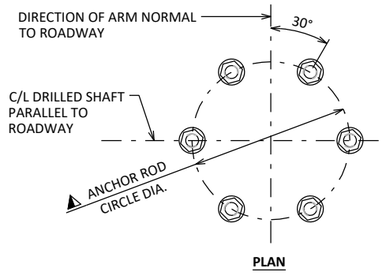
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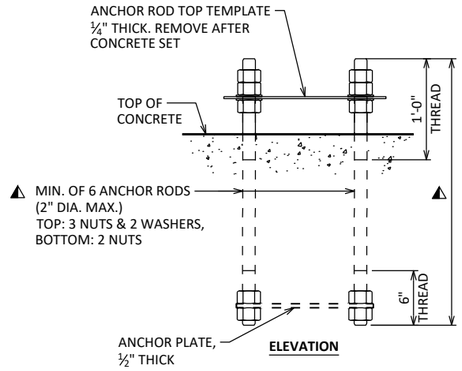
SECTION B-B

TYPICAL FOR EACH DRILLED SHAFT FOOTING





PLAN

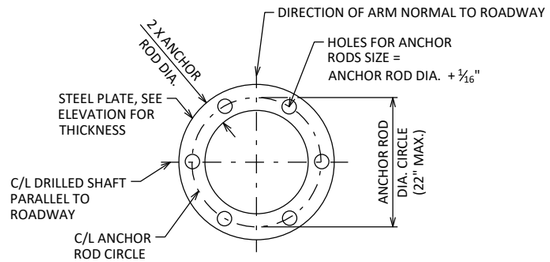


ELEVATION

ANCHOR ROD ASSEMBLY DETAILS

⚠ ANCHOR RODS PER ASSEMBLY TO BE DESIGNED BY CONTRACTOR AND SHOWN ON SHOP DRAWINGS. SHOW DIAMETER, NUMBER, ORIENTATION, PROJECTION AND EMBEDMENT OF ANCHOR RODS.

CENTER ANCHOR ROD ASSEMBLY AND ENSURE ASSEMBLY IS PLUMB. MAINTAIN ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE AS DETAILED. ANCHOR ROD ASSEMBLY SHALL BE RIGIDLY SECURED IN POSITION DURING AND AFTER CONCRETE PLACEMENT. DO NOT WELD THE ANCHORS.

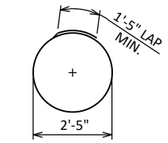


ANCHOR PLATE & TOP TEMPLATE

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

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A801		28	13'-7"			DRILLED SHAFT - VERTICAL
A402		30	9'-0"	X		DRILLED SHAFT - HORIZONTAL



A402

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-51-615

DRAWN BY IFC | PLANS CK'D ARC

2-CHORD FULL SPAN FOUNDATION DETAILS S-51-615

SHEET 6
316

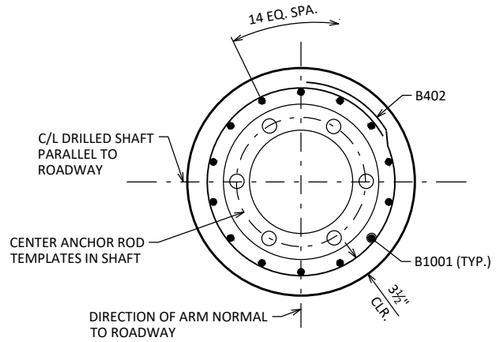
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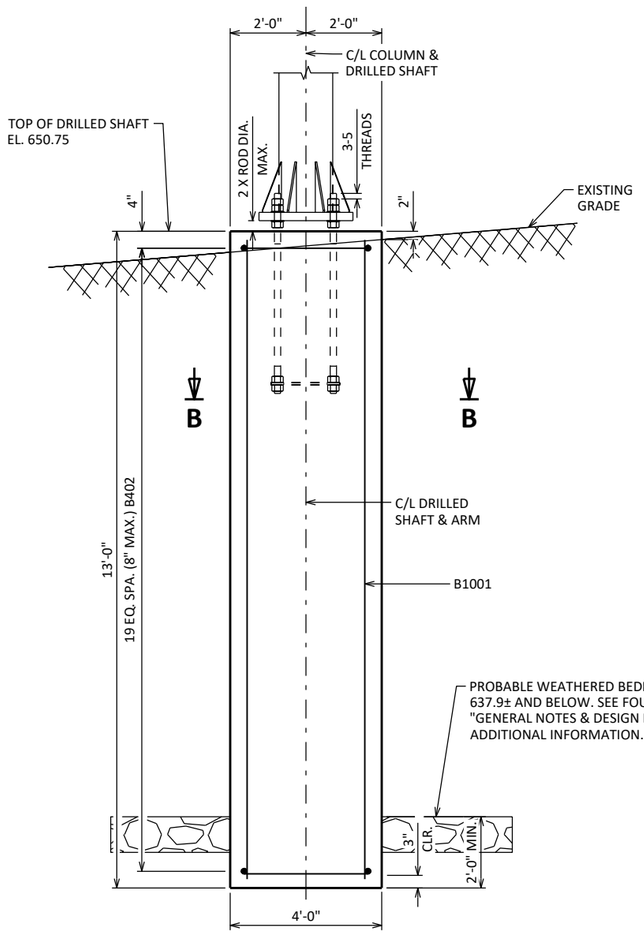
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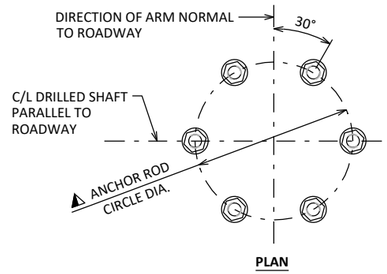
STATE PROJECT NUMBER

2290-03-73

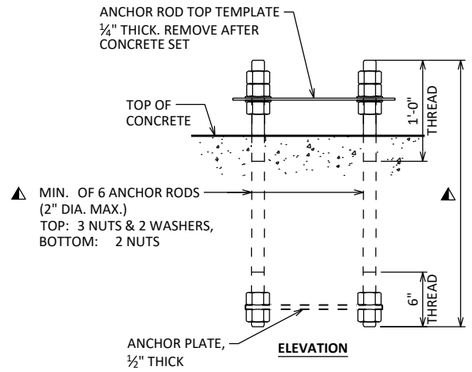


SECTION B-B





PLAN

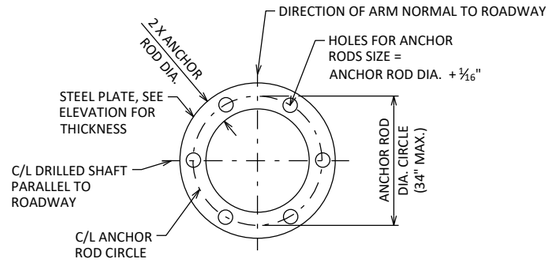


ELEVATION

ANCHOR ROD ASSEMBLY DETAILS

⚠ ANCHOR RODS PER ASSEMBLY TO BE DESIGNED BY CONTRACTOR AND SHOWN ON SHOP DRAWINGS. SHOW DIAMETER, NUMBER, ORIENTATION, PROJECTION AND EMBEDMENT OF ANCHOR RODS.

CENTER ANCHOR ROD ASSEMBLY AND ENSURE ASSEMBLY IS PLUMB. MAINTAIN ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE AS DETAILED. ANCHOR ROD ASSEMBLY SHALL BE RIGIDLY SECURED IN POSITION DURING AND AFTER CONCRETE PLACEMENT. DO NOT WELD THE ANCHORS.

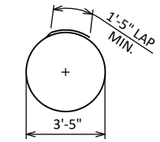


ANCHOR PLATE & TOP TEMPLATE

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

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B1001		14	12'-7"			DRILLED SHAFT - VERTICAL
B402		20	12'-2"	X		DRILLED SHAFT - HORIZONTAL



B402

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE S-51-616

DRAWN BY IFC | PLANS CK'D ARC

2-CHORD CANT. FOUNDATION DETAILS S-51-616

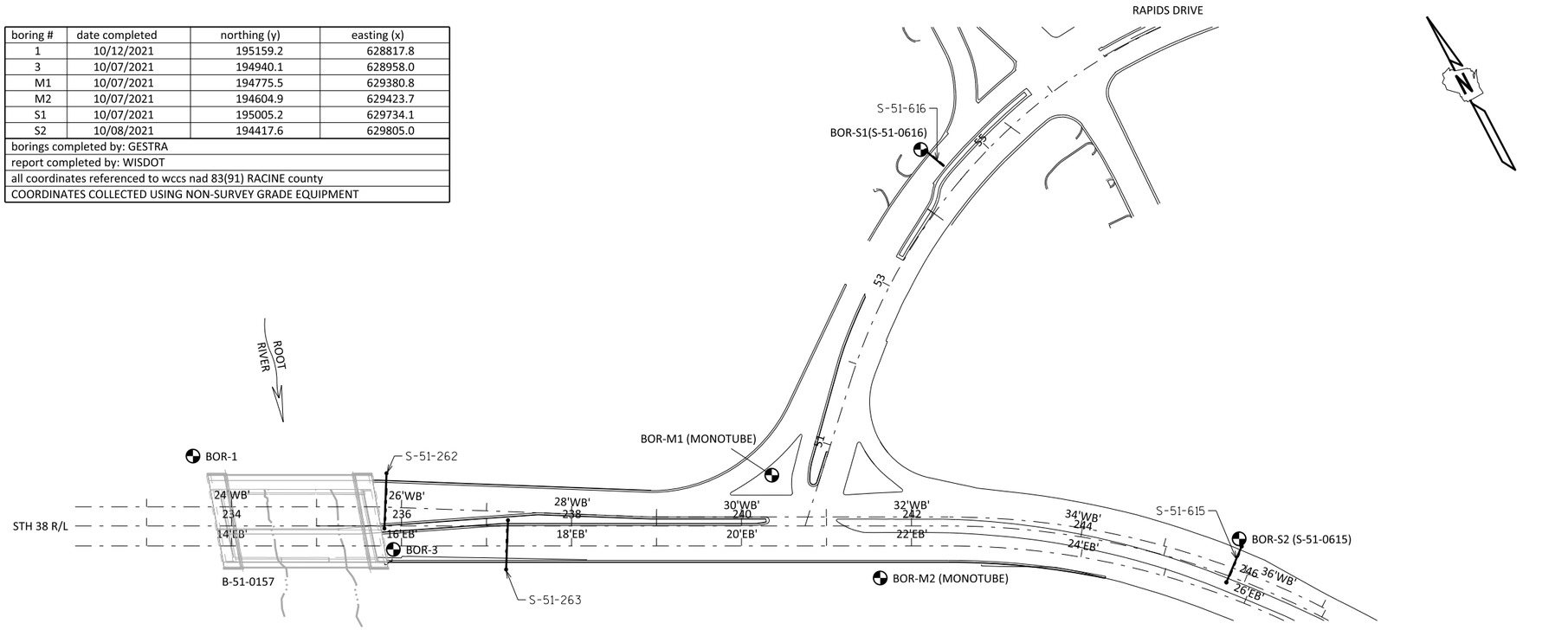
SHEET 7
317

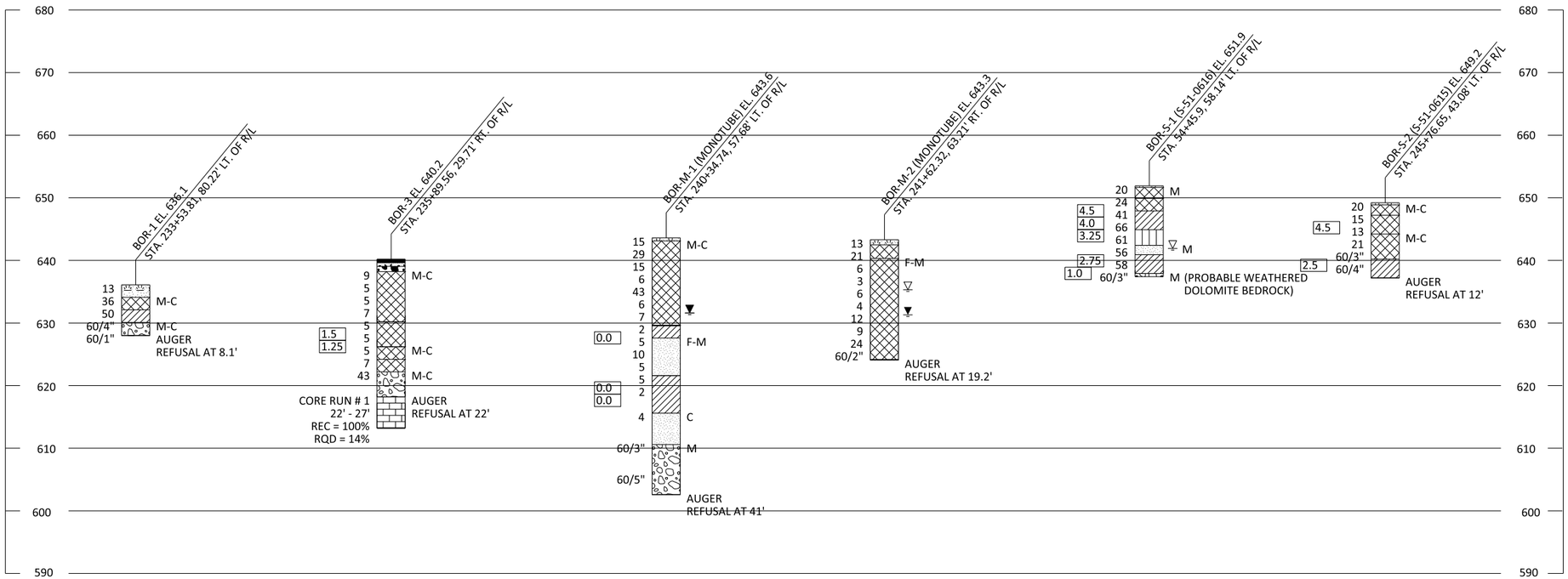
SCALE = 3.00

8

8

boring #	date completed	northing (y)	easting (x)
1	10/12/2021	195159.2	628817.8
3	10/07/2021	194940.1	628958.0
M1	10/07/2021	194775.5	629380.8
M2	10/07/2021	194604.9	629423.7
S1	10/07/2021	195005.2	629734.1
S2	10/08/2021	194417.6	629805.0
borings completed by: GESTRA			
report completed by: WISDOT			
all coordinates referenced to wccs nad 83(91) RACINE county			
COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT			





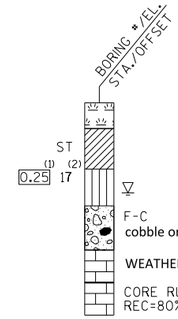
STATE PROJECT NUMBER

2290-03-73

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
STRUCTURES DESIGN SECTION

STRUCTURE S-51-615, 616

DRAWN BY TLP/IFC | PLANS CK'D. ARC

SUBSURFACE EXPLORATION

SHEET 8

318

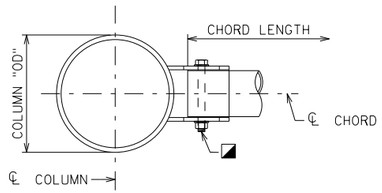
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8

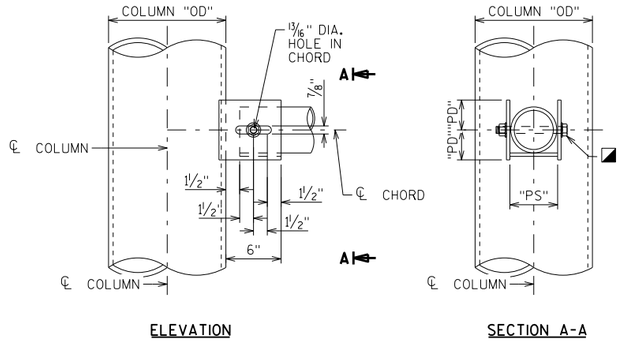
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STATE PROJECT NUMBER

