WKE

MAY 2017

PROJECT ID: 2035-06-70

WITH:

COUNTY: MILWAUKEE

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 = 416

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2035-06-70	WISC 2017267	1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

WATERTOWN PLANK RD, CITY OF WAUWATOSA

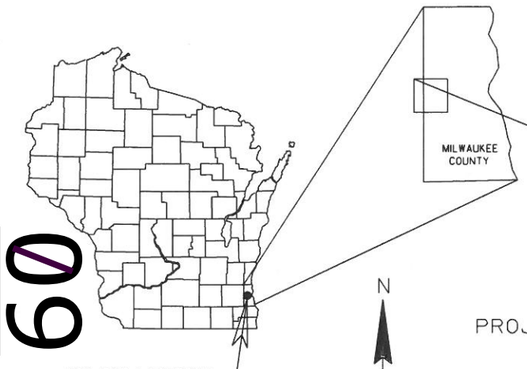
UNDERWOOD CREEK STRS B-40-0470/0471

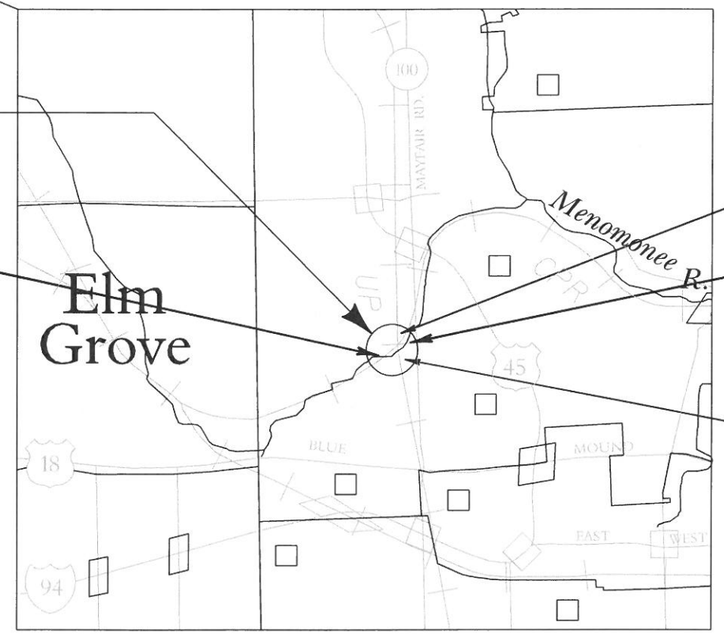
LOCAL STREET

MILWAUKEE COUNTY

STATE PROJECT NUMBER

2035-06-70





BEGIN PROJECT 2035-06-70
STA. 88+14.06EB
Y = 302,121.23
X = 567,930.05

END PROJECT 2035-06-70
STA. 94+78EB

DESIGN DESIGNATION

A.A.D.T. (2017)	=	14,700
A.A.D.T. (2037)	=	20,000
D.H.V. (2037)	=	1290 (ONE WAY)
D.D.	=	59/41
T.	=	3.4%
DESIGN SPEED	=	40MPH
ESALS	=	N/A

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (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 1/2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.126 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MILWAUKEE COUNTY. NAD 83 (2007)

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM, NAVD 88 (2007)

ORIGINAL PLANS PREPARED BY

AYRES ASSOCIATES
WISCONSIN
PHILIP J. BAIN JR
E-36474
WAUWATOSA, WI
PROFESSIONAL ENGINEER

DATE 03/15/2017

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AYRES ASSOCIATES
Designer	AYRES ASSOCIATES
Project Manager	NGUYEN LY
Regional Examiner	STEVE CHOJNACKI
Regional Supervisor	BENEDICT ERUCHALU
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 3/15/2017 (Signature)

E

GENERAL NOTES

1. THE LOCATIONS OF EXISTING OR PROPOSED UTILITIES, AS NOTED ON THE PLANS, ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
2. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPALITY OR PUBLIC AGENCY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
3. DIMENSIONS GIVEN FOR EXISTING FEATURES ARE APPROXIMATE AND SHOULD BE MEASURED IN THE FIELD BY THE CONTRACTOR FOR PRECISION.
4. STATIONS AND OFFSETS ARE REFERENCED TO THE NEAREST REFERENCE LINE.
5. NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
6. EROSION CONTROL ITEMS SHOWN ON THE PLAN ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS AND DIMENSIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
7. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DEEMS THE MEASURE NO LONGER NECESSARY.
8. TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. NO WORK MAY BEGIN UNTIL PROPER TRAFFIC CONTROL DEVICES ARE PLACED AND APPROVED BY THE ENGINEER.
9. EXCAVATION BELOW SUBGRADE (EBS) SHALL BE MEASURED AND PAID FOR AS EXCAVATION COMMON. THE EXACT LOCATION OF EBS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
10. EXPANSION JOINTS SHALL BE CONSTRUCTED AT ALL RADIUS POINTS IN THE CURB AND GUTTER.
11. ALL DISTURBED AREAS WITHIN THE RIGHT-OF-WAY THAT ARE NOT A RESULT OF CONTRACT WORK ITEMS SHALL BE LANDSCAPED AT THE CONTRACTOR'S EXPENSE AS DIRECTED BY THE ENGINEER.
12. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
13. TOPSOIL SHALL BE PLACED TO A MINIMUM DEPTH OF 6 INCHES OR AS DIRECTED BY THE ENGINEER.
14. VERIFY EXISTING PAVEMENT ELEVATIONS AT ALL TIE-INS TO PROPOSED PAVEMENT PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IF DISCREPANCIES ARE FOUND.
15. TEMPORARY SIGNAL PLANS AT 113TH STREET AND WATERTOWN PLANK ROAD PROVIDED BY WISDOT.

ORDER OF SECTION 2 SHEETS

GENERAL NOTES

CONTACT LIST

PROJECT OVERVIEW

RIGHT-OF-WAY OVERVIEW

TYPICAL SECTIONS

CLEARING PLAN

TEMPORARY ACCESS ROAD

CONSTRUCTION DETAILS

PLAN DETAIL

PAVEMENT GRADES

EROSION CONTROL

PERMANENT SIGNING & MARKING

LIGHTING PLAN

TEMPORARY TRAFFIC SIGNAL PLAN

TRAFFIC CONTROL

DETOUR PLAN

ALIGNMENT PLAN

2

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

2

PROJECT CONTACTS

WISDOT SE REGION
NGUYEN LY
141 NW BARSTOW STREET
WAUKESHA, WI 53187
(262) 548-8739
NGUYEN.LY@DOT.WI.GOV

AYRES ASSOCIATES
PHILIP BAIN
N17 W24222 RIVERWOOD DRIVE
SUITE 310
WAUKESHA, WI 53188
(262) 523-4488
BAINP@AYRESASSOCIATES.COM

WDNR
KRISTINA BETZOLD
2300 N DR MARTIN LUTHER KING JR DRIVE
MILWAUKEE, WI 53212
(414) 507-4946
KRISTINA.BETZOLD@WISCONSIN.GOV

MILWAUKEE COUNTY PARKS
SARAH TOOMSEN
9480 WATERTOWN PLANK ROAD
WAUWATOSA, WI 53226
(414) 257-7389 OFFICE
SARAH.TOOMSEN@MILWAUKEECOUNTYWI.GOV

MILWAUKEE COUNTY TRANSIT SYSTEM
MELANIE FLYNN
1942 N 17TH STREET
MILWAUKEE, WI 53205
(414) 343-1764
MMACARTHUR@MCTS.ORG

RAILROAD CONTACTS

CANADIAN PACIFIC RAILWAY - RAILROAD FACILITY
JAMES KRIEGER
CANADIAN PACIFIC PLAZA
120 SOUTH 6TH STREET, SUITE 900
MINNEAPOLIS, MN 55402
(612) 330-4555
JIM_KRIEGER@CPR.CA

UNION PACIFIC RAILROAD - RAILROAD FACILITY
JOHN VENICE
101 NORTH WACKER DRIVE, SUITE 1920
CHICAGO, IL 60606
(312) 777-2043
JNVENICE@UP.COM

2

UTILITY CONTACTS

ATC MANAGEMENT, INC. - ELECTRICITY
CHRIS DAILEY
P.O. BOX 47
WAUKESHA, WI 53187
(262) 506-6884
CDAILEY@ATCLLC.COM

CHARTER COMMUNICATIONS - COMMUNICATION LINE
STEVE CRAMER
1320 N MARTIN LUTHER KING JR DR
MILWAUKEE, WI 53212
(414) 277-4045 OFFICE
(414) 688-2385 MOBILE
STEVE.CRAMER@CHARTER.COM

AT&T WISCONSIN - COMMUNICATION LINE
DEANA BARBIAN
425 S 95TH ST
MILWAUKEE, WI 53214
(414) 476-6188 OFFICE
(414) 469-1335 MOBILE
DJ5352@ATT.COM

LEVEL 3 COMMUNICATIONS LLC - C
SASHA DEMIAN
3235 INTERTECH DR
BROOKFIELD, WI 53045
(414) 908-1042
SASHA.DEMIAN@LEVEL3.COM

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT - SEWER
LARRY ANDERSON
260 W SEEBOTH ST
MILWAUKEE, WI 53204-1446
(414) 225-2241 OFFICE
(414) 617-1429 MOBILE
LANDERSON@MMSD.COM

ROGERS TELECOM - COMMUNICATION LINE
VICKIE MORAN
4804 N 40TH ST
SHEBOYGAN, WI 53083
(877) 459-2690
VMORAN@GABES.COM

SPRINT COMMUNICATIONS CO LP - COMMUNICATION LINE
GERRY CRAIN
5600 NORTH RIVER RD
SUITE 200
ROSEMONT, IL 60446
(847) 445-1869
GERRY.A.CRAIN@SPRINT.COM

AT&T LOCAL NETWORK
JENNIFER NAVARO
6070 N FLINT ROAD
GLENDALE, WI 53209
(414) 459-3564
J.NAVARRO@NORTHWINDTECH.COM

TDS METROCOM - COMMUNICATION LINE
MATTHEW SCHULTE
16924 WEST VICTOR RD
NEW BERLIN, WI 53151
(262) 754-3063 OFFICE
(262) 409-1177 MOBILE
MATT.SCHULTE@TDSTELECOM.COM

CITY OF WAUWATOSA - SEWER
CHRIS BENNETT
7725 W NORTH AVE
WAUWATOSA, WI 53213
(414) 479-8935
CBENNETT@WAUWATOSA.NET

CITY OF WAUWATOSA - STREET LIGHTING
RANDY MICHELZ
11100 W WALNUT RD
WAUWATOSA, WI 53226
(414) 471-8429
RMICHELZ@WAUWATOSA.NET

CITY OF WAUWATOSA - TRAFFIC SIGNALS
RANDY MICHELZ
11100 W WALNUT RD
WAUWATOSA, WI 53226
(414) 471-8429
RMICHELZ@WAUWATOSA.NET

CITY OF WAUWATOSA - WATER
ADAM FLORIN
11100 W WALNUT ROAD
WAUWATOSA, WI 53226
(414) 471-8480
AFLORIN@WAUWATOSA.NET

WE ENERGIES - CORRESPONDENCE
LATROY BRUMFIELD
333 WEST EVERETT ST, ROOM A299
MILWAUKEE, WI 53203
(414) 221-5617
LATROY.BRUMFIELD@WE-ENERGIES.COM

WE ENERGIES - ELECTRIC
KEN FRANECKI
500 S 116TH ST
WEST ALLIS, WI 53214
(414) 944-5531 OFFICE
(262) 939-1039 MOBILE
KENNETH.FRANECKI@WE-ENERGIES.COM

WE ENERGIES - GAS/PETROLEUM
JOSH MOUNT
500 S 116TH ST
WEST ALLIS, WI 53214
(414) 218-2053 CELL
JOSH.MOUNT@WE-ENERGIES.COM

WISDOT - TRAFFIC SIGNALS
WISDOT ELECTRICAL FIELD UNIT
935 S. 60TH ST
WEST ALLIS, WI 53214
(414) 266-1170
EMAIL N/A

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N

P.L.

P.L.

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P.L.

P.L.

UTILITY EASEMENT

MMG REAL ESTATE HOLDINGS LLC

FIVE ACES LLC

MILWAUKEE ELECTRICAL JOINT APPRENTICE & TRAINING COMM TRUST

N. 113TH ST.

EXISTING ROW

EXISTING ROW

UNION PACIFIC RAILROAD

CP RAIL SYSTEMS SOO LINE RAILROAD

UNION PACIFIC RAILROAD

MILWAUKEE COUNTY

UNDERWOOD CREEK

OAK LEAF TRAIL

P.L.

DRAINAGE EASEMENT

NORTH MAYFAIR 8 LLC
C/O WANGARD PARTNERS

MKE CO

EXISTING ROW

EXISTING ROW

84+00WB

WB ℄ 86+00WB

88+00WB

90+00WB

92+00WB

94+00WB

96+00WB

98+0

WB ℄

W. WATERTOWN PLANK RD.

SECTION LINE

84+00EB

86+00EB

88+00EB

90+00EB

92+00EB

94+00EB

96+00EB

98+0

EB ℄

EXISTING ROW

EXISTING ROW

EXISTING ROW

P.L.

MILWAUKEE COUNTY

FROEDTERT & MEDICAL COLLEGE OF WISCONSIN
TOSA HEALTH CENTER

MILWAUKEE COUNTY

CP RAIL SYSTEMS SOO LINE RAILROAD

UNDERWOOD CREEK

OAK LEAF TRAIL

P.L.

P.L.

MILWAUKEE COUNTY

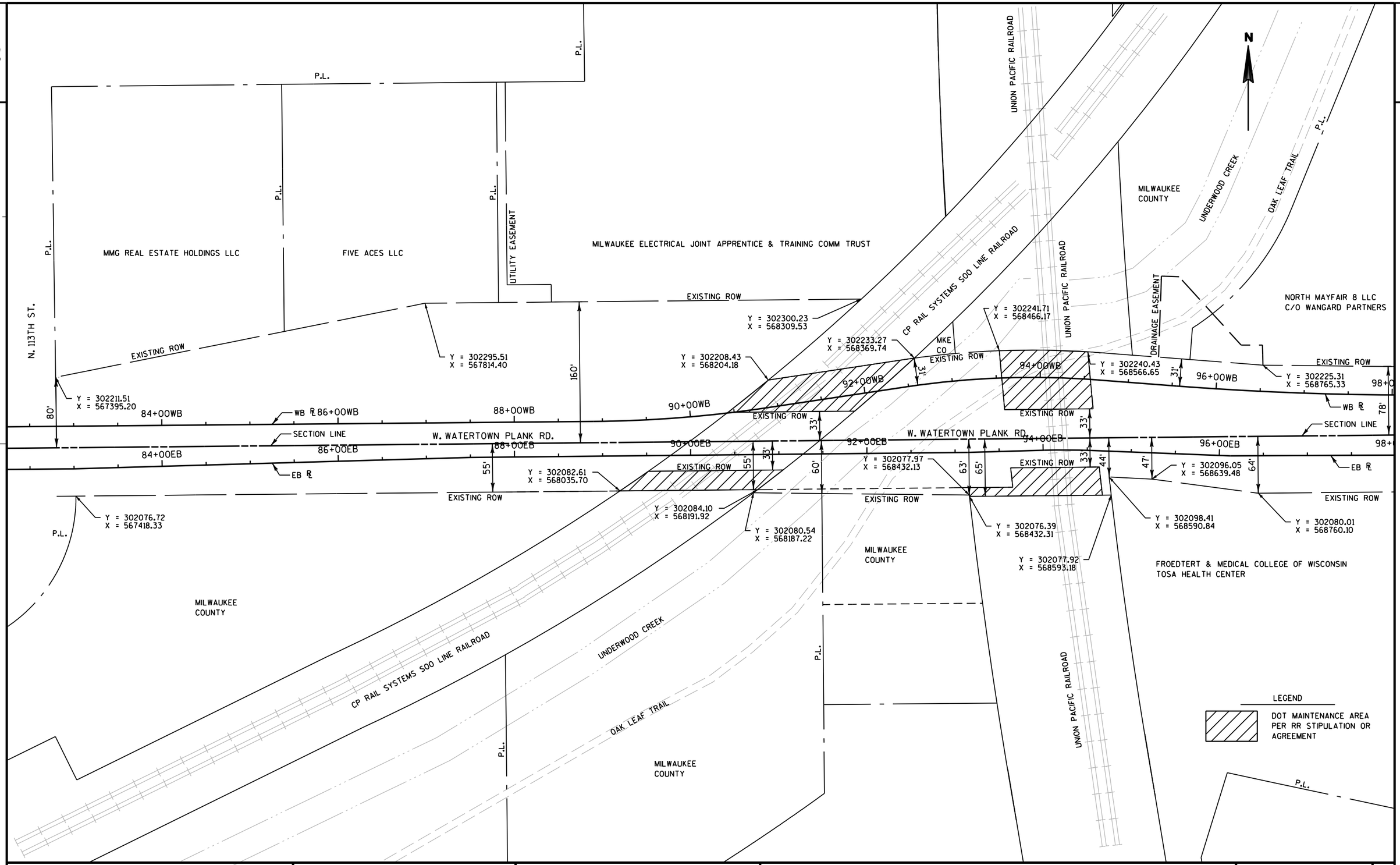
UNION PACIFIC RAILROAD

P.L.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SHEET 5	E

FILE NAME : R:\420808\dgn\2035-06-70_020201_po.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:100

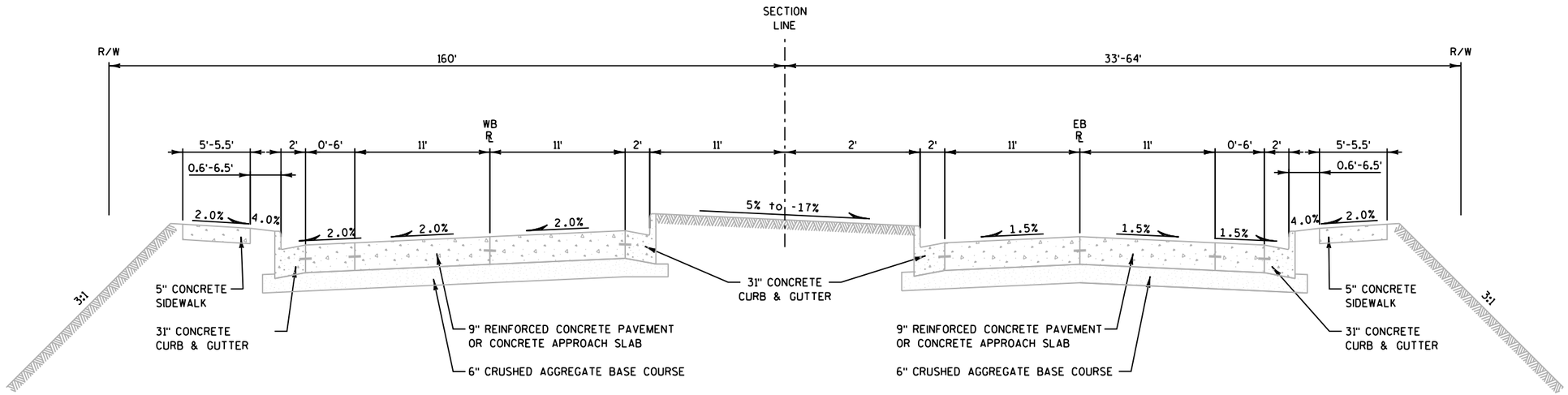
WISDOT/CADDS SHEET 42



PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	RIGHT-OF-WAY OVERVIEW	SHEET E

FILE NAME : R:\420808\dgn\2035-06-70_020210_ro.dgn PLOT DATE : 1/31/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:100

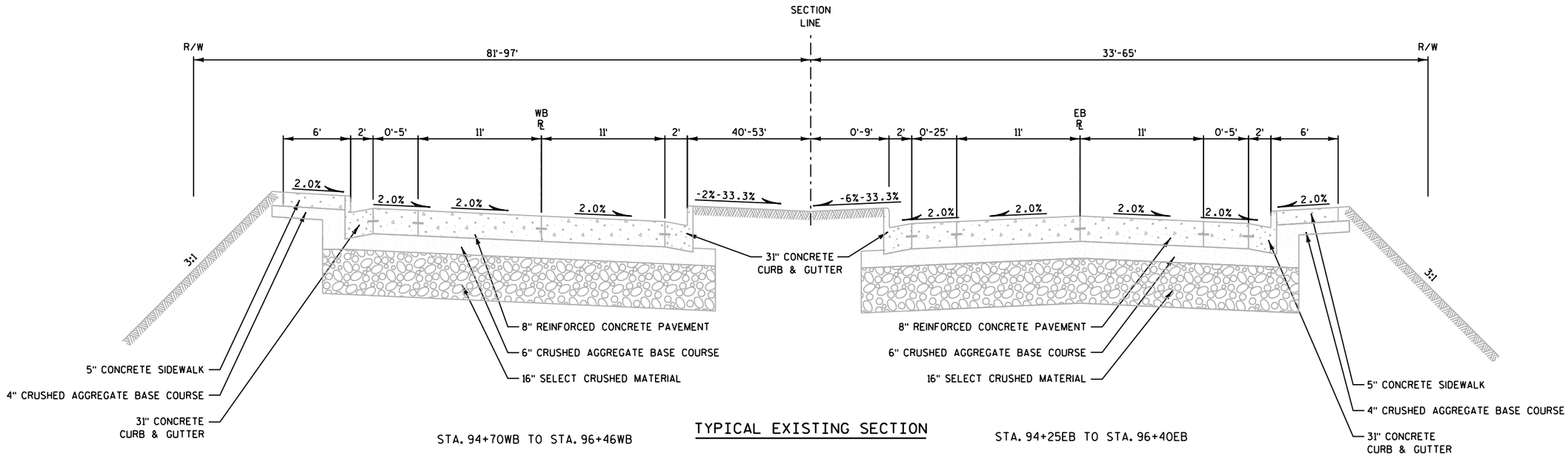
WISDOT/CADDS SHEET 42



STA. 87+00WB TO STA. 89+79WB

TYPICAL EXISTING SECTION

STA. 86+47EB TO STA. 89+17EB
STA. 92+87EB TO 94+25EB

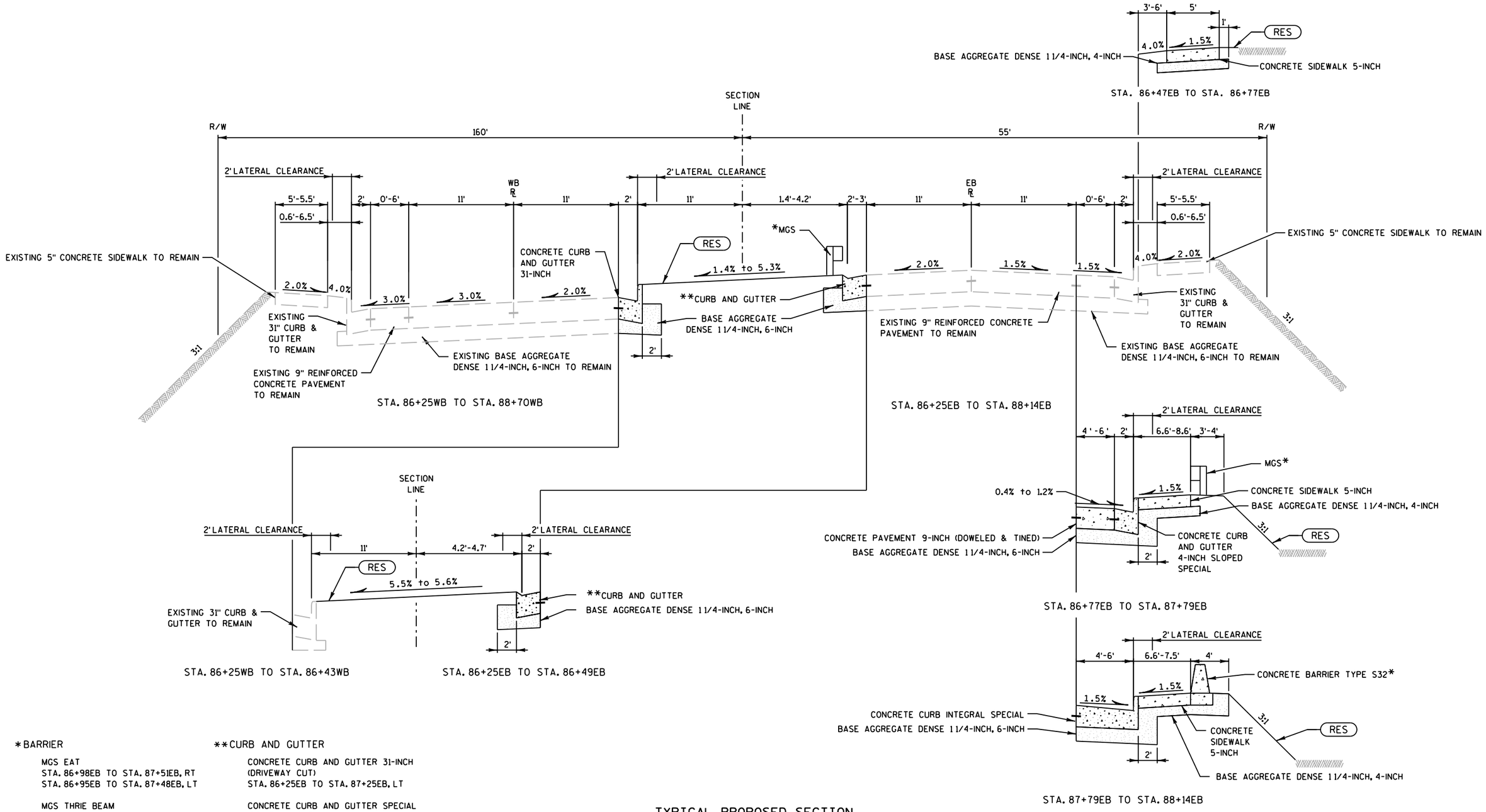


STA. 94+70WB TO STA. 96+46WB

TYPICAL EXISTING SECTION

STA. 94+25EB TO STA. 96+40EB

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 7	E



STA. 86+47EB TO STA. 86+77EB

STA. 86+25WB TO STA. 86+43WB

STA. 86+25EB TO STA. 86+49EB

STA. 86+77EB TO STA. 87+79EB

STA. 87+79EB TO STA. 88+14EB

*BARRIER

MGS EAT
STA. 86+98EB TO STA. 87+51EB, RT
STA. 86+95EB TO STA. 87+48EB, LT

MGS THRIE BEAM
STA. 87+51EB TO STA. 87+88EB, RT
STA. 87+48EB TO STA. 87+85EB, LT

CONCRETE BARRIER TYPE S32
STA. 87+88EB TO STA. 88+14EB, RT

CONCRETE BARRIER TYPE S36C
STA. 87+85EB TO STA. 88+14EB, LT

**CURB AND GUTTER

CONCRETE CURB AND GUTTER 31-INCH
(DRIVEWAY CUT)
STA. 86+25EB TO STA. 87+25EB, LT

CONCRETE CURB AND GUTTER SPECIAL
(DRIVEWAY CUT)
STA. 87+25EB TO STA. 87+45EB, LT

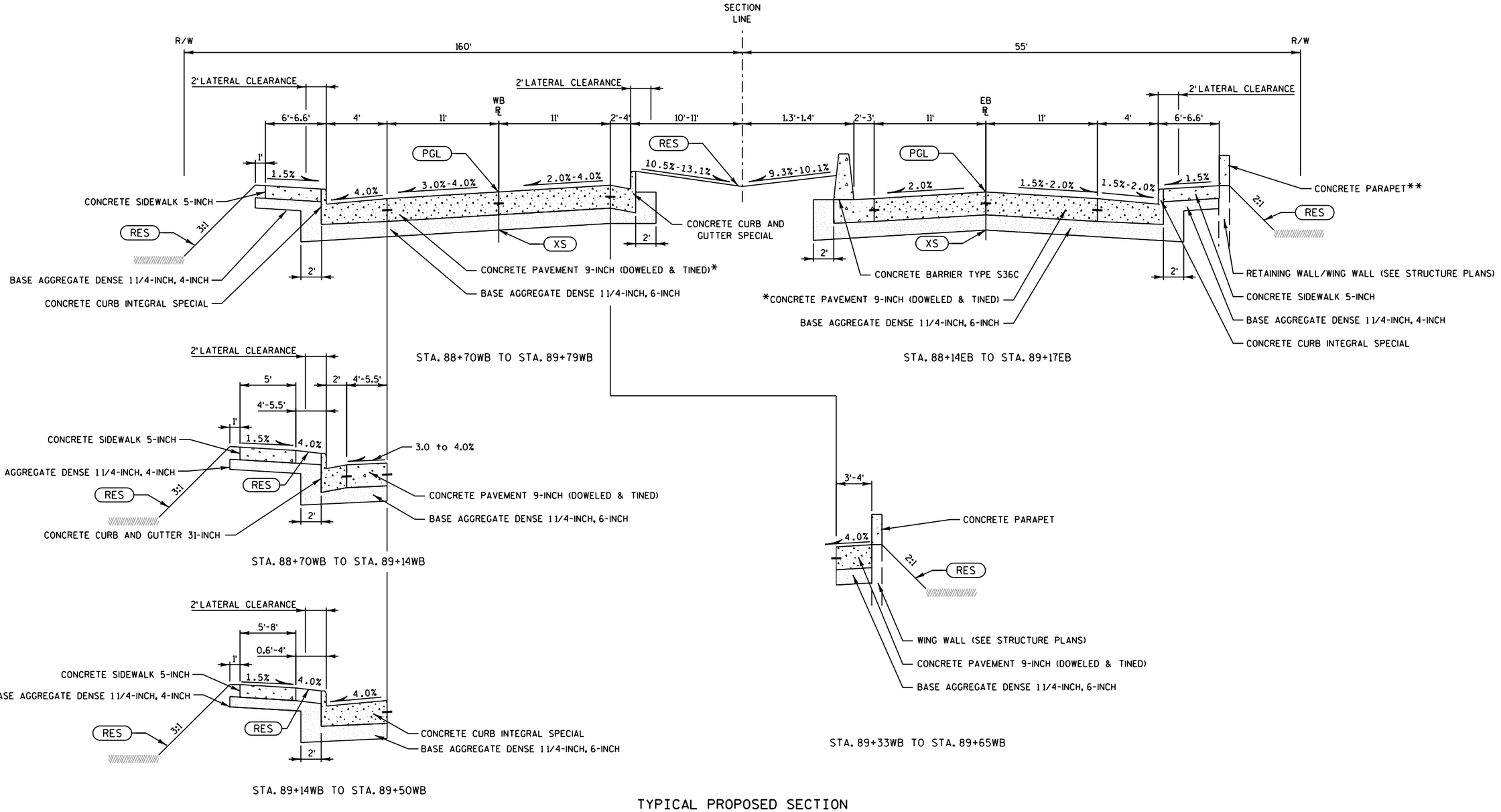
CONCRETE CURB AND GUTTER TBTT SPECIAL
STA. 87+45EB TO STA. 87+85EB, LT

TYPICAL PROPOSED SECTION

LEGEND

PGL — POINT REFERRED TO ON PROFILE
XS — POINT REFERRED TO ON CROSS SECTION
RES — RESTORATION (SEE EROSION CONTROL SHEETS)

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 8	E



TYPICAL PROPOSED SECTION

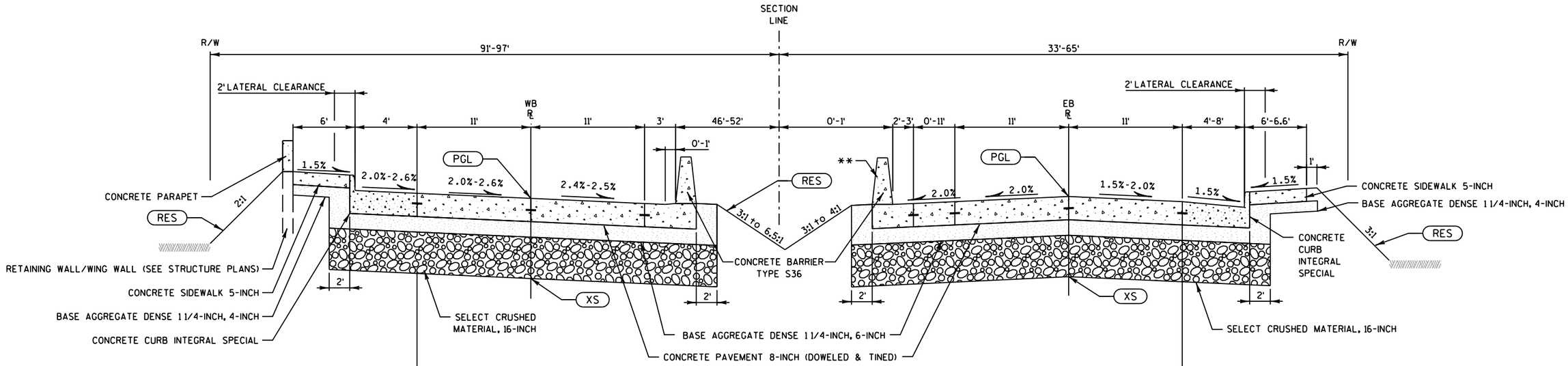
* CONCRETE PAVEMENT APPROACH SLAB
STA. 88+90EB TO STA. 89+17EB
STA. 89+50WB TO STA. 89+79WB

** CONCRETE BARRIER TYPE S32
STA. 88+14EB TO STA. 88+30EB

LEGEND

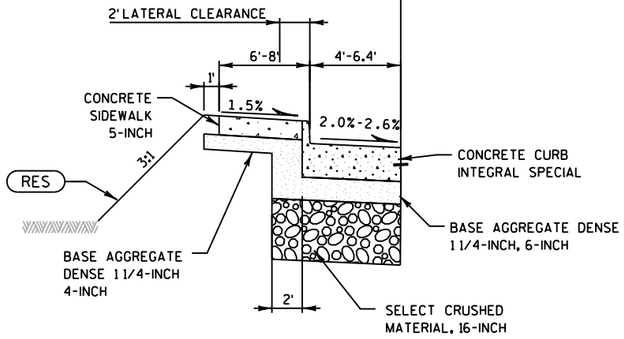
PGL — POINT REFERRED TO ON PROFILE
XS — POINT REFERRED TO ON CROSS SECTION
RES — RESTORATION (SEE EROSION CONTROL SHEETS)

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 9	E

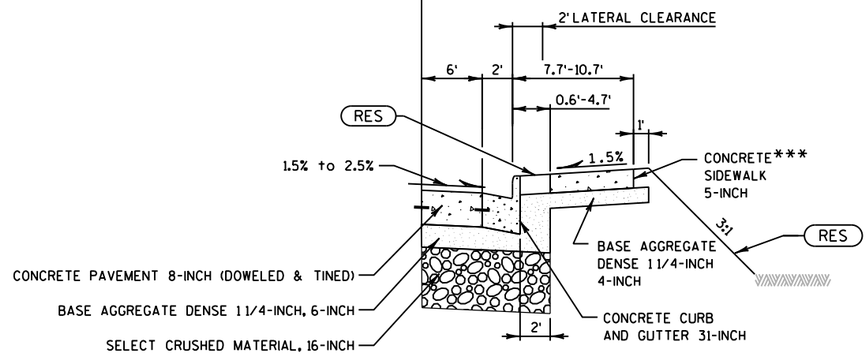


STA. 94+70WB TO STA. 95+25WB

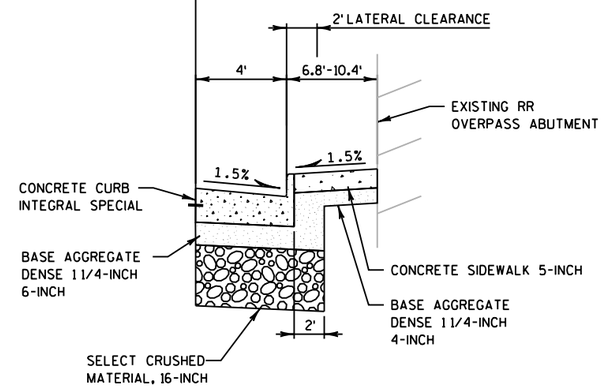
STA. 92+87EB TO STA. 94+78EB



STA. 95+09WB TO STA. 95+25WB



STA. 94+55EB TO STA. 94+78EB



STA. 93+98EB TO STA. 94+29EB

* CONCRETE PAVEMENT APPROACH SLAB
STA. 92+87EB TO STA. 93+14EB
STA. 94+70WB TO STA. 94+96WB

** CONCRETE PARAPET (SEE STRUCTURE PLANS)
STA. 93+03EB TO STA. 93+11EB
RETAINING WALL (SEE STRUCTURE PLANS)
STA. 93+11EB TO STA. 93+21EB

*** EXISTING CONCRETE SIDEWALK
STA. 94+60EB TO STA. 94+67EB

TYPICAL PROPOSED SECTION

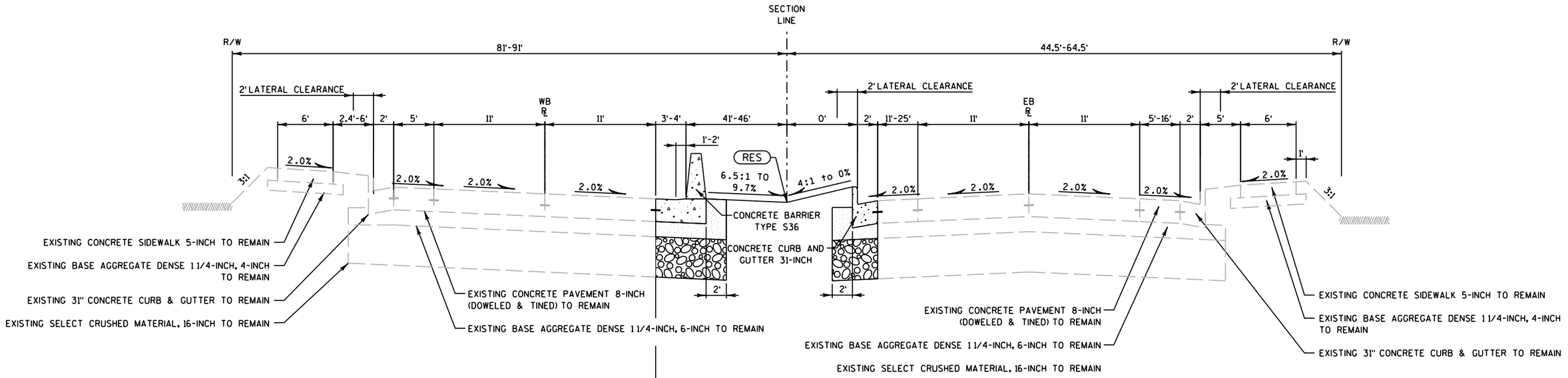
LEGEND

PGL — POINT REFERRED TO ON PROFILE
XS — POINT REFERRED TO ON CROSS SECTION
RES — RESTORATION (SEE EROSION CONTROL SHEETS)

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 10	E

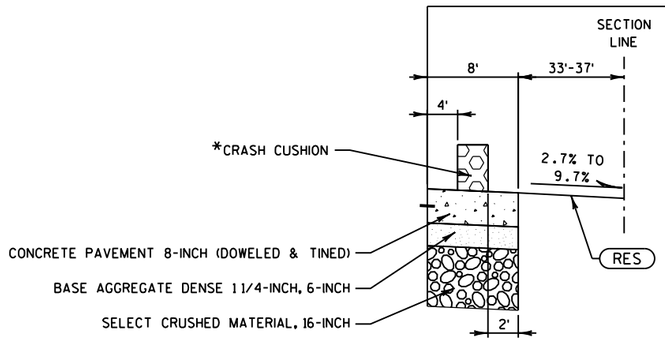
FILE NAME : R:\420808\dgn\2035-06-70_020302_ts.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

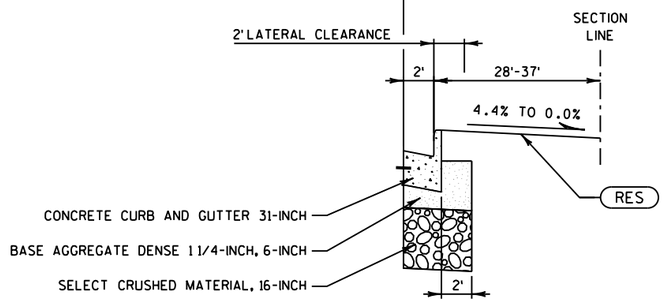


STA. 95+25WB TO STA. 96+45WB

STA. 94+78EB TO STA. 96+41EB



STA. 95+75WB TO STA. 96+25WB



STA. 96+25WB TO STA. 96+45WB

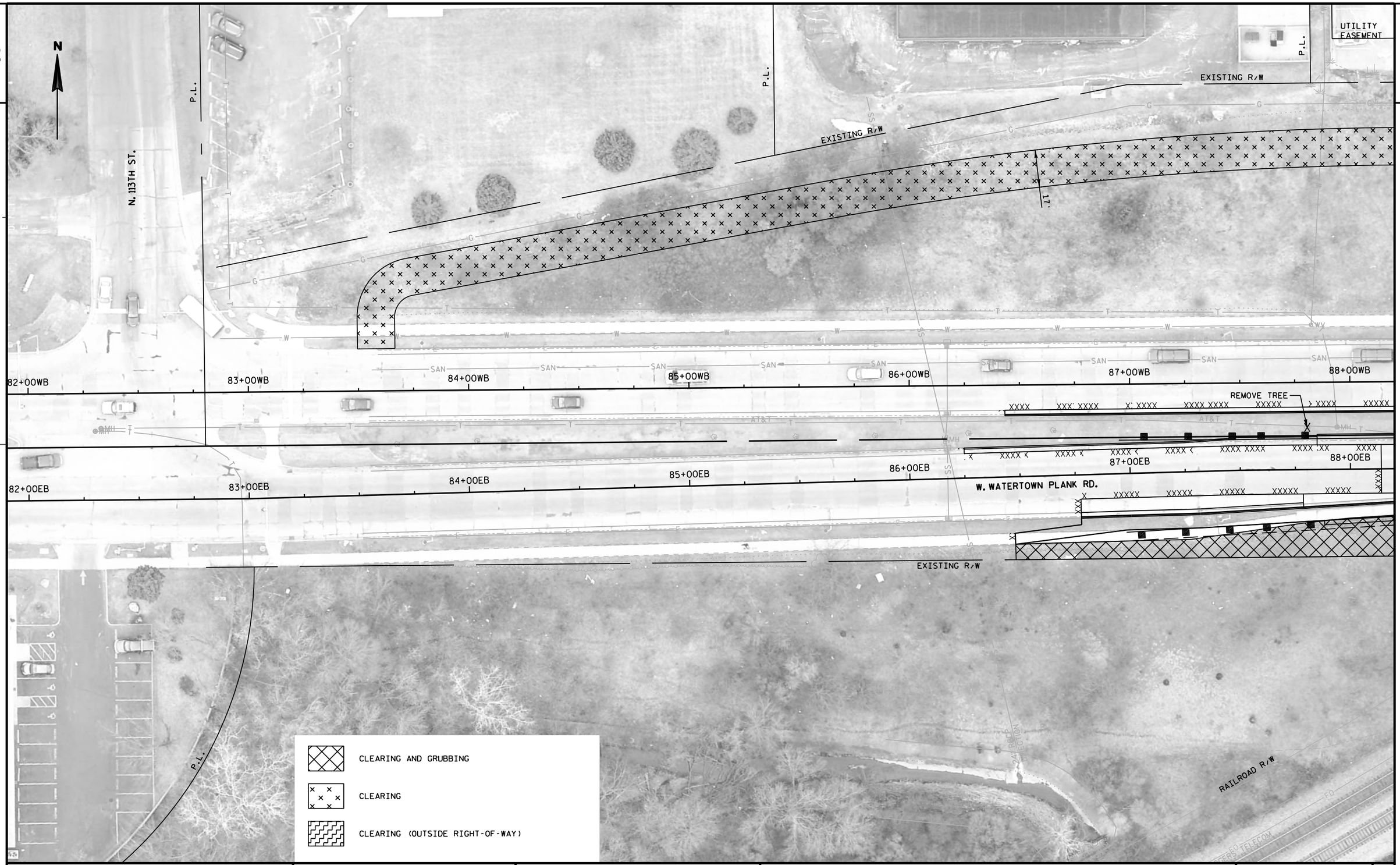
TYPICAL PROPOSED SECTION

*CRASH CUSHION
STA. 95+75WB TO STA. 96+00WB

LEGEND

PGL — POINT REFERRED TO ON PROFILE
XS — POINT REFERRED TO ON CROSS SECTION
RES — RESTORATION (SEE EROSION CONTROL SHEETS)

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 11	E



PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CLEARING PLAN	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_020401_cp.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

UTILITY EASEMENT

WETLANDS

EXISTING R/W

RAILROAD R/W

17'

30'

89+00WB

90+00WB

91+00WB

92+00WB

93+00WB

94+00WB

89+00EB

90+00EB

91+00EB

92+00EB

93+00EB

94+00EB

W. WATERTOWN PLANK RD.

P.L.

N

CLEARING AND GRUBBING

CLEARING

CLEARING (OUTSIDE RIGHT-OF-WAY)

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CLEARING PLAN	SHEET E

FILE NAME : R:\420808\dgn\2035-06-70_020402_cp.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

2

N

RAILROAD R/W

DRINAGE EASEMENT

P.L.

30'

EXISTING R/W

WE ENERGIES

95+00WB

96+00WB

97+00WB

98+00WB

99+00WB

100+00WB

REMOVE TREE

STUBBED END

AT&T

TDS

SAN

95+00EB

96+00EB

97+00EB

98+00EB

99+00EB

100+00EB

W. WATERTOWN PLANK RD.

EXISTING R/W

RAILROAD R/W

IB
3/4" W/ YELLOW CAP

WIS 100 / N. MAYFAIR RD.

CLEARING AND GRUBBING

CLEARING

CLEARING (OUTSIDE RIGHT-OF-WAY)

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CLEARING PLAN	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_020403_cp.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

N

P.L.

N. 113TH ST.

EXISTING R/W

12' TYP.

STA. 83+75WB
43' LT

BEGIN CURVE
STA. 85+63WB
76' LT

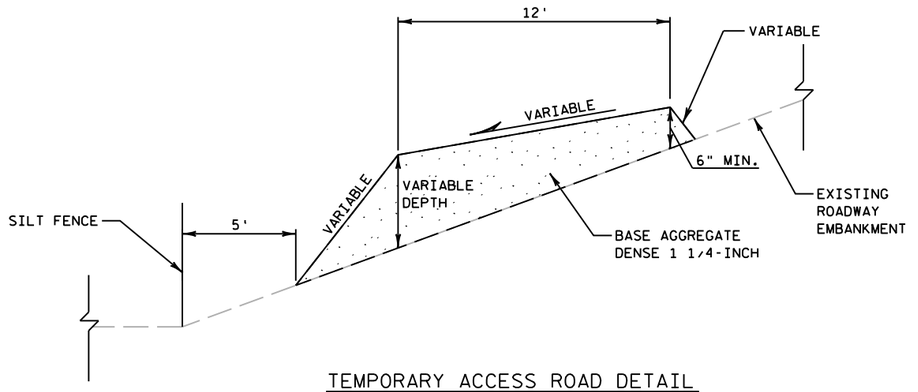
TEMPORARY ACCESS ROAD

1500' RADIUS

UTILITY
EASEMENT

82+00WB 83+00WB 84+00WB 85+00WB 86+00WB 87+00WB 88+00WB

82+00EB 83+00EB 84+00EB 85+00EB W. WATERTOWN PLANK RD. 86+00EB 87+00EB 88+00EB



TEMPORARY ACCESS ROAD DETAIL

CP RAIL SYSTEMS SOO LINE RAILROAD

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TEMPORARY ACCESS ROAD	SHEET 15	E

FILE NAME : R:\420808\dgn\2035-06-70_020501_ap.dgn PLOT DATE : 1/31/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

UTILITY EASEMENT

EXISTING R/W

WETLANDS (NOT TO BE DISTURBED)

TEMPORARY ACCESS ROAD

12' TYP.

1500' RADIUS

END CURVE STA. 90+12WB 82' LT

TEMPORARY 24" C.P.

STA. 90+12WB 51' LT

10' RAD.

TEMPORARY CROSSING (CONTRACTOR OPTION - LOCATION TO BE COORDINATED WITH RAILROAD)

CP RAIL SYSTEMS SOO LINE RAILROAD

UNDERWOOD CREEK

UNION PACIFIC RAILROAD

N

2

89+00WB

90+00WB

91+00WB

92+00WB

93+00WB

94+00WB

89+00EB

90+00EB

91+00EB

92+00EB

93+00EB

94+00EB

W. WATERTOWN PLANK RD.

EXISTING R/W

CP RAIL SYSTEMS SOO LINE RAILROAD

UNDERWOOD CREEK

P.L.

OAK LEAF TRAIL

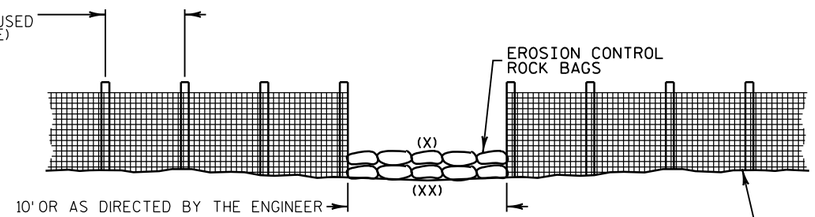
UNION PACIFIC RAILROAD

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TEMPORARY ACCESS ROAD	SHEET 16	E

FILE NAME : R:\420808\dgn\2035-06-70_020502_ap.dgn PLOT DATE : 1/31/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

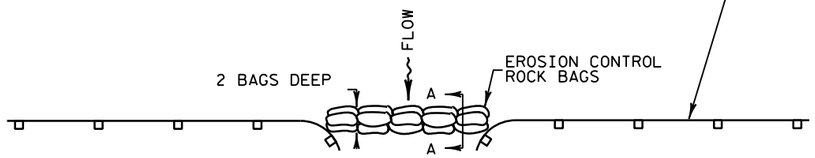
SILT FENCE SHALL HAVE A MAXIMUM POST SPACING OF 1.5 FT OR 4 FT IF A WOVEN GEOTEXTILE FABRIC IS USED (INCIDENTAL TO BID ITEM SILT FENCE)



CROSS SECTION VIEW

SILT FENCE (TYP.)

SEC A-A



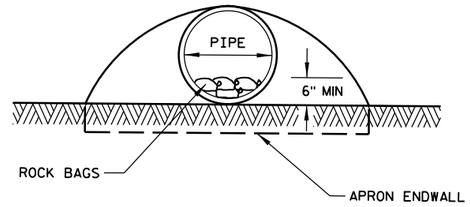
PLAN VIEW

NOTES:

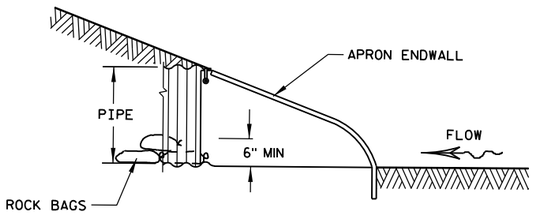
(X) OPENING TO BE PLACED AT LOW POINTS AS DIRECTED BY ENGINEER.

(XX) OPENING IN SILT FENCE NOT TO PLACED WITHIN 25'OF THE END OF THE SILT FENCE UNLESS DIRECTED BY THE ENGINEER.

EROSION CONTROL ROCK BAG OPENING IN SILT FENCE AND SILT FENCE POST SPACING



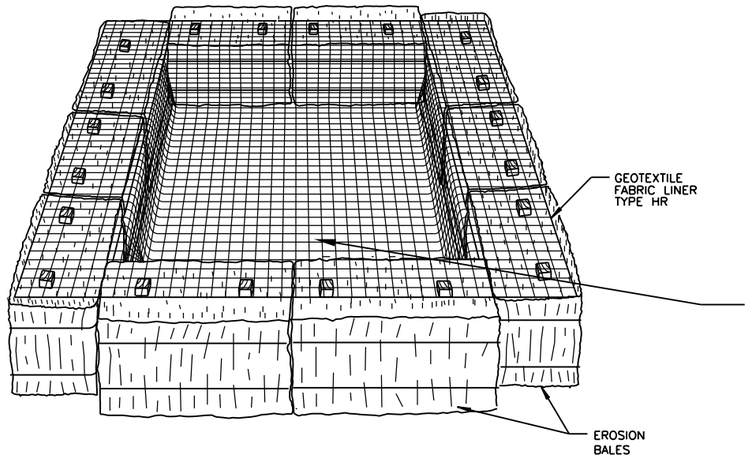
END VIEW



SIDE VIEW

CULVERT PIPE CHECKS

PLACE AT INLET END ONLY



(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.

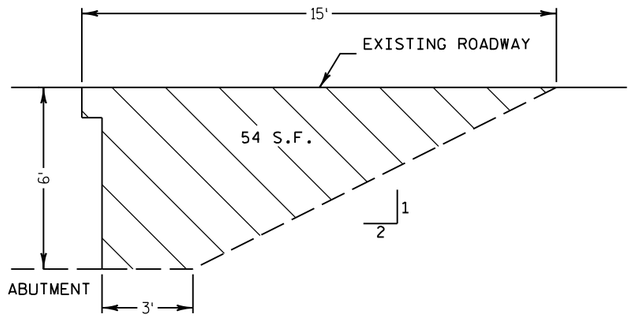
$\frac{800 \text{ C.F.}}{1.5 \text{ FT.}}$ = 533 S.F.

USE A 20 FT. X 27 FT. BASIN

CONTRACTOR TO PROVIDE A SEDIMENT BAG OR APPROVED EQUAL TO BE PLACED INSIDE OF BASIN. THE COST OF THE SEDIMENT BAG, WATER TREATMENT AND/OR DEWATERING IS INCIDENTAL TO THE BID ITEMS THE WORK IS ASSOCIATED WITH.

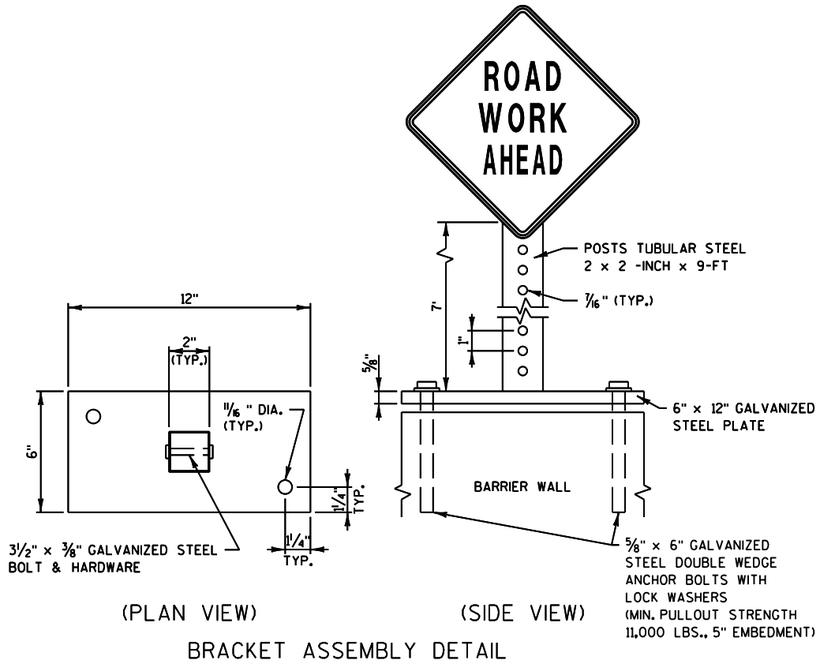
EROSION BALES FOR THE TEMPORARY SETTLING BASIN WILL BE PAID FOR UNDER THE EROSION BALES BID ITEM. GEOTEXTILE FABRIC TYPE HR FOR THE TEMPORARY SETTLING BASIN WILL BE PAID FOR UNDER THE GEOTEXTILE FABRIC TYPE HR BID ITEM.

TEMPORARY SETTLING BASIN WITH SEDIMENT BAG

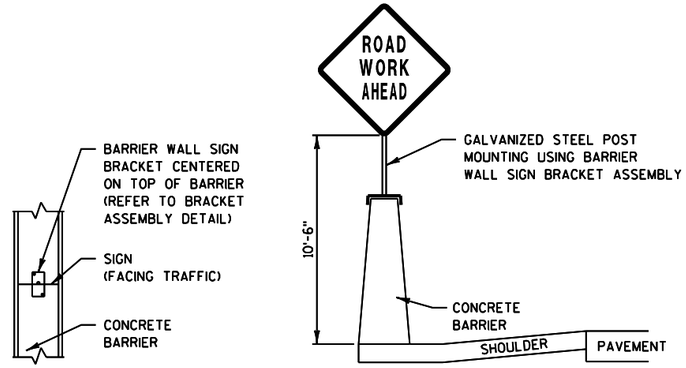


STRUCTURE EXCAVATION FOR ABUTMENT BACKWALL REPLACEMENT

2



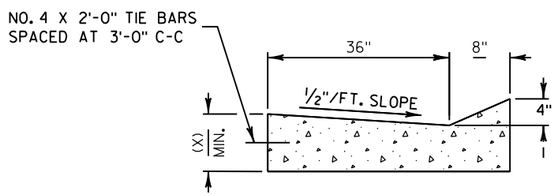
BRACKET ASSEMBLY DETAIL



MEDIAN BARRIER MOUNTING DETAIL

MOUNTING DETAILS FOR SIGNS MOUNTED TO BARRIER

NOTE:
ALL MATERIAL AND WORK SHALL BE INCIDENTAL
TO BID ITEM "TRAFFIC CONTROL SIGNS".

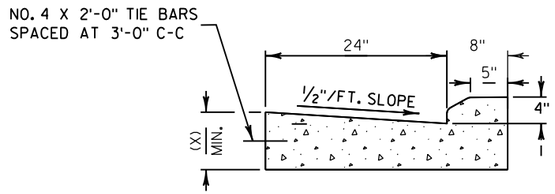


CONCRETE CURB AND GUTTER TBTT SPECIAL

NOTES:

(X) THE BOTTOM OF CURB AND GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE. PROVIDE A MINIMUM GUTTER THICKNESS THAT MATCHES ADJACENT PAVEMENT.

ALL OTHER DETAILS NOT SHOWN SHALL BE IN ACCORDANCE TO SDD CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES - CONCRETE CURB & GUTTER TYPES TBT & TBTT.



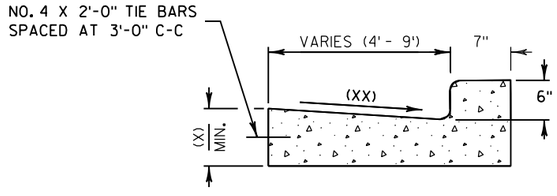
CONCRETE CURB AND GUTTER 4-INCH SLOPED SPECIAL

NOTES:

(X) THE BOTTOM OF CURB AND GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE. PROVIDE A MINIMUM GUTTER THICKNESS THAT MATCHES ADJACENT PAVEMENT.

ALL OTHER DETAILS NOT SHOWN SHALL BE IN ACCORDANCE TO SDD CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES - CONCRETE CURB & GUTTER 30" 4" SLOPED CURB TYPES G.

2



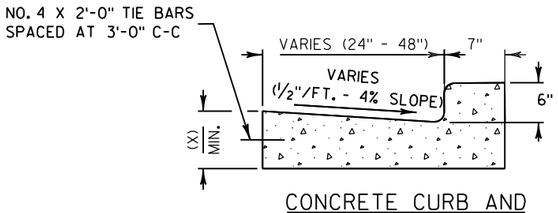
CONCRETE CURB INTEGRAL SPECIAL

NOTES:

(X) THE BOTTOM OF CURB AND GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE. PROVIDE A MINIMUM GUTTER A MINIMUM THICKNESS THAT MATCHES ADJACENT PAVEMENT.

(XX) EB SLOPE = 1.5%
WB SLOPE = MATCH SLOPE OF ADJACENT PAVEMENT.

ALL OTHER DETAILS NOT SHOWN SHALL BE IN ACCORDANCE TO SDD CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES - CONCRETE CURB & GUTTER 31".



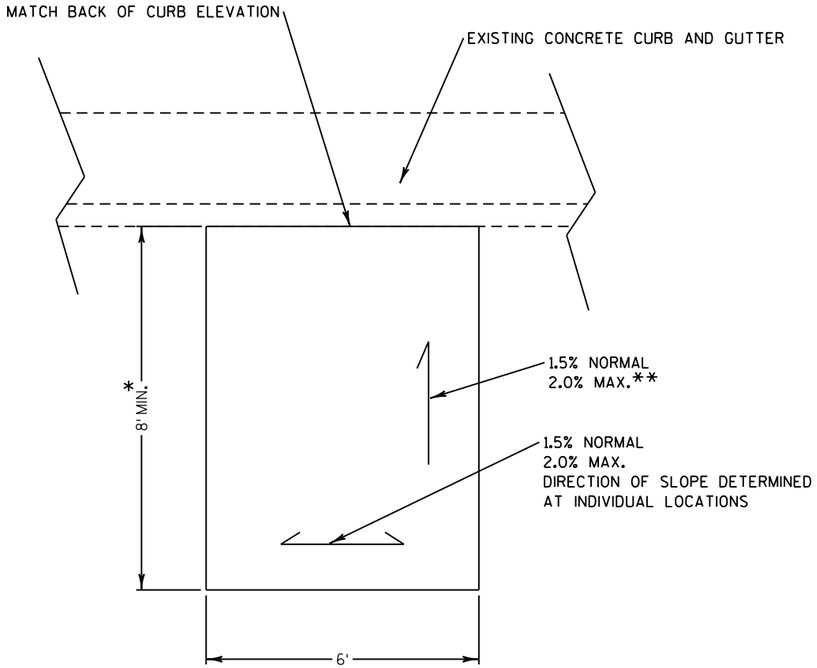
CONCRETE CURB AND GUTTER SPECIAL

NOTES:

(X) THE BOTTOM OF CURB AND GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE. PROVIDE A MINIMUM GUTTER THICKNESS THAT MATCHES ADJACENT PAVEMENT.

ALL OTHER DETAILS NOT SHOWN SHALL BE IN ACCORDANCE TO SDD CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES - CONCRETE CURB & GUTTER 31".

2



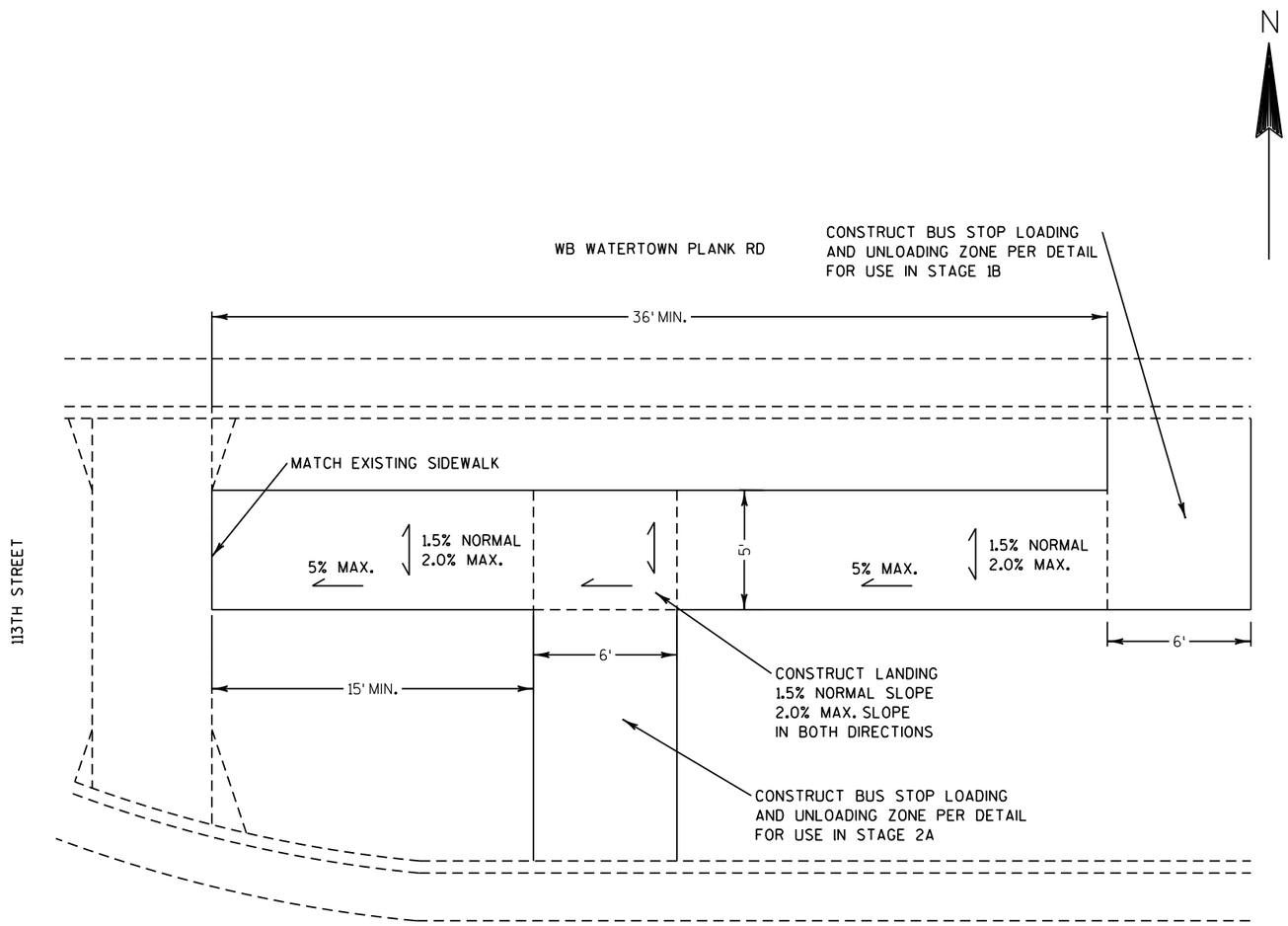
TEMPORARY BUS STOP LOADING AND UNLOADING ZONE

NOTES:

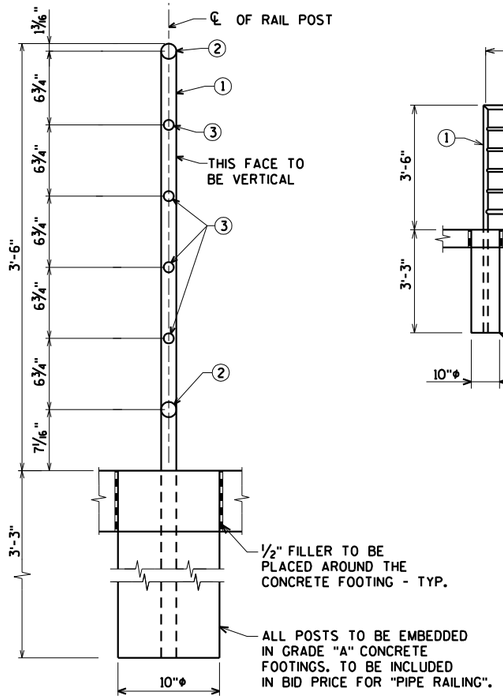
(1) TEMPORARY SURFACE SHALL BE CONSTRUCTED OF ASPHALT SURFACE TEMPORARY (3" MIN. DEPTH) THAT PROVIDES A STABLE, RIGID, SKID RESISTANT SURFACE THAT IS SMOOTH AND CONSISTANT IN SLOPE THROUGHOUT.

* PORTION OF 8' MINIMUM DIMENSION MAY INCLUDE EXISTING SIDEWALK IF MAXIMUM SLOPE OF 2% IS NOT EXCEEDED IN EITHER DIRECTION.

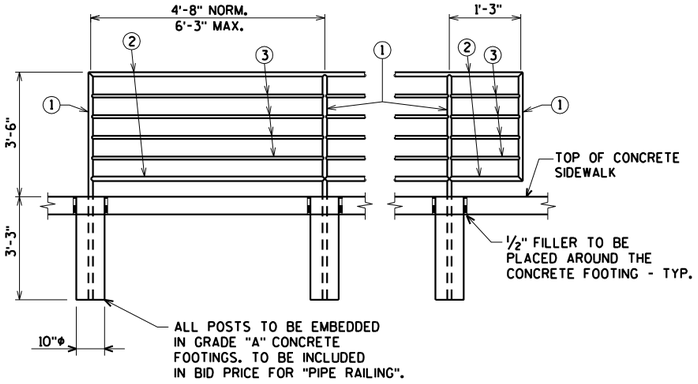
** IF A 2.0% MAXIMUM SLOPE CANNOT BE OBTAINED DUE TO EXISTING FIELD CONDITIONS, ADJACENT SIDEWALK SHALL BE REMOVED AND DEPRESSED TO ALLOW A MAXIMUM OF 2.0% SLOPE.



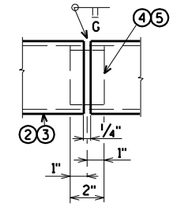
TEMPORARY BUS STOP DETAILS FOR WATERTOWN PLANK ROAD MEDIAN EAST OF 113TH ST



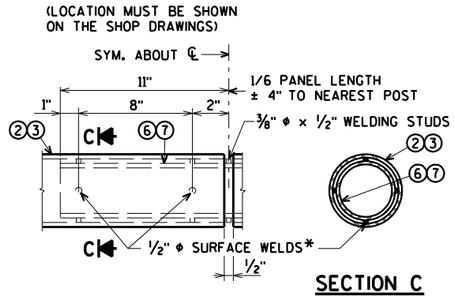
SECTION THRU RAILING



PART ELEVATION OF RAILING



SHOP RAIL SPLICE DETAIL



SECTION C

FIELD ERECTION JOINT DETAIL

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

GENERAL NOTES

BID ITEM WILL BE "RAILING PIPE", WHICH INCLUDES ALL ITEMS SHOWN.

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

ALL RAILING MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER S.S.P.C. SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE PIPE RAILING SHALL BE PAINTED BLACK FEDERAL COLOR NO. 27038. VENT HOLES SHALL BE DRILLED IN POST AND RAIL MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

ALL MATERIALS USED IN FABRICATION WILL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.

ALL RAILS, POSTS AND SLEEVES ARE STANDARD WEIGHT PIPE, SCHEDULE 40.

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

LEGEND

(1) 2" ϕ STEEL PIPE FOR POST. PLACE POSTS VERTICAL.

(2) 2" ϕ STEEL PIPE FOR TOP & BOT. RAIL. WELD TO NO. 1.

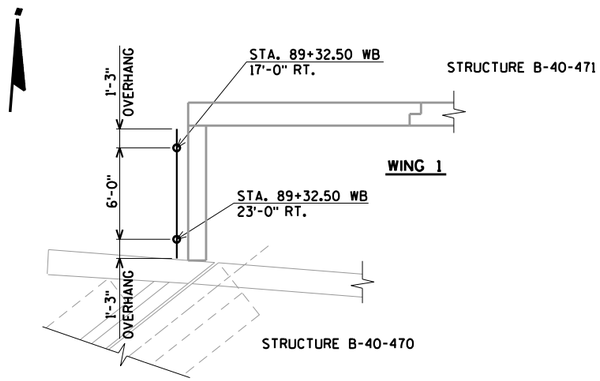
(3) 1" ϕ STEEL PIPE FOR INTERMEDIATE RAILS. WELD TO NO. 1.

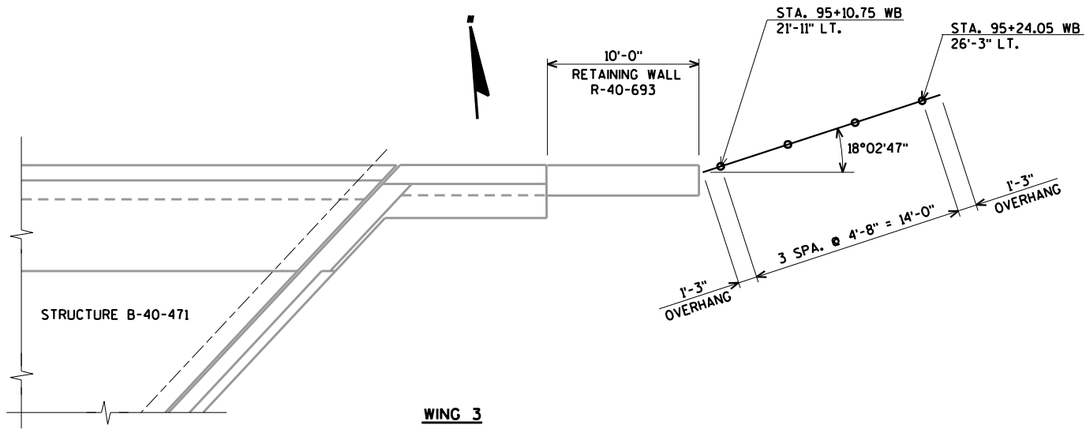
(4) 1" ϕ PIPE SLEEVE FOR NO. 2. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 1 3/16".

(5) 1/2" ϕ ROD SLEEVE FOR NO. 3. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 15/16".

(6) 1" ϕ PIPE SLEEVE x 1'-10" LONG FOR NO. 2. PROVIDE 1/2" ϕ SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 2. PROVIDE 3/8" ϕ x 1/2" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.

(7) 1/2" ϕ ROD SLEEVE x 1'-10" LONG FOR NO. 3. PROVIDE 1/2" ϕ SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 3. PROVIDE 3/8" ϕ x 1/2" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.





PLAN OF PIPE RAILINGS

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PIPE RAILING DETAILS	SHEET 21	E

ELECTRIC WORK REQUEST

4008940

[X] C [ ] T [ ] V: Wauwatosa
CUST/PROJ NAME: WI DOT
PROJECT LOCATION: 11000 W Watertown Plank Rd

PREPARED BY: Ken Franecki
E-MAIL: Kenneth.Franecki@we-energies.com
OFFICE #: 414-944-5531 CELL #: 262-939-1039
PROJECT ID: IO #: 75851
OPERATING MAPS: 4140-7652
EXISTING FEEDER:
PROPOSED FEEDER:
T-R-S - ¼Q: 7N21E19 CGS#:

TYPE OF WORK:
[ ] CONVERSION kV to kV
[ ] CABLE REPLACEMENT
[ ] FEEDER CUT
[ ] PAVING RELOCATION
[ ] REBUILD
[X] OTHER Installing bridge inserts and hangers.