STANDARD



PLAN



ELEVATION SECTION A-A

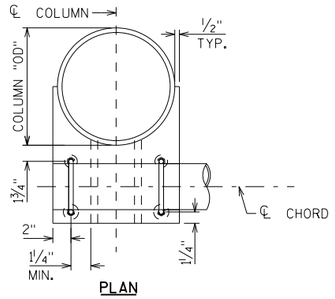
FULL SPAN SADDLE CONNECTION

PREFERRED

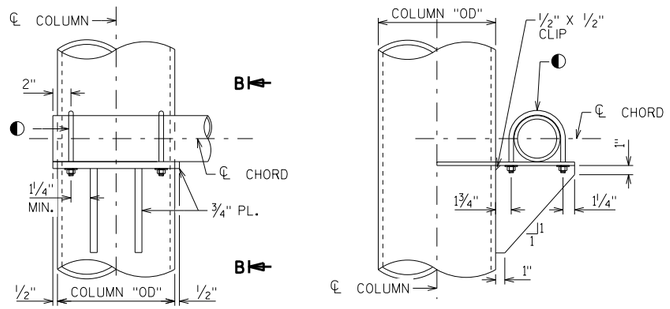
¾" GALVANIZED A325 OR A449 HEAVY HEX BOLT, NUT, WASHER

"PD" = (CHORD "OD")/2 + ¾"

"PS" = CHORD "OD" + 3/16"



PLAN

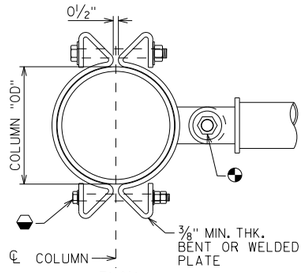


ELEVATION SECTION B-B

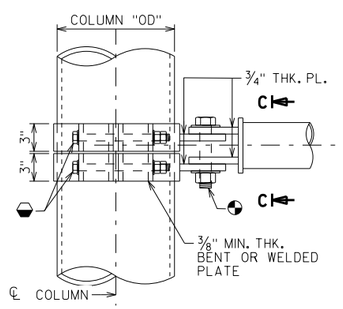
FULL SPAN STIFFENED BEARING CONNECTION

ALTERNATE 1

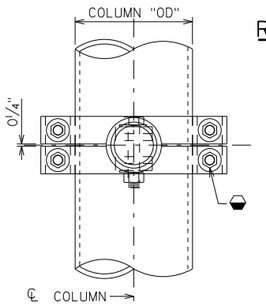
◐ (2) - ½" MIN. GALVANIZED U-BOLT, NUT, WASHER AND LOCK WASHER



PLAN



ELEVATION



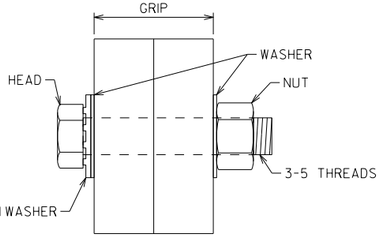
SECTION C-C

FULL SPAN CLAMP CONNECTION

ALTERNATE 2 - TAPERED COLUMNS ONLY

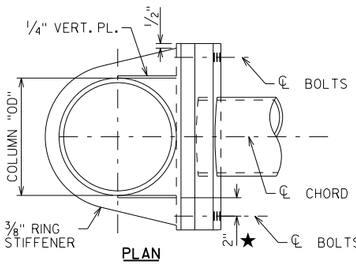
◔ 1¼" GALVANIZED A325 HEAVY HEX BOLT, NUT AND WASHER

⬣ 1" GALVANIZED A449 HEAVY HEX BOLT, NUT AND WASHER

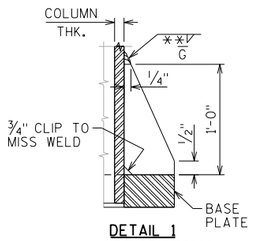


RECOMMENDED BOLT DETAIL WITH DTI

NUT IS THE TURNED ELEMENT

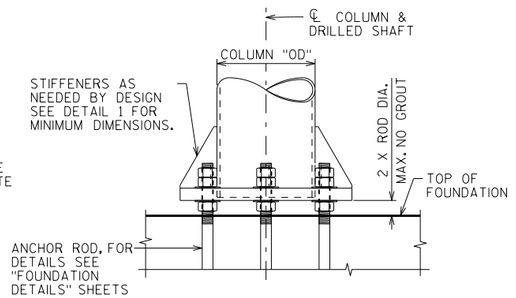


PLAN



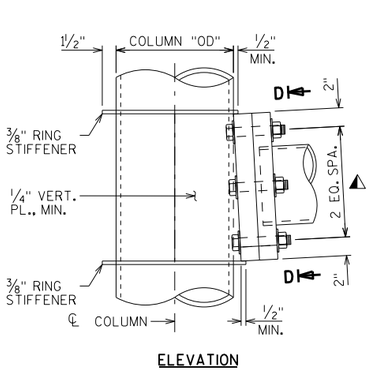
DETAIL 1

** SIZE AS NEEDED

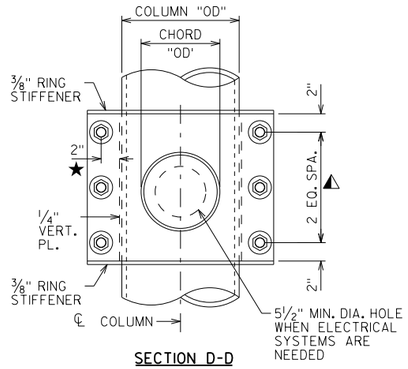


BASE PLATE & COLUMN DETAIL

LOOKING AT FRONT FACE OF STRUCTURE



ELEVATION

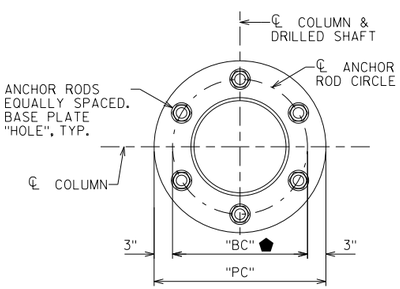


SECTION D-D

CANTILEVER POST TO CHORD CONNECTION

◭ MIN. CONNECTION = (6) - 1" GALVANIZED F3125 GRADE A325 BOLTS, NUT, WASHER AND DTI

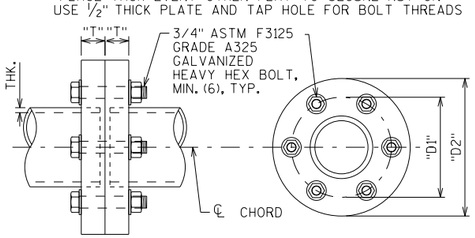
★ MIN. DIMENSION MEASURED FROM EXT. FACE OF VERT. PLATE



BASE PLATE

PLAN

⬟ "BC" = POLE OD + 6"

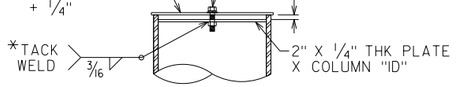


CHORD SPLICE DETAIL

"D1" = CHORD "OD" + 3"

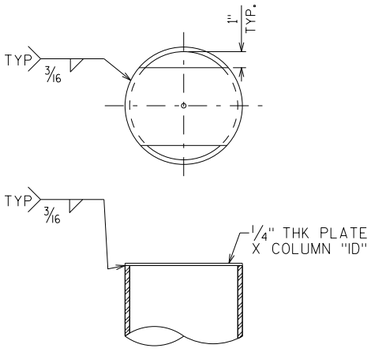
"D2" = CHORD "OD" + 6"

"T" = BY DESIGN



COLUMN/CHORD CAP DETAIL

* PLACE TACK EVERY OTHER FLAT TO SECURE NUT OR USE ½" THICK PLATE AND TAP HOLE FOR BOLT THREADS



CHORD CAP DETAIL

NOTES:

MINIMUM VALUES SHOWN

ALL CONNETIONS ARE TO BE DESIGNED FOR ACTUAL STRUCTURE LOADS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: MARCH 2021

DRAWN BY BOS | PLANS CK'D. BOS

MONOTUBE & 2-CHORD TRUSS DETAILS 1

SHEET 1 OF IV

319

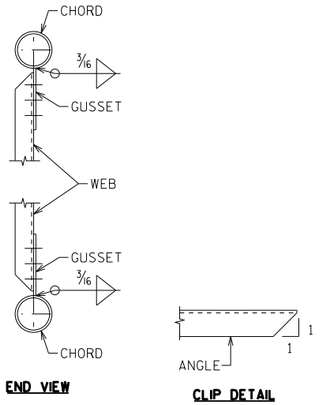
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SCALE = 1.00

STATE PROJECT NUMBER

STANDARD

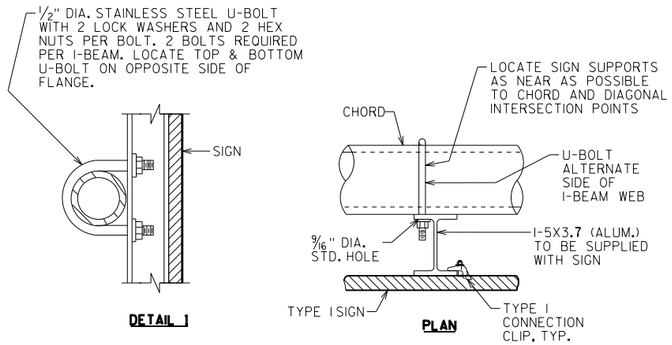


END VIEW

CLIP DETAIL

TRUSS CONNECTION DETAILS

BOLTED CONNECTIONS SHOWN, NUMBER OF BOLTS BY DESIGN
WELDED CONNECTIONS SIMILAR



DETAIL 1

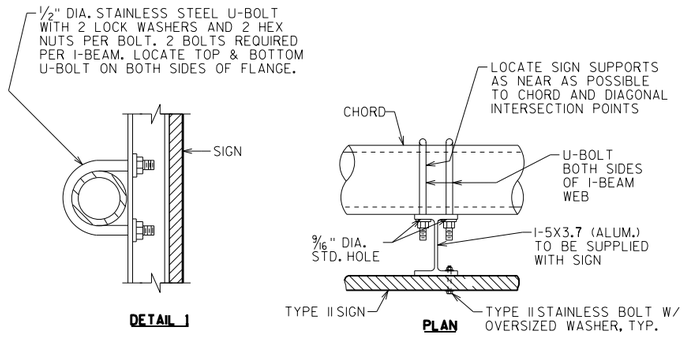
PLAN

2-CHORD TRUSS SIGN CONNECTION

SEE SIGN PLATE MANUAL A4-7A FOR DETAILS

ALUMINUM I-5X3.7 I-BEAMS ARE TO BE SUPPLIED WITH THE SIGN PANEL

HARDWARE TO BE SUPPLIED BY THE CONTRACTOR



DETAIL 1

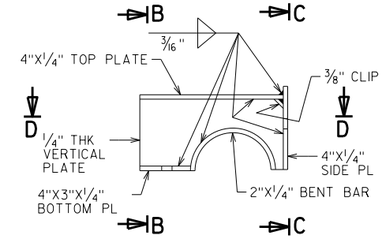
PLAN

MONOTUBE SIGN CONNECTION

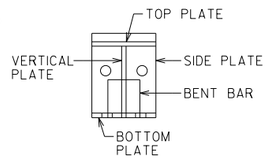
SEE SIGN PLATE MANUAL A4-7B FOR DETAILS

ALUMINUM I-5X3.7 I-BEAMS ARE TO BE SUPPLIED WITH THE SIGN PANEL

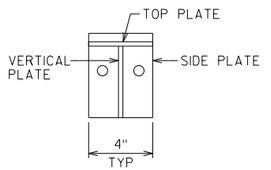
HARDWARE TO BE SUPPLIED BY THE CONTRACTOR



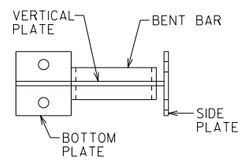
ELEVATION



SECTION B-B



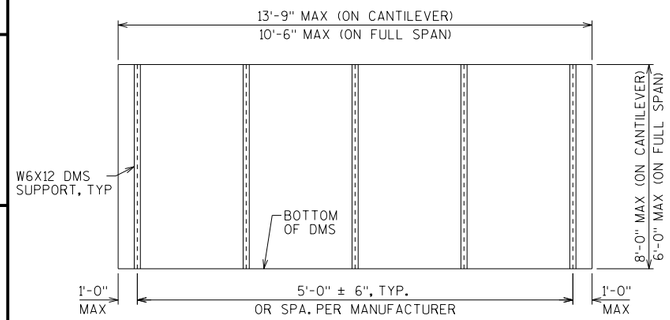
SECTION C-C



SECTION D-D

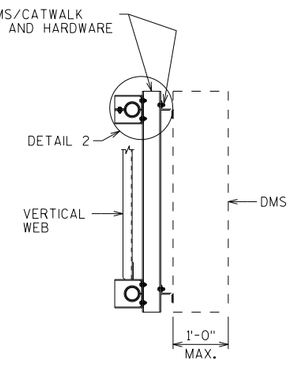
DMS WELDED PLATE CONNECTION DETAILS

TOP PLATE CLAMP SHOWN
BOTTOM PLATE CLAMP SIMILAR



DMS MOUNTING POST SPACING DETAIL

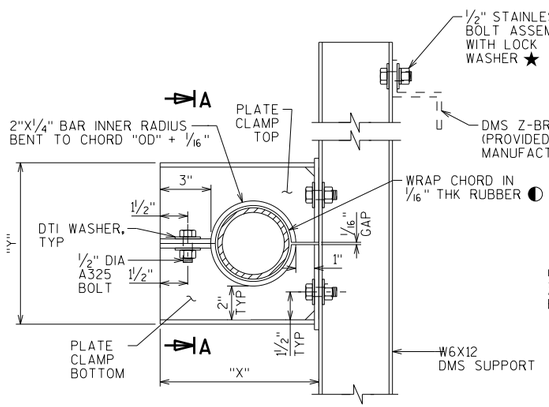
POST SPACING MAY BE ADJUSTED AS REQUIRED IF CONFLICT WITH TRUSS IS ENCOUNTERED.



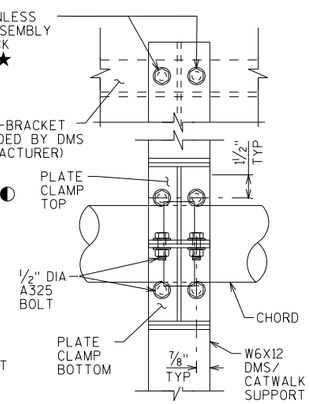
SECTION THRU TRUSS

FOR DMS/CATWALK CONNECTION

★ W6X12 SUPPORTS AND HARDWARE ARE TO BE SUPPLIED BY THE CONTRACTOR. 1/2" STAINLESS BOLT, NUT, WASHER AND LOCK WASHER REQUIRED, 4 PER W6X12.