STAKING REQUIREMENTS:
[ ] SURVEYOR [ ] STAKED
[ ] DESIGNER [X] NOT NEEDED

RESTORE PRIVATE PROPERTY:
[ ] YES [X] NO

JU COMPANY
PROJECT #:
CONSTRUCTION CONTACT:
PHONE # , CELL #
EMAIL

JU COMPANY
PROJECT #:
CONSTRUCTION CONTACT:
PHONE # , CELL #
EMAIL

JU COMPANY
PROJECT #:
CONSTRUCTION CONTACT:
PHONE # , CELL #
EMAIL

[ ] THIS IS A JUMPP PROJECT [X] THIS IS NOT A JUMPP PROJECT

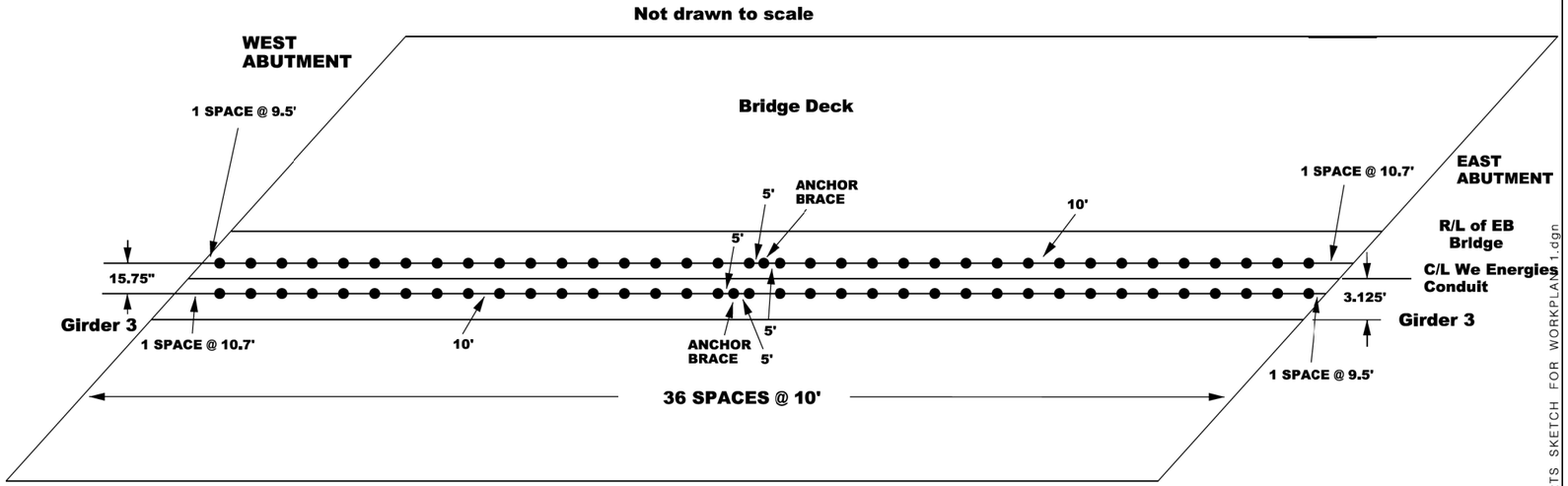
[ ] ROW TO OBTAIN EASEMENT / ADD EASEMENT. SURVEYOR TO STAKE C/L AND MARK WIDTH OF EASEMENT ON STAKE.
[ ] ROW TO CONTACT CST/DESIGNER FOR EASEMENT REQ'S.
[ ] NO NEW EASEMENTS REQUIRED

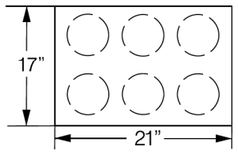
EROSION CONTROL NOTES

[ ] IF DISTURBANCE OCCURS IN SUMMER, FINAL STABILIZATION SHALL BE PERMANENT SEED AND PROPERLY ANCHORED MULCH, UNLESS NOTED. IF DISTURBANCE OCCURS IN WINTER, TEMPORARY STABILIZATION SHALL BE SOIL STABILIZER, TYPE A, UNLESS NOTED. FINAL STABILIZATION IS REQUIRED IN SPRING.
[ ] IF DISTURBANCE OCCURS WITHIN THE SLOPE INTERCEPT, FINAL STABILIZATION SHALL BE SOIL STABILIZER, TYPE A, UNLESS NOTED. IF DISTURBANCE OCCURS OUTSIDE THE SLOPE INTERCEPT, FINAL STABILIZATION SHALL BE PERMANENT SEED AND PROPERLY ANCHORED MULCH, UNLESS NOTED.
[ ] IF DISTURBANCE OCCURS IN AGRICULTURAL FIELDS, SOIL SEGREGATION WILL NEED TO TAKE PLACE TO RETURN FIELDS TO PRE-CONSTRUCTION SOIL STRATIFICATION AND TO PRE-CONSTRUCTION ELEVATIONS.
[ ] DEPENDING ON THE TIME OF YEAR AND WEATHER CONDITIONS, CONSIDER USING PLATES/MATS IN WETLANDS OR CROSSING DITCHES.
[ ] STOCKPILE MATERIALS SHALL BE PLACED UPSLOPE FROM EXCAVATION. IF STOCKPILE MATERIALS MUST BE PLACED DOWNSLOPE OF EXCAVATION, PROTECT STOCKPILES WITH 12" WATTLES.
[ ] PROJECT SPECIFIC EROSION CONTROL NOTES:

We Energies Contacts:
Dale Washington 414-540-5784
Ken Franecki 414-944-5531

Not drawn to scale





VIEW FACING ABUTMENTS AND PIERS

C:\Users\we8203\Desktop\3514007 BRIDGE INSERTS SKETCH FOR WORKPLAN 1.dgn

WR 4008940

REV.	DESCRIPTION	BY	DATE
0	DESIGN APPROVED FOR CONSTRUCTION	KF	11/29/16

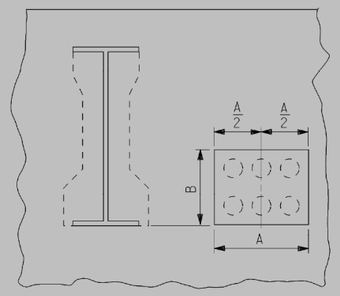
Printed 11/29/20162:42:11 PM SHEET 1 OF 1

PLAN SHEET PREPARED BY WE ENERGIES ELECTRIC.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL WE ENERGIES B-40-0470 ATTACHMENT	SHEET 22	E

FILE NAME : R:\420808\dgn\2035-06-70_021001_cdutility.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42



Abutment box-out requirements
(view facing abutment)

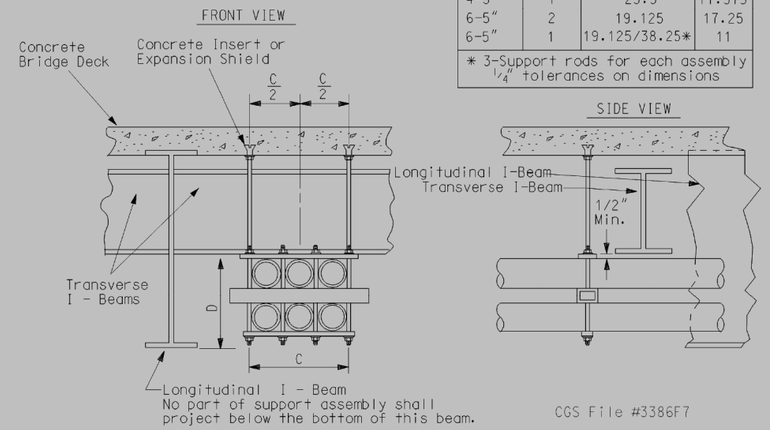
Abutment box-out
Dimension - Inches

DUCTS	ROWS	A	B
6-4"	2	21	17
6-4"	1	37	10
9-4"	3	21	23
2-5"	1	18	11
4-5"	2	18	19
4-5"	1	31	11
6-5"	2	24	19
6-5"	1	43	11

Insert spacing and clearance
Dimension - Inches

DUCTS	ROWS	C	D
6-4"	2	15.75	13.5
6-4"	1	15.75/31.5*	10.25
9-4"	3	15.75	19.75
2-5"	1	12.75	9.875
4-5"	2	12.75	15.75
4-5"	1	25.5	11.375
6-5"	2	19.125	17.25
6-5"	1	19.125/38.25*	11

* 3-Support rods for each assembly
1/4" tolerances on dimensions



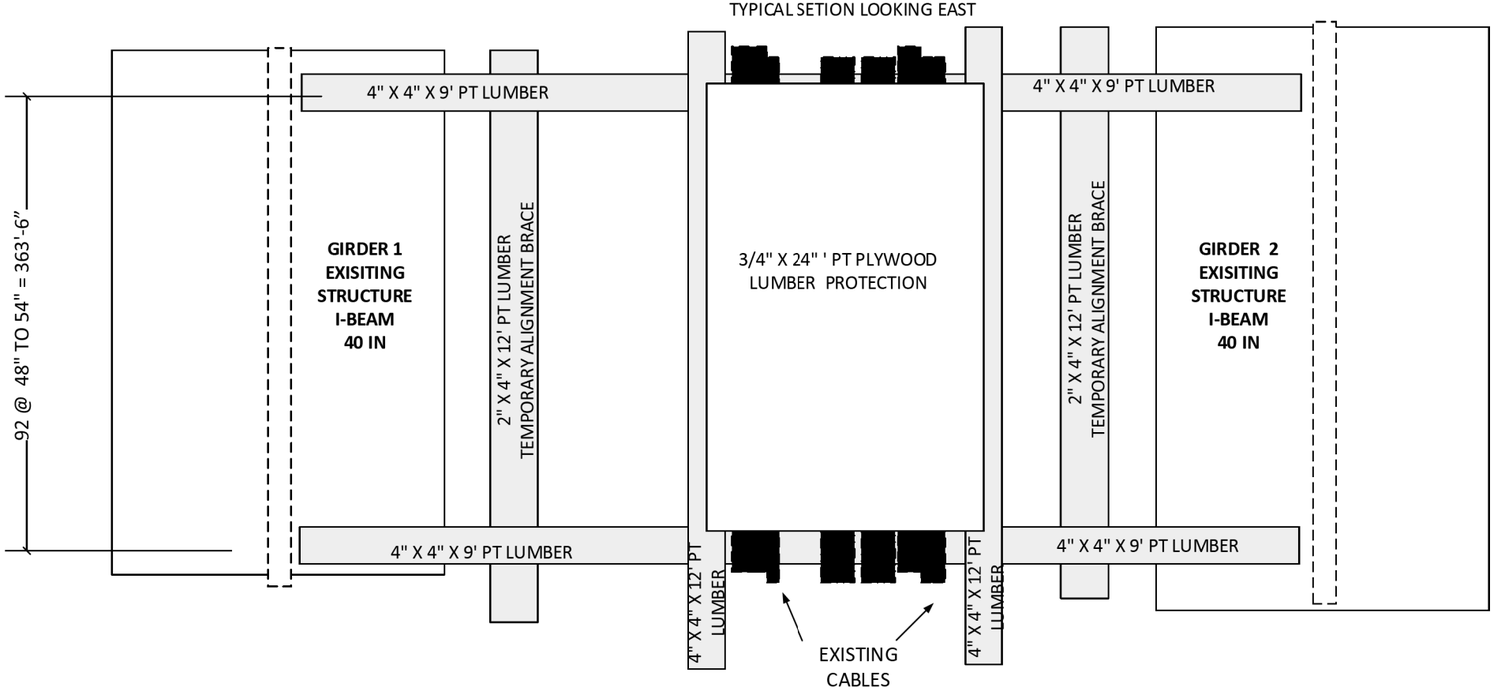
CGS File #3386F7

Design and Construction Manual	Date: 04-05 Supersedes: 04-04	

PLAN SHEET PREPARED BY WE ENERGIES ELECTRIC.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL - WE ENERGIES B-40-0470 ATTACHMENT	SHEET 23	E

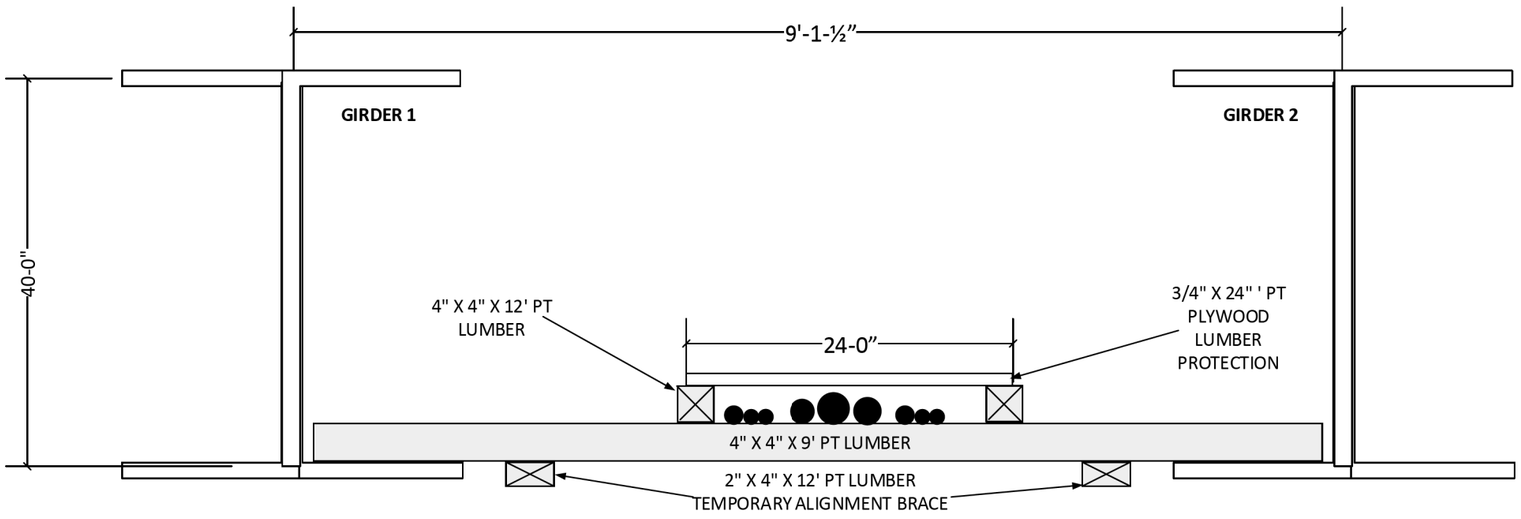
TYPICAL SETION LOOKING EAST



MATERIAL LIST

QTY	DESCRIPTION
91	4" X 4" X 9' PT LUMBER
61	2" X 4" X 12' PT LUMBER
61	4" X 4" X 12' PT LUMBER
91	¾" X 24" X 4' PT PLYWOOD
2	5LB BOX 2-½" WOOD FASTENERS
4	5LB BOX 5-½" WOOD FASTENERS

NOTE:
ALL MATEIALS LISTED ARE ESTIAMTED AND CAN BE MODIFIED IN FIELD AS REQUIRED



Engineer: Jay C Bulanek
2005 Pewaukee Rd,
Waukesha, WI, 53188
Phone: (262) 896-7669

SE Sec 20, T7N, R21E
STRUCTURE B-40-470
TEMPORARY SUPPORT AND PROTECTION SYSTEM

MUNICIPAL: CITY OF WAUWATOSA
Wire Center: BLUEMOUND WC
PROJECT A00DA0J

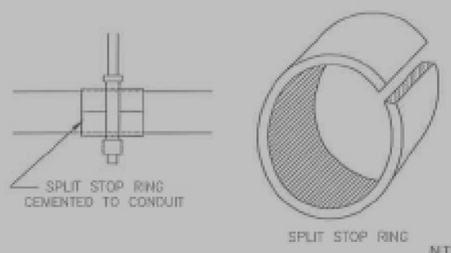
PRINT 4 OF 8

PLAN SHEET PREPARED BY AT&T WISCONSIN.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL AT&T B-40-0470 ATTACHMENT	SHEET 24	E

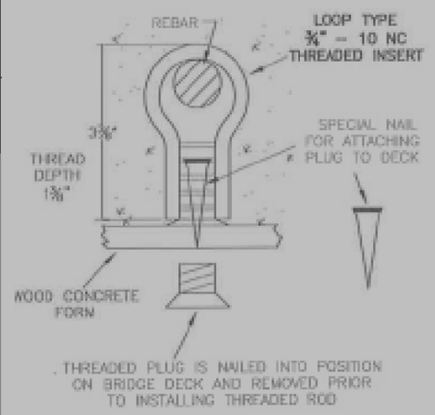
ALL PARTS REFERENCED ON THIS DRAWING
FROM
OSBURN ASSOCIATES, INC.
P.O. BOX 912 LOGA, OHIO 43138
TOLL FREE 1-800-523-8917

SPLIT STOP RING DETAIL



NTS

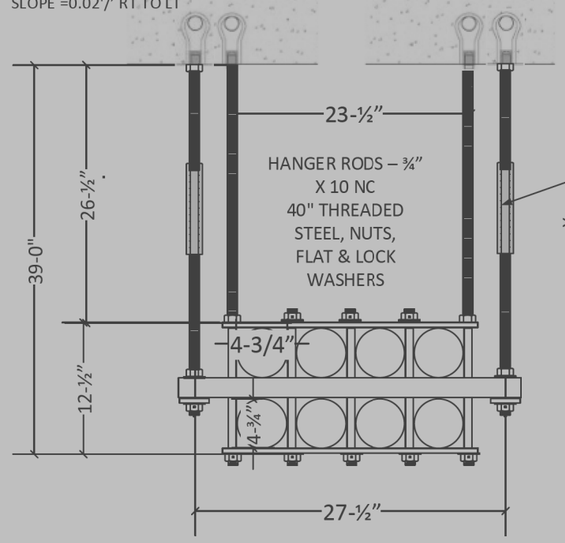
INSERTS FOR ALL HANGERS AND ANGLE BRACE STRUTS



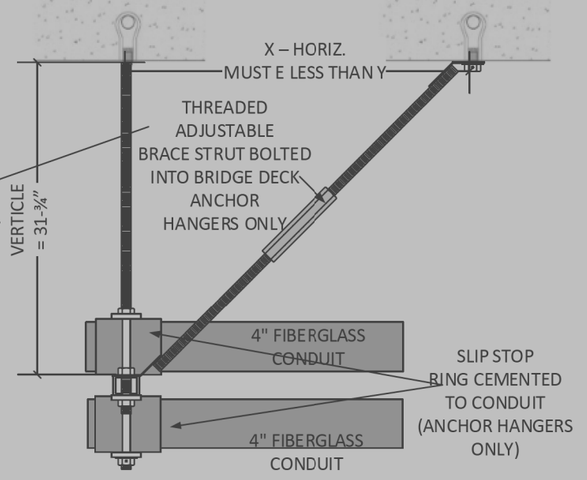
AT&T TO SUPPLY MIN. 80 EA IDECK INCERTS
74 EA FOR INTERMEDIATE HANGERS
6 EA FOR (3) BRACE STRUT LOCATIONS

NOTES:
PAVEMENT
SLOPE =0.02'/' RT TO LT

TYPICAL ADJUSTABLE BRACE STRUCT HANGER ASSEMBLY

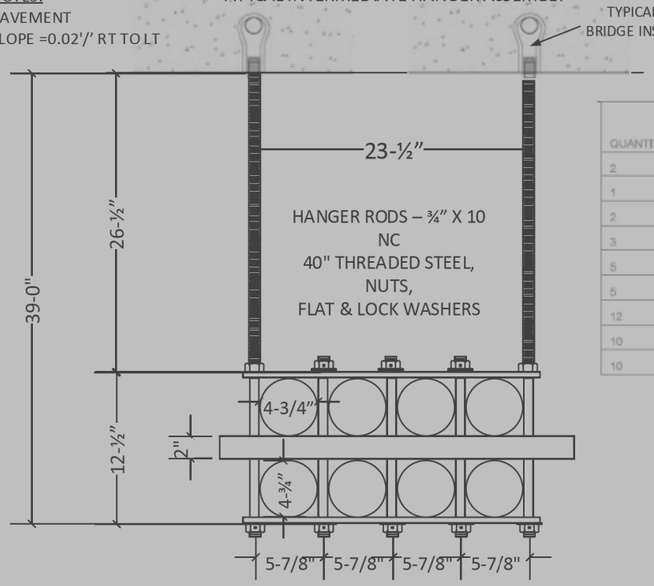


TYPICAL ADJUSTABLE BRACE STRUCT HANGER ASSEMBLY



NOTES:
PAVEMENT
SLOPE =0.02'/' RT TO LT

TYPICAL INTERMEDIATE HANGER ASSEMBLY



QUANTITY	MARK	DESCRIPTION	LENGTH FEET	LENGTH INCHES
2	A	1/2" X 2" FGL FLAT BAR	2	1 1/2
1	B	2" X 2" X 1/4" FGL SQ TUBE	1	5 3/4
2	C	3/4" - 10 HDG THREADED ROD	3	3
3	D	3/4" - 10 HDG THREADED ROD	1	3 1/2
5	E	3/4" FGL SPACER TUBE	0	4 3/4
5	F	3/4" FGL SPACER TUBE	0	6 1/2
12	G	3/4" - 10 HDG HEX NUT		
10	H	3/4" HDG USS FLAT WASHER		
10	I	3/4" HDG LOCK WASHER		

HANGER HARDWARE ASSEMBLY PLACEMENT
STARING AT MIDSPAN 181-9" OF 363-6"
PLACING HANGER TYPICAL @ 10-1" SPACING
ADJUST FOR DIAPHRAMS EITHER WAY
MAX SPACING 11'1"

SPAN 1 INSTALL (7) INTERMEDIATE
SPAN 2 INSTALL (1) INTERMEDIATE
INSTALL (1) SPLIT STOP RING RESTRAINT
INSTALL (7) INTERMEDIATE
SPAN 3 INSTALL (1) INTERMEDIATE
INSTALL (1) BACK TO BACK EXPANSION
INSTALL (3) INTERMEDIATE
SPAN 4 INSTALL (5) INTERMEDIATE SUPPORTS
INSTALL (1) SPLIT STOP RING RESTRAINT
INSTALL (4) INTERMEDIATE SUPPORTS
SPAN 5 INSTALL (4) INTERMADIATE

SLIP STOP RING RESTAINT = 90.875'
BACK TO BACK MID POINT = 181.75'
SLIP STOP RING RESTRAINT = 272.5'

Engineer: Jay C Bulanek
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Waukesha, WI, 53188
Phone: (262) 896-7669

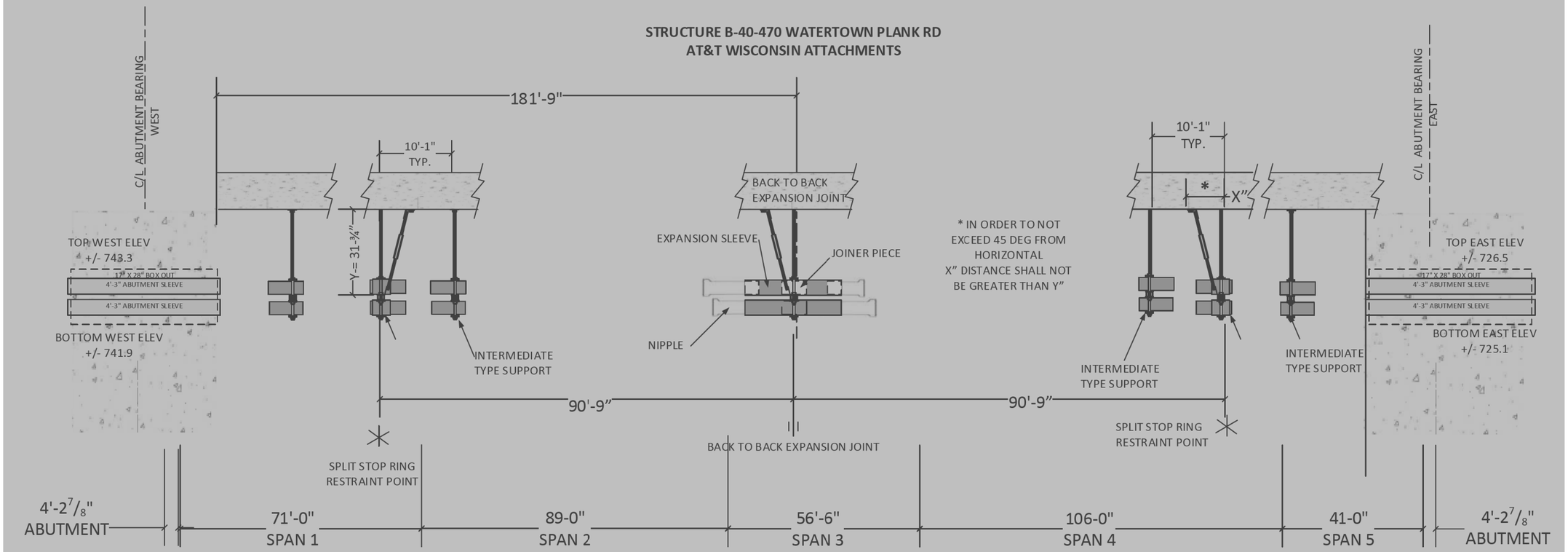
SE Sec 20, T7N, R21E
STRUCTURE B-40-470
HANGER HARDWARE

MUNICIPAL: CITY OF WAUWATOSA
Wire Center: BLUEMOUND WC
PROJECT A00DA0J

PRINT 5 OF 8

PLAN SHEET PREPARED BY AT&T WISCONSIN.

STRUCTURE B-40-470 WATERTOWN PLANK RD
AT&T WISCONSIN ATTACHMENTS



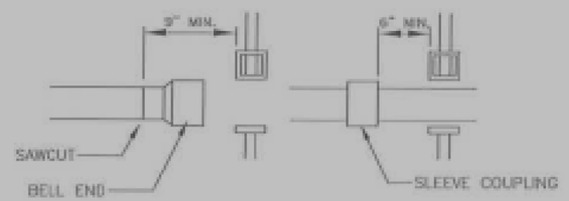
HANGER HARDWARE ASSEMBLY PLACEMENT

STARING AT MIDSPAN 181-9" OF 363-6"
PLACING HANGER TYPICAL @ 10-1" SPACING
ADJUST FOR DIAPHRAMS UP EITHER WAY
MAX SPACING 11-1"

SPAN 1 INSTALL (7) INTERMEDIATE
SPAN 2 INSTALL (1) INTERMEDIATE
INSTALL (1) SPLIT STOP RING RESTRAINT
INSTALL (7) INTERMEDIATE
SPAN 3 INSTALL (1) INTERMEDIATE
INSTALL (1) BACK TO BACK EXPANSION
INSTALL (3) INTERMEDIATE
SPAN 4 INSTALL (5) INTERMEDIATE SUPPORTS
INSTALL (1) SPLIT STOP RING RESTRAINT
INSTALL (4) INTERMEDIATE SUPPORTS
SPAN 5 INSTALL (4) INTERMADIATE

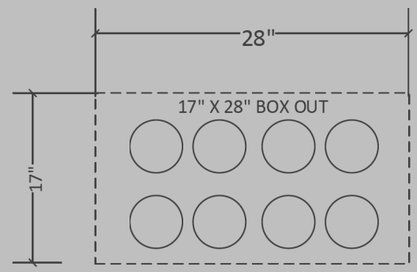
SLIP STOP RING RESTAINT = 90.875'
BACK TO BACK MID POINT = 181.75'
SLIP STOP RING RESTRAINT = 272.5'

CLEARANCES FOR SLEEVE COUPLINGS AND BELL ENDS



NOTES:
A BELLED END COUPLING SHOULD BE NO CLOSER THAN 6" ON EITHER SIDE OF A SUPPORT AS SHOWN ABOVE.
MEASURE IN FILED TO PERDETERMINE THE ACTUAL LOCATIONS.
CONDUIT CAN BE CUT TO PROPER LENGTH BEFORE IT IS PASSED TRHOUGH THE HANGERS

ABUTMENT WALL BOX OUT



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Phone: (262) 896-7669

SE Sec 20, T7N, R21E
STRUCTURE B-40-470
HANGER PLACEMENT & SPACING

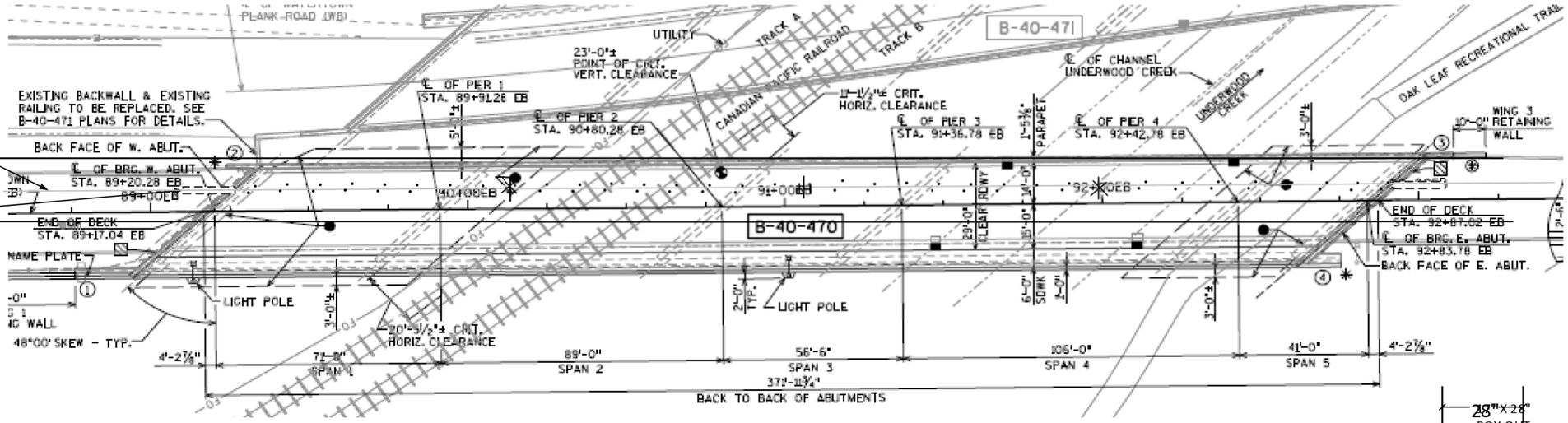
MUNICIPAL: CITY OF WAUWATOSA
Wire Center: BLUEMOUND WC
PROJECT A00DA0J
PRINT 6 OF 8

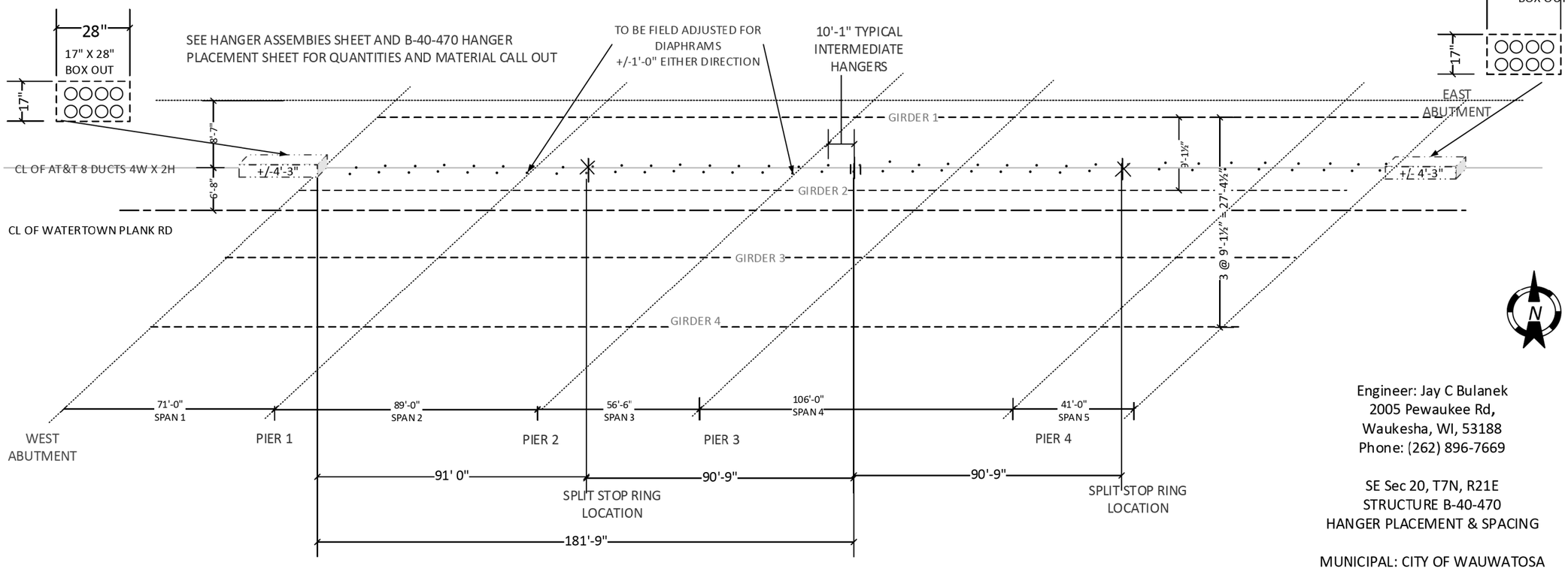
PLAN SHEET PREPARED BY AT&T WISCONSIN.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL AT&T B-40-0470 ATTACHMENT	SHEET 26	E

CAUTION ACTIVE TELECOMMUNCATIONS LINES

DURING BACKWALL EXCAVATION AND ABUTMENT WALL RECONSTRUCTION AT&T CONTRACTOR TO EXPOSE, SUPPORT AND ADJUST EXISITNG CONDUIT TO MATCH ELEVATION OF BOX OUT BEHIND BOTH ABUTMENT WALLS, DURING BACKWALL EXCAVATION





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SE Sec 20, T7N, R21E
STRUCTURE B-40-470
HANGER PLACEMENT & SPACING

MUNICIPAL: CITY OF WAUWATOSA
Wire Center: BLUEMOUND WC
PROJECT A00DA0J
PRINT 7 OF 8

PLAN SHEET PREPARED BY AT&T WISCONSIN.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL AT&T B-40-0470 ATTACHMENT	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_021001_cdutility.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:100
WISDOT/CADDS SHEET 42

2

N

DRAINAGE EASEMENT

P.L.

RAILROAD R/W

EXISTING R/W

REMOVE LIGHT POLE PRIOR TO CONSTRUCTING CROSSOVERS

SAWING CONCRETE, AT FLANGE LINE

REMOVE LIGHT POLE PRIOR TO CONSTRUCTING CROSSOVERS

ASPHALTIC SURFACE TEMPORARY

EXISTING R/W

94+90WB

95+00WB

96+00WB

97+00WB

98+00WB

99+00WB

100+00WB

96+27EB

96+48EB

REMOVING CURB & GUTTER

REMOVING PAVEMENT, EXISTING CONCRETE CORRUGATED MEDIAN

95+00EB

96+00EB

97+00EB

98+00EB

99+00EB

100+00EB

W. WATERTOWN PLANK RD.

N. MAYFAIR RD./STH 100

EXISTING R/W

RAILROAD R/W

TRANSFORMER

TRANSFORMER

TRANSFORMER

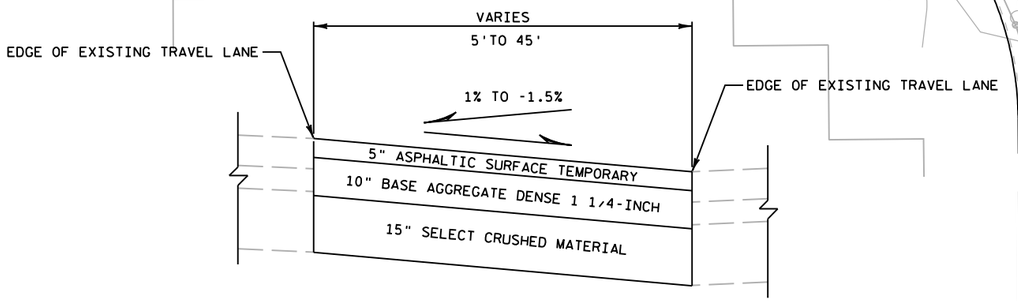
WE ENERGIES

WISDOT

* INSTALL INLET PROTECTION TYPE B.
PLACE STEEL PLATE OVER INLET.
STEEL PLATE IS INCIDENTAL TO WORK ITEM IT IS ASSOCIATED WITH.
REMOVE STEEL PLATE AND INLET PROTECTION TYPE B AFTER CROSSOVER REMOVAL.

** SALVAGE EXISTING INLET COVERS.
INSTALL TEMPORARY INLET COVERS TYPE S.
RE-INSTALL SALVAGED INLET COVERS AFTER CROSSOVER REMOVAL.

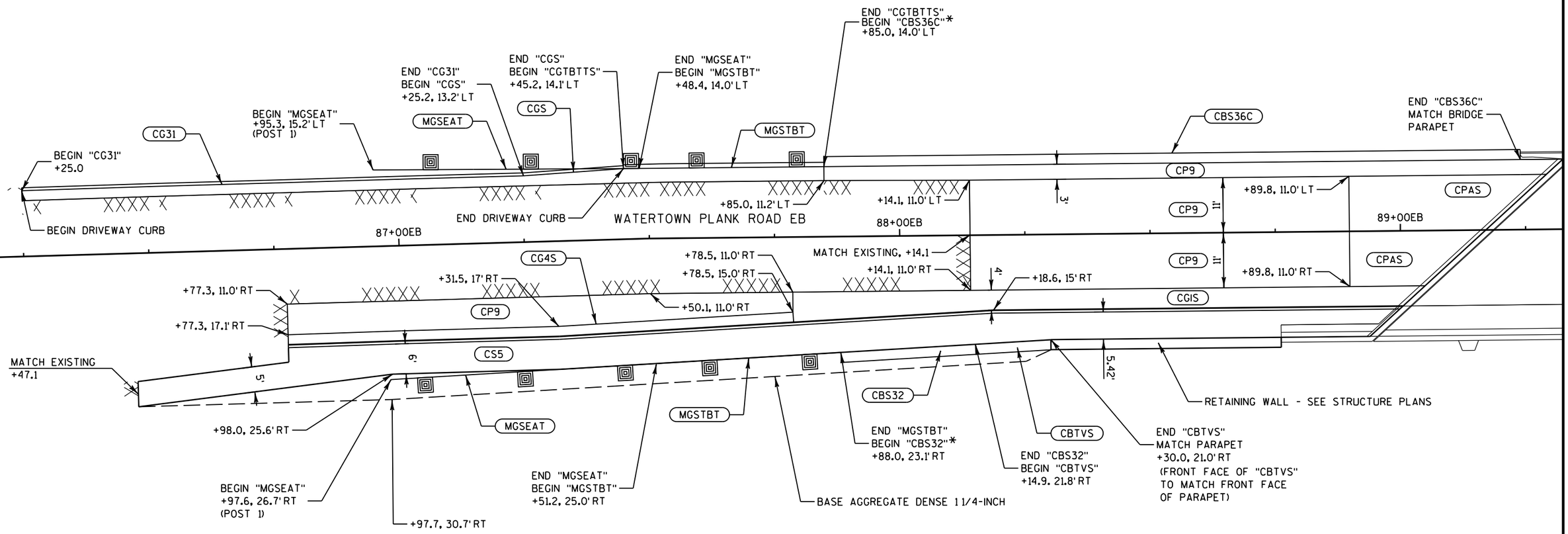
*** SALVAGE EXISTING INLET COVER.
INSTALL INLET COVER TYPE S TO TEMPORARY GRADE. ADJUST INLET COVER TYPE S TO FINAL GRADE AFTER CROSSOVER REMOVAL.



PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PLAN DETAIL-EAST CROSSOVER	SHEET 28	E

LEGEND

- CP8 — CONCRETE PAVEMENT 8-INCH
- CP9 — CONCRETE PAVEMENT 9-INCH
- CPAS — CONCRETE PAVEMENT APPROACH SLAB
- CG31 — CONCRETE CURB & GUTTER 31-INCH
- CG4S — CONCRETE CURB & GUTTER 4-INCH SLOPED SPECIAL
- CGS — CONCRETE CURB & GUTTER SPECIAL
- CGIS — CONCRETE CURB INTEGRAL SPECIAL
- CGTBTTS — CONCRETE CURB & GUTTER TBTT SPECIAL
- CS5 — CONCRETE SIDEWALK 5-INCH
- CBS32 — CONCRETE BARRIER TYPSE S32
- CBS36 — CONCRETE BARRIER TYPE S36
- CBS36C — CONCRETE BARRIER TYPE S36C
- CBTVS — CONCRETE BARRIER TRANSITION TYPE V32 TO TYPE S32
- CCP — CRASH CUSHIONS PERMANENT
- MGSTBT — MGS THRIE BEAM TRANSITION
- MGSEAT — MGS GUARDRAIL TERMINAL EAT
- CCM — CONCRETE CORRUGATED MEDIAN
- CMSN — CONCRETE MEDIAN SLOPED NOSE



XXX = SAWING CONCRETE

* CONCRETE BARRIER SINGLE SLOPE THRIE BEAM ANCHORAGE REQUIRED.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PLAN DETAIL - EASTBOUND APPROACH	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_021210_pd.dgn PLOT DATE : 1/31/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:20
WISDOT/CADDS SHEET 42

2

N

BEGIN "CBS36"
MATCH PARAPET
(FRONT FACE OF "CBS36"
TO MATCH FRONT FACE
OF PARAPET)

BASE AGGREGATE DENSE 1 1/4-INCH

END "CBS36"
BEGIN "CG31"
+77.7, 23.7' LT

CG31

RETAINING WALL - SEE STRUCTURE PLANS

CBS36

+33.8, 14.0' LT

+02.0, 18.0' LT

+02.2, 14.0' LT

CBS36

CP8

CP8

CP8

CP8

+90.1, 11.0' LT

+13.2, 11.0' LT

+54.5, 11.0' LT

11'

CPAS

14.4', 11.0' LT

93+00EB

94+00EB

95+00EB

WATERTOWN PLANK ROAD EB

CPAS

+14.2, 0.0'

CP8

11'

+28.7, 15.0' RT

+54.5, 11.0' RT

CP8

MATCH EXISTING
+78.0, 0.0'

4'

+14.2, 11.0' RT

CGIS

+54.5, 17.2' RT

CP8

6'

CS5

CG31

+01.7, 11.0' RT

+97.7, 21.6' RT

+14.4, 21.6' RT

+50.1, 26.9' RT

MATCH EXISINTG
+60.3

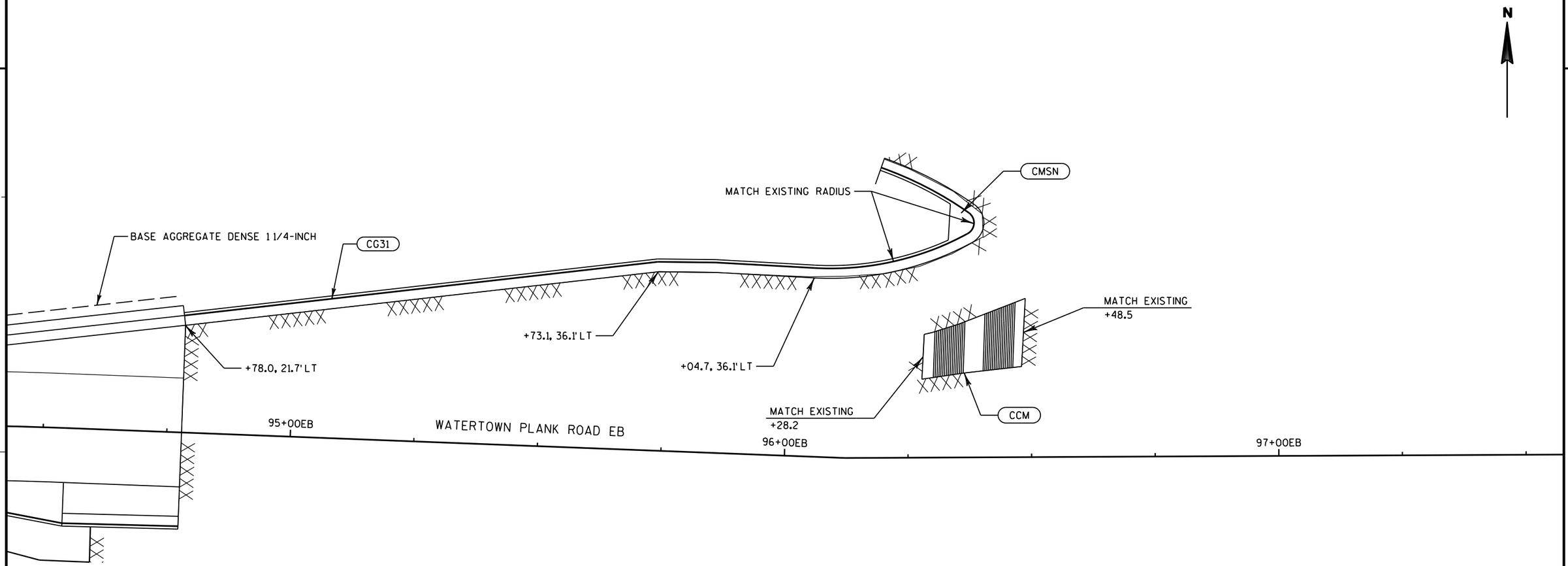
LEGEND

CP8 — CONCRETE PAVEMENT 8-INCH	CBS32 — CONCRETE BARRIER TYPSE S32
CP9 — CONCRETE PAVEMENT 9-INCH	CBS36 — CONCRETE BARRIER TYPE S36
CPAS — CONCRETE PAVEMENT APPROACH SLAB	CBS36C — CONCRETE BARRIER TYPE S36C
CG31 — CONCRETE CURB & GUTTER 31-INCH	CBTVS — CONCRETE BARRIER TRANSITION TYPE V32 TO TYPE S32
CG4S — CONCRETE CURB & GUTTER 4-INCH SLOPED SPECIAL	CCP — CRASH CUSHIONS PERMANENT
CGS — CONCRETE CURB & GUTTER SPECIAL	MGSTBT — MGS THRIE BEAM TRANSITION
CGIS — CONCRETE CURB INTEGRAL SPECIAL	MGSEAT — MGS GUARDRAIL TERMINAL EAT
CGTBTTS — CONCRETE CURB & GUTTER TBTT SPECIAL	CCM — CONCRETE CORRUGATED MEDIAN
CS5 — CONCRETE SIDEWALK 5-INCH	CMSN — CONCRETE MEDIAN SLOPED NOSE

XXX = SAWING CONCRETE

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PLAN DETAIL - EASTBOUND DEPARTURE	SHEET 30	E

2



LEGEND

CP8	CONCRETE PAVEMENT 8-INCH	CBS32	CONCRETE BARRIER TYPSE S32
CP9	CONCRETE PAVEMENT 9-INCH	CBS36	CONCRETE BARRIER TYPE S36
CPAS	CONCRETE PAVEMENT APPROACH SLAB	CBS36C	CONCRETE BARRIER TYPE S36C
CG31	CONCRETE CURB & GUTTER 31-INCH	CBTVS	CONCRETE BARRIER TRANSITION TYPE V32 TO TYPE S32
CG4S	CONCRETE CURB & GUTTER 4-INCH SLOPED SPECIAL	CCP	CRASH CUSHIONS PERMANENT
CGS	CONCRETE CURB & GUTTER SPECIAL	MGSTBT	MGS THRIE BEAM TRANSITION
CGIS	CONCRETE CURB INTEGRAL SPECIAL	MGSEAT	MGS GUARDRAIL TERMINAL EAT
CGTBTTS	CONCRETE CURB & GUTTER TBTT SPECIAL	CCM	CONCRETE CORRUGATED MEDIAN
CS5	CONCRETE SIDEWALK 5-INCH	CMSN	CONCRETE MEDIAN SLOPED NOSE

XXX = SAWING CONCRETE

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PLAN DETAIL - EASTBOUND DEPARTURE	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_021212_pd.dgn PLOT DATE : 1/31/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:20
WISDOT/CADDS SHEET 42

2

LEGEND

- CP8 — CONCRETE PAVEMENT 8-INCH
- CP9 — CONCRETE PAVEMENT 9-INCH
- CPAS — CONCRETE PAVEMENT APPROACH SLAB
- CG31 — CONCRETE CURB & GUTTER 31-INCH
- CG4S — CONCRETE CURB & GUTTER 4-INCH SLOPED SPECIAL
- CGS — CONCRETE CURB & GUTTER SPECIAL
- CGIS — CONCRETE CURB INTEGRAL SPECIAL
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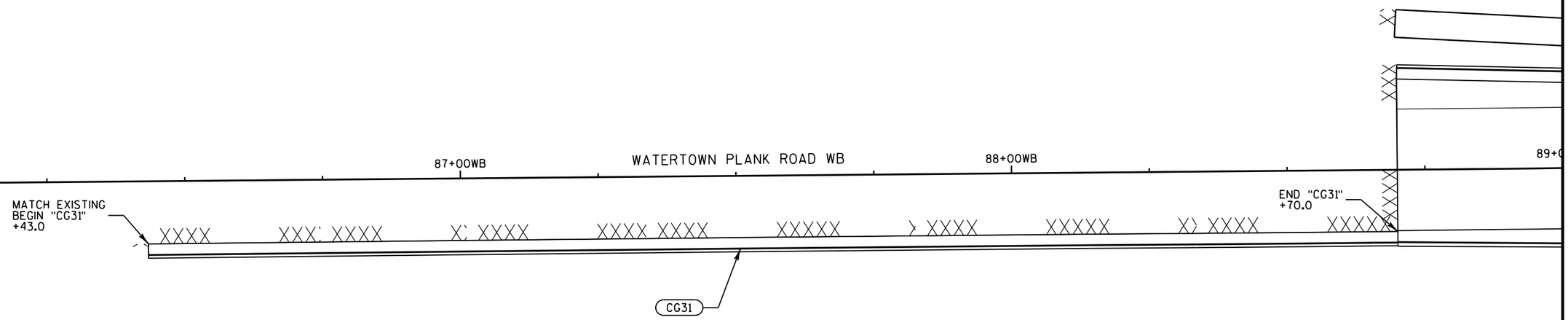
- CBTVS — CONCRETE BARRIER TRANSITION TYPE V32 TO TYPE S32
- CCP — CRASH CUSHIONS PERMANENT
- MGSTBT — MGS THRIE BEAM TRANSITION
- MGSEAT — MGS GUARDRAIL TERMINAL EAT
- CCM — CONCRETE CORRUGATED MEDIAN
- CMSN — CONCRETE MEDIAN SLOPED NOSE

N



XXXX = SAWING CONCRETE

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PLAN DETAIL - WESTBOUND DEPARTURE	SHEET 32	E

LEGEND

- CP8 — CONCRETE PAVEMENT 8-INCH
- CP9 — CONCRETE PAVEMENT 9-INCH
- CPAS — CONCRETE PAVEMENT APPROACH SLAB
- CG31 — CONCRETE CURB & GUTTER 31-INCH
- CG4S — CONCRETE CURB & GUTTER 4-INCH SLOPED SPECIAL
- CGS — CONCRETE CURB & GUTTER SPECIAL
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- CBS36C — CONCRETE BARRIER TYPE S36C
- CBTVS — CONCRETE BARRIER TRANSITION TYPE V32 TO TYPE S32
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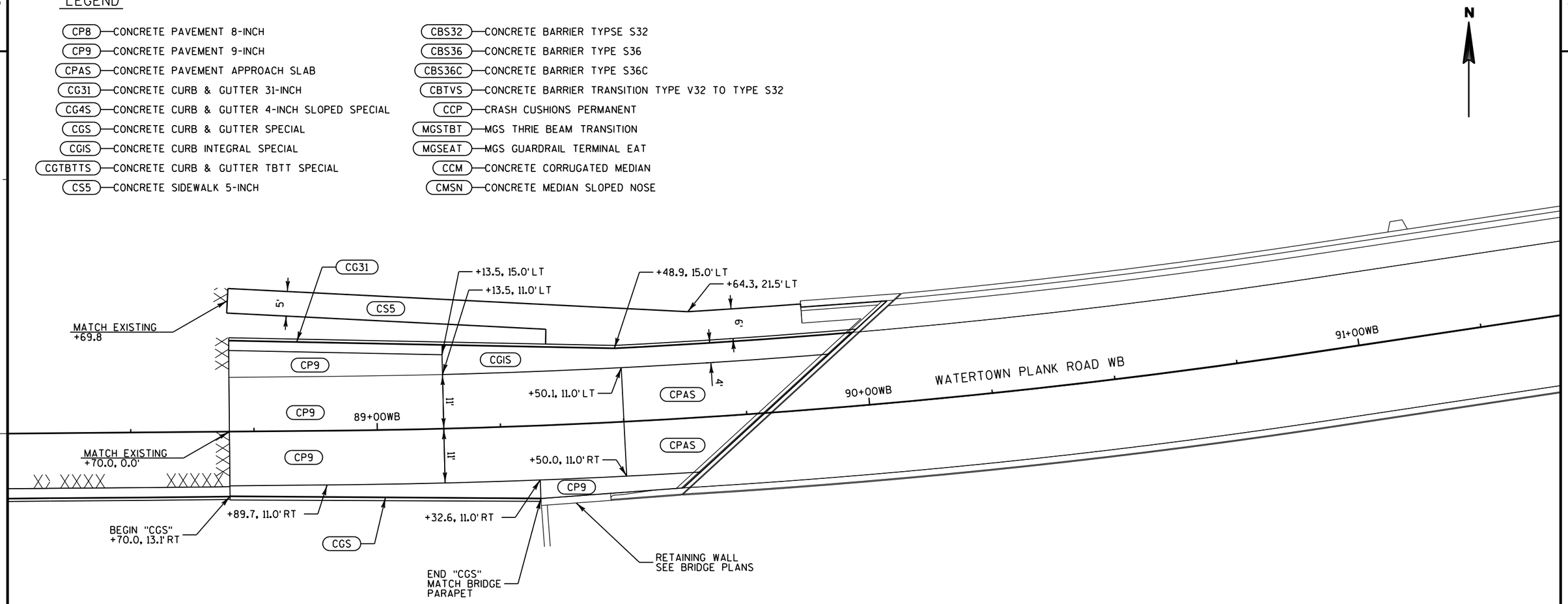


XXX = SAWING CONCRETE

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PLAN DETAIL - WESTBOUND DEPARTURE	SHEET 33	E

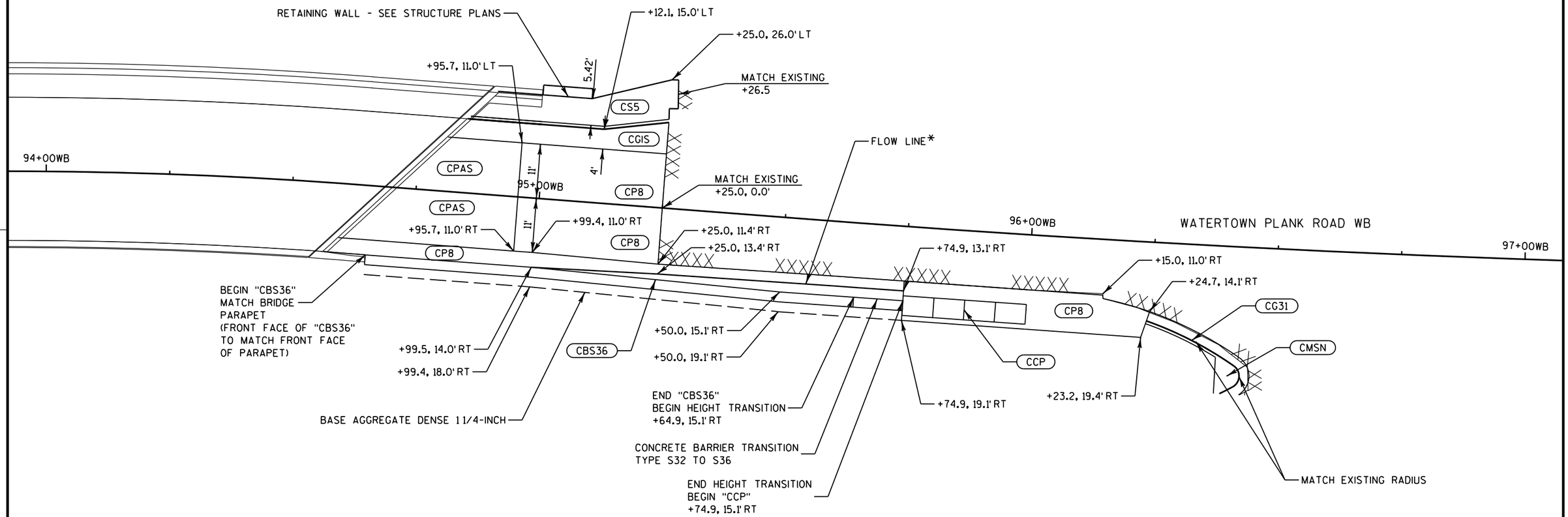
2

LEGEND

CP8 — CONCRETE PAVEMENT 8-INCH	CBS32 — CONCRETE BARRIER TYPSE S32
CP9 — CONCRETE PAVEMENT 9-INCH	CBS36 — CONCRETE BARRIER TYPE S36
CPAS — CONCRETE PAVEMENT APPROACH SLAB	CBS36C — CONCRETE BARRIER TYPE S36C
CG31 — CONCRETE CURB & GUTTER 31-INCH	CBTVS — CONCRETE BARRIER TRANSITION TYPE V32 TO TYPE S32
CG4S — CONCRETE CURB & GUTTER 4-INCH SLOPED SPECIAL	CCP — CRASH CUSHIONS PERMANENT
CGS — CONCRETE CURB & GUTTER SPECIAL	MGSTBT — MGS THRIE BEAM TRANSITION
CGIS — CONCRETE CURB INTEGRAL SPECIAL	MGSEAT — MGS GUARDRAIL TERMINAL EAT
CGTBTTS — CONCRETE CURB & GUTTER TBTT SPECIAL	CCM — CONCRETE CORRUGATED MEDIAN
CS5 — CONCRETE SIDEWALK 5-INCH	CMSN — CONCRETE MEDIAN SLOPED NOSE

N

2



* STA. 94+99.5 TO STA. 95+50.0,
TAPERS 0' TO 2' OFF FACE OF BARRIER WALL

STA. 95+50.0 TO STA. 95+74.9,
2' OFF FACE OF BARRIER WALL

XXXX = SAWING CONCRETE

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PLAN DETAIL - WESTBOUND APPROACH	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_021214_pd.dgn PLOT DATE : 1/31/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:20
WISDOT/CADDS SHEET 42

2

N

WATERTOWN PLANK ROAD EB

87+00EB

88+00EB

89+00EB

737.82 739.20 740.53 741.85 742.89 743.90 744.64 745.36 745.61 745.80 746.15 746.37 746.42

745.87 746.02 746.37 746.59 746.64

740.69 741.89 743.04 744.01 744.87 745.46 745.69 745.86 746.21 746.43 746.53

740.63 741.83 743.01 743.95 744.85

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PAVEMENT GRADES - EASTBOUND APPROACH	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_021220_pd.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:20

2

2

N

729.25
727.75
726.25
724.75
723.24
721.81
720.50
719.34
719.19
718.29
717.26
716.44

721.87
720.63
719.54
719.41

93+00EB
729.47
727.97
726.47
724.97
723.48
722.09
720.85
719.76
719.63

WATERTOWN PLANK ROAD EB

94+00EB

95+00EB

729.31
727.81
726.31
724.75
723.26
721.87
720.63
719.58
719.44

720.44
720.33
719.48
719.37

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PAVEMENT GRADES - EASTBOUND DEPARTURE	SHEET	E

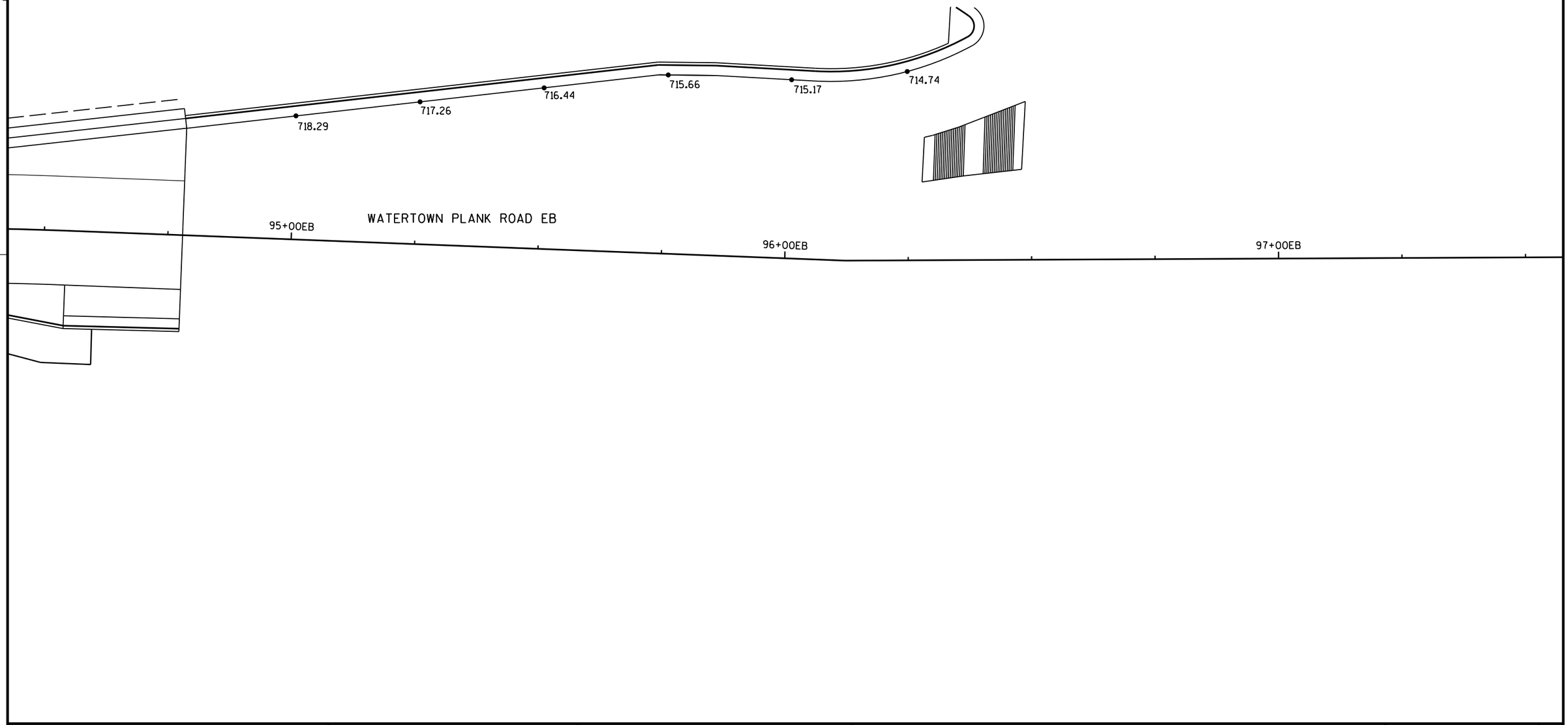
FILE NAME : R:\420808\dgn\2035-06-70_021221_pd.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 42

2

2

N



PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PAVEMENT GRADES - EASTBOUND DEPARTURE	SHEET 37	E

2

2

N

WATERTOWN PLANK ROAD WB

86+00WB

87+00WB

88+00WB

89+0

737.67 738.05 739.44 740.84 742.10 743.36 744.29 745.21 746.04 746.76 747.22

PROJECT NO:2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY:MILWAUKEE	PAVEMENT GRADES - WESTBOUND DEPARTURE	SHEET 38	E

FILE NAME : R:\420808\dgn\2035-06-70_021223A_pd.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 42

2

N

WATERTOWN PLANK ROAD WB

89+00WB

90+00WB

91+00WB

746.51 746.57 746.86 747.04

746.68 746.74 747.03 747.17 747.18

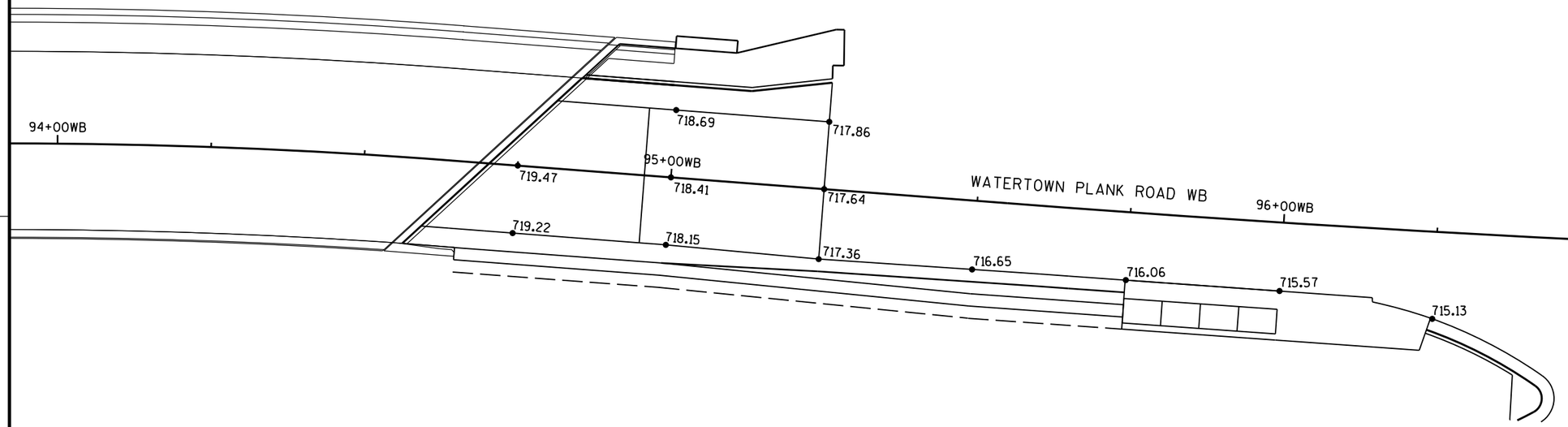
747.01 747.10 747.44 747.62 747.64 747.49

747.22 747.39 747.80 748.05 748.07

PROJECT NO:2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY:MILWAUKEE	PAVEMENT GRADES - WESTBOUND DEPARTURE	SHEET 39	E

2

N



PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PAVEMENT GRADES - WESTBOUND APPROACH	SHEET 40	E

2

N

N. 113TH ST.

EXISTING R/W

R

EXISTING R/W

TEMPORARY ACCESS ROAD

TYPE D

TYPE C

TYPE C

82+00WB

83+00WB

84+00WB

85+00WB

86+00WB

87+00WB

TYPE C

TYPE C

WATERTOWN PLANK RD.

TYPE C

TYPE C

82+00EB

83+00EB

84+00EB

85+00EB

86+00EB

87+00EB

TYPE C

TYPE C

EXISTING R/W

LEGEND

- SILT FENCE
- SLOPE INTERCEPT
- R ROCK BAGS
- INLET PROTECTION
- SURFACE WATER FLOW
- TEMPORARY DITCH CHECKS

NOTES:

1) EROSION CONTROL ITEMS MAY NEED TO BE MODIFIED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

2) RESTORE ALL DISTURBED AREAS WITH THE FOLLOWING:
   TOPSOIL
   SEEDING MIXTURE NO. 30
   FERTILIZER TYPE B
   EROSION MAT CLASS II TYPE C

3) SILT FENCE SHALL HAVE A MAXIMUM POST SPACING OF 1.5-FT OR 4-FT IF A WOVEN GEOTEXTILE FABRIC IS USED (INCIDENTAL TO BID ITEM SILT FENCE)

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET	E

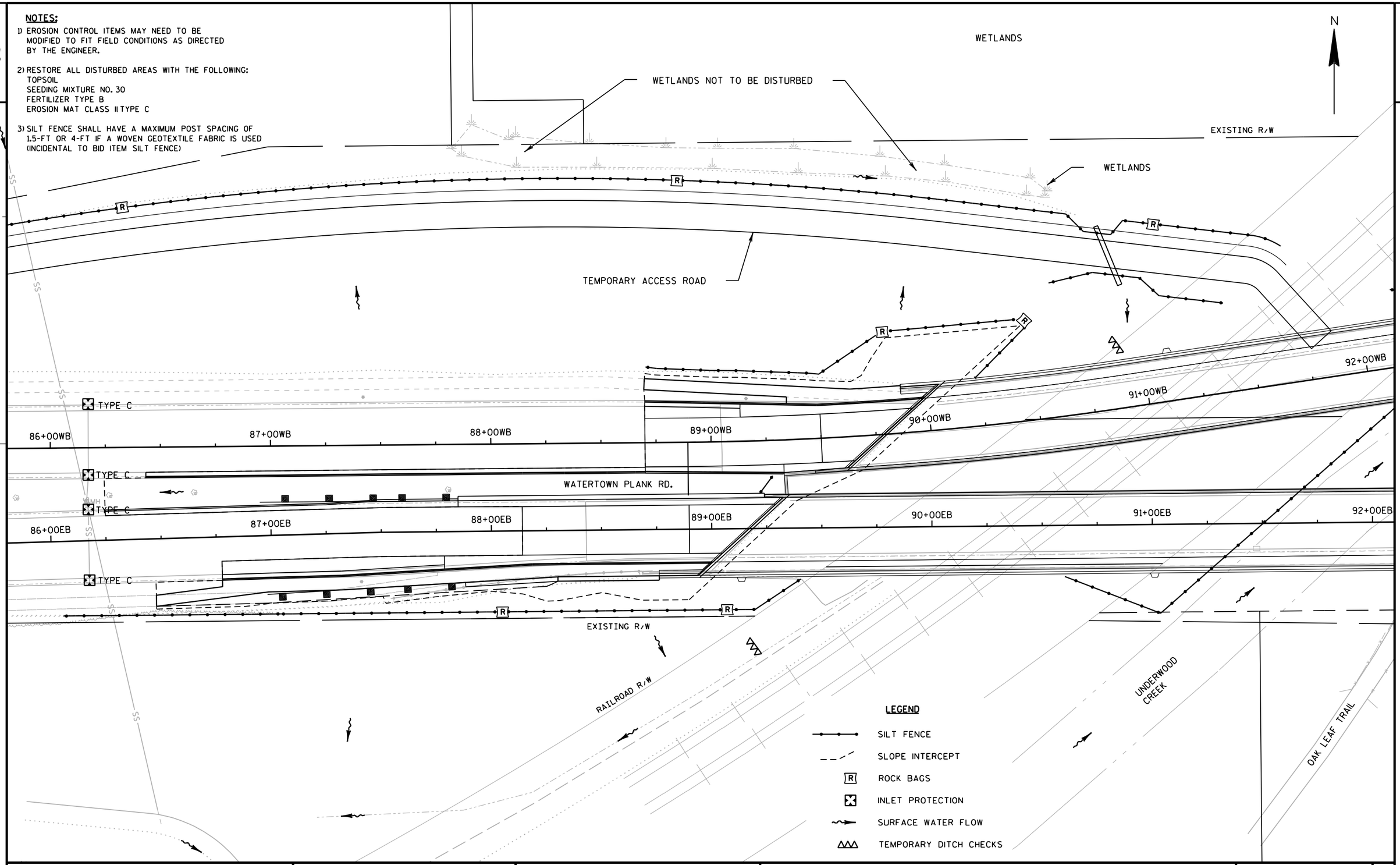
FILE NAME : R:\420808\dgn\2035-06-70_022001_ec.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

NOTES:

1) EROSION CONTROL ITEMS MAY NEED TO BE MODIFIED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

2) RESTORE ALL DISTURBED AREAS WITH THE FOLLOWING:
   TOPSOIL
   SEEDING MIXTURE NO. 30
   FERTILIZER TYPE B
   EROSION MAT CLASS II TYPE C

3) SILT FENCE SHALL HAVE A MAXIMUM POST SPACING OF 1.5-FT OR 4-FT IF A WOVEN GEOTEXTILE FABRIC IS USED (INCIDENTAL TO BID ITEM SILT FENCE)



PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 42	E

2

N

RAILROAD R/W

UNDERWOOD CREEK

SILT FENCE TO ENCOMPASS CLEARING AREA FOR CONTRACTOR ACCESS.

TYPE B

EXISTING R/W

TYPE C

TYPE D

92+00WB

93+00WB

94+00WB

95+00WB

96+00WB

97+00WB

TYPE B & C

TYPE B

TYPE B & C

TYPE B & C

WATERTOWN PLANK RD.

TYPE D

TYPE D

92+00EB

93+00EB

94+00EB

95+00EB

96+00EB

97+00EB

TYPE C

TYPE C

TYPE D

TYPE D

EXISTING R/W

OAK LEAF TRAIL

LEGEND

- SILT FENCE
- SLOPE INTERCEPT
- R — ROCK BAGS
- INLET PROTECTION
- SURFACE WATER FLOW
- TEMPORARY DITCH CHECKS

NOTES:

1) EROSION CONTROL ITEMS MAY NEED TO BE MODIFIED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

2) RESTORE ALL DISTURBED AREAS WITH THE FOLLOWING:
   TOPSOIL
   SEEDING MIXTURE NO. 30
   FERTILIZER TYPE B
   EROSION MAT CLASS II TYPE C

3) SILT FENCE SHALL HAVE A MAXIMUM POST SPACING OF 1.5-FT OR 4-FT IF A WOVEN GEOTEXTILE FABRIC IS USED (INCIDENTAL TO BID ITEM SILT FENCE)

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 43	E

2

N

N. 116TH ST.

10 MPH

71+00WB

72+00WB

73+00WB

74+00WB

75+00WB

76+00WB

WATERTOWN PLANK RD.

71+00EB

72+00EB

73+00EB

74+00EB

75+00EB

76+00EB

EPOXY 4-INCH (WHITE)
(12.5' SEG., 37.5' GAP)

N. 115TH ST.

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON LIGHT POLE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON LIGHT POLE
- (XXX) DENOTES SIGN NUMBER

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PERMANENT SIGNING AND MARKING	SHEET 44	E

2

2

N

N. 113TH ST.

EPOXY 4-INCH (WHITE)
(12.5' SEG., 37.5' GAP)

77+00WB 78+00WB 79+00WB 80+00WB 81+00WB 82+00WB

77+00EB 78+00EB 79+00EB 80+00EB 81+00EB 82+00EB

EPOXY 8-INCH (WHITE)

WATERTOWN PLANK RD.

EPOXY 4-INCH (YELLOW)

EPOXY 4-INCH (WHITE)
(12.5' SEG., 37.5' GAP)

STOP LINE EPOXY 18-INCH

N. 115TH ST.

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON LIGHT POLE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON LIGHT POLE
- (XXX) DENOTES SIGN NUMBER

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PERMANENT SIGNING AND MARKING	SHEET	E

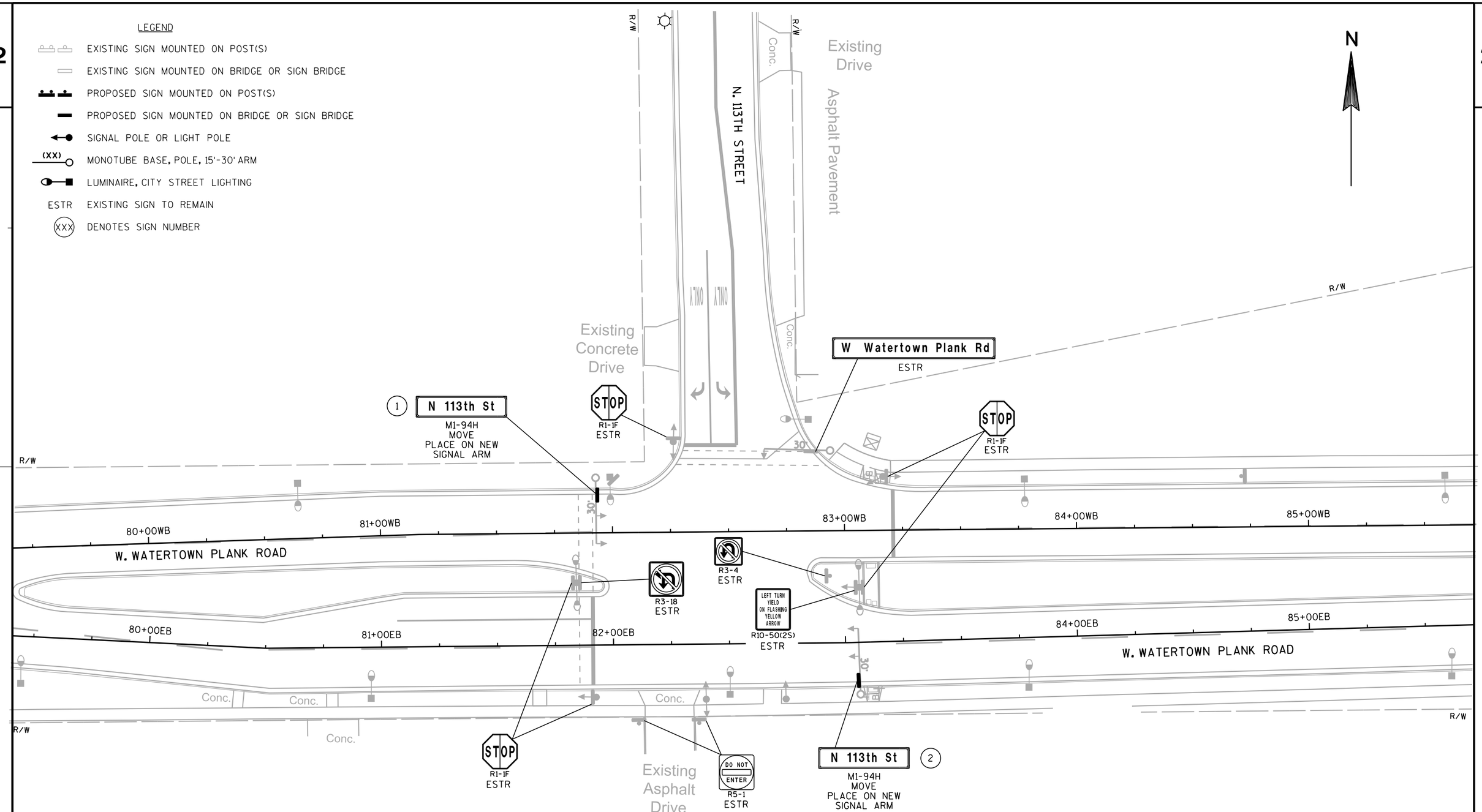
FILE NAME : R:\420808\dgn\2035-06-70_023202_ps.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

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
- SIGNAL POLE OR LIGHT POLE
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- LUMINAIRE, CITY STREET LIGHTING
- ESTR EXISTING SIGN TO REMAIN
- (XXX) DENOTES SIGN NUMBER



SHEET 1 OF 1

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PERMANENT SIGNING PLAN	SHEET	E

FILE NAME : J:\projects\d2_20350600\SIGN\023201_ps.dgn PLOT DATE : 20-JAN-2017 11:04 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

2

N

N. 113TH ST.

CROSSWALK EPOXY 6-INCH

STOP LINE EPOXY 18-INCH

EPOXY 4-INCH (WHITE)
(12.5' SEG., 37.5' GAP)

EPOXY 4-INCH (WHITE)

83+00WB

84+00WB

85+00WB

86+00WB

87+00WB

88+00WB

11'

11'

EPOXY 4-INCH YELLOW

83+00EB

84+00EB

85+00EB

86+00EB

WATERTOWN PLANK RD.

87+00EB

88+00EB

11'

11'

CROSSWALK EPOXY 6-INCH

3

NO PARKING ANY TIME

MOVE
(MOUNT ONTO NEW LIGHT POLE 86-2-29)

EPOXY 4-INCH (WHITE)

EPOXY 4-INCH (WHITE)
(12.5' SEG., 37.5' GAP)

11

12

W5-52L
12" X 36"

W5-52R
12" X 36"

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON LIGHT POLE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON LIGHT POLE

(XXX) DENOTES SIGN NUMBER

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PERMANENT SIGNING AND MARKING	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_023203_ps.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

2

N

89+00WB

90+00WB

91+00WB

92+00WB

93+00WB

94+00WB

89+00EB

90+00EB

91+00EB

WATERTOWN PLANK RD.

92+00EB

93+00EB

94+00EB

4' 11' 11' 3'

3' 11' 11' 4'

NO PARKING ANY TIME

MOVE
(MOUNT ONTO NEW LIGHT POLE 86-2-12)
4

EPOXY 4-INCH (WHITE)
(12.5' SEG., 37.5' GAP)

MOVE
(MOUNT ONTO NEW LIGHT POLE 86-2-10)
6

EPOXY 4-INCH (WHITE)

SIGN TO BE REINSTALLED FOR WINTER SHUTDOWN

NORTH
100
SECOND LEFT

MOVE
8

EPOXY 4-INCH (YELLOW)

5

MOVE
(MOUNT ONTO NEW LIGHT POLE 86-2-27)

EPOXY 4-INCH (WHITE)
(12.5' SEG., 37.5' GAP)

EPOXY 4-INCH (WHITE)

7

MOVE
(MOUNT ONTO NEW LIGHT POLE 86-2-25)

GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE)
(12.5' SEG., 37.5' GAP)

EPOXY TAPE

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON LIGHT POLE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON LIGHT POLE
- (XXX) DENOTES SIGN NUMBER

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PERMANENT SIGNING AND MARKING	SHEET 48	E

2

N

EPOXY | TAPE

EPOXY 4-INCH (WHITE)

GROOVED WET REFLECTIVE
CONTRAST TAPE 4-INCH (WHITE)
(12.5' SEG., 37.5' GAP)

SIGN TO BE REINSTALLED
FOR WINTER SHUTDOWN

W5-52L
12" X 36"
13

MOVE
10

GROOVED WET REFLECTIVE
CONTRAST TAPE 8-INCH (WHITE)

4'
11'
11'
3'
5'
11'
11'

95+00WB
96+00WB
97+00WB
98+00WB
99+00WB
100+00WB
+00WB

BIKE LANE ENDS
1 WAY
35MPH
BUS STOP
SIGN
SIGN
YIELD
MEDIAN

WIS 100 / N. MAYFAIR RD.

EPOXY 4-INCH YELLOW

GROOVED WET REFLECTIVE
CONTRAST TAPE 8-INCH

+08WB
+18WB

ISLAND NOSE EPOXY

CURB EPOXY

+98EB
+71EB
+16EB
+66EB

BEGIN LT TURN LN

GROOVED WET REFLECTIVE
CONTRAST TAPE 4-INCH (WHITE)
(12.5' SEG., 37.5' GAP)

+75EB

BEGIN LT TURN LN
TO HWY 45

11'
11'
95+00EB
96+00EB
97+00EB
98+00EB
99+00EB
100+00EB

WATERTOWN PLANK RD.

PAVEMENT MARKING
WORDS EPOXY (INSTALL FOR WINTER SHUTDOWN)

11'
5'
11'

GROOVED WET REFLECTIVE
CONTRAST TAPE 4-INCH (WHITE)

HWY 100/45
STOP LIGHTS AHEAD
NO PARKING
1 WAY
HWY 100
TO I-94
TO HWY 45
MEDIAN

+39EB
+75EB

EPOXY 4-INCH (WHITE)

9

GROOVED WET REFLECTIVE
CONTRAST TAPE 4-INCH (WHITE)
(12.5' SEG., 37.5' GAP)

GROOVED WET REFLECTIVE
CONTRAST TAPE 4-INCH
(DOT PATTERN WHITE)
(3' LINE, 9' SKIP)

GROOVED WET REFLECTIVE
CONTRAST TAPE 8-INCH
(DOT PATTERN WHITE)
(3' LINE, 9' SKIP)

GROOVED WET REFLECTIVE
CONTRAST TAPE 8-INCH (WHITE)

TO INTERSTATE 41 SOUTH 45 100

MOVE

SIGN TO BE
REINSTALLED
FOR WINTER
SHUTDOWN

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON LIGHT POLE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON LIGHT POLE
- (XXX) DENOTES SIGN NUMBER

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PERMANENT SIGNING AND MARKING	SHEET 49	E

2

2

N

GROOVED WET REFLECTIVE
CONTRAST TAPE 4-INCH (WHITE)
(12.5' SEG., 37.5' GAP)

100+00WB
101+00WB
+52WB
102+00WB
103+00WB
104+00WB
105+00WB
+2WB

WATERTOWN PLANK RD.

100+00EB
101+00EB
102+00EB
103+00EB
104+00EB
105+00EB

WIS 100 / N. MAYFAIR RD.

ONLY

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON LIGHT POLE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON LIGHT POLE
- XXX DENOTES SIGN NUMBER

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PERMANENT SIGNING AND MARKING	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_023206_ps.dgn
PLOT DATE : 1/28/2017
PLOT BY : steuckr
PLOT NAME :
PLOT SCALE : 1:40
WISDOT/CADDS SHEET 42

2

N

KING

DALY

WIS 100 / N. MAYFAIR RD.

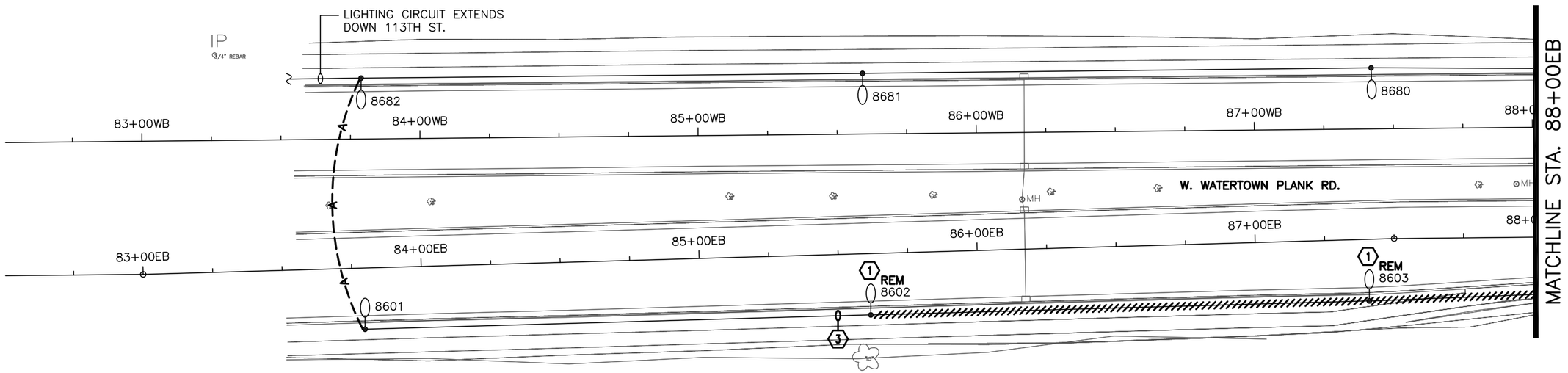
GROOVED WET REFLECTIVE
CONTRAST TAPE 4-INCH (WHITE)
(12.5' SEG., 37.5' GAP)

GROOVED WET REFLECTIVE
CONTRAST TAPE 8-INCH (WHITE)

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON LIGHT POLE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON LIGHT POLE
- XXX DENOTES SIGN NUMBER

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PERMANENT SIGNING AND MARKING	SHEET 51	E



LEGEND (EXISTING AND TEMPORARY PLANS)

- OR — EXISTING LIGHTING UNIT
- ⊗ — EXISTING 24 X 42–INCH STEEL PULL BOX
- ▭ — EXISTING JUNCTION BOX
- ——— — EXISTING UNDERGROUND OR BRIDGE STREET LIGHTING CONDUCTORS
- //////// — EXISTING CONDUCTORS/CONDUIT TO BE REMOVED
- —A— — NEW TEMPORARY AERIAL CABLE ALUMINUM TRIPLEX 2 AWG
- T — NEW TEMPORARY LIGHTING UNIT
- REM — REMOVE
- STA. 84+00, 10.00'RT — STATION (LOCATION)
- TP1 — POLE NUMBER

NOTES (EXISTING AND TEMPORARY PLANS)

1. JUNCTION BOXES IN BRIDGE REMOVED AS PART OF STRUCTURE REMOVAL.
2. LIGHTING (EXISTING, TEMPORARY AND/OR NEW) TO BE OPERATIONAL ON TRAVELED ROADWAYS. REFER TO STAGING PLANS FOR ADDITIONAL INFORMATION.
3. EXISTING LIGHTING UNIT IDENTIFICATION IS BASED ON ACTUAL FIELD CONDITIONS.
4. EXISTING STREET LIGHTING FEEDER CIRCUIT IS COMPRISED OF TWO HOT LEGS TO TWIN LIGHTING UNITS, BUT ONLY ONE HOT LEG IS UTILIZED FOR SINGLE LIGHTING UNITS.