DETAIL 2

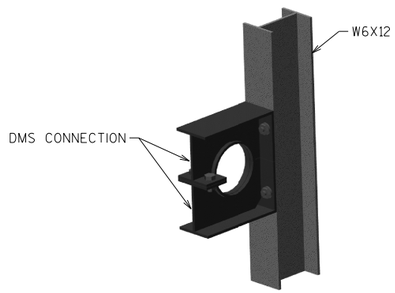


SECTION A-A

CHORD OUTER DIA	"X"	"Y"
"OD"	"OD"+4 13/16"	"OD"+5 1/16"

TYPICAL DMS CONNECTION

◐ NEOPRENE, GRADE 45±5, OTHERWISE MEETING THE REQUIREMENTS OF STD SPEC 506.2.6.1



3-D VIEW DMS CONNECTION

CHORD NOT SHOWN FOR CLARITY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: APRIL 2021

DRAWN BY BOS | PLANS CK'D. BOS

MONOTUBE & 2-CHORD TRUSS DETAILS 2

SHEET II OF IV

320

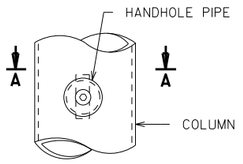
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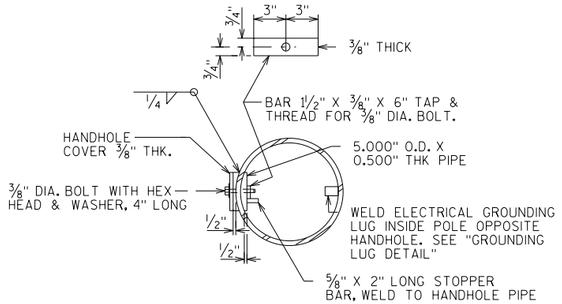
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STATE PROJECT NUMBER

STANDARD



HANDHOLE DETAILS

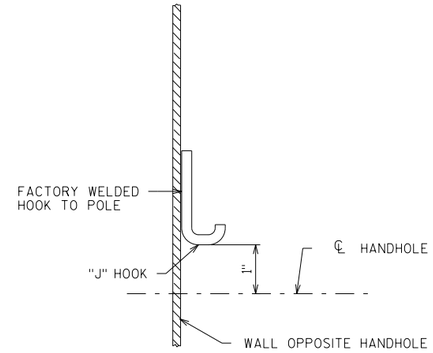


SECTION A-A

HANDHOLE NOTES

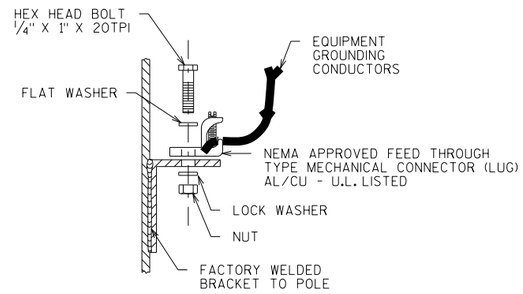
HANDHOLES SHALL BE LOCATED IN ONE COLUMN OF THE SIGN STRUCTURE IF ELECTRICALLY OPERATED DEVICES ARE INSTALLED ON/IN THE STRUCTURE. COLUMNS WITH HANDHOLES SHALL BE NEAR THE ELECTRICAL SERVICE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE ELECTRICAL SERVICE ENTRANCE WITH THE REGION TRAFFIC SECTION PRIOR TO FABRICATION OF THE SIGN COLUMNS AND MEMBERS. CONDUIT (AS REQ'D.) SHALL BE LOCATED, PLACED AND SIZED AS SHOWN ON THE ELECTRICAL PLAN DETAIL SHEETS.

UNLESS NOTED OTHERWISE, ALL HANDHOLE ELEMENTS TO BE GALVANIZED PER THE WISDOT STANDARD SPECIFICATIONS.



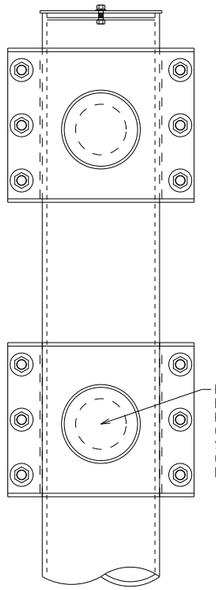
TYPICAL "J" HOOK LOCATION

THE "J" HOOK SHALL BE FACTORY WELDED TO THE INSIDE OF ALL COLUMNS CONTAINING ELECTRICAL WIRING. THE "J" HOOK SHALL BE ATTACHED ABOVE THE CENTERLINE OF THE UPPER HANDHOLE AND MOUNTED DIRECTLY OPPOSITE THE HANDHOLE AS SHOWN IN THE DRAWING.

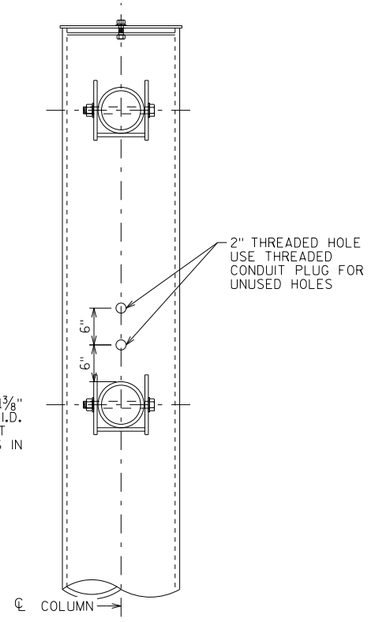


GROUNDING LUG DETAIL

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



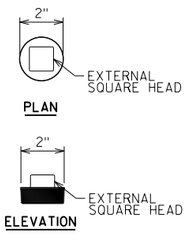
2-CHORD CANTILEVER



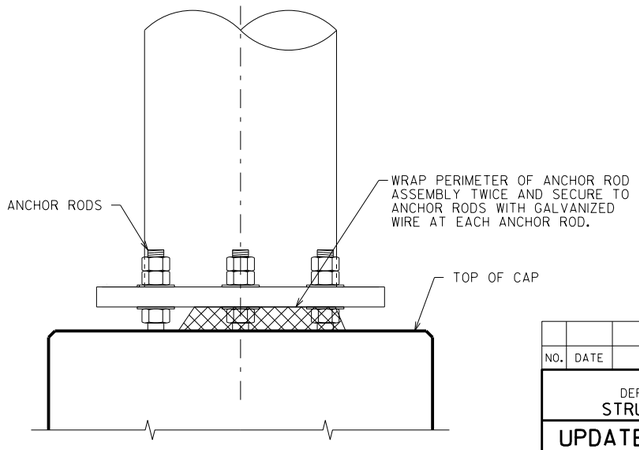
2-CHORD FULL SPAN

SADDLE CONNECTIONS SHOWN, BEARING AND CLAMP CONNECTIONS SIMILAR

CONDUIT HOLE LOCATIONS



CONDUIT PLUG DETAILS



RODENT SCREEN

(ONLY REQ'D. WHEN ELECTRICAL DEVICES ARE INSTALLED)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: MARCH 2021

DRAWN BY BOS | PLANS CK'D. BOS

MONOTUBE & 2-CHORD TRUSS ELECTRICAL DETAILS

SHEET III OF IV

321

SCALE = 1.00

8

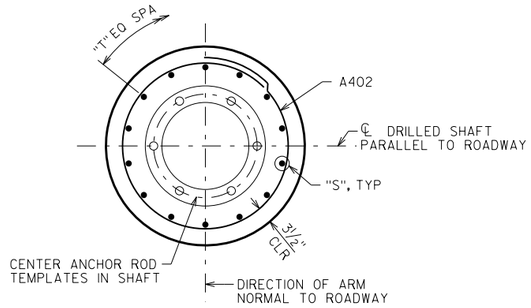
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STATE PROJECT NUMBER

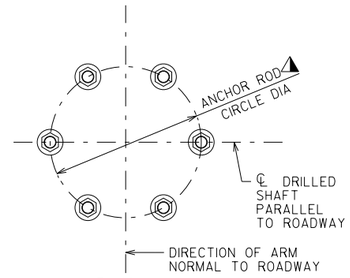
STANDARD

FOUNDATION & REINFORCING DATA

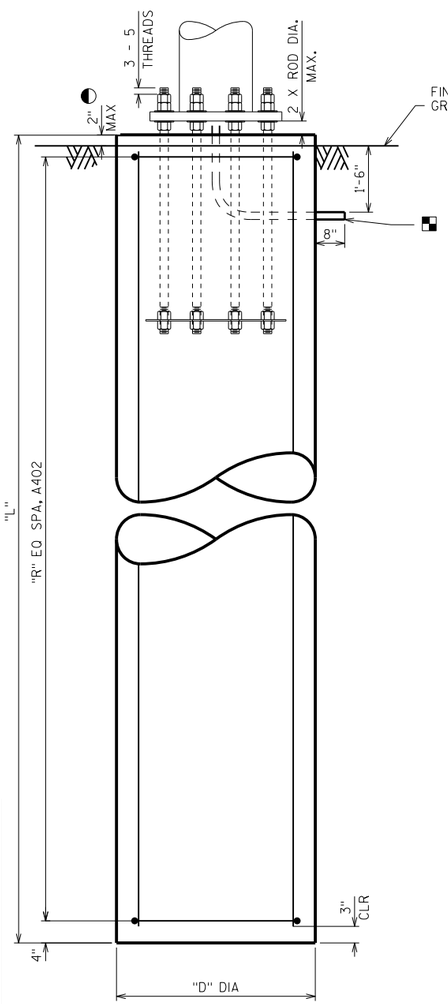
STANDARD FOUNDATION TYPE	SHAFT VARIABLES					
	"D"	"L"	"R"	"S"	"T"	"BC" MAX
MFI	2'-0"	12'-0"	12	A801	6	12"
MFII	2'-6"	13'-0"	13	A801	10	17"
MCI/MCII/TFI	2'-6"	17'-0"	17	A801	10	17"
TCI	3'-0"	18'-0"	18	A801	14	22"
TFII	3'-0"	20'-0"	20	A801	14	22"
MCIII/TCII/TFIII	3'-6"	18'-0"	18	A901	14	28"
MCIV/TFIV	3'-6"	23'-0"	23	A901	14	28"
TCIII	4'-0"	23'-0"	23	A1001	14	34"
TCIV	4'-0"	28'-0"	28	A1001	14	34"



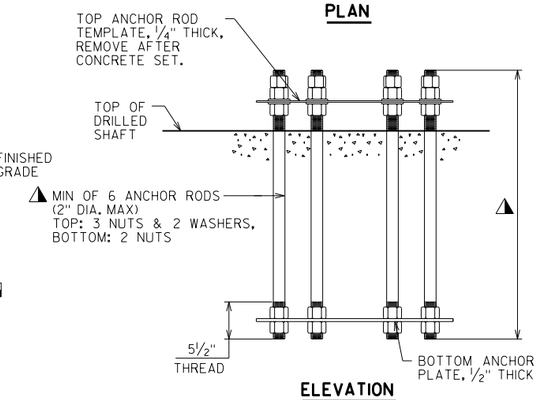
PLAN



PLAN



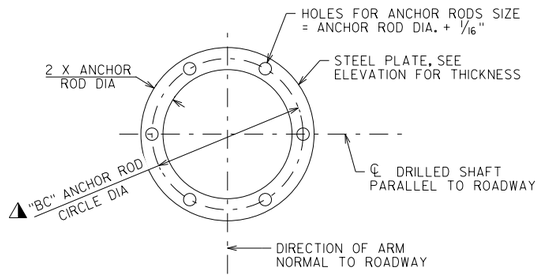
ELEVATION



ELEVATION

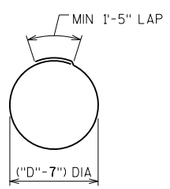
ANCHOR ROD ASSEMBLY DETAILS

△ ANCHOR ROD NUMBER, DIAMETER, LENGTH & ORIENTATION AS SHOWN ON FABRICATION DRAWING.



ANCHOR PLATE/TOP TEMPLATE

PLAN



A402

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

BILL OF BARS - STANDARD FOUNDATIONS

STANDARD FOUNDATION MFI

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A801		6	11'-7"			DRILLED SHAFT - VERTICAL
A402		13	5'-10"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION MFII

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A801		10	12'-7"			DRILLED SHAFT - VERTICAL
A402		14	7'-5"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION MCI/MCII/TFI

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A801		10	16'-7"			DRILLED SHAFT - VERTICAL
A402		18	7'-5"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION TCI

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A801		14	17'-7"			DRILLED SHAFT - VERTICAL
A402		19	9'-0"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION TFII

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A801		14	19'-7"			DRILLED SHAFT - VERTICAL
A402		21	9'-0"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION MCIII/TCII/TFIII

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A901		14	17'-7"			DRILLED SHAFT - VERTICAL
A402		19	10'-6"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION MCIV/TFIV

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A901		14	22'-7"			DRILLED SHAFT - VERTICAL
A402		24	10'-6"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION TCIII

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A1001		14	22'-7"			DRILLED SHAFT - VERTICAL
A402		24	12'-2"	X		DRILLED SHAFT - HORIZONTAL

STANDARD FOUNDATION TCIV

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A1001		14	27'-7"			DRILLED SHAFT - VERTICAL
A402		29	12'-2"	X		DRILLED SHAFT - HORIZONTAL

ESTIMATED QUANTITIES - FOUNDATIONS

STANDARD FOUNDATION TYPE	CONCRETE MASONRY (CY)	STEEL REINFORCEMENT HS (LBS)	FOUNDATION DRILLING (LF)				
			24" DIA.	30" DIA.	36" DIA.	42" DIA.	48" DIA.
MFI	2	240	12				
MFII	3	410		13			
MCI/MCII/TFI	4	540		17			
TCI	5	780			18		
TFII	6	860			20		
MCIII/TCII/TFIII	7	970				18	
MCIV/TFIV	9	1,250				23	
TCIII	11	1,560					23
TCIV	13	1,900					28

✳✳ QUANTITIES ARE FOR INFORMATION ONLY AND ARE BASED ON STANDARD STRUCTURE DIMENSIONS

NOTES

CENTER ANCHOR ROD ASSEMBLY ON DRILLED SHAFT AND MAKE SURE IT IS PLUMB. MAINTAIN ANCHOR ROD PROJECTION ABOVE FOOTING AS DETAILED. ANCHOR ROD ASSEMBLY SHALL BE RIGIDLY SECURED IN POSITION DURING AND AFTER CONCRETE PLACEMENT. DO NOT WELD THE ANCHOR RODS.

◐ FOR OVERHEAD SIGN STRUCTURES THAT ARE INSTALLED ADJACENT TO SIDEWALKS, THE TOP OF THE SHAFT SHALL BE POURED FLUSH WITH THE FINISHED GRADE.

◪ 2" DIA NONMETALLIC CONDUITS, INSTALL ONLY WITH DMS. EXTEND CONDUITS AS SHOWN AND CAP OR SEAL EACH END WITH A SUITABLE REMOVABLE PLUG. PLACE CONDUITS UNDER COLUMN ADJACENT TO THE DMS. CONDUITS INCIDENTAL TO THE FOUNDATION BID ITEMS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: MARCH 2021

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MONOTUBE & 2-CHORD TRUSS FOUNDATIONS

SHEET IV OF IV

322

SCALE = 1.67

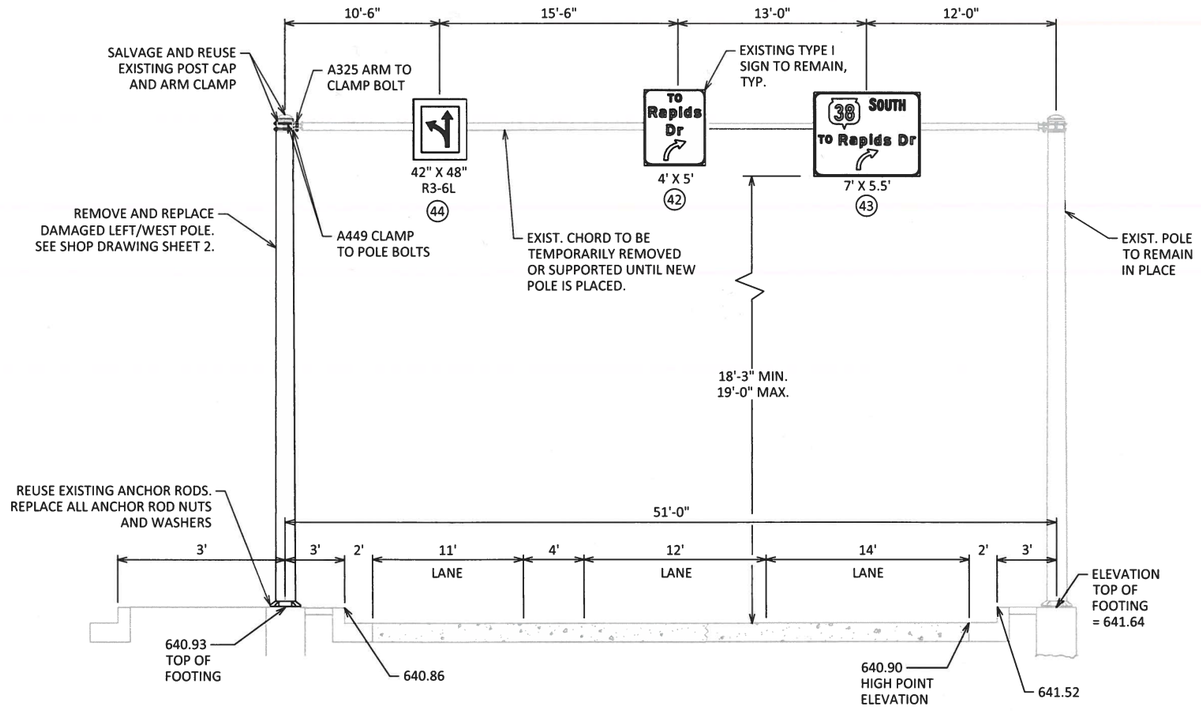
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8

LEGEND

(XX) INDICATES SIGN NUMBER

(X) INDICATES SIGN SIZE



ELEVATION

STA. 143+50
(LOOKING NORTH AT FRONT FACE OF SIGN)
CTH MM AT STH 38

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S-51-607
SPV.0060.05	REPLACE SIGN STRUCTURE POLE	EACH	1

ALL ITEMS ARE CATEGORY 0800

STATE PROJECT NUMBER

2290-03-73

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PER THE REQUIREMENTS IN THE SPECIAL PROVISIONS PRIOR TO FABRICATION OF THE STRUCTURE.