KEYED NOTES (EXISTING AND TEMPORARY PLANS)

(1) LIGHTING UNIT TO BE STORED AND PROTECTED FOR REINSTALLATION.

(2) REMOVE CONDUCTORS BETWEEN LIGHTING UNITS. HDPE DUCT TO EAST TO REMAIN AND EXTEND INTO NEW PULL BOX; REFER TO PROPOSED LIGHTING PLANS.

(3) UNDERGROUND CABLE TO BE REMOVED AND PROTECTED FOR REINSTALLATION INTO NEW CONCRETE BASE.

(4) LED LUMINAIRE ONLY TO BE STORED AND PROTECTED FOR REINSTALLATION.

LIGHTING WORK PHASING (ALL LIGHTING PLANS)

STAGE	DESCRIPTION OF WORK
1A	*INSTALL TEMP. LIGHTING/AERIAL CABLE. *REMOVE TWO EXISTING TWIN LIGHTING UNITS IN MEDIAN
1B	*REMOVE EXISTING LIGHTING AND INSTALL NEW LIGHTING ON 'EB' WATERTOWN PLANK ROAD FROM STA. 85+75EB TO STA. 96+00EB (ASSOCIATED WITH EAST BOUND BRIDGE RECONSTRUCTION). *WHEN NEW LIGHTING INSTALLED, REMOVE AERIAL CABLE BETWEEN POLES 8682 & 8601. CONNECT AERIAL CABLE AT POLE TP2 TO NEW PULL BOX LPB–86C (NOT SHOWN) TO ENERGIZE LIGHTING FROM STA. 83+50EB TO STA. 96+00EB.
2A	*REMOVE AERIAL CABLE FROM POLE TP1 TO POLE 8676. REMOVE EXISTING LIGHTING AND INSTALL NEW LIGHTING ON 'WB' WATERTOWN PLANK ROAD FROM STA. 89+25WB TO STA. 96+00WB (ASSOCIATED WITH WEST BOUND BRIDGE CONSTRUCTION). *CONNECT AERIAL CABLE AT POLE TP2 TO NEW PULL BOX LPB–86B (NOT SHOWN) TO ENERGIZE LIGHTING FROM STA. 96+00EB TO THE WEST.
2B	*INSTALL LIGHTING IN MEDIAN FROM STA. 94+75 TO STA. 97+25, INCLUDING CONNECTING 'EB' AND 'WB' LIGHTING. *REMOVE TEMPORARY LIGHTING AND AERIAL CABLE.

2

N

MATCHLINE STA. 88+00EB

MATCHLINE STA. 94+00EB

REMOVE OVERHEAD WIRE WRAPPED AROUND POLE BASE TO UTILITY POLE

REM 8677JB

8677 REM

93+00WB

92+00WB

91+00WB

REM 8678JB

8678 REM

90+00WB

89+00WB

8679 REM

W. WATERTOWN PLANK RD.

WE ENERGIES

MH

89+00EB

90+00EB

91+00EB

92+00EB

93+00EB

W. WATERTOWN PLANK RD.

REM 8604

8604JB REM

REM 8605

8605JB REM

REM 8606

DESIGNED BY: POWRTEK ENGINEERING, INC. SHEET 2 OF 7

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	EXISTING AND TEMPORARY LIGHTING PLAN	SHEET NO: 53	E

2

2

N

MATCHLINE STA. 94+00EB

DIST. CENTER
'86'
(240/480V)

86–Trans JB

STA. 96+00.0'WB', 21.3'LT
TP1

REM
8676JB

REM
PB–86–4

8676
REM

PB–86–3
REM

86–2–7/8
REM

86–2–5/6
REM

PB–86–2

86–2–1/2

86–2–3/4

W. WATERTOWN PLANK RD.

N. MAYFAIR RD./STH 100

PB–86–5
REM

STA. 94+82.0'EB', 22.0'RT
TP3

STA. 95+89.2'EB', 30.2'RT
TP2

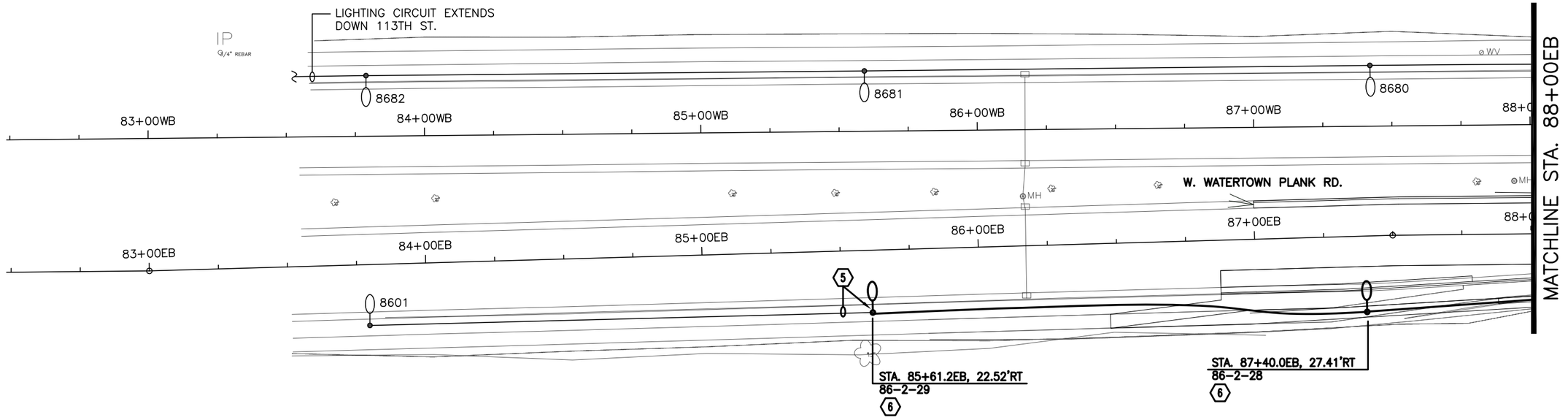
94+00WB
95+00WB
96+00WB
97+00WB
98+00WB
99+00WB
100+00

95+00EB
96+00EB
97+00EB
98+00EB
99+00EB
100+0

WE ENERGIES
AT&T
TIME WARNER CABLE
STUBBED END
TDS
BUS STOP
RR BRIDGE
GUY
MH
CP102
HWY 100/N
STORM SEWER
SANITARY SEWER
WATER MAIN
24" RCP
1 WAY
HWY 100
BEGIN TURN LN
TO HWY 45
WISDOT
TRANSFORMER
MILWAUKEE COUNTY MENTAL HEALTH CENTER
MILWAUKEE COUNTY MENTAL HEALTH COMPLEX
8"PP
3PE

DESIGNED BY: POWRTEK ENGINEERING, INC. SHEET 3 OF 7

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	EXISTING AND TEMPORARY LIGHTING PLAN	SHEET NO: 54	E



KEYED NOTES (PROPOSED PLANS)

1. INTERCEPT EXISTING HDPE DUCT INTO NEW PULL BOX. INSTALL NEW CONDUCTORS AS INDICATED.
2. DIRECTIONAL BORE CONDUIT.
3. CONNECT TO CONDUIT STUBBED OUT FROM BRIDGE STRUCTURE.
4. REINSTALLED LIGHTING UNIT ON NEW CONCRETE BASE/BRIDGE.
5. RECONNECT EXISTING UNDERGROUND CABLING INTO NEW CONCRETE BASE.
6. REINSTALLED LED LUMINAIRE ON NEW LIGHTING UNIT.

NOTES (PROPOSED PLANS)

1. REFER TO EXISTING AND TEMPORARY LIGHTING PLANS FOR LIGHTING PHASING DESCRIPTION.
2. LIGHTING (EXISTING, TEMPORARY AND/OR NEW) TO BE OPERATIONAL ON TRAVELED ROADWAYS. REFER TO STAGING PLANS FOR ADDITIONAL INFORMATION.
3. ALTERNATE CIRCUIT CONNECTIONS TO LUMINAIRES ON TWIN LIGHTING UNITS, SIMILAR TO ORIGINAL CONDITIONS.

LEGEND (PROPOSED PLANS)

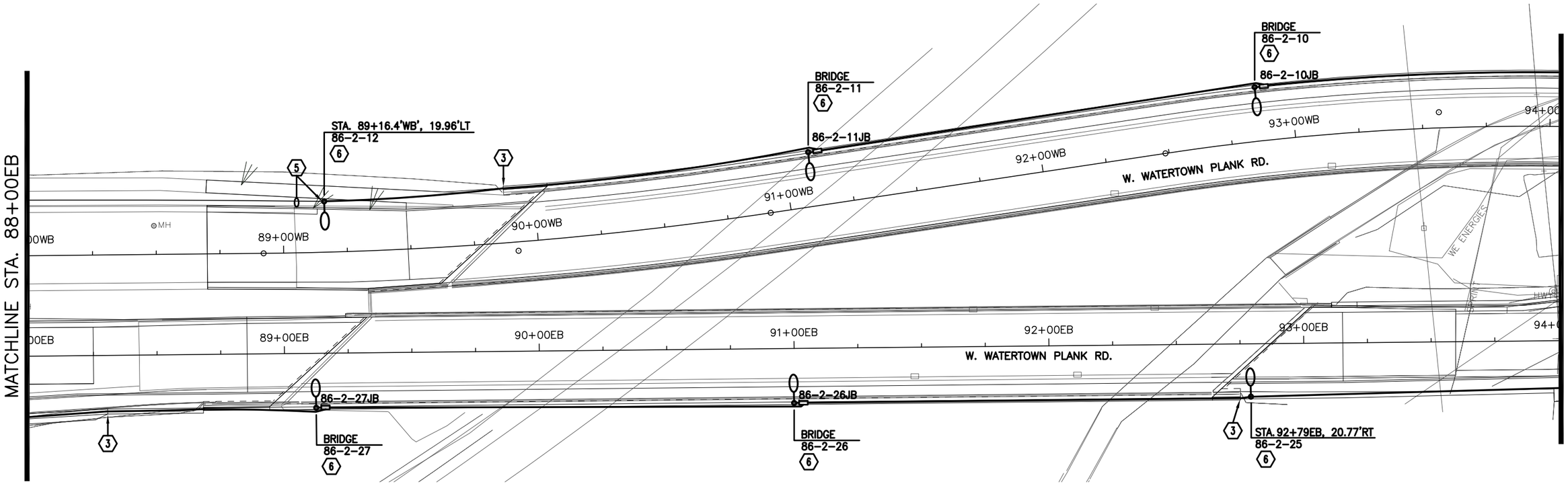
- OR — EXISTING LIGHTING UNIT
- ⊗ — EXISTING 24 X 42–INCH STEEL PULL BOX
- ——— — EXISTING UNDERGROUND STREET LIGHTING CONDUCTORS
- OR — NEW OR RELOCATED LIGHTING UNIT
- ▭ — NEW BRIDGE JUNCTION BOX
- ⊗ — NEW 24 X 42–INCH STEEL PULL BOX
- ——— — NEW 2–4 AWG & 1–4 AWG GND. CONDUCTORS IN SCH. 40 NONMETALLIC (PVC) CONDUIT
- — - — — NEW 3–4 AWG & 1–4 AWG GND. CONDUCTORS IN SCH. 40 NONMETALLIC (PVC) CONDUIT

STA. 84+00, 10.00'RT — STATION (LOCATION)
86–2–1
LUMINAIRE NUMBER
CIRCUIT
CABINET (SOURCE)

DESIGNED BY: POWRTEK ENGINEERING, INC. SHEET 4 OF 7

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PROPOSED LIGHTING PLAN	SHEET NO: 55	E

2



DESIGNED BY: POWRTEK ENGINEERING, INC. SHEET 5 OF 7

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PROPOSED LIGHTING PLAN	SHEET NO: 56	E

2

MATCHLINE STA. 94+00EB

DIST. CENTER '86' (240/480V)

86-Trans JB

N

STA. 95+93.4WB, 21.57'LT
LPB-86B

STA. 96+11.7EB, 43.4'LT (APPROX.)
LPB-86A

STA. 94+80.7WB, 31.09'RT
86-2-7/8

STA. 95+91.0WB, 27.07'RT
86-2-5/6

NEW 3#4 & 1#4 GND. IN EXISTING HDPE DUCT

STA. 95+75.0EB, 28.13'RT
LPB-86C

PB-86-2

86-2-1/2

86-2-3/4

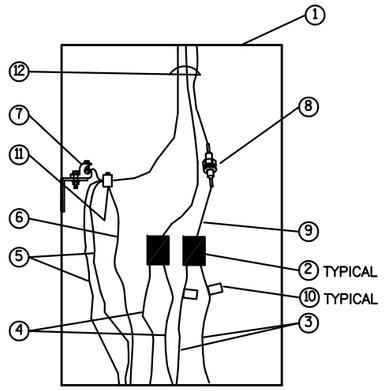
W. WATERTOWN PLANK RD.

N. MAYFAIR RD./STH 100

95+00WB
96+00WB
97+00WB
98+00WB
99+00WB
100+00

95+00EB
96+00EB
97+00EB
98+00EB
99+00EB
100+0

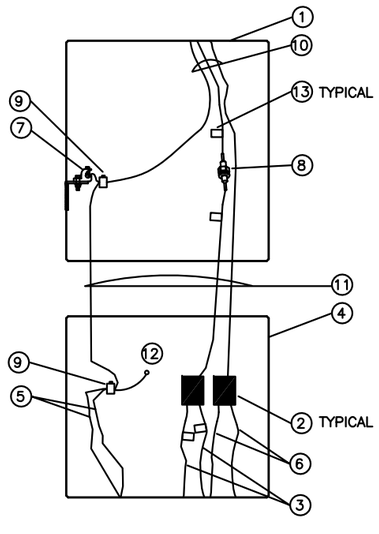
WE ENERGIES
TIME WARNER CABLE
AT&T
TDS
BIKE LANE ENDS
STUBBED END
BEGIN LT TURN LN
TO HWY 45
TO I-94
HWY 100/45
STOP LIGHTS AHEAD
TO TRACKING
OLD CONC. W. NEW F
SPRINKLER
LAMP
TRANSFORMER
3/4" W/ YELLOW CAP



1. TRANSFORMER BASE
2. INSULATED SPLICE
3. UNGROUNDED CONDUCTORS
4. GROUNDED CONDUCTORS
5. SYSTEM GROUNDING CONDUCTORS
6. #6 CONDUCTOR TO GROUND ROD
7. HANDHOLE GROUNDING LUG
8. WEATHERPROOF INLINE 1–POLE FUSE ASSEMBLY WITH 5A KTK FUSE AND WEATHERPROOF BOOTS
9. 12" PIGTAIL BETWEEN SPLICE AND FUSE ASSEMBLY
10. CIRCUIT TAG
11. REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTION (NOT INSULATED)
12. 3#12 RHW/USE TO LUMINAIRE

GROUND MOUNTED LIGHTING UNIT WIRING DETAIL

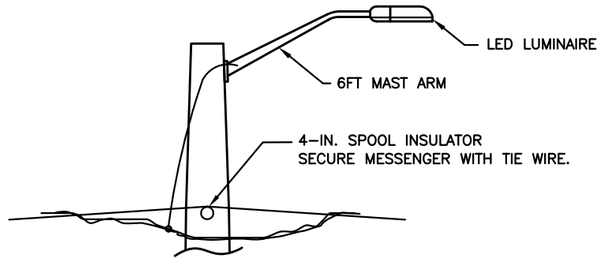
NO SCALE



1. POLE HANDHOLE
2. INSULATED SPLICE
3. UNGROUNDED CONDUCTOR
4. BRIDGE JUNCTION BOX
5. SYSTEM GROUNDING CONDUCTORS
6. GROUNDED CONDUCTOR (NEUTRAL)
7. HANDHOLE GROUNDING LUG
8. INLINE 1–POLE FUSE ASSEMBLY AND 5A KTK FUSE. WEATHERPROOF BOOTS.
9. REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTION
10. 3#12 RHW/USE (XLP) TO LUMINAIRE
11. 3#12 RHW/USE (XLP)
12. BOND JUNCTION BOX
13. CIRCUIT TAG

BRIDGE MOUNTED LIGHTING UNIT WIRING DETAIL

NO SCALE



CONSTRUCTION DETAIL

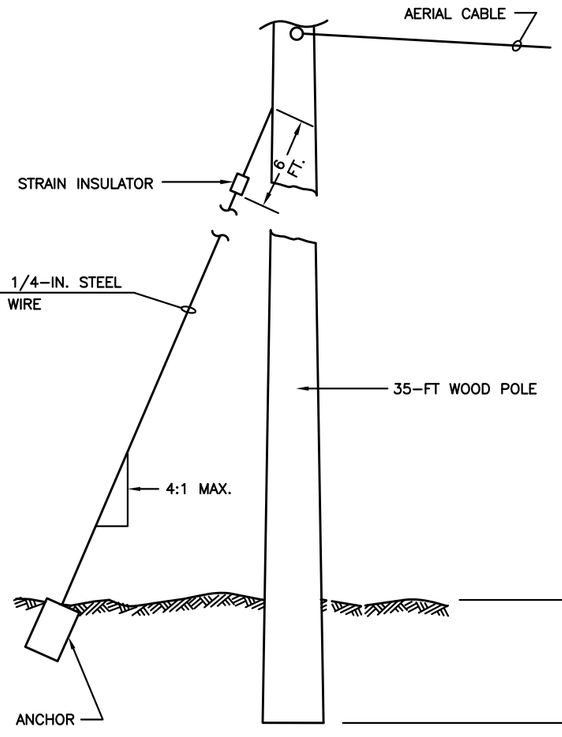
NOTES:

(1) MINIMUM CLEARANCE CENTER OF SPAN: 20–FT ABOVE ROADWAY OR GRADE

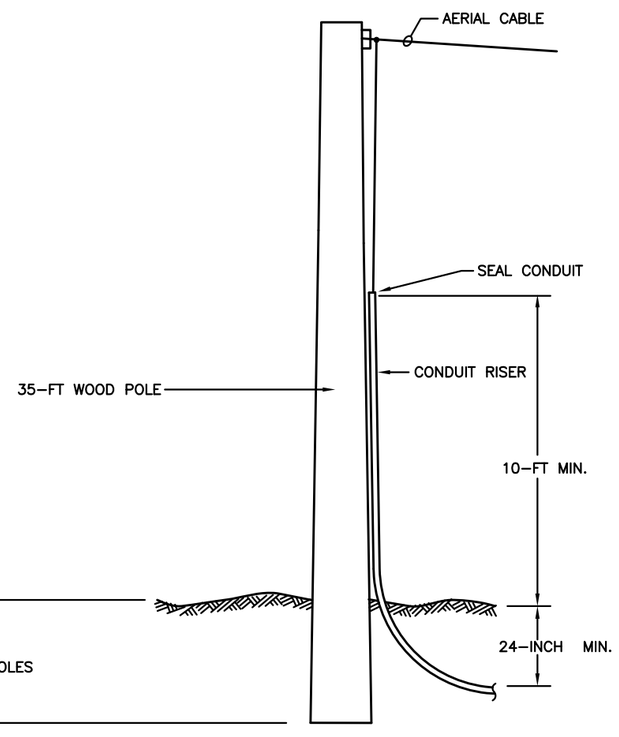
(2) CONSTRUCT DEAD ENDS WITH SECONDARY RACK, CLEVISES, OR OTHER APPROVED METHODS.

(3) SECURELY BAND OR CLAMP RISERS TO POLE. FOR RISERS USE PVC CONDUIT OR APPROVED EQUAL. GROUND WIRE SHALL BE IN A RISER.

(4) PROVIDE GUY WIRES, AS REQUIRED.



TYPICAL TEMPORARY LIGHTING UNIT
TYPICAL WOOD LINE POLE
TYPICAL DOWN GUY



TYPICAL RISER POLE

TEMPORARY LIGHTING & WOOD POLE DETAIL

NOT TO SCALE

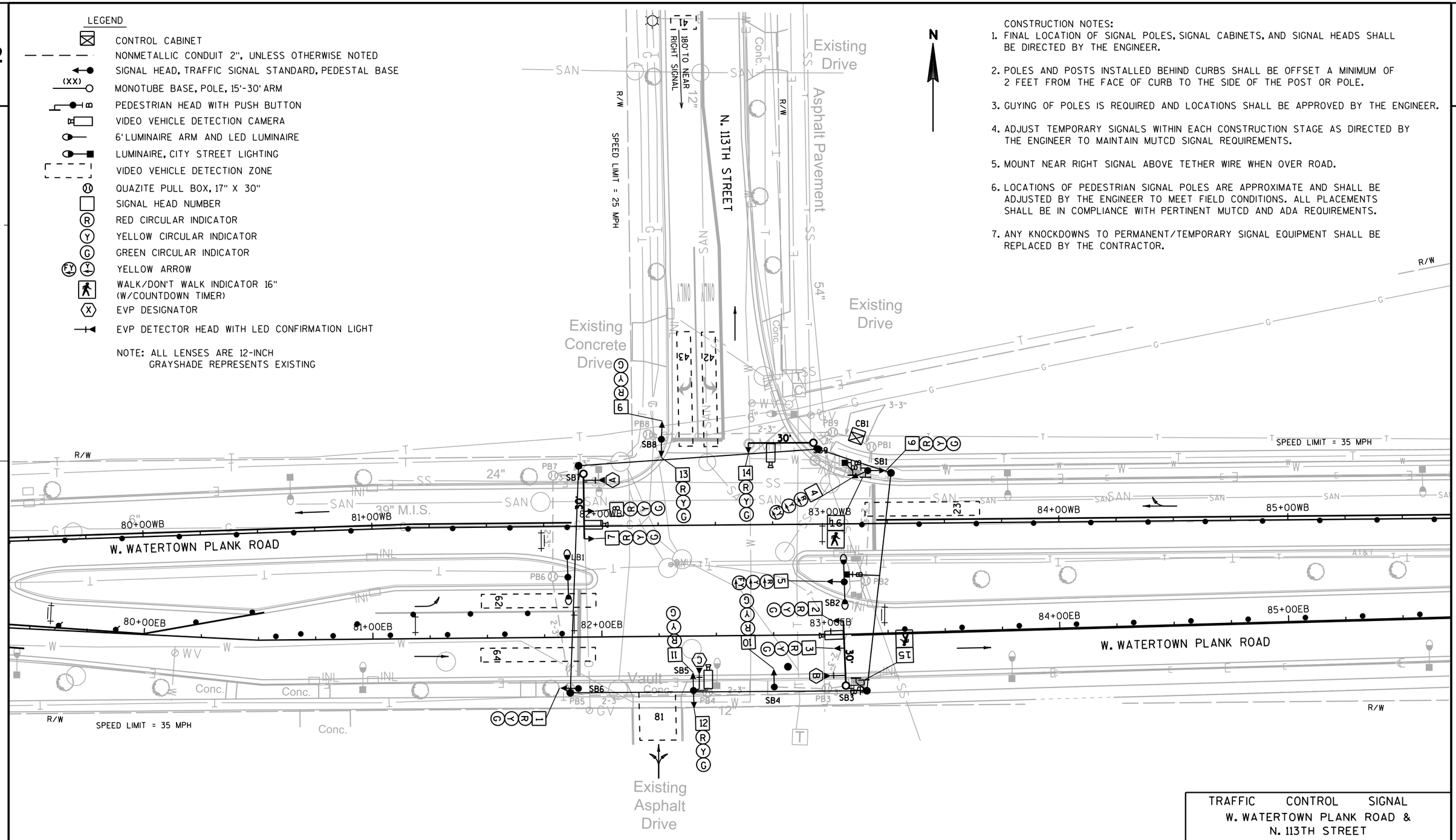
LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- PEDESTRIAN HEAD WITH PUSH BUTTON
- VIDEO VEHICLE DETECTION CAMERA
- 6' LUMINAIRE ARM AND LED LUMINAIRE
- LUMINAIRE, CITY STREET LIGHTING
- VIDEO VEHICLE DETECTION ZONE
- QUAZITE PULL BOX, 17" X 30"
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (FY) (Y) YELLOW ARROW
- WALK/DON'T WALK INDICATOR 16" (W/COUNTDOWN TIMER)
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD WITH LED CONFIRMATION LIGHT

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

CONSTRUCTION NOTES:

1. FINAL LOCATION OF SIGNAL POLES, SIGNAL CABINETS, AND SIGNAL HEADS SHALL BE DIRECTED BY THE ENGINEER.
2. POLES AND POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF CURB TO THE SIDE OF THE POST OR POLE.
3. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
4. ADJUST TEMPORARY SIGNALS WITHIN EACH CONSTRUCTION STAGE AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
5. MOUNT NEAR RIGHT SIGNAL ABOVE TETHER WIRE WHEN OVER ROAD.
6. LOCATIONS OF PEDESTRIAN SIGNAL POLES ARE APPROXIMATE AND SHALL BE ADJUSTED BY THE ENGINEER TO MEET FIELD CONDITIONS. ALL PLACEMENTS SHALL BE IN COMPLIANCE WITH PERTINENT MUTCD AND ADA REQUIREMENTS.
7. ANY KNOCKDOWNS TO PERMANENT/TEMPORARY SIGNAL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR.



TRAFFIC CONTROL SIGNAL
W. WATERTOWN PLANK ROAD &
N. 113TH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY

REGION CONTACT: J. EFFINGER
DESIGNED BY: C. VANDE LEEST
REVISED BY:

PAGE 1 OF 6

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 1A	SHEET 59	E

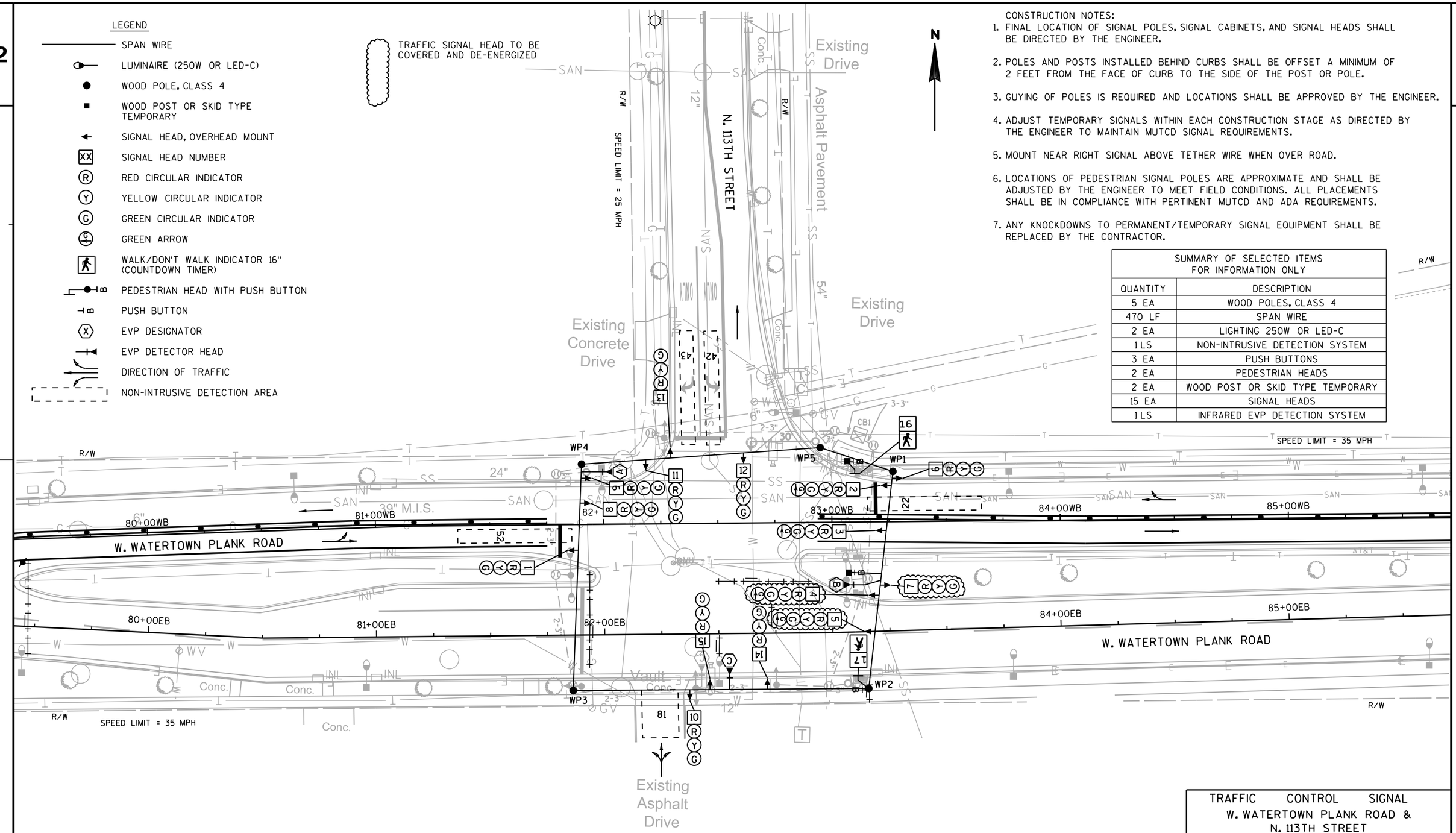
FILE NAME : J:\projects\d2_20350600\Temp_Signal\TSignal_S1A.dgn PLOT DATE : 18-JAN-2017 13:34 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 40:1

2

LEGEND

- SPAN WIRE
- LUMINAIRE (250W OR LED-C)
- WOOD POLE, CLASS 4
- WOOD POST OR SKID TYPE TEMPORARY
- SIGNAL HEAD, OVERHEAD MOUNT
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- G GREEN ARROW
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- B PEDESTRIAN HEAD WITH PUSH BUTTON
- B PUSH BUTTON
- X EVP DESIGNATOR
- EVP DETECTOR HEAD
- DIRECTION OF TRAFFIC
- NON-INTRUSIVE DETECTION AREA

TRAFFIC SIGNAL HEAD TO BE COVERED AND DE-ENERGIZED



CONSTRUCTION NOTES:

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2. POLES AND POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF CURB TO THE SIDE OF THE POST OR POLE.
3. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
4. ADJUST TEMPORARY SIGNALS WITHIN EACH CONSTRUCTION STAGE AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
5. MOUNT NEAR RIGHT SIGNAL ABOVE TETHER WIRE WHEN OVER ROAD.
6. LOCATIONS OF PEDESTRIAN SIGNAL POLES ARE APPROXIMATE AND SHALL BE ADJUSTED BY THE ENGINEER TO MEET FIELD CONDITIONS. ALL PLACEMENTS SHALL BE IN COMPLIANCE WITH PERTINENT MUTCD AND ADA REQUIREMENTS.
7. ANY KNOCKDOWNS TO PERMANENT/TEMPORARY SIGNAL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR.

SUMMARY OF SELECTED ITEMS FOR INFORMATION ONLY

QUANTITY	DESCRIPTION
5 EA	WOOD POLES, CLASS 4
470 LF	SPAN WIRE
2 EA	LIGHTING 250W OR LED-C
1 LS	NON-INTRUSIVE DETECTION SYSTEM
3 EA	PUSH BUTTONS
2 EA	PEDESTRIAN HEADS
2 EA	WOOD POST OR SKID TYPE TEMPORARY
15 EA	SIGNAL HEADS
1 LS	INFRARED EVP DETECTION SYSTEM

TRAFFIC CONTROL SIGNAL
W. WATERTOWN PLANK ROAD &
N. 113TH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY

REGION CONTACT: J. EFFINGER
DESIGNED BY: C. VANDE LEEST
REVISED BY:

PAGE 2 OF 6

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 1B	SHEET 60	E

FILE NAME : J:\projects\d2_20350600\Temp_Signal\TSignal_S1B.dgn PLOT DATE : 18-JAN-2017 16:36 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 40:1

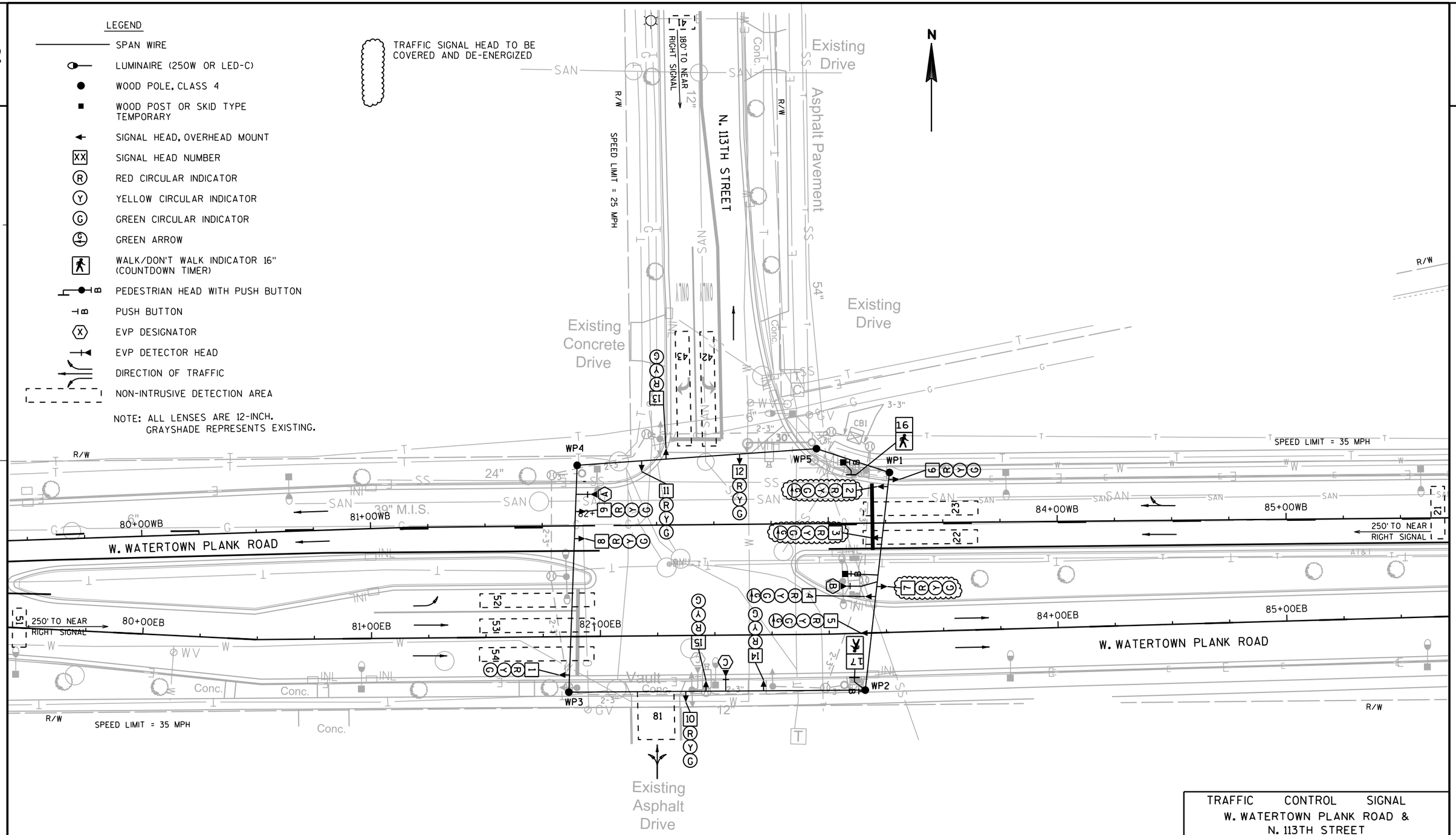
WISDOT/CADDS SHEET 42

LEGEND

- SPAN WIRE
- LUMINAIRE (250W OR LED-C)
- WOOD POLE, CLASS 4
- WOOD POST OR SKID TYPE TEMPORARY
- SIGNAL HEAD, OVERHEAD MOUNT
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- G GREEN ARROW
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- B PEDESTRIAN HEAD WITH PUSH BUTTON
- B PUSH BUTTON
- X EVP DESIGNATOR
- EVP DETECTOR HEAD
- DIRECTION OF TRAFFIC
- NON-INTRUSIVE DETECTION AREA

NOTE: ALL LENSES ARE 12-INCH.
GRAYSHADE REPRESENTS EXISTING.

TRAFFIC SIGNAL HEAD TO BE COVERED AND DE-ENERGIZED



PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TEMPORARY TRAFFIC SIGNAL PLAN - WINTER SHUTDOWN	SHEET 61 E

TRAFFIC CONTROL SIGNAL
W. WATERTOWN PLANK ROAD &
N. 113TH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY

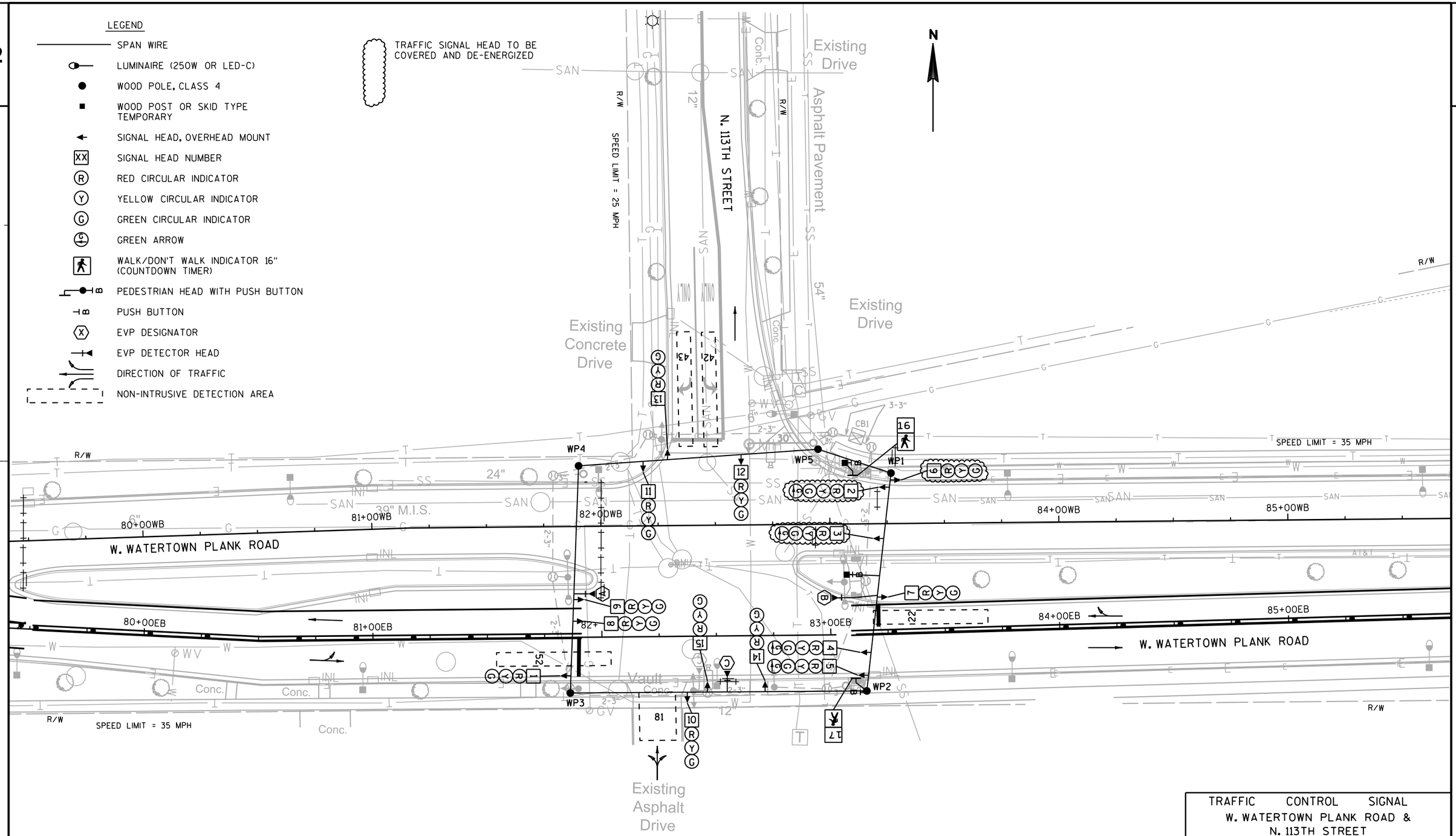
REGION CONTACT: J. EFFINGER
DESIGNED BY: C. VANDE LEEST
REVISED BY:

PAGE 3 OF 6

LEGEND

- SPAN WIRE
- LUMINAIRE (250W OR LED-C)
- WOOD POLE, CLASS 4
- WOOD POST OR SKID TYPE TEMPORARY
- SIGNAL HEAD, OVERHEAD MOUNT
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- G GREEN ARROW
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- PEDESTRIAN HEAD WITH PUSH BUTTON
- B PUSH BUTTON
- X EVP DESIGNATOR
- EVP DETECTOR HEAD
- DIRECTION OF TRAFFIC
- NON-INTRUSIVE DETECTION AREA

TRAFFIC SIGNAL HEAD TO BE COVERED AND DE-ENERGIZED



TRAFFIC CONTROL SIGNAL
W. WATERTOWN PLANK ROAD &
N. 113TH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY

REGION CONTACT: J. EFFINGER
DESIGNED BY: C. VANDE LEEST
REVISED BY:

PAGE 4 OF 6

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 2A	SHEET 62	E

FILE NAME : J:\projects\d2_20350600\Temp_Signal\TSignal_S2A.dgn PLOT DATE : 18-JAN-2017 13:34 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

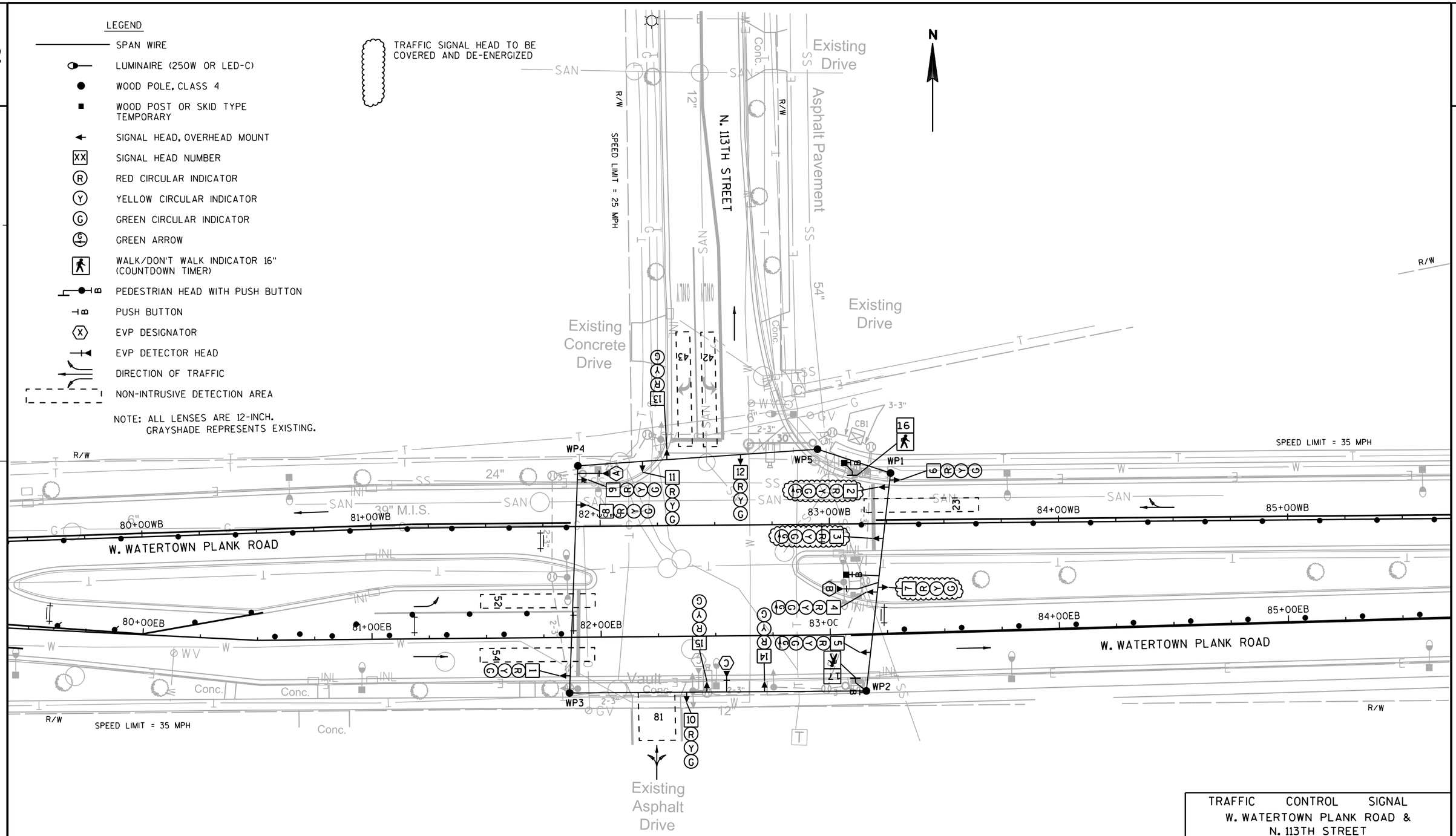
2

LEGEND

- SPAN WIRE
- LUMINAIRE (250W OR LED-C)
- WOOD POLE, CLASS 4
- WOOD POST OR SKID TYPE TEMPORARY
- SIGNAL HEAD, OVERHEAD MOUNT
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- G GREEN ARROW
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- B PEDESTRIAN HEAD WITH PUSH BUTTON
- B PUSH BUTTON
- X EVP DESIGNATOR
- EVP DETECTOR HEAD
- DIRECTION OF TRAFFIC
- NON-INTRUSIVE DETECTION AREA

NOTE: ALL LENSES ARE 12-INCH.
GRAYSHADE REPRESENTS EXISTING.

TRAFFIC SIGNAL HEAD TO BE COVERED AND DE-ENERGIZED



TRAFFIC CONTROL SIGNAL
W. WATERTOWN PLANK ROAD &
N. 113TH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY

REGION CONTACT: J. EFFINGER
DESIGNED BY: C. VANDE LEEST
REVISED BY:

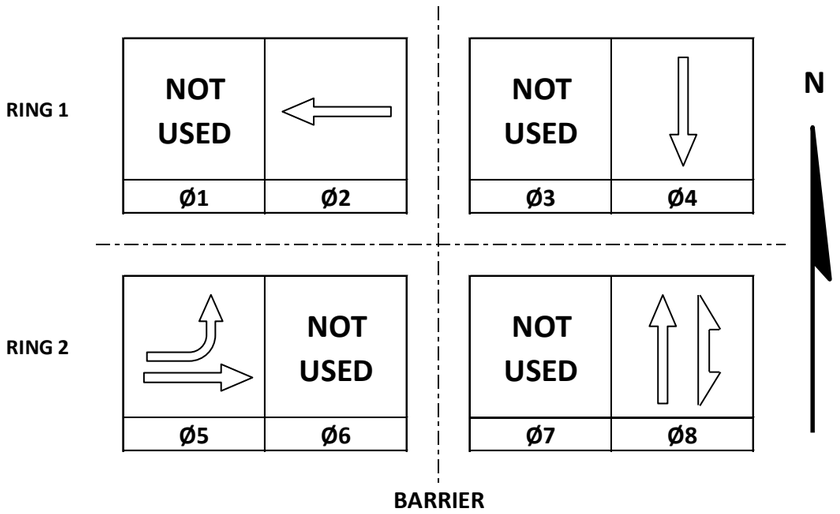
PAGE 5 OF 6

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 2B	SHEET 63	E

FILE NAME : J:\projects\d2_20350600\Temp_Signal\TSignal_S2B.dgn PLOT DATE : 18-JAN-2017 13:34 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
Ø1		
Ø2	6,7,8,9	R
Ø3		
Ø4	13,14,15	R
Ø5	1,2,3,4,5	R
Ø6		
Ø7		
Ø8	10,11,12	R
Ø2P		
Ø4P		
Ø6P		
Ø8P	16,17	
OLA		
OLB		
OLC		
OLD		



DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
21				X		2			X		
22		X			2	2					
23		X			2	2					
41				X		4			X		
42		X			4	4					
43		X			4	4		X			
51				X		5			X		
52		X			5	5					
53		X			5	5					
54		X			5	5					
81		X			8	8		X			

CONTROLLER LOGIC

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

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

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

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

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	C	D
MOVEMENT	←	↱	↓↑
PHASE	2	5	4+8

AFTER PREEMPTION SEQUENCE 2, CONTROLLER SHALL RETURN TO PHASE 2.
AFTER PREEMPTION SEQUENCE 5, CONTROLLER SHALL RETURN TO PHASE 5.

AFTER PREEMPTION SEQUENCE 4+8, CONTROLLER SHALL RETURN TO PHASES 4+8.

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL.
3. PHASE 2 AND PHASE 5 ARE IN CONFLICT AND NOT ALLOWED TO TIME CONCURRENTLY.

W. WATERTOWN PLANK ROAD & N. 113TH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY
SIGNAL NO: LOCAL CABINET TYPE: TEMP
CONTROLLER TYPE: TEMP
DATE: 01/2017 PAGE NO. 6 OF 6

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	SEQUENCE OF OPERATIONS	SHEET NO: 64	E

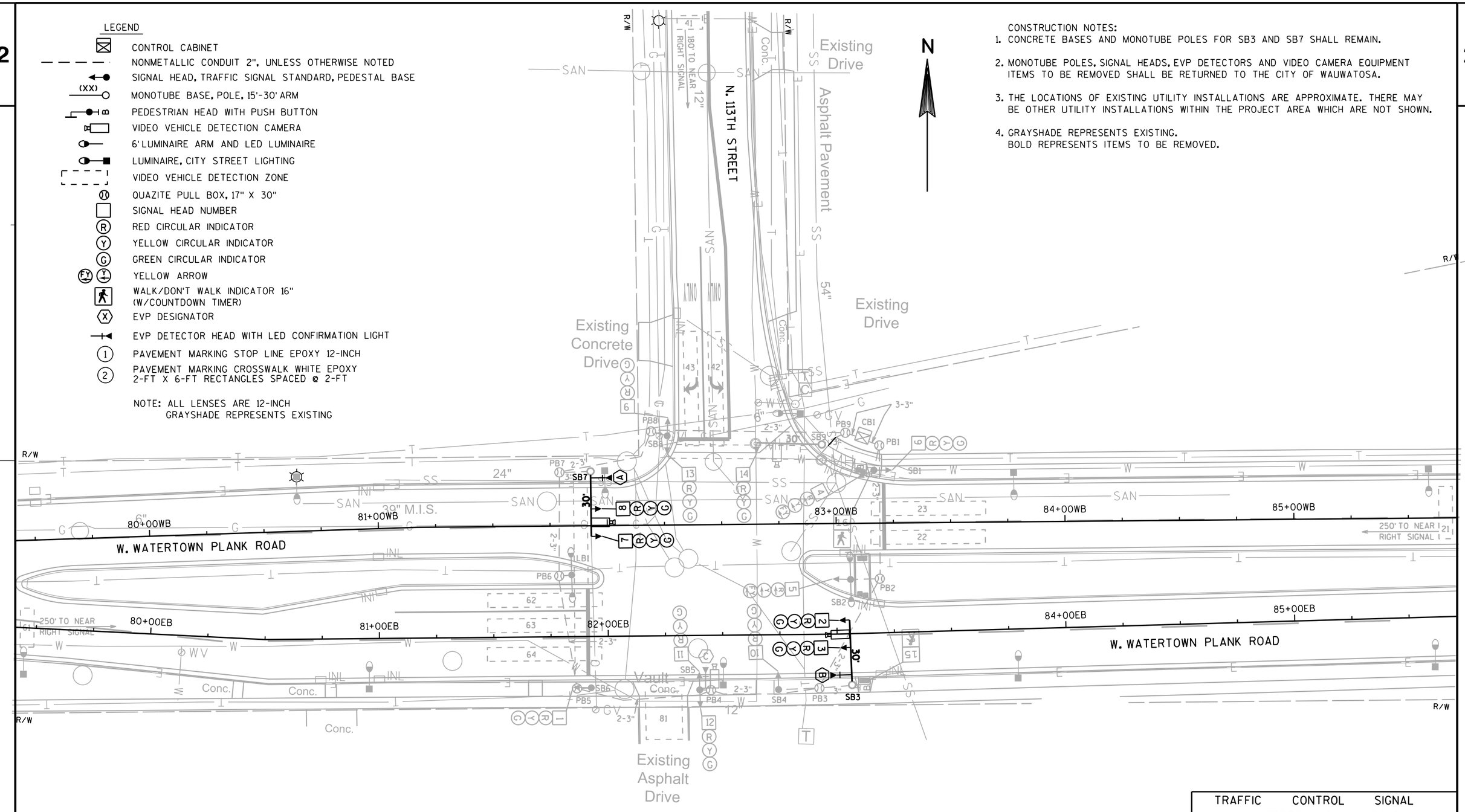
FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- PEDESTRIAN HEAD WITH PUSH BUTTON
- VIDEO VEHICLE DETECTION CAMERA
- 6' LUMINAIRE ARM AND LED LUMINAIRE
- LUMINAIRE, CITY STREET LIGHTING
- VIDEO VEHICLE DETECTION ZONE
- QUAZITE PULL BOX, 17" X 30"
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (FY) (Y) YELLOW ARROW
- WALK/DON'T WALK INDICATOR 16" (W/COUNTDOWN TIMER)
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD WITH LED CONFIRMATION LIGHT
- (1) PAVEMENT MARKING STOP LINE EPOXY 12-INCH
- (2) PAVEMENT MARKING CROSSWALK WHITE EPOXY 2-FT X 6-FT RECTANGLES SPACED @ 2-FT

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

CONSTRUCTION NOTES:
1. CONCRETE BASES AND MONOTUBE POLES FOR SB3 AND SB7 SHALL REMAIN.
2. MONOTUBE POLES, SIGNAL HEADS, EVP DETECTORS AND VIDEO CAMERA EQUIPMENT ITEMS TO BE REMOVED SHALL BE RETURNED TO THE CITY OF WAUWATOSA.
3. THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.
4. GRAYSHADE REPRESENTS EXISTING.
BOLD REPRESENTS ITEMS TO BE REMOVED.



TRAFFIC CONTROL SIGNAL
W. WATERTOWN PLANK ROAD &
N. 113TH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY

REGION CONTACT: J. EFFINGER
DESIGNED BY: C. VANDE LEEST
REVISED BY:

PAGE 1 OF 1

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 65	E

FILE NAME : J:\projects\d2_20350600\Temp_Signal\Signal_Removal.dgn PLOT DATE : 19-JAN-2017 12:37 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 40:1

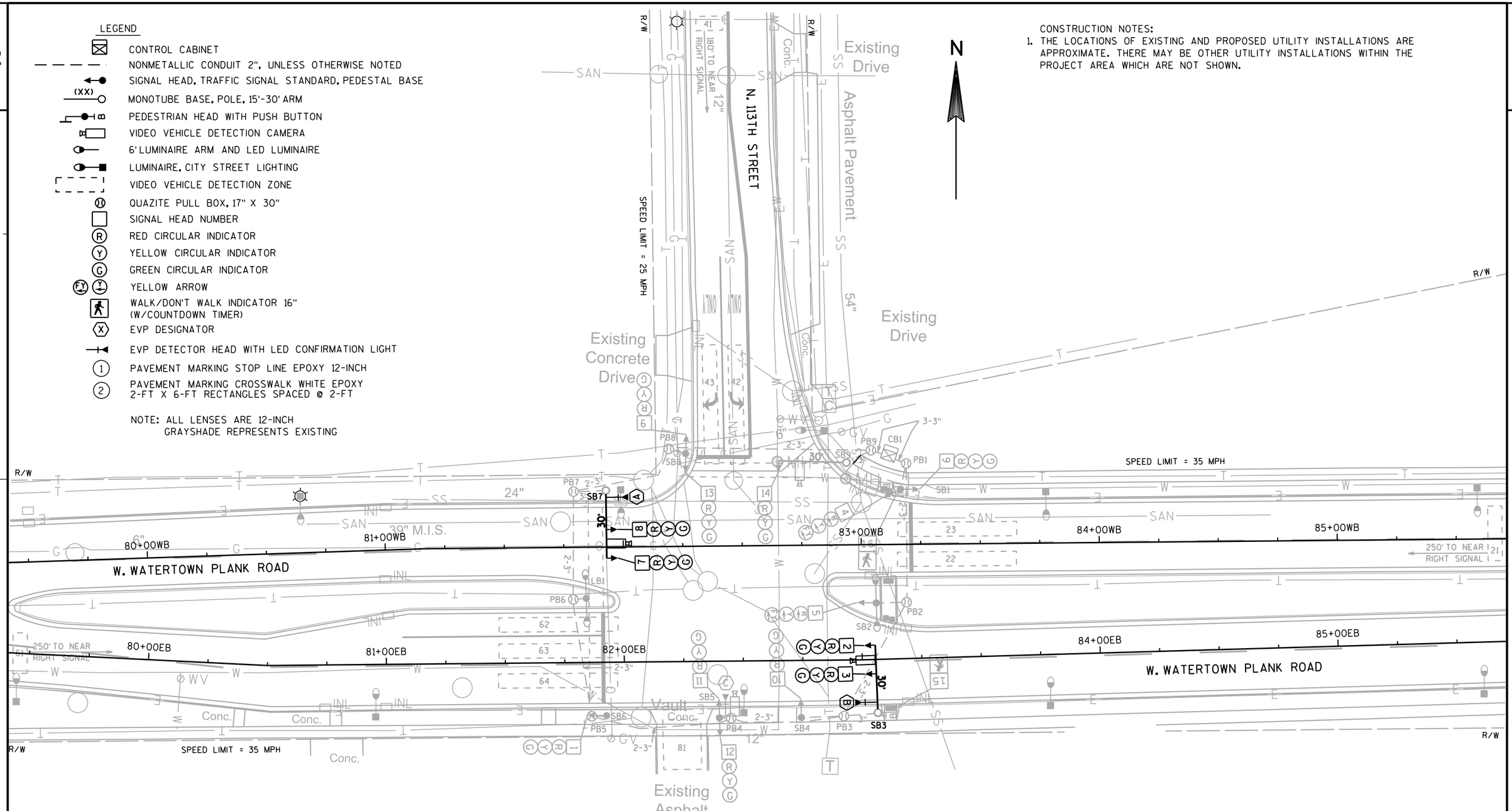
WISDOT/CADDS SHEET 42

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- PEDESTRIAN HEAD WITH PUSH BUTTON
- VIDEO VEHICLE DETECTION CAMERA
- 6' LUMINAIRE ARM AND LED LUMINAIRE
- LUMINAIRE, CITY STREET LIGHTING
- VIDEO VEHICLE DETECTION ZONE
- QUAZITE PULL BOX, 17" X 30"
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (FY) (Y) YELLOW ARROW
- WALK/DON'T WALK INDICATOR 16" (W/COUNTDOWN TIMER)
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD WITH LED CONFIRMATION LIGHT
- (1) PAVEMENT MARKING STOP LINE EPOXY 12-INCH
- (2) PAVEMENT MARKING CROSSWALK WHITE EPOXY 2-FT X 6-FT RECTANGLES SPACED @ 2-FT

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

CONSTRUCTION NOTES:
1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.



TRAFFIC CONTROL SIGNAL
W. WATERTOWN PLANK ROAD &
N. 113TH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY

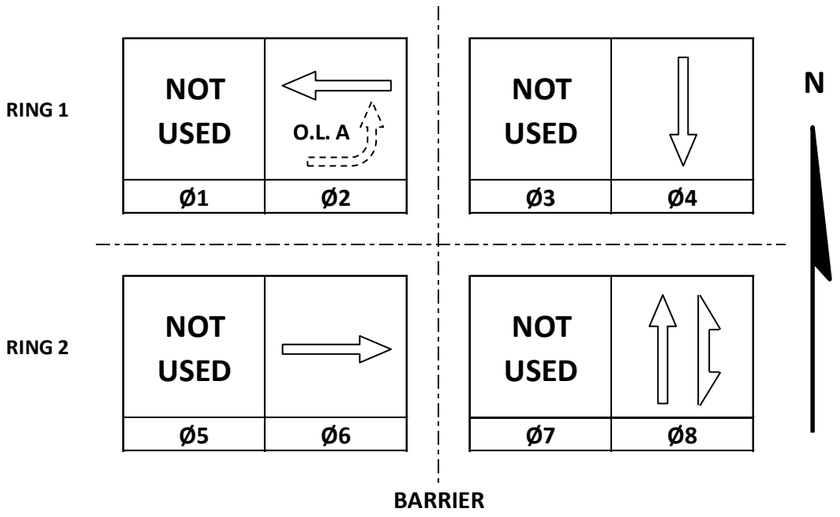
REGION CONTACT: J. EFFINGER
DESIGNED BY: C. VANDE LEEST
REVISED BY:

PAGE 1 OF 2

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET 66	E

FILE NAME : J:\projects\d2_20350600\Temp_Signal\Signal_Plan.dgn PLOT DATE : 19-JAN-2017 12:37 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 40:1

	HEAD NUMBERS	FLASH
Ø1		
Ø2	6,7,8	R
Ø3		
Ø4	9,10,11	R
Ø5		
Ø6	1,2,3	R
Ø7		
Ø8	12,13,14	R
Ø2P		
Ø4P		
Ø6P		
Ø8P	15,16	
OLA	4,5	R ←
OLB		
OLC		
OLD		



DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
21		X			2	2				VIDEO	
22		X			2	2				VIDEO	
23		X			2	2				VIDEO	
41				X		4			X	VIDEO	
42		X			4	4				VIDEO	
43		X			4	4				VIDEO	
61		X			6	6				VIDEO	
62		X			6	6				VIDEO	
63		X			6	6				VIDEO	
64		X			6	6				VIDEO	
81		X			8	8				VIDEO	

CONTROLLER LOGIC

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

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

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

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

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	X
3M	X
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTION	

EMERGENCY VEHICLE PREEMPTION SEQUENCE

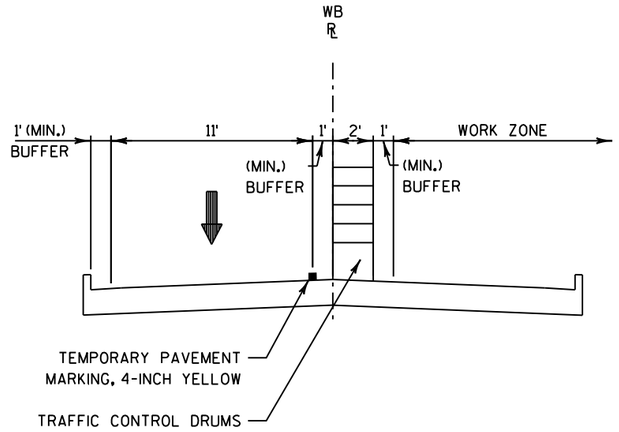
EMERGENCY VEHICLE PREEMPTOR	A	B	C
MOVEMENT	← ↗	→	↓
PHASE	2	6	4

THERE SHALL BE AN ALL-RED INTERVAL BEFORE ANY PREEMPTION SEQUENCE.
AFTER PREEMPTION SEQUENCE 2 OR 6, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4, CONTROLLER SHALL RETURN TO PHASES 4+8.

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL.

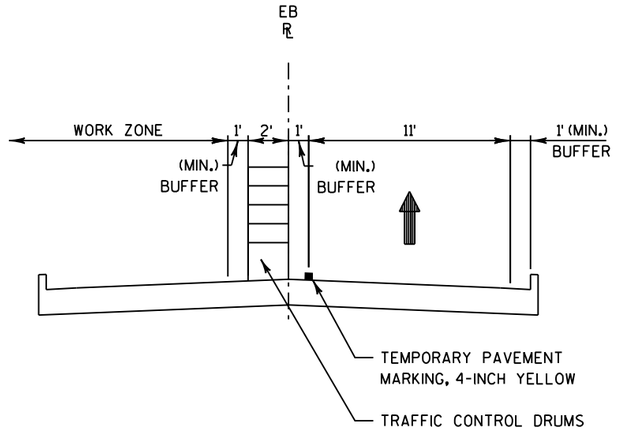
W. WATERTOWN PLANK ROAD & N. 113TH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY
SIGNAL NO: LOCAL CABINET TYPE: TS1
CONTROLLER TYPE: EPAC
DATE: 01/2017 PAGE NO. 2 OF 2



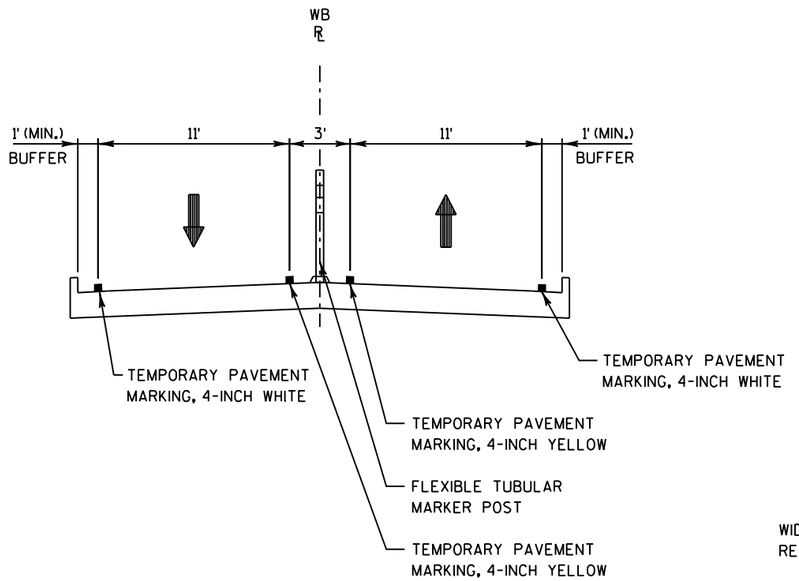
WESTBOUND
SHIFT TRAFFIC TO THE OUTSIDE LANE AND CLOSE MEDIAN LANE.

STAGE 1A

CONSTRUCT MEDIAN CROSSOVER.



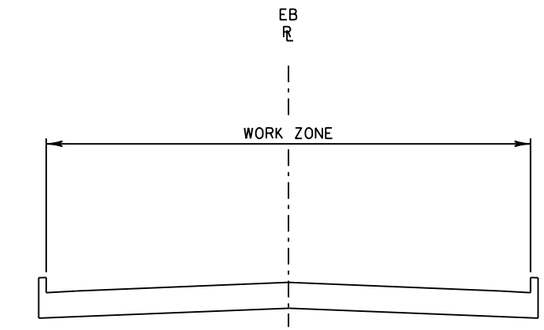
EASTBOUND
SHIFT TRAFFIC TO THE OUTSIDE LANE AND CLOSE MEDIAN LANE.



WESTBOUND
MAINTAIN TWO LANES OF TWO WAY TRAFFIC.

STAGE 1B

WIDEN & REDECK EB BRIDGE AND
RECONSTRUCT APPROACH ROADWAY.



EASTBOUND
SHIFT TRAFFIC TO WB LANES. CLOSE EB LANES.

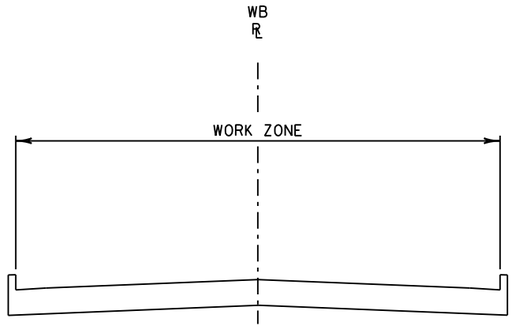
GENERAL NOTES:

CONFLICTING TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. CONFLICTING SIGNS WILL BE COVERED USING THE STANDARD BID ITEM, TRAFFIC CONTROL COVERING SIGNS.

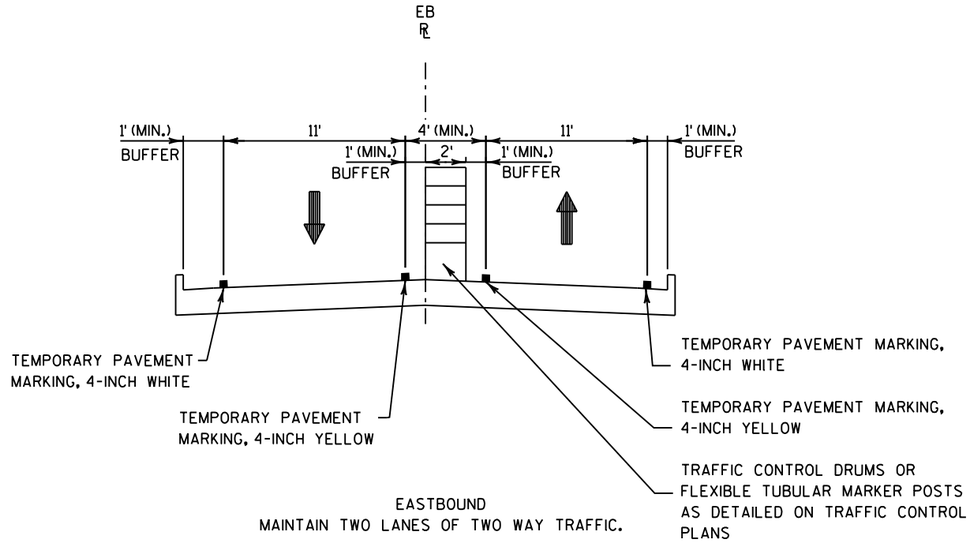
SIGN LOCATIONS ARE APPROXIMATE. THE ACTUAL LOCATION AND SPACING MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MEET FIELD CONDITIONS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND M" SIGNS RESPECTIVELY, EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.

BARRICADE STRIPES ARE TO BE SLOPED DOWNWARD IN THE DIRECTION OF TRAFFIC FLOW.



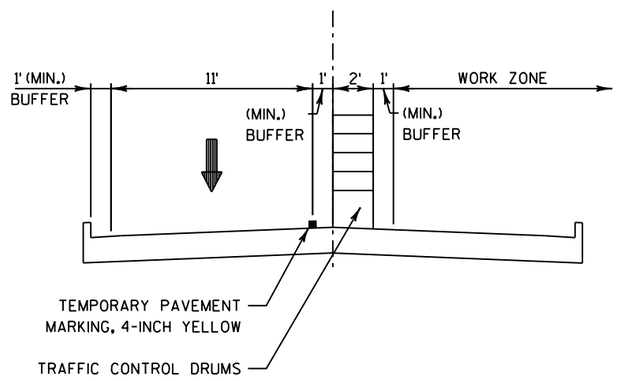
WESTBOUND
SHIFT TRAFFIC TO EB LANES. CLOSE WB LANES.



EASTBOUND
MAINTAIN TWO LANES OF TWO WAY TRAFFIC.

STAGE 2A

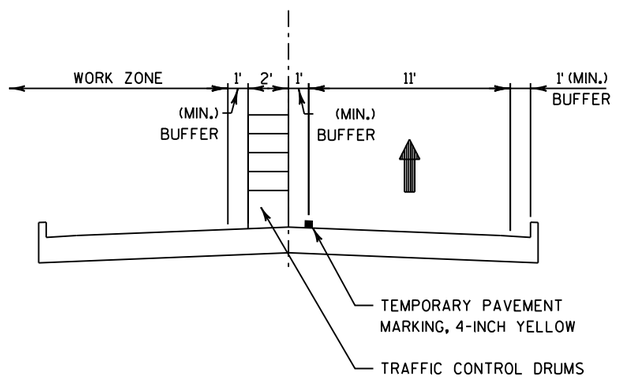
WIDEN & REDECK WB BRIDGE AND
RECONSTRUCT APPROACH ROADWAY.



WESTBOUND
SHIFT TRAFFIC TO THE OUTSIDE LANE AND CLOSE MEDIAN LANE.

STAGE 2B

REMOVE MEDIAN CROSSOVER, RECONSTRUCT MEDIAN,
AND INSTALL MEDIAN BARRIER WALL



EASTBOUND
SHIFT TRAFFIC TO THE OUTSIDE LANE AND CLOSE MEDIAN LANE.

GENERAL NOTES:

CONFLICTING TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. CONFLICTING SIGNS WILL BE COVERED USING THE STANDARD BID ITEM, TRAFFIC CONTROL COVERING SIGNS.

SIGN LOCATIONS ARE APPROXIMATE. THE ACTUAL LOCATION AND SPACING MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MEET FIELD CONDITIONS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND M" SIGNS RESPECTIVELY, EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.

BARRICADE STRIPES ARE TO BE SLOPED DOWNWARD IN THE DIRECTION OF TRAFFIC FLOW.

2

2

N

N. 116TH ST.

ROAD WORK AHEAD
W20-1A

END ROAD WORK
G20-2A
48" X 24"

END ROAD WORK
G20-2A
48" X 24"

71+00WB | 72+00WB | 73+00WB | 74+00WB | 75+00WB | 76+00WB | 77+0

71+00EB | 72+00EB | 73+00EB | 74+00EB | +38EB | 75+00EB | 76+00EB | +88EB | 77+0

8-INCH WHITE

SEE "TRAFFIC CONTROL - STAGE 1A/1B/2A/2B"

WATERTOWN PLANK RD.

500'

500'

ROAD WORK AHEAD
W20-1A

ROAD WORK 500 FT
W20-1D

RIGHT LANE MUST TURN RIGHT EXCEPT BUSES
R3-7R(MOD.)
30" X 36"
PAID AS FIXED MESSAGE SIGN

EXISTING BUS STOP TO REMAIN ACTIVE

RIGHT LANE MUST TURN RIGHT EXCEPT BUSES
R3-7R(MOD.)
30" X 36"
PAID AS FIXED MESSAGE SIGN

END ROAD WORK
G20-2A
48" X 24"

N. 115TH ST.

ROAD WORK AHEAD
W20-1A

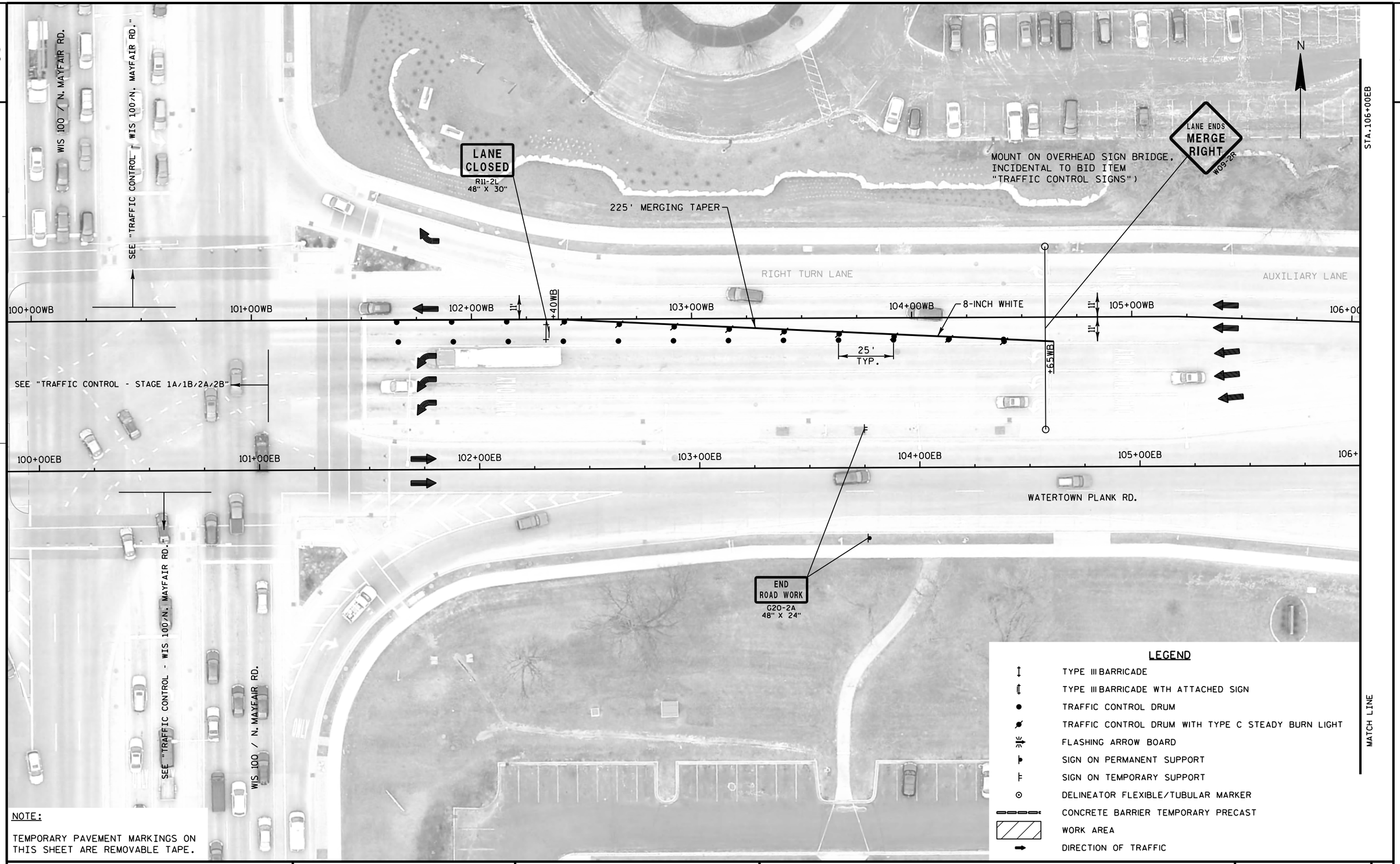
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTE:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE PAINT.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - WEST OF N. 115TH ST. (STAGE 1A/1B/2A/2B)	SHEET 70	E



NOTE:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE REMOVABLE TAPE.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - EAST OF WIS 100 (STAGE 1A/1B/2A/2B)	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_025102_tc_E100.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

2

STA. 106+00EB

ROAD WORK AHEAD W20-1A

W04-2L

LEFT LANE CLOSED AHEAD W20-55A

ROAD WORK AHEAD W20-1A

ROAD WORK AHEAD W20-1A

500'

500'

N

AUXILIARY LANE

WB 107+00WB 108+00WB 109+00WB 110+00WB 111+00WB

00EB 107+00EB 108+00EB 109+00EB 110+00EB 111+00EB

WATERTOWN PLANK RD.

MEDIAN OPENING TO REMAIN OPEN FOR FIRE DEPARTMENT ACCESS

ROAD WORK AHEAD W20-1A

MATCH LINE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - EAST OF WIS 100 (STAGE 1A/1B/2A/2B)	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_025103_tc_E100.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

2

N

MATCH LINE A-A

(PLACE IN MEDIAN ISLAND)

ROAD WORK AHEAD
W20-1A

WIS 100 / N. MAYFAIR RD.

END ROAD WORK
G20-2A
48" X 24"

4-INCH WHITE

25'
TYP.

350' MIN.

BEGIN LEFT TURN LANE
R3-20LL
24" X 36"

LANE CLOSED
R11-2L
48" X 30"

ROAD WORK AHEAD
W20-1A

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

KEEP RIGHT NB WIS 100 LEFT TURN LANE CLOSED FOR ALL STAGES.

TEMPOARY PAVEMENT MARKINGS ON THIS SHEET ARE REMOVABLE TAPE.

MATCH LINE A-A

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - WIS 100 (STAGE 1A/1B/2A/2B)	SHEET 73	E

2

MATCH LINE A-A

ATWD

BWLY

WIS 100 / N. MAYFAIR RD.

11'

25'
TYP.

4-INCH WHITE

LANE
CLOSED
R11-2L
48" X 30"

3300+66

100+00EB

101+00EB

102+00EB

WATERTOWN PLANK RD.

SEE "TRAFFIC CONTROL - STAGE 1A/1B/2A/2B"

SEE "TRAFFIC CONTROL - EAST OF WIS 100 (STAGE 1A/1B/2A/2B)"

3300+66

BWOO+99

100+00WB

101+00WB

102+00WB

WIS 100 / N. MAYFAIR RD.

N

ROAD
WORK
AHEAD
W20-1A

END
ROAD WORK
G20-2A
48" X 24"

MATCH LINE A-A

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

KEEP RIGHT NB WIS 100 LEFT TURN LANE CLOSED FOR ALL STAGES.

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE REMOVABLE TAPE.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - WIS 100 (STAGE 1A/1B/2A/2B)	SHEET 74	E

2

N

N. 116TH ST.

WATERTOWN PLANK RD.

73+00WB
74+00WB
75+00WB
76+00WB
77+00WB
78+00WB
79+00

73+00EB
74+00EB
75+00EB
76+00EB
77+00EB
78+00EB

SEE "TRAFFIC CONTROL - WEST OF N. 115TH ST. (STAGE 1A/1B/2A/2B)"

+62WB
+37WB
+36EB

75'

4-INCH YELLOW

4-INCH WHITE

12.5' TYP.

12.5' TYP.