WELD TEST AS PER AWS D1.1

SIZE FOR REPLACEMENT COMPONET(S), INCLUDING TAPERED VERTICAL SUPPORT PLATE THICKNESS, SHALL BE NO LESS THAN THE EXISTING COMPONENT(S).

REUSE OF UNFASTENED/LOOSENED BOLTS, NUTS AND WASHERS AT THE POLE TO ARM CONNECTION IS NOT ALLOWED. SEE ELEVATION FOR REQUIRED REPLACEMENT BOLT MATERIAL. REPLACEMENT BOLTS, NUTS AND WASHERS TO MATCH DIAMETER OF THE EXISTING.

MATERIAL PROPERTIES:

STRUCTURAL PLATE:
ASTM A709 GRADE 36 — f_y = 36,000 PSI

TAPERED VERTICAL SUPPORT:
ASTM A595 GRADE A OR A572 GRADE 55 — f_y = 55,000 PSI

HIGH STRENGTH BOLTS:
A325 — f_y = 92,000 PSI
A449 — f_y = 92,000 PSI

HEAVY HEX NUTS FOR ANCHOR RODS - ASTM A563A

WASHERS FOR ANCHOR RODS - ASTM F436

LIST OF DRAWINGS:

1. ELEVATION & QUANTITIES
2. EXISTING SHOP DRAWING I
3. EXISTING SHOP DRAWING II

STRUCTURE DESIGN CONTACTS:
KEVIN WOOD (414) 266-9144
AARON BONK (608) 261-0261

WISCONSIN
KEVIN G. WOOD
E-32070
MILWAUKEE, WI
PROFESSIONAL ENGINEER
7-26-2022

NO.	DATE	REVISION	BY

GRÄEF
275 W. Wisconsin Avenue
Suite 300
Milwaukee, WI 53203
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORATION

ACCEPTED SDR 09/15/22
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE S-51-607

CTH MM SOUTH OF INTERSECTION STH 38

COUNTY	VILLAGE
RACINE	MOUNT PLEASANT

DESIGN SPEC.
N/A REHABILITATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
KGW	WAR	WAR	KGW

ELEVATION & QUANTITIES

SHEET 1 OF 3
323

SCALE =

I.D.

DATE:

8

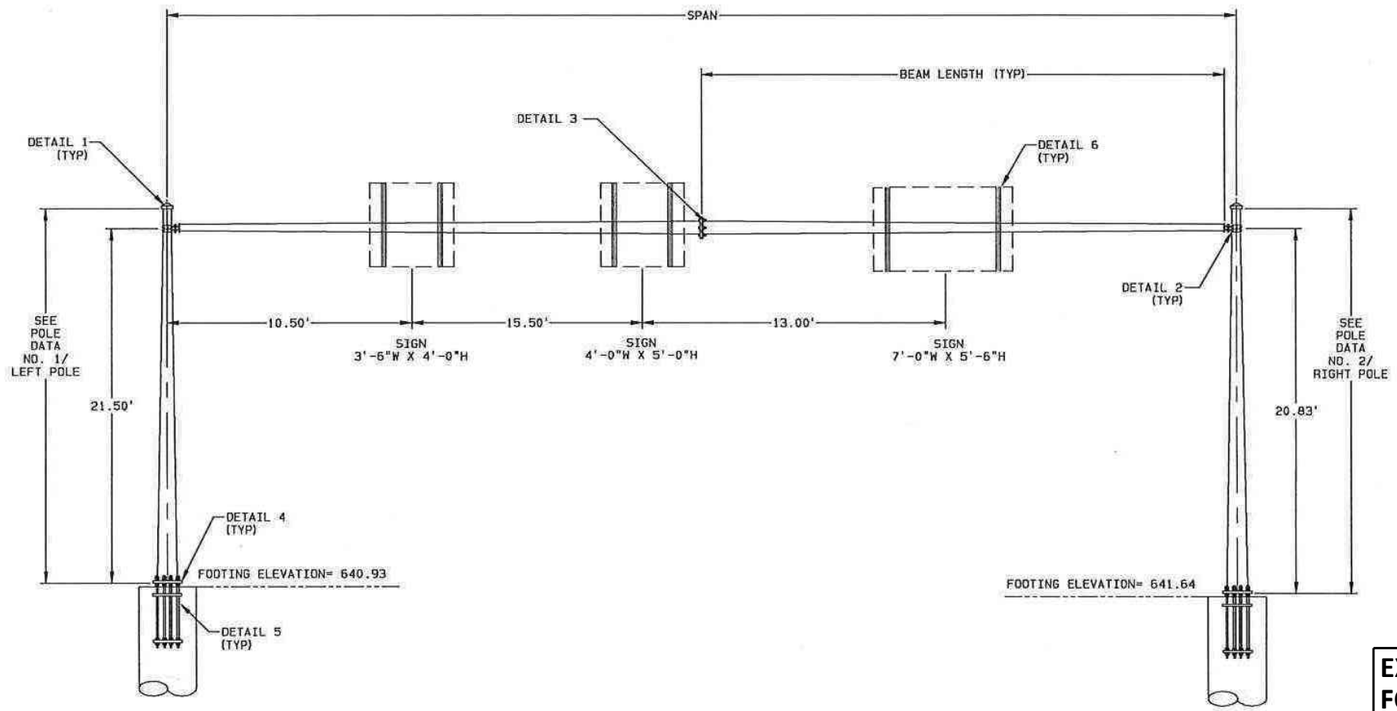
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STATE PROJECT NUMBER

2290-03-73

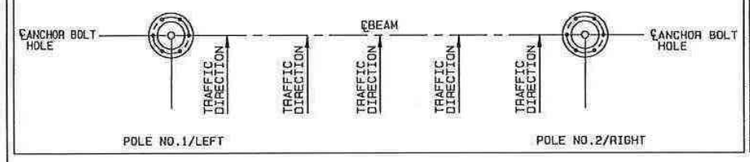
STRUCTURE SCHEDULE

QTY.	STATION NO.	SPAN	POLE NO. 1/LEFT POLE DATA				POLE NO. 2/RIGHT POLE DATA				BEAM DATA				BASEPLATE DATA				ANCHOR BOLT DATA				
			BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	GAUGE OR THK. (IN)	BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	GAUGE OR THK. (IN)	BASE DIA. (IN)	END DIA. (IN)	LENGTH (W/FLANGES)	GAUGE OR THK. (IN)	DIAMETER "DI" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	BOLT HOLE "Z" (IN)	QTY.	DIA. "K" (IN)	LENGTH "J" (IN)	THREAD LENGTH "U" (IN)	THREAD LENGTH "H" (IN)
1	S-51-607	51.00'	12.00	8.85	22.50	7	12.00	8.94	21.83	7	11.00	7.57	24'-7.11"	7	20.00	16.00	1.25	1.50	6	1.25	48.00	10.00	5.50



EXISTING SHOP DRAWINGS, FOR REFERENCE ONLY

RADIAL INDEX



MATERIAL DATA

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)	COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
TAPERED TUBES	A595 GR.A OR A572	55	ANCHOR BOLTS W/ SUPPLEMENTARY SPEC S4	F1554 GR.55	55
			CONNECTING BOLTS	AS NOTED*	
POLE BASE PLATE	A36	36	HARDWARE	F2329/A153	
ARM FLANGE PLATE	A36	36	HARDWARE LESS THAN 0.63" DIAMETER TO BE STAINLESS STEEL.		
ARM END PLATE & VANGS	A572 GR.65	65			

*LUBRICATE CONNECTING BOLTS IN THE FIELD IF NECESSARY.

SYSTEM: GALVANIZED (GV)
BASE COAT: HOT-DIP GALVANIZED TO ASTM A123
PRIME COAT: NONE
FINISH COAT: NONE
COLOR: NONE
SPEC: F-1

FINISH

JOB RACINE COUNTY, WISCONSIN
PROJECT NO. 2290-03-72
TITLE OVERHEAD SIGN STRUCTURES

VALMONT INDUSTRIES, INC. RESERVES THE RIGHT TO INSTALL VARIOUS, ENGINEER APPROVED, MATERIAL HANGING ACCOMMODATIONS TO FACILITATE THE MANUFACTURING PROCESS.

valmont
Valley, NE 68064
(402) 359-2201

ORDER NUMBER: 395861-P1
PAGE NUMBER: 6 OF 7
DRAWING NUMBER: WI395861P1
REV.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-51-607

DRAWN BY WAR | PLANS CK'D STS

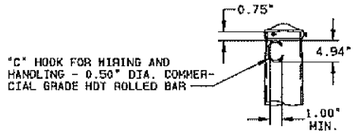
EXISTING SHOP DRAWING I

SHEET 2 OF 3
324

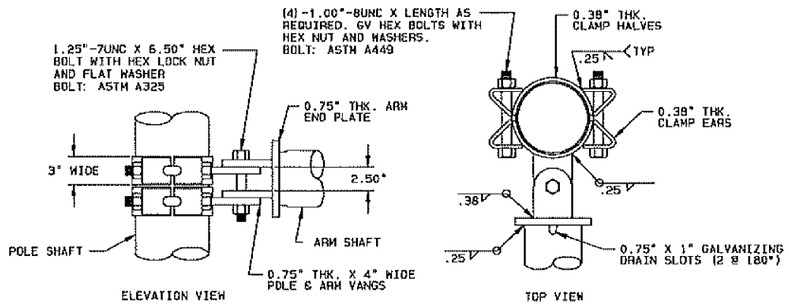
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STATE PROJECT NUMBER

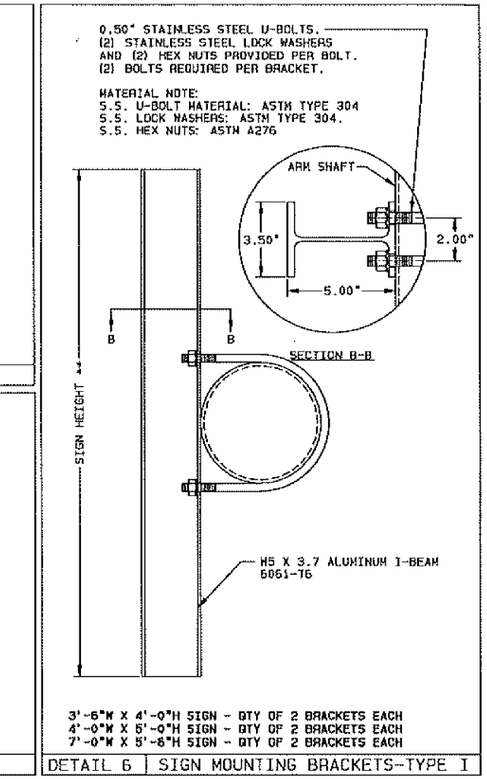
2290-03-73



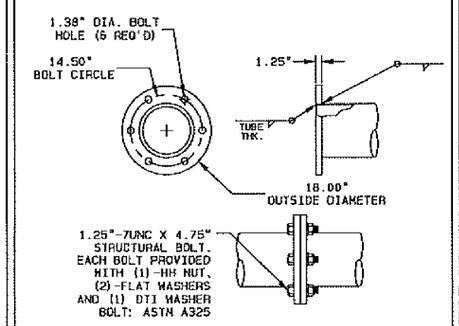
DETAIL 1 | POLE TOP



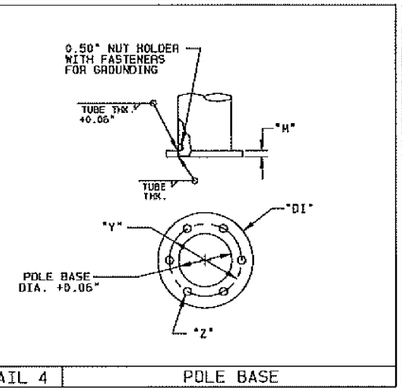
DETAIL 2 | MONOTUBE ARM CLAMP



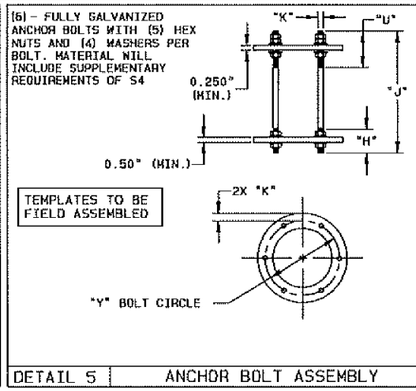
DETAIL 6 | SIGN MOUNTING BRACKETS-TYPE I



DETAIL 3 | FLANGE PLATE



DETAIL 4 | POLE BASE



DETAIL 5 | ANCHOR BOLT ASSEMBLY

EXISTING SHOP DRAWINGS, FOR REFERENCE ONLY

1. THE OVERHEAD SIGN STRUCTURES SHOWN ON THIS DRAWING HAVE BEEN DESIGNED IN ACCORDANCE WITH THE LOADING AND THE ALLOWABLE STRESS REQUIREMENTS OF THE 2013 AASHTO 'STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS', 6TH EDITION WITH 2015 INTERIM REVISIONS. THE WIND LOADS WERE CALCULATED FROM A BASIC WIND VELOCITY OF 90 MPH WITH A RECURRENCE INTERVAL OF 50 YEARS.

2. ALTHOUGH RARE, VIBRATIONS SEVERE ENOUGH TO CAUSE DAMAGE CAN OCCASIONALLY OCCUR IN STRUCTURES OF ALL TYPES. BECAUSE THEY ARE INFLUENCED BY MANY INTERACTING VARIABLES, VIBRATIONS ARE GENERALLY UNPREDICTABLE. THE USER'S MAINTENANCE PROGRAM SHOULD INCLUDE OBSERVATION FOR EXCESSIVE VIBRATION AND EXAMINATION FOR ANY STRUCTURAL DAMAGE OR BOLT LOOSENING. THE VALMONT WARRANTY SPECIFICALLY EXCLUDES FATIGUE FAILURE OR SIMILAR PHENOMENA RESULTING FROM INDUCED VIBRATION, HARMONIC OSCILLATION OR RESONANCE ASSOCIATED WITH MOVEMENT OF AIR CURRENTS AROUND THE PRODUCT.

DETAILS FOR
OVERHEAD SIGN SUPPORT
S-51-607

JOB RACINE COUNTY, WISCONSIN
PROJECT NO. 2290-03-72
TITLE OVERHEAD SIGN STRUCTURES

VALMONT INDUSTRIES, INC. RESERVES THE RIGHT TO INSTALL VARIOUS, ENGINEER APPROVED, MATERIAL HANGING ACCOMMODATIONS TO FACILITATE THE MANUFACTURING PROCESS.

valmont
Valley, NE 68064
(402) 359-2201

ORDER NUMBER: 395861-P1
PAGE NUMBER: 7 OF 7
DRAWING NUMBER: WI395861P1
REV

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-51-607

DRAWN BY WAR | PLANS CK'D STS

EXISTING SHOP DRAWING II

SHEET 3 OF 3
325

SCALE =

8

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DIVISION 1 - STH 38 CENTER ALIGNMENT (2020)

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.10	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
232+50.156	23250.16	0.00	166.02	58.00	0.00	0	0	0	0	0	0
233+00	23300.00	49.84	162.43	58.00	0.00	303	117	0	303	0	186
233+50	23350.00	50.00	270.66	92.00	1.01	401	149	1	704	1	437
236+00	23600.00	0.00	243.21	89.00	72.76	0	0	0	704	1	437
236+50	23650.00	50.00	379.80	87.00	45.94	577	163	110	1,281	122	730
237+00	23700.00	50.00	366.93	85.00	40.72	691	159	80	1,972	210	1,174
237+50	23750.00	50.00	339.51	81.00	38.71	654	154	74	2,626	292	1,593
238+00	23800.00	50.00	303.94	80.00	40.45	596	149	73	3,222	372	1,959
238+50	23850.00	50.00	227.99	80.00	35.92	493	148	71	3,715	450	2,226
238+93.787	23893.79	43.79	220.50	80.00	28.27	364	130	52	4,079	507	2,403
238+95	23895.00	1.21	207.25	80.00	13.11	10	4	1	4,089	508	2,408
239+00	23900.00	5.00	217.40	80.50	14.03	39	15	3	4,128	512	2,429
239+05	23905.00	5.00	218.90	81.00	22.33	40	15	3	4,168	515	2,450
239+10	23910.00	5.00	220.11	81.00	19.88	41	15	4	4,209	519	2,472
239+15	23915.00	5.00	220.99	81.00	18.35	41	15	4	4,250	524	2,493
239+20	23920.00	5.00	221.89	82.00	16.80	41	15	3	4,291	527	2,516
239+25	23925.00	5.00	223.16	83.00	15.80	41	15	3	4,332	530	2,539
239+30	23930.00	5.00	225.67	84.00	15.43	42	15	3	4,374	534	2,563
239+35	23935.00	5.00	228.86	85.00	14.37	42	16	3	4,416	537	2,585
239+40	23940.00	5.00	232.53	86.00	12.28	43	16	2	4,459	539	2,610
239+45	23945.00	5.00	237.53	88.00	11.16	44	16	2	4,503	541	2,636
239+50	23950.00	5.00	241.96	89.00	11.22	44	16	2	4,547	543	2,662
239+55	23955.00	5.00	247.63	91.00	10.61	45	17	2	4,592	546	2,687
239+60	23960.00	5.00	252.70	93.00	10.54	46	17	2	4,638	548	2,714
239+65	23965.00	5.00	256.80	95.00	11.22	47	17	2	4,685	550	2,742
239+70	23970.00	5.00	262.14	97.00	12.57	48	18	2	4,733	552	2,770
239+75	23975.00	5.00	267.56	100.00	14.02	49	18	2	4,782	554	2,799
239+80	23980.00	5.00	275.50	102.00	13.73	50	19	3	4,832	558	2,826
239+85	23985.00	5.00	284.68	105.00	13.49	52	19	3	4,884	561	2,856
10.00	23990.00	5.00	295.81	108.00	13.94	54	20	3	4,938	564	2,887
239+95	23995.00	5.00	306.33	112.00	11.73	56	20	2	4,994	567	2,921
240+00	24000.00	5.00	318.76	115.00	11.38	58	21	2	5,052	569	2,955
240+05	24005.00	5.00	318.66	119.00	10.84	59	22	2	5,111	571	2,990
240+10	24010.00	5.00	325.54	123.00	10.47	60	22	2	5,171	573	3,026
240+15	24015.00	5.00	335.40	128.00	10.39	61	23	2	5,232	575	3,062
240+20	24020.00	5.00	353.83	133.00	9.59	64	24	2	5,296	578	3,100
240+25	24025.00	5.00	385.13	133.00	9.35	68	25	2	5,364	580	3,140

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DIVISION 1 - STH 38 CENTER ALIGNMENT (2020)

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.10	NOTE 8
240+30	24030.00	5.00	377.08	134.00	9.56	71	25	2	5,435	582	3,184
240+35	24035.00	5.00	374.26	131.00	5.79	70	25	1	5,505	583	3,228
240+40	24040.00	5.00	362.89	128.00	5.23	68	24	1	5,573	584	3,271
240+45	24045.00	5.00	347.82	122.00	4.74	66	23	1	5,639	585	3,313
240+50	24050.00	5.00	327.40	117.00	4.31	63	22	1	5,702	586	3,353
240+55	24055.00	5.00	303.60	107.00	3.86	58	21	1	5,760	587	3,389
240+60	24060.00	5.00	272.90	106.00	2.96	53	20	1	5,813	589	3,421
240+65	24065.00	5.00	259.86	95.00	2.06	49	19	0	5,862	589	3,451
240+70	24070.00	5.00	247.72	85.00	1.70	47	17	0	5,909	589	3,481
240+75	24075.00	5.00	236.18	84.00	0.03	45	16	0	5,954	589	3,510
240+80	24080.00	5.00	224.14	82.00	5.05	43	15	0	5,997	589	3,538
240+85	24085.00	5.00	211.52	81.00	2.97	40	15	1	6,037	590	3,561
240+90	24090.00	5.00	220.40	83.00	1.95	40	15	0	6,077	590	3,586
240+95	24095.00	5.00	230.24	86.00	1.16	42	16	0	6,119	590	3,612
241+00	24100.00	5.00	238.99	90.00	1.13	43	16	0	6,162	590	3,639
241+05	24105.00	5.00	241.74	94.00	0.68	45	17	0	6,207	590	3,667
241+10	24110.00	5.00	245.24	98.00	0.05	45	18	0	6,252	590	3,694
241+15	24115.00	5.00	235.72	102.00	0.08	45	19	0	6,297	590	3,720
241+20	24120.00	5.00	237.59	106.00	4.17	44	19	0	6,341	590	3,745
241+25	24125.00	5.00	249.72	95.00	6.06	45	19	1	6,386	591	3,770
241+30	24130.00	5.00	256.87	80.00	7.14	47	16	1	6,433	592	3,800
241+35	24135.00	5.00	270.04	51.00	8.16	49	12	1	6,482	593	3,836
241+40	24140.00	5.00	281.32	52.00	8.53	51	10	2	6,533	595	3,875
241+45	24145.00	5.00	292.09	54.00	7.32	53	10	1	6,586	596	3,917
241+50	24150.00	5.00	301.27	67.00	6.45	55	11	1	6,641	597	3,960
241+55	24155.00	5.00	308.84	80.00	6.07	56	14	1	6,697	598	4,001
241+60	24160.00	5.00	317.38	84.00	3.01	58	15	1	6,755	600	4,043
241+65	24165.00	5.00	306.82	88.00	2.94	58	16	1	6,813	601	4,083
241+70	24170.00	5.00	280.22	84.00	2.76	54	16	1	6,867	602	4,120
241+75	24175.00	5.00	264.55	80.00	2.40	50	15	0	6,917	602	4,155
241+80	24180.00	5.00	251.39	77.00	2.32	48	15	0	6,965	602	4,188
241+85	24185.00	5.00	238.23	75.00	2.02	45	14	0	7,010	602	4,219
241+90	24190.00	5.00	227.78	75.00	1.69	43	14	0	7,053	602	4,248
241+95	24195.00	5.00	219.63	75.00	1.63	41	14	0	7,094	602	4,275
242+00	24200.00	5.00	216.03	75.00	1.35	40	14	0	7,134	602	4,301
242+05	24205.00	5.00	211.83	75.00	1.29	40	14	0	7,174	602	4,327
242+10	24210.00	5.00	207.77	75.00	1.62	39	14	0	7,213	602	4,352
242+15	24215.00	5.00	206.19	75.00	1.37	38	14	0	7,251	602	4,376
242+20	24220.00	5.00	181.36	75.00	1.25	36	14	0	7,287	602	4,398
242+21.034	24221.03	1.03	169.25	74.00	1.28	7	3	0	7,294	602	4,402
242+50	24250.00	28.97	75.23	26.00	1.71	131	54	2	7,425	604	4,477
243+00	24300.00	50.00	81.65	27.00	1.91	145	49	3	7,570	607	4,570
243+50	24350.00	50.00	89.42	29.00	0.22	158	52	2	7,728	609	4,674
244+00	24400.00	50.00	88.38	30.00	0.82	165	55	1	7,893	611	4,783
244+37.936	24437.94	37.94	88.13	30.00	0.82	124	42	1	8,017	612	4,863

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PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	EARTHWORK TABLE	SHEET 327	E

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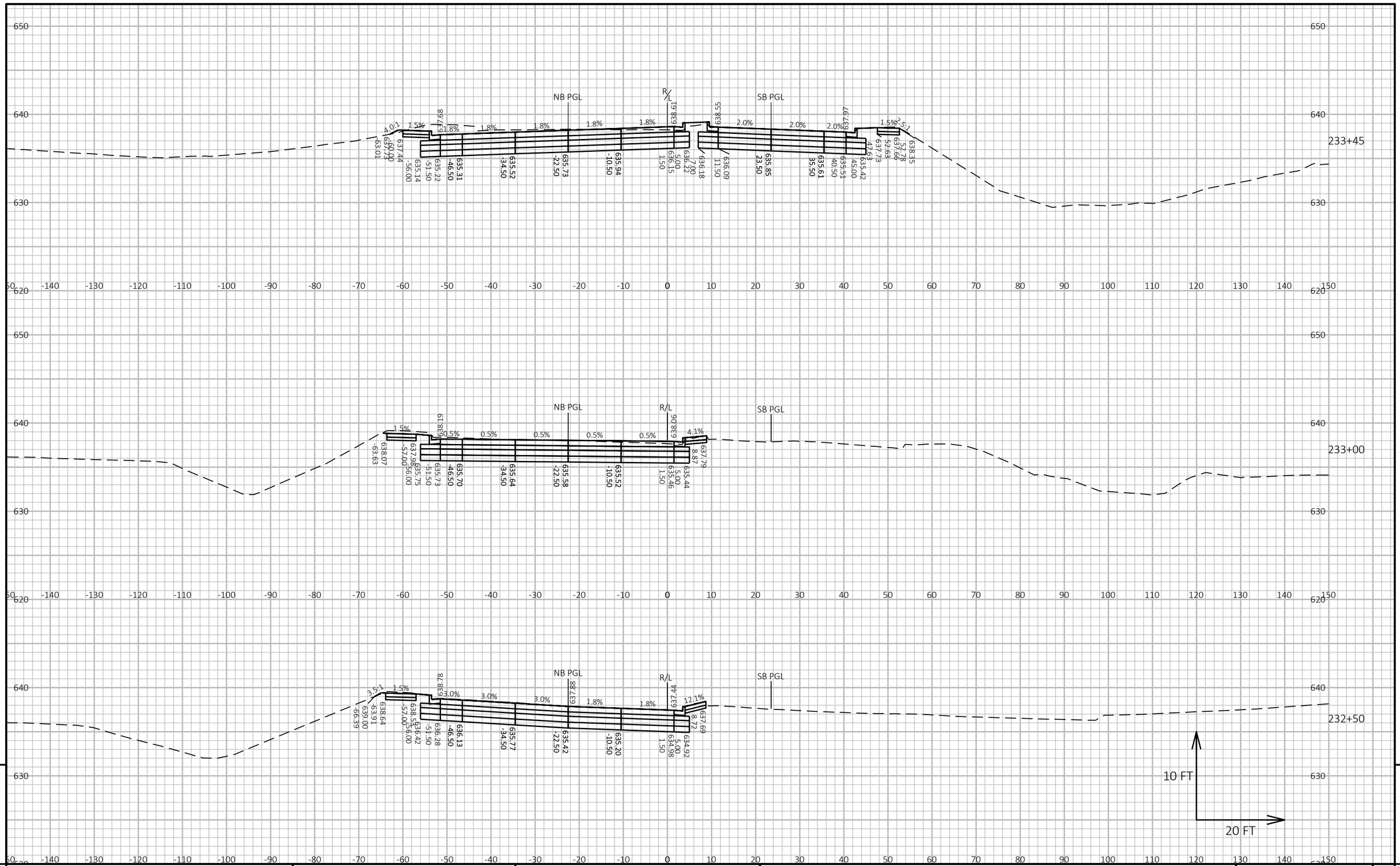
WISDOT/CADDS SHEET 42

DIVISION 1 - RAPIDS DRIVE ALIGNMENT (2020)

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
					NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.10	NOTE 8
50+40	0.00	23.54	9.00	0.00	0	0	0	0	0	0
50+45	5.00	52.00	21.00	0.00	7	3	0	7	0	4
50+50	5.00	81.95	33.00	0.00	12	5	0	19	0	11
50+55	5.00	112.02	45.00	0.00	18	7	0	37	0	22
50+60	5.00	150.17	56.00	0.00	24	9	0	61	0	37
50+65	5.00	190.75	68.00	0.00	32	11	0	93	0	58
50+70	5.00	229.98	79.00	0.00	39	14	0	132	0	83
50+75	5.00	266.09	91.00	0.00	46	16	0	178	0	113
50+80	5.00	299.89	103.00	0.00	52	18	0	230	0	147
50+85	5.00	310.17	105.00	0.00	56	19	0	286	0	184
50+90	5.00	317.31	108.00	0.00	58	20	0	344	0	222
50+95	5.00	325.05	110.00	0.00	59	20	0	403	0	261
51+00	5.00	333.48	111.00	0.00	61	20	0	464	0	302
51+05	5.00	334.57	113.00	0.00	62	21	0	526	0	343
51+10	5.00	334.99	114.00	0.00	62	21	0	588	0	384
51+15	5.00	336.62	116.00	0.00	62	21	0	650	0	425
51+20	5.00	339.68	118.00	0.00	63	22	0	713	0	466
51+25	5.00	326.28	113.00	0.00	62	21	0	775	0	507
51+30	5.00	251.16	109.00	0.00	53	21	0	828	0	539
51+35	5.00	275.12	105.00	0.00	49	20	0	877	0	568
51+40	5.00	259.75	100.00	0.00	50	19	0	927	0	599
51+45	5.00	246.21	97.00	0.00	47	18	0	974	0	628
51+50	5.00	234.78	94.00	0.00	45	18	0	1,019	0	655
51+55	5.00	226.06	91.00	0.00	43	17	0	1,062	0	681
51+60	5.00	218.66	89.00	0.00	41	17	0	1,103	0	705
51+65	5.00	210.76	87.00	0.00	40	16	0	1,143	0	729
51+70	5.00	202.74	85.00	0.00	38	16	0	1,181	0	751
51+75	5.00	201.66	83.00	0.00	37	16	0	1,218	0	772
51+80	5.00	193.00	82.00	0.00	37	15	0	1,255	0	794
51+83.875	3.87	189.86	81.00	0.00	27	12	0	1,282	0	809
52+00	16.13	185.82	80.00	0.00	112	48	0	1,394	0	873
52+38.413	38.41	174.79	76.00	0.00	257	111	0	1,651	0	1,019
52+57.882	19.47	61.51	34.00	0.18	85	40	0	1,736	0	1,064
52+79.183	21.30	56.24	26.00	0.23	46	24	0	1,782	0	1,086