14:1 ENDING TAPER

15:1 SHIFTING TAPER

STA. 79+00EB

MATCH LINE

DRIVEWAY ACCESS
RIGHT IN AND
RIGHT OUT

RIGHT TURN ONLY
R3-53R
24" X 30"

W01-6
48" X 24"

EXISTING BUS STOP
TO REMAIN ACTIVE

LANE CLOSED
R11-2L
48" X 30"

FULL DRIVEWAY ACCESS

W01-4R

RIGHT TURN ONLY
R3-53R
24" X 30"

DRIVEWAY ACCESS
RIGHT IN AND
RIGHT OUT

DRIVEWAY ACCESS
RIGHT IN AND
RIGHT OUT

N. 115TH ST.

LEGEND

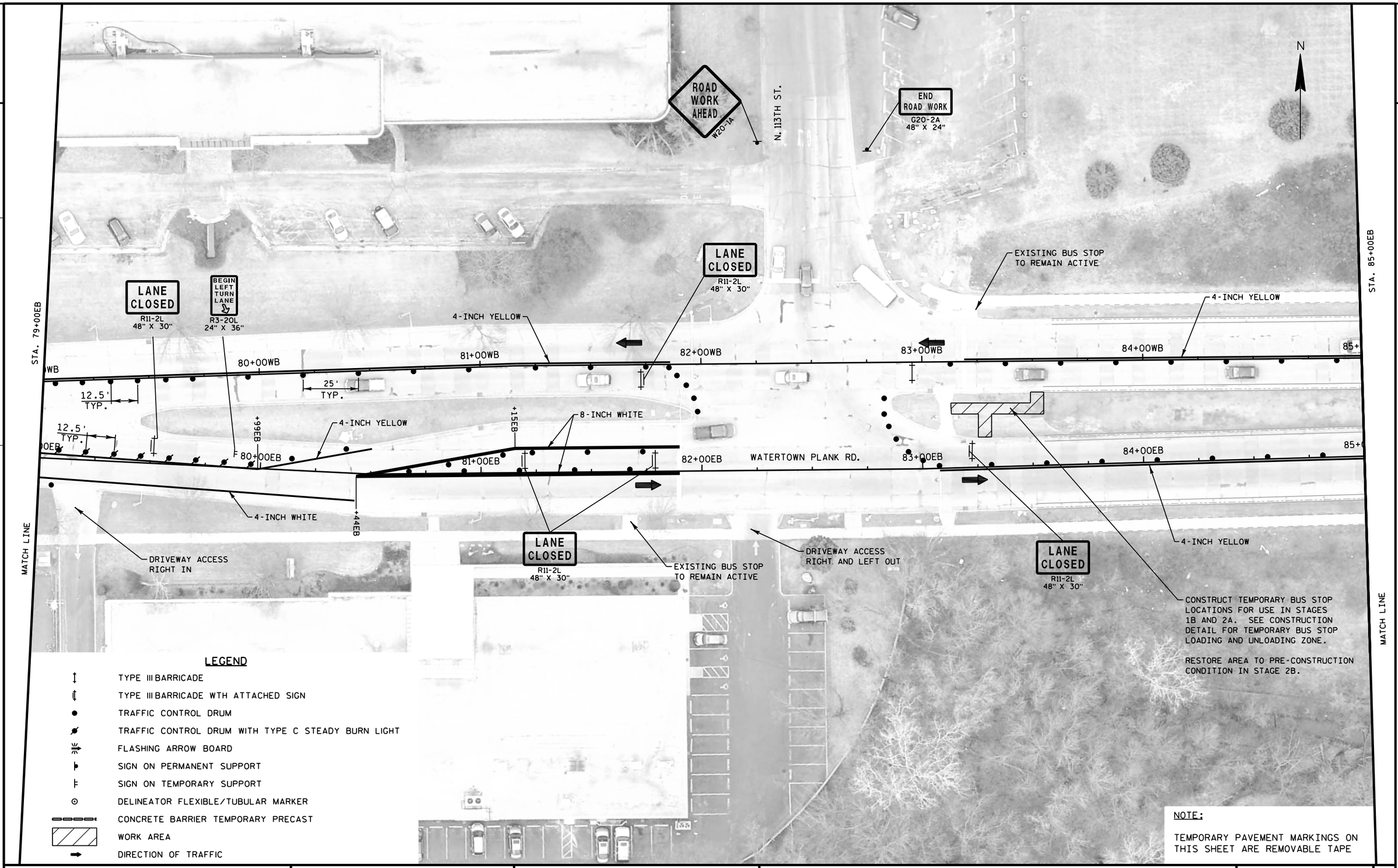
- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTE:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE REMOVABLE TAPE

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1A AND 2B	SHEET 75	E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTE:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE REMOVABLE TAPE

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1A AND 2B	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_025202_tc_1A2B.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40
WISDOT/CADDS SHEET 42

2

2

N

STA. 85+00EB

STA. 91+00EB

4-INCH YELLOW

LANE CLOSED
R11-2L
48" X 30"

86+00WB

87+00WB

25'
TYP.

88+00WB

89+00WB

90+00WB

91+0

86+00EB

87+00EB

88+00EB

89+00EB

90+00EB

91+0

WATERTOWN PLANK RD.

25'
TYP.

4-INCH YELLOW

LANE CLOSED
R11-2L
48" X 30"

MH

MATCH LINE

MATCH LINE

UNDERWOOD CREEK

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTE:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE REMOVABLE TAPE

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1A AND 2B	SHEET 77	E

2

UNDERWOOD CREEK

OAK LEAF TRAIL

N

WO1-6
48" X 24"

STA. 97+00EB

4-INCH YELLOW

STA. 91+00EB

92+00WB

93+00WB

94+00WB

95+00WB

25'
TYP.

96+00WB

+92WB

97+00

92+00EB

93+00EB

94+00EB

25'
TYP.

95+00EB

+50EB

+09EB

+48EB

96+00EB

97+00

WATERTOWN PLANK RD.

+00EB

4-INCH YELLOW

LANE
CLOSED
R11-2L
48" X 30"

UNDERWOOD CREEK

OAK LEAF TRAIL

MATCH LINE

MATCH LINE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTE:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE REMOVABLE TAPE

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1A AND 2B	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_025204_tc_1A2B.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

STA. 97+00EB

EXISTING BUS STOP TO REMAIN ACTIVE

8-INCH WHITE

BEGIN LEFT TURN LANE
R3-2OL
24" X 36"

LANE CLOSED
R11-2L
48" X 30"

+95WB

98+00WB

+60WB

99+00WB

+60WB

25'
TYP.

11'

4-INCH YELLOW

+16WB

98+00EB

99+00EB

WATERTOWN PLANK RD.

SEE "TRAFFIC CONTROL - WIS 100 (STAGE 1A/1B/2A/2B)"

WIS 100 / N. MAYFAIR RD.

100+00WB

101+00WB

102+00WB

103+00

SEE "TRAFFIC CONTROL - EAST OF WIS 100 (STAGE 1A/1B/2A/2B)"

100+00EB

101+00EB

102+00EB

103+

WATERTOWN PLANK RD.

N

MATCH LINE

MATCH LINE

WIS 100 / N. MAYFAIR RD.

SEE "TRAFFIC CONTROL - WIS 100 (STAGE 1A/1B/2A/2B)"

ONLY

LEGEND

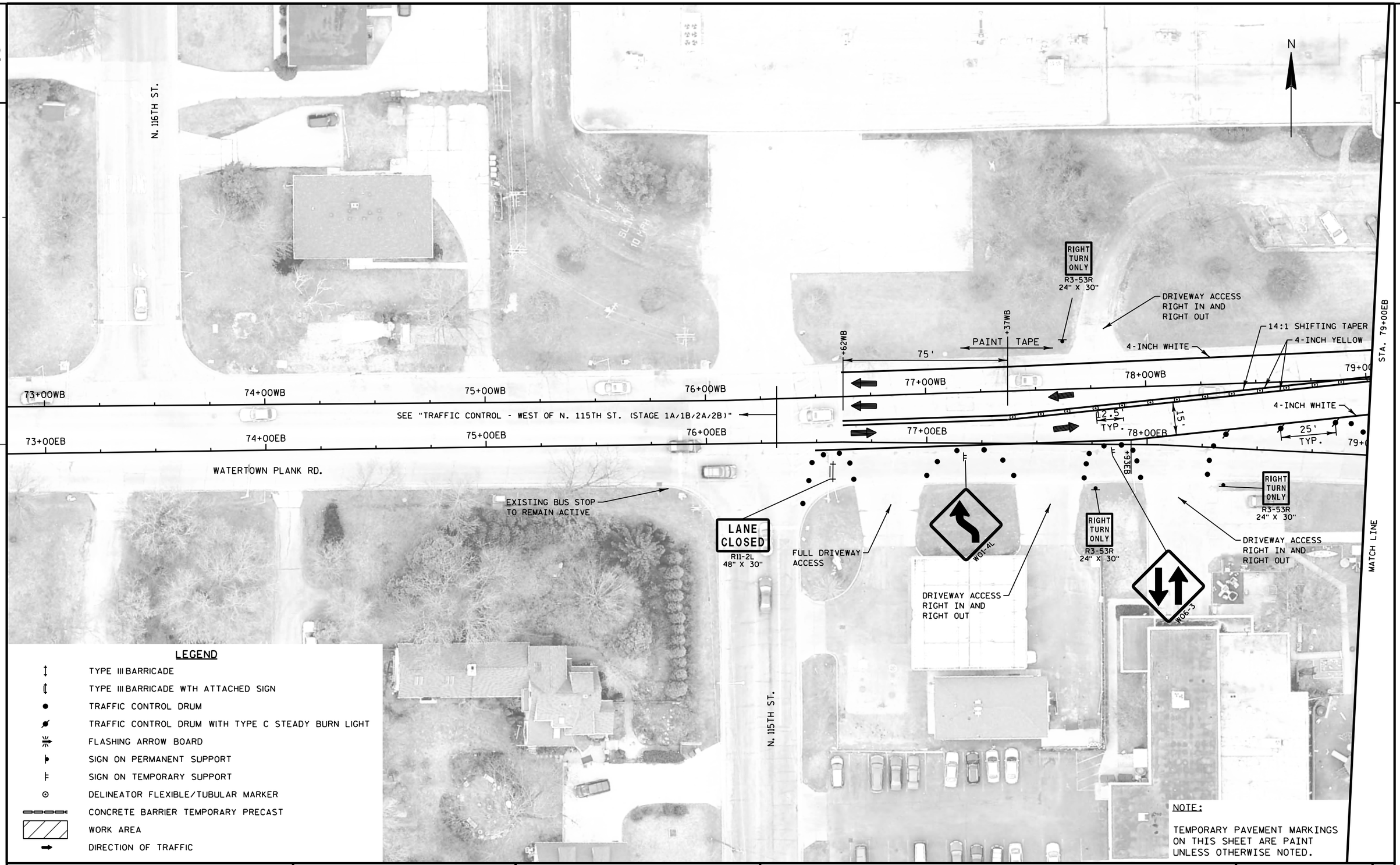
- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTE:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE REMOVABLE TAPE

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1A AND 2B	SHEET 79	E

2



LEGEND

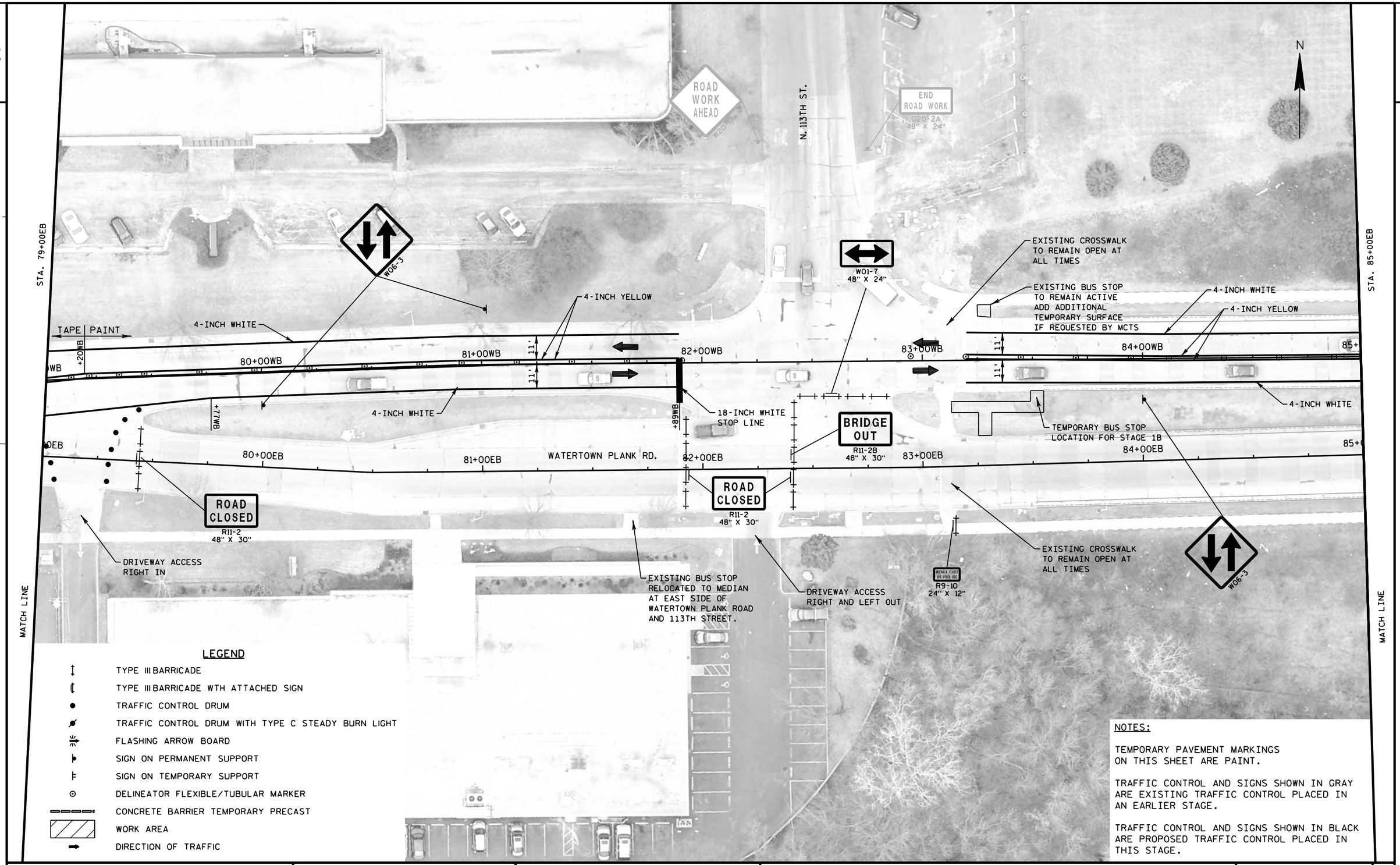
- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTE:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE PAINT UNLESS OTHERWISE NOTED.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1B	SHEET 80 E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE PAINT.

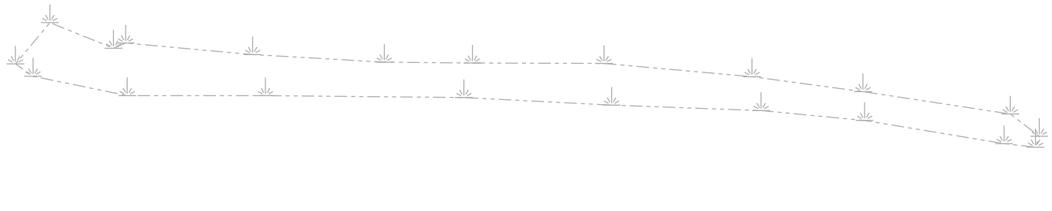
TRAFFIC CONTROL AND SIGNS SHOWN IN GRAY ARE EXISTING TRAFFIC CONTROL PLACED IN AN EARLIER STAGE.

TRAFFIC CONTROL AND SIGNS SHOWN IN BLACK ARE PROPOSED TRAFFIC CONTROL PLACED IN THIS STAGE.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1B	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_025302_tc_1B.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

2



STA. 85+00EB

STA. 91+00EB

4-INCH WHITE

4-INCH WHITE

4-INCH YELLOW

1' BUFFER MIN.
AT BARRIER WALL

ATTACH TEMPORARY BARRIER WALL TO WING WALL (SEE SDD CONCRETE BARRIER TEMPORARY PRECAST, 12'-6")

W06-3

25' TYP.

11'

11'

6:1

0OWB

86+00WB

87+00WB

88+00WB

89+00WB

90+00WB

91+0

+43WB

+95WB

+97WB

MH

0EB

86+00EB

87+00EB

88+00EB

89+00EB

90+00EB

91+0

WATERTOWN PLANK RD.

BRIDGE OUT
R11-2B
48" X 30"

SIDEWALK CLOSED
R9-9
24" X 12"

ROAD CLOSED
R11-2
48" X 30"

W5-52R
12" X 36"

CONCRETE BARRIER TEMPORARY PRECAST
TO BE INSTALLED WHEN NO WORK IS TAKING PLACE. MOVING AND REINSTALLATION TO ACCOMMODATE CONTRACTOR OPERATIONS IS INCIDENTAL TO BID ITEM CONCRETE BARRIER TEMPORARY PRECAST INSTALLED.

MATCH LINE

MATCH LINE

UNDERWOOD CREEK

LEGEND

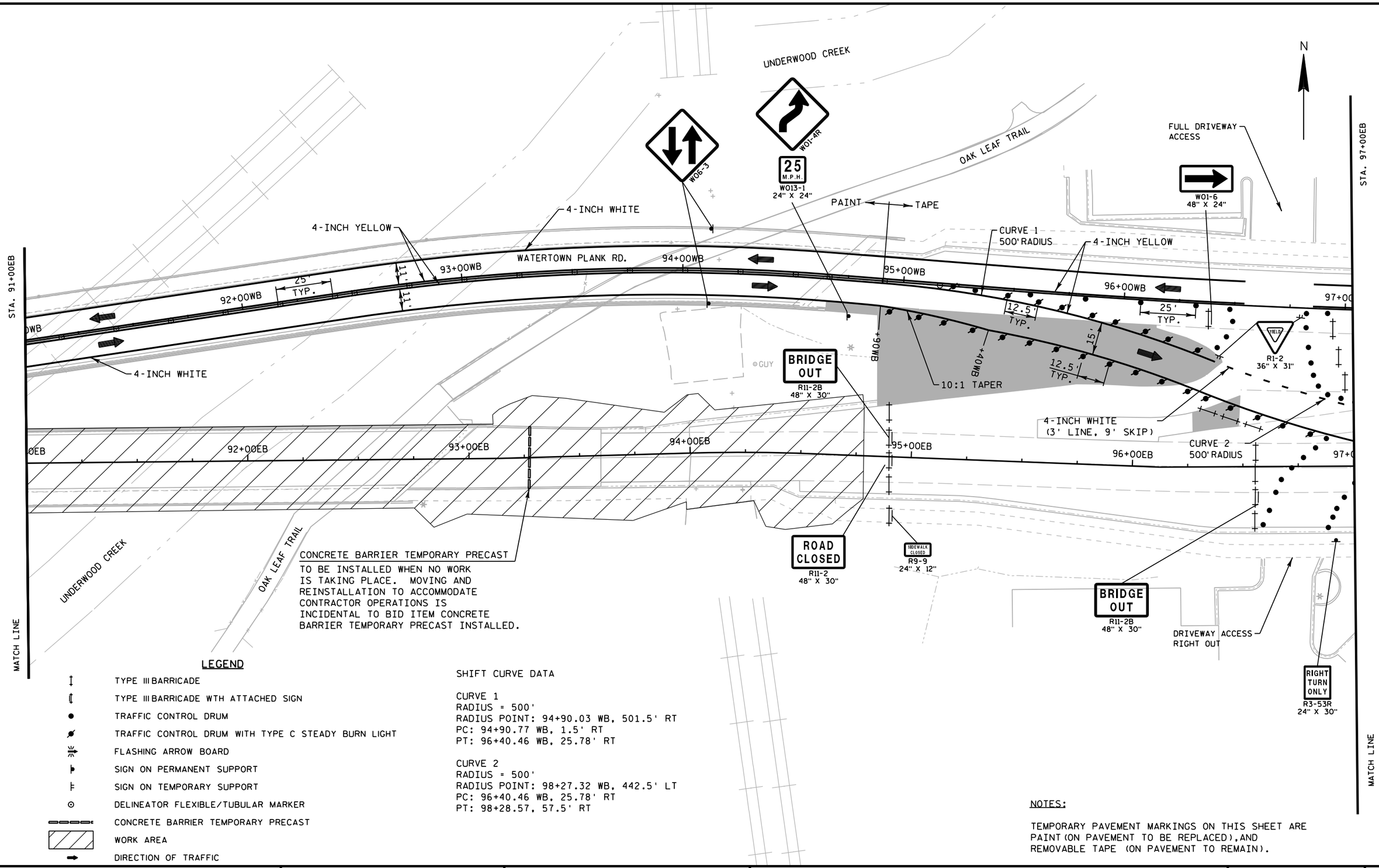
- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTE:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE PAINT.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1B	SHEET 82	E

2



CONCRETE BARRIER TEMPORARY PRECAST
TO BE INSTALLED WHEN NO WORK IS TAKING PLACE. MOVING AND REINSTALLATION TO ACCOMMODATE CONTRACTOR OPERATIONS IS INCIDENTAL TO BID ITEM CONCRETE BARRIER TEMPORARY PRECAST INSTALLED.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

SHIFT CURVE DATA

CURVE 1
RADIUS = 500'
RADIUS POINT: 94+90.03 WB, 501.5' RT
PC: 94+90.77 WB, 1.5' RT
PT: 96+40.46 WB, 25.78' RT

CURVE 2
RADIUS = 500'
RADIUS POINT: 98+27.32 WB, 442.5' LT
PC: 96+40.46 WB, 25.78' RT
PT: 98+28.57, 57.5' RT

NOTES:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE PAINT (ON PAVEMENT TO BE REPLACED), AND REMOVABLE TAPE (ON PAVEMENT TO REMAIN).

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1B	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_025304_tc_1B.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40
WISDOT/CADDS SHEET 42

2

SHIFT CURVE DATA

CURVE 2
RADIUS = 500'
RADIUS POINT: 98+27.32 WB, 442.5' LT
PC: 96+40.46 WB, 25.78' RT
PT: 98+28.57, 57.5' RT

STA. 97+00EB

EXISTING BUS STOP TO REMAIN ACTIVE

LANE CLOSED
R11-2L
48" X 30"

R3-2
24" X 24"

LANE CLOSED
R11-2L
48" X 30"

WIS 100 / N. MAYFAIR RD.

SEE "TRAFFIC CONTROL - WIS 100 (STAGE 1A/1B/2A/2B)"

MATCH LINE

N

4-INCH WHITE

WB 4-INCH YELLOW

98+00WB

25' TYP.

99+00WB

100+00WB

101+00WB

102+00WB

103+00

BEGIN LEFT TURN LANE
R3-20L
24" X 36"

CURVE 2
500' RADIUS

4-INCH WHITE
(3' LINE, 9' SKIP)

SEE "TRAFFIC CONTROL - EAST OF WIS 100 (STAGE 1A/1B/2A/2B)"

0EB

4-INCH WHITE

98+00EB

99+00EB

100+00EB

101+00EB

102+00EB

103+

WATERTOWN PLANK RD.

WATERTOWN PLANK RD.

YIELD
R1-2
36" X 31"

3+63EB

SIDEWALK CLOSED AHEAD
CROSS HERE
R9-11
24" X 12"

WIS 100 / N. MAYFAIR RD.

SEE "TRAFFIC CONTROL - WIS 100 (STAGE 1A/1B/2A/2C)"

ONLY

MATCH LINE

MATCH LINE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTE:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE REMOVABLE TAPE.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1B	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_025305_tc_1B.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

2

N

73+00WB

74+00WB

75+00WB

76+00WB

77+00WB

78+00WB

79+00

4-INCH YELLOW

73+00EB

74+00EB

75+00EB

76+00EB

77+00EB

78+00EB

79+

STA. 79+00EB

4-INCH WHITE SKIP
(12.5' SEG., 37.5' GAP)

EXISTING BUS STOP
TO REMAIN ACTIVE

4-INCH WHITE SKIP
(12.5' SEG., 37.5' GAP)

MATCH LINE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

REMOVE TRAFFIC CONTROL DEVICES, SIGNS, AND TEMPORARY PAVEMENT MARKINGS PLACED IN STAGES 1A AND 1B.

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE EPOXY. PLACE IN LOCATION OF FINAL MARKINGS.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - WINTER SHUTDOWN	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_025602_tc_Winter Shutdown.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

2

STA. 79+00EB

STA. 85+00EB

N. 113TH ST.

WATERTOWN PLANK RD.

4-INCH WHITE SKIP
(12.5' SEG., 37.5' GAP)

EXISTING BUS STOP
TO REMAIN ACTIVE

4-INCH WHITE SKIP
(12.5' SEG., 37.5' GAP)

80+00WB

81+00WB

82+00WB

83+00WB

84+00WB

85+

18-INCH WHITE
STOP LINE

+19WB

4-INCH YELLOW

4-INCH YELLOW

80+00EB

81+00EB

82+00EB

83+00EB

84+00EB

85+

4-INCH WHITE SKIP
(12.5' SEG., 37.5' GAP)

4-INCH WHITE SKIP
(12.5' SEG., 37.5' GAP)

EXISTING BUS STOP
TO REMAIN ACTIVE

MATCH LINE

MATCH LINE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

REMOVE TRAFFIC CONTROL DEVICES, SIGNS, AND TEMPORARY PAVEMENT MARKINGS PLACED IN STAGES 1A AND 1B.

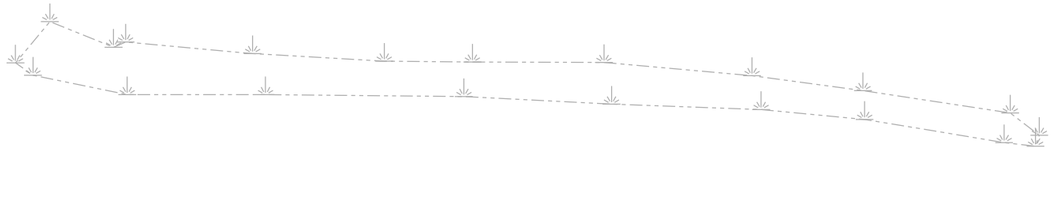
TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE EPOXY. PLACE IN LOCATION OF FINAL MARKINGS.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - WINTER SHUTDOWN	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_025603_tc_Winter Shutdown.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2



STA. 85+00EB

STA. 91+00EB

4-INCH WHITE SKIP
(12.5' SEG., 37.5' GAP)

86+00WB

87+00WB

88+00WB

89+00WB

90+00WB

+43WB

+95WB

+97WB

6:1

4-INCH YELLOW

MH

86+00EB

87+00EB

88+00EB

89+00EB

90+00EB

WATERTOWN PLANK RD.

4-INCH WHITE SKIP
(12.5' SEG., 37.5' GAP)

W5-52L
12" X 36"

W5-52R
12" X 36"

PERMANENT SIGNS
TO BE INSTALLED FOR
WINTER SHUTDOWN

MATCH LINE

MATCH LINE

UNDERWOOD CREEK

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

REMOVE TRAFFIC CONTROL DEVICES, SIGNS, AND TEMPORARY PAVEMENT MARKINGS PLACED IN STAGES 1A AND 1B.

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE EPOXY. PLACE IN LOCATION OF FINAL MARKINGS.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - WINTER SHUTDOWN	SHEET 87	E

2

UNDERWOOD CREEK

OAK LEAF TRAIL

N

PERMANENT SIGN
TO BE INSTALLED FOR
WINTER SHUTDOWN

EXISTING SIGN TAKEN
DOWN PRIOR TO STAGE 1B
TO BE REINSTALLED
FOR WINTER SHUTDOWN

4-INCH WHITE SKIP
(12.5' SEG., 37.5' GAP)

W5-52L
12" X 36"

STA. 97+00EB

STA. 91+00EB

WATERTOWN PLANK RD.

92+00WB

93+00WB

94+00WB

95+00WB

96+00WB

97+00

+35WB

+75WB

6:1

4-INCH YELLOW

ATTACH TEMPORARY BARRIER WALL TO
WING WALL (SEE SDD CONCRETE
BARRIER TEMPORARY PRECAST, 12'-6")

ATTACH TEMPORARY BARRIER WALL TO
RETAINING WALL (SEE SDD CONCRETE
BARRIER TEMPORARY PRECAST, 12'-6")

+94EB

6:1

+40EB

+02EB

92+00EB

93+00EB

94+00EB

95+00EB

96+00EB

97+0

4-INCH WHITE SKIP
(12.5' SEG., 37.5' GAP)

8-INCH WHITE

4-INCH WHITE SKIP
(12.5' SEG., 37.5' GAP)

UNDERWOOD CREEK

OAK LEAF TRAIL

NORTH
100
SECOND
LEFT

EXISTING SIGN TAKEN
DOWN PRIOR TO STAGE 1B
TO BE REINSTALLED
FOR WINTER SHUTDOWN

MATCH LINE

MATCH LINE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

REMOVE TRAFFIC CONTROL DEVICES,
SIGNS, AND TEMPORARY PAVEMENT MARKINGS
PLACED IN STAGES 1A AND 1B.

TEMPORARY PAVEMENT MARKINGS
ON THIS SHEET ARE EPOXY. PLACE IN
LOCATION OF FINAL MARKINGS.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - WINTER SHUTDOWN	SHEET 88	E

2

STA. 97+00EB

STA. 103+00EB

N

EXISTING BUS STOP
TO REMAIN ACTIVE

4-INCH WHITE SKIP
(12.5' SEG., 37.5' GAP)

4-INCH WHITE SKIP
(12.5' SEG., 37.5' GAP)

WB 98+00WB 99+00WB 100+00WB 101+00WB 102+00WB 103+00

PAVEMENT MARKING
WORDS EPOXY

ONLY

ONLY

OEB 98+00EB 99+00EB 100+00EB 101+00EB 102+00EB 103+

WATERTOWN PLANK RD.

WATERTOWN PLANK RD.

4-INCH WHITE SKIP
(12.5' SEG., 37.5' GAP)

WIS 100 / N. MAYFAIR RD.

8-INCH WHITE

ONLY

MATCH LINE

MATCH LINE

MATCH LINE A-A

MATCH LINE A-A

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

REMOVE TRAFFIC CONTROL DEVICES, SIGNS, AND TEMPORARY PAVEMENT MARKINGS PLACED IN STAGES 1A AND 1B.

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE EPOXY. PLACE IN LOCATION OF FINAL MARKINGS.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - WINTER SHUTDOWN	SHEET 89	E

2

STA.103+00EB

4-INCH WHITE SKIP
(12.5' SEG., 37.5' GAP)

UNDERWOOD PRKWY.

N

RIGHT TURN LANE

AUXILIARY LANE

WB 104+00WB 105+00WB 106+00WB 107+00WB 108+00WB 109+00WB

MH

00EB 104+00EB 105+00EB 106+00EB 107+00EB 108+00EB 109+00EB

WATERTOWN PLANK RD.

MATCH LINE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

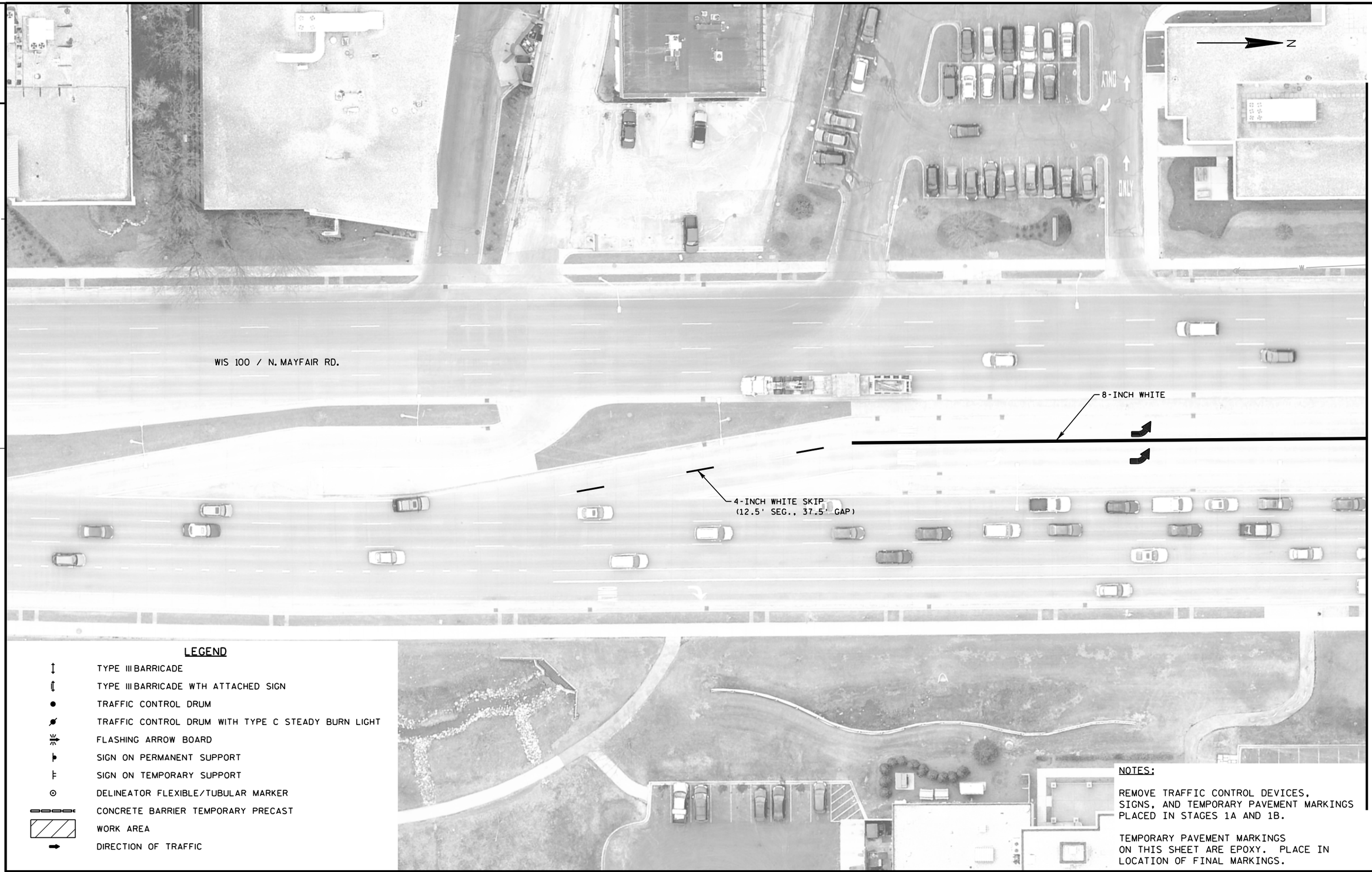
NOTES:

REMOVE TRAFFIC CONTROL DEVICES, SIGNS, AND TEMPORARY PAVEMENT MARKINGS PLACED IN STAGES 1A AND 1B.

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE EPOXY. PLACE IN LOCATION OF FINAL MARKINGS.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - WINTER SHUTDOWN	SHEET 90	E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

REMOVE TRAFFIC CONTROL DEVICES, SIGNS, AND TEMPORARY PAVEMENT MARKINGS PLACED IN STAGES 1A AND 1B.

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE EPOXY. PLACE IN LOCATION OF FINAL MARKINGS.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - WINTER SHUTDOWN	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_025608_tc_Winter Shutdown.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

2

N. 116TH ST.

N

DRIVEWAY ACCESS
RIGHT IN AND
RIGHT OUT

RIGHT TURN ONLY
R3-53R
24" X 30"

ROAD CLOSED
R11-2
48" X 30"

PAINT → TAPE

60'

+62WB

+22WB

4-INCH WHITE
(3' LINE, 9' SKIP)

77+00WB

78+00WB

79+00

11'

11'

4-INCH YELLOW

12.5'
TYP.

12.5'
TYP.

+76WB

73+00WB

74+00WB

75+00WB

76+00WB

SEE "TRAFFIC CONTROL - WEST OF N. 115TH ST. (STAGE 1A/1B/2A/2B)"

73+00EB

74+00EB

75+00EB

76+00EB

77+00EB

78+00EB

79+

STA. 79+00EB

WATERTOWN PLANK RD.

4-INCH WHITE

+36EB

14:1
SHIFTING
TAPER

EXISTING BUS STOP
TO REMAIN ACTIVE

LANE CLOSED
R11-2L
48" X 30"

FULL DRIVEWAY
ACCESS

W01-4R

RIGHT TURN ONLY
R3-53R
24" X 30"

RIGHT TURN ONLY
R3-53R
24" X 30"

W06-3

MATCH LINE

DRIVEWAY ACCESS
RIGHT IN AND
RIGHT OUT

N. 115TH ST.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTE:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE PAINT UNLESS NOTED OTHERWISE

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 2A	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_025401_tc_2A.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

2

2

STA. 79+00EB

STA. 85+00EB

N

ROAD WORK AHEAD
W20-1A

N. 113TH ST.

END ROAD WORK
G20-2A
48" X 24"

EXISTING BUS STOP RELOCATED TO MEDIAN AT EAST SIDE OF WATERTOWN PLANK ROAD AND 113TH STREET.

SIDEWALK CLOSED USE OTHER SIDE
R9-10
24" X 12"

LANE CLOSED
R11-2L
48" X 30"

W01-4R

W06-3

ROAD CLOSED
R11-2
48" X 30"

EXISTING CROSSWALK TO REMAIN OPEN AT ALL TIMES

80+00WB

81+00WB

82+00WB

83+00WB

84+00WB

85+

LANE CLOSED
R11-2L
48" X 30"

BRIDGE OUT
R11-2B
48" X 30"

TEMPORARY BUS STOP LOCATION FOR STAGE 2A

4-INCH WHITE

TAPE | PAINT

4-INCH WHITE

80+00EB

81+00EB

82+00EB

WATERTOWN PLANK RD.

83+00EB

84+00EB

85+

11'

11'

11'

18-INCH WHITE STOP LINE

+20EB

+20EB

+90EB

4-INCH YELLOW

4-INCH WHITE

4-INCH YELLOW

DRIVEWAY ACCESS RIGHT IN AND RIGHT OUT

EXISTING BUS STOP TO REMAIN ACTIVE

DRIVEWAY ACCESS LEFT AND RIGHT OUT

W01-7
48" X 24"

EXISTING CROSSWALK TO REMAIN OPEN AT ALL TIMES

W06-3

MATCH LINE

MATCH LINE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

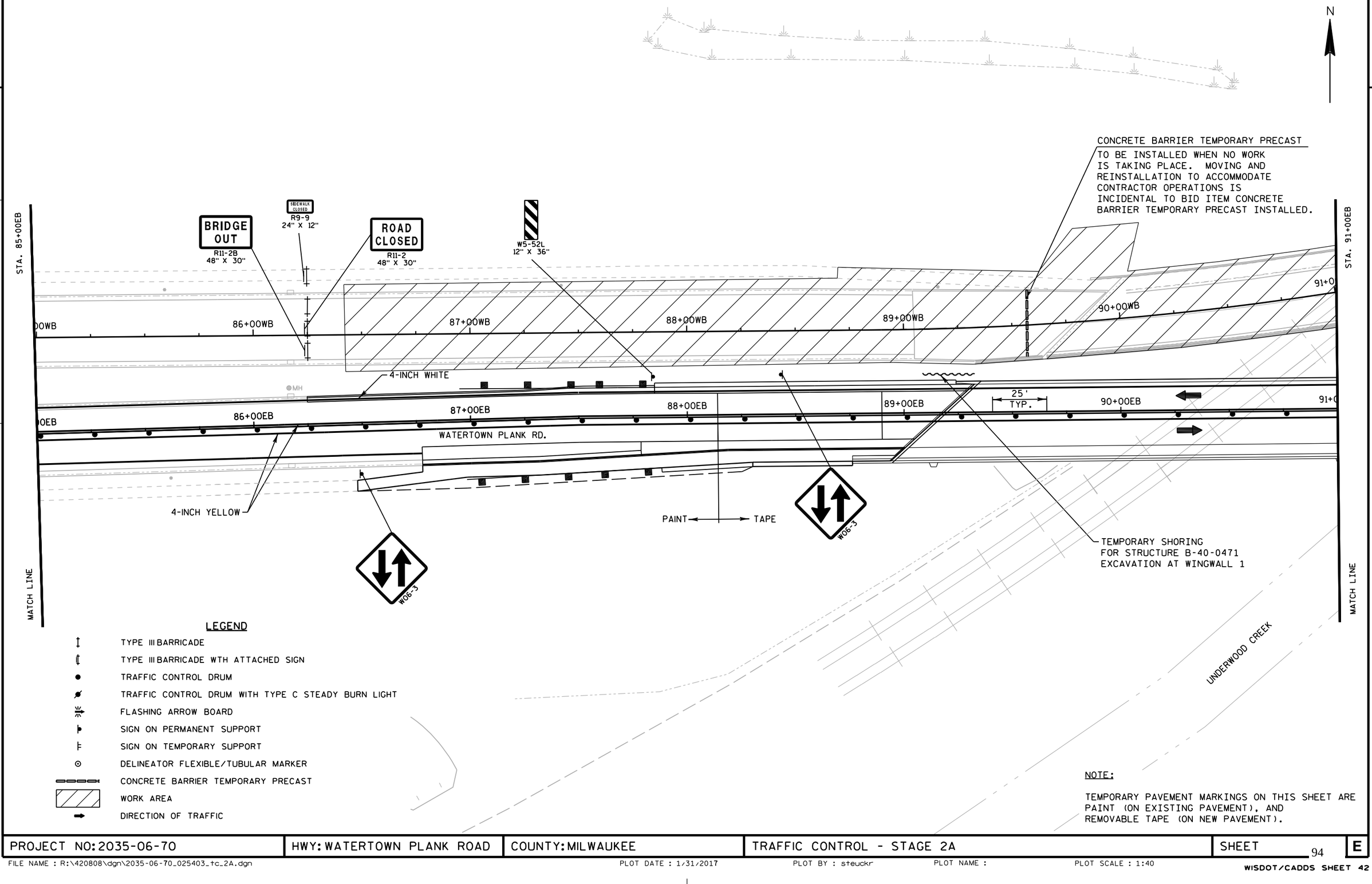
TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE PAINT UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL AND SIGNS SHOWN IN BLACK ARE PROPOSED TRAFFIC CONTROL PLACED IN THIS STAGE.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 2A	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_025402_tc_2A.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTE:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE PAINT (ON EXISTING PAVEMENT), AND REMOVABLE TAPE (ON NEW PAVEMENT).

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 2A	SHEET 94	E

2

N

UNDERWOOD CREEK

OAK LEAF TRAIL

CONCRETE BARRIER TEMPORARY PRECAST
TO BE INSTALLED WHEN NO WORK IS TAKING PLACE. MOVING AND REINSTALLATION TO ACCOMMODATE CONTRACTOR OPERATIONS IS INCIDENTAL TO BID ITEM CONCRETE TEMPORARY PRECAST.

SIDEWALK CLOSED
R9-9
24" X 12"

BRIDGE OUT
R11-2B
48" X 30"

ROAD CLOSED
R11-2
48" X 30"

STOP
R1-1
36" X 36"

FULL DRIVEWAY ACCESS

STA. 91+00EB

STA. 97+00EB

92+00WB

93+00WB

94+00WB

95+00WB

96+00WB

97+00

7:1 SHIFTING TAPER

4-INCH WHITE

12.5' TYP.

15'

+40EB

+94EB

+17EB

6:1

W5-52R
12" X 36"

ATTACH TEMPORARY BARRIER WALL TO RETAINING WALL (SEE SDD CONCRETE BARRIER TEMPORARY PRECAST, 12'-6")

4-INCH WHITE

4-INCH YELLOW

25' TYP.

92+00EB

93+00EB

94+00EB

95+00EB

96+00EB

97+0

+46EB

+38EB

11'

11'

WATERTOWN PLANK RD.

WO1-6
48" X 24"

LANE CLOSED
R11-2L
48" X 30"

W06-3

DRIVEWAY ACCESS
RIGHT IN AND
RIGHT OUT

RIGHT TURN ONLY
R3-53R
24" X 30"

MATCH LINE

MATCH LINE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTE:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE REMOVABLE TAPE.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 2A	SHEET 95	E

2

STA. 97+00EB

W01-4L

25 M.P.H.
W013-1
24" X 24"

SIDEWALK CLOSED AHEAD
CROSS HERE
R9-11
24" X 12"

LANE CLOSED
R11-2L
48" X 30"

TEMPORARY BUS STOP
LOCATION FOR STAGE 2A
(SEE CONSTRUCTION DETAIL)

LANE CLOSED
R11-2L
48" X 30"

4-INCH WHITE

TYP.

15'

62'

4-INCH YELLOW

7:1 SHIFTING TAPER

R3-2
36" X 36"

WIS 100 / N. MAYFAIR RD.

SEE "TRAFFIC CONTROL - WIS 100 (STAGE 1A/1B/2A/2B)"

N

MATCH LINE

WB

98+00WB

99+00WB

100+00WB

101+00WB

102+00WB

103+00

SEE "TRAFFIC CONTROL - EAST OF WIS 100 (STAGE 1A/1B/2A/2B)"

OEB

98+00EB

99+00EB

100+00EB

101+00EB

102+00EB

103+

WATERTOWN PLANK RD.

WATERTOWN PLANK RD.

MH

WIS 100 / N. MAYFAIR RD.

SEE "TRAFFIC CONTROL - WIS 100 (STAGE 1A/1B/2A/2B)"

ONLY

MATCH LINE

NOTE:

TEMPORARY PAVEMENT MARKINGS ON THIS SHEET ARE REMOVABLE TAPE.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 2A	SHEET 96	E

2

N

N. 116TH ST.

RIGHT TURN ONLY
R3-53R
24" x 30"

DRIVEWAY ACCESS
RIGHT IN AND
RIGHT OUT

73+00WB | 74+00WB | 75+00WB | 76+00WB | 77+00WB | 78+00WB | 79+00

SEE "TRAFFIC CONTROL - WEST OF N. 115TH ST. (STAGE 1A/1B/2A/2B)"

73+00EB | 74+00EB | 75+00EB | 76+00EB | 77+00EB | 78+00EB | 79+

STA. 79+00EB

WATERTOWN PLANK RD.

LANE CLOSED
R11-2L
48" X 30"

FULL DRIVEWAY ACCESS

DRIVEWAY ACCESS
RIGHT IN AND
RIGHT OUT

RIGHT TURN ONLY
R3-53R
24" X 30"

DRIVEWAY ACCESS
RIGHT IN AND
RIGHT OUT

MATCH LINE

N. 115TH ST.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

TRAFFIC CONTROL AND SIGNS SHOWN IN GRAY ARE EXISTING TRAFFIC CONTROL.

BUS STOPS WITHIN FULL CLOSURE TO BE CLOSED DURING TEMPORARY OVERNIGHT CLOSURE.

CONFLICTING TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. CONFLICTING SIGNS WILL BE COVERED USING THE STANDARD BID ITEM (TRAFFIC CONTROL COVERING SIGNS)

TRAFFIC CONTROL AND SIGNS SHOWN IN BLACK ARE PROPOSED TRAFFIC CONTROL FOR TEMPORARY OVERNIGHT CLOSURES.

SEE DETOUR PLAN FOR ADDITIONAL SIGNING.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - TEMPORARY OVERNIGHT CLOSURES (STAGE 1B)	SHEET 97	E

2

STA. 79+00EB

STA. 85+00EB

N. 113TH ST.

R3-2
24" X 24"

LANE CLOSED
R11-2L
48" X 30"

END ROAD WORK
G20-2A
48" X 24"

ROAD WORK AHEAD
W20-1

W06-3

RIGHT TURN ONLY
R3-53R
24" X 30"

W01-6
48" X 24"

ROAD CLOSED
R11-2
48" X 30"

SIDEWALK CLOSED
R9-9
24" X 12"

W01-6
48" X 24"

80+00WB | 81+00WB | 82+00WB | 83+00WB | 84+00WB | 85+

W01-7
48" X 24"

TEMPORARY BUS STOP LOCATION FOR STAGE 1B

80+00EB | 81+00EB | 82+00EB | 83+00EB | 84+00EB | 85+

R3-4
24" X 24"

BRIDGE OUT
R11-2B
48" X 30"

WATERTOWN PLANK RD.

ROAD CLOSED
R11-2
48" X 30"

ROAD CLOSED
R11-2
48" X 30"

EXISTING BUS STOP RELOCATED TO MEDIAN AT EAST SIDE OF WATERTOWN PLANK ROAD AND 113TH STREET.

LEFT TURN ONLY
R3-53L
24" X 30"

SIDEWALK CLOSED
R9-9
24" X 12"

DRIVEWAY ACCESS RIGHT IN

DRIVEWAY ACCESS LEFT OUT

MATCH LINE

MATCH LINE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

TRAFFIC CONTROL AND SIGNS SHOWN IN GRAY ARE EXISTING TRAFFIC CONTROL.

BUS STOPS WITHIN FULL CLOSURE TO BE CLOSED DURING TEMPORARY OVERNIGHT CLOSURE.

CONFLICTING TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. CONFLICTING SIGNS WILL BE COVERED USING THE STANDARD BID ITEM (TRAFFIC CONTROL COVERING SIGNS)

TRAFFIC CONTROL AND SIGNS SHOWN IN BLACK ARE PROPOSED TRAFFIC CONTROL FOR TEMPORARY OVERNIGHT CLOSURES.

SEE DETOUR PLAN FOR ADDITIONAL SIGNING.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - TEMPORARY OVERNIGHT CLOSURES (STAGE 1B)	SHEET 98	E

2

N

N. 116TH ST.

ONE WAY

ONE WAY

73+00WB

74+00WB

75+00WB

76+00WB

77+00WB

78+00WB

79+00

SEE "TRAFFIC CONTROL - WEST OF N. 115TH ST. (STAGE 1A/1B/2A/2B)"

73+00EB

74+00EB

75+00EB

76+00EB

77+00EB

78+00EB

79+0

STA. 79+00EB

RIGHT TURN ONLY

DRIVEWAY ACCESS
RIGHT IN AND
RIGHT OUT

ROAD CLOSED

WATERTOWN PLANK RD.

EXISTING BUS STOP
TO REMAIN ACTIVE

LANE CLOSED
R11-2
18" X 30"

FULL DRIVEWAY
ACCESS

DRIVEWAY ACCESS
RIGHT IN AND
RIGHT OUT

RIGHT TURN ONLY
R3-53R
24" X 30"

DRIVEWAY ACCESS
RIGHT IN AND
RIGHT OUT

N. 115TH ST.

MATCH LINE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

TRAFFIC CONTROL AND SIGNS SHOWN IN GRAY ARE EXISTING TRAFFIC CONTROL.

BUS STOPS WITHIN FULL CLOSURE TO BE CLOSED DURING TEMPORARY OVERNIGHT CLOSURE.

CONFLICTING TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. CONFLICTING SIGNS WILL BE COVERED USING THE STANDARD BID ITEM (TRAFFIC CONTROL COVERING SIGNS)

TRAFFIC CONTROL AND SIGNS SHOWN IN BLACK ARE PROPOSED TRAFFIC CONTROL FOR TEMPORARY OVERNIGHT CLOSURES.

SEE DETOUR PLAN FOR ADDITIONAL SIGNING.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - TEMPORARY OVERNIGHT CLOSURES (STAGE 2A)	SHEET 99	E

2

STA. 79+00EB

STA. 85+00EB

N

N. 113TH ST.

WATERTOWN PLANK RD.

ROAD WORK AHEAD
W20-1

R3-2
24" X 24"

END ROAD WORK
G20-2A
48" X 24"

LANE CLOSED
R11-2(MOD)
48" X 30"

RIGHT TURN ONLY
R3-53R
24" X 30"

BRIDGE OUT
R11-2B
48" X 30"

SIDEWALK CLOSED
R9-9
24" X 12"

LANE CLOSED
R11-2L
48" X 30"

W01-4R

W01-6

ROAD CLOSED
R11-2
48" X 30"

80+00WB

81+00WB

82+00WB

83+00WB

84+00WB

80+00EB

81+00EB

82+00EB

83+00EB

84+00EB

LANE CLOSED
R11-2(MOD)
48" X 30"

W01-6
48" X 24"

ROAD CLOSED
R11-2
48" X 30"

W01-7
48" X 24"

SIDEWALK CLOSED
R9-9
24" X 12"

DRIVEWAY ACCESS
RIGHT IN

EXISTING BUS STOP
TO REMAIN ACTIVE

DRIVEWAY ACCESS
LEFT OUT

LEFT TURN ONLY
R3-53L
24" X 30"

MATCH LINE

MATCH LINE

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

TRAFFIC CONTROL AND SIGNS SHOWN IN GRAY ARE EXISTING TRAFFIC CONTROL.

BUS STOPS WITHIN FULL CLOSURE TO BE CLOSED DURING TEMPORARY OVERNIGHT CLOSURE.

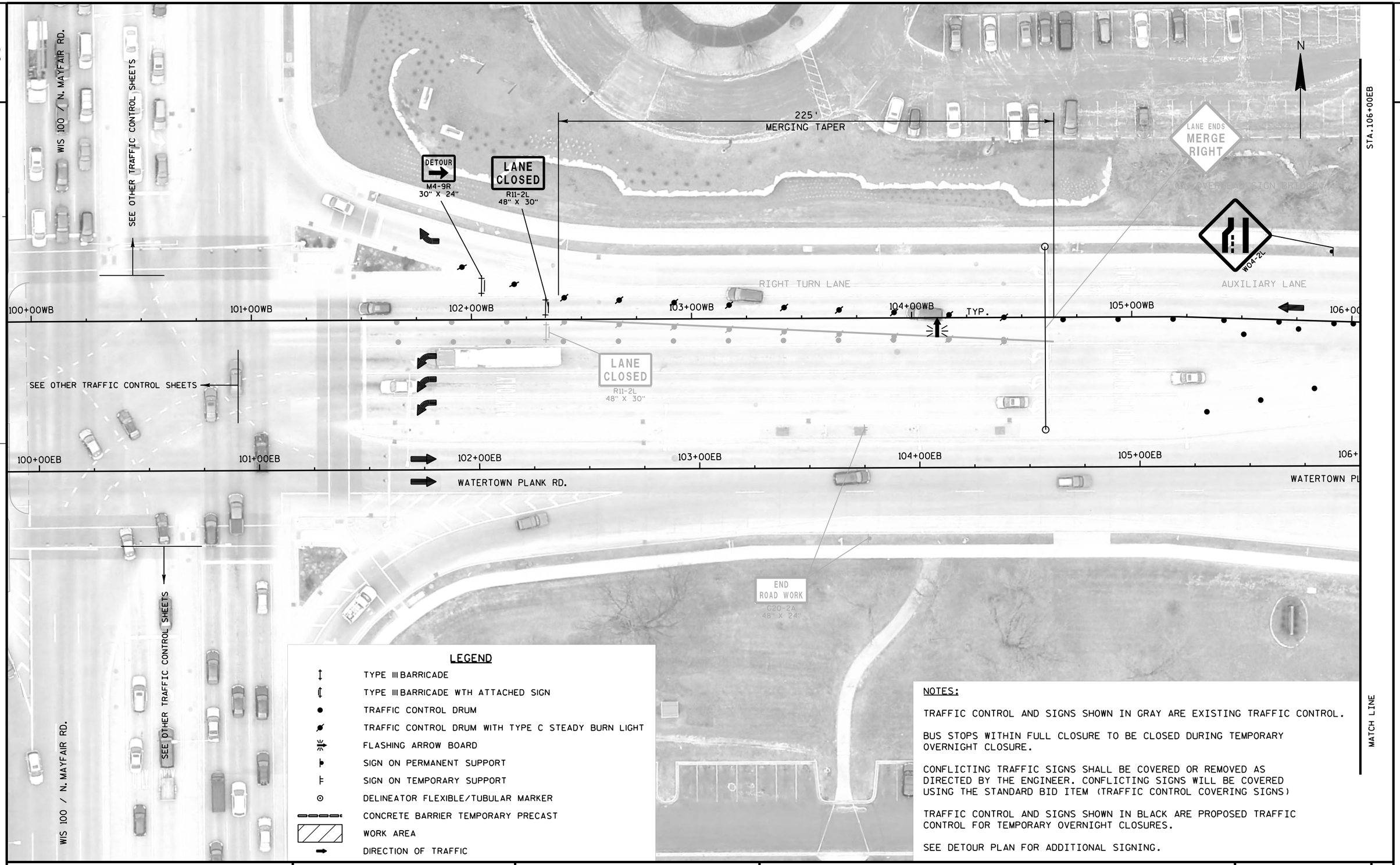
CONFLICTING TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. CONFLICTING SIGNS WILL BE COVERED USING THE STANDARD BID ITEM (TRAFFIC CONTROL COVERING SIGNS)

TRAFFIC CONTROL AND SIGNS SHOWN IN BLACK ARE PROPOSED TRAFFIC CONTROL FOR TEMPORARY OVERNIGHT CLOSURES.

SEE DETOUR PLAN FOR ADDITIONAL SIGNING.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - TEMPORARY OVERNIGHT CLOSURES (STAGE 2A)	SHEET 100	E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

TRAFFIC CONTROL AND SIGNS SHOWN IN GRAY ARE EXISTING TRAFFIC CONTROL.

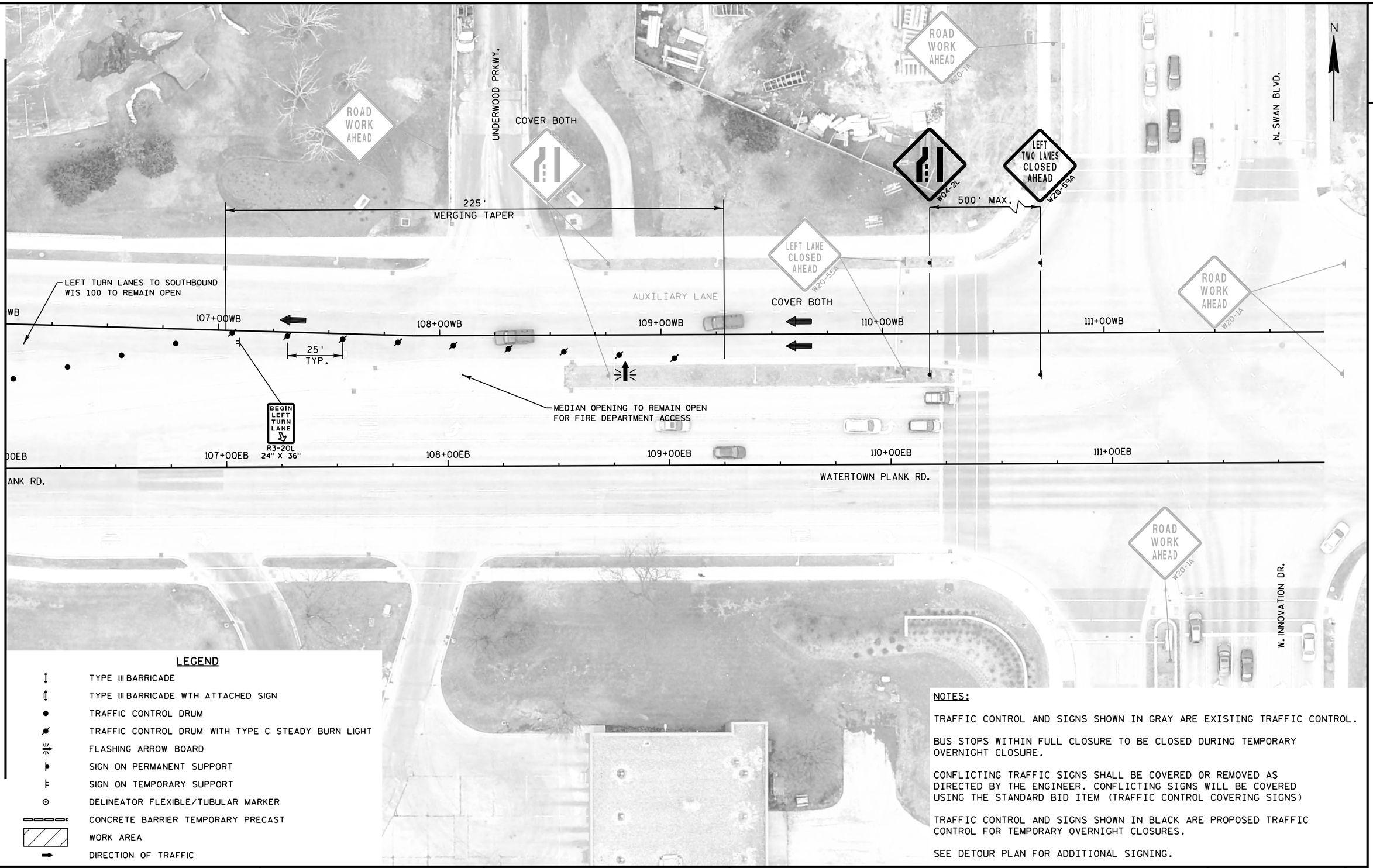
BUS STOPS WITHIN FULL CLOSURE TO BE CLOSED DURING TEMPORARY OVERNIGHT CLOSURE.

CONFLICTING TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. CONFLICTING SIGNS WILL BE COVERED USING THE STANDARD BID ITEM (TRAFFIC CONTROL COVERING SIGNS)

TRAFFIC CONTROL AND SIGNS SHOWN IN BLACK ARE PROPOSED TRAFFIC CONTROL FOR TEMPORARY OVERNIGHT CLOSURES.

SEE DETOUR PLAN FOR ADDITIONAL SIGNING.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - TEMPORARY OVERNIGHT CLOSURES(STAGE 1B/2A)	SHEET 101	E



MATCH LINE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

TRAFFIC CONTROL AND SIGNS SHOWN IN GRAY ARE EXISTING TRAFFIC CONTROL.

BUS STOPS WITHIN FULL CLOSURE TO BE CLOSED DURING TEMPORARY OVERNIGHT CLOSURE.

CONFLICTING TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. CONFLICTING SIGNS WILL BE COVERED USING THE STANDARD BID ITEM (TRAFFIC CONTROL COVERING SIGNS)

TRAFFIC CONTROL AND SIGNS SHOWN IN BLACK ARE PROPOSED TRAFFIC CONTROL FOR TEMPORARY OVERNIGHT CLOSURES.

SEE DETOUR PLAN FOR ADDITIONAL SIGNING.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - TEMPORARY OVERNIGHT CLOSURES(STAGE 1B/2A	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_025505_tc_Night1B2A.dgn
PLOT DATE : 1/31/2017
PLOT BY : debakerb
PLOT NAME :
PLOT SCALE : 1:40
WISDOT/CADDS SHEET 42

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES:

TRAFFIC CONTROL AND SIGNS SHOWN IN GRAY ARE EXISTING TRAFFIC CONTROL.

BUS STOPS WITHIN FULL CLOSURE TO BE CLOSED DURING TEMPORARY OVERNIGHT CLOSURE.

CONFLICTING TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. CONFLICTING SIGNS WILL BE COVERED USING THE STANDARD BID ITEM (TRAFFIC CONTROL COVERING SIGNS)

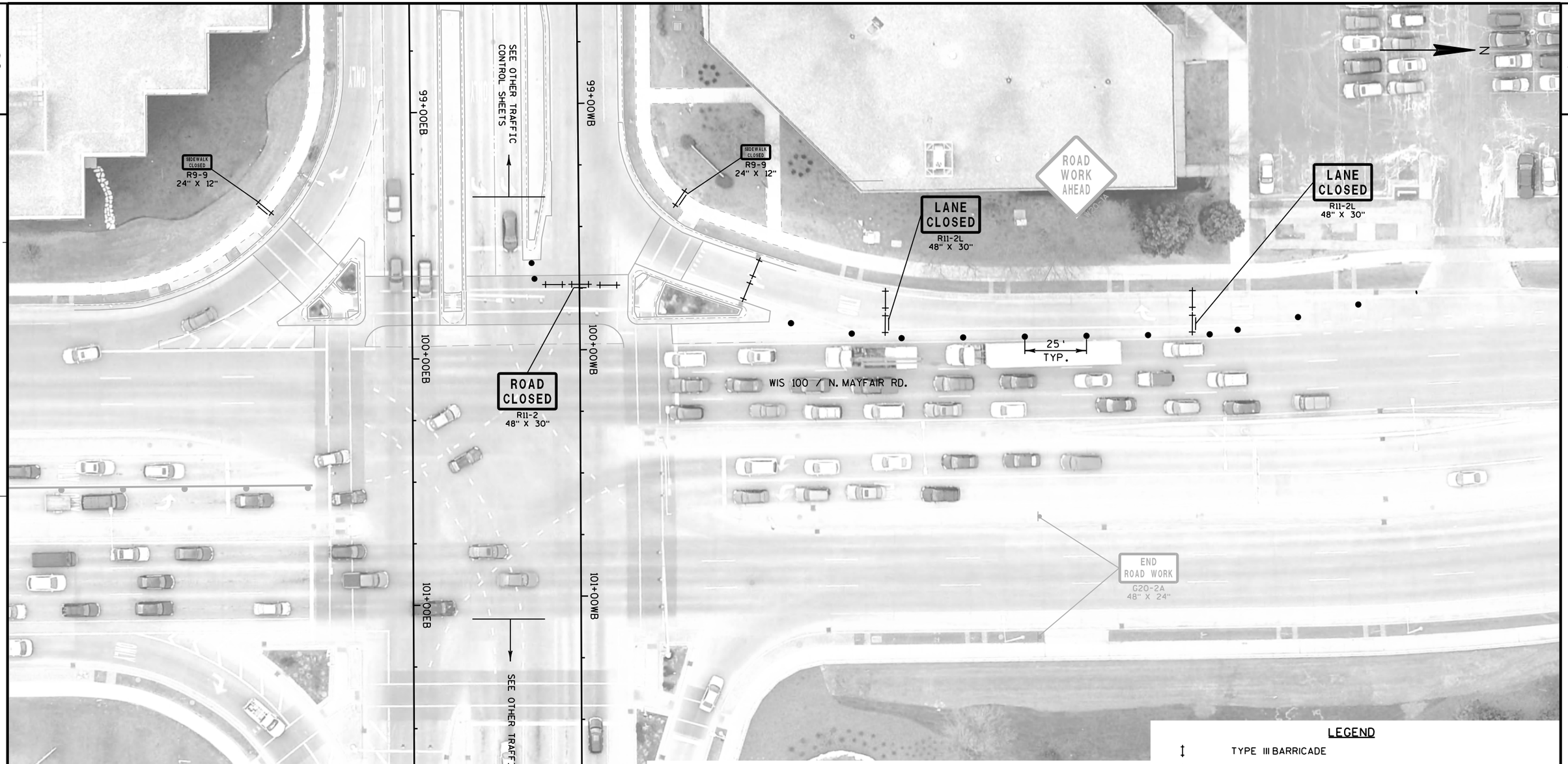
TRAFFIC CONTROL AND SIGNS SHOWN IN BLACK ARE PROPOSED TRAFFIC CONTROL FOR TEMPORARY OVERNIGHT CLOSURES.

SEE DETOUR PLAN FOR ADDITIONAL SIGNING.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - TEMPORARY OVERNIGHT CLOSURES(STAGE 1B/2A)	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_025506_tc_Night1B2A.dgn
PLOT DATE : 1/28/2017
PLOT BY : steuckr
PLOT NAME :
PLOT SCALE : 1:40
WISDOT/CADDS SHEET 42

2



NOTES:

TRAFFIC CONTROL AND SIGNS SHOWN IN GRAY ARE EXISTING TRAFFIC CONTROL.

BUS STOPS WITHIN FULL CLOSURE TO BE CLOSED DURING TEMPORARY OVERNIGHT CLOSURE.

CONFLICTING TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. CONFLICTING SIGNS WILL BE COVERED USING THE STANDARD BID ITEM (TRAFFIC CONTROL COVERING SIGNS)

TRAFFIC CONTROL AND SIGNS SHOWN IN BLACK ARE PROPOSED TRAFFIC CONTROL FOR TEMPORARY OVERNIGHT CLOSURES.

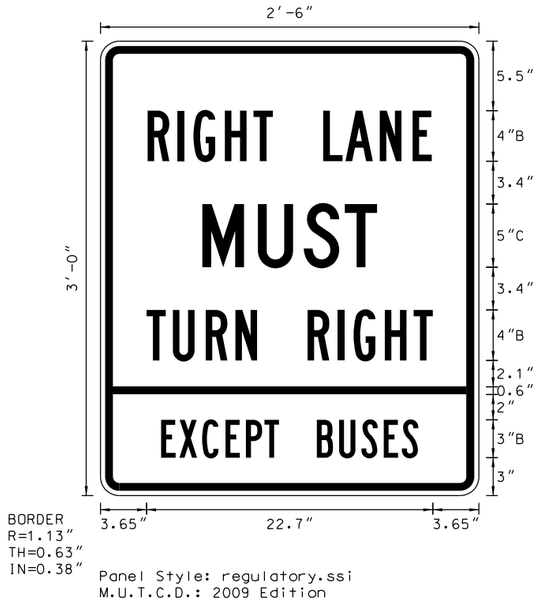
SEE DETOUR PLAN FOR ADDITIONAL SIGNING.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	TRAFFIC CONTROL - TEMPORARY OVERNIGHT CLOSURES(STAGE 1B/2A)	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_025507_tc_Night1B2A.dgn
PLOT DATE : 1/28/2017
PLOT BY : steuckr
PLOT NAME :
PLOT SCALE : 1:40
WISDOT/CADDS SHEET 42



Panel Style: regulatory.ssi
M.U.T.C.D.: 2009 Edition

R3-7R(MOD.)

GENERAL NOTES:

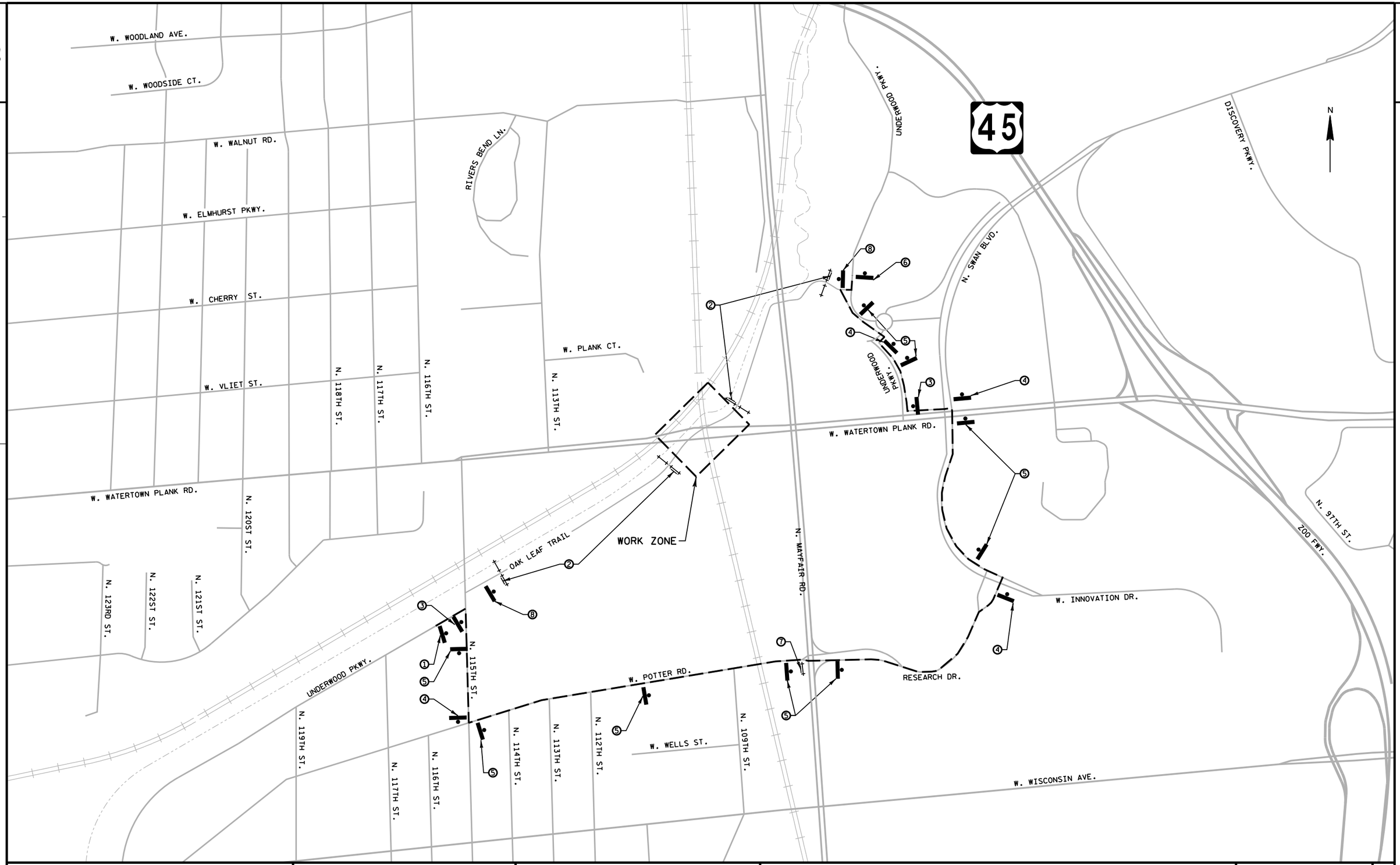
1. USE TYPE H REFLECTIVE SHEETING FOR FIXED MESSAGE SIGN. REFERENCE WISDOT "STANDARD SPECIFICATION FOR HIGHWAY AND STRUCTURE CONSTRUCTION," 'LATEST' EDITION.

2. SIGN MESSAGE SHALL BE BLACK NON-REFLECTIVE MESSAGE ON WHITE REFLECTIVE BACKGROUND.

3. ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS. SERIES "TYPE" PER DETAILS.

4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.

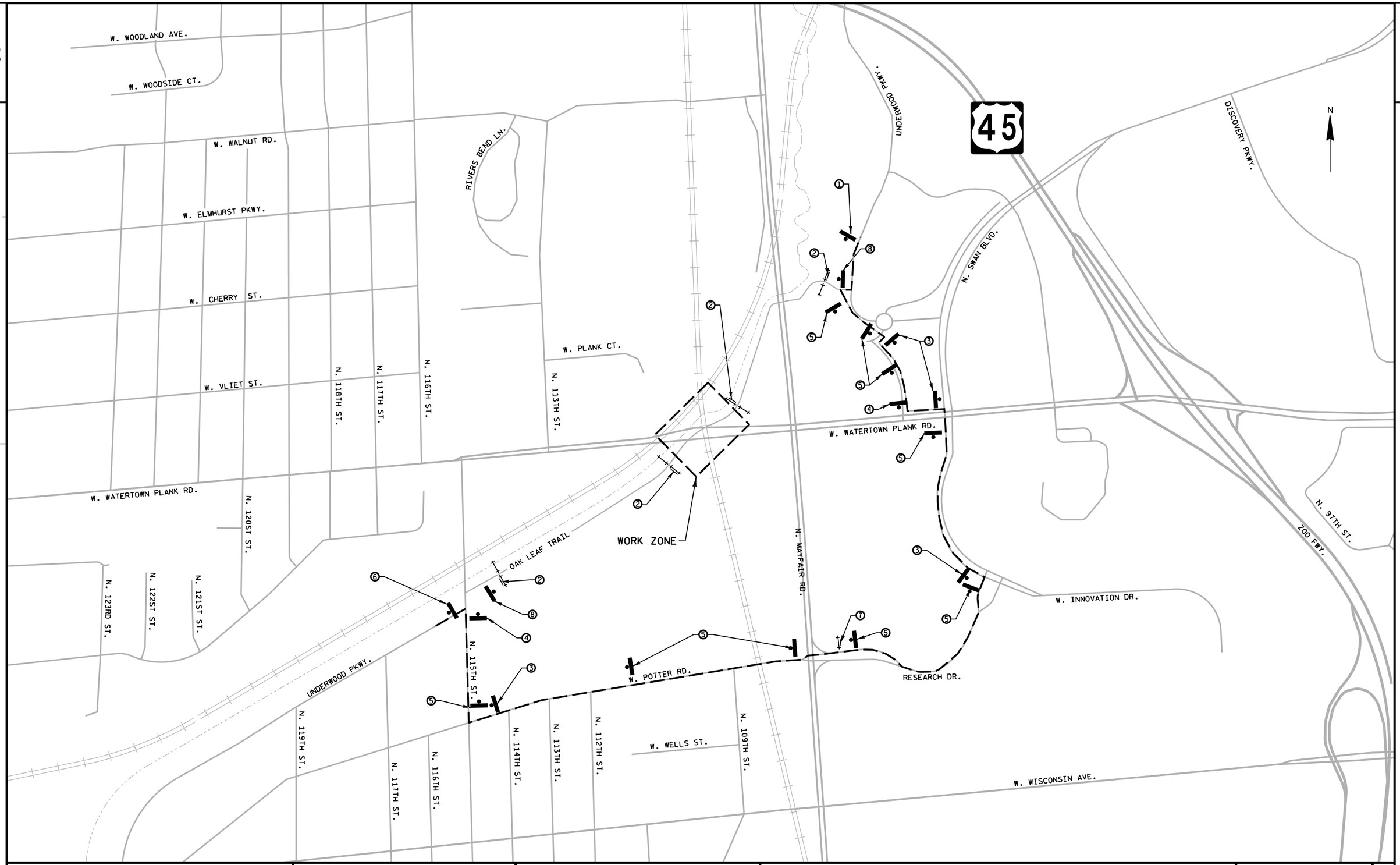
5. SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 643.2.9.3. CORNERS MAY BE SQUARE OR ROUNDED WHEN BASE MATERIAL IS PLYWOOD, BUT BORDERS SHALL BE ROUNDED AS SHOWN. WHEN BASE MATERIAL IS METAL, THE CORNERS AND BORDERS SHALL BE ROUNDED.



PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	DETOUR PLAN - OAK LEAF TRAIL (HEADING NORTHEAST)	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_027001_dt.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:600

WISDOT/CADDS SHEET 42



PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	DETOUR PLAN - OAK LEAF TRAIL (HEADING SOUTHWEST)	SHEET 107	E

FILE NAME : R:\420808\dgn\2035-06-70_027002_dt.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:600

WISDOT/CADDS SHEET 42

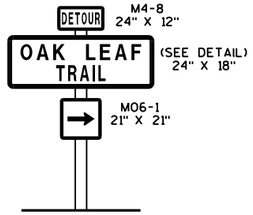
2

①

②

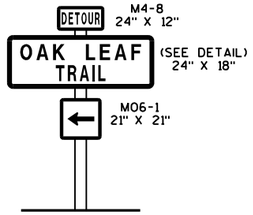
TYPE III BARRICADE WITH
"OAK LEAF TRAIL NO ACCESS"
SIGN (SEE DETAIL)

③



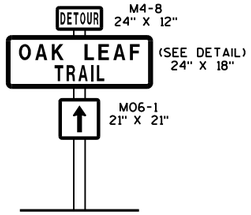
POST MOUNTED

④



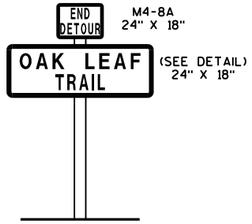
POST MOUNTED

⑤



POST MOUNTED

⑥

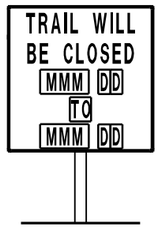


POST MOUNTED

⑦

TYPE II BARRICADE WITH
BICYCLISTS "USE PED SIGNAL"
SIGN (SEE DETAIL)

⑧



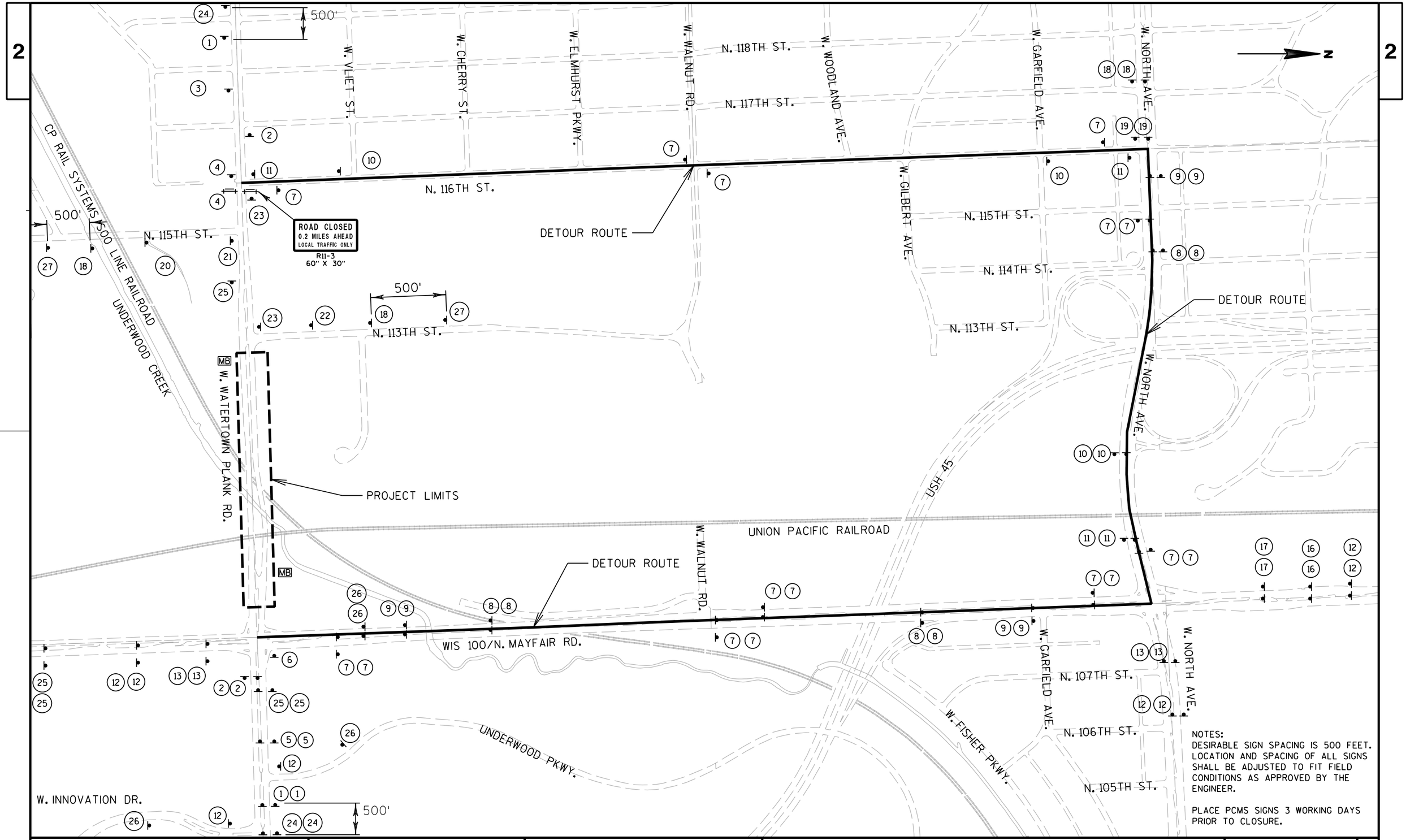
(SEE DETAIL)
48" X 48"

POST MOUNTED
TO BE PLACED 7 CALENDAR DAYS
PRIOR TO CLOSURE

GENERAL NOTES:

1. USE PRISMATIC SHEETING ON ORANGE WORK ZONE TRAFFIC CONTROL SIGNS. USE TYPE H REFLECTIVE SHEETING FROM THE DEPARTMENT'S APPROVED PRODUCTS LIST ON OTHER SIGN TYPES - REFERENCE: "WISDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 'LATEST EDITION'.
2. SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND.
3. SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 637.2.1.2.
4. SIGNS TO BE IN PLACE 7 CALENDAR DAYS PRIOR TO CONSTRUCTION.
5. SIGNS TO BE PAID FOR AS PART OF DETOUR UNDER BID ITEM TRAFFIC CONTROL DETOUR SIGNS.
6. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400' FROM ANY EXISTING TYPE "I" SIGN.
7. SEE FIXED MESSAGE SIGNS AND SPECIAL MESSAGE SIGNS LAYOUT SHEETS FOR MORE INFORMATION.
8. COVER DETOUR SIGNING WHEN NOT IN USE. INCIDENTAL TO TRAFFIC CONTROL DETOUR SIGNS.
9. "MMM" REFERS TO THE MONTH ABBREVIATED AND "DD" REFERS TO THE NUMERICAL DAY OF THE MONTH FOR THE CLOSURE.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	DETOUR PLAN - OAK LEAF TRAIL	SHEET 108	E



NOTES:
DESIRABLE SIGN SPACING IS 500 FEET. LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

PLACE PCMS SIGNS 3 WORKING DAYS PRIOR TO CLOSURE.