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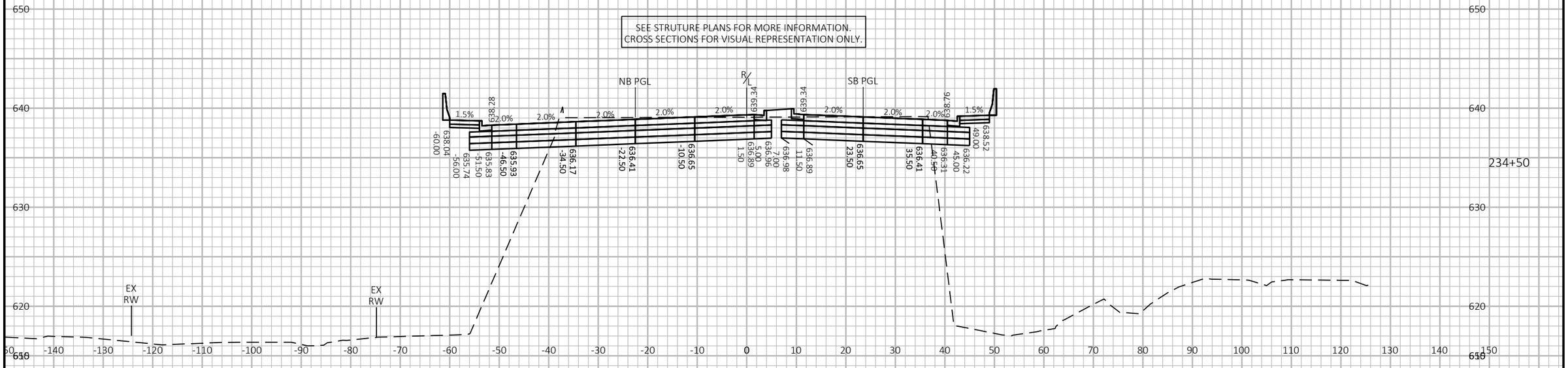
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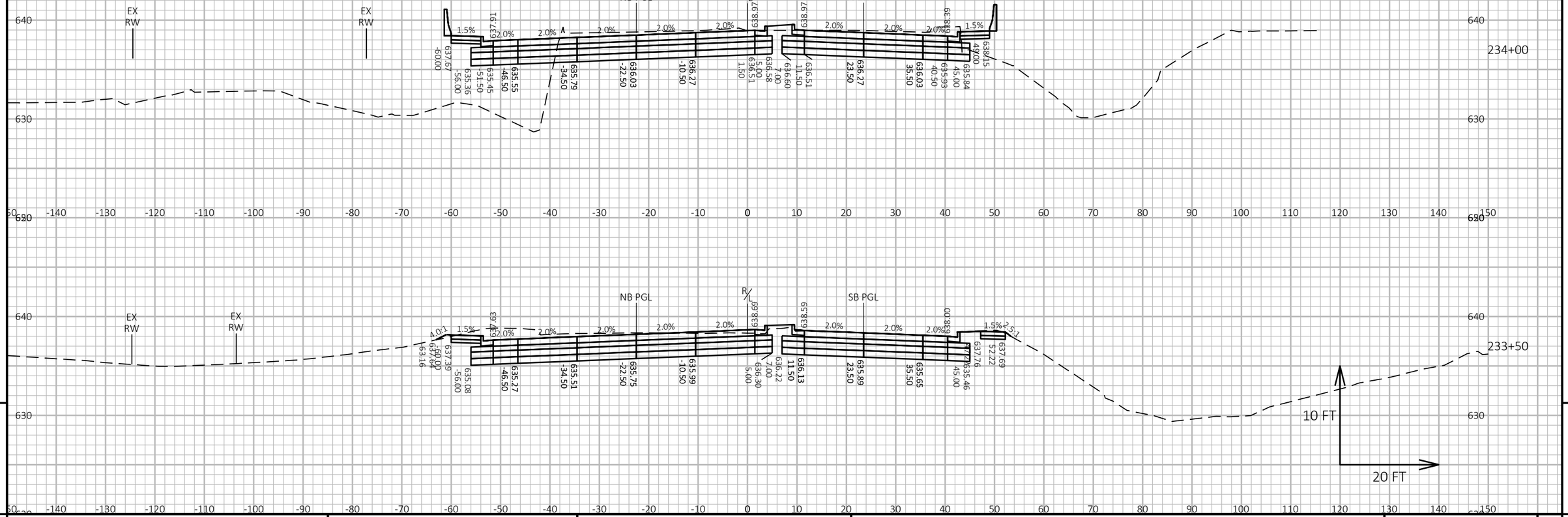
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WISDOT/CADDS SHEET 49

SEE STRUTURE PLANS FOR MORE INFORMATION.
CROSS SECTIONS FOR VISUAL REPRESENTATION ONLY.



SEE STRUTURE PLANS FOR MORE INFORMATION.
CROSS SECTIONS FOR VISUAL REPRESENTATION ONLY.



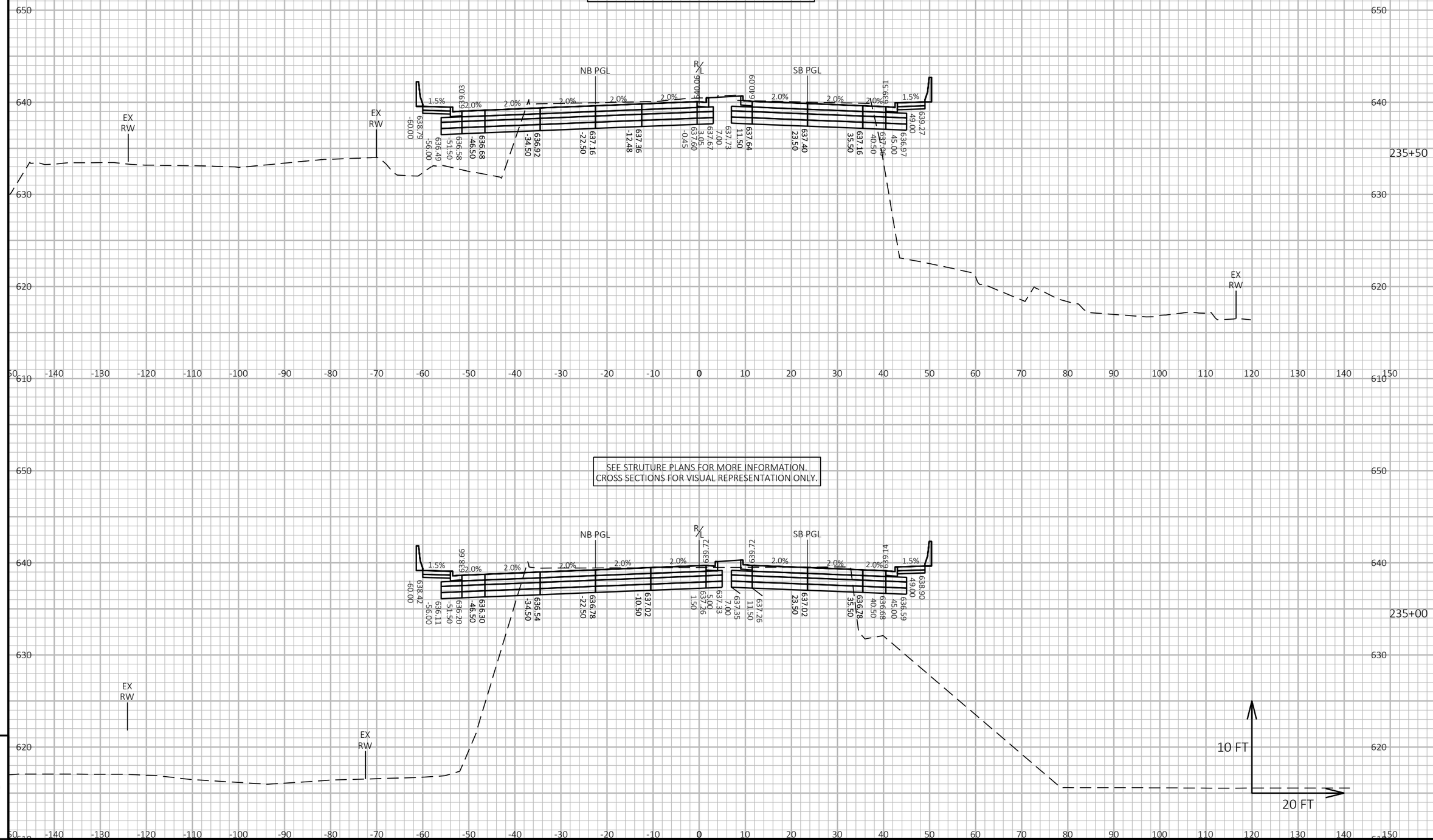
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WISDOT/CADDS SHEET 49

SEE STRUTURE PLANS FOR MORE INFORMATION.
CROSS SECTIONS FOR VISUAL REPRESENTATION ONLY.



PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	CROSS SECTIONS: STH 38	SHEET 331	E

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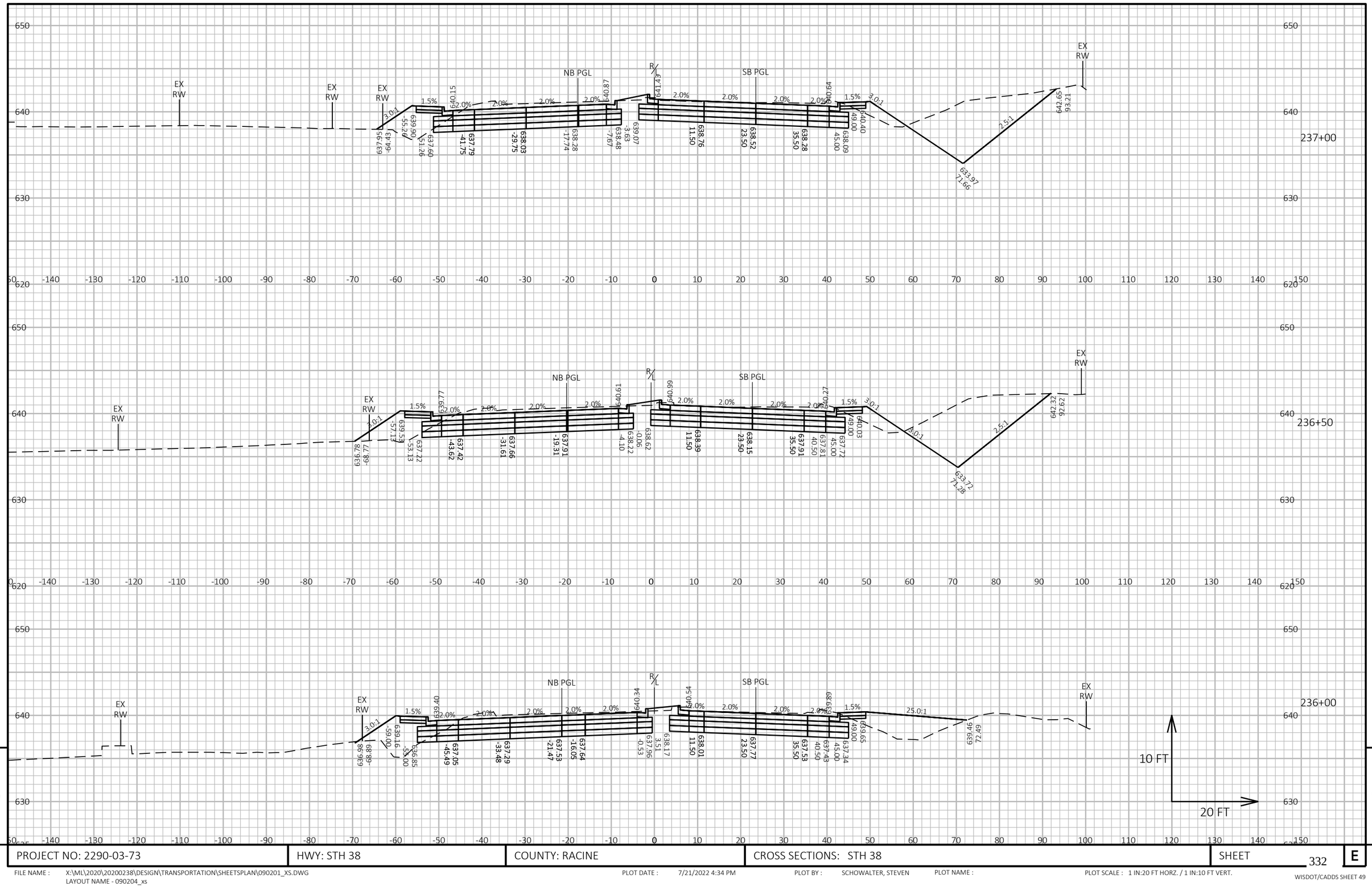
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PLOT BY : SCHOWALTER, STEVEN

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	CROSS SECTIONS: STH 38	SHEET 332	E

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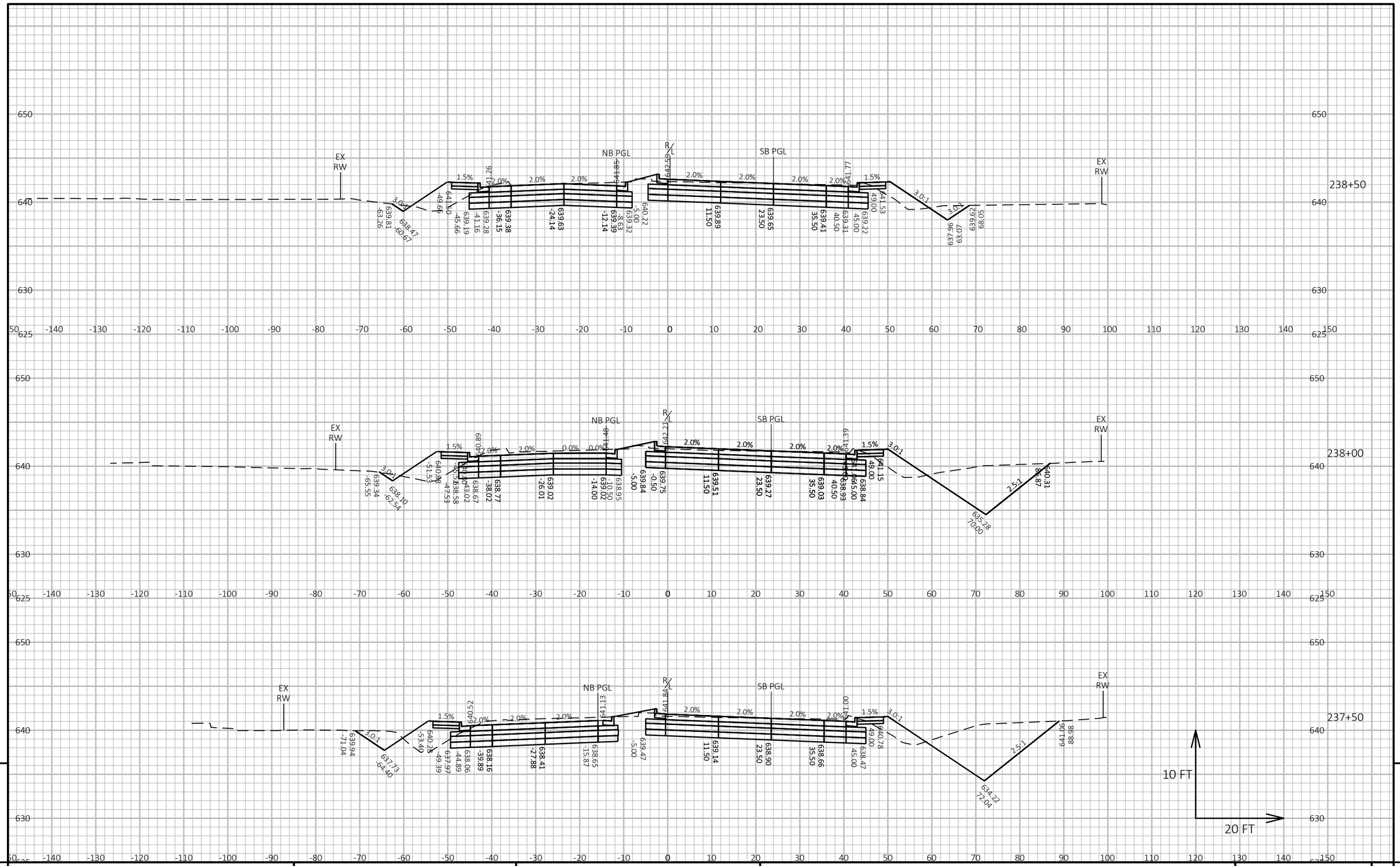
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PLOT BY : SCHOWALTER, STEVEN

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	CROSS SECTIONS: STH 38	SHEET 333	E

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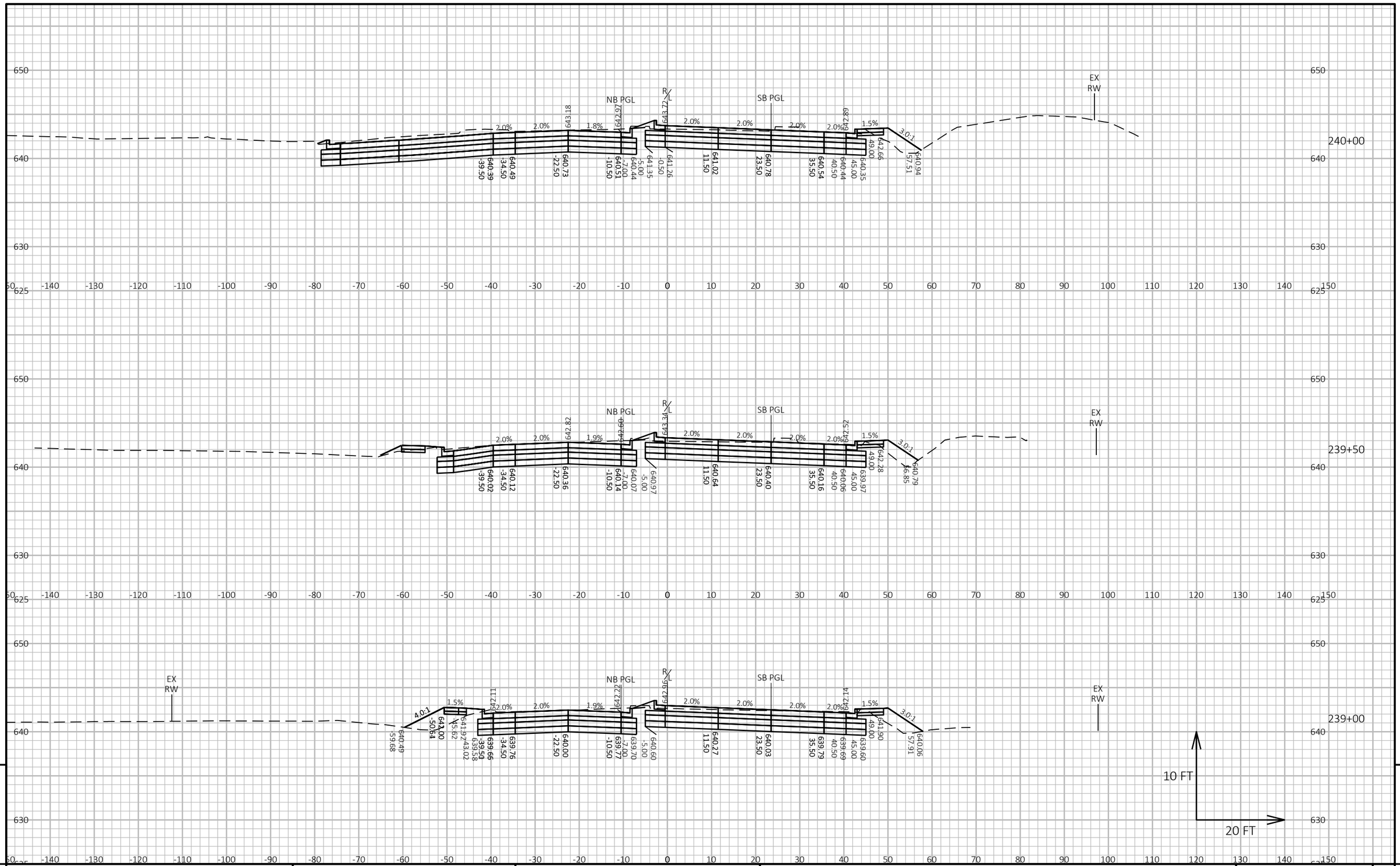
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PLOT BY : SCHOWALTER, STEVEN

PLOT NAME :

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WISDOT/CADDS SHEET 49



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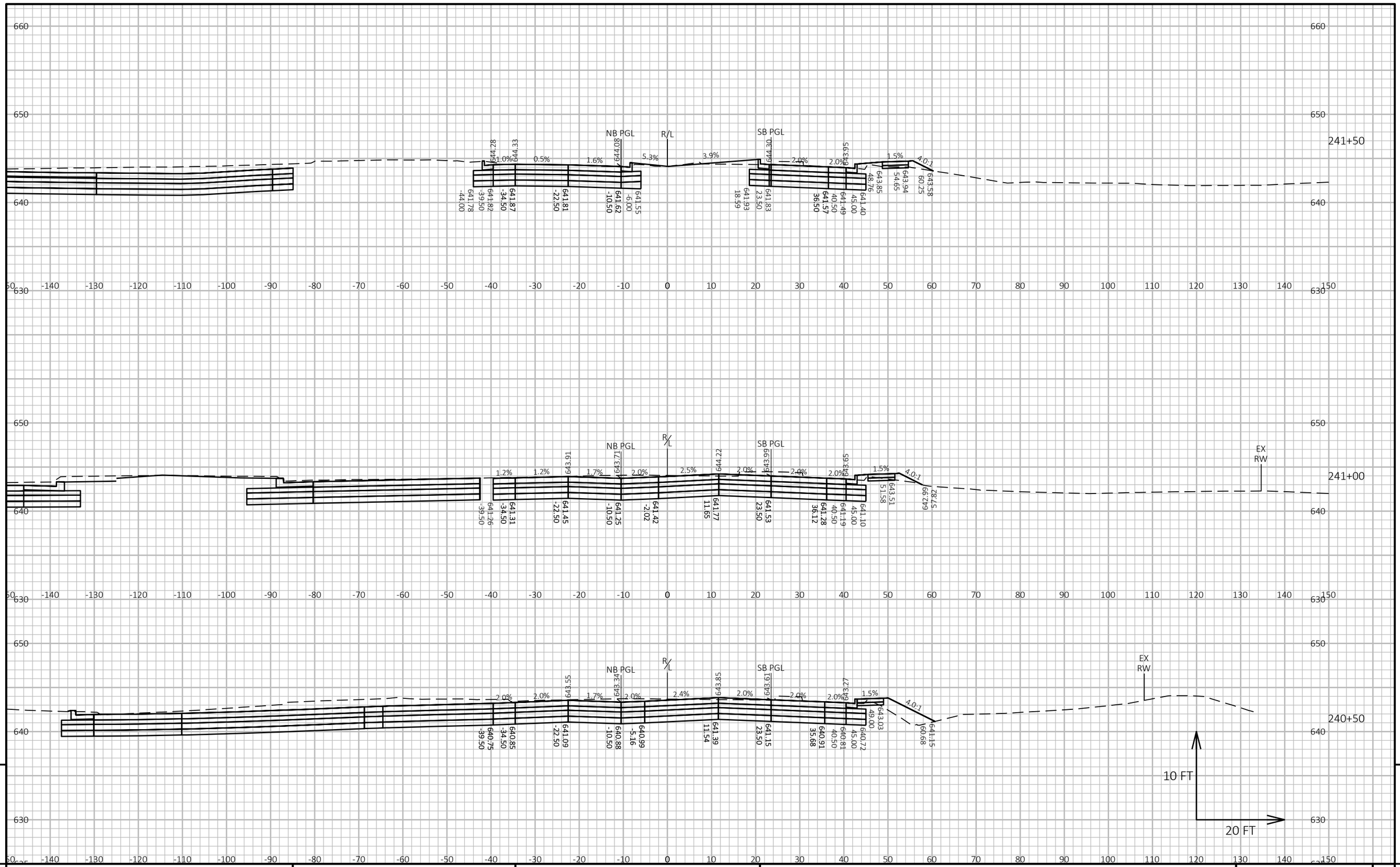
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WISDOT/CADDS SHEET 49



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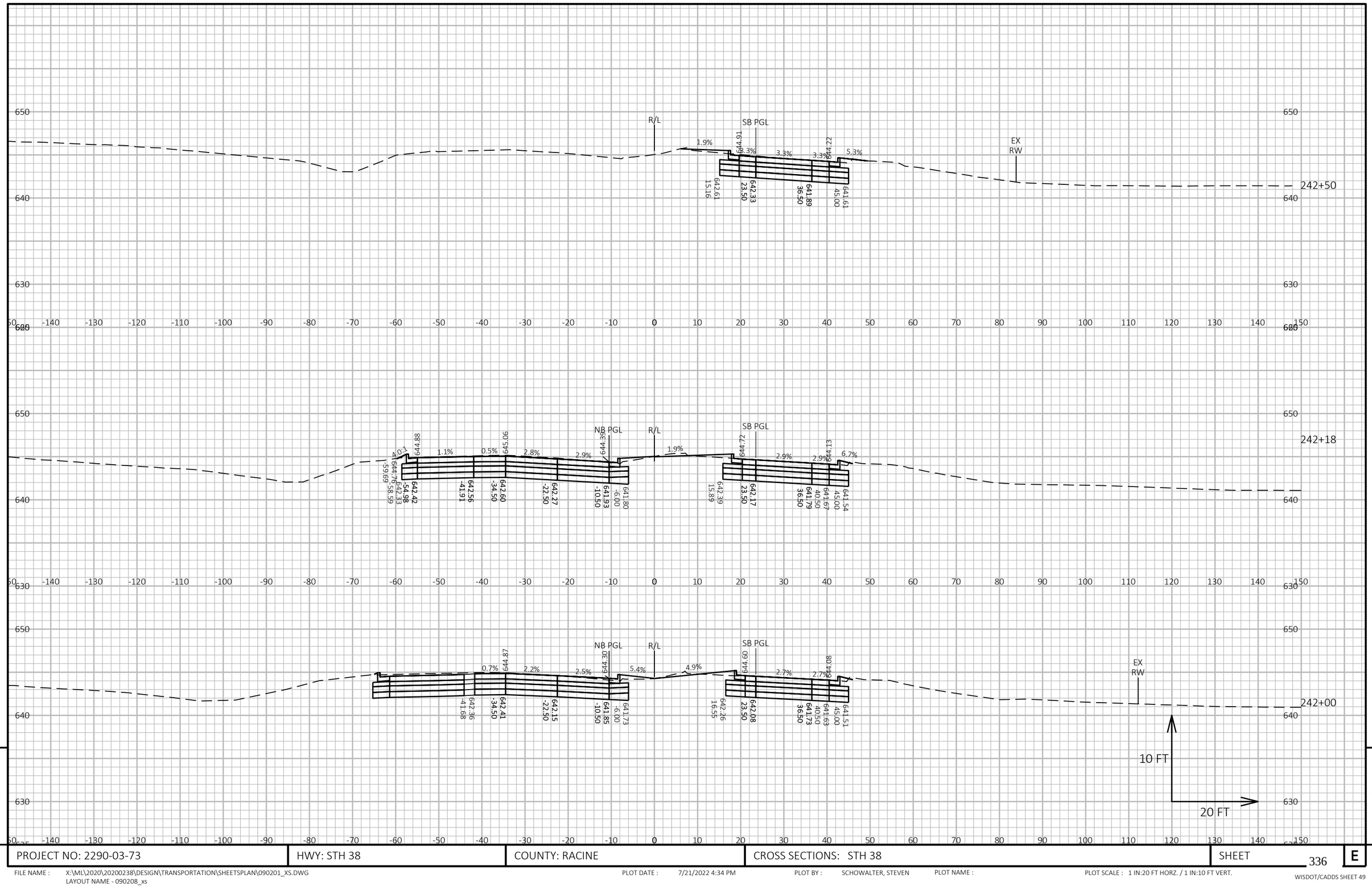
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WISDOT/CADDS SHEET 49



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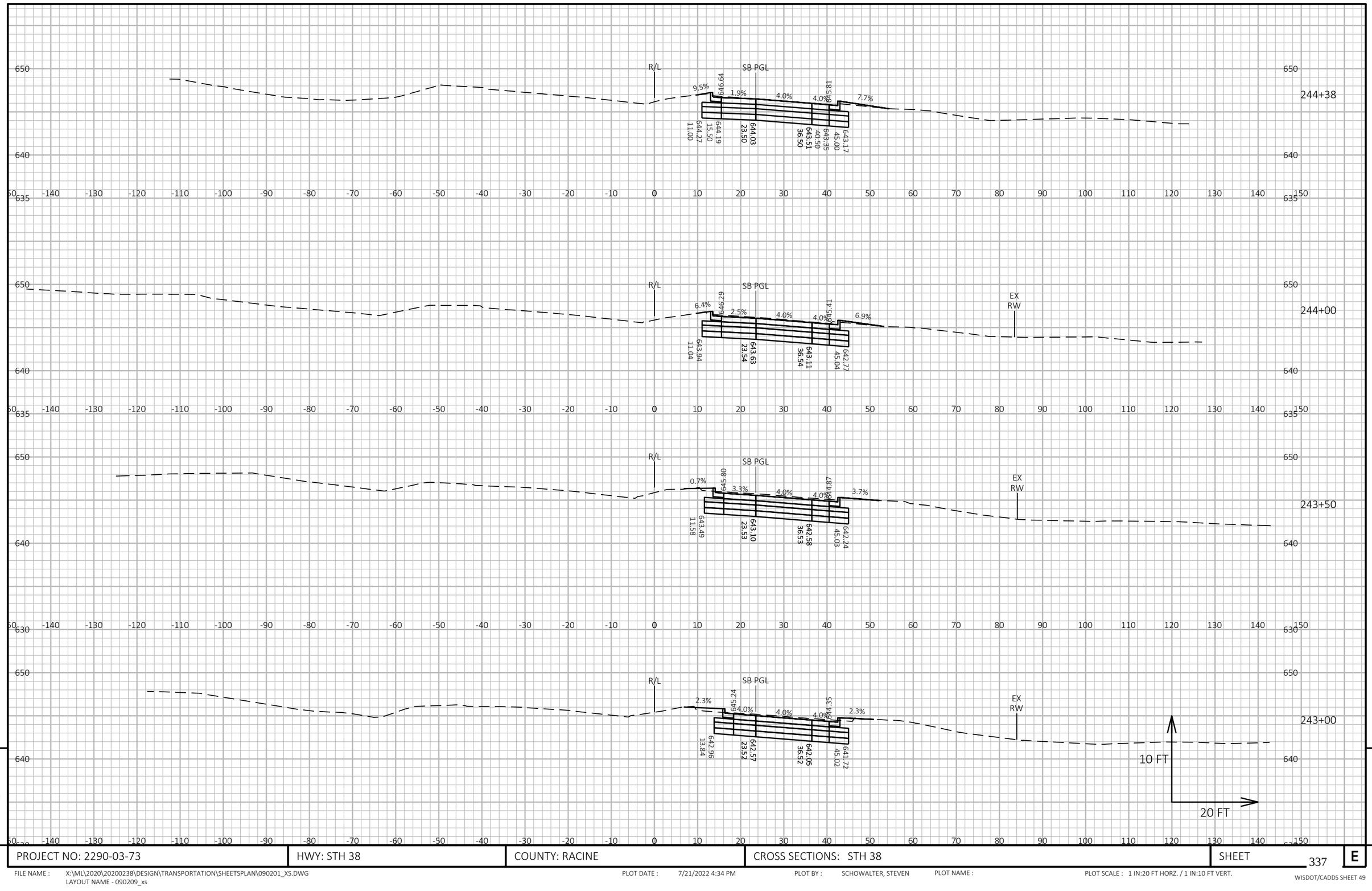
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WISDOT/CADDS SHEET 49