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	DETOUR PLAN - TEMPORARY OVERNIGHT CLOSURES WATERTOWN PLANK RD	SHEET 109	E

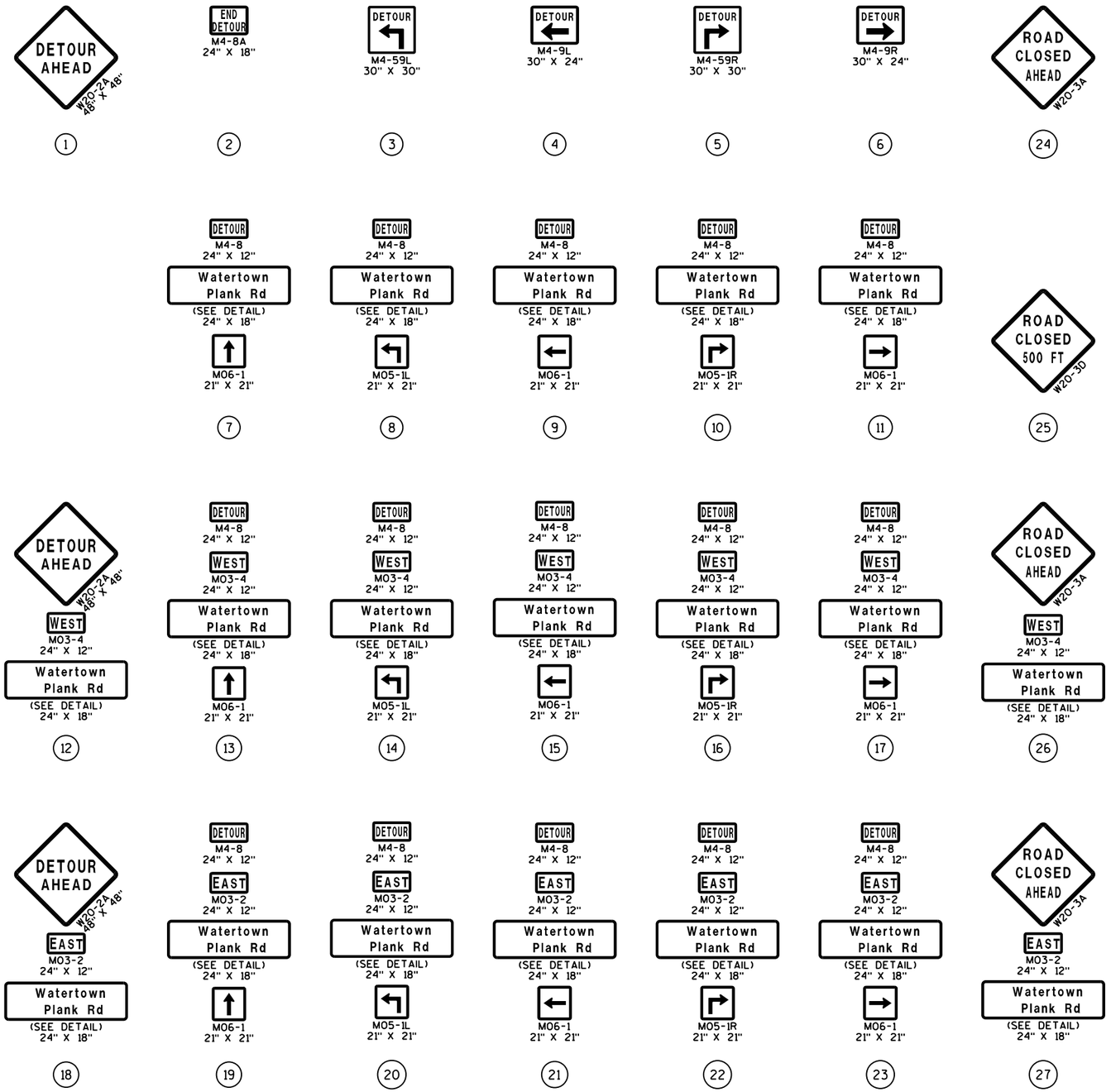
PCMS SIGN MESSAGES

ROADWAY TO CLOSE

PHASE 1

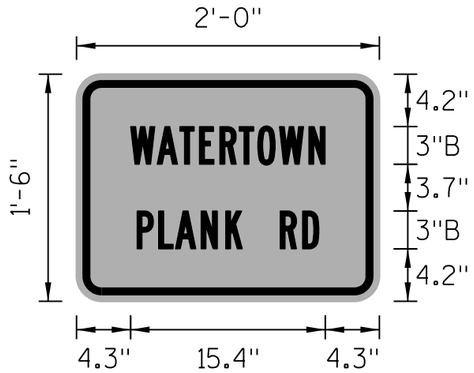
DAY TIME TO TIME

PHASE 2

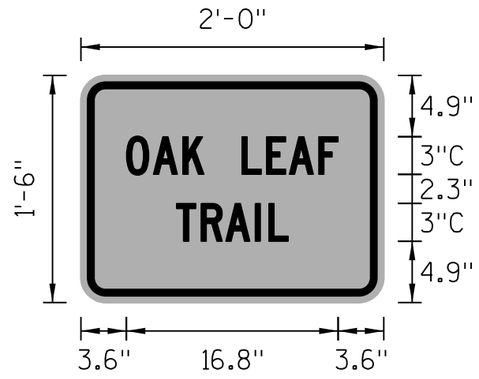


"MO" SIGNS ARE THE SAME AS "M" SIGNS
EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE

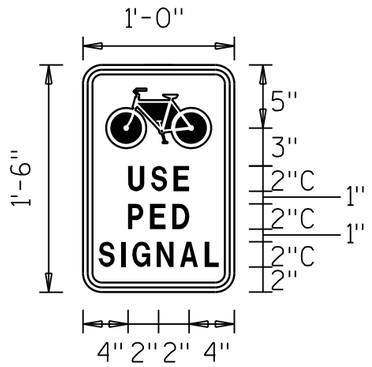
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	DETOUR PLAN - TEMPORARY OVERNIGHT CLOSURES WATERTOWN PLANK RD	SHEET 110	E



1.5" RADIUS, 1" BORDER, BLACK ON ORANGE



1.5" RADIUS, 1" BORDER, BLACK ON ORANGE



1.5" RADIUS, 0.375" BORDER, BLACK ON WHITE

GENERAL NOTES:

1. USE PRISMATIC SHEETING ON ORANGE WORK ZONE TRAFFIC CONTROL SIGNS. USE TYPE H REFLECTIVE SHEETING FROM THE DEPARTMENT'S APPROVED PRODUCTS LIST ON OTHER SIGNS. REFERENCE WISDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," 'LATEST' EDITION.

2. SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND UNLESS OTHERWISE NOTED.

3. ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS. SERIES "TYPE" PER DETAILS.

4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.

5. SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 643.2.9.3.

2.25" RADIUS, 0.5" BORDER, BLACK ON WHITE

1.375" RADIUS, 1" BORDER, BLACK ON ORANGE

GENERAL NOTES:

1. USE PRISMATIC SHEETING ON ORANGE WORK ZONE TRAFFIC CONTROL SIGNS. USE TYPE H REFLECTIVE SHEETING FROM THE DEPARTMENT'S APPROVED PRODUCTS LIST ON OTHER SIGNS. REFERENCE WISDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," 'LATEST' EDITION.

2. SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND UNLESS OTHERWISE NOTED.

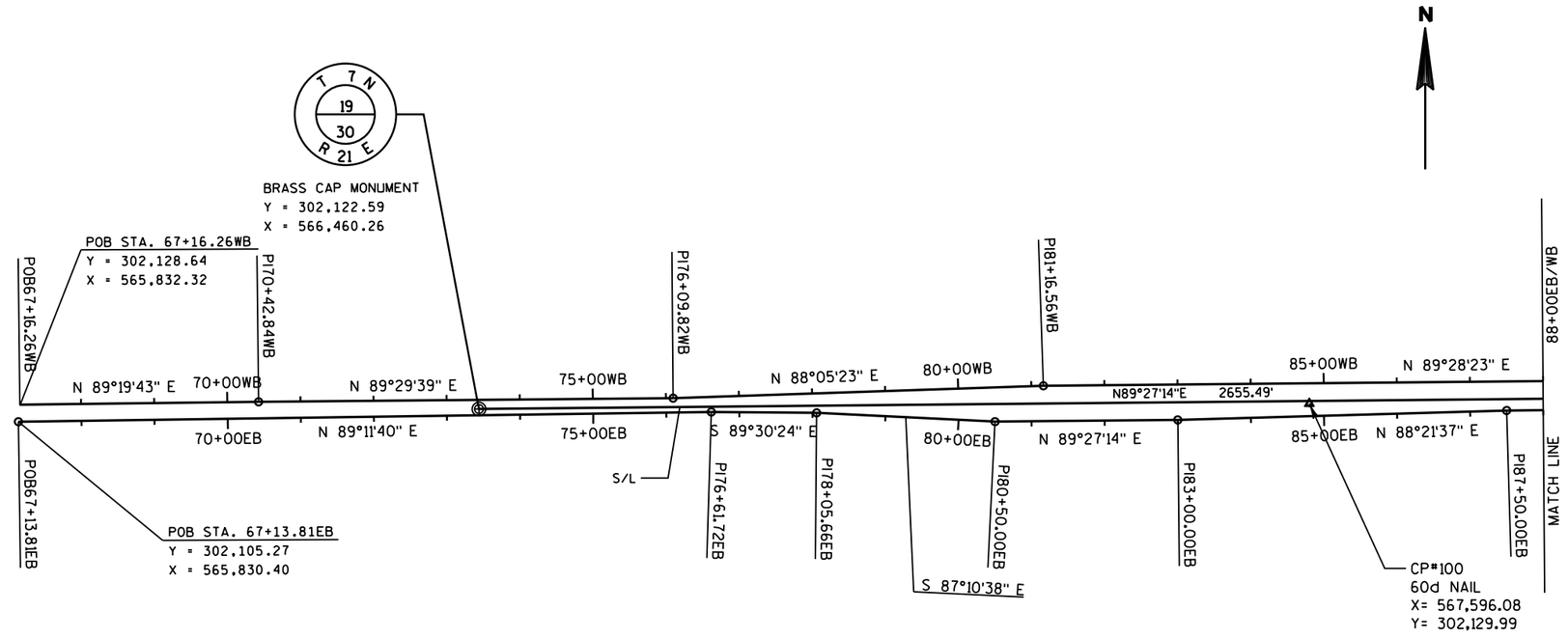
3. ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS. SERIES "TYPE" PER DETAILS.

4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.

5. SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 643.2.9.3.

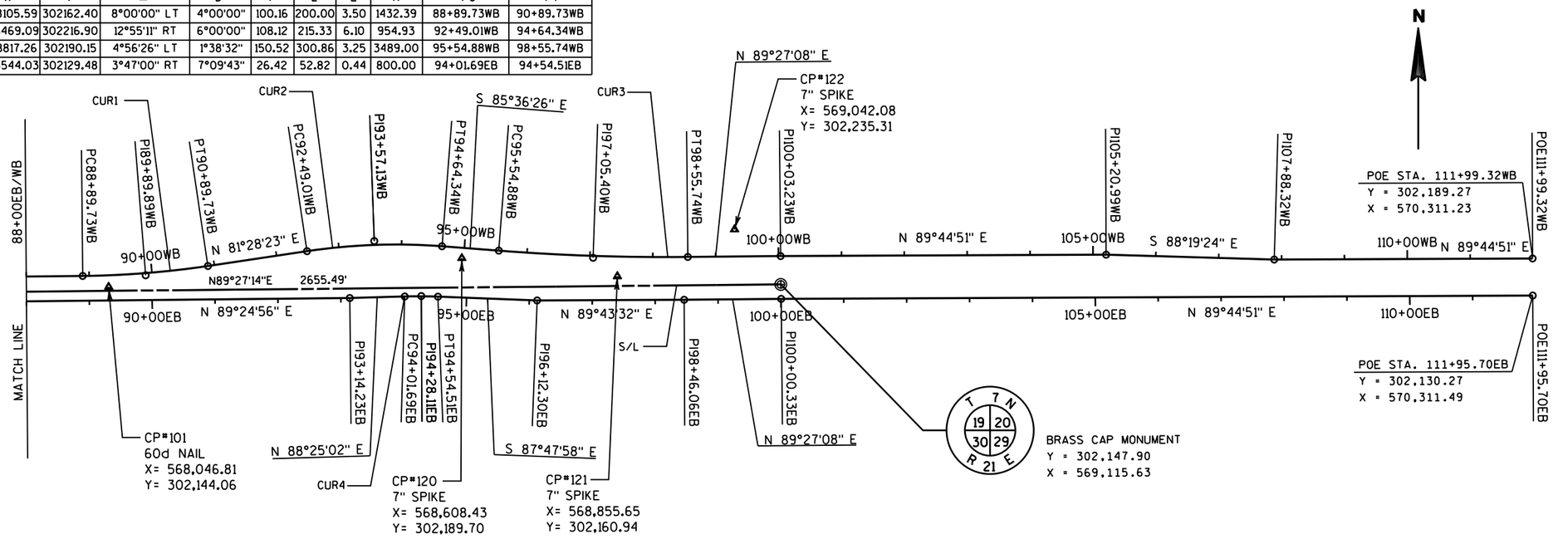
6. SIGN "TRAIL WILL BE CLOSED (DATE TO DATE)" MESSAGE PLAQUES SHALL BE IN ACCORDANCE WITH STANDARD SIGN PLATE R11-51.

7. "MMM" REFERS TO THE MONTH ABBREVIATED AND "DD" REFERS TO THE NUMERICAL DAY OF THE MONTH FOR THE CLOSURE.



CURVE DATA

CURVE NO.	PI	PI COORDINATES		Δ	D	T	L	E	R	PC	PT
		X	Y								
CUR1	89+89.89WB	568105.59	302162.40	8°00'00" LT	4°00'00"	100.16	200.00	3.50	1432.39	88+89.73WB	90+89.73WB
CUR2	93+57.13WB	568469.09	302216.90	12°55'11" RT	6°00'00"	108.12	215.33	6.10	954.93	92+49.01WB	94+64.34WB
CUR3	97+05.40WB	568817.26	302190.15	4°56'26" LT	1°38'32"	150.52	300.86	3.25	3489.00	95+54.88WB	98+55.74WB
CUR4	94+28.11EB	568544.03	302129.48	3°47'00" RT	7°09'43"	26.42	52.82	0.44	800.00	94+01.69EB	94+54.51EB



PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	ALIGNMENT PLAN	SHEET 113	E

Estimate Of Quantities

2035-06-70

Line	Item	Item Description	Unit	Total	Qty
0010	108.4400	CPM Progress Schedule	EACH	1.000	1.000
0020	201.0110	Clearing	SY	6,655.000	6,655.000
0030	201.0120	Clearing	ID	13.000	13.000
0040	201.0210	Grubbing	SY	965.000	965.000
0050	201.0220	Grubbing	ID	13.000	13.000
0060	203.0210.S	Abatement of Asbestos Containing Material (structure) 01. B-40-0470	LS	1.000	1.000
0070	203.0210.S	Abatement of Asbestos Containing Material (structure) 02. B-40-0471	LS	1.000	1.000
0080	203.0225.S	Debris Containment (structure) 01. B-40-0470	LS	1.000	1.000
0090	203.0225.S	Debris Containment (structure) 02. B-40-0471	LS	1.000	1.000
0100	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 91+02 EB	LS	1.000	1.000
0110	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 02. 92+24 WB	LS	1.000	1.000
0120	204.0100	Removing Pavement	SY	1,767.000	1,767.000
0130	204.0110	Removing Asphaltic Surface	SY	47.000	47.000
0140	204.0150	Removing Curb & Gutter	LF	800.000	800.000
0150	204.0155	Removing Concrete Sidewalk	SY	425.000	425.000
0160	204.0165	Removing Guardrail	LF	115.000	115.000
0170	204.0175	Removing Concrete Slope Paving	SY	100.000	100.000
0180	204.0195	Removing Concrete Bases	EACH	6.000	6.000
0190	204.9105.S	Removing (item description) 06. TRAFFIC SIGNALS W WATERTOWN PLANK RD & N 113TH ST	LS	1.000	1.000
0200	205.0100	Excavation Common	CY	3,345.000	3,345.000
0210	206.1000	Excavation for Structures Bridges (structure) 01. B-40-0470	LS	1.000	1.000
0220	206.1000	Excavation for Structures Bridges (structure) 02. B-40-0471	LS	1.000	1.000
0230	206.3000	Excavation for Structures Retaining Walls (structure) 01. R-40-691	LS	1.000	1.000
0240	206.3000	Excavation for Structures Retaining Walls (structure) 02. R-40-692	LS	1.000	1.000
0250	206.3000	Excavation for Structures Retaining Walls (structure) 03. R-40-693	LS	1.000	1.000
0260	208.0100	Borrow	CY	56.000	56.000
0270	210.1500	Backfill Structure Type A	TON	665.000	665.000
0280	213.0100	Finishing Roadway (project) 01. 2035-06-70	EACH	1.000	1.000
0290	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	3,775.000	3,775.000
0300	312.0110	Select Crushed Material	TON	1,455.000	1,455.000
0310	415.0080	Concrete Pavement 8-Inch	SY	665.000	665.000
0320	415.0090	Concrete Pavement 9-Inch	SY	530.000	530.000

2035-06-70

Line	Item	Item Description	Unit	Total	Qty
0330	415.0410	Concrete Pavement Approach Slab	SY	282.000	282.000
0340	416.0610	Drilled Tie Bars	EACH	290.000	290.000
0350	416.0620	Drilled Dowel Bars	EACH	117.000	117.000
0360	455.0605	Tack Coat	GAL	40.000	40.000
0370	465.0125	Asphaltic Surface Temporary	TON	273.000	273.000
0380	502.0100	Concrete Masonry Bridges	CY	1,301.000	1,301.000
0390	502.3100	Expansion Device (structure) 01. B-40-0470	LS	1.000	1.000
0400	502.3100	Expansion Device (structure) 02. B-40-0471	LS	1.000	1.000
0410	502.3200	Protective Surface Treatment	SY	3,405.000	3,405.000
0420	502.3210	Pigmented Surface Sealer	SY	473.000	473.000
0430	502.4205	Adhesive Anchors No. 5 Bar	EACH	866.000	866.000
0440	504.0500	Concrete Masonry Retaining Walls	CY	64.000	64.000
0450	505.0400	Bar Steel Reinforcement HS Structures	LB	2,230.000	2,230.000
0460	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	273,090.000	273,090.000
0470	506.6000	Bearing Assemblies Expansion (structure) 01. B-40-0470	EACH	8.000	8.000
0480	506.6000	Bearing Assemblies Expansion (structure) 02. B-40-0471	EACH	8.000	8.000
0490	506.7050.S	Removing Bearings (structure) 01. B-40-0470	EACH	8.000	8.000
0500	506.7050.S	Removing Bearings (structure) 02. B-40-0471	EACH	8.000	8.000
0510	509.1500	Concrete Surface Repair	SF	200.000	200.000
0520	511.1100	Temporary Shoring	SF	50.000	50.000
0530	513.2050.S	Railing Pipe	LF	16.500	16.500
0540	513.4091	Railing Tubular Screening (structure) 01. B-40-0470	LF	396.000	396.000
0550	513.4091	Railing Tubular Screening (structure) 02. B-40-0471	LF	510.000	510.000
0560	513.4091	Railing Tubular Screening (structure) 03. R-40-691	LF	46.000	46.000
0570	513.4091	Railing Tubular Screening (structure) 04. R-40-693	LF	10.000	10.000
0580	514.0445	Floor Drains Type GC	EACH	6.000	6.000
0590	516.0500	Rubberized Membrane Waterproofing	SY	71.000	71.000
0600	517.0900.S	Preparation and Coating of Top Flanges (structure) 01. B-40-0470	LS	1.000	1.000
0610	517.0900.S	Preparation and Coating of Top Flanges (structure) 02. B-40-0471	LS	1.000	1.000
0620	517.1800.S	Structure Repainting Recycled Abrasive (structure) 01. B-40-0470	LS	1.000	1.000
0630	517.1800.S	Structure Repainting Recycled Abrasive (structure) 02. B-40-0471	LS	1.000	1.000
0640	517.3000.S	Structure Overcoating Cleaning and Priming (structure) 01. B-40-0470	LS	1.000	1.000
0650	517.3000.S	Structure Overcoating Cleaning and Priming (structure) 02. B-40-0471	LS	1.000	1.000

2035-06-70

Line	Item	Item Description	Unit	Total	Qty
0660	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 01. B-40-0470	LS	1.000	1.000
0670	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 02. B-40-0471	LS	1.000	1.000
0680	517.6001.S	Portable Decontamination Facility 01. B-40-0470	EACH	1.000	1.000
0690	517.6001.S	Portable Decontamination Facility 02. B-40-0471	EACH	1.000	1.000
0700	520.2024	Culvert Pipe Temporary 24-Inch	LF	30.000	30.000
0710	601.0331	Concrete Curb & Gutter 31-Inch	LF	575.000	575.000
0720	602.0410	Concrete Sidewalk 5-Inch	SF	3,740.000	3,740.000
0730	603.1132	Concrete Barrier Type S32	LF	27.000	27.000
0740	603.1136	Concrete Barrier Type S36	LF	257.000	257.000
0750	603.1436	Concrete Barrier Type S36C	LF	139.000	139.000
0760	603.3513	Concrete Barrier Transition Type S32 to S36	EACH	1.000	1.000
0770	603.3611	Concrete Barrier Transition Type V32 to S32	EACH	1.000	1.000
0780	603.8000	Concrete Barrier Temporary Precast Delivered	LF	712.000	712.000
0790	603.8125	Concrete Barrier Temporary Precast Installed	LF	712.000	712.000
0800	604.0400	Slope Paving Concrete	SY	195.000	195.000
0810	611.0651	Inlet Covers Type S	EACH	3.000	3.000
0820	611.8115	Adjusting Inlet Covers	EACH	1.000	1.000
0830	611.9710	Salvaged Inlet Covers	EACH	3.000	3.000
0840	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	440.000	440.000
0850	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	5.000	5.000
0860	614.0800	Crash Cushions Permanent	EACH	1.000	1.000
0870	614.2500	MGS Thrie Beam Transition	LF	79.000	79.000
0880	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
0890	616.0700.S	Fence Safety	LF	1,000.000	1,000.000
0900	619.1000	Mobilization	EACH	1.000	1.000
0910	620.0100	Concrete Corrugated Median	SF	230.000	230.000
0920	620.0300	Concrete Median Sloped Nose	SF	66.000	66.000
0930	625.0100	Topsoil	SY	6,100.000	6,100.000
0940	627.0200	Mulching	SY	1,000.000	1,000.000
0950	628.1104	Erosion Bales	EACH	200.000	200.000
0960	628.1504	Silt Fence	LF	3,125.000	3,125.000
0970	628.1520	Silt Fence Maintenance	LF	3,125.000	3,125.000
0980	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0990	628.1910	Mobilizations Emergency Erosion Control	EACH	16.000	16.000
1000	628.2027	Erosion Mat Class II Type C	SY	6,100.000	6,100.000
1010	628.6505	Soil Stabilizer Type A	ACRE	0.500	0.500
1020	628.6510	Soil Stabilizer Type B	ACRE	0.500	0.500
1030	628.7005	Inlet Protection Type A	EACH	3.000	3.000

2035-06-70

Line	Item	Item Description	Unit	Total	Qty
1040	628.7010	Inlet Protection Type B	EACH	13.000	13.000
1050	628.7015	Inlet Protection Type C	EACH	44.000	44.000
1060	628.7020	Inlet Protection Type D	EACH	16.000	16.000
1070	628.7504	Temporary Ditch Checks	LF	75.000	75.000
1080	628.7555	Culvert Pipe Checks	EACH	12.000	12.000
1090	628.7560	Tracking Pads	EACH	8.000	8.000
1100	628.7570	Rock Bags	EACH	245.000	245.000
1110	629.0210	Fertilizer Type B	CWT	3.800	3.800
1120	630.0130	Seeding Mixture No. 30	LB	112.000	112.000
1130	630.0200	Seeding Temporary	LB	50.000	50.000
1140	633.0500	Delineator Reflectors	EACH	9.000	9.000
1150	633.1000	Delineator Brackets	EACH	9.000	9.000
1160	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	7.000	7.000
1170	634.0816	Posts Tubular Steel 2x2-Inch X 16-FT	EACH	2.000	2.000
1180	637.2230	Signs Type II Reflective F	SF	9.000	9.000
1190	638.2102	Moving Signs Type II	EACH	14.000	14.000
1200	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
1210	642.5201	Field Office Type C	EACH	1.000	1.000
1220	643.0100	Traffic Control (project) 01. 2035-06-70	EACH	1.000	1.000
1230	643.0300	Traffic Control Drums	DAY	98,060.000	98,060.000
1240	643.0410	Traffic Control Barricades Type II	DAY	40.000	40.000
1250	643.0420	Traffic Control Barricades Type III	DAY	14,900.000	14,900.000
1260	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	110.000	110.000
1270	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	110.000	110.000
1280	643.0705	Traffic Control Warning Lights Type A	DAY	24,148.000	24,148.000
1290	643.0715	Traffic Control Warning Lights Type C	DAY	23,570.000	23,570.000
1300	643.0800	Traffic Control Arrow Boards	DAY	50.000	50.000
1310	643.0900	Traffic Control Signs	DAY	26,750.000	26,750.000
1320	643.0920	Traffic Control Covering Signs Type II	EACH	40.000	40.000
1330	643.1000	Traffic Control Signs Fixed Message	SF	382.000	382.000
1340	643.1050	Traffic Control Signs PCMS	DAY	160.000	160.000
1350	643.2000	Traffic Control Detour (project) 01. 2035-06-70	EACH	1.000	1.000
1360	643.3000	Traffic Control Detour Signs	DAY	4,840.000	4,840.000
1370	645.0120	Geotextile Type HR	SY	1,550.000	1,550.000
1380	646.0106	Pavement Marking Epoxy 4-Inch	LF	11,630.000	11,630.000
1390	646.0126	Pavement Marking Epoxy 8-Inch	LF	615.000	615.000
1400	646.0600	Removing Pavement Markings	LF	12,885.000	12,885.000
1410	646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF	610.000	610.000
1420	646.0843.S	Pavement Marking Grooved Wet Reflective Contrast	LF	765.000	765.000

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Line	Item	Item Description	Unit	Total	Qty
		Tape 8-Inch			
1430	647.0356	Pavement Marking Words Epoxy	EACH	2.000	2.000
1440	647.0456	Pavement Marking Curb Epoxy	LF	45.000	45.000
1450	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	56.000	56.000
1460	647.0606	Pavement Marking Island Nose Epoxy	EACH	1.000	1.000
1470	647.0766	Pavement Marking Crosswalk Epoxy 6-Inch	LF	200.000	200.000
1480	647.0965	Removing Pavement Markings Words	EACH	2.000	2.000
1490	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	16,258.000	16,258.000
1500	649.0402	Temporary Pavement Marking Paint 4-Inch	LF	9,340.000	9,340.000
1510	649.0801	Temporary Pavement Marking Removable Tape 8-Inch 01. 2035-06-70	LF	1,300.000	1,300.000
1520	649.0802	Temporary Pavement Marking Paint 8-Inch	LF	300.000	300.000
1530	649.1200	Temporary Pavement Marking Stop Line Removable Tape 18-Inch	LF	22.000	22.000
1540	650.4500	Construction Staking Subgrade	LF	637.000	637.000
1550	650.5000	Construction Staking Base	LF	153.000	153.000
1560	650.6500	Construction Staking Structure Layout (structure) 01. B-40-0470	LS	1.000	1.000
1570	650.6500	Construction Staking Structure Layout (structure) 02. B-40-0471	LS	1.000	1.000
1580	650.6500	Construction Staking Structure Layout (structure) 03. R-40-691	LS	1.000	1.000
1590	650.6500	Construction Staking Structure Layout (structure) 04. R-40-692	LS	1.000	1.000
1600	650.6500	Construction Staking Structure Layout (structure) 05. R-40-693	LS	1.000	1.000
1610	650.7000	Construction Staking Concrete Pavement	LF	669.000	669.000
1620	650.7500	Construction Staking Concrete Barrier	LF	448.000	448.000
1630	650.8500	Construction Staking Electrical Installations (project) 01. 2035-06-70	LS	1.000	1.000
1640	650.9910	Construction Staking Supplemental Control (project) 01. 2035-06-70	LS	1.000	1.000
1650	650.9920	Construction Staking Slope Stakes	LF	823.000	823.000
1660	652.0125	Conduit Rigid Metallic 2-Inch	LF	24.000	24.000
1670	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	2,050.000	2,050.000
1680	652.0605	Conduit Special 2-Inch	LF	168.000	168.000
1690	653.0140	Pull Boxes Steel 24x42-Inch	EACH	3.000	3.000
1700	653.0220	Junction Boxes 18x6x6-Inch	EACH	2.000	2.000
1710	653.0222	Junction Boxes 18x12x6-Inch	EACH	2.000	2.000
1720	653.0905	Removing Pull Boxes	EACH	3.000	3.000
1730	654.0105	Concrete Bases Type 5	EACH	5.000	5.000
1740	655.0230	Cable Traffic Signal 5-14 AWG	LF	220.000	220.000

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Line	Item	Item Description	Unit	Total	Qty
1750	655.0610	Electrical Wire Lighting 12 AWG	LF	996.000	996.000
1760	655.0630	Electrical Wire Lighting 4 AWG	LF	7,959.000	7,959.000
1770	655.0900	Traffic Signal EVP Detector Cable	LF	532.000	532.000
1780	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	3.000	3.000
1790	657.0322	Poles Type 5-Aluminum	EACH	8.000	8.000
1800	657.0610	Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	EACH	8.000	8.000
1810	657.1530	Install Monotube Arms 30-FT	EACH	2.000	2.000
1820	657.6005.S	Anchor Assemblies Light Poles on Structures	EACH	4.000	4.000
1830	658.0110	Traffic Signal Face 3-12 Inch Vertical	EACH	4.000	4.000
1840	658.0215	Backplates Signal Face 3 Section 12-Inch	EACH	4.000	4.000
1850	658.0600	Led Modules 12-Inch Red Ball	EACH	4.000	4.000
1860	658.0605	Led Modules 12-Inch Yellow Ball	EACH	4.000	4.000
1870	658.0610	Led Modules 12-Inch Green Ball	EACH	4.000	4.000
1880	658.5069	Signal Mounting Hardware (location) 01. W WATERTOWN PLANK RD & N 113TH ST	LS	1.000	1.000
1890	661.0200	Temporary Traffic Signals for Intersections (location) 01. W WATERTOWN PLANK RD & N 113TH ST	LS	1.000	1.000
1900	690.0250	Sawing Concrete	LF	890.000	890.000
1910	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
1920	715.0502	Incentive Strength Concrete Structures	DOL	8,190.000	8,190.000
1930	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	4,000.000	4,000.000
1940	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	7,200.000	7,200.000
1950	SPV.0060	Special 01. REMOVING SINGLE LIGHTING UNITS & SALVAGING LED LUMINAIRES	EACH	9.000	9.000
1960	SPV.0060	Special 02. REMOVING & SALVAGING TWIN LIGHTING UNITS	EACH	2.000	2.000
1970	SPV.0060	Special 03. REINSTALLING LED LUMINAIRES	EACH	8.000	8.000
1980	SPV.0060	Special 04. REINSTALLING TWIN LIGHTING UNITS	EACH	2.000	2.000
1990	SPV.0060	Special 05. LIGHTING UNIT IDENTIFICATION	EACH	8.000	8.000
2000	SPV.0060	Special 06. TEMPORARY LIGHTING UNITS SINGLE	EACH	3.000	3.000
2010	SPV.0060	Special 07. REMOVING TEMPORARY LIGHTING UNITS	EACH	3.000	3.000
2020	SPV.0090	Special 01. AERIAL CABLE ALUMINUM TRIPLEX 2 AWG	LF	860.000	860.000
2030	SPV.0090	Special 02. REMOVING AERIAL CABLE	LF	860.000	860.000
2040	SPV.0090	Special 03. CONCRETE CURB INTEGRAL SPECIAL	LF	442.000	442.000
2050	SPV.0090	Special 04. CONCRETE CURB & GUTTER TBTT SPECIAL	LF	40.000	40.000
2060	SPV.0090	Special 05. CONCRETE CURB & GUTTER 4-INCH SLOPED SPECIAL	LF	91.000	91.000
2070	SPV.0090	Special 06. CONCRETE CURB & GUTTER SPECIAL	LF	83.000	83.000

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Line	Item	Item Description	Unit	Total	Qty
2080	SPV.0105	Special 01. TEMP NON-INTRUSIVE VEH DETECT SYS FOR INT W WATERTOWN PLANK RD & N 113TH ST	LS	1.000	1.000
2090	SPV.0105	Special 02. TEMPORARY INFRARED EVP SYSTEM W WATERTOWN PLANK RD & N 113TH ST	LS	1.000	1.000
2100	SPV.0105	Special 03. TRANSPORT AND INSTALL CITY OF WAUWATOSA FURNISHED ITERIS VIDEO DETECTION SYS	LS	1.000	1.000
2110	SPV.0105	Special 04. TRANSPORT TRAFFIC SIGNAL AND INTERSECTION LIGHTING MATERIALS	LS	1.000	1.000
2120	SPV.0105	Special 05. EVP DETECTOR HEAD INSTALLATION W WATERTOWN PLANK RD & N 113TH ST	LS	1.000	1.000
2130	SPV.0105	Special 06. TEMPORARY GRADE CROSSING CANADIAN PACIFIC RAILROAD	LS	1.000	1.000
2140	SPV.0105	Special 07. CONSTRUCTION STAKING RIGHT-OF-WAY	LS	1.000	1.000
2150	SPV.0180	Special 01. CLEARING (OUTSIDE RIGHT-OF-WAY)	SY	1,160.000	1,160.000

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CLEARING AND GRUBBING

STATION	-	STATION	OFFSET	LOCATION	(*) (**) 201.0110 CLEARING SY	201.0120 CLEARING ID	201.0210 GRUBBING SY	201.0220 GRUBBING ID	(**) SPV.0180.01 CLEARING (OUTSIDE RIGHT-OF-WAY) SY
86+41EB	-	88+82EB	RT	EB LANES	360	-	360	-	-
88+82EB	-	92+22EB	RT	EB LANES	845	-	-	-	-
89+10EB	-	92+73EB	RT	EB LANES	-	-	-	-	280
92+22EB	-	93+63EB	RT	EB LANES	440	-	440	-	-
93+63EB	-	93+93EB	RT	EB LANES	110	-	-	-	-
94+32EB	-	94+77EB	RT	EB LANES	125	-	-	-	-
87+80EB			LT	MEDIAN	-	4	-	4	-
89+32EB	-	94+65EB	LT	MEDIAN	1900	-	-	-	-
94+85EB			LT	MEDIAN	-	3	-	3	-
95+35EB			LT	MEDIAN	-	3	-	3	-
95+72EB			LT	MEDIAN	-	3	-	3	-
89+73WB	-	90+08WB	LT	WB LANES	90	-	90	-	-
90+08WB	-	94+58WB	LT	WB LANES	680	-	-	-	-
91+08WB	-	95+22WB	LT	WB LANES	-	-	-	-	880
94+58WB	-	95+22WB	LT	WB LANES	75	-	75	-	-
TOTAL					**4625**	**13**	**965**	**13**	**1160**

(*) QUANTITIES LISTED ELSEWHERE

(**) THE DEPARTMENT WILL NOT ALLOW FOR A COST REDUCTION INCENTIVE AS DESCRIBED IN SUBSECTION 104.10 OF THE STANDARD SPECIFICATIONS FOR ANY ELIMINATION AND/OR MODIFICATION OF THE CLEARING (OUTSIDE OF RIGHT-WAY) AND CLEARING BID ITEMS. FURTHER, THE DEPARTMENT WILL NOT APPLY SUBSECTION 109.5 DEPARTMENT OF THE STANDARD SPECIFICATIONS FOR THE TOTAL ELIMINATION OR PARTIAL ELIMINATION, WHETHER BY THE DEPARTMENT OR CONTRACTOR, OF BID ITEMS ASSOCIATED WITH CLEARING (OUTSIDE RIGHT-OF-WAY) AND CLEARING BID ITEMS.

REMOVING GUARDRAIL

STAGE	STATION	STATION	OFFSET	204.0165 REMOVING GUARDRAIL LF
1B	87+54EB	88+68EB	RT	115
TOTAL	**2035-06-70**			**115**

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REMOVING CONCRETE SIDEWALK

STAGE	STATION	STATION	OFFSET	204.0155 REMOVING CONCRETE SIDEWALK SY
1B	86+47EB	89+00EB	RT	165
1B	92+64EB	94+60EB	RT	145
2A	88+70WB	90+04WB	LT	85
2A	94+83WB	95+27WB	WB APPROACH	30
TOTAL		**2035-06-70**		**425**

REMOVING CURB AND GUTTER

STAGE	STATION	-	STATION	LOCATION	OFFSET	204.0150 REMOVING CURB & GUTTER LF
1A	86+48WB	-	89+33WB	RT	RT	190
1A	94+90WB	-	96+40WB	RT	RT	160
1A	94+84EB	-	96+30EB	LT	LT	160
1B	86+25EB	-	88+14EB	LT	LT	290
TOTAL			**2035-06-70**			**800**

REMOVING PAVEMENT

STAGE	STATION	-	STATION	OFFSET	204.0100 REMOVING PAVEMENT SY
1A	96+72EB	-	96+48EB	LT	27
1A	96+35WB	-	96+42WB	RT	10
1B	86+78EB	-	89+35EB	LT/RT	465
1B	92+69EB	-	94+78EB	LT/RT	680
2A	88+70WB		89+98WB	LT/RT	400
2A	94+55WB		95+25WB	LT/RT	185
TOTAL			**2035-06-70**		**1767**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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EARTHWORK

Division	From/To Station	Location	Common Excavation (1) (item # 205.0100)		Salvaged/ Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (13)	Waste	Borrow
			Cut (2)	EBS Excavation (3)				Factor 1.25		(item #208.0100)
1	94+93 to 96+35 WB	Crossover East	353	0	21	332	2	3	353	3
	86+50 to 89+00 EB	Southwest Corner	224	0	113	111	6	8	224	8
	92+84 to 94+75 EB	Southeast Corner	596	0	159	437	3	4	596	4
	88+70 to 89+82 WB	Northwest Corner	164	0	91	73	5	6	164	6
	95+00 to 95+25 WB	Northeast Corner	76	0	20	56	0	0	76	0
	86+25 to 89+24 EB	Median West	191	0	33	158	9	12	191	12
	93+12 to 96+25 EB	Median East	376	0	268	108	18	23	376	23
Grand Total			1980	0	705	1275	43	56	1980	56
		Total Common Exc	1980							

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation is not anticipated.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
13) Expanded Fill = Unexpanded Fill * Fill Factor. Backfill with Borrow material. Cut material may be used at the engineers discretion.

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

AGGREGATE, PAVEMENT AND SIDEWALK ITEMS

STAGE	STATION	STATION	OFFSET	LOCATION	(*) 305.0120 BASE AGG. DENSE 1 1/4 INCH TON	312.0110. SELECT CRUSHED MATERIAL TON	415.0080 CONCRETE PAVEMENT 8-INCH SY	415.0090 CONCRETE PAVEMENT 9-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	455.0605 TACK COAT GAL	(*) 465.0125 ASPHALTIC SURFACE TEMPORARY TON	602.0410 CONCRETE SIDEWALK 5-INCH SF
1A				CROSSOVER	310	440	-	-	-	40	220	-
1B	86+47EB	- 89+33EB	LT/RT	EB APPROACH	255	-	-	300	70	-	-	1450
1B	92+70EB	- 94+79EB	LT/RT	EB DEPARTURE	285	665	516	-	72	-	-	1300
2A	88+70WB	- 90+04WB	LT/RT	WB DEPARTURE	180	-	-	230	70	-	-	750
2A	94+57WB	- 95+27WB	LT/RT	WB APPROACH	80	185	149	-	70	-	-	240
2B	94+78EB	- 96+48EB	LT	MEDIAN	30	70	-	-	-	-	-	-
2B	96+25WB	- 96+43WB	RT	MEDIAN	35	95	-	-	-	-	-	-
	TOTAL	**2035-06-70**			**1175**	**1455**	**665**	**530**	**282**	**40**	**220**	**3740**

(*) QUANTITIES LISTED ELSEWHERE

TEMPORARY BUS STOP PADS

STATION	OFFSET	LOCATION	(*) 205.0100 EXCAVATION COMMON CY	(*) 465.0125 ASPHALTIC SURFACE TEMPORARY TON	204.0110 REMOVING ASPHALTIC SURFACE SY	COMMENTS
83+25WB	RT	113TH ST/WATERTOWN PLAN RD MEDIAN	3	6	35	INSTALL DURING STAGE 1 A. REMOVE DURING STAGE 2B USING REMOVING ASPHALTIC SURFACE.
83+25WB	LT	NE COR. 113TH ST/WATERTOWN PLAN ROAD	1	1	6	INSTALL DURING STAGE 1A WITH TEMPORARY SIGNALS. REMOVE PRIOR TO WINTER SHUTDOWN.
98+75WB	LT	NW COR. HWY100/WATERTOWN PLAN ROAD	1	1	6	INSTALL AT THE BEGINNING OF STAGE 2A. REMOVE AT THE END OF STAGE 2A USING REMOVING ASPHALTIC SURFACE.
TOTAL		**2035-06-70**	**5**	**8**	**47**	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

CONCRETE CURB AND GUTTER

STAGE	STATION	-	STATION	OFFSET	601.0331 CONCRETE CURB & GUTTER 31-INCH LF	SPV.0090.03 CONCRETE CURB INTEGRAL SPECIAL LF	SPV.0090.04 CONCRETE CURB & GUTTER TBTT SPECIAL LF	SPV.0090.05 CONCRETE CURB & GUTTER 4-INCH SLOPED SPECIAL LF	SPV.0090.06 CONCRETE CURB & GUTTER SPECIAL LF
1B	86+77EB	-	87+78EB	RT	-	-	-	91	-
1B	86+25EB	-	87+25EB	LT	105	-	-	-	-
1B	87+78EB	-	89+00EB	RT	-	127	-	-	-
1B	87+25EB	-	87+45EB	LT	-	-	-	-	20
1B	87+45EB	-	87+85EB	LT	-	-	40	-	-
1B	92+70EB	-	94+54EB	RT	-	185	-	-	-
1B	94+54EB	-	94+78EB	RT	24	-	-	-	-
2A	86+48WB	-	88+70WB	RT	222	-	-	-	-
2A	88+70WB	-	89+13WB	LT	43	-	-	-	-
2A	88+70WB		89+33WB	RT	-	-	-	-	63
2A	89+13WB	-	89+98WB	LT	-	85	-	-	-
2A	94+84WB	-	95+25WB	LT	-	45	-	-	-
2B	94+78EB	-	96+37EB	LT	161	-	-	-	-
2B	96+25WB	-	96+43WB	RT	20	-	-	-	-
TOTAL			**2035-06-70**		**575**	**442**	**40**	**91**	**83**

PERMANENT CONCRETE BARRIER

STAGE	STATION		STATION	OFFSET	(*) 210.1500 BACKFILL STRUCTURE TYPE A TON	(*) 516.0500 RUBBERIZED MEMBRANE WATERPROOFING SY	603.1132 CONCRETE BARRIER TYPE S32 LF	603.1136 CONCRETE BARRIER TYPE S36 LF	603.1436 CONCRETE BARRIER TYPE S36C LF	603.3513 CONCRETE BARRIER TRANSITION TYPE S32 TO S36 EACH	603.3611 CONCRETE BARRIER TRANSITION TYPE V32 TO S32 EACH	614.2500 MGS GUARDRAIL THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	633.0500 DELINEATOR REFLECTORS EACH	633.1000 DELINEATOR BRACKETS EACH	DELINEATOR COLOR	MOUNT TYPE
1B	86+98EB	-	87+88EB	RT	-	-	-	-	-	-	-	39.5	1	-	-	-	-
1B	87+88EB		88+30EB	RT	-	-	27	-	-	-	1	-	-	-	-	-	-
1B	86+95EB	-	87+85EB	LT	-	-	-	-	-	-	-	39.5	1	-	-	-	-
1B	87+85EB	-	89+24EB	LT	10	4	-	-	139	-	-	-	-	3	3	YELLOW	CONC. BAR.
2B	93+21EB	-	94+78EB	LT	-	-	-	158	-	-	-	-	-	3	3	YELLOW	CONC. BAR.
2B	94+66WB	-	95+75WB	RT	-	-	-	99	-	1	-	-	-	3	3	YELLOW	CONC. BAR.
	TOTAL		**2035-06-70**		**10**	**4**	**27**	**257**	**139**	**1**	**1**	**79**	**2**	**9**	**9**		

(*) ADDITIONAL QUANTITIES LISTED IN STRUCTURE PLANS

PERMANENT CRASH CUSHION

STAGE	STATION	OFFSET	614.0800 CRASH CUSHIONS PERMANENT EACH	BACK WIDTH FT	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	CRASH CUSHION SHIELDS
2B	95+75WB	RT	1	2	OM-3L (W5-58L SIGN PLATE)	TL-2	UNIDIRECTIONAL	PERMANENT CONCRETE BARRIER IN MEDIAN
TOTAL	**2035-06-70**		**1**					

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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TEMPORARY CONCRETE BARRIER

STAGE USED IN	STATION	-	STATION	OFFSET	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	(*) 205.0100 EXCAVATION COMMON CY	(*) 465.0125 ASPHALTIC SURFACE TEMPORARY TON	REMARKS
1B & WINTER SHUTDOWN	86+52WB	-	89+33WB	RT	281	281	60	30	- INSTALL IN STAGE 1A - ASPHALT FOR CONCRETE BARRIER TEMPORARY PAD (2" MINIMUM THICKNESS)
1B	88+95EB			LT/RT	25	25	-	-	- INSTALL AT BEGINNING OF STAGE 1B - REMOVAL AND REINSTALLATION INCIDENTAL TO BID ITEM CONCRETE BARRIER TEMPORARY PRECAST INSTALLED
1B	93+30EB			LT/RT	25	25	-	-	- INSTALL AT BEGINNING OF STAGE 1B - REMOVAL AND REINSTALLATION INCIDENTAL TO BID ITEM CONCRETE BARRIER TEMPORARY PRECAST INSTALLED
WINTER SHUTDOWN & 2A	93+21EB	-	95+38EB	LT	221	221	-	15	- INSTALL IN STAGE 1B PRIOR TO WINTER SHUTDOWN - ASPHALT FOR CONCRETE BARRIER TEMPORARY PAD (2" MINIMUM THICKNESS)
WINTER SHUTDOWN	94+65WB	-	95+18WB	RT	110	110	-	-	- INSTALL IN STAGE 1B PRIOR TO WINTER SHUTDOWN - ASPHALT FOR CONCRETE BARRIER TEMPORARY PAD (2" MINIMUM THICKNESS)
2A	89+60WB			LT/RT	25	25	-	-	- INSTALL AT BEGINNING OF STAGE 2A - REMOVAL AND REINSTALLATION INCIDENTAL TO BID ITEM CONCRETE BARRIER TEMPORARY PRECAST INSTALLED
2A	94+95WB			LT/RT	25	25	-	-	- INSTALL AT BEGINNING OF STAGE 2A - REMOVAL AND REINSTALLATION INCIDENTAL TO BID ITEM CONCRETE BARRIER TEMPORARY PRECAST INSTALLED
	TOTAL		**2035-06-70**		**712**	**712**	**60**	**45**	

(*) QUANTITIES LISTED ELSEWHERE

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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STORM SEWER STRUCTURES

STATION	OFFSET	611.0651 INLET COVERS TYPE S EACH	611.8115 ADJUSTING INLET COVERS EACH	611.9710 SALVAGED INLET COVERS EACH	REMARKS
95+58WB	RT	-	-	1	STAGE 1A - SALVAGE INLET COVERS AND DELIVER TO CITY OF WAUWATOSA PUBLIC WORKS (INCIDENTAL TO BID ITEM SALVAGE INLET COVERS).
		1	-	-	STAGE 1A - INSTALL INLET COVERS TYPE S
		-	1	-	STAGE 2B - ADJUST INLET COVERS TYPE S TO FINAL LOCATION ALONG BARRIER
95+81EB	LT	-	-	1	STAGE 1A - SALVAGE INLET COVERS (TYPE R)
		1	-	-	STAGE 1A - INSTALL INLET COVERS TYPE S
		-	-	-	STAGE 2B - REMOVE INLET COVERS TYPE S AND REINSTALL SALVAGED INLET COVER (TYPE R). INLET COVERS TYPE S BELONGS TO CONTRACTOR.
96+21EB	LT	-	-	1	STAGE 1A - SALVAGE INLET COVERS (TYPE R)
		1	-	-	STAGE 1A - INSTALL INLET COVERS TYPE S
		-	-	-	STAGE 2B - REMOVE INLET COVERS TYPE S AND REINSTALL SALVAGED INLET COVER (TYPE R). INLET COVERS TYPE S BELONGS TO CONTRACTOR.
TOTAL	**2035-06-70**	**3**	**1**	**3**	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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FENCE SAFETY

PROJECT ID	DESCRIPTION	616.0700.S FENCE SAFETY LF
2035-06-70	WATERTOWN PLANK ROAD	1000
TOTAL		**1000**

MOBILIZATION

PROJECT ID	DESCRIPTION	619.1000 MOBILIZATION EACH
2035-06-70	WATERTOWN PLANK ROAD	1
TOTAL		**1**

3

CONCRETE CORRUGATED MEDIAN

STAGE	STATION	STATION	OFFSET	620.0100 CONCRETE CORRUGATED MEDIAN SF
2B	96+27EB	96+48EB	LT	230
	TOTAL	**2035-06-70**		**230**

CONCRETE MEDIAN SLOPED NOSE

STAGE	STATION	STATION	OFFSET	620.0300 CONCRETE MEDIAN SLOPED NOSE SF
2B	96+35EB		LT	66
	TOTAL	**2035-06-70**		**66**

FIELD OFFICE TYPE C

PROJECT ID	DESCRIPTION	642.5201 FIELD OFFICE TYPE C EACH
2035-06-70	WATERTOWN PLANK ROAD	1
TOTAL		**1**

CPM PROGRESS SCHEDULE

PROJECT ID	DESCRIPTION	108.4400 CPM PROGRESS SCHEDULE EACH
2035-06-70	WATERTOWN PLANK ROAD	1
TOTAL		**1**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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DRILLED TIE BARS AND DOWEL BARS

STAGE	STATION		STATION	OFFSET	LOCATION	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH
1B	86+87EB	-	88+14EB	LT/RT	EB APPROACH	136	27
1B	94+78EB	-	94+78EB	LT/RT	EB DEPARTURE	3	38
2A	88+70WB	-	88+70WB	LT/RT	WB DEPARTURE	3	27
2A	95+25WB	-	95+25WB	LT/RT	WB APPROACH	3	25
2B	94+78EB	-	96+48EB	LT	MEDIAN	145	-
	TOTAL		**2035-06-70**			**290**	**117**

TEMPORARY SHORING

STAGE	LOCATION	511.1100 TEMPORARY SHORING SF
2A	STRUCTURE B-40-0471 WINGWALL 1	50
	TOTAL 2035-06-70	**50**

3

FINISHING ROADWAY

PROJECT I.D.	DESCRIPTION	213.0100 FINISHING ROADWAY 2035-06-70 EACH
2035-06-70	WATERTOWN PLANK ROAD	1
TOTAL		**1**

RAILING PIPE

STAGE	STATION		STATION	OFFSET	513.2050.S RAILING PIPE LF
2A	95+11WB	-	95+24WB	LT	16.5
	TOTAL		**2035-06-70**		**16.5**

SAWCUTS

-

STAGE	STATION		STATION	OFFSET	690.0250 SAWING CONCRETE PAVEMENT LF	REMARKS
1A	86+50WB	-	89+35WB	RT	295	TEMP BARRIER
1A	94+89WB	-	96+43WB	RT	168	TEMP CROSSOVER
1A	94+84EB	-	96+36EB	LT	168	TEMP CROSSOVER
1A	96+27EB	-	96+48EB	LT	67	CONCRETE CORRUGATED MEDIAN
1B	86+78EB	-	88+14EB	LT/RT	360	ROADWAY
1B	86+47EB	-	86+47EB	RT	5	SIDEWALK
1B	94+78EB	-	94+78EB	LT/RT	45	ROADWAY
1B	94+60EB	-	94+60EB	RT	7	SIDEWALK
2A	88+70WB	-	88+70WB	LT/RT	30	ROADWAY
2A	88+70WB	-	88+70WB	LT	5	SIDEWALK
2A	95+25WB	-	95+25WB	LT/RT	29	ROADWAY
2A	95+27WB	-	95+27WB	WB APPROACH	6	SIDEWALK
	TOTAL		**2035-06-70**		**890**	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

3

DETOUR TRAFFIC CONTROL

LOCATION	643.0410 TRAFFIC CONTROL BARRICADES TYPE II DAYS	(*) 643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAYS	(*) 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	643.2000 TRAFFIC CONTROL DETOUR (2035-06-70) EACH	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAYS
WATERTOWN PLANK ROAD DETOUR	-	20	-	205	-	3440
OAK LEAK TRAIL DETOUR	40	200	320	162	-	1400
STAGES 1A/1B/2A/2B	-	-	-	15	-	-
TOTALS 2035-06-70	**40**	**220**	**320**	**382**	**1**	**4840**

(*) QUANTITIES LISTED ELSEWHERE

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TRAFFIC CONTROL

STAGE	643.0100 TRAFFIC CONTROL (2035-06-70) EACH	643.0500 TRAFFIC CONTROL TUBULAR MARKER POSTS EACH	643.0600 TRAFFIC CONTROL TUBULAR MARKER BASES EACH	643.0300 TRAFFIC CONTROL DRUMS DAYS	(*) 643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAYS	(*) 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAYS	643.0800 TRAFFIC CONTROL ARROW BOARDS DAYS	643.0900 TRAFFIC CONTROL SIGNS DAYS	643.1050 TRAFFIC CONTROL SIGNS PCMS DAYS
1A	-	-	-	4340	280	532	630	-	770	-
1B	-	80	80	28600	7400	10700	5000	30	11820	80
2A	-	30	30	36600	5160	9100	13800	20	9100	80
2B	-	-	-	28520	1840	3496	4140	-	5060	-
TOTALS 2035-06-70	**1**	**110**	**110**	**98060**	**14680**	**23828**	**23570**	**50**	**26750**	**160**

(*) QUANTITIES LISTED ELSEWHERE

LOCATION	NUMBER OF SIGNS	CYCLES	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH
UNDISTRIBUTED	40	1	40
TOTAL 2035-06-70			**40**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

EROSION CONTROL

STATION	TO	STATION	OFFSET	(***) 628.1104 EROSION BALES EACH	(*) 628.1504 SILT FENCE LF	(*) 628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.6505 SOIL STABILIZER TYPE A ACRE	628.6510 SOIL STABILIZER TYPE B ACRE
82+50EB	-	97+50EB	LT/RT	-	875	875	-	-	-	-
82+50WB	-	97+50WB	LT/RT	-	600	600	-	-	-	-
UNDSITRIBUTED				200	400	400	5	16	0.5	0.5
TOTAL 2035-06-70				**200**	**1875**	**1875**	**5**	**16**	**0.5**	**0.5**

(*) QUANTITIES LISTED ELSEWHERE
(***) QUANTITIES TO BE USED WITH TEMPORARY SETTLING BASIN

EROSION CONTROL (CONT.)

STATION	TO	STATION	OFFSET	(**) 628.7005 INLET PROTECTION TYPE A EACH	(**) 628.7010 INLET PROTECTION TYPE B EACH	(**) 628.7015 INLET PROTECTION TYPE C EACH	(**) 628.7020 INLET PROTECTION TYPE D EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7560 TRACKING PADS EACH	(*) 628.7570 ROCK BAGS EACH	(***) 645.0120 GEOTEXTILE FABRIC TYPE HR SY
82+50EB	-	97+50EB	LT/RT	-	8	25	6	30	-	-	75	-
82+50WB	-	97+50WB	LT/RT	-	2	10	6	30	-	-	60	-
UNDSITRIBUTED				3	3	9	4	15	12	8	35	150
TOTAL 2035-06-70				**3**	**13**	**44**	**16**	**75**	**12**	**8**	**170**	**150**

(*) QUANTITIES LISTED ELSEWHERE
(**) INLET PROTECTION QUANTITIES INCREASED TO ACCOUNT FOR TWO INSTALLATIONS. INLET PROTECTIONS TO BE REMOVED FOR WINTER SHUTDOWN.
(***) QUANTITIES TO BE USED WITH TEMPORARY SETTLING BASIN

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

RESTORATION

STATION		STATION	OFFSET	(*) 625.0100 TOPSOIL SY	627.0200 MULCHING SY	(*) 628.2027 EROSION MAT CLASS II TYPE C SY	(*) 629.0210 FERTILIZER TYPE B CWT	(*) 630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB
86+25EB	-	96+30EB	LT/RT	2020	-	2020	1.3	37	-
86+25WB	-	95+10WB	LT/RT	740	-	740	0.5	13	-
UNDISTRIBUTED				690	1000	690	0.4	13	50
TOTAL 2035-06-70				**3450**	**1000**	**3450**	**2.2**	**63**	**50**

(*) QUANTITIES LISTED ELSEWHERE

PAVEMENT MARKING

STATION	TO	STATION	OFFSET	646.0106 (*) PAVEMENT MARKING EPOXY 4-INCH (WHITE) LF	646.0106 (*) PAVEMENT MARKING EPOXY 4-INCH (YELLOW) LF	646.0126 (*) PAVEMENT MARKING EPOXY 8-INCH LF	646.0841.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) LF	646.0843.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE) LF	647.0356 PAVEMENT MARKING WORDS EPOXY EA	647.0456 PAVEMENT MARKING CURB EPOXY (YELLOW) LF	647.0566 (*) PAVEMENT MARKING STOP LINE EPOXY 18-INCH LF	647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW) EACH	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH LF
74+00EB	-	96+50EB	LT/RT	2390	1700	100	360	370	2	30	22	1	100
76+50WB	-	105+00WB	LT/RT	2090	1830	-	200	75	-	15	22	-	100
NB HWY 100 LEFT TURN LANE TO WB WATERTOWN PLANK ROAD				-	-	-	50	320	-				
SUBTOTALS				4480	3530	100	610	765	2	45	44	1	200
TOTALS 2035-06-70				**8010**		**100**	**610**	**765**	**2**	**45**	**44**	**1**	**200**

(*) QUANTITIES LISTED ELSEWHERE

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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PERMANENT SIGNING

SIGN #	SIGN CODE	SIGN SIZE W X H (IN.) X (IN.)	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0618 POSTS WOOD 4X6-IN X 18-FT EACH	634.0816 POSTS TUBULAR STEEL 2X2-IN X 16-FT EACH	(*) 638.2102 MOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
3	R7-1D(3)	- x -	-	-	-	1	-
4	R7-1D(3)	- x -	-	-	-	1	-
5	R7-1D(3)	- x -	-	-	-	1	-
6	R7-1D(3)	- x -	-	-	-	1	-
7	R7-1D(3)	- x -	-	-	-	1	-
8	JS-1(2S)	- x -	-	2	-	2	2
	M3-1	- x -	-	-	-	-	-
	M1-6	- x -	-	-	-	-	-
	M4-22L	- x -	-	-	-	-	-
9	JS-2(2S)	- x -	-	1	-	2	1
	M4-5	- x -	-	-	-	-	-
	M1-4	- x -	-	-	-	-	-
	M6-1	- x -	-	-	-	-	-
	M3-3	- x -	-	-	-	-	-
	M1-6	- x -	-	-	-	-	-
	M5-1R	- x -	-	-	-	-	-
10	R-47(2S)	- x -	-	-	2	2	2
11	W5-52L	12 x 36	3	1	-	-	-
12	W5-52R	12 x 36	3	1	-	-	-
13	W5-52L	12 x 36	3	2	-	1	1
TOTALS 2035-06-70			**9**	**7**	**2**	**12**	**6**

(*) QUANTITIES LISTED ELSEWHERE

PERMANENT SIGNING (CONT.)

SIGN #	SIGN CODE	COMMENTS
3	R7-1D(3)	REMOVE DURING STAGE 1B. INSTALL FOR WINTER SHUTDOWN. MOUNT TO LIGHT POLE 86-2-29.
4	R7-1D(3)	REMOVE DURING STAGE 2A. MOUNT TO LIGHT POLE 86-2-12.
5	R7-1D(3)	REMOVE DURING STAGE 1B. INSTALL FOR WINTER SHUTDOWN. MOUNT TO LIGHT POLE 86-2-27.
6	R7-1D(3)	REMOVE DURING STAGE 2A. MOUNT TO LIGHT POLE 86-2-10.
7	R7-1D(3)	REMOVE DURING STAGE 1B. INSTALL FOR WINTER SHUTDOWN. MOUNT TO LIGHT POLE 86-2-25.
8	JS-1(2S)	REMOVE DURING STAGE 1A, REINSTALL FOR WINTER SHUTDOWN, REMOVE DURING STAGE 2A, AND REINSTALL DURING STAGE 2B.
	M3-1	
	M1-6	
	M4-22L	
9	JS-2(2S)	REMOVE DURING STAGE 1B AND REINSTALL FOR WINTER SHUTDOWN.
	M4-5	
	M1-4	
	M6-1	
	M3-3	
	M1-6	
	M5-1R	
10	R-47(2S)	REMOVE DURING STAGE 1A, REINSTALL FOR WINTER SHUTDOWN, REMOVE DURING STAGE 2A, AND REINSTALL DURING STAGE 2B.
11	W5-52L	INSTALL FOR WINTER SHUTDOWN.
12	W5-52R	INSTALL FOR WINTER SHUTDOWN.
13	W5-52L	INSTALL FOR WINTER SHUTDOWN. REMOVE FOR STAGE 2A AND THEN REINSTALL IN STAGE 2B.

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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TYPE II PERMANENT SIGNING 2035-06-70 WATERTOWN PLANK ROAD

SIGN NO.	SIGN CODE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	**638.2102** MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
1	M1-94H	N 113TH ST	--	x	--	1	--	INSTALL ON NEW SIGNAL ARM
2	M1-94H	N 113TH ST	--	x	--	1	--	INSTALL ON NEW SIGNAL ARM
	TOTALS					2		

(*) QUANTITIES LISTED ELSEWHERE

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SHEET 1 OF 1

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PERMANENT SIGNING QUANTITIES	SHEET:	E

TEMPORARY PAVEMENT MARKING

STAGE	STATION	TO	STATION	LOCATION	(*) 646.0106 PAVEMENT MARKING EPOXY 4-INCH WHITE LF	(*) 646.0106 PAVEMENT MARKING EPOXY 4-INCH YELLOW LF	(*) 646.0126 PAVEMENT MARKING EPOXY 8-INCH WHITE LF	(*) 647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH LF	646.0600 REMOVING PAVEMENT MARKINGS LF	647.0965 REMOVING PAVEMENT MARKING WORDS EACH	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH WHITE LF	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH YELLOW LF
1A	74+38EB	-	75+88EB	WEST OF N.115TH STREET	-	-	-	-	-	-	-	-
1A	102+40WB	-	104+65WB	EAST OF WIS 100	-	-	-	-	-	-	-	-
1A	WIS 100/ MAYFAIR ROAD			LEFT TURN LANE	-	-	-	-	-	-	504	-
1A	76+60EB	-	99+40EB	WATERTOWN PLANK ROAD	-	-	-	-	440	-	400	1730
1A	76+60WB	-	99+40WB	WATERTOWN PLANK ROAD	-	-	-	-	630	-	0	2110
1B	76+60EB	-	99+40EB	WATERTOWN PLANK ROAD	-	-	-	-	440	2	600	320
1B	76+60WB	-	99+40WB	WATERTOWN PLANK ROAD	-	-	-	-	220	-	390	440
W	76+60EB	-	99+40EB	WINTER SHUTDOWN	480	570	190	-	3350	-	-	-
W	76+60WB	-	105+00WB	WINTER SHUTDOWN	640	1890	-	12	3050	-	-	-
W	HWY 100 / MAYFAIR ROAD			WINTER SHUTDOWN	40	-	325	-	-	-	-	-
2A	74+38EB	-	75+88EB	WEST OF N.115TH STREET	-	-	-	-	-	-	-	-
2A	102+40WB	-	104+65WB	EAST OF WIS 100	-	-	-	-	-	-	-	-
2A	WIS 100/ MAYFAIR ROAD			LEFT TURN LANE	-	-	-	-	-	-	504	-
2A	76+60EB	-	99+40EB	WATERTOWN PLANK ROAD	-	-	-	-	1105	-	880	1170
2A	76+60WB	-	99+40WB	WATERTOWN PLANK ROAD	-	-	-	-	720	-	1345	1430
2B	76+60EB	-	99+40EB	WATERTOWN PLANK ROAD	-	-	-	-	1480	-	380	1730
2B	76+60WB	-	99+40WB	WATERTOWN PLANK ROAD	-	-	-	-	1450	-	235	2090
TOTALS 2035-06-70						**3620**		**515**	**12**	**12885**	**2**	**16258**

(*) QUANTITIES LISTED ELSEWHERE

TEMPORARY PAVEMENT MARKING (CONT.)

STAGE	STATION	TO	STATION	LOCATION	649.0402 TEMPORARY PAVEMENT MARKING PAINT 4-INCH WHITE LF	649.0402 TEMPORARY PAVEMENT MARKING PAINT 4-INCH YELLOW LF	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH WHITE LF	649.0802 TEMPORARY PAVEMENT MARKING PAINT 8-INCH WHITE LF	649.1200 TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH LF
1A	74+38EB	-	75+88EB	WEST OF N.115TH STREET	-	-	-	150	-
1A	102+40WB	-	104+65WB	EAST OF WIS 100	-	-	125	-	-
1A	WIS 100/ MAYFAIR ROAD			LEFT TURN LANE	-	-	-	-	-
1A	76+60EB	-	99+40EB	WATERTOWN PLANK ROAD	-	-	295	-	-
1A	76+60WB	-	99+40WB	WATERTOWN PLANK ROAD	-	-	295	-	-
1B	76+60EB	-	99+40EB	WATERTOWN PLANK ROAD	1560	1550	-	-	11
1B	76+60WB	-	99+40WB	WATERTOWN PLANK ROAD	1710	1550	-	-	-
W	76+60EB	-	99+40EB	WINTER SHUTDOWN	-	-	-	-	-
W	76+60WB	-	105+00WB	WINTER SHUTDOWN	-	-	-	-	-
W	HWY 100 / MAYFAIR ROAD			WINTER SHUTDOWN	-	-	-	-	-
2A	74+38EB	-	75+88EB	WEST OF N.115TH STREET	-	-	-	150	-
2A	102+40WB	-	104+65WB	EAST OF WIS 100	-	-	125	-	-
2A	WIS 100/ MAYFAIR ROAD			LEFT TURN LANE	-	-	-	-	-
2A	76+60EB	-	99+40EB	WATERTOWN PLANK ROAD	765	735	-	-	11
2A	76+60WB	-	99+40WB	WATERTOWN PLANK ROAD	735	735	-	-	-
2B	76+60EB	-	99+40EB	WATERTOWN PLANK ROAD	-	-	290	-	-
2B	76+60WB	-	99+40WB	WATERTOWN PLANK ROAD	-	-	170	-	-
TOTALS 2035-06-70						**9340**	**1300**	**300**	**22**

(*) QUANTITIES LISTED ELSEWHERE

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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CONSTRUCTION STAKING

CATEGORY	STAGE	STATION	-	STATION	OFFSET	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF	650.7500 CONSTRUCTION STAKING CONCRETE BARRIER LF	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (2035-06-70) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF	SPV.0105.07 CONSTRUCTION STAKING - RIGHT-OF-WAY LS	COMMENTS
0010													
	1A	94+87WB	-	96+40WB	RT	153	153	-	-	-	-	-	CROSSOVER CONSTRUCTION
	1B	86+25EB	-	89+18EB	LT/RT	-	-	-	-	-	293	-	
	1B	87+85EB	-	89+24EB	LT	-	-	-	139	-	-	-	
	1B	88+14EB	-	89+18EB	LT/RT	104	-	104	-	-	-	-	
	1B	86+77EB	-	88+14EB	RT	-	-	137	-	-	-	-	
	1B	87+88EB	-	88+30EB	RT	-	-	-	42	-	-	-	
	1B	92+88EB	-	94+78EB	LT/RT	190	-	190	-	-	190	-	
	2A	88+70WB	-	90+05WB	LT/RT	135	-	135	-	-	135	-	
	2A	94+70WB	-	95+25WB	LT/RT	55	-	55	-	-	55	-	
	2A	94+66WB	-	95+75WB	RT	-	-	-	109	-	-	-	
	2B	93+12EB	-	94+78EB	LT	-	-	-	158	-	-	-	
	2B	95+75WB	-	96+23WB	RT	-	-	48	-	-	-	-	
	2B	94+87WB	-	96+40EB	LT	-	-	-	-	-	150	-	CROSSOVER REMOVAL
		PROJECT				-	-	-	-	1	-	1	
		TOTALS 2035-06-70				**637**	**153**	**669**	**448**	**1**	**823**	**1**	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

CONSTRUCTION STAKING (CONT.)

CATEGORY	STAGE	STATION - STATION	OFFSET	650.6500.01 CONSTRUCTION STAKING STRUCTURE (B-40-0470) LS	650.6500.02 CONSTRUCTION STAKING STRUCTURE (B-40-0471) LS	650.6500.03 CONSTRUCTION STAKING STRUCTURE (R-40-691) LS	650.6500.04 CONSTRUCTION STAKING STRUCTURE (R-40-692) LS	650.6500.05 CONSTRUCTION STAKING STRUCTURE (R-40-693) LS
0020	1B	STRUCTURE B-40-0470		1	-	-	-	-
		SUBTOTALS		1	0	0	0	0
0030	2A	STRUCTURE B-40-0471		-	1	-	-	-
		SUBTOTALS		0	1	0	0	0
0050	1B	STRUCTURE R-40-691		-	-	1	-	-
		SUBTOTALS		0	0	1	0	0
0060	1B	STRUCTURE R-40-692		-	-	-	1	-
		SUBTOTALS		0	0	0	1	0
0070	2A	STRUCTURE R-40-693		-	-	-	-	1
		SUBTOTALS		0	0	0	0	1
		TOTALS 2035-06-70		**1**	**1**	**1**	**1**	**1**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

3

TEMPORARY ACCESS ROAD QUANTITIES

STATION	-	STATION	OFFSET	(*) 201.0110 CLEARING SY	(*) 205.0100 COMMON EXCAVATION CY	(*) (**) 305.0120 BASE AGGREGATE DENSE 1 1/4 INCH TON	520.2024 CULVERT PIPES TEMPORARY 24-INCH LF	(*) 625.0100 TOPSOIL SY	(*) 628.1504 SILT FENCE LF	(*) 628.1520 SILT FENCE MAINTENANCE LF	(*) 628.2027 EROSION MAT CLASS II TYPE C SY	(*) 628.7570 ROCK BAGS EACH	(*) 629.0210 FERTILZIER TYPE B CWT	(*) 630.0130 SEEDING MIXTURE NO. 30 LB
82+75WB	-	92+00WB	LT	2030	1300	2600	30	2120	1000	1000	2120	60	1.3	39
		UNDISTRIBUTED		-	-	-	-	530	250	250	530	15	0.3	10
		TOTAL		**2030**	**1300**	**2600**	**30**	**2650**	**1250**	**1250**	**2650**	**75**	**1.6**	**49**

(*) QUANTITIES LISTED ELSEWHERE
(**) COMMON EXCAVATION QUANTITY FOR REMOVAL OF BASE AGGREGATE DENSE 1 1/4 INCH HAUL ROAD.

NOTE:
THE DEPARTMENT WILL NOT ALLOW FOR A COST REDUCTION INCENTIVE AS DESCRIBED IN SUBSECTION 104.10 OF THE STANDARD SPECIFICATIONS FOR ANY ELIMINATION AND/OR MODIFICATION OF THE TEMPORARY ACCES ROAD. FURTHER, THE DEPARTMENT WILL NOT APPLY SUBSECTION 109.5 OF THE STANDARD SPECIFICATIONS FOR THE TOTAL ELIMINATION OR PARTIAL ELIMINATION, WHETHER BY THE DEPARTMENT OR CONTRACTOR, OF BID ITEMS ASSOCIATED WITH THE TEMPORARY ACCESS ROAD.

TEMPORARY GRADE CROSSING CANADIAN PACIFIC RAILROAD

PROJECT ID	DESCRIPTION	SPV.0105.06 TEMPORARY GRADE CROSSING CANADIAN PACIFIC RAILROAD LS
2035-06-70	WATERTOWN PLANK ROAD	1
TOTAL		**1**

NOTE:
THE DEPARTMENT WILL NOT ALLOW FOR A COST REDUCTION INCENTIVE AS DESCRIBED IN SUBSECTION 104.10 OF THE STANDARD SPECIFICATIONS FOR ANY ELIMINATION AND/OR MODIFICATION OF THE OF THE TEMPORARY GRADE CROSSING CANADIAN PACIFIC RAILROAD.

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

W WATERTOWN PLANK RD & N 113TH ST
MILWAUKEE COUNTY
CATEGORY 0010

3

REMOVING TRAFFIC SIGNALS

LOCATION	204.9105.S.01 REMOVING TRAFFIC SIGNALS L.S.
W WATERTOWN PLANK RD & N 113TH ST	1
TOTAL	1

TRAFFIC SIGNAL CABLE AND WIRE

FROM	TO	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG L.F.
SB3	HEAD 2	55
SB3	HEAD 3	55
SB7	HEAD 7	55
SB7	HEAD 8	55
TOTAL		220

TRAFFIC SIGNAL EVP DETECTOR CABLE

FROM	TO	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE L.F.
CB1	SB7 (HEAD A)	276
CB1	SB3 (HEAD B)	256
TOTAL		532

POLES

SIGNAL BASE NO.	657.1530 INSTALL MONOTUBE ARMS 30-FT EACH
SB3	1
SB7	1
TOTAL	2

FACES

SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.0600 LED MODULES 12-INCH RED BALL EACH	658.0605 LED MODULES 12-INCH YELLOW BALL EACH	658.0610 LED MODULES 12-INCH GREEN BALL EACH
2	SB3	1	1	1	1	1
3	SB3	1	1	1	1	1
7	SB7	1	1	1	1	1
8	SB7	1	1	1	1	1
TOTAL		4	4	4	4	4

SIGNAL MOUNTING HARDWARE

LOCATION	658.5069.01 SIGNAL MOUNTING HARDWARE L.S.
W WATERTOWN PLANK RD & N 113TH ST	1
TOTAL	1

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS

LOCATION	661.0200.01 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS L.S.
W WATERTOWN PLANK RD & N 113TH ST	1
TOTAL	1

W WATERTOWN PLANK RD & N 113TH ST
MILWAUKEE COUNTY
CATEGORY 0010

TEMPORARY NON-INTRUSIVE VEHICLE DETECTION SYSTEM FOR INTERSECTIONS

LOCATION	SPV.0105.01 TEMPORARY NON-INTRUSIVE VEHICLE DETECTION SYSTEM FOR INTERSECTIONS L.S.
W WATERTOWN PLANK RD & N 113TH ST	1
TOTAL	1

TEMPORARY INFRARED EVP SYSTEM

LOCATION	SPV.0105.02 TEMPORARY INFRARED EVP SYSTEM L.S.
W WATERTOWN PLANK RD & N 113TH ST	1
TOTAL	1

TRANSPORT AND INSTALL CITY OF WAUWATOSA FURNISHED ITERIS VIDEO DETECTION SYSTEM

LOCATION	SPV.0105.03 TRANSPORT AND INSTALL CITY OF WAUWATOSA FURNISHED ITERIS VIDEO DETECTION SYSTEM L.S.
W WATERTOWN PLANK RD & N 113TH ST	1
TOTAL	1

TRANSPORT TRAFFIC SIGNAL AND INTERSECTION LIGHTING MATERIALS

LOCATION	SPV.0105.04 TRANSPORT TRAFFIC SIGNAL AND INTERSECTION LIGHTING MATERIALS L.S.
W WATERTOWN PLANK RD & N 113TH ST	1
TOTAL	1

EVP DETECTOR HEAD INSTALLATION

LOCATION	SPV.0105.05 EVP DETECTOR HEAD INSTALLATION L.S.
W WATERTOWN PLANK RD & N 113TH ST	1
TOTAL	1

LIGHTING PULL BOX REMOVAL QUANTITIES

NO.	653.0905 REMOVING PULL BOXES EACH
PB-86-3	1
PB-86-4	1
PB-86-5	1
TOTAL	3

TEMPORARY LIGHTING UNIT QUANTITIES

NO	SPV.0060.06 TEMPORARY LIGHTING UNITS SINGLE EACH	SPV.0060.07 REMOVING TEMPORARY LIGHTING UNITS EACH
TP1	1	1
TP2	1	1
TP3	1	1
TOTALS	3	3

LIGHTING UNIT REMOVAL QUANTITIES

NO	204.0195 REMOVING CONCRETE BASES EACH	SPV.0060.01 REMOVING SINGLE LIGHTING UNITS AND SALVAGING LED LUMINAIRES EACH	SPV.0060.02 REMOVING AND SALVAGING TWIN LIGHTING UNITS EACH
8602	1	1	
8603	1	1	
8604		1	
8605		1	
8606	1	1	
8679	1	1	
8678		1	
8677		1	
8676		1	
86-2/7/8	1		1
86-2-5/6	1		1
TOTALS	6	9	2

AERIAL CABLE QUANTITIES

FROM	TO	SPV.0090.01 AERIAL CABLE ALUMINUM TRIPLEX 2AWG LF	SPV.0090.02 REMOVING AERIAL CABLE LF
86-2-3/4	TP1	210	210
TP1	8676	200	200
TP1	LPB-86B	40	40
86-2-3/4	TP2	220	220
TP2	TP3	140	140
TP2	LPB-86C	50	50
	TOTALS	860	860

LIGHTING PULL BOX QUANTITIES

NO.	653.0140 PULL BOXES STEEL 24X42-INCH EACH
LPB-86A	1
LPB-86B	1
LPB-86C	1
TOTAL	3

LIGHTING INSTALLATION QUANTITIES

LOCATION	650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS LS
PROJECT	1
TOTAL	1

LIGHTING BRANCH CIRCUIT WIRE AND CONDUIT QUANTITIES

FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0605 CONDUIT SPECIAL 2-INCH * LF	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG LF
86-2-29	86-2-28	179		567
86-2-28	86-2-27JB	120		699
86-2-27JB	86-2-26JB			240
86-2-26JB	86-2-25	5		705
86-2-25	LPB-86C	375		1155
LPB-86C	LPB-86A		100	336
86-2-12	86-2-11JB	90		762
86-2-11JB	86-2-10JB			681
86-2-10JB	LPB-86B	120		1194
LPB-86B	LPB-86A		68	240
86-2-7/8	86-2-5/6	138		592
86-2-5/6	LPB-86A	35		184
LPB-86A	86-2-3/4			604
	TOTALS	1062	168	7959

* CONDUIT NONMETALLIC SCHEDULE 40

LIGHTING UNIT QUANTITIES

NO.	654.0105 CONCRETE BASES TYPE 5 EACH	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG LF	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH EACH	657.0322 POLES TYPE 5 ALUMINUM EACH	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	SPV.0060.03 REINSTALLING LED LUMINAIRES EACH	SPV.0060.04 REINSTALLING TWIN LIGHTING UNITS EACH	SPV.0060.05 LIGHTING UNIT IDENTIFICATION EACH
86-2-29	1	117	1	1	1	1		1
86-2-28	1	117	1	1	1	1		1
86-2-27		129		1	1	1		1
86-2-26		129		1	1	1		1
86-2-25		129		1	1	1		1
86-2-12	1	117	1	1	1	1		1
86-2-11		129		1	1	1		1
86-2-10		129		1	1	1		1
86-2-7/8	1						1	
86-2-5/6	1						1	
TOTALS	5	996	3	8	8	8	2	8

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1	82+82EB LT	TOP NUT OF HYDRANT @ NE QUADRANT	718.86
		OF WATERTOWN PLANK RD. AND 113TH STREET	

N

P.L.

EXISTING R/W

BM#1

IP
3/4" REBAR

82+00WB 83+00WB 84+00WB 85+00WB 86+00WB 87+00WB

WATERTOWN PLANK ROAD WB

SLOPE INTERCEPT

82+00EB 83+00EB 84+00EB 85+00EB 86+00EB 87+00EB

WATERTOWN PLANK ROAD EB

EXISTING R/W

P.L.

BEGIN CONSTRUCTION
STA. 86+47EB

SLOPE INTERCEPT

STA. 88+00EB

MATCH LINE

5

5

EXISTING PROFILE

EXISTING ELEVATION

82+00	82+25	82+50	82+75	83+00	83+25	83+50	83+75	84+00	84+25	84+50	84+75	85+00	85+25	85+50	85+75	86+00	86+25	86+50	86+75	87+00	87+25	87+50	87+75	88+00
							723.79	725.24	726.72	728.19	729.63	731.07	732.49	733.92	735.25	736.58	738.00	739.41	740.72	742.01	743.09	744.14	744.90	745.65

745 740 735 730 725 720 715 710

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PLAN AND PROFILE EB	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_050101_pp.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

STA. 88+00EB

STA. 94+00EB

MATCH LINE

MATCH LINE

5

5

N

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
2	89+20EB, RT	CHISLED SQUARE SET ON TOP OF WALL ON	748.85
		SOUTH SIDE OF E/B BRIDGE ON WATERTOWN	
		PLANK RD. SQUARE IS SET ⊗ BASE OF LIGHT	
		POLE ± 18'EAST OF WEST END OF BRIDGE	

SLOPE INTERCEPT

RAILROAD R/W

CANADIAN PACIFIC RAILWAY

EXISTING R/W

WATERTOWN PLANK ROAD WB

WATERTOWN PLANK ROAD EB

RAILROAD R/W

WE ENERGIES

SLOPE INTERCEPT

SLOPE INTERCEPT

EXISTING R/W

BEGIN PROJECT
STA. 88+14.06EB
Y = 302,123.23
X = 567,930.05

UNDERWOOD CREEK

P.L.

OAK LEAF TRAIL

EXISTING R/W

K = 37.58
L = 80.00'

SEE B-40-470 STRUCTURE PLAN
FOR BRIDGE PROFILE

88+14.06 EL 745.87
PVI 88+25.00 EL 746.02
PVC 88+40.28 EL 746.25
PVI 88+80.28 EL 746.83
89+20.28 EL 746.56
HP 88+95.04 EL 746.64
1.38%
1.46%

PROPOSED PROFILE

EXISTING PROFILE

EXISTING ELEVATION

PROPOSED ELEVATION

STATION 91+02EB
REMOVE EXISTING BRIDGE DECK
STRUCTURE B-40-470
FIVE SPAN, 40" PLATE GIRDER
27' CLEAR ROADWAY WIDTH
SKEW 42° LHF

STATION 91+02EB
BRIDGE RE-DECK AND WIDENING
STRUCTURE B-40-470
FIVE SPAN, 40" PLATE GIRDER
29' CLEAR ROADWAY WIDTH
SKEW 42° LHF

SEE B-40-470 STRUCTURE PLAN
FOR BRIDGE PROFILE

92+83.78 EL 730.44

PROPOSED PROFILE

-6.00%

PVC 93+93.00 EL 723.89

EXISTING PROFILE

| | | |

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
5	96+27EB, RT	TOP NUT OF HYDRANT AT SOUTH SIDE OF WATERTOWN PLANK RD.	718.04
6	99+49EB, LT	TOP NUT OF HYDRANT IN NW QUADRANT OF WATERTOWN PLANK RD. & MAYFAIR RD.	720.21

STA. 94+00EB

MATCH LINE

5

SLOPE INTERCEPT

P.L.

EXISTING R/W

OAK LEAF TRAIL

DRAINAGE EASEMENT

EXISTING R/W

UNION PACIFIC RAILROAD

CP 7"SPIKE

95+00WB

96+00WB

WATERTOWN PLANK ROAD WB

97+00WB

98+00WB

99+00WB

100+00WB

STUBBED END

END CONSTRUCTION
STA. 96+49EB

CP 7"SPIKE

BM#6

CP 7"SPIKE

N

N. MAYFAIR RD./STH 100

95+00EB

96+00EB

97+00EB

98+00EB

99+00EB

100+00EB

WATERTOWN PLANK ROAD EB

EXISTING R/W

BM#5
BM
718.04
HYDRANT, TOP NUT

END PROJECT
STA. 94+78EB

SLOPE INTERCEPT

RAILROAD R/W

5

K = 42.69
L = 80.00'

-4.12%

PVT 94+73.00
EL 719.84

PVI 94+33.00
EL 721.49

94+78.00
EL 719.63

PROPOSED PROFILE

EXISTING PROFILE

EXISTING ELEVATION

PROPOSED ELEVATION

730 725 720 715 710 705 700 695

723.44	722.14	720.87	719.75	718.76	717.88	717.14	716.55	716.11	715.68	715.24	714.98	714.94	714.91	715.01	715.20	715.59	716.00	716.52	717.07	717.57	717.99	718.29	718.55	718.75
723.48	722.09	720.85	719.76																					

94+00 94+25 94+50 94+75 95+00 95+25 95+50 95+75 96+00 96+25 96+50 96+75 97+00 97+25 97+50 97+75 98+00 98+25 98+50 98+75 99+00 99+25 99+50 99+75 100+00

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PLAN AND PROFILE EB	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_050103_pp.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

STA. 88+00EB

STA. 94+00EB

MATCH LINE

MATCH LINE

5

5

N

SLOPE INTERCEPT

BEGIN CONSTRUCTION
STA. 88+70WB

RAILROAD R/W

CANADIAN PACIFIC RAILWAY

EXISTING R/W

93+00WB

92+00WB

91+00WB

90+00WB

89+00WB

WATERTOWN PLANK ROAD WB

WE ENERGIES

UNDERWOOD CREEK

RAILROAD R/W

SLOPE INTERCEPT

WATERTOWN PLANK ROAD EB

BM#2

EXISTING R/W

SLOPE INTERCEPT

SLOPE INTERCEPT

OAK LEAF TRAIL

EXISTING R/W

P.L.

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
2	89+19WB, RT	CHISLED SQUARE SET ON TOP OF WALL ON	748.85
		SOUTH SIDE OF E/B BRIDGE ON WATERTOWN	
		PLANK RD. SQUARE IS SET ⊗ BASE OF LIGHT	
		POLE ± 18'EAST OF WEST END OF BRIDGE	

K = 38
L = 110.00'

SEE B-40-471 STRUCTURE PLAN
FOR BRIDGE PROFILE

PROPOSED PROFILE

EXISTING PROFILE

PVC 88+71.86
EL 747.04

PVI 89+26.86
EL 748.03

89+81.86
EL 747.43

1.8%

88+70.00
EL 747.01

HP 89+40.14
EL 747.65

EXISTING ELEVATION

PROPOSED ELEVATION

STATION 92+25WB
REMOVE EXISTING BRIDGE DECK
STRUCTURE B-40-471
FIVE SPAN, VARIABLE DEPTH PLATE GIRDER
27' CLEAR ROADWAY WIDTH
SKEW 33°58'45" LHF

STATION 92+25WB
BRIDGE RE-DECK AND WIDENING
STRUCTURE B-40-471
FIVE SPAN, VARIABLE DEPTH PLATE GIRDER
29' CLEAR ROADWAY WIDTH
SKEW 33°58'45" LHF

745.16	745.83	746.49	747.05	747.10	747.30	747.44	747.54	747.62	747.76	747.64	747.47	747.49	747.19	746.71	746.07	745.24	732.40	734.26	741.59	739.97	738.28	736.51	734.73	732.95	731.19	729.45	727.67	712.19	724.04
88+00	88+25	88+50	88+75		89+00		89+25		89+50		89+75		90+00	90+25	90+50	90+75	91+00	91+25	91+50	91+75	92+00	92+25	92+50	92+75	93+00	93+25	93+50	93+75	94+00

755 750 745 740 735 730 725 720

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PLAN AND PROFILE WB	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_050112_pp.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 30

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
5	96+36WB, RT	TOP NUT OF HYDRANT AT SOUTH SIDE OF WATERTOWN PLANK RD.	718.04
6	99+52WB, LT	TOP NUT OF HYDRANT IN NW QUADRANT OF WATERTOWN PLANK RD. & MAYFAIR RD.	720.21

STA. 94+00EB

MATCH LINE

5

SLOPE INTERCEPT

END CONSTRUCTION
STA. 95+25WB

DRAINAGE EASEMENT

EXISTING R/W

OAK LEAF TRAIL

95+00WB

96+00WB

WATERTOWN PLANK ROAD WB

97+00WB

98+00WB

99+00WB

100+00WB

N

BM=6

UNION PACIFIC RAILROAD

STUBBED END

END CONSTRUCTION
STA. 95+45WB

N. MAYFAIR RD./STH 100

95+00EB

96+00EB

97+00EB

98+00EB

99+00EB

100+00EB

WATERTOWN PLANK ROAD EB

BM=5

EXISTING R/W

SLOPE INTERCEPT

RAILROAD R/W

5

SEE B-40-471
STRUCTURE PLAN
FOR BRIDGE PROFILE

K = 19
L = 46.00'

94+67.02
EL 719.88

PVT 95+13.02
EL 717.99
-2.9%

95+25.00
EL 717.64

PVI 94+90.02
EL 718.65

PROPOSED PROFILE

EXISTING PROFILE

EXISTING ELEVATION

PROPOSED ELEVATION

730 725 720 715 710 705 700 695

724.04 722.43 720.93 719.49 719.47 718.47 718.41 717.64 717.64 716.91 716.32 715.87 715.41 715.18 715.09 714.93 714.91 715.00 715.17 715.38 715.75 716.24 716.74 717.21 717.67 718.07 718.36 718.57

94+00 94+25 94+50 94+75 95+00 95+25 95+50 95+75 96+00 96+25 96+50 96+75 97+00 97+25 97+50 97+75 98+00 98+25 98+50 98+75 99+00 99+25 99+50 99+75 100+00

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	PLAN AND PROFILE WB	SHEET E

FILE NAME : R:\420808\dgn\2035-06-70_050113_pp.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 30

Standard Detail Drawing List

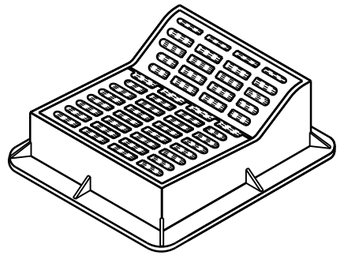
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08D01-19	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D16-10	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08D17-06	MANHOLES, MANHOLE & INLET COVERS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
09B02-09	CONDUIT
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09E01-14D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-14G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E08-08A	TYPE 9 POLE 15'-30' MONOTUBE ARM
09E08-08E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09G01-04A	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04B	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04C	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04D	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04E	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04F	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04G	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
11B01-05	CONCRETE CORRUGATED MEDIAN
11B02-02	CONCRETE MEDIAN NOSE
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C18-05A	CONCRETE PAVEMENT JOINTING
13C18-05B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-05C	CONCRETE PAVEMENT JOINT TYPES
13C18-05D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B32-04A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-04B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-04C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-04D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B33-01A	CONCRETE BARRIER SINGLE SLOPE 32" THRIE BEAM ANCHOR
14B33-01B	CONCRETE BARRIER SINGLE SLOPE 32" THRIE BEAM ANCHOR
14B33-01C	CONCRETE BARRIER SINGLE SLOPE 32" THRIE BEAM ANCHOR
14B33-01D	CONCRETE BARRIER SINGLE SLOPE 36" THRIE BEAM ANCHOR
14B33-01E	CONCRETE BARRIER SINGLE SLOPE 36" THRIE BEAM ANCHOR
14B33-01F	CONCRETE BARRIER SINGLE SLOPE 36" THRIE BEAM ANCHOR
14B39-01A	32-INCH SSCB TO 36-INCH SSCB HEIGHT TRANSITION
14B40-01A	32-INCH VERTICAL SHAPE CONCRETE BARRIER TO 32-INCH SSCB TRANSITION
14B40-01B	32-INCH VERTICAL SHAPE CONCRETE BARRIER TO 32-INCH SSCB TRANSITION
14B41-02A	SINGLE SLOPE ROADSIDE RETAINING WALL
14B41-02B	SINGLE SLOPE ROADSIDE RETAINING WALL
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

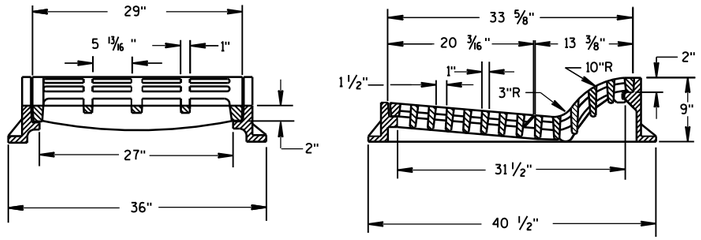
6

Standard Detail Drawing List

14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A02-09	DELINEATOR POST, DELINEATOR REFLECTOR AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C05-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-13B	PAVEMENT MARKING WORDS
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15C08-17B	PAVEMENT MARKING (TURN LANES)
15C08-17C	PAVEMENT MARKING (ISLANDS)
15C11-06	FLEXIBLE TUBULAR MARKER POST
15C12-05	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-04B	MOVING PAVEMENT MARKING OPERATION MULTI-LANE UNDIVIDED ROADWAY
15C19-04C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C33-02	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D06-03	TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-04	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D22-03	TRAFFIC CONTROL, TWO LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D23-04	TRAFFIC CONTROL, INTERSECTION WITHIN TWO LANE CLOSURE
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D29-04	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD
15D30-03A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-03B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-03C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS

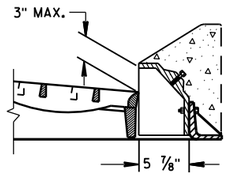
6





TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

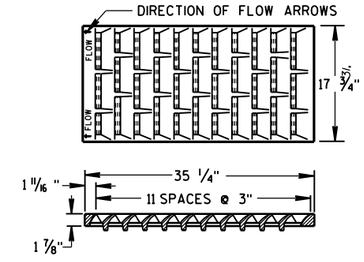
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

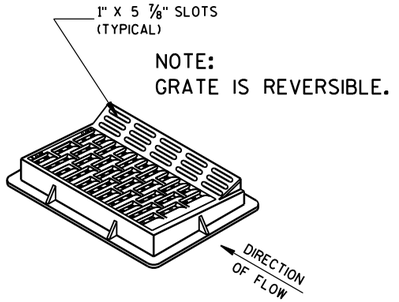
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

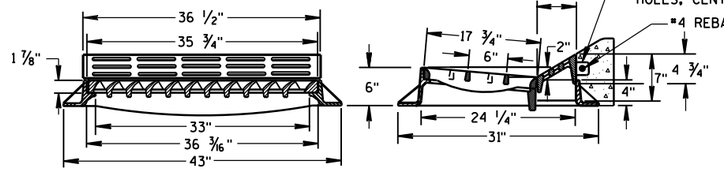
GENERAL NOTES

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



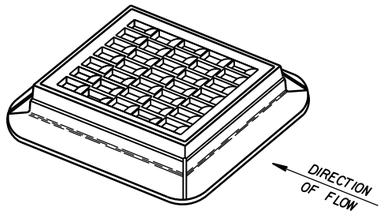


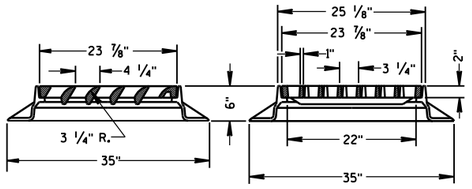


TYPE "HM"

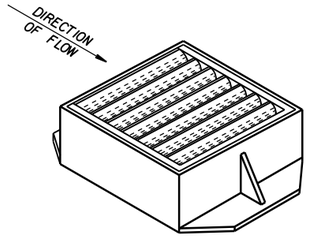
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

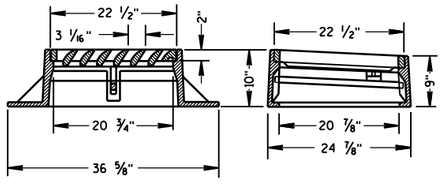
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



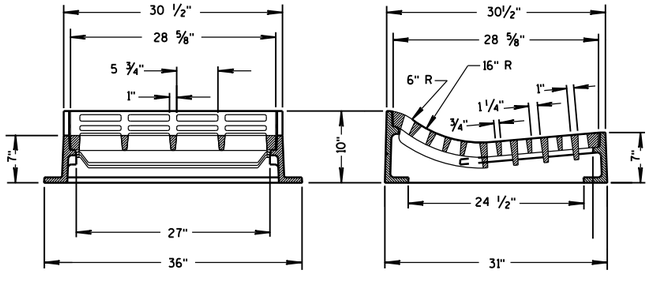


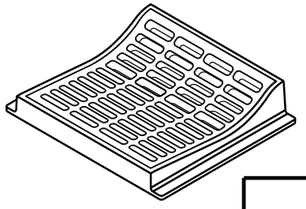
TYPE "S"





TYPE "V"





TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.

INLET COVERS
TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

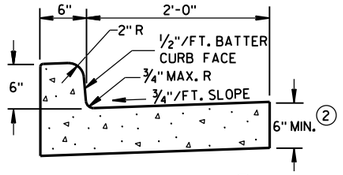
APPROVED
11/27/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

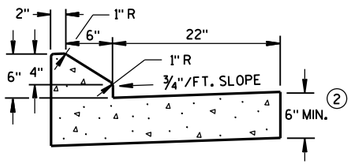
FHWA

6

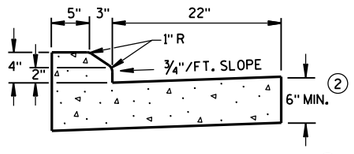
S.D.D. 8 A 5-19c



TYPES A & D ①

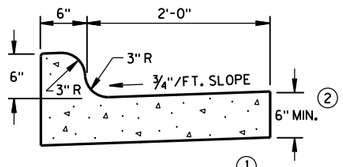


6" SLOPED CURB TYPES G & J ①

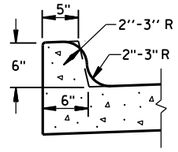


4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

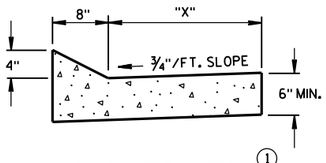


TYPES K & L ①



OPTIONAL CURB SHAPE FOR TYPES K & L ①

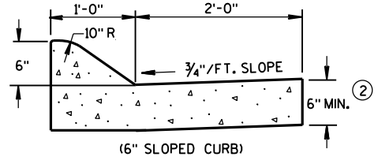
CONCRETE CURB & GUTTER 30"



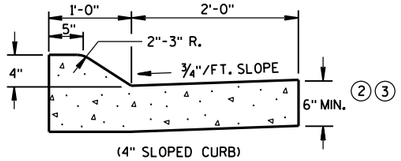
TYPES TBT & TBTT ①

CONCRETE CURB & GUTTER

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

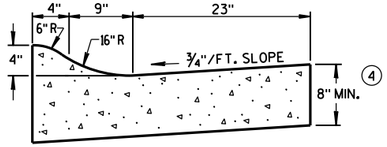


(6" SLOPED CURB)



(4" SLOPED CURB)

TYPES A & D ①



4" SLOPED CURB TYPES R & T ①⑤

CONCRETE CURB & GUTTER 36"

GENERAL NOTES

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

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

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

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

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

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

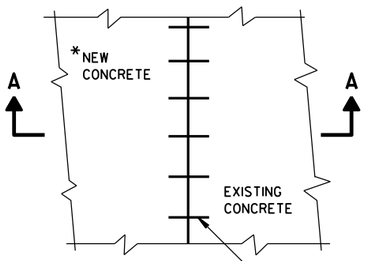
② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

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

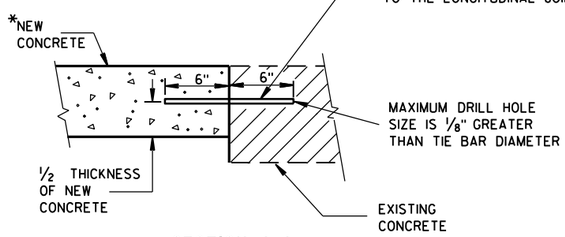
⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

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



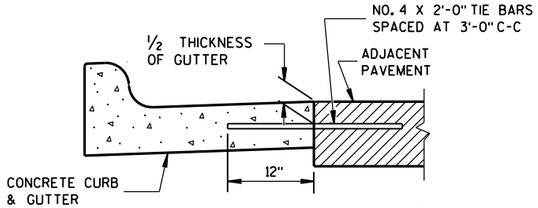
PLAN VIEW

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

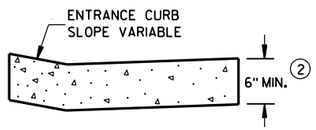


SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT

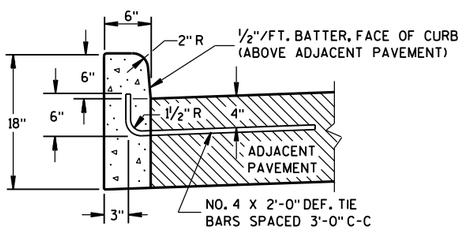


TYPICAL TIE BAR LOCATION ①

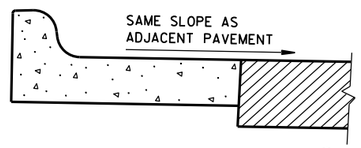


DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)

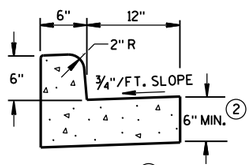


① TYPES A & D



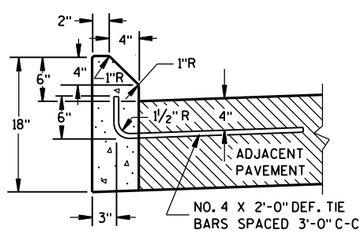
⑥ REVERSE SLOPE GUTTER

(TYPICAL FOR ALL CURB & GUTTER TYPES)



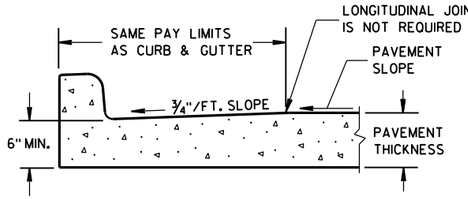
① TYPES A & D

CONCRETE CURB & GUTTER 18"

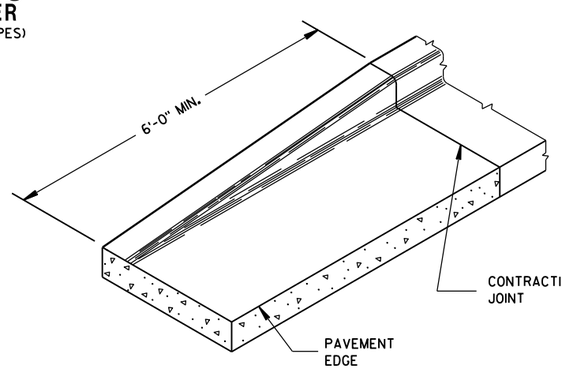


① TYPES G & J

CONCRETE CURB



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

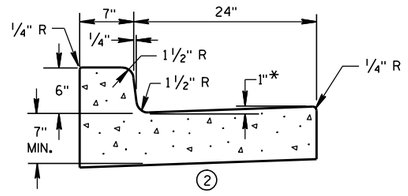
CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

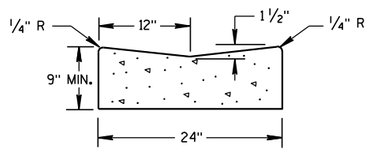
APPROVED
June, 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

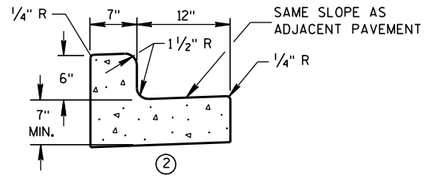
S.D.D. 8 D 1-19



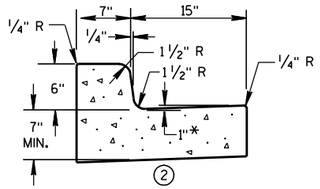
① CONCRETE CURB & GUTTER 31"



① CONCRETE GUTTER 24"

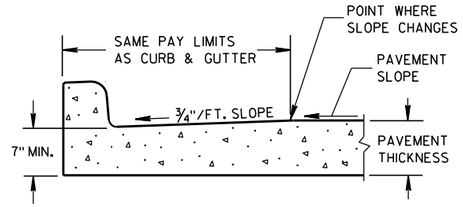


① CONCRETE CURB & GUTTER 19"



① CONCRETE CURB & GUTTER 22"

* TO BE MEASURED TO A MAXIMUM OF 3" WHERE DRAINAGE PROBLEMS EXIST.



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER

GENERAL NOTES

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

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

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

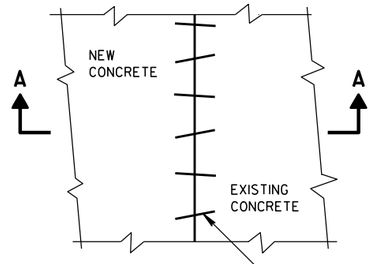
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURB.

① WHEN PLACED ADJACENT TO NEW CONCRETE, TIE BARS ARE REQUIRED FOR CURB AND GUTTER 31", 22", 19" AND CONCRETE GUTTER 24".

② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 7" MIMIMUM GUTTER THICKNESS IS MAINTAINED.

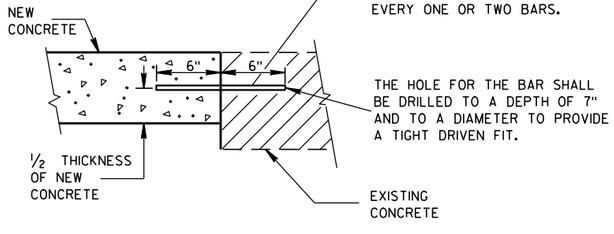
③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.



PLAN VIEW

EXISTING AND NEW CONCRETE MAY BE CURB & GUTTER, SURFACE DRAIN, PAVEMENT OR OTHER CONCRETE STRUCTURE.

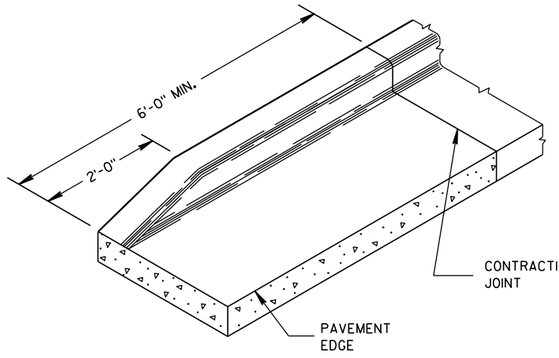
NO. 6 X 12" DEF. BARS SPACED 3'-0" C-C, INSTALLED ON 6:1 SKEW HORIZONTALLY. DIRECTION OF SKEW ALTERNATING AFTER EVERY ONE OR TWO BARS.



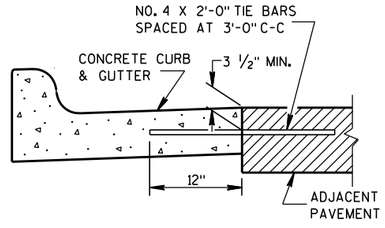
THE HOLE FOR THE BAR SHALL BE DRILLED TO A DEPTH OF 7" AND TO A DIAMETER TO PROVIDE A TIGHT DRIVEN FIT.

SECTION A-A

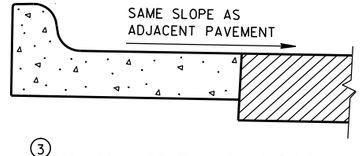
PAVEMENT TIES



END SECTION CURB & GUTTER



① TYPICAL TIE BAR LOCATION



③ HIGH SIDE SECTION

(TYPICAL FOR ALL CURB & GUTTER)

CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES

(For Optional Use in Milwaukee Co. Only)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/2/2010 — DATE

/S/ Jerry Zogg — ROADWAY STANDARDS ENGINEER

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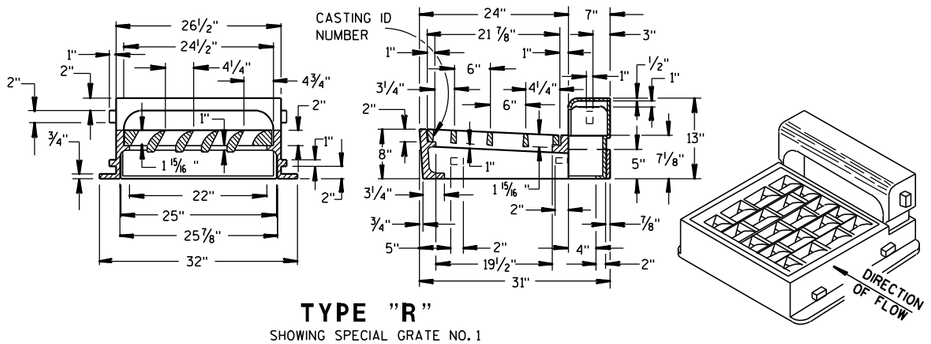
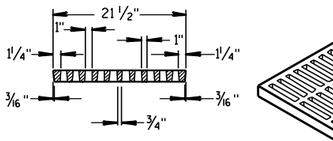
S.D.D. 8 D 16-10

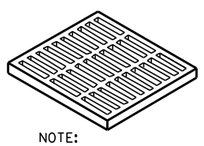
INLET COVERS



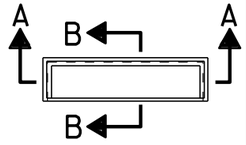
TYPE "R"

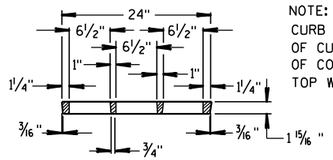
SHOWING SPECIAL GRATE NO. 1
(TO BE NOTED AS R-1 IN DRAINAGE TABLE)



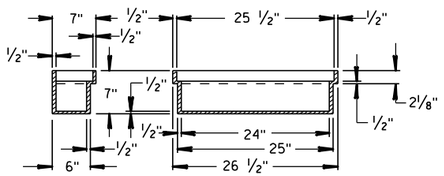


(APPROX. WEIGHT - 510 LBS.)
FRAME..... 245 LBS.
CURB..... 120 LBS.
GRATE..... 145 LBS.





NOTE:
CURB PLUG USED IN PLACE OF CURB BOX IN ABSENCE OF CONC. CURB. FILL TO TOP WITH CONCRETE.



GRATE FOR TYPE "R" INLET COVER

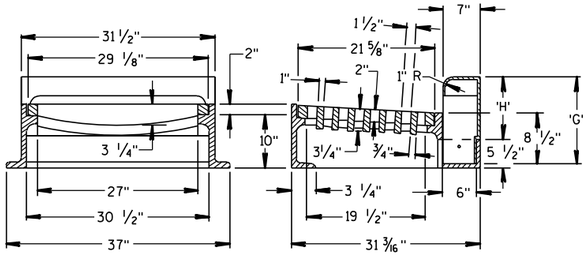
(GRATE..... 150 LBS.)
(TO BE USED UNLESS OTHERWISE NOTED IN DRAINAGE TABLE)

SECTION B-B SECTION A-A

SPECIAL CURB PLUG "P"

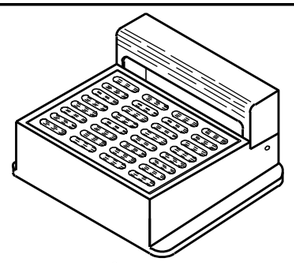
(CURB PLUG..... 85 LBS.)
(TO BE NOTED AS R-P IN DRAINAGE TABLE)

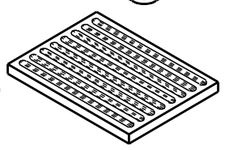
'H' = 9" FOR 6" CURB
'H' = 11" FOR 8" CURB
'G' = 13 3/4" FOR 6" CURB
'G' = 15 3/4" FOR 8" CURB



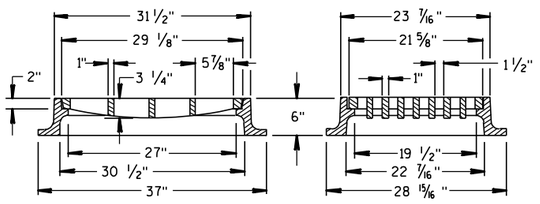
TYPE "W"

(APPROX. WEIGHT - 670 LBS.)
FRAME..... 350 LBS.
CURB BOX..... 135 LBS.
GRATE..... 185 LBS.





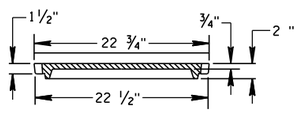
ALTERNATE GRATE
(FOR EXPRESSWAY RAMPS)
TYPES "W" & "X"



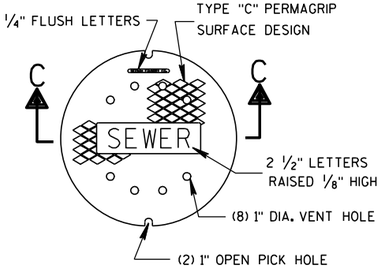
TYPE "X"

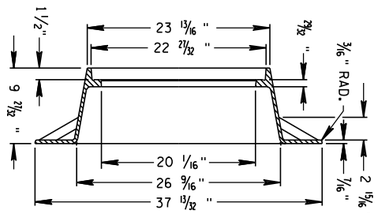
(APPROX. WEIGHT - 470 LBS.)

MANHOLE COVER



SECTION C-C

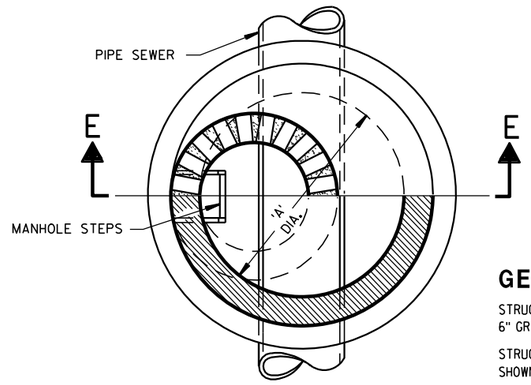




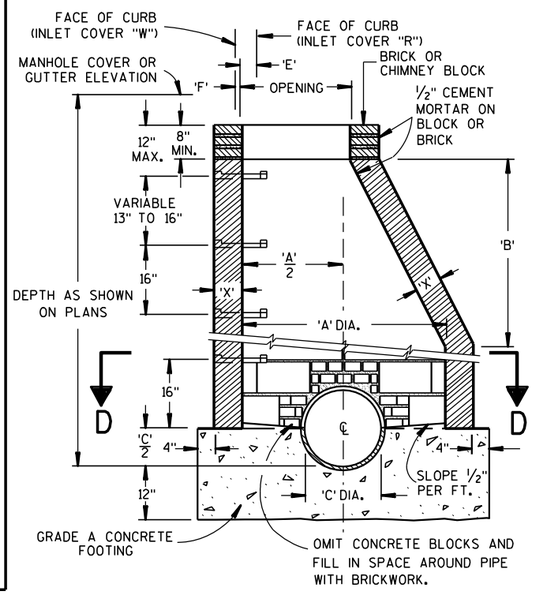
TYPE "Q"

(APPROX. WEIGHT - 290 LBS.)

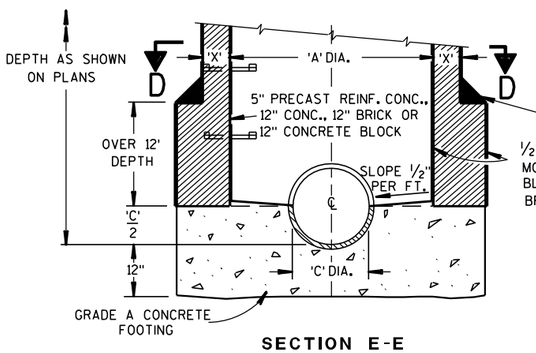
MANHOLE



HALF SECTION D-D



SECTION E-E



SECTION E-E

TYPES 11, 12, 13 & 14

TABLE OF DIMENSIONS

TYPE	'A'	'B'	'C'
11	3'-6"	2'-8"	12" - 36"*
12	4'-0"	3'-8"	12" - 42"**
13	5'-0"	5'-8"	42" - 48"
14	6'-0"	7'-8"	54" - 60"

* 12" - 21" FOR PRECAST MANHOLES
** 12" - 24" FOR PRECAST MANHOLES

THE FIRST STEP SHALL BE PLACED 16" ABOVE THE BENCH.

TABLE OF OPENING DIMENSIONS

COVER TYPE	COVER DESCRIPTION	OPENING	'E'	'F'
"O"	ROUND	2'-2" DIA.	—	—
"W"	CURB BOX	1'-8" X 2'-6"	—	1"
"X"	INLET	1'-10" X 2'-6"	—	—
"R"	CURB BOX	2'-0" X 2'-1"	4"	—

GENERAL NOTES

STRUCTURE WALL THICKNESS 'X' TO BE 8" BRICK, 6" CONCRETE BLOCK, 6" GRADE A CONCRETE OR 5" PRECAST REINFORCED CONCRETE.

STRUCTURE FOOTINGS ARE TO BE GRADE A CONCRETE OF THE THICKNESS SHOWN IN THE DETAIL OR 5" PRECAST REINFORCED CONCRETE.

REINFORCEMENT FOR 5" PRECAST REINFORCED CONCRETE SHALL BE 6" X 6" W16 X W16 WELDED SREEL WIRE FABRIC AND SHALL BE EMBEDDED 2" CLEAR.

PRECAST INLET UNITS AND BASES SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

PRECAST CONCRETE FLAT SLAB TOPS MAY BE USED ON THE STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6" IN DEPTH, WHICH MEETS THE REQUIREMENTS FOR GRANULAR BACK-FILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

SET FRAME ELEVATION 0.03 FT. LOWER THAN ELEVATION INDICATED ON THE PLANS.

THE CONTRACTOR MAY FORM AND POUR MONOLITHIC CONCRETE INVERT PROVIDED THE PIPE ENDS ARE EXTENDED INTO THE M.H. AND NOT TERMINATED WITHIN THE M.H. WALLS.

MANHOLE STEPS

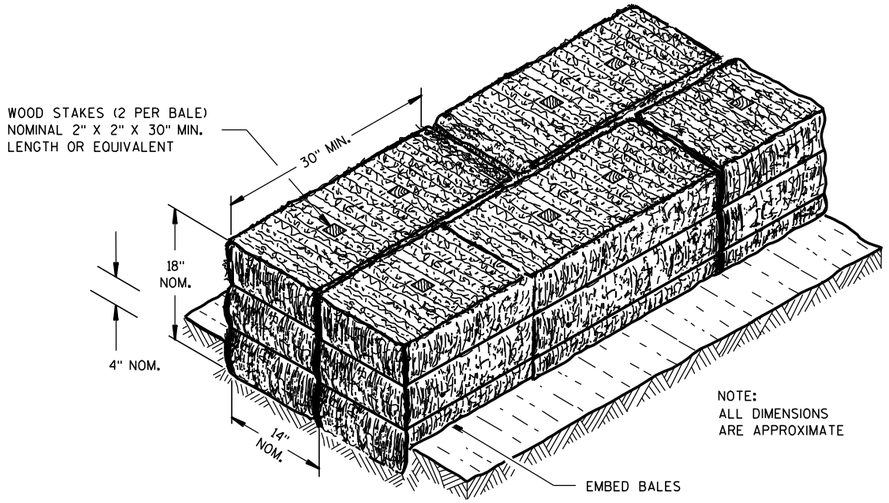
STEPS MEETING THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH; 16 INCH C-C MAX. SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM WALL EMBEDMENT OF 3 INCHES IN PRECAST MANHOLE AND 6 INCHES IN 8 INCH BRICK OR 6 INCH BLOCK MANHOLE; TREAD OF STEP SHALL HAVE A NON-SKID SURFACE AND BE FLANKED BY CLEATS, WITH A MINIMUM OF 10 INCHES CLEAR BETWEEN CLEATS, TO PREVENT FOOT SLIPPING OFF THE EDGE CLEATS SHALL BE A MINIMUM OF 3/4 INCH HIGH BY 3/4 INCH WIDE HAVING A MINIMUM THICKNESS OF 3/8 INCH. STEPS SHALL BE CAPABLE OF SUPPORTING A CONCENTRATED LOAD OF 300 LBS. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

SOLID ALUMINUM STEPS SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 0.75 INCH. ALUMINUM SURFACES TO BE EMBEDDED IN CONCRETE SHALL BE GIVEN ONE COAT OF SUITABLE QUALITY PAINT, SUCH AS ZINC CHROMATE PRIMER CONFORMING TO FEDERAL SPECIFICATION TT-P-645 OR EQUIVALENT. STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCING BAR WILL BE ACCEPTABLE.

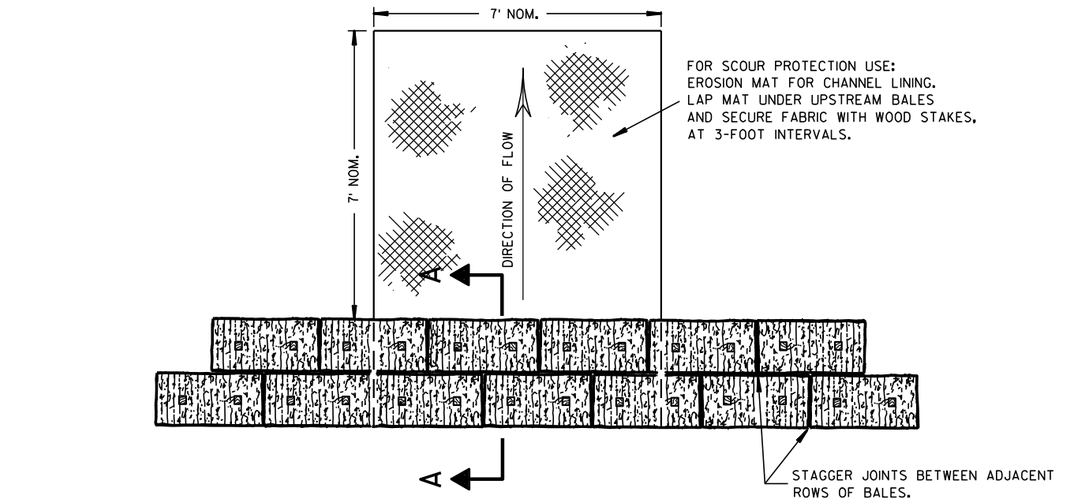
MANHOLES, MANHOLE & INLET COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

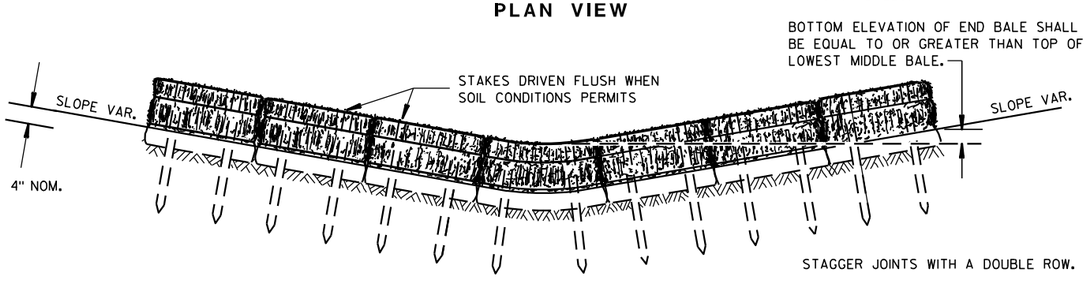
APPROVED
4/12/2011 — DATE
/S/ Jerry H. Zogg — ROADSIDE STANDARDS ENGINEER
FHWA



SECTION A-A



PLAN VIEW



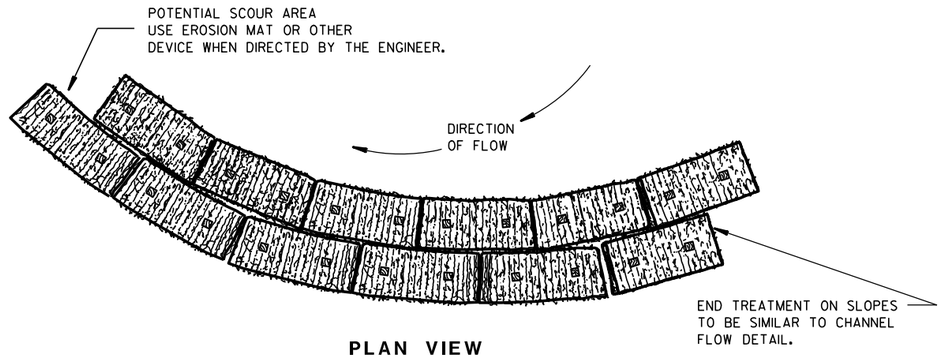
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

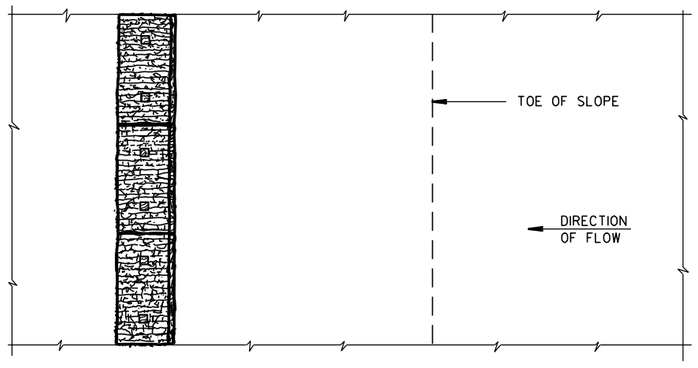
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

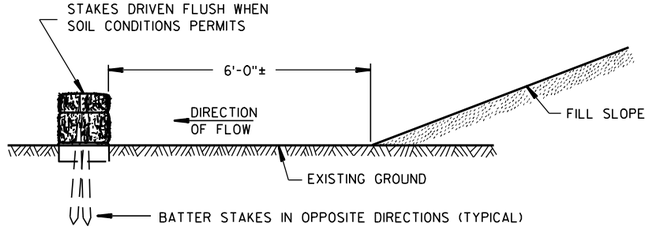


PLAN VIEW

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

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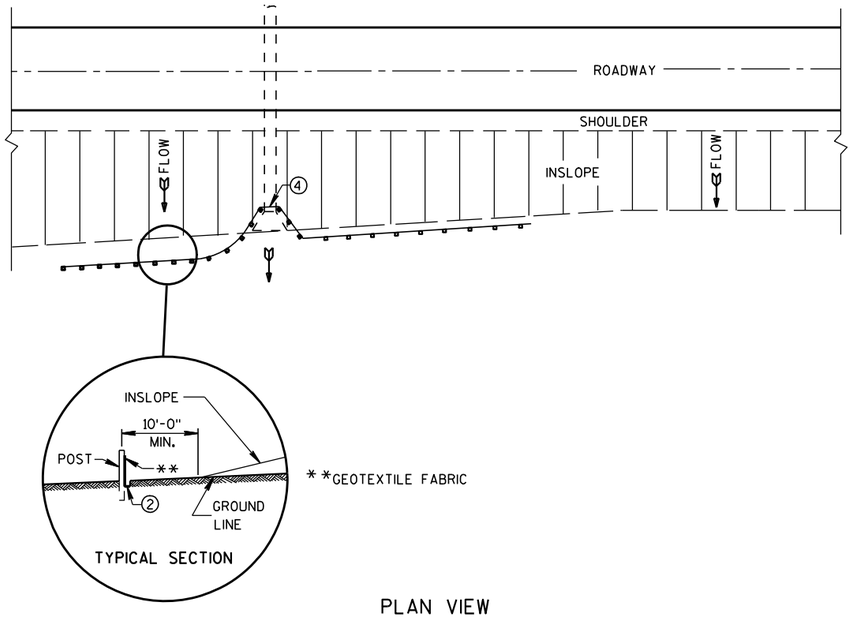
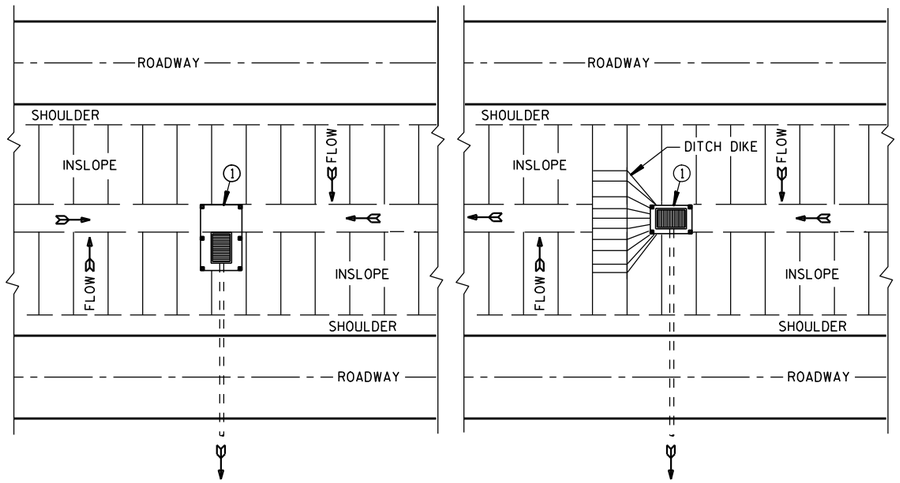
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



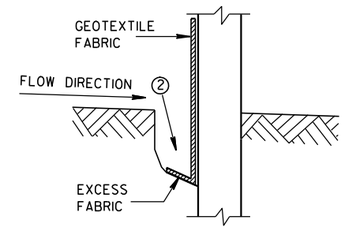
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

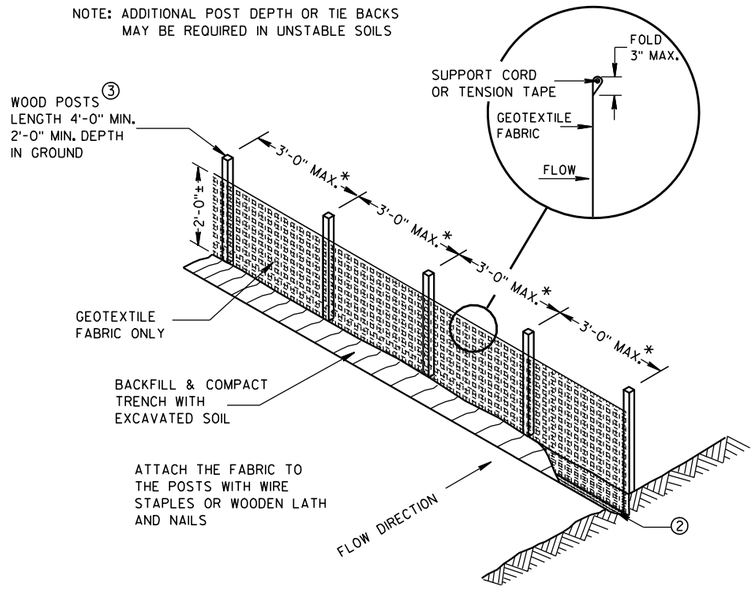
GENERAL NOTES

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.

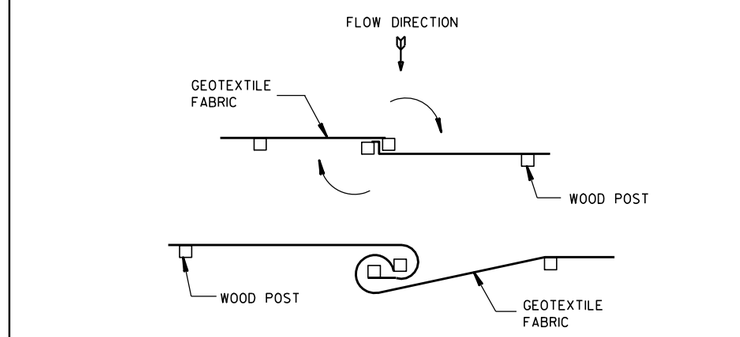


TRENCH DETAIL

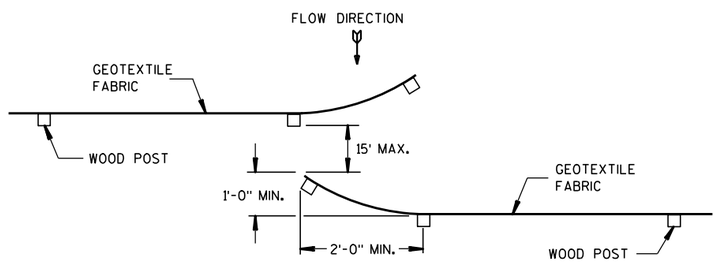


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

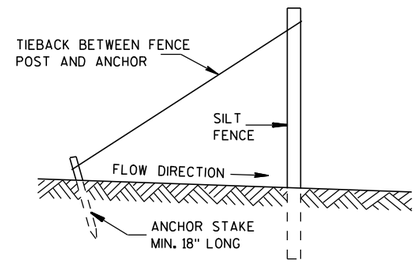


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

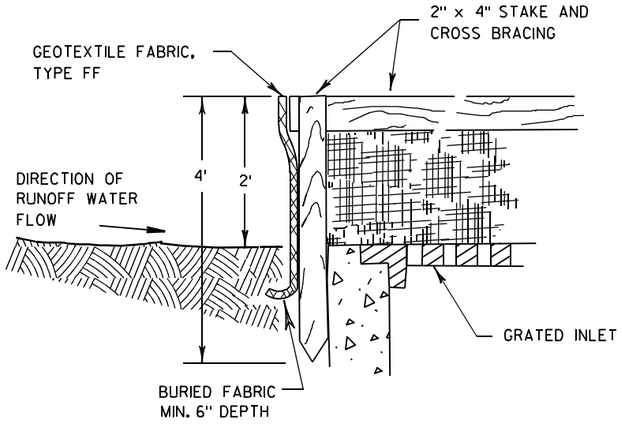
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

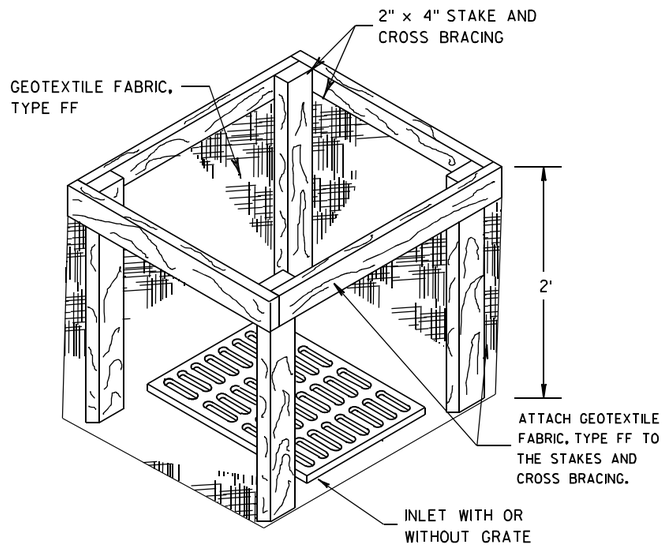
6

S.D.D. 8 E 9-6

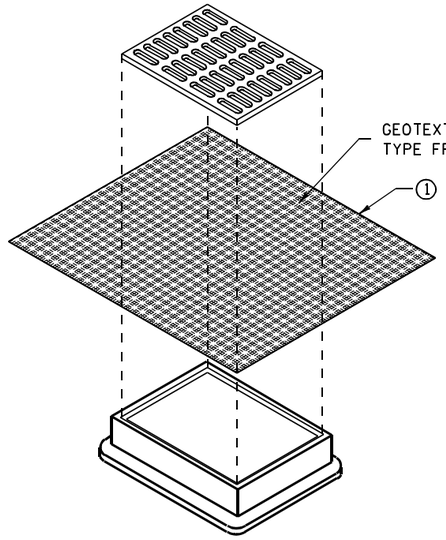
6

S.D.D. 8 E 9-6



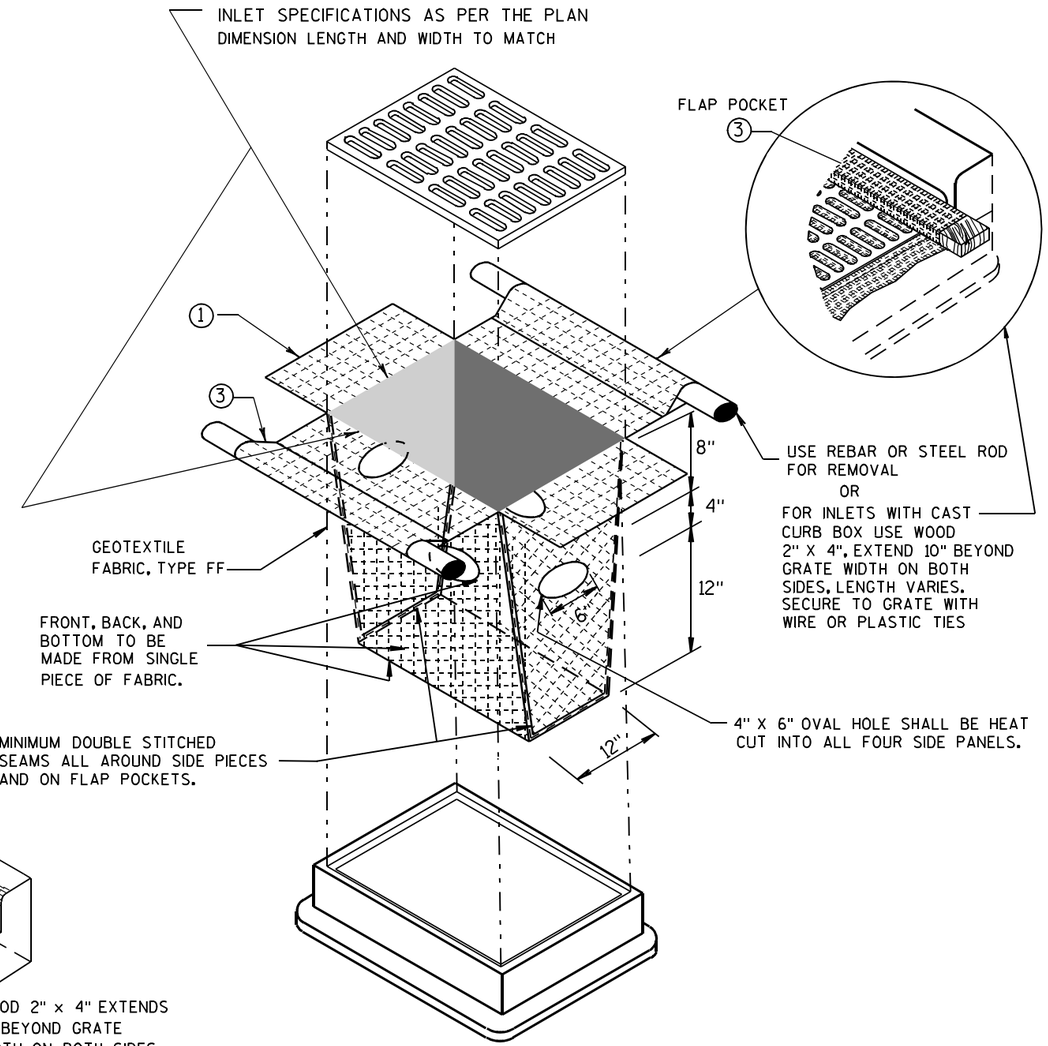


INLET PROTECTION, TYPE A



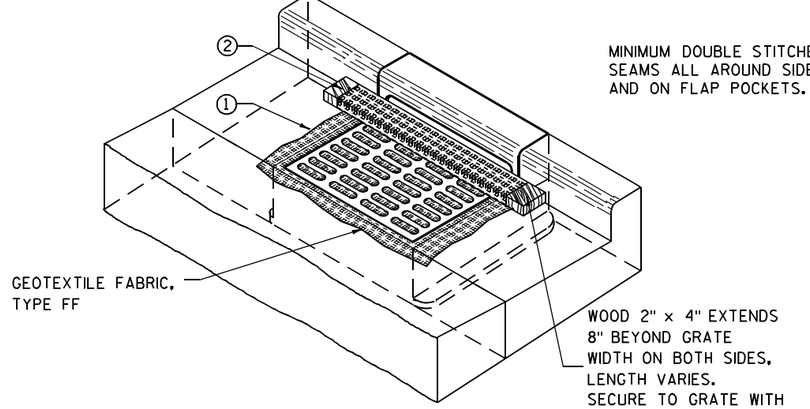
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

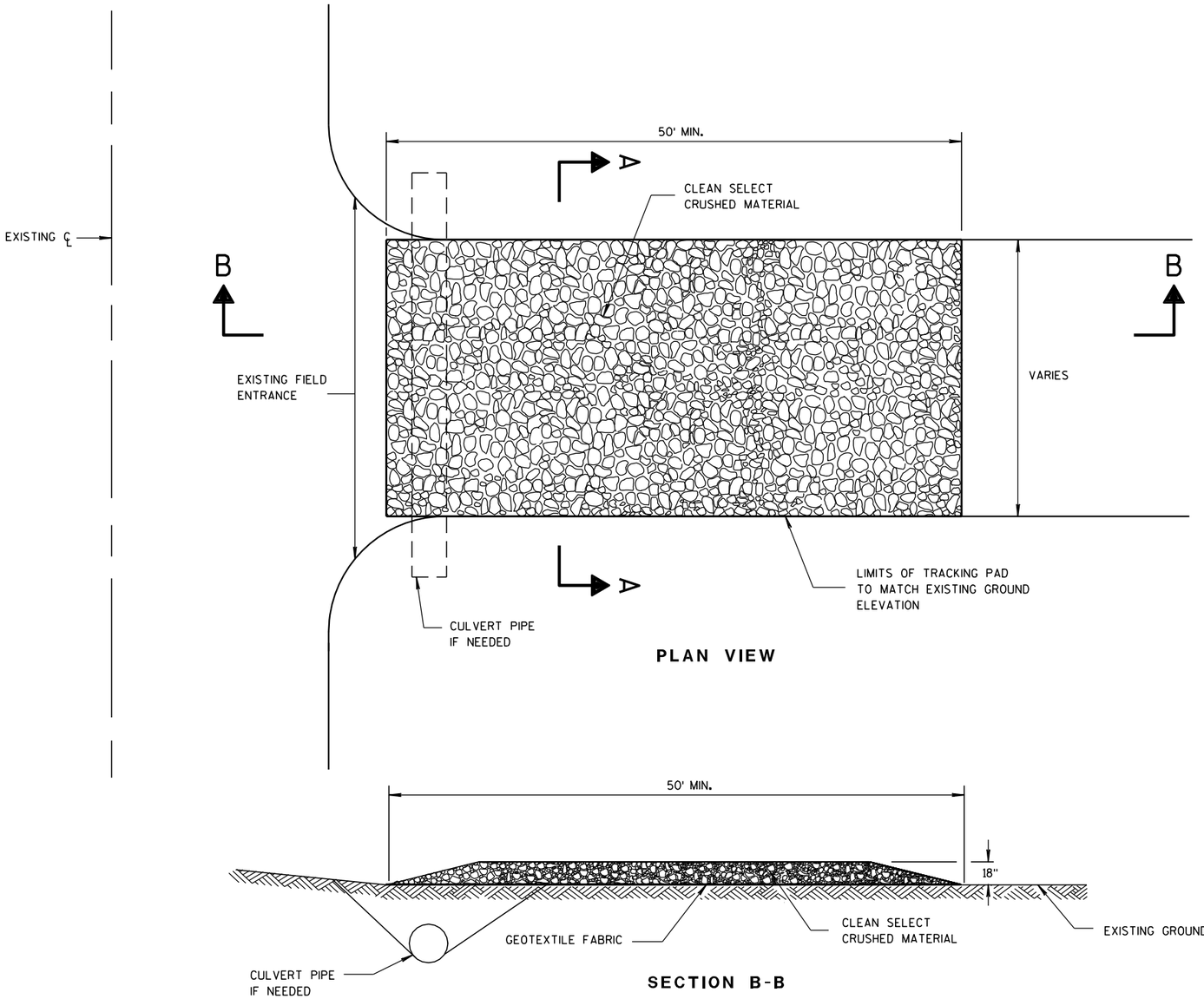
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



PLAN VIEW

SECTION B-B

GENERAL NOTES

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

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

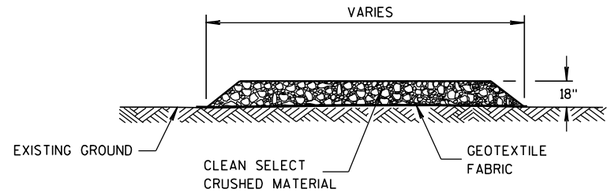
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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



SECTION A-A

TRACKING PAD

6

S.D.D. 8 E 14-1

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

FHWA

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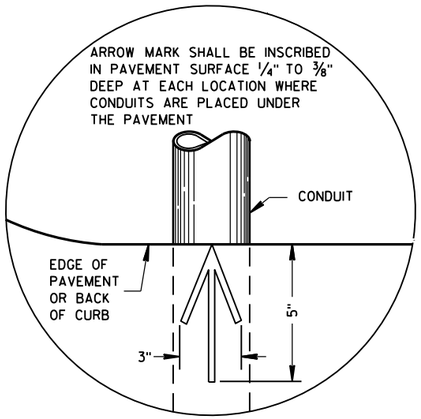
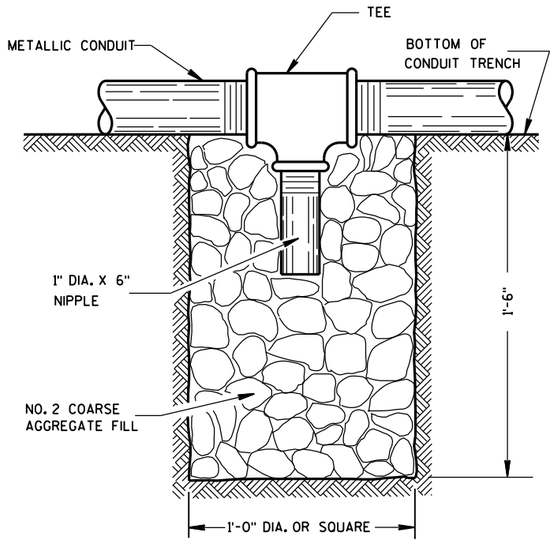
S.D.D. 8 E 14-1



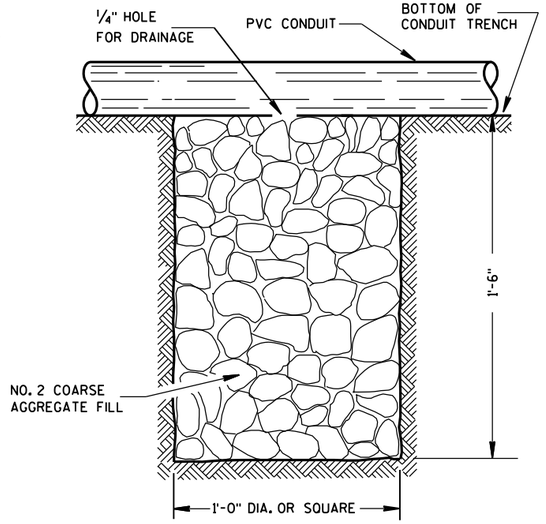
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

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.

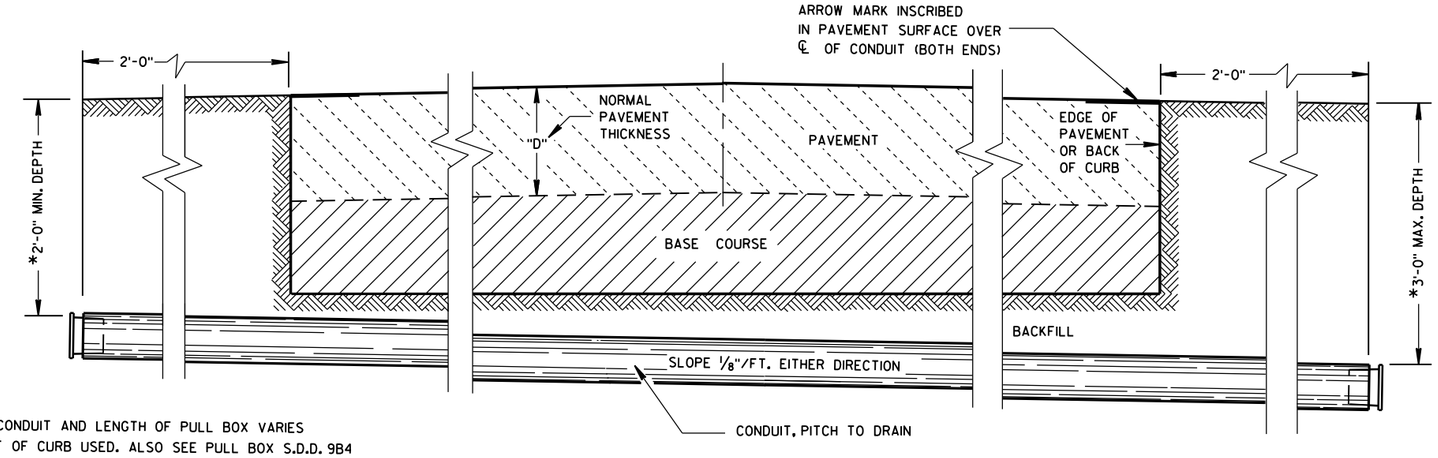
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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.



*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

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 B 2-9

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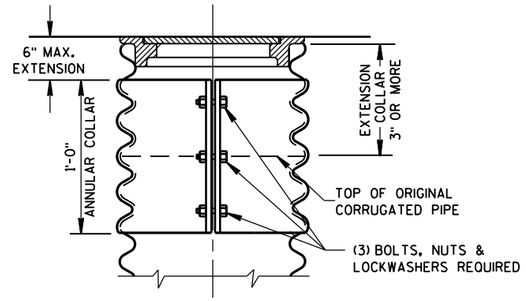
S.D.D. 9 B 2-9

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

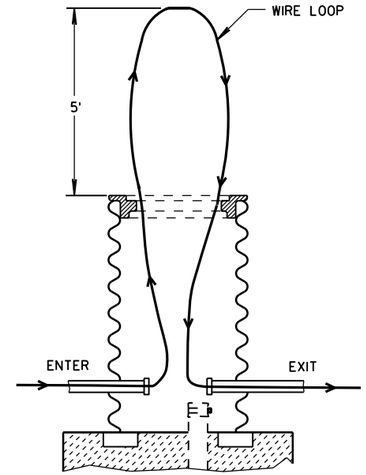
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
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.

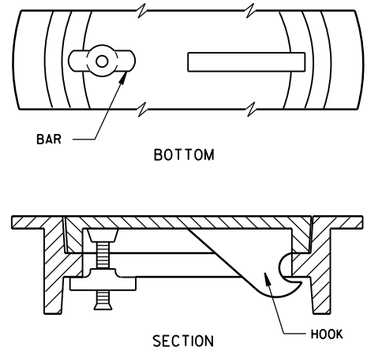
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

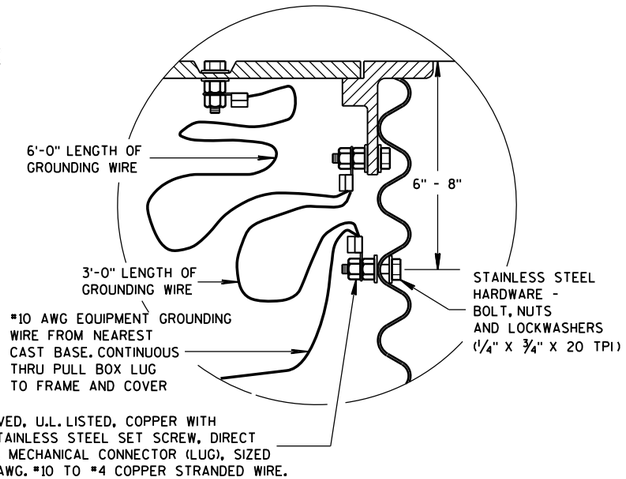


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

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.

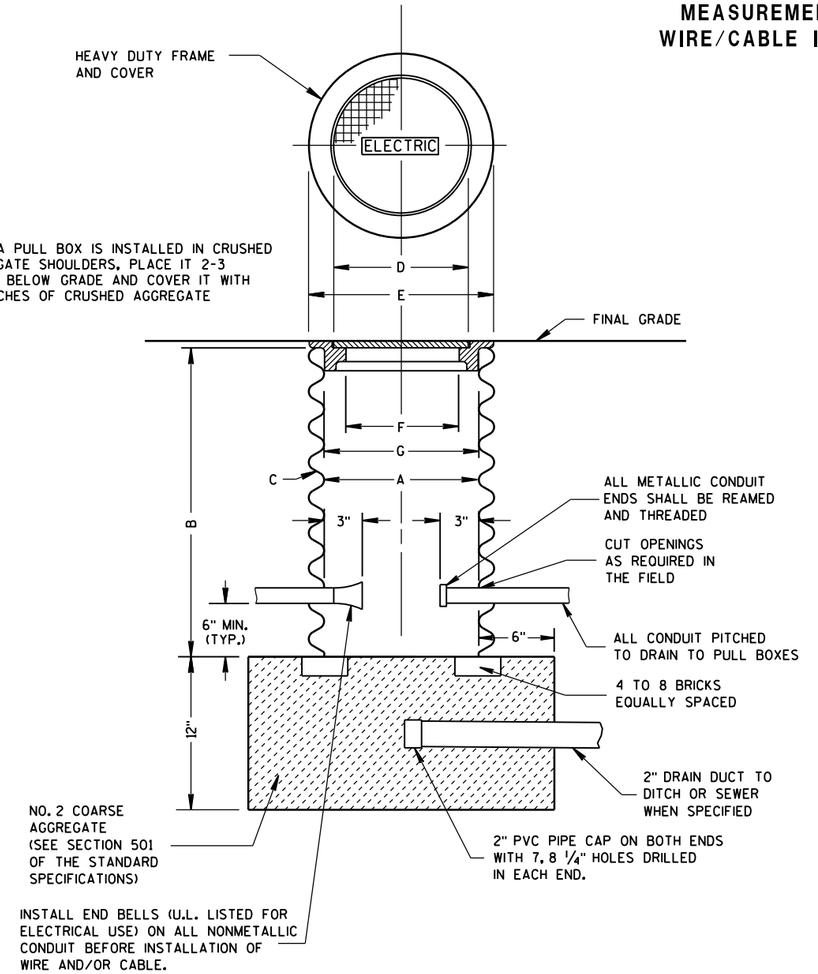
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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

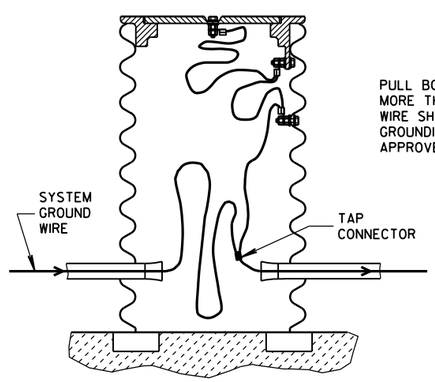
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

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.



PULL BOX



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

S.D.D. 9 B 4-11

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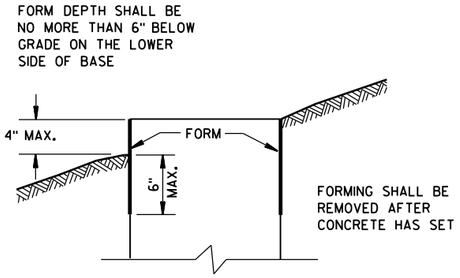
S.D.D. 9 B 4-11



FORMING DETAIL

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

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

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

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

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

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

GENERAL NOTES (CONTINUED)

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

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

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

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

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

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

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

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

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

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

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

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

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

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

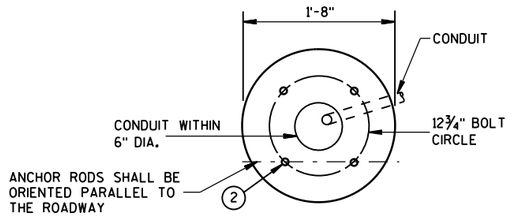
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

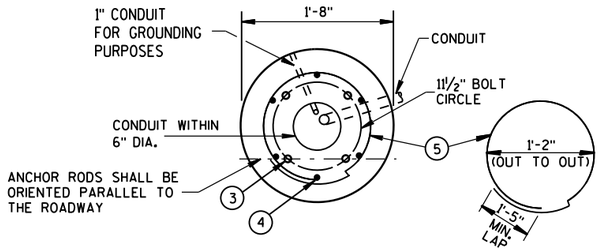
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

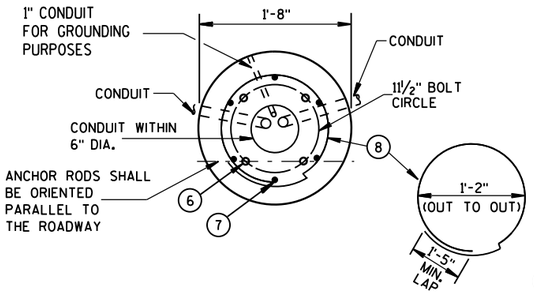
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

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

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

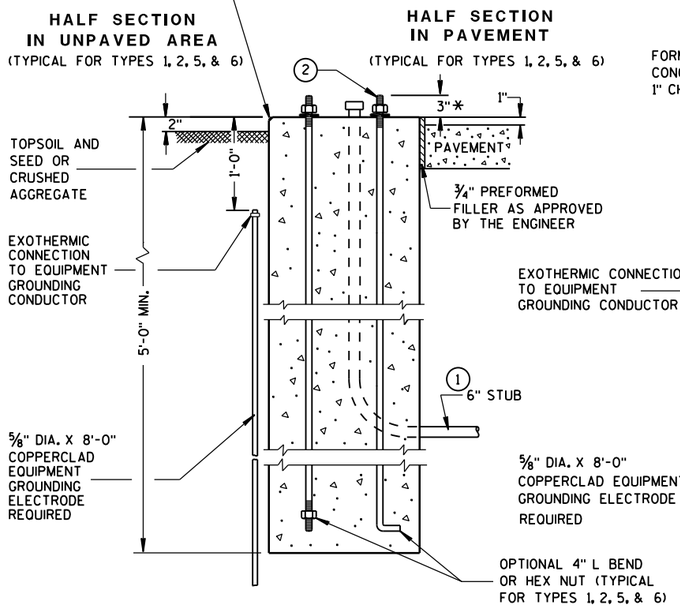






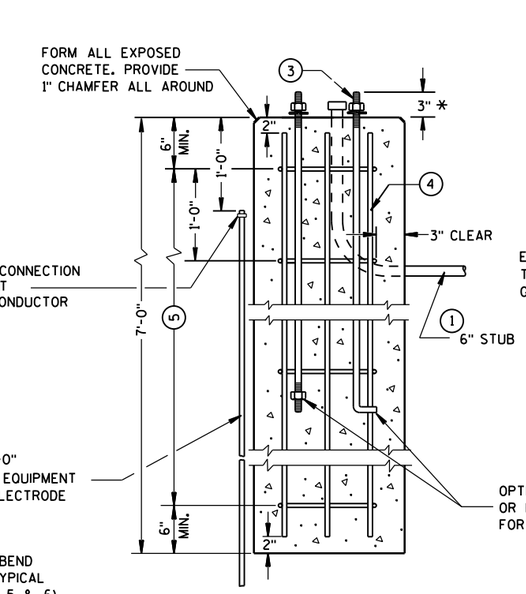
HALF SECTION IN UNPAVED AREA

(TYPICAL FOR TYPES 1, 2, 5, & 6)

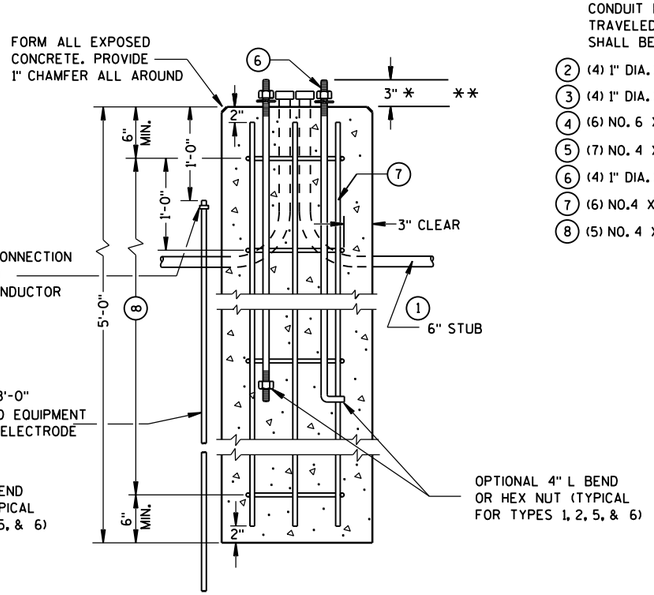


HALF SECTION IN PAVEMENT

(TYPICAL FOR TYPES 1, 2, 5, & 6)



TYPE 2



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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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.