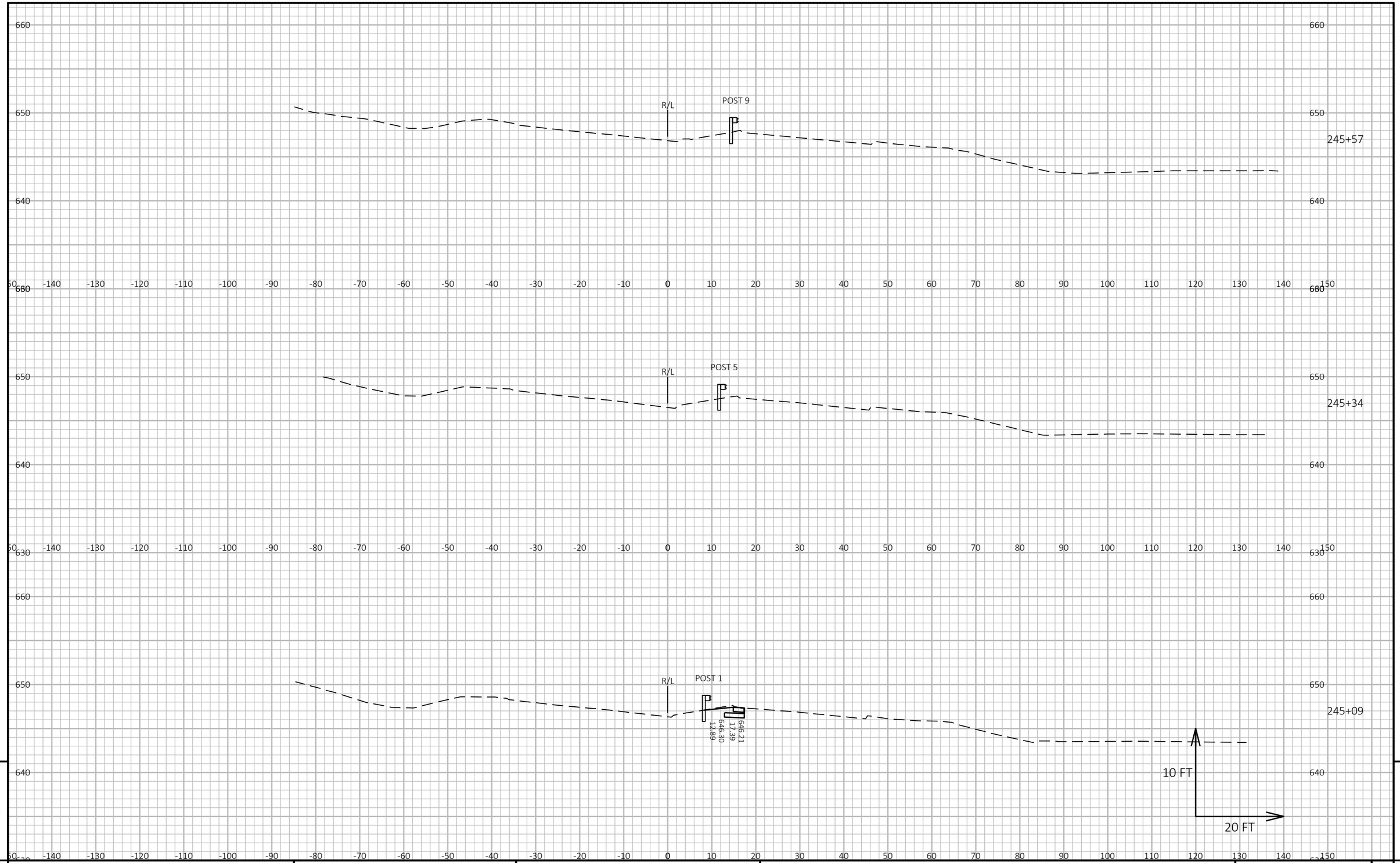


PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	CROSS SECTIONS: STH 38	SHEET 337	E

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LAYOUT NAME - 090209_xs

PLOT DATE : 7/21/2022 4:34 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

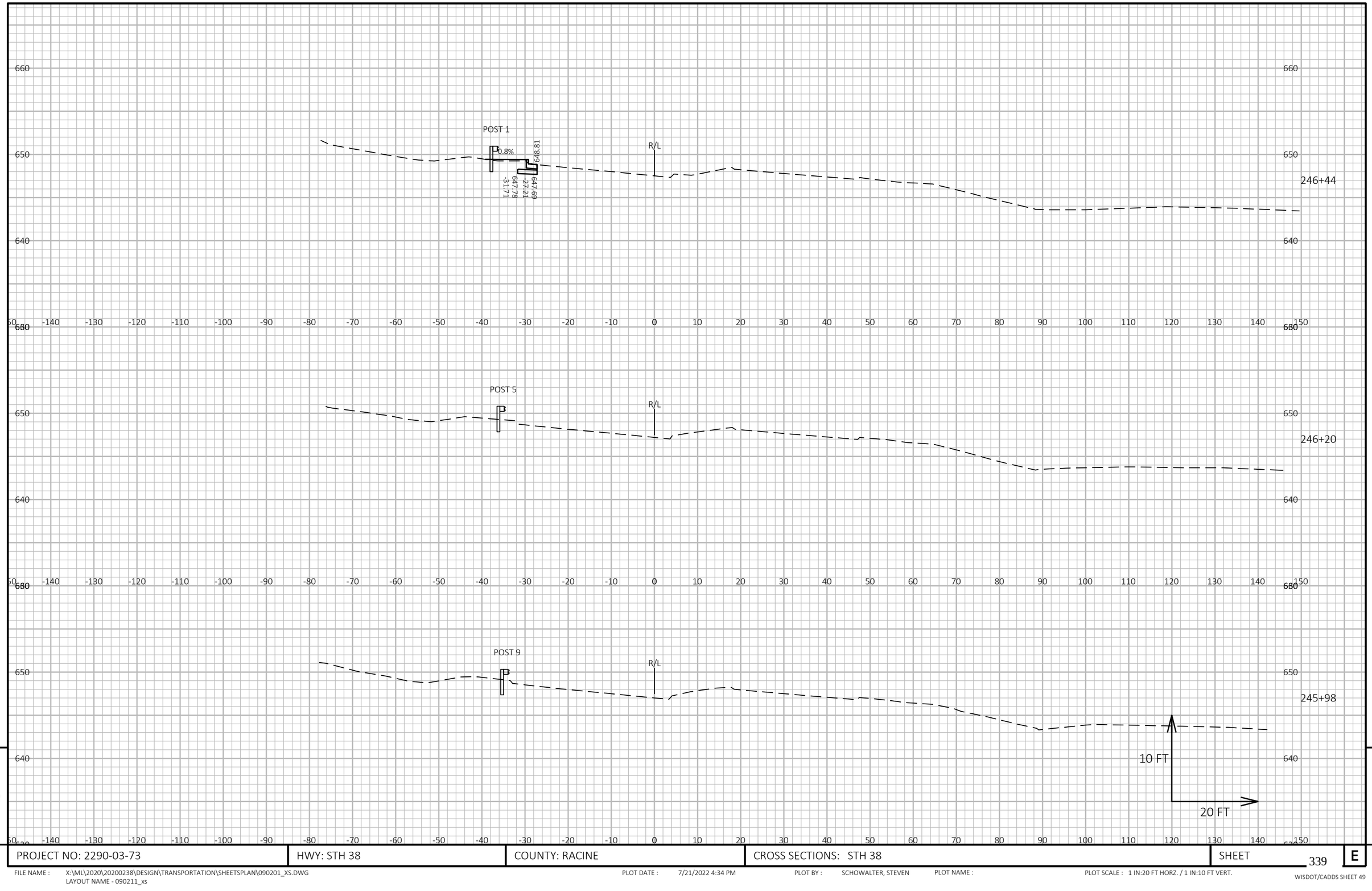
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PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	CROSS SECTIONS: STH 38	SHEET 338	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090210_xs

PLOT DATE : 7/21/2022 4:34 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	CROSS SECTIONS: STH 38	SHEET 339	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\090201_XS.DWG
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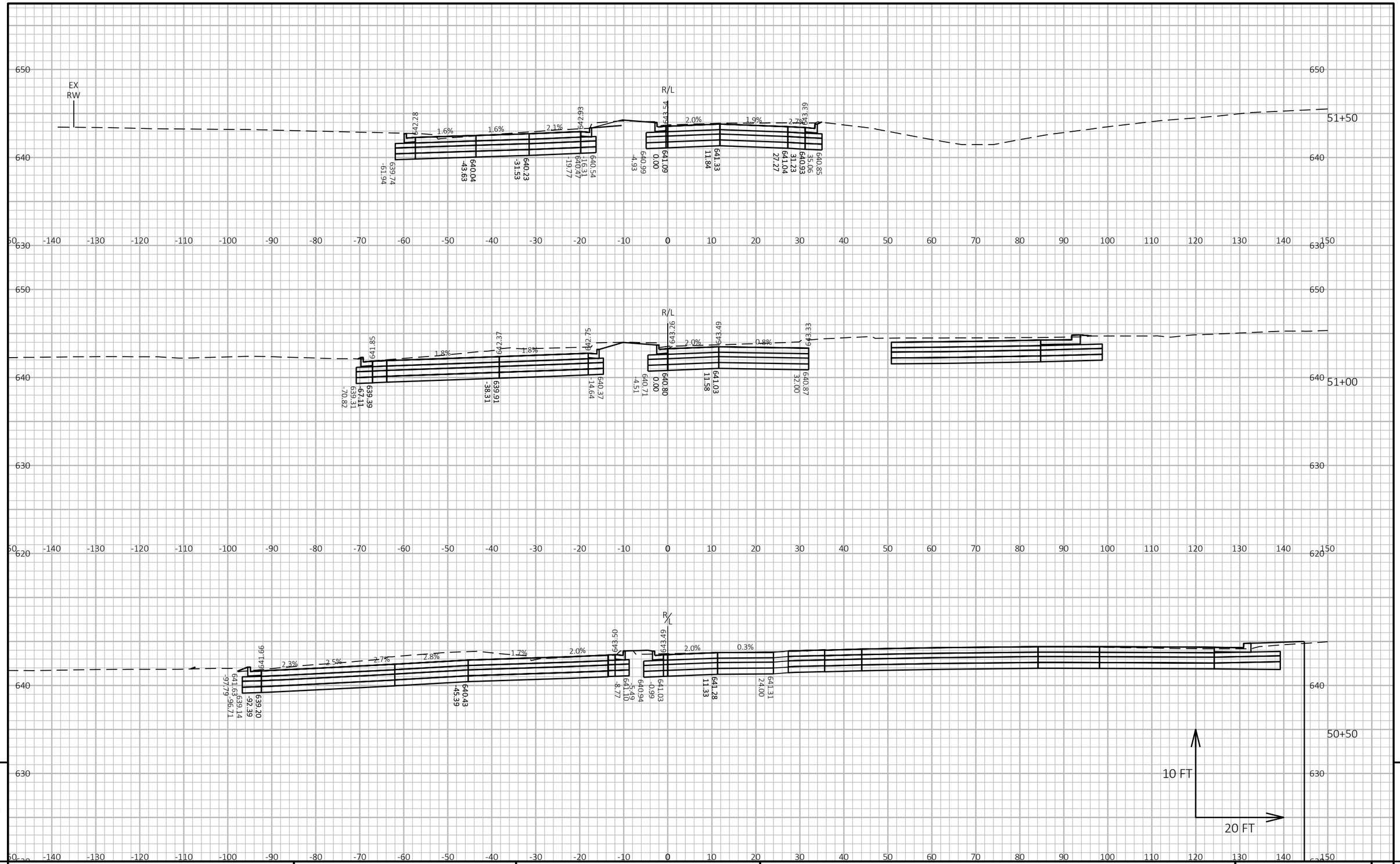
PLOT DATE : 7/21/2022 4:34 PM

PLOT BY : SCHOWALTER, STEVEN

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

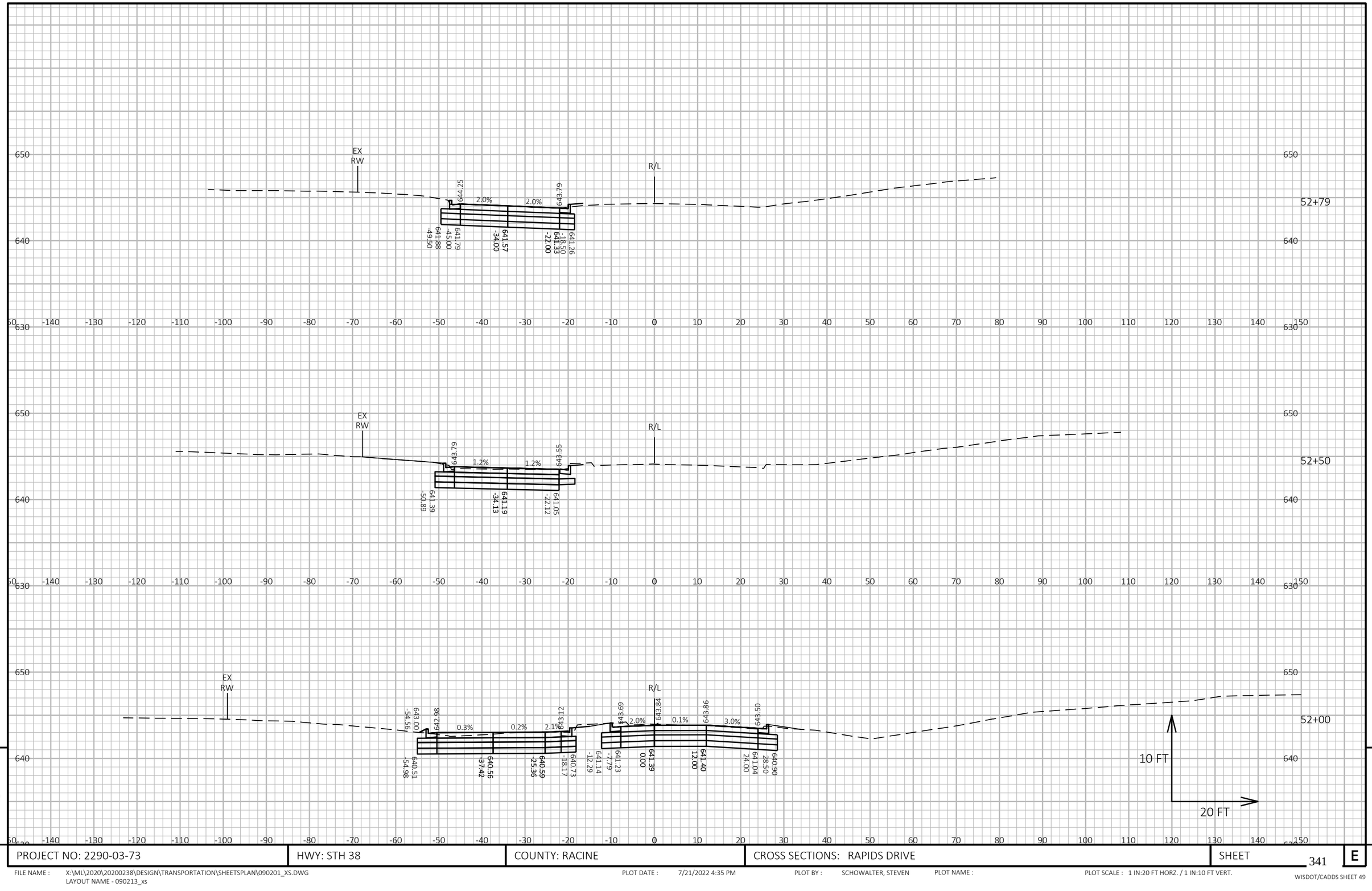


PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	CROSS SECTIONS: RAPIDS DRIVE	SHEET 340	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090212_xs

PLOT DATE : 7/21/2022 4:35 PM PLOT BY : SCHOWALTER, STEVEN PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 2290-03-73	HWY: STH 38	COUNTY: RACINE	CROSS SECTIONS: RAPIDS DRIVE	SHEET 341	E

FILE NAME : X:\ML\2020\20200238\DESIGN\TRANSPORTATION\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090213_xs

PLOT DATE : 7/21/2022 4:35 PM

PLOT BY : SCHOWALTER, STEVEN

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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through innovation and exceptional service.

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