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 641.2.2 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.

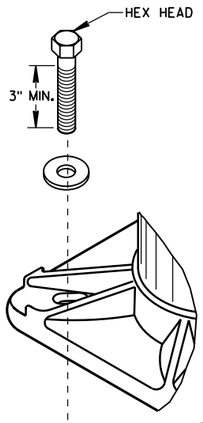
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

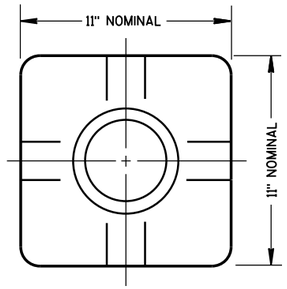
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

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

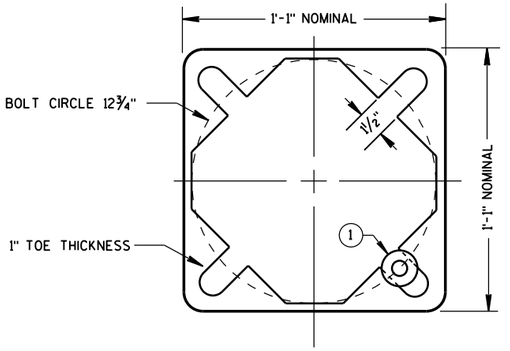
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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

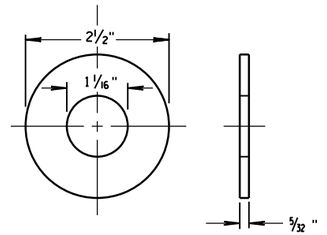




TOP VIEW
(PEDESTAL BASE)

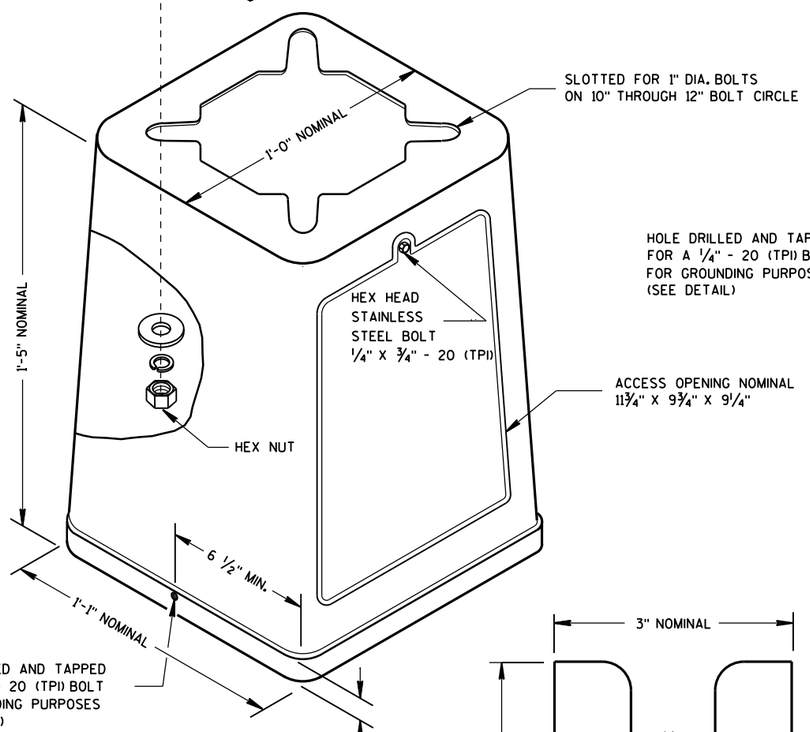


BOTTOM VIEW
(PEDESTAL BASE)

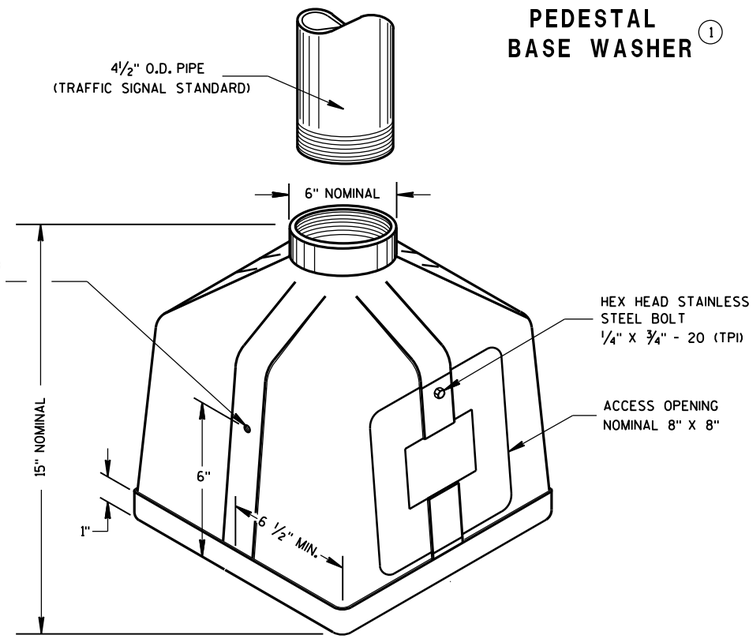


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

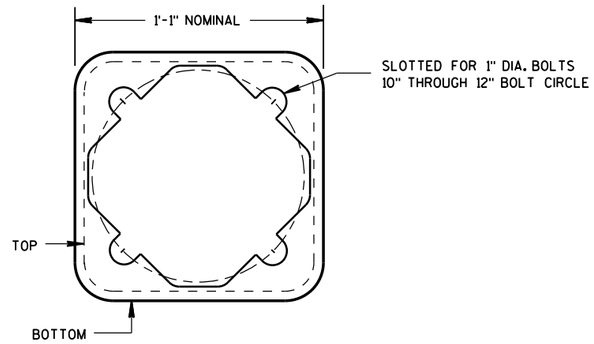


ISOMETRIC VIEW

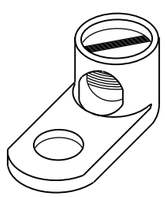


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

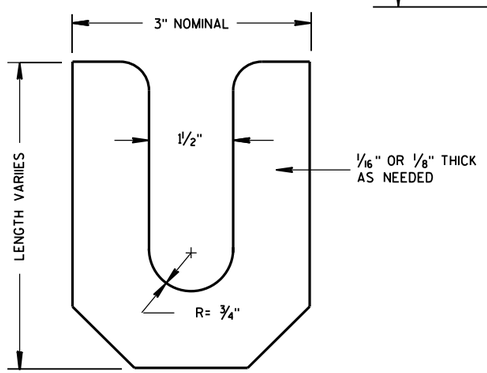


TYPICAL MECHANICAL CONNECTOR LUG

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
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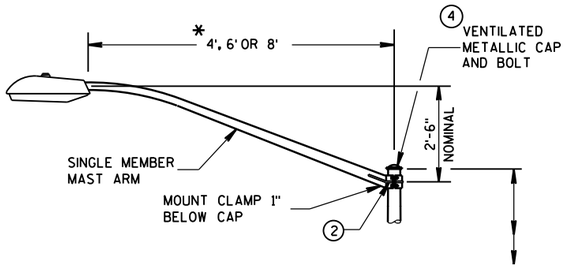
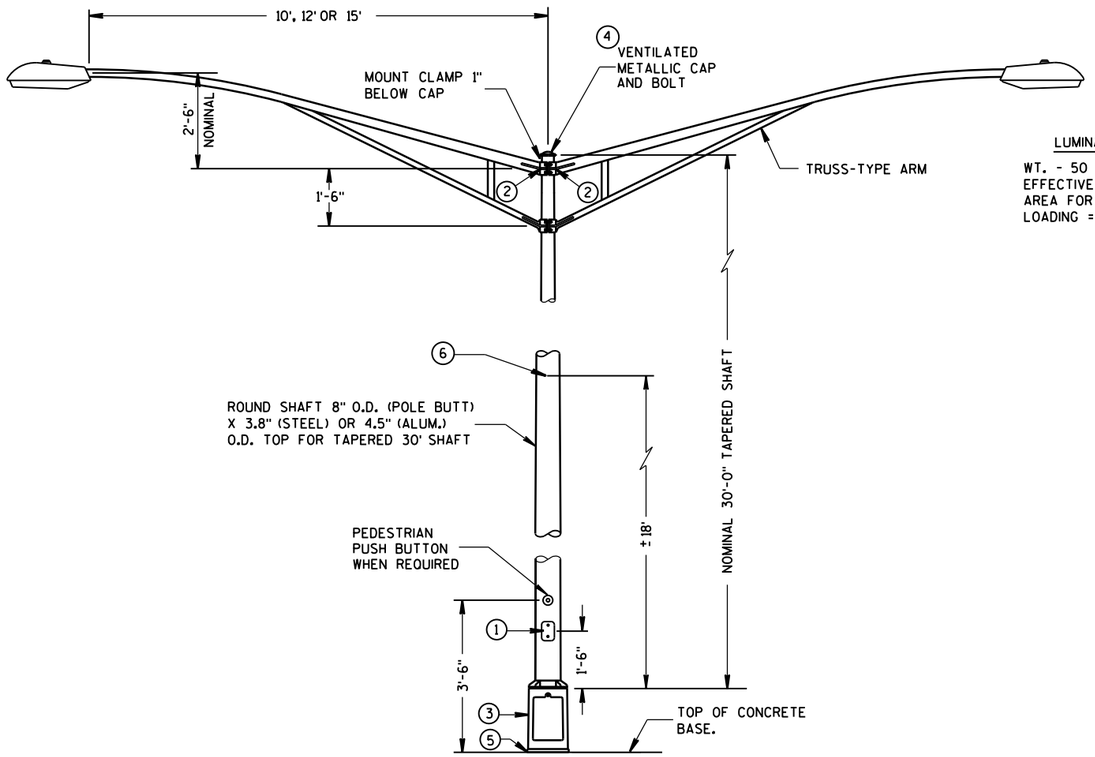
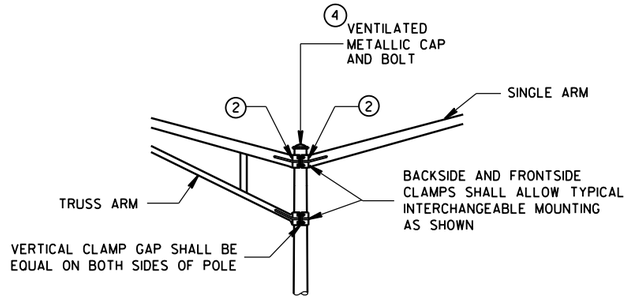
*RISE FOR 4' ARM SHALL BE 2'-0".





TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY



INTERCHANGEABLE MOUNTING DETAIL

LUMINAIRE

WT. - 50 LBS.
EFFECTIVE PROJECTED
AREA FOR WIND
LOADING = 1.5 SQ. FT.

GENERAL NOTES

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

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.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONEECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

(1) 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" 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 THE TRANSFORMER BASE.

(6) INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

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POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

STATE OF WISCONSIN
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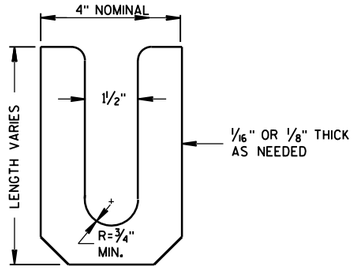
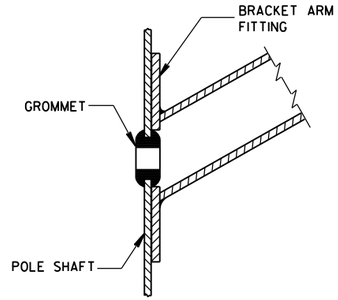
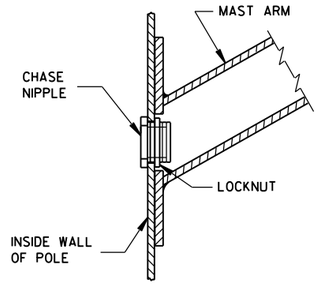


LEVELING SHIM (13)

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.

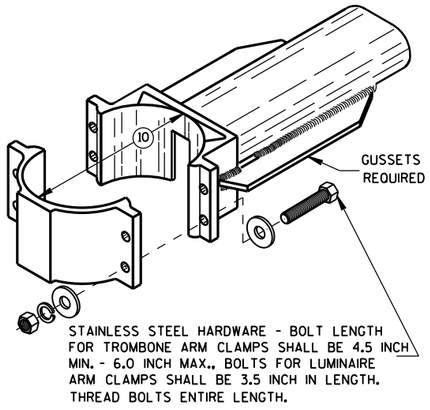
(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(11) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

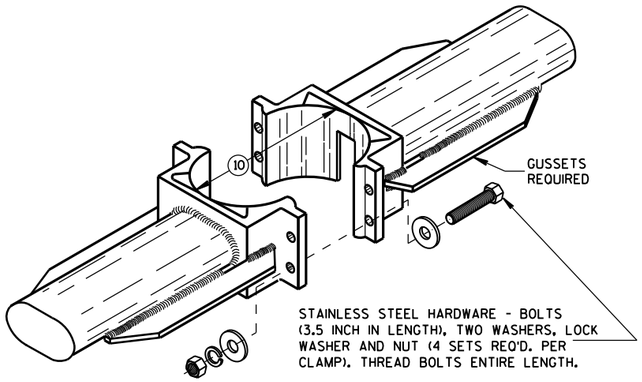
(12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(13) 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.

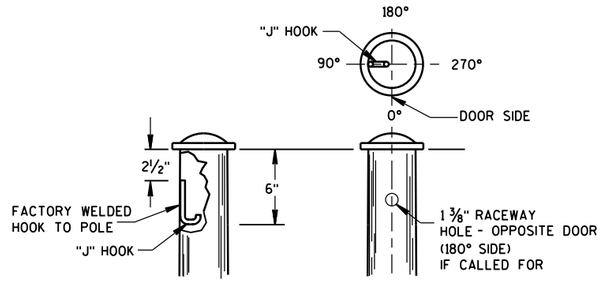
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



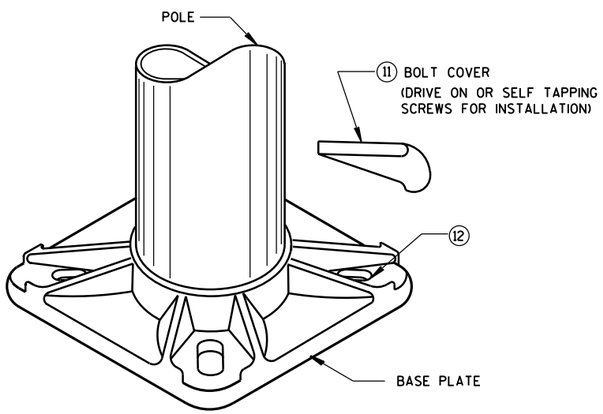
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



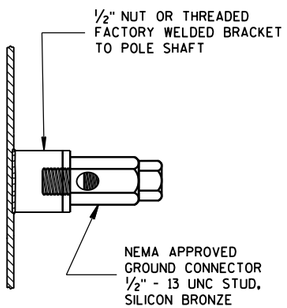
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

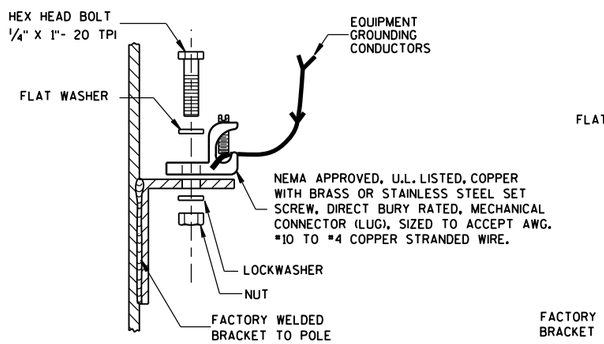


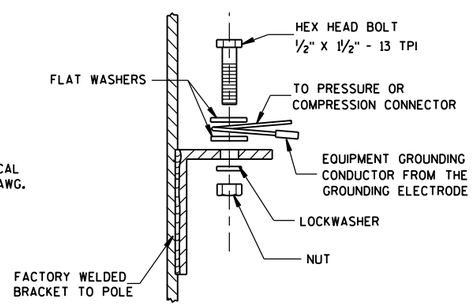
TYPICAL "J" HOOK LOCATION



BASE PLATE







TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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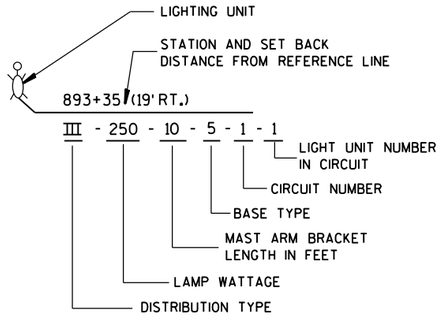
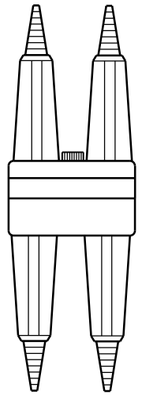
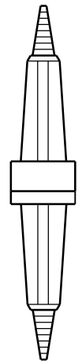


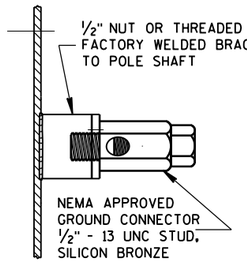
LIGHTING UNIT CODE
(TYPICAL)

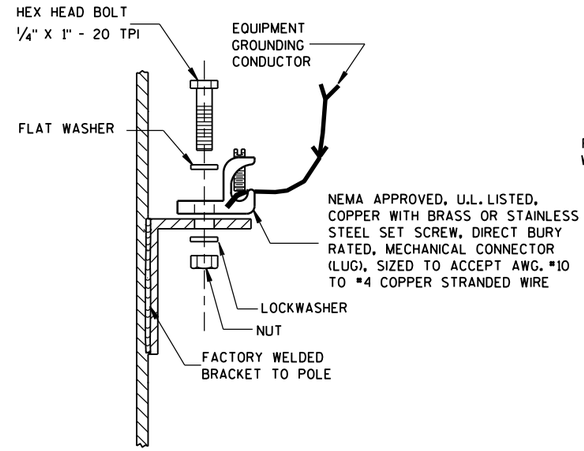


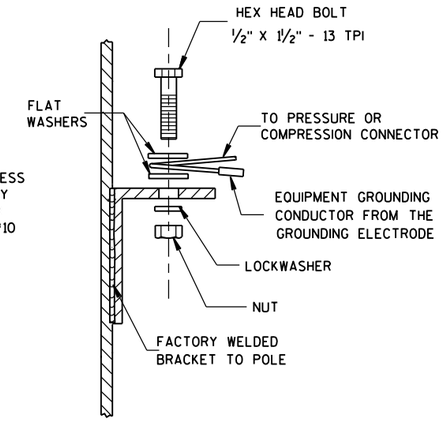
DETAIL "A"
BREAKAWY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



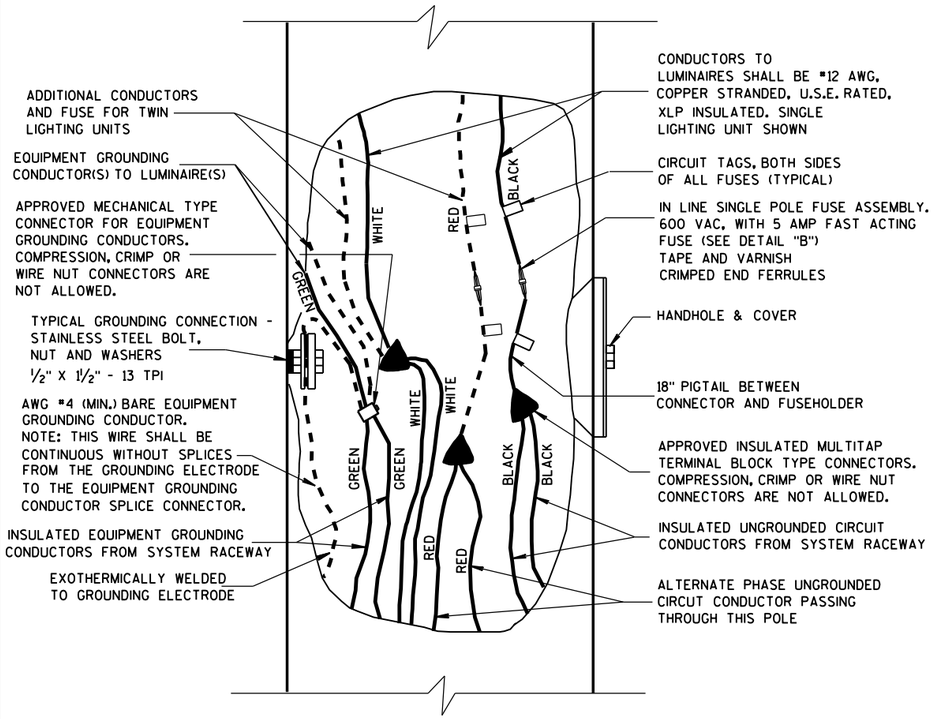
DETAIL "B"
BREAKAWY SINGLE POLE WITH WATERPROOF INSULATING BOOT



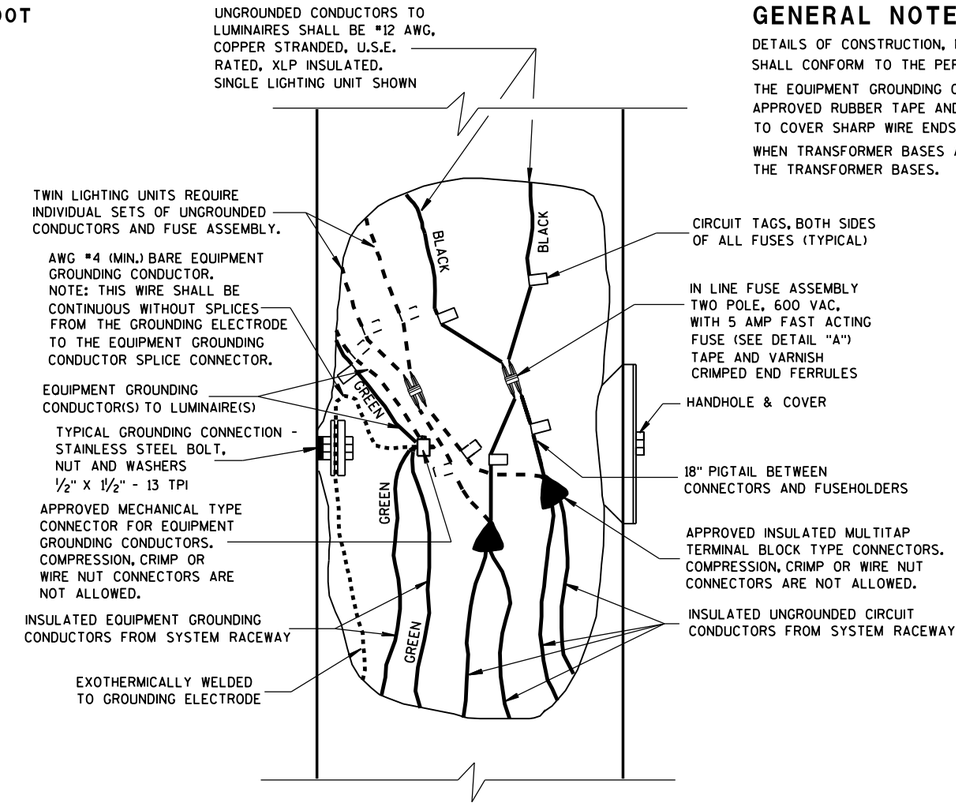




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTOR) WITH GROUNDED CONDUCTOR AND WITH EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 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.

NON-FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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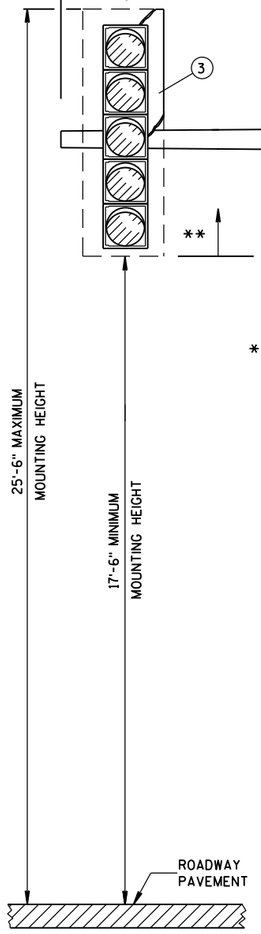
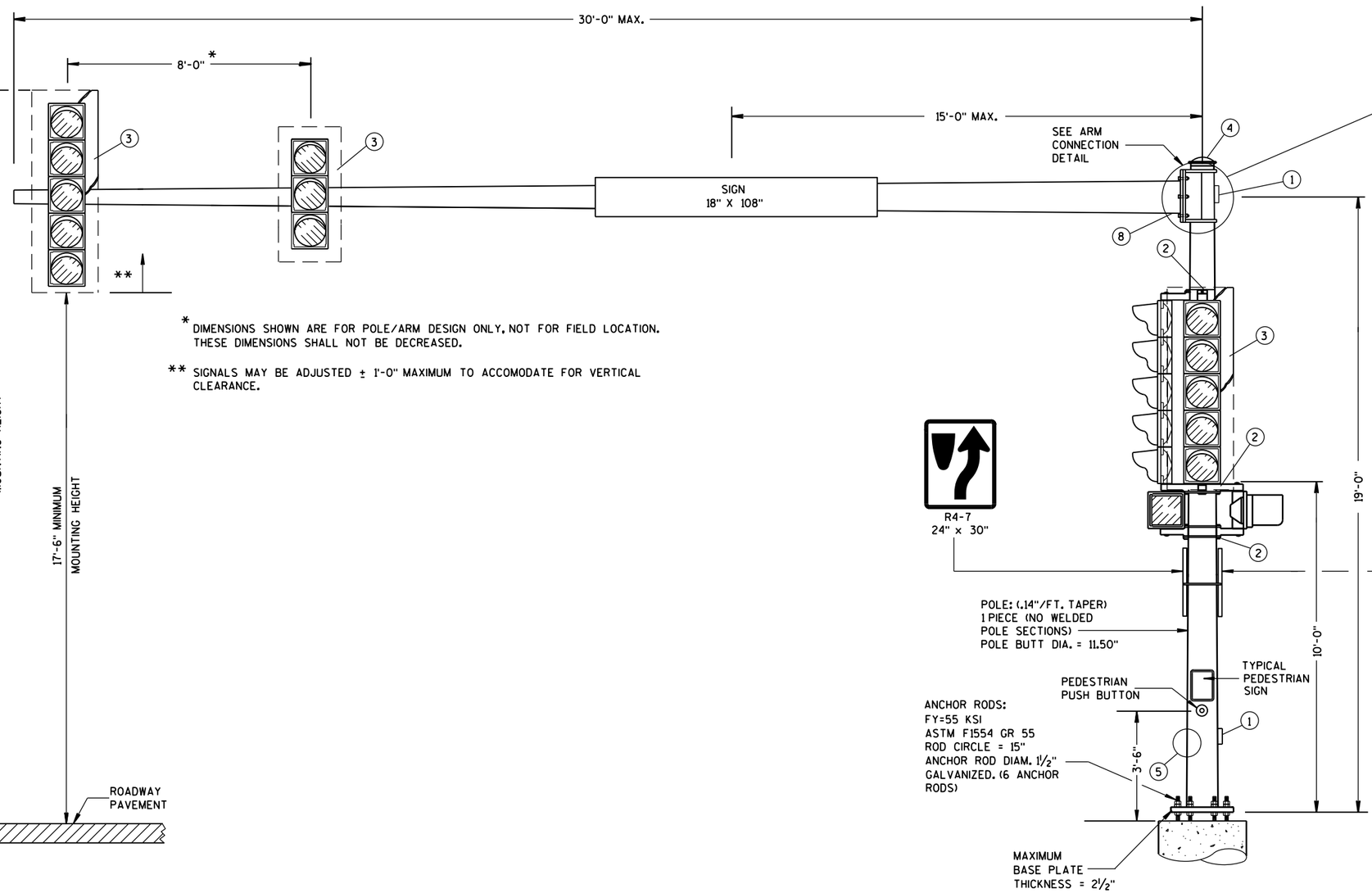
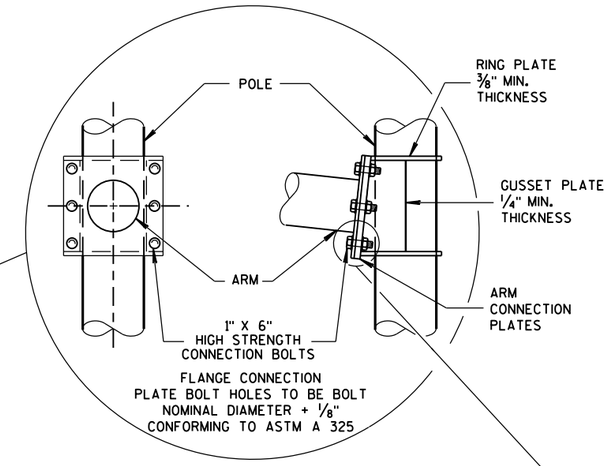
S.D.D. 9 E 3-5



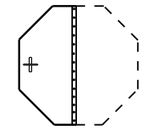


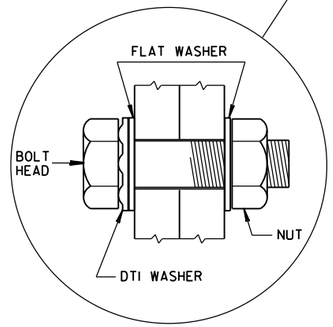
* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.

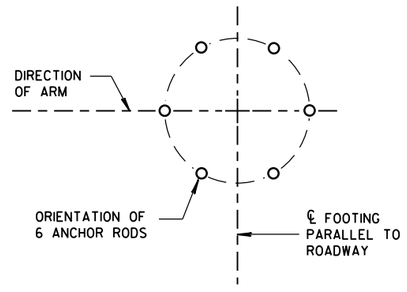


6 BOLT ARM CONNECTION DETAIL





RECOMMENDED BOLT ASSEMBLY DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 9 POLE 15'- 30' MONOTUBE ARM

TYPE 9 POLE 15' - 30' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May, 2016 DATE FHWA	/S/ Ahmet Demirbilek STATE ELECTRICAL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP 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 12 AND 13 ARE FOR ARM LENGTHS 35-FOOT TO 55-FOOT.

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

RING-STIFFENED BUILT-UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3 % ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATIONS 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 2013 6TH EDITION AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND 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 GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" S.S. 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 AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEADS 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 HANDHOLE 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 SPECIFICATIONS SEC. 658).

(3) SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

(4) THE TOP OF THE POLE SHAFT AND THE END OF 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 HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

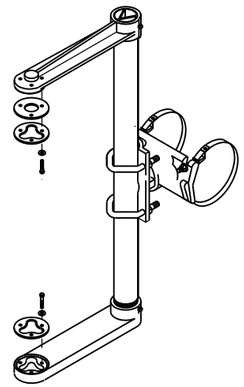
(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

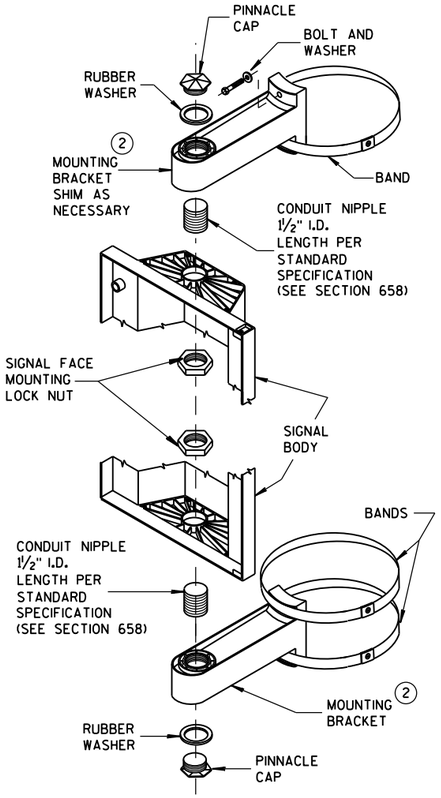
MOUNTING HEIGHT SHALL BE 6'-0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

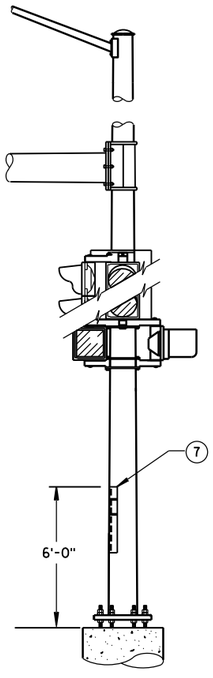


SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

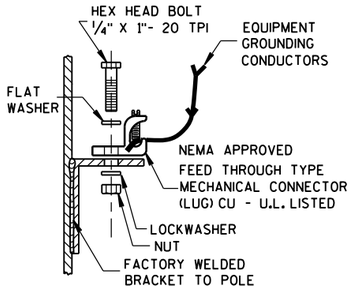
(MOUNT PER MANUFACTURER'S RECOMMENDATION)



SIGNAL FACE VERTICAL MOUNTING DETAIL

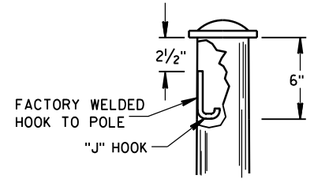


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT



TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



"J" HOOK WIRE SUPPORT (6)

GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2016 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

S.D.D. 9 E 8-8e

GENERAL NOTES

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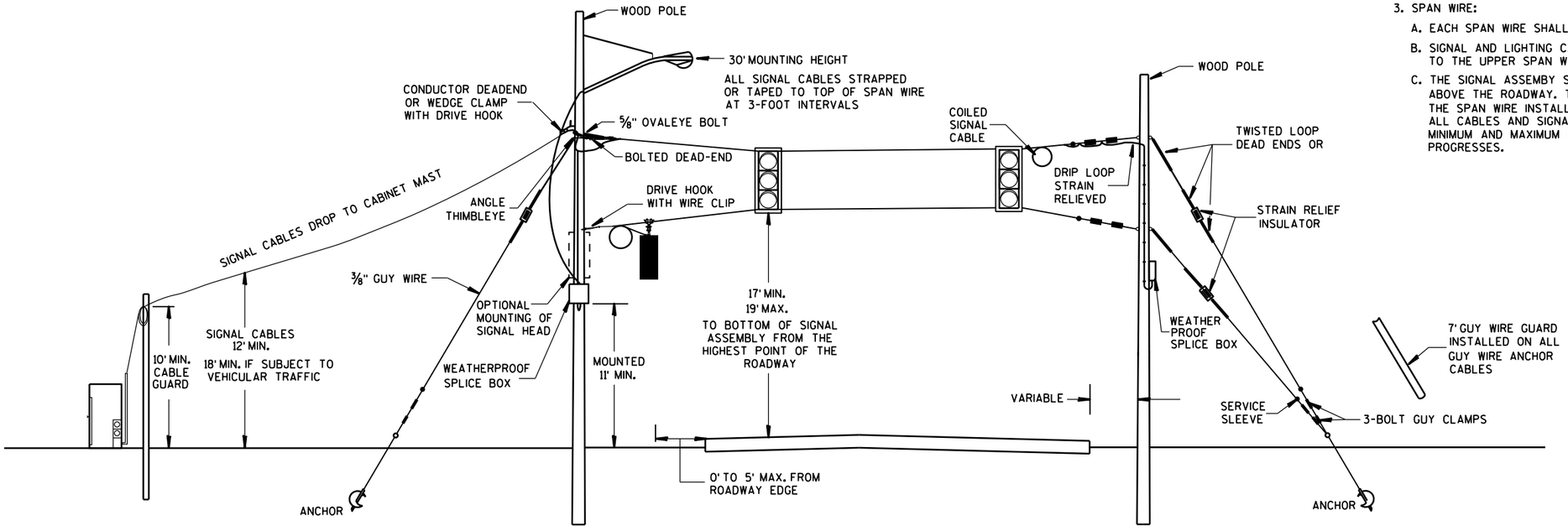
1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.

2. SIGNAL FACES:
   A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
   B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
   C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
   D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.

3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.



SPAN WIRE
TEMPORARY SIGNALS

MINIMUM POLE LENGTHS	POLE BURIEL DEPTHS
25'	5'
30'	6'
35'	7'
40'	8'
45'	9'

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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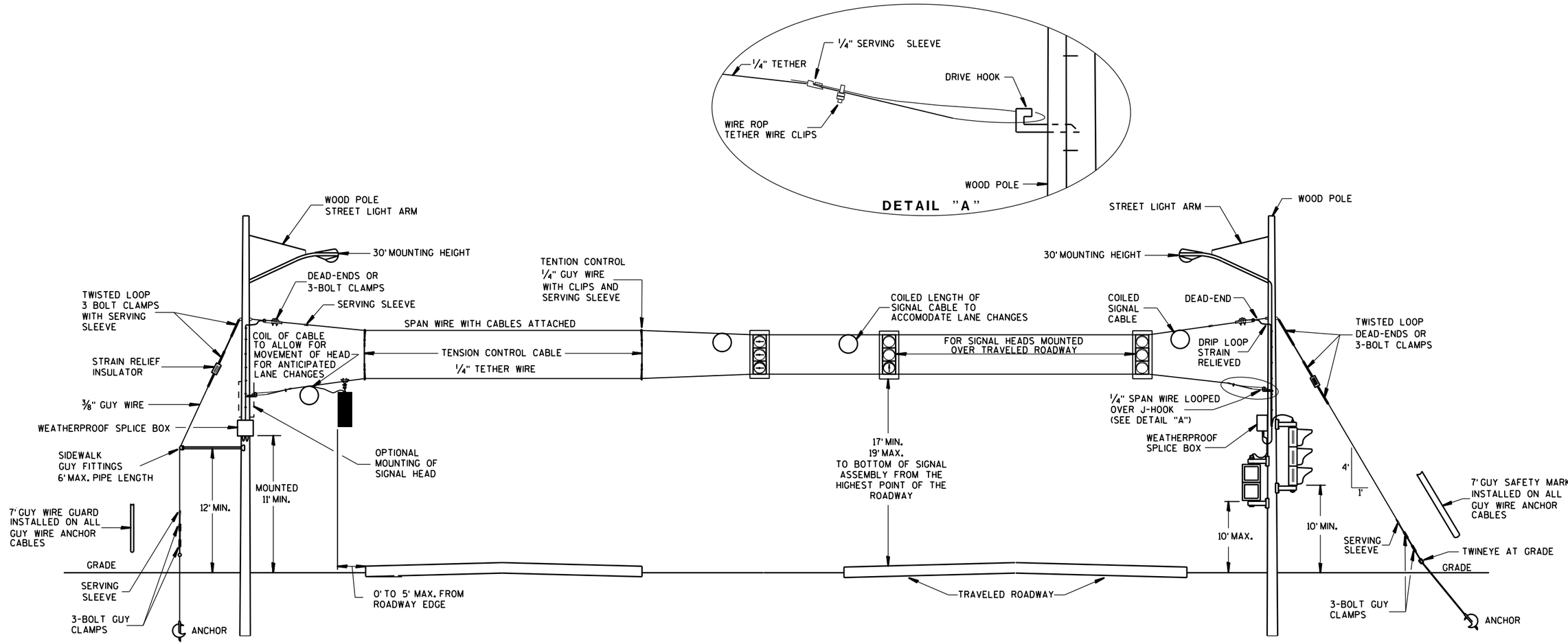
S.D.D. 9 G 1-4a



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   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
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SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

MINIMUM POLE LENGTHS	CLASS	MIN. BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
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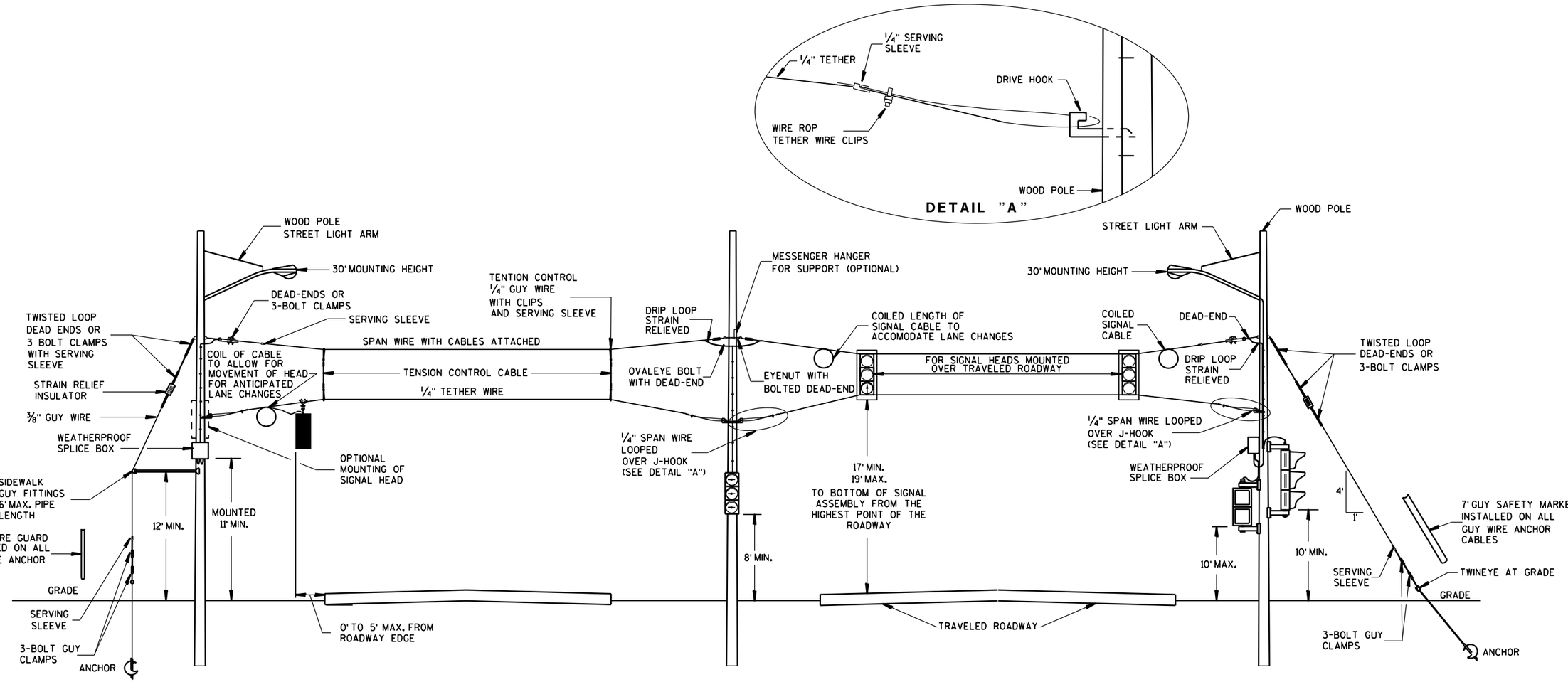
S.D.D. 9 G 1-4b



SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

GENERAL NOTES

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MINIMUM POLE LENGTHS	CLASS	MIN. BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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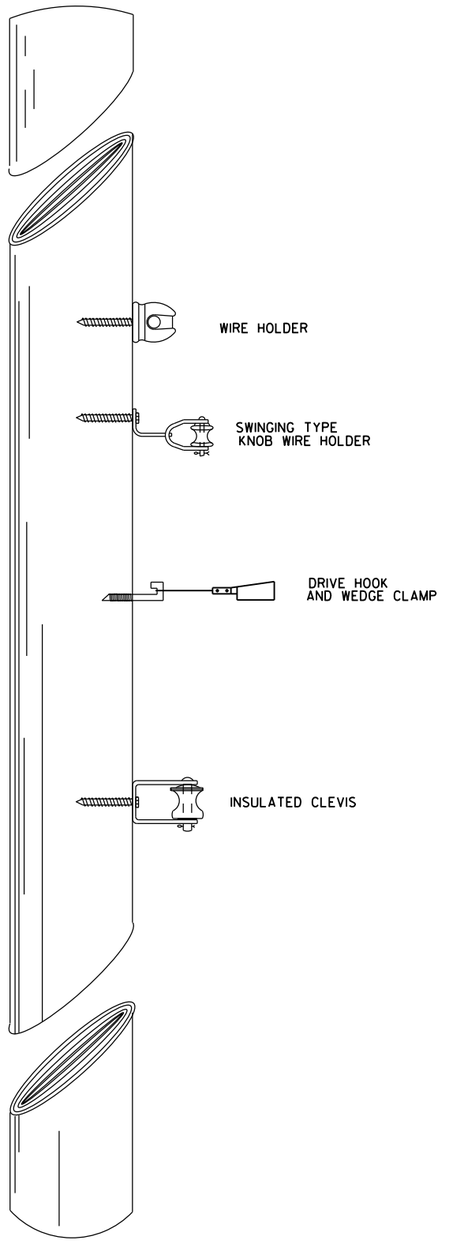
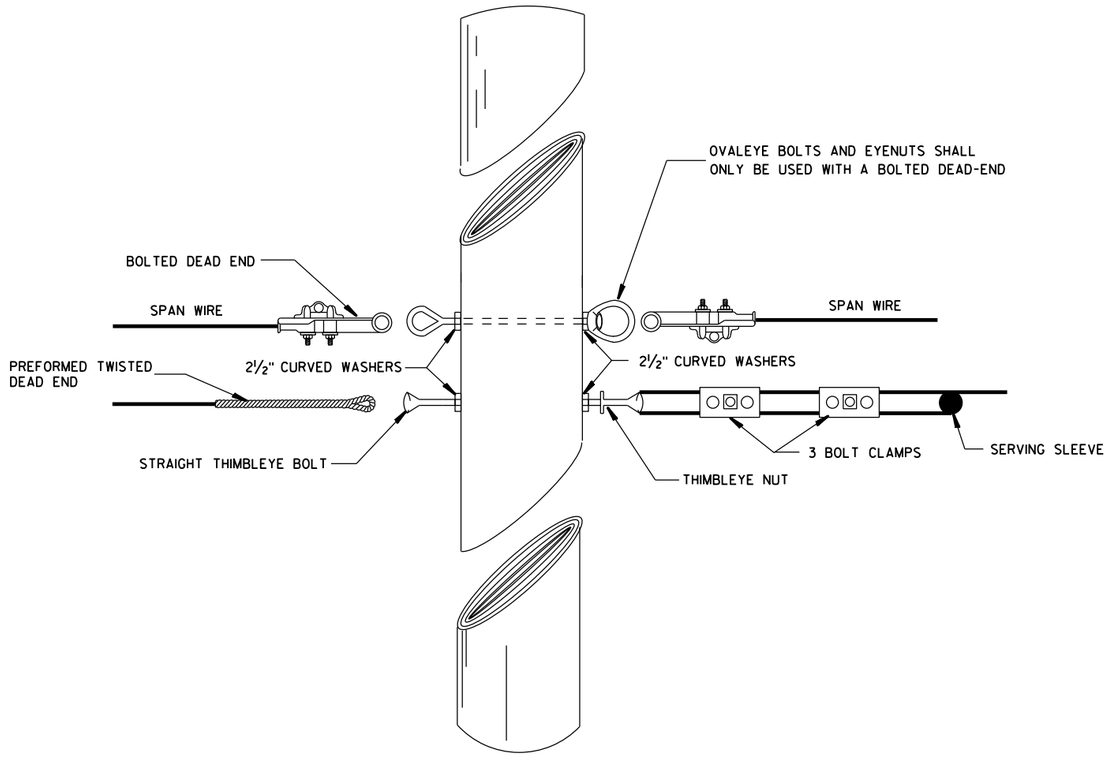
S.D.D. 9 G 1-4c



TYPICAL CABLE HANGERS



TYPICAL DEAD-ENDING

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
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S.D.D. 9 G 1-4d

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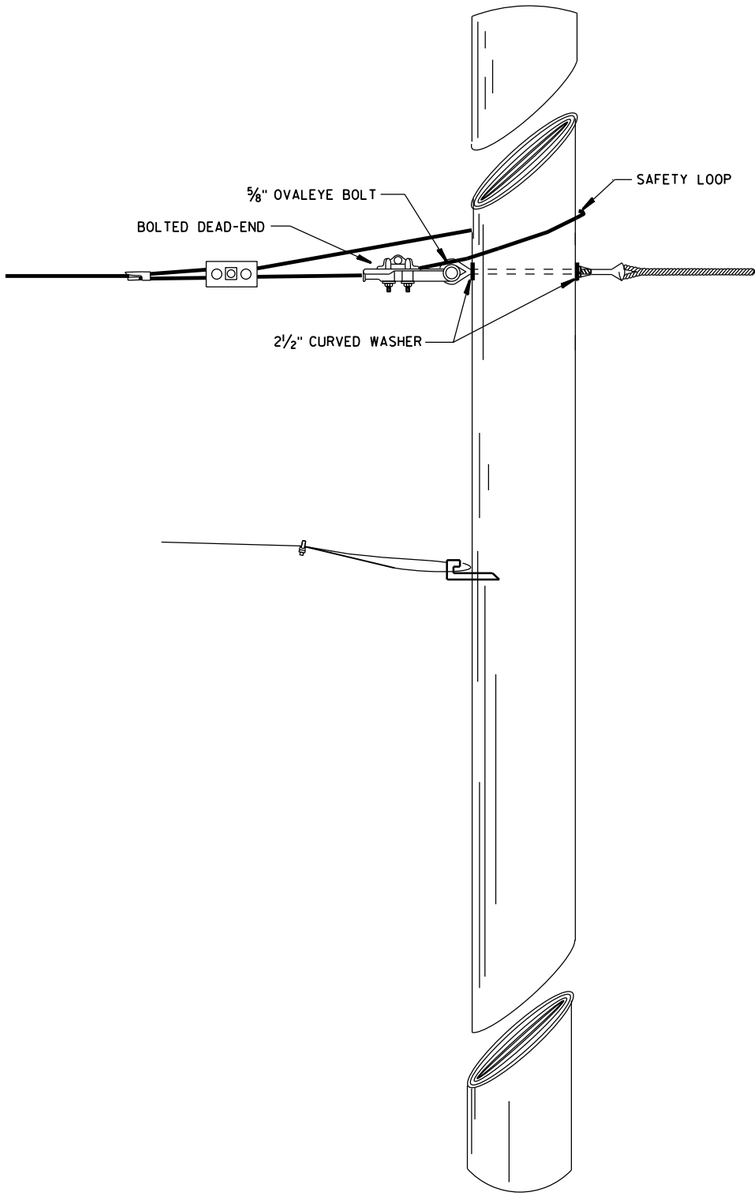
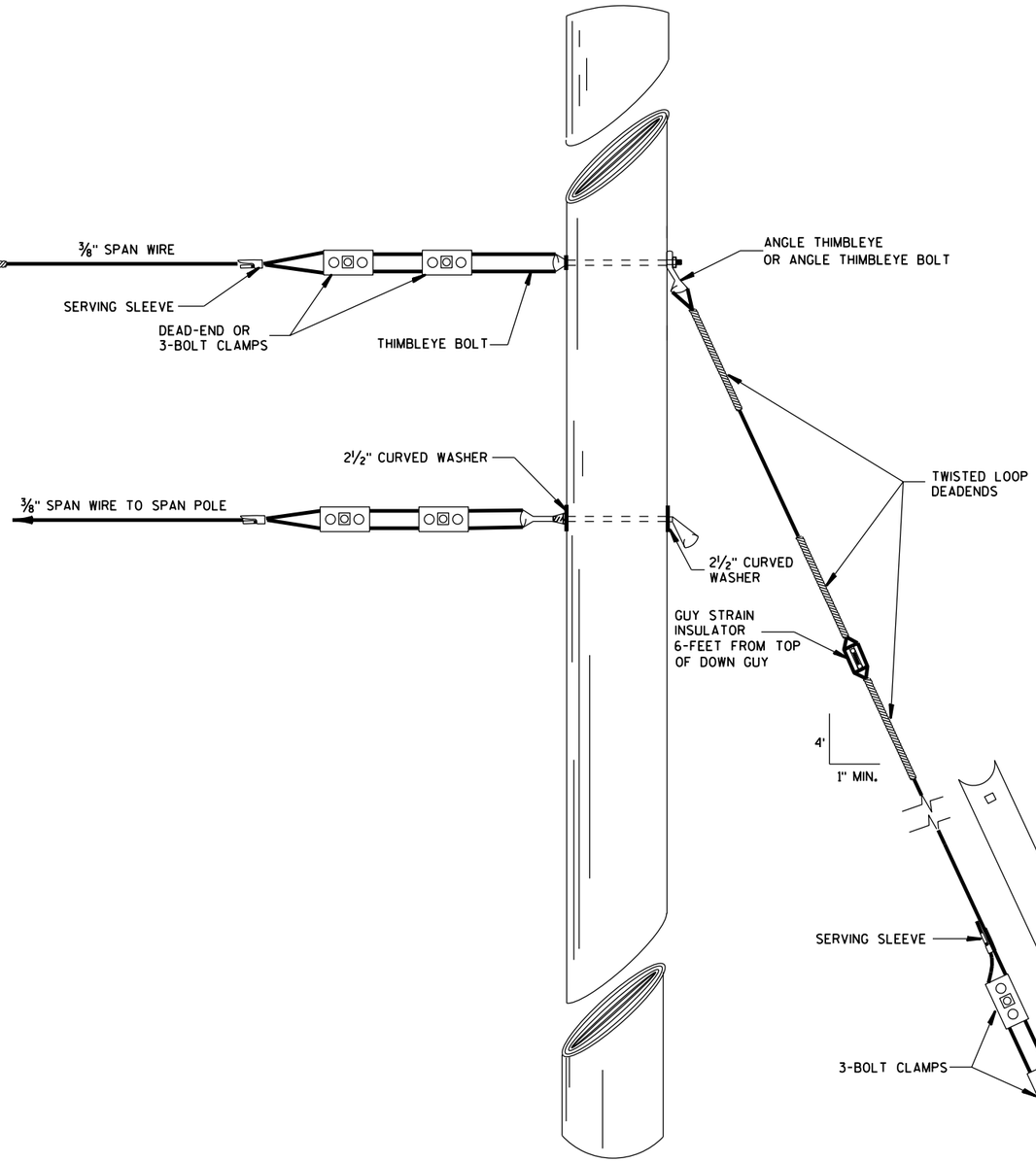
S.D.D. 9 G 1-4d

GENERAL NOTES

1. USE ¾" DRILL IN WOOD POLE TO PROVIDE HOLE FOR ⅝" BOLTS.
2. SAFTY LOOP REQUIRED ON EACH END OF ALL SPAN WIRES.



SPAN WIRE POLE



GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
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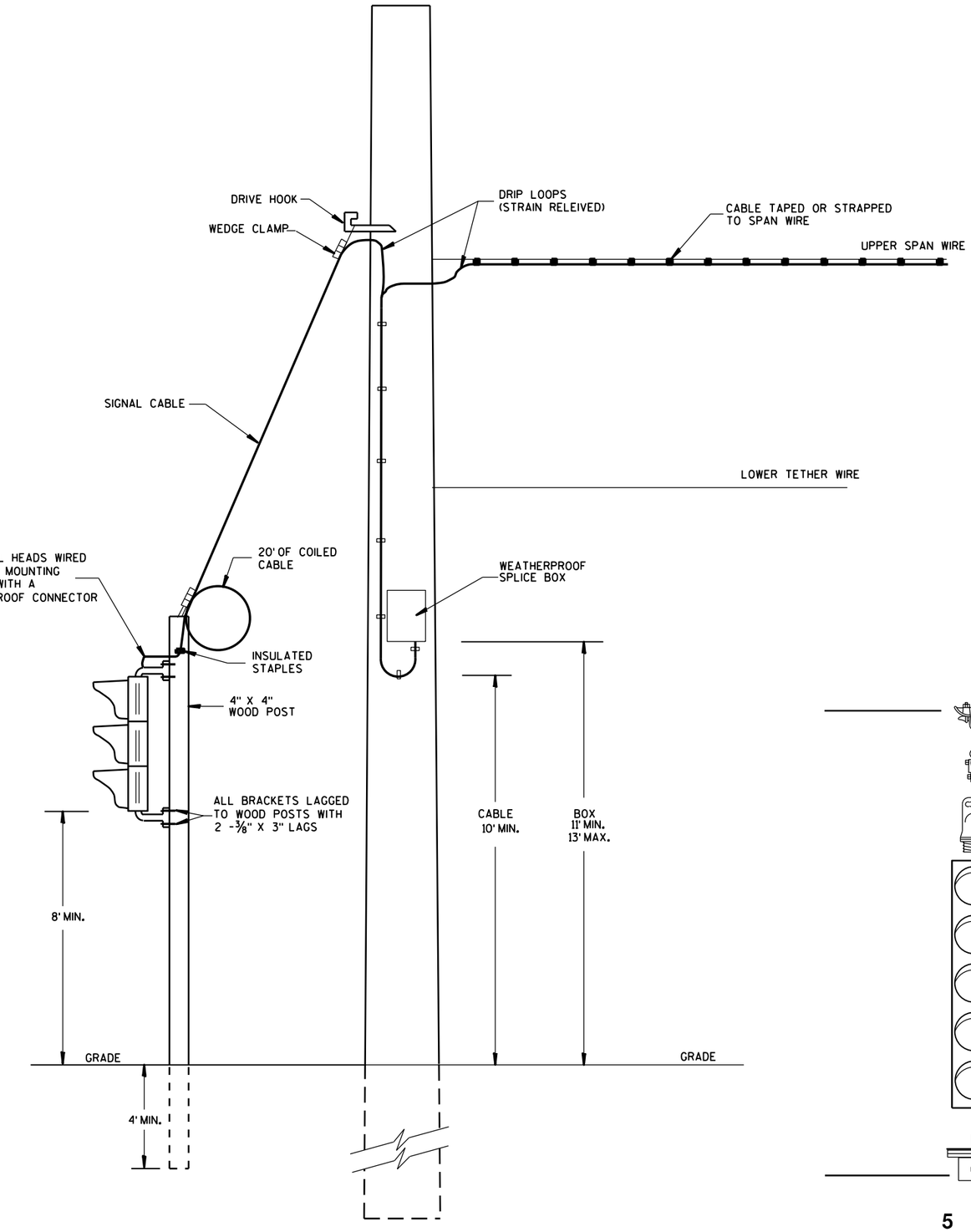
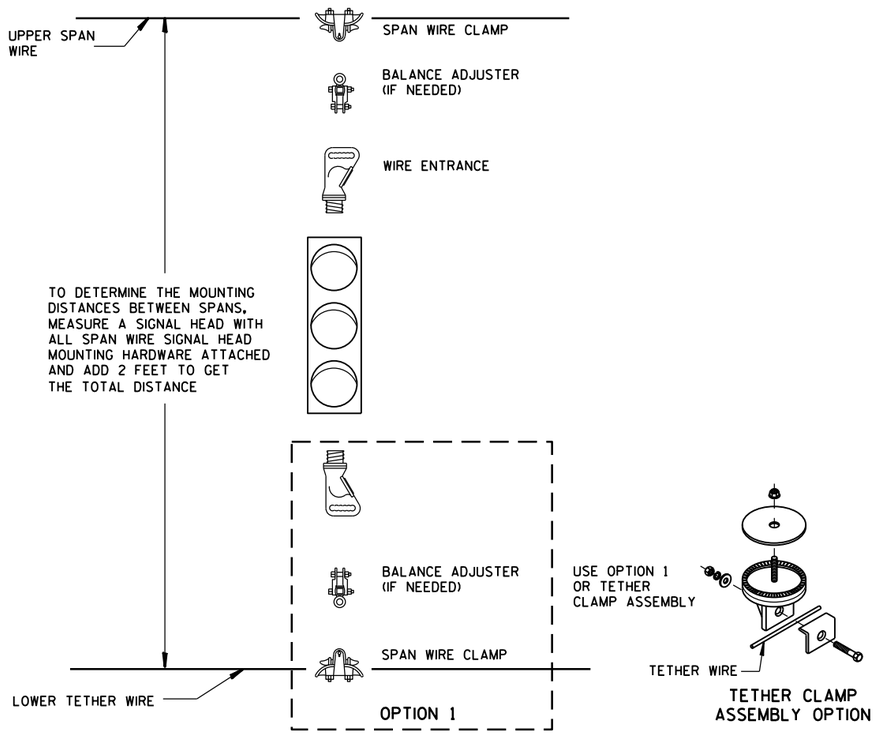
S.D.D. 9 G 1-4e

S.D.D. 9 G 1-4e

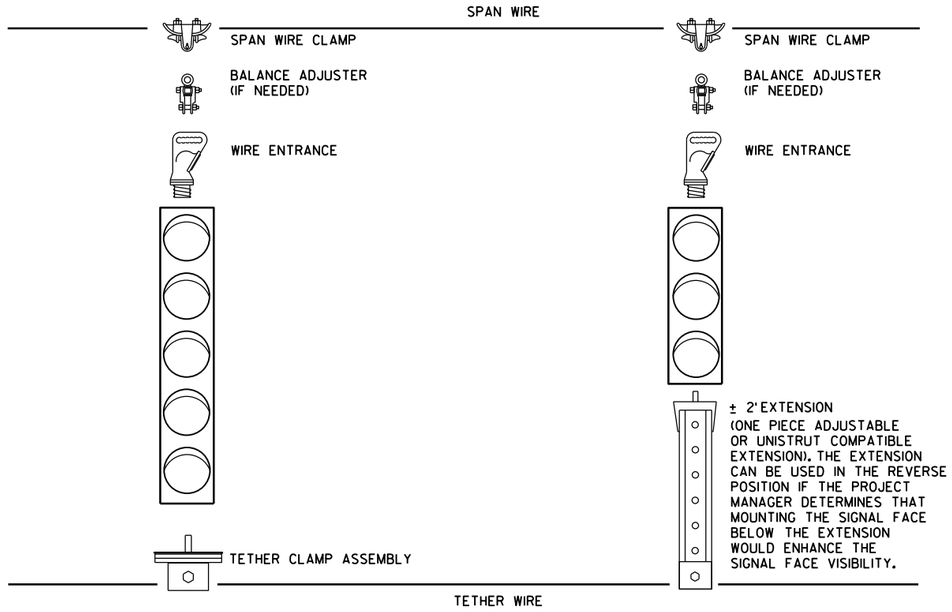


TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL



TETHER CLAMP ASSEMBLY OPTION

TYPICAL SPAN WIRE MOUNTING HARDWARE



5 SECTION VERTICAL WITH 3 SECTION VERTICAL ON ONE SPAN WIRE

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
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June. 2015 — DATE

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S.D.D. 9 G 1-4f

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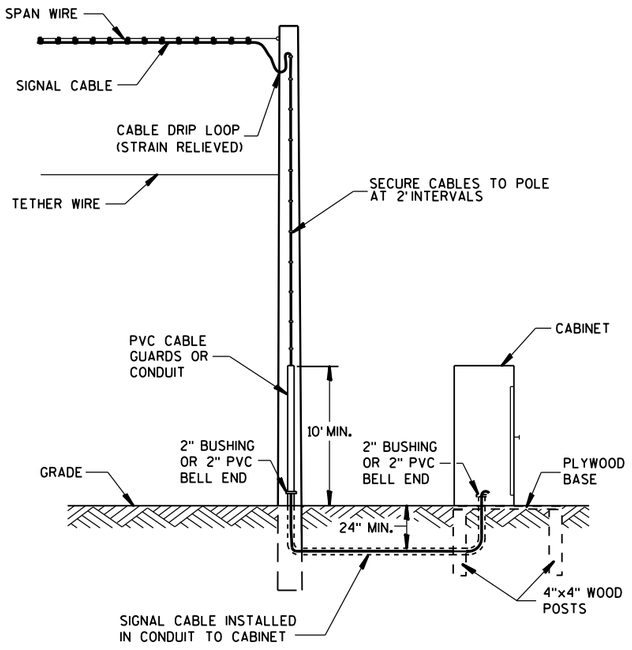
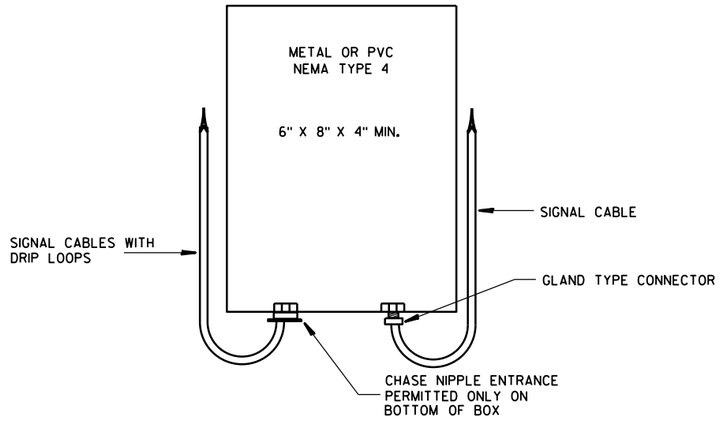
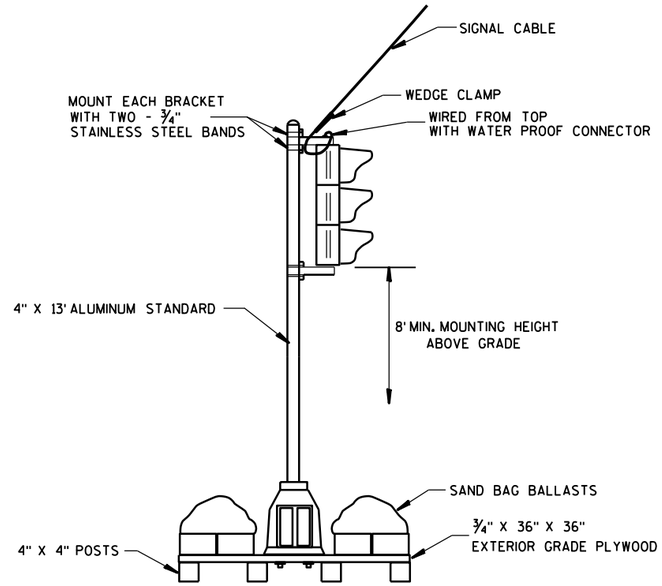
S.D.D. 9 G 1-4f

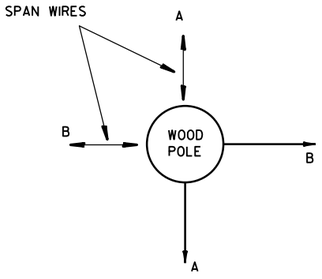




SPLICE BOX

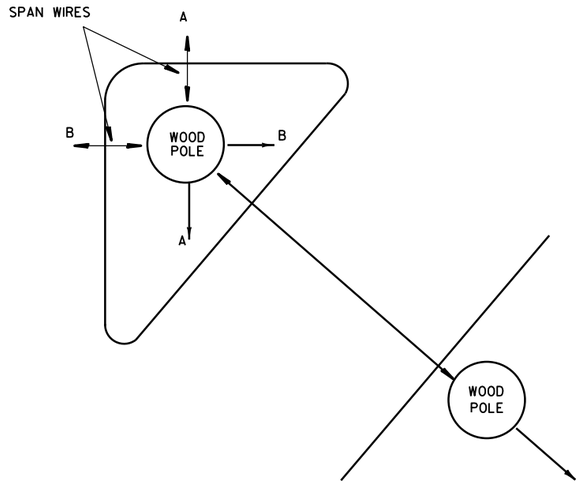


TYPICAL SKID TYPE TEMPORARY

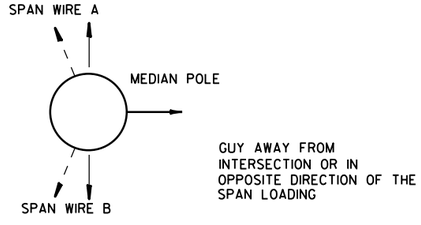


ALL DOWN OR SIDEWALK GUYS
SHALL BE INSTALLED IN THE
OPPOSITE DIRECTION OF THE
STRAIN OF THE SPAN WIRE

CORNER POLES



ISLAND POLES



GUY AWAY FROM
INTERSECTION OR IN
OPPOSITE DIRECTION OF THE
SPAN LOADING

MEDIAN POLES

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 G 1-4g

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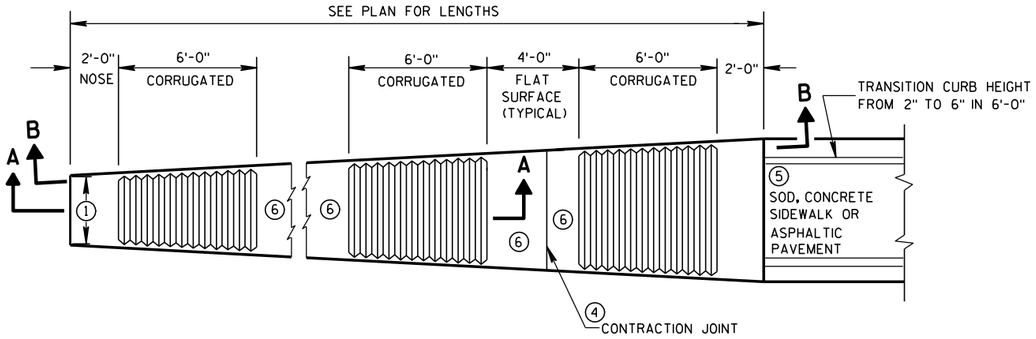
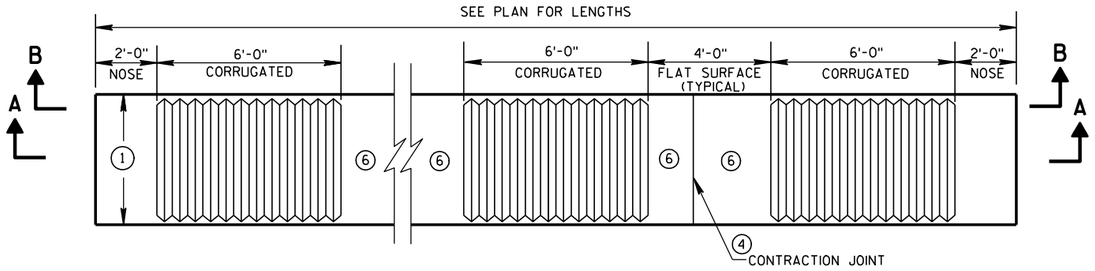
S.D.D. 9 G 1-4g



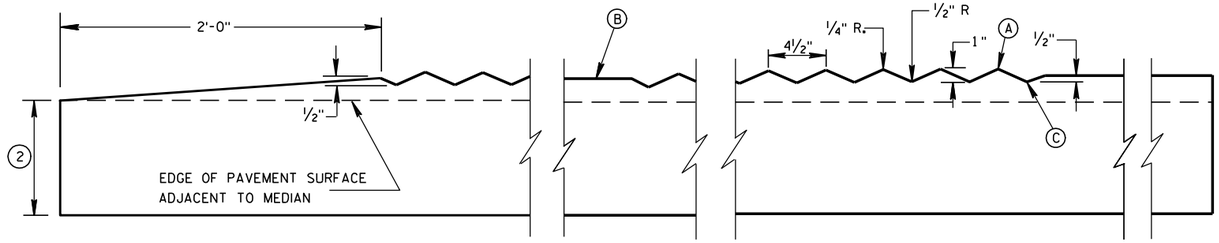
PLAN VIEW

VARIABLE WIDTH CONCRETE CORRUGATED MEDIAN



PLAN VIEW

UNIFORM WIDTH CONCRETE CORRUGATED MEDIAN



SECTION A-A

LONGITUDINAL SECTION

GENERAL NOTES

(1) SEE PLANS FOR CONSTANT OR VARIABLE WIDTH.

(2) THE DEPTH OF THE CONCRETE CORRUGATED MEDIAN SHALL BE 9-INCHES UNLESS SHOWN OTHERWISE IN THE PLAN.

ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN IN THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

(2) ASPHALTIC CONCRETE OVER NEW OR EXISTING CONCRETE BASE COURSE, OR PAVEMENT.

(3) ASPHALTIC PAVEMENT OVER BASE AGGREGATE DENSE.

(3) 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.

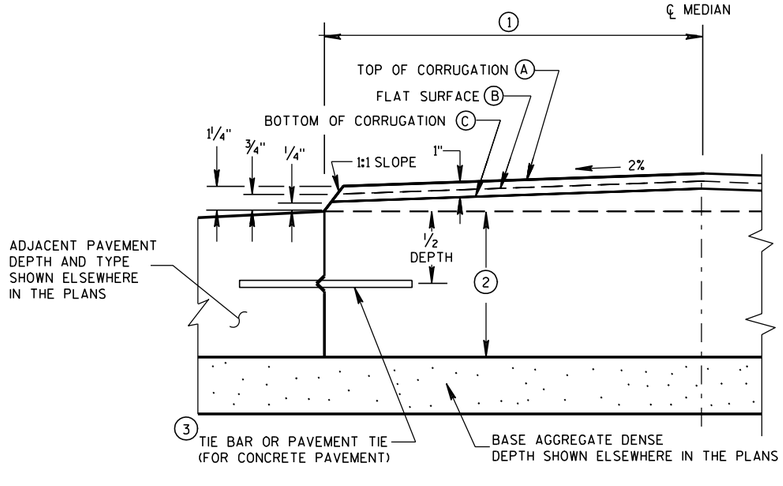
INSTALL TIE BARS TO MAINTAIN A MINIMUM OF 3-INCHES OF COVER BETWEEN THE TIE BAR AND THE CONCRETE SURFACE (BOTTOM AND TOP).

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE PAVEMENT OR 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.

(4) CONCRETE CORRUGATED MEDIAN CONTRACTION JOINTS SHALL BE CONSTRUCTED TO MATCH THE JOINTS IN ADJACENT CONCRETE PAVEMENT. WHERE ADJACENT PAVEMENT IS ASPHALT WITH BASE AGGREGATE DENSE. TRANSVERSE CONTRACTION JOINTS SHALL BE PROVIDED AT 20 FOOT INTERVALS.

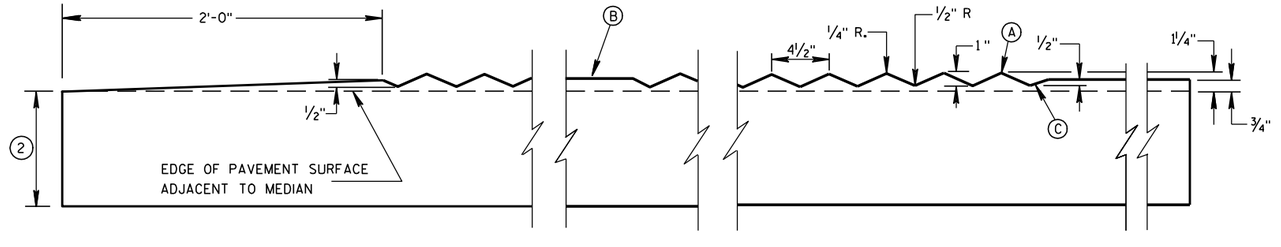
(5) SURFACE TYPE AND DETAILS ARE DEFINED ELSEWHERE IN THE PLAN.

(6) YELLOW MARKING ON FLAT SURFACE WHEN MEDIAN SEPARATES OPPOSING TRAFFIC.



HALF CROSS SECTION

(2) CONCRETE CORRUGATED MEDIAN AND ADJACENT PAVEMENT



SECTION B-B

LONGITUDINAL SECTION

CONCRETE CORRUGATED MEDIAN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/17/07
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 11 B 1-5

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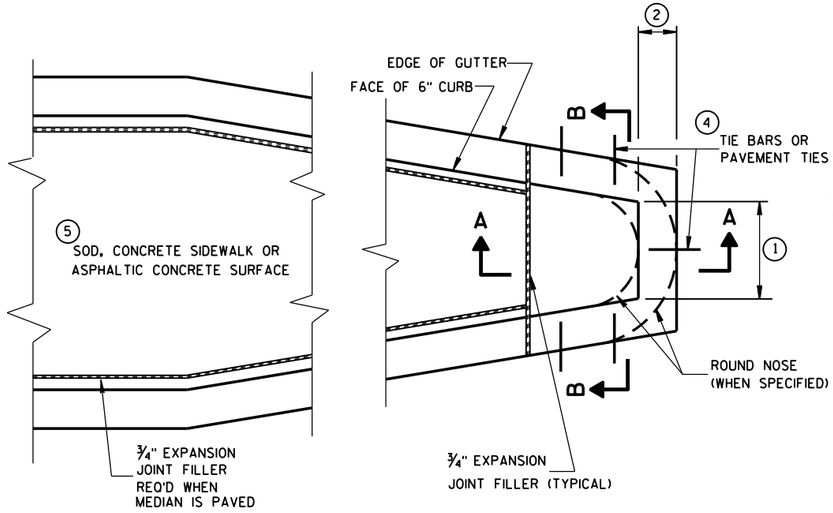
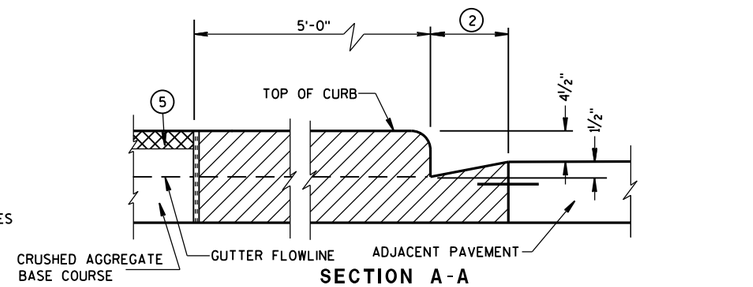
S.D.D. 11 B 1-5





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.

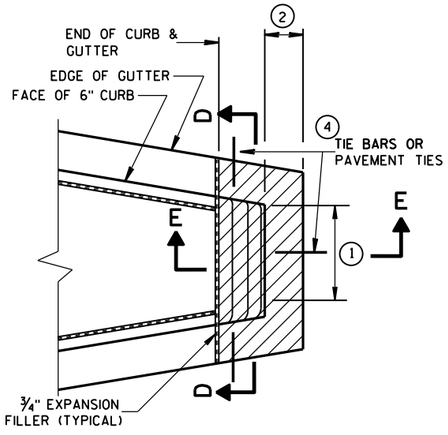
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

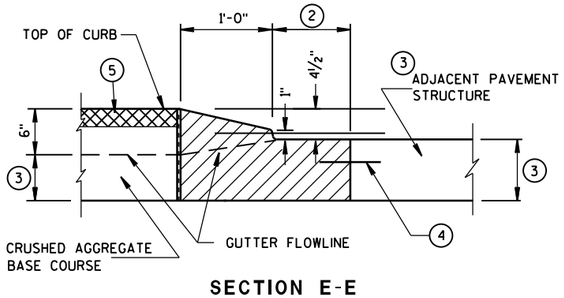
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(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.

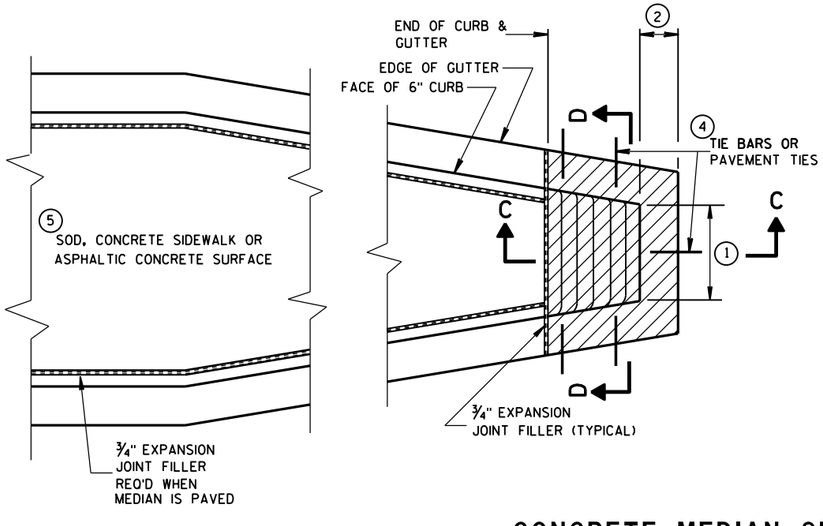
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

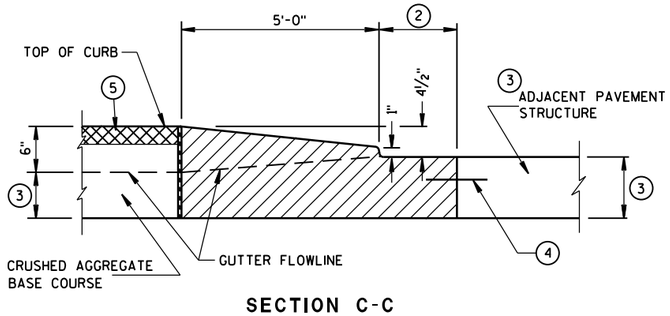




SECTION E-E

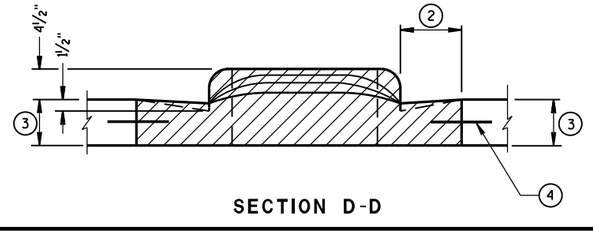
CONCRETE MEDIAN SLOPED NOSE TYPE 2





SECTION C-C

CONCRETE MEDIAN SLOPED NOSE TYPE 1



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/8/2006 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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S.D.D. 11 B 2-2

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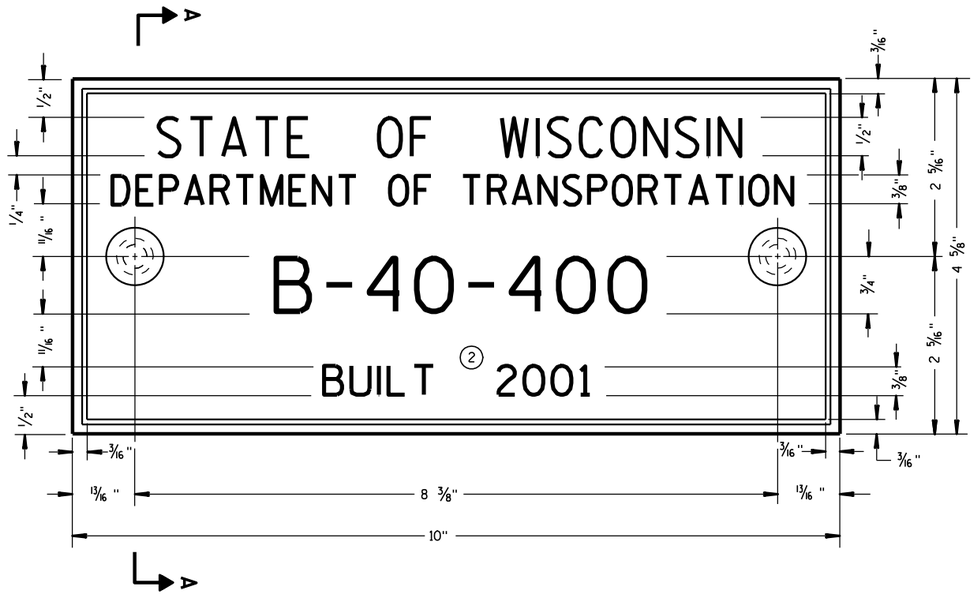
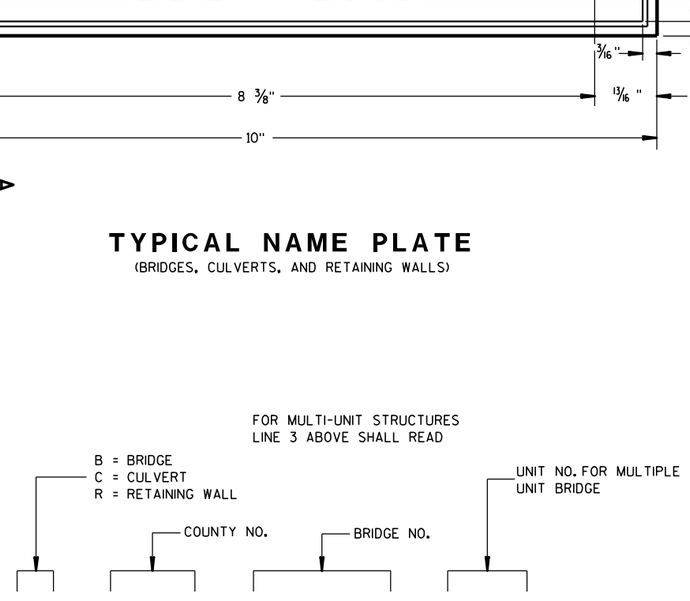
S.D.D. 11 B 2-2



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



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

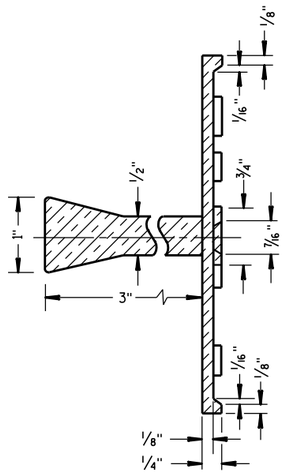
GENERAL NOTES

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

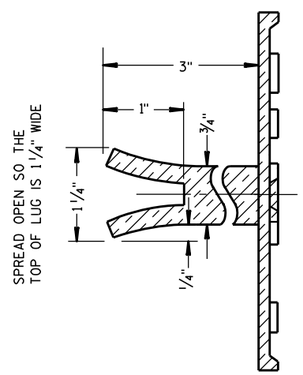
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

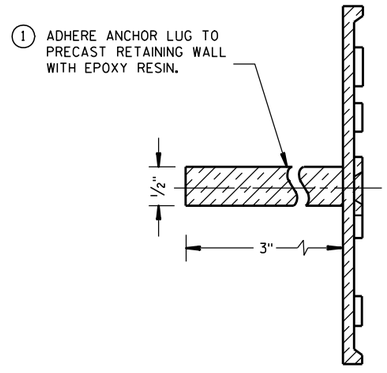
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

FHWA

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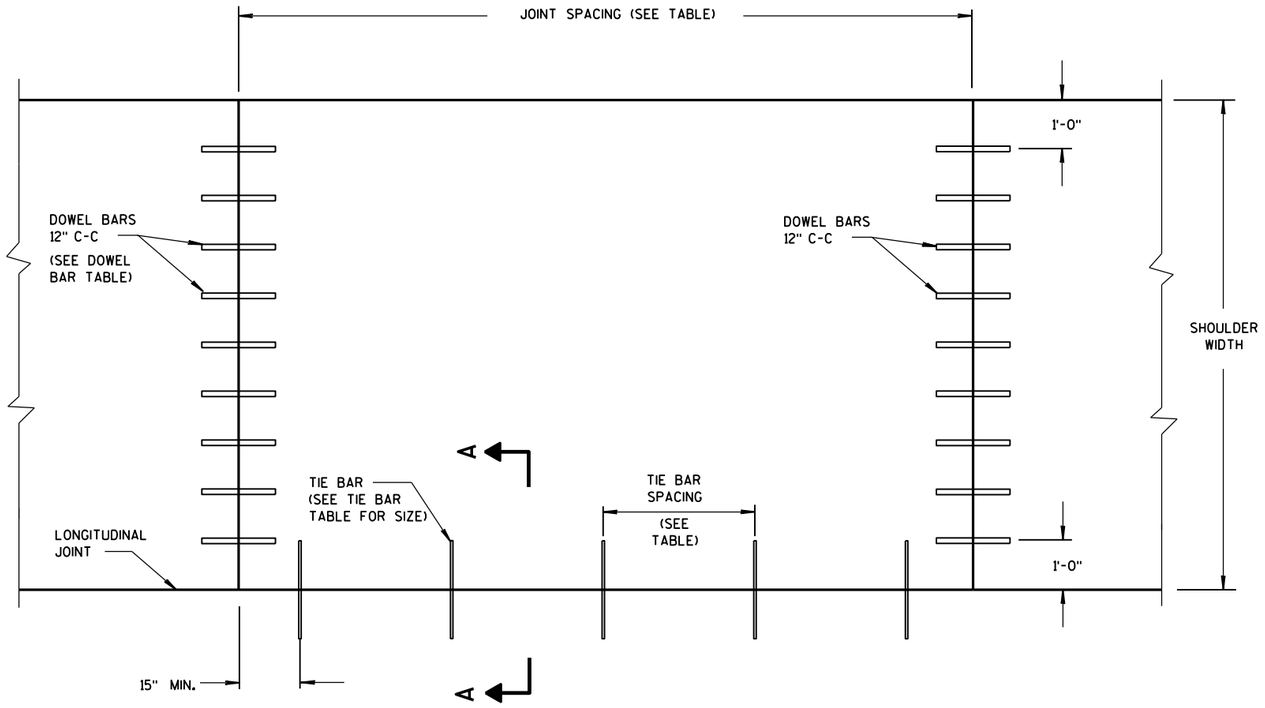
S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

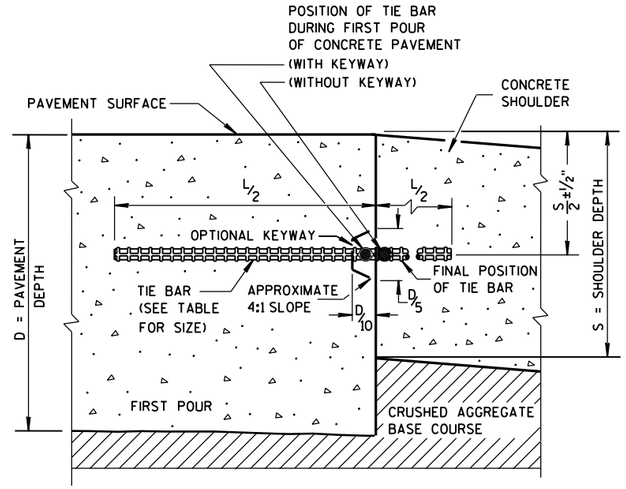
GENERAL NOTES

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.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

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" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 13 A 3-6

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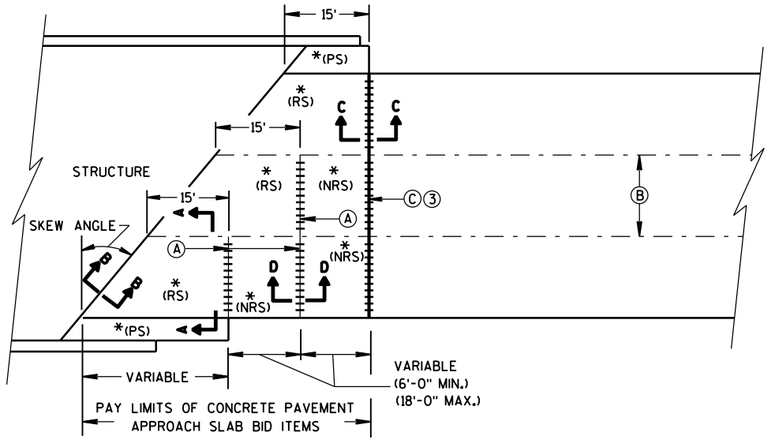
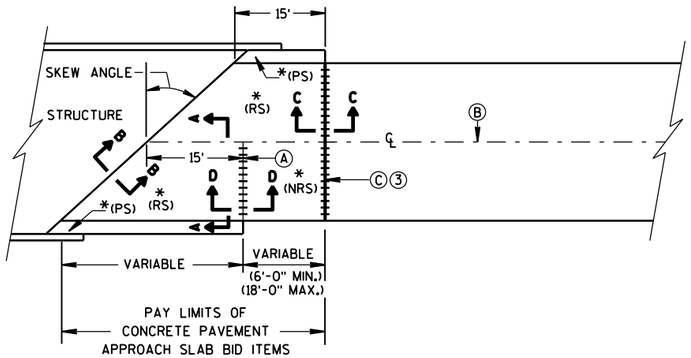
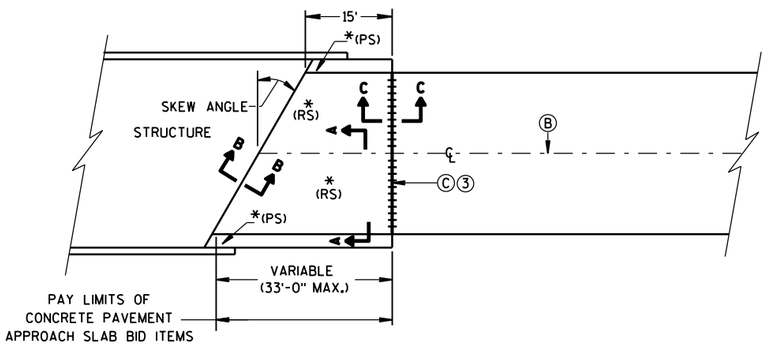
S.D.D. 13 A 3-6



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

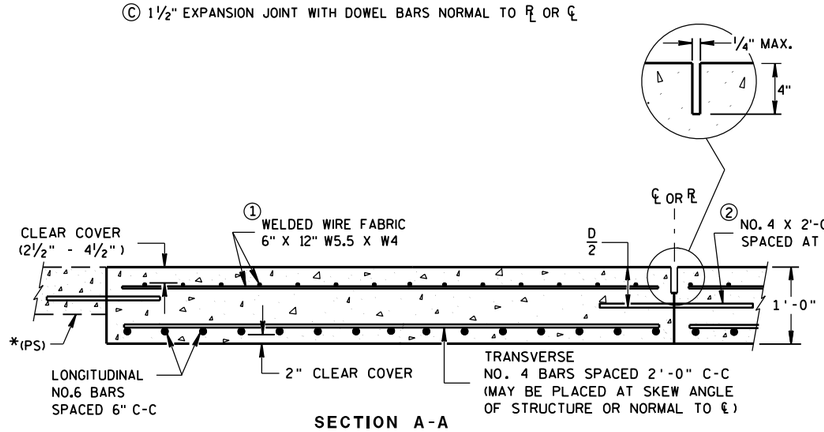
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

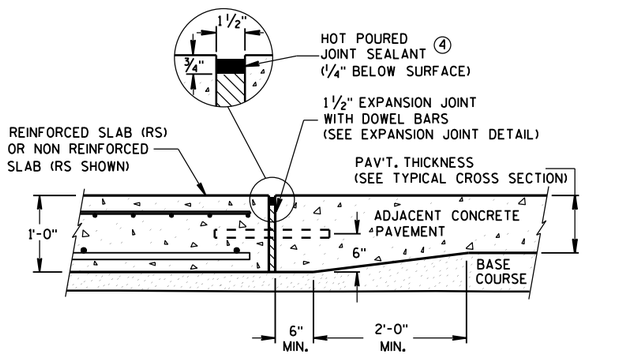
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

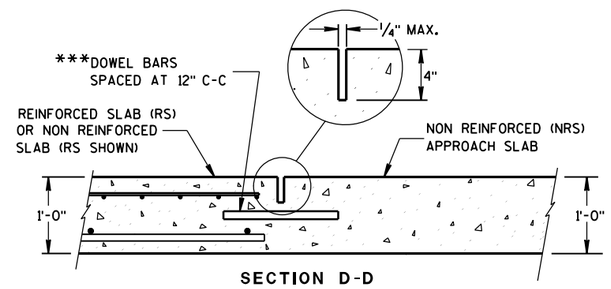
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

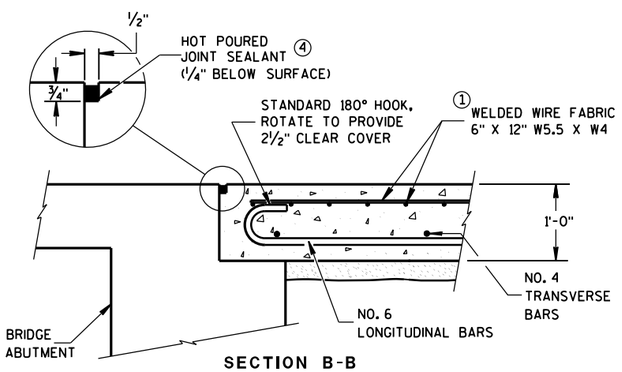
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

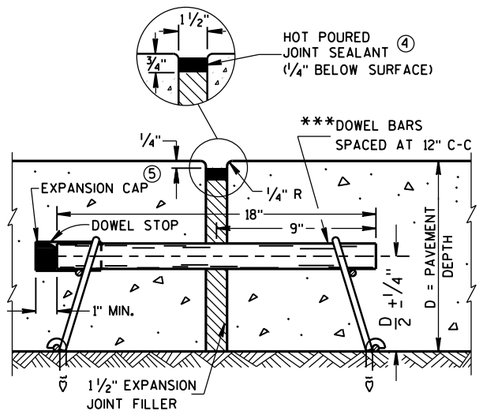
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

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

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

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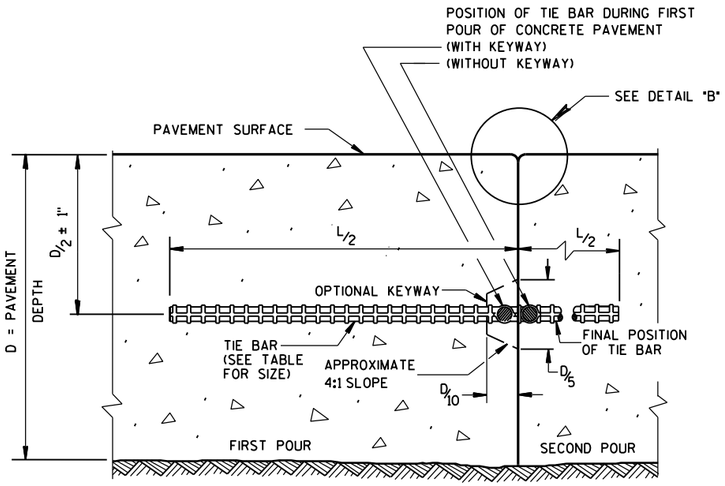
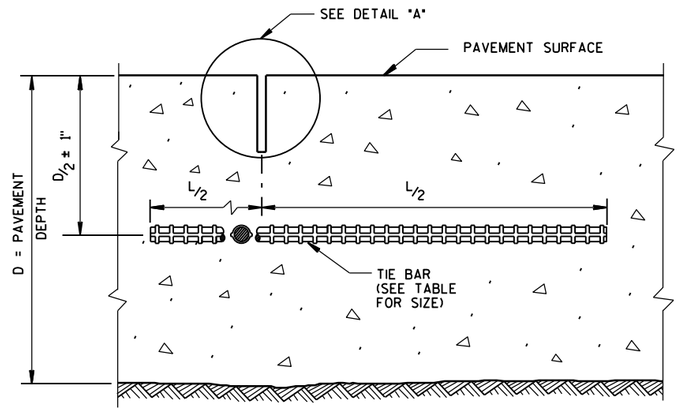
S.D.D. 13 B 2-8a



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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"

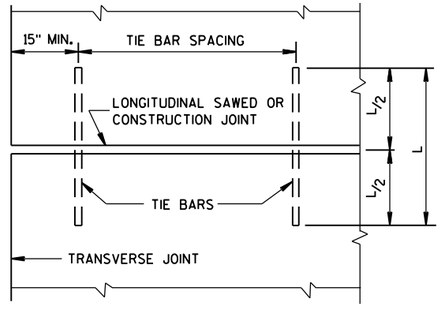
DETAIL "C"

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

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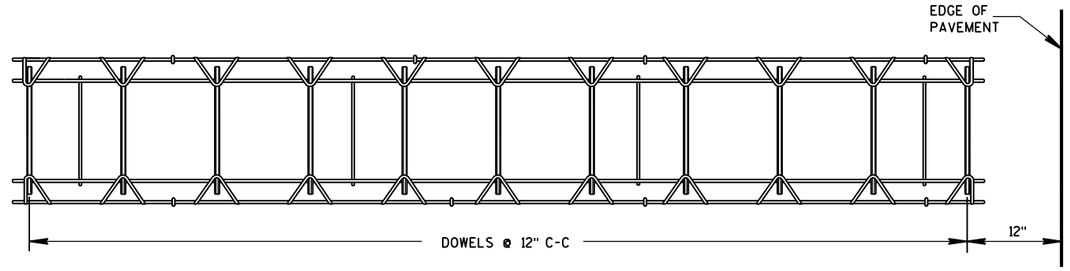
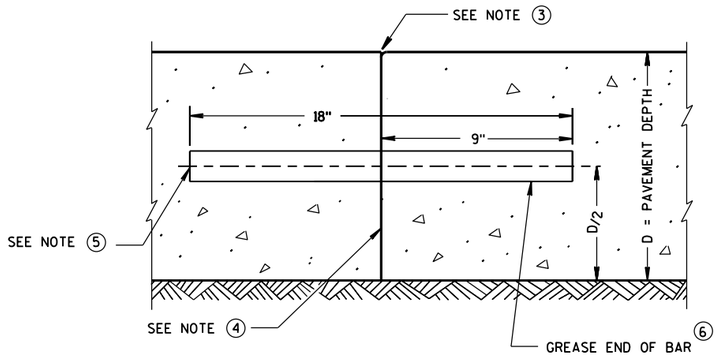
S.D.D. 13 C 1-18



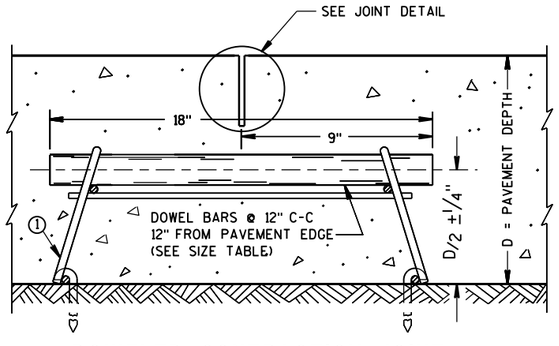
PLAN VIEW

SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



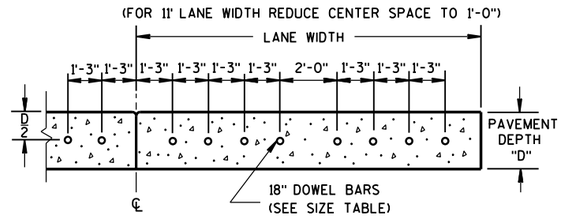
TRANSVERSE CONSTRUCTION JOINT



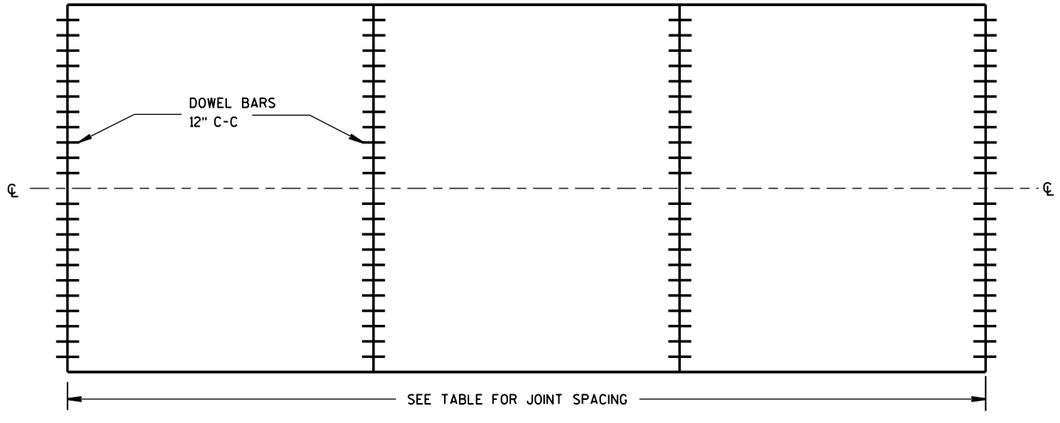
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

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

DO NOT SEAL OR FILL CONTRACTION JOINTS.

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

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

CONSTRUCTION JOINTS

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

① **OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.**

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

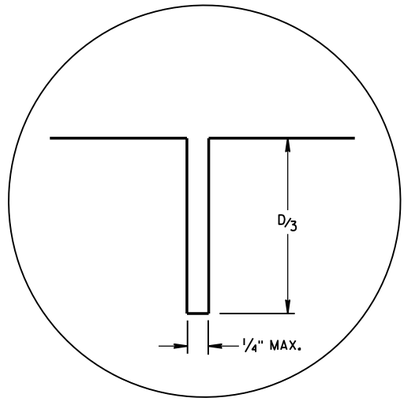
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



JOINT DETAIL

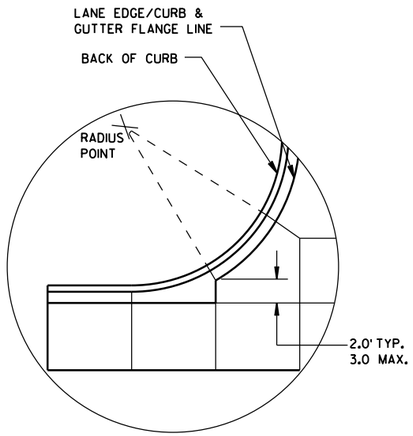
URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

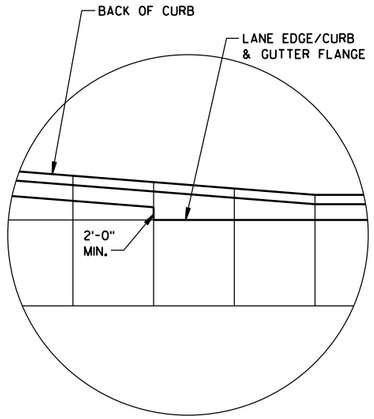
APPROVED
5/3/2013 DATE
/S/ Deb Bischoff PAVEMENT POLICY & DE
FHWA

6

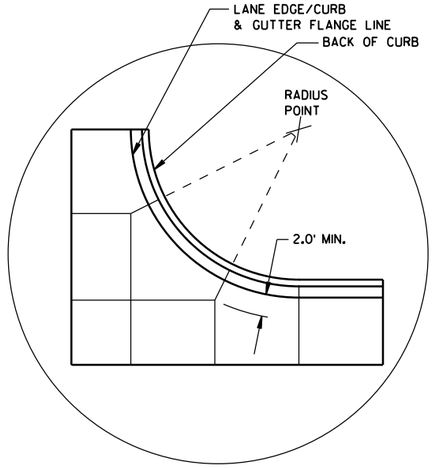
S.D.D. 13 C 13-8



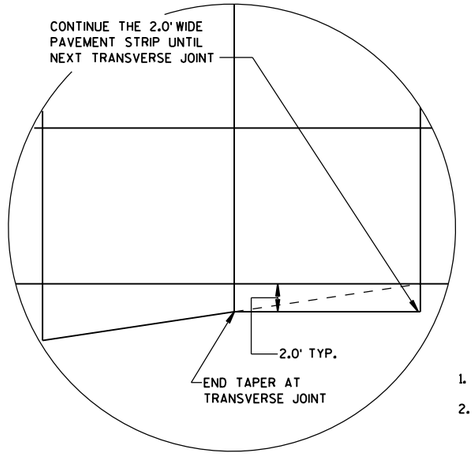
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

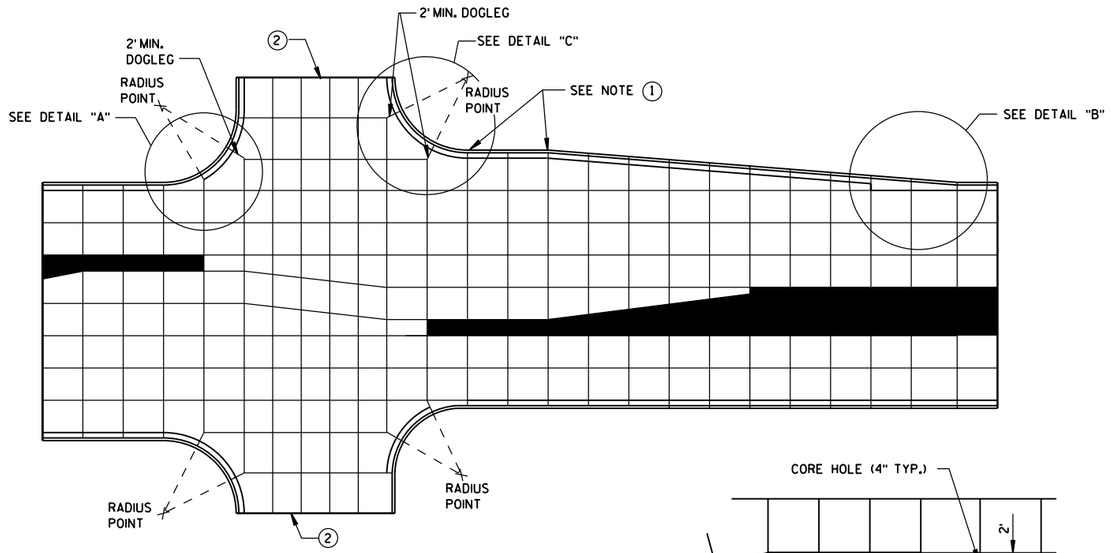
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

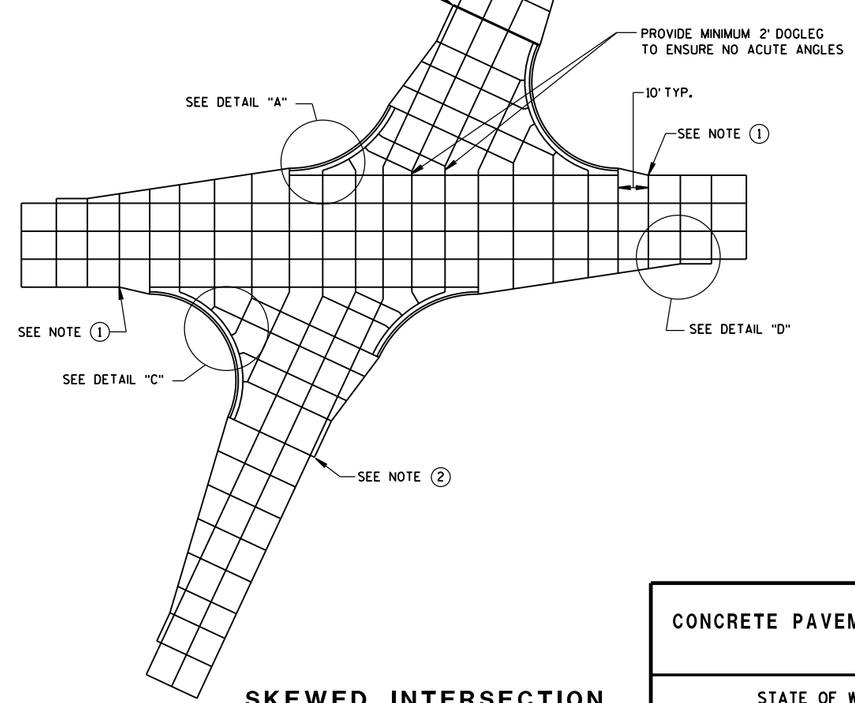
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



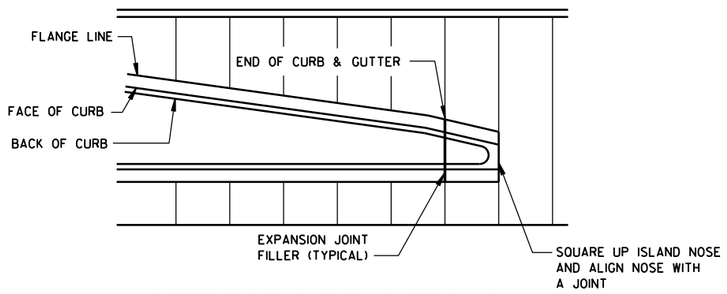
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

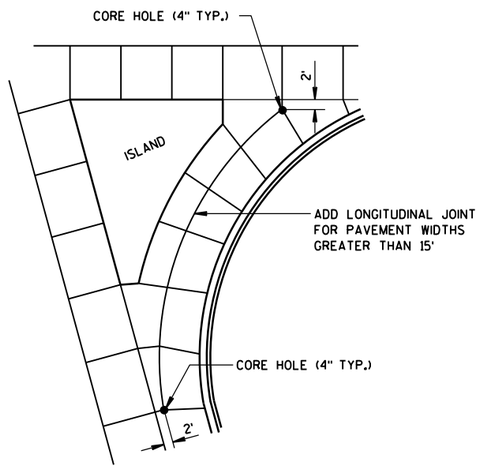
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

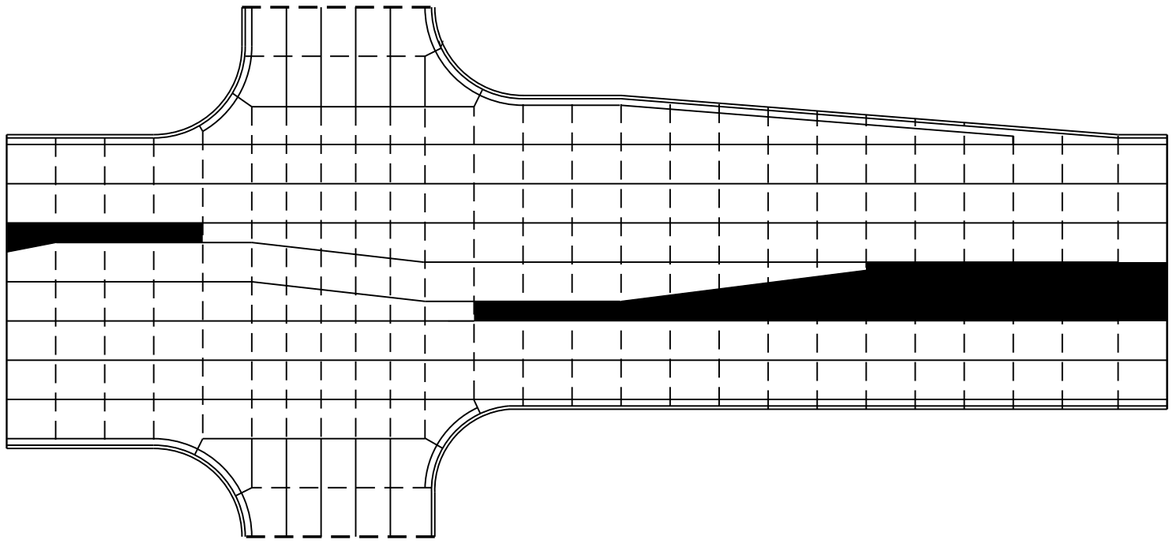
6
S.D.D. 13 C 18-5a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

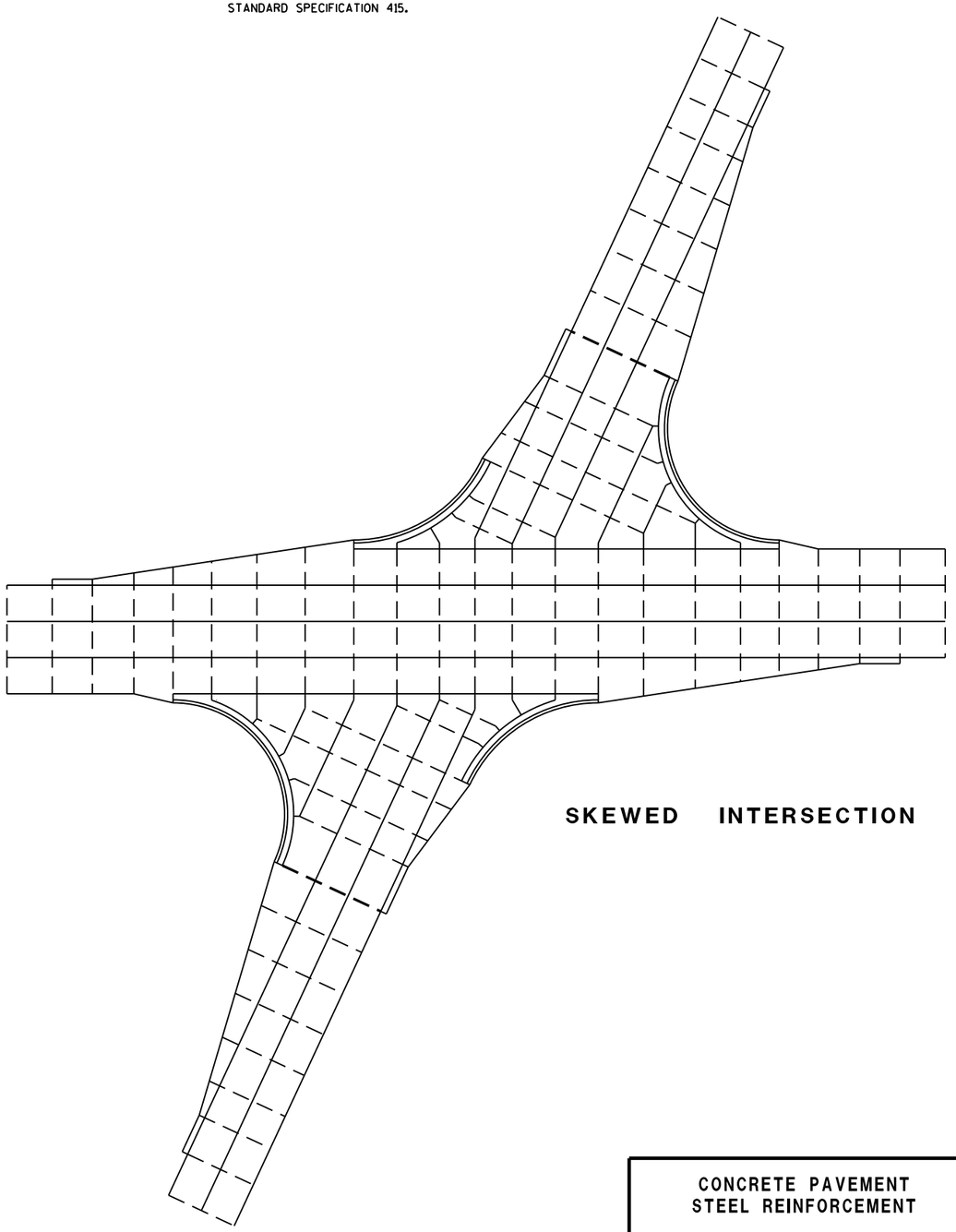
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

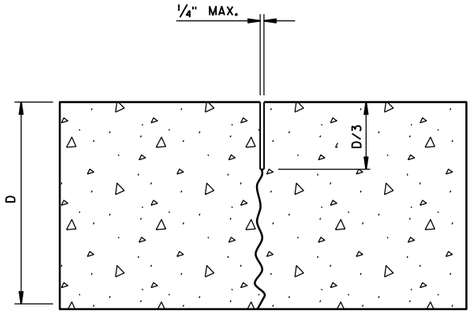
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

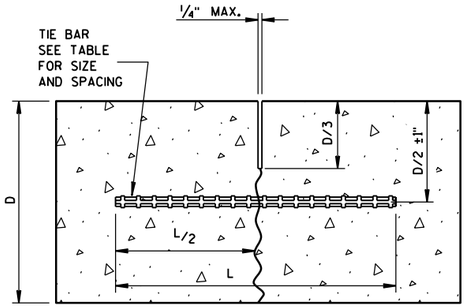
S.D.D. 13 C 18-5b

6

S.D.D. 13 C 18-5b



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

TIE BAR TABLE

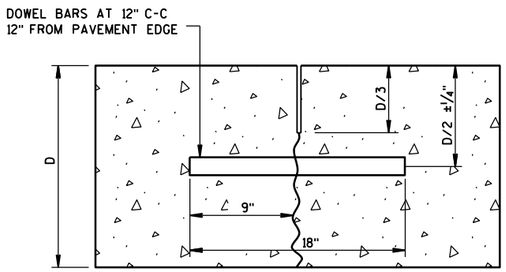
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* 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.

GENERAL NOTES

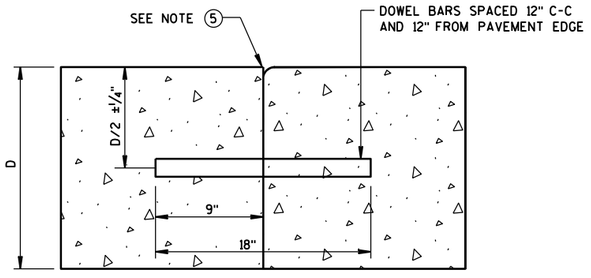
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF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



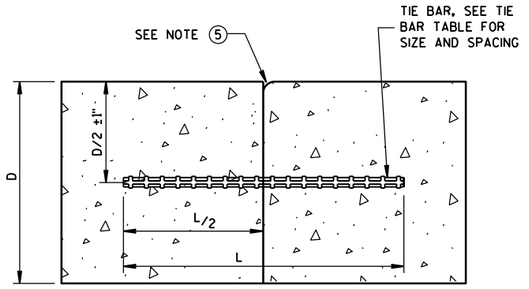
DOWELED-TRANSVERSE

CONTRACTION JOINTS

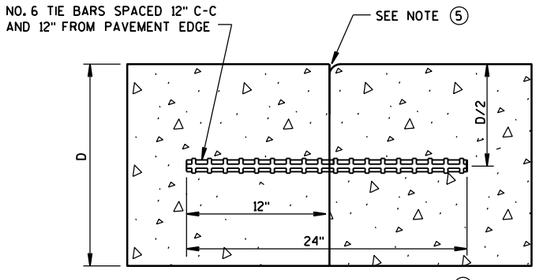
SEE NOTE (2)



DOWELED TRANSVERSE (3)

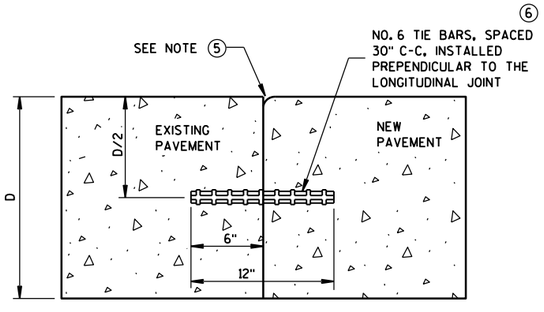


TIED LONGITUDINAL



TIED TRANSVERSE (3)

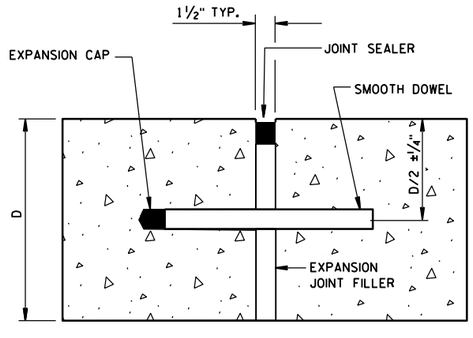
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

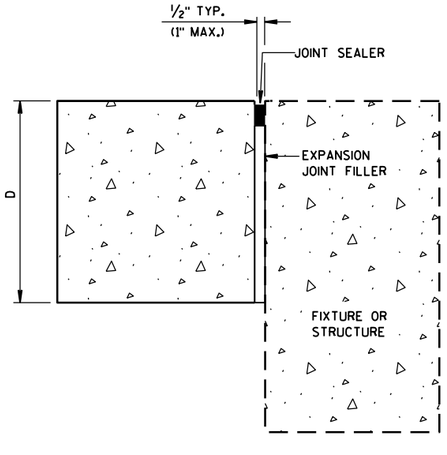
CONSTRUCTION JOINTS

SEE NOTE (4)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

6

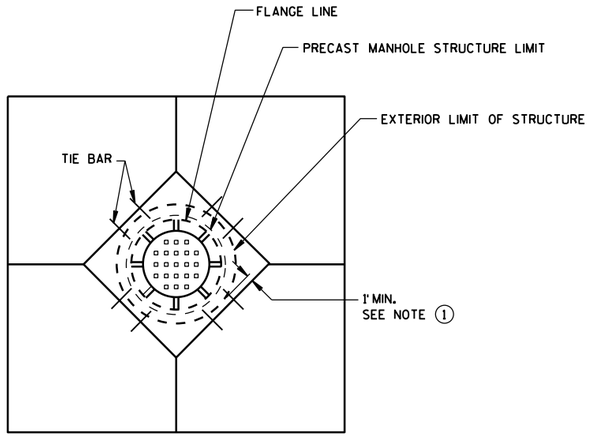
S.D.D. 13 C 18-5c

CONCRETE PAVEMENT
JOINT TYPES

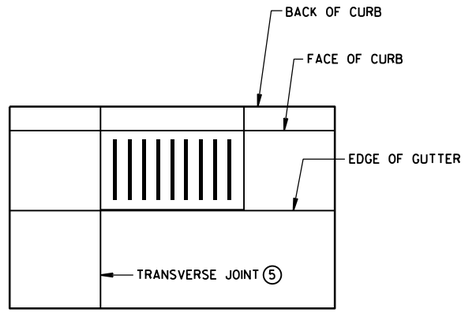
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

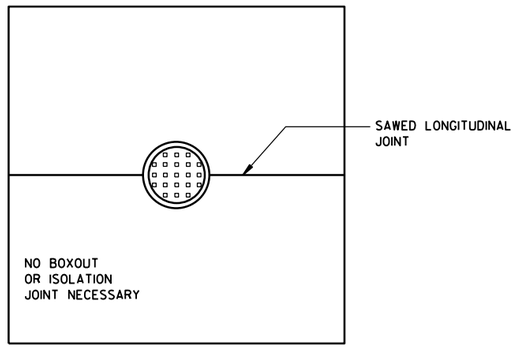
S.D.D. 13 C 18-5c



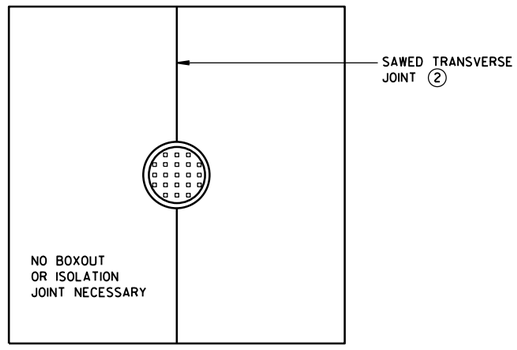
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



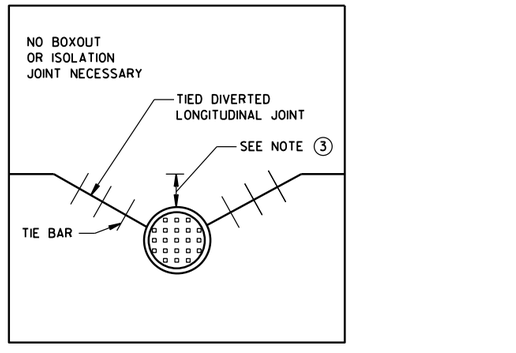
INLET WITH TRANSVERSE JOINT



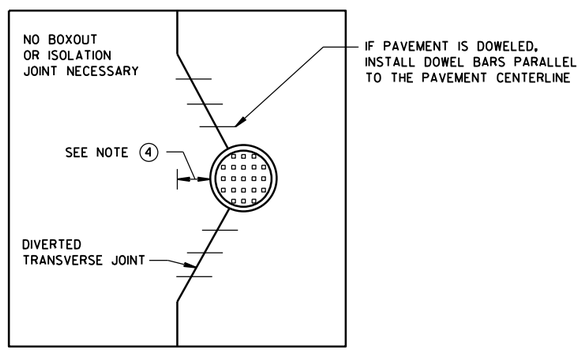
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION 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 LONGITUDIAL 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 REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 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 REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

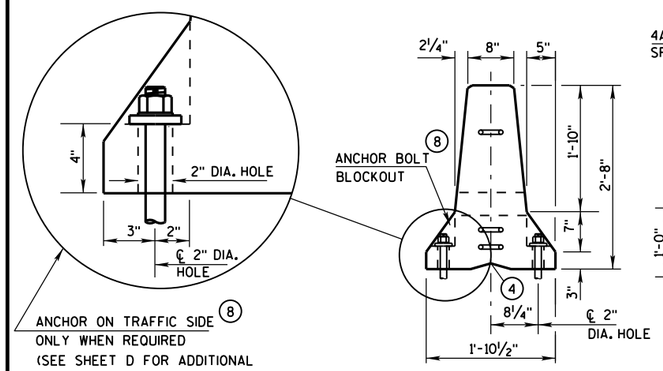
CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

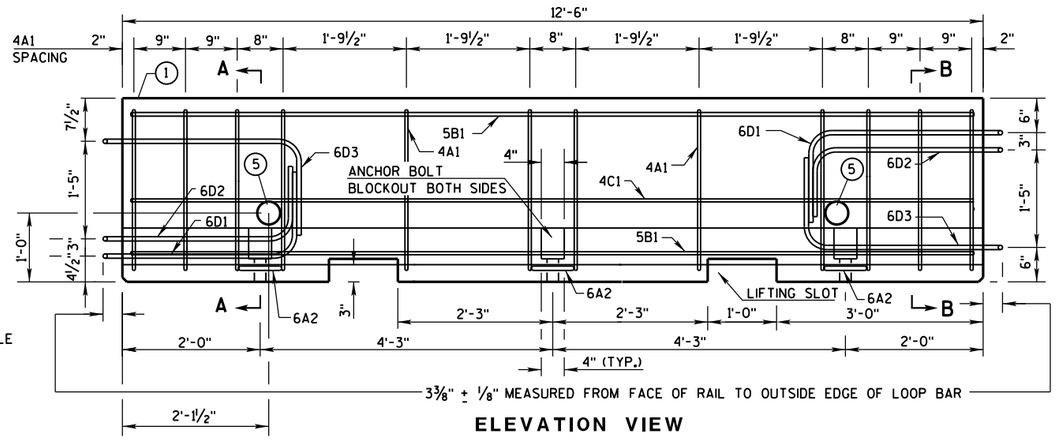
APPROVED
December, 2016 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPEF
FHWA

6

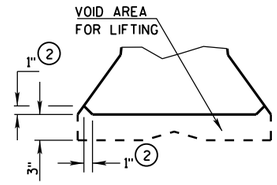
S.D.D. 13 C 18-5d



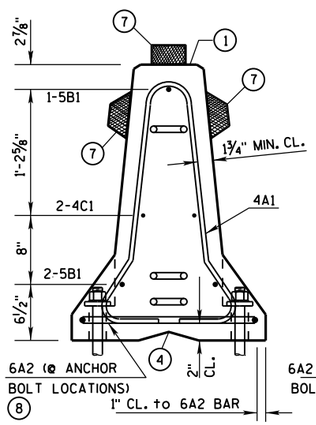
END VIEW



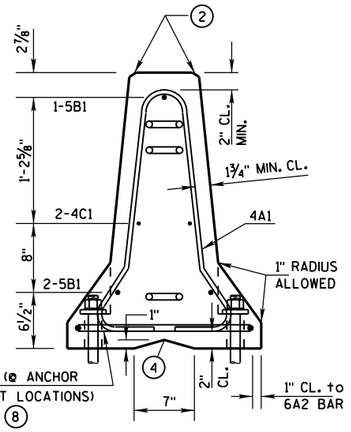
ELEVATION VIEW



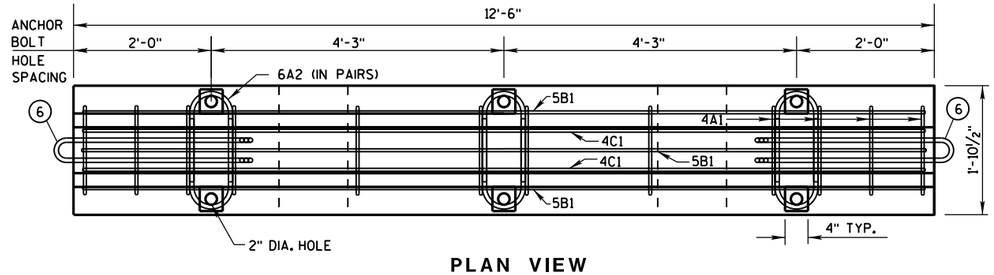
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

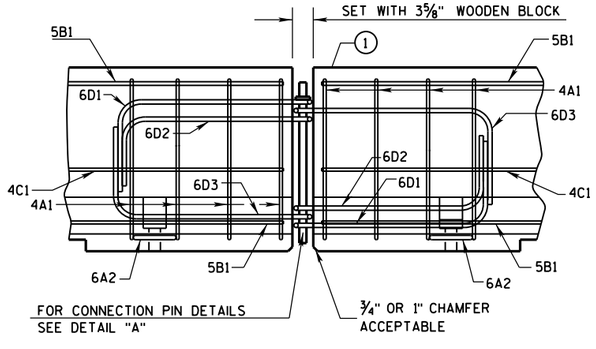


SECTION B-B
(STIRRUP PLACEMENT)

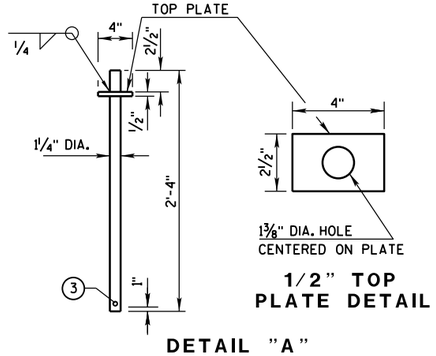


PLAN VIEW

DETAILS OF BARRIER SECTION

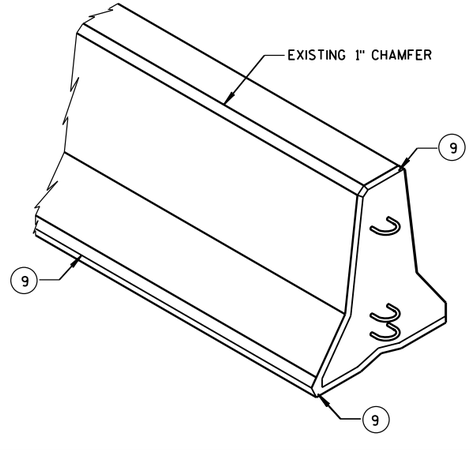


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(a) THRU 14B7-14(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR ANCHORING CRITERIA.

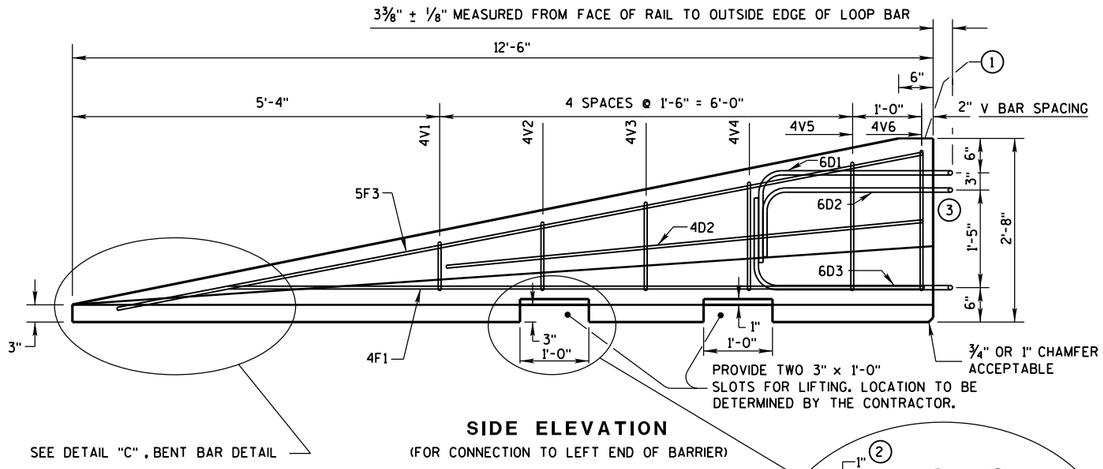
(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

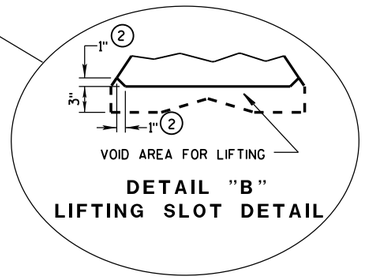
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

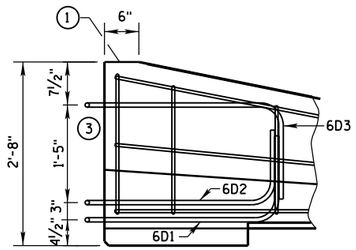
S.D.D. 14 B 7-14a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



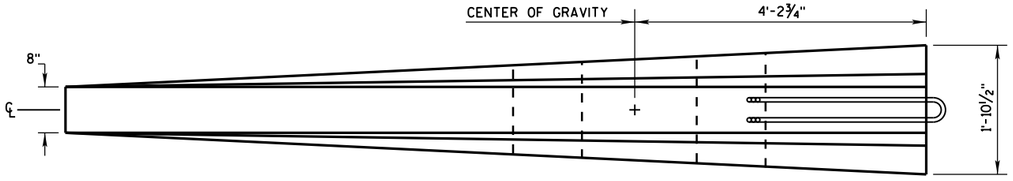
DETAIL "B"
LIFTING SLOT DETAIL



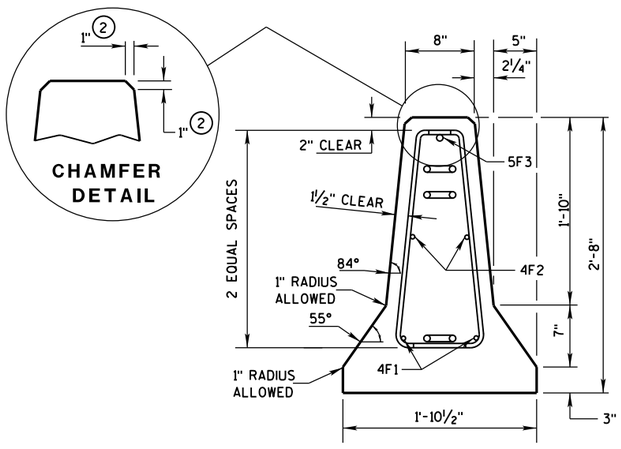
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

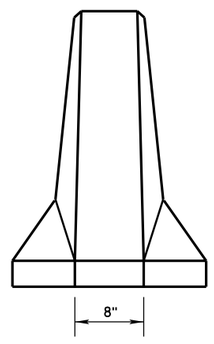
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



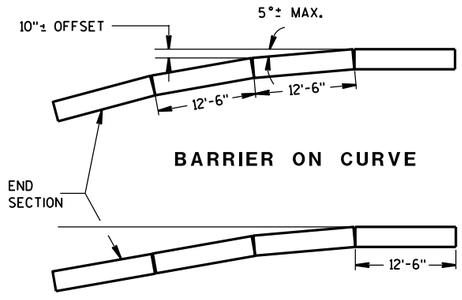
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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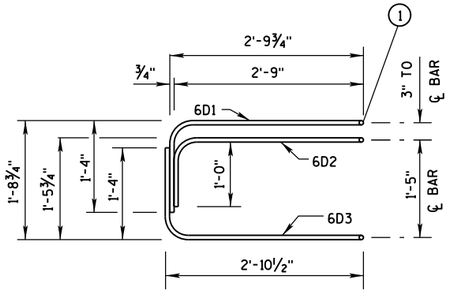
S.D.D. 14 B 7-14b

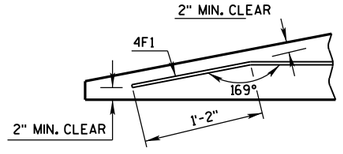
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

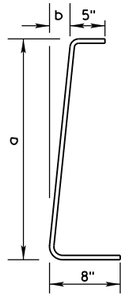
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

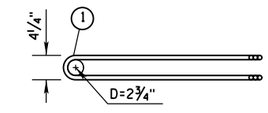
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

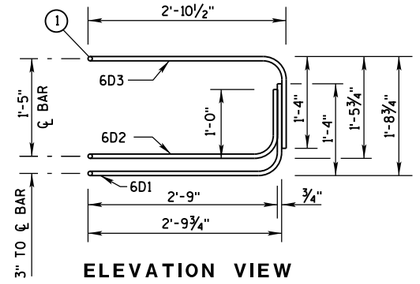
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

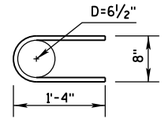
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



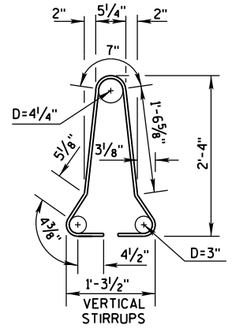
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2



4A1

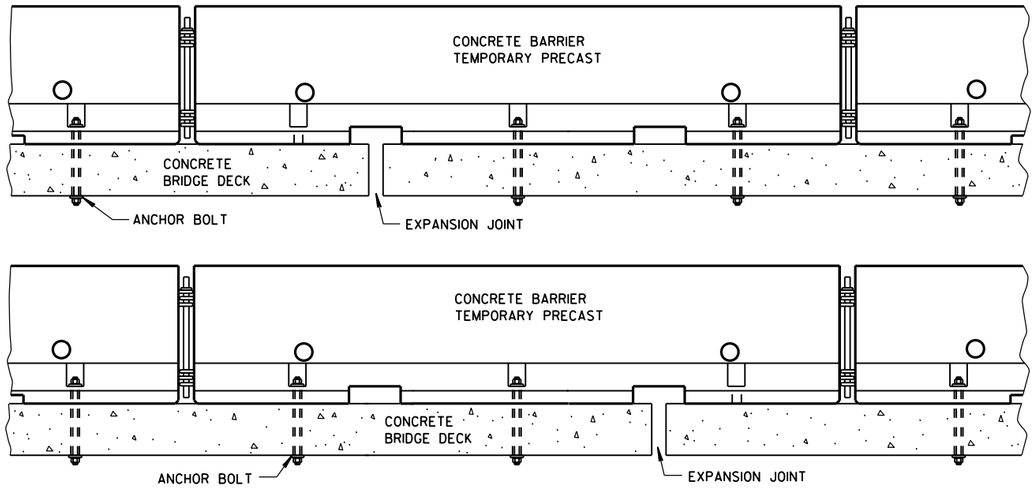
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

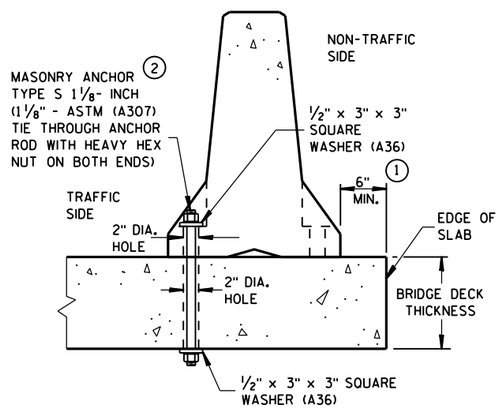
6

S.D.D. 14 B 7-14c



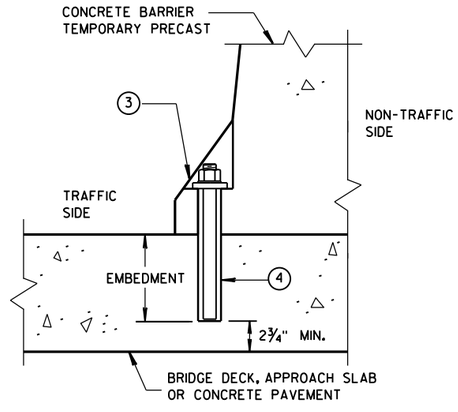
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT ②

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

① CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

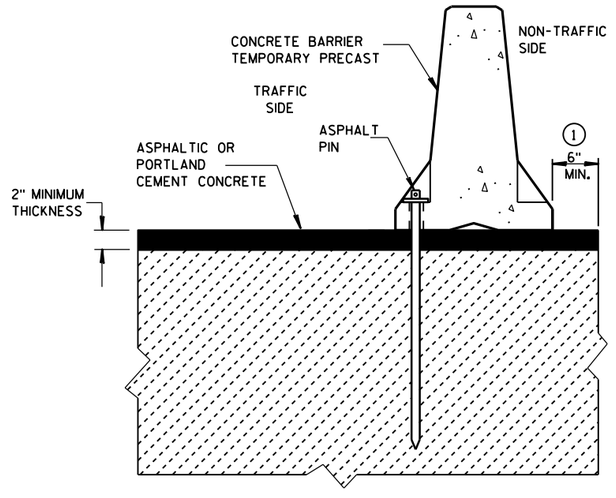
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

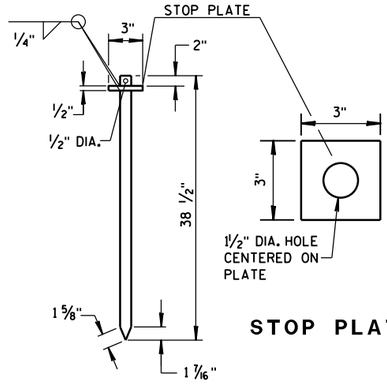
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

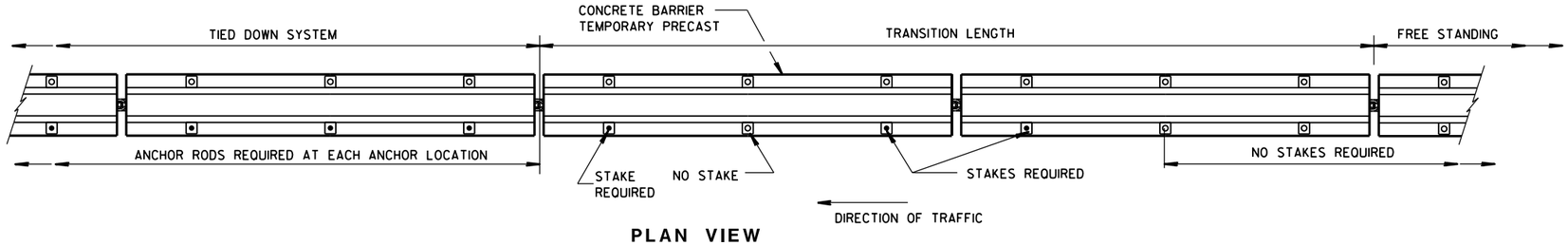
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

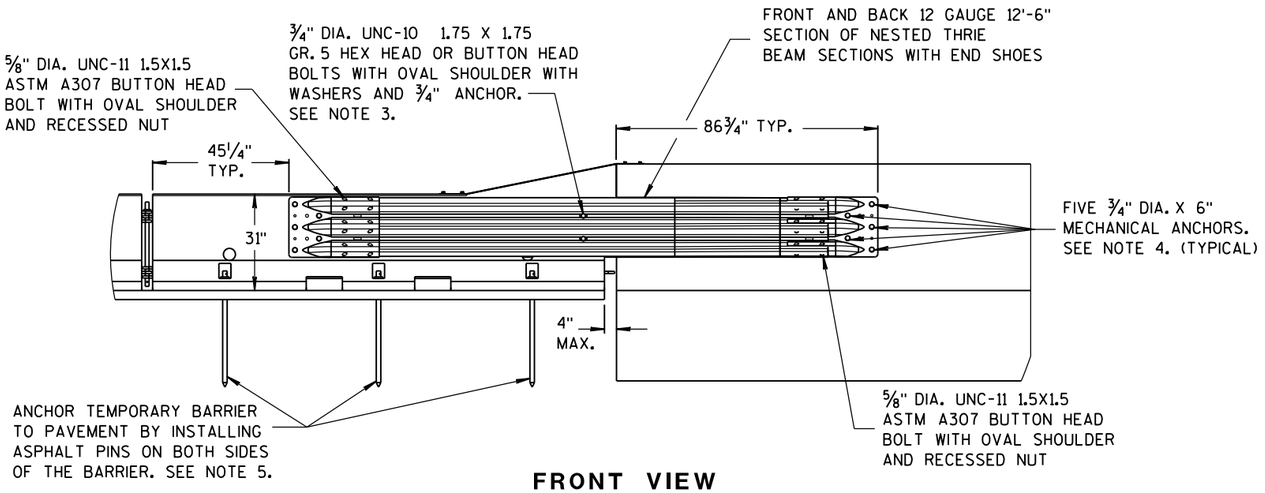
FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

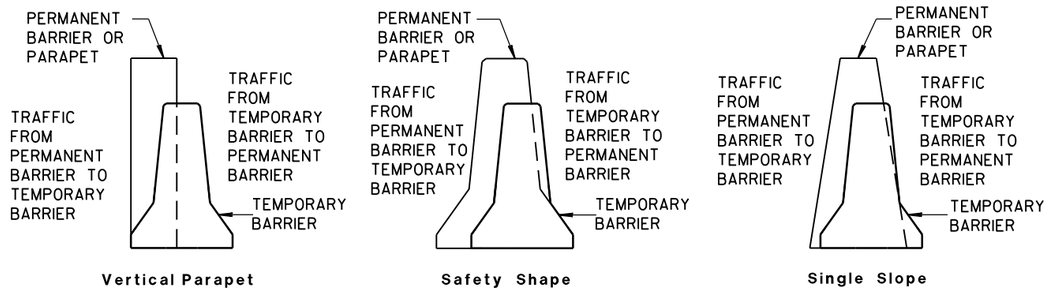
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14d



FRONT VIEW

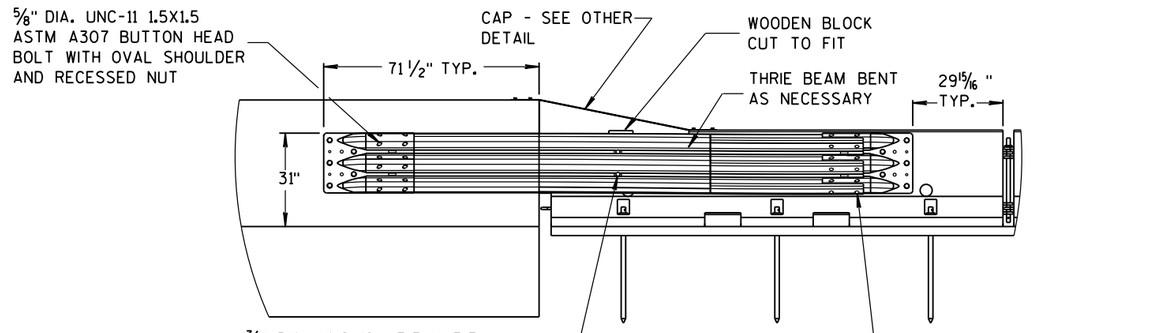


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

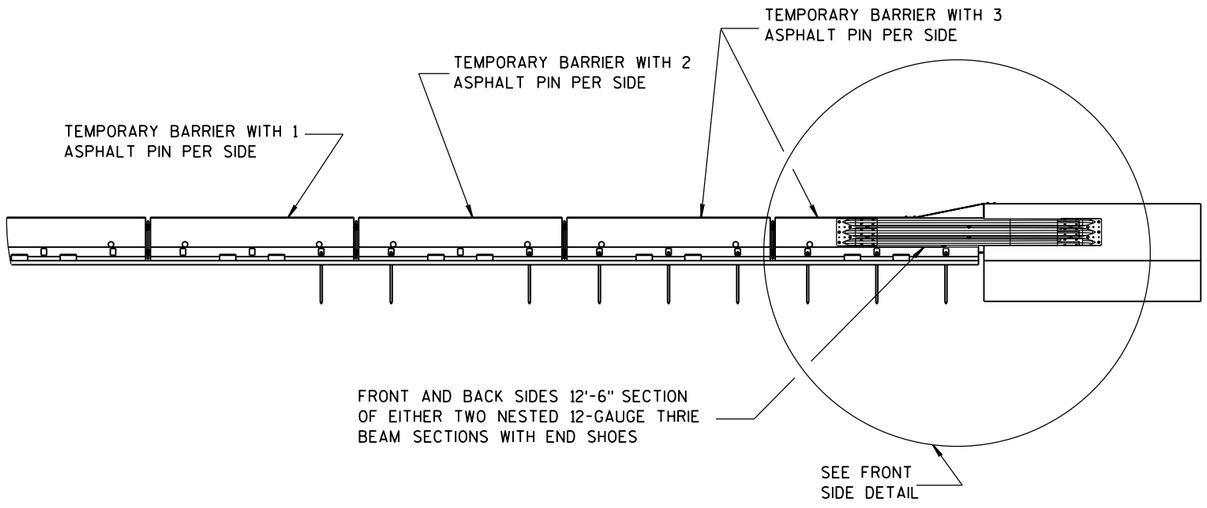
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

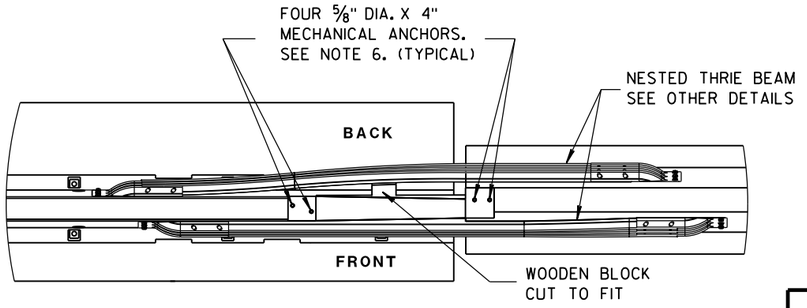
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



BACK VIEW



FRONT VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

S.D.D. 14 B 7-14e

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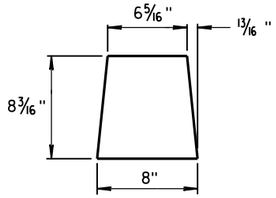
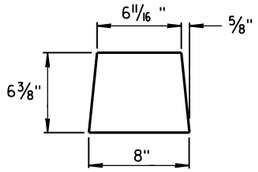
S.D.D. 14 B 7-14e



GUSSET 1



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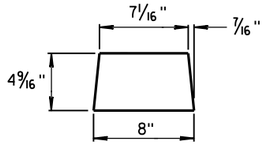
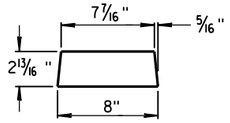
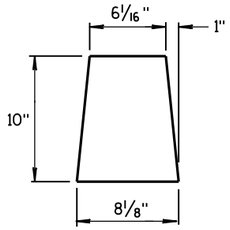


GUSSET 3

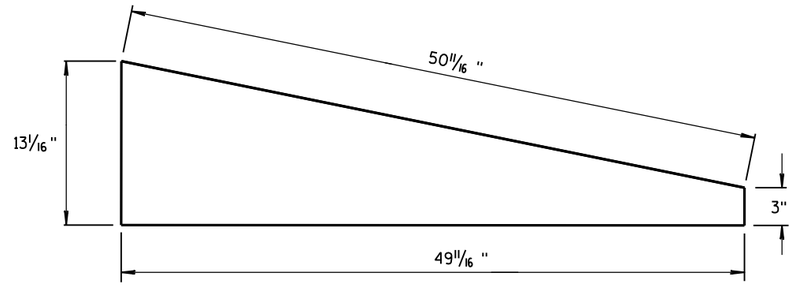


GUSSET 4

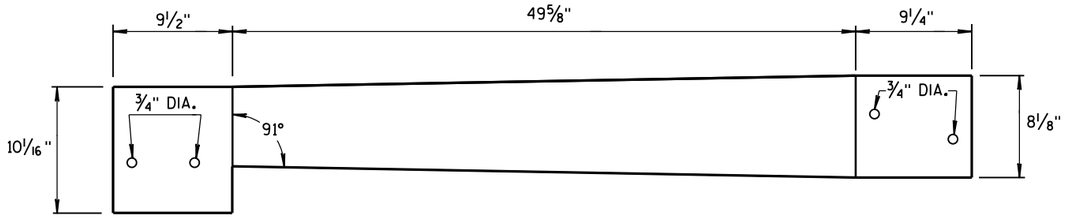
GUSSETS

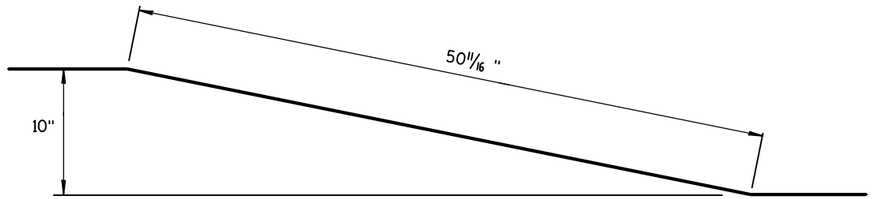


END PLATE



SIDE PLATE

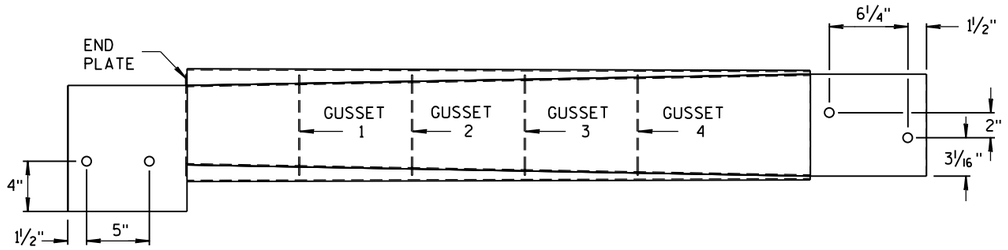


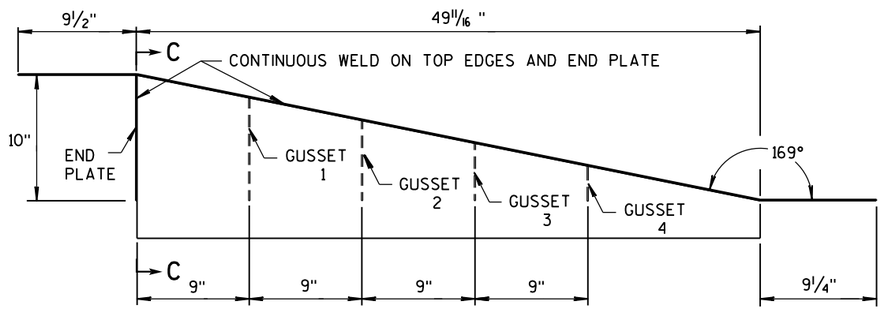


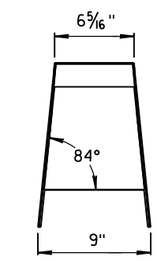
TOP PLATE

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.







SECTION C-C

NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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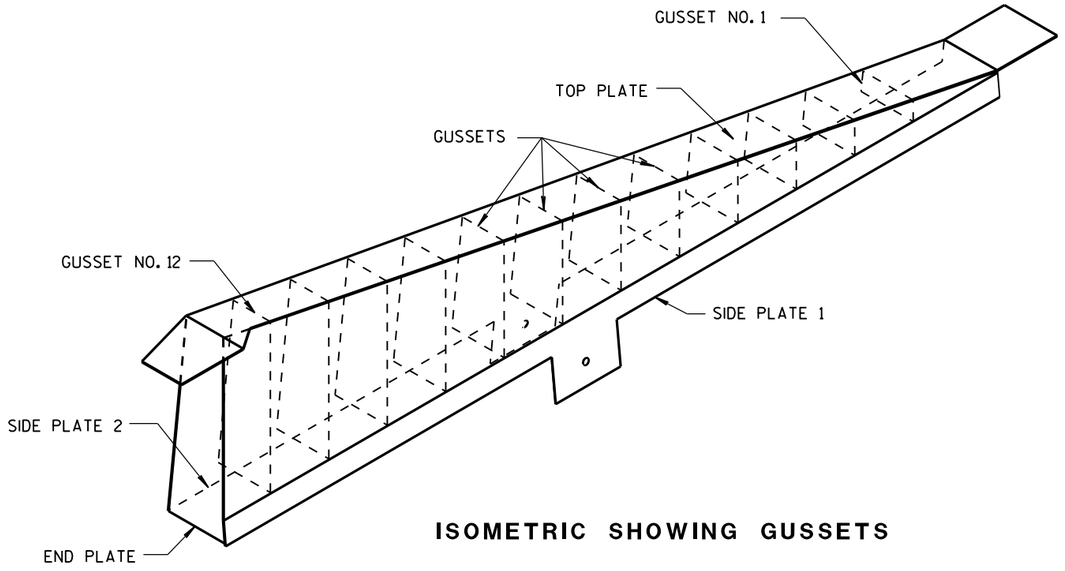
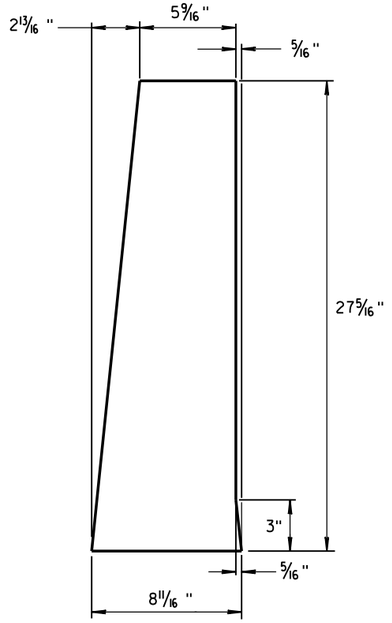
S.D.D. 14 B 7-14f

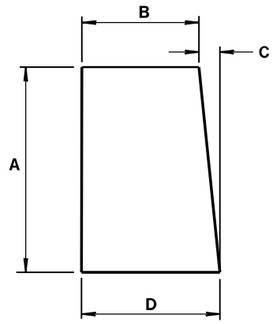


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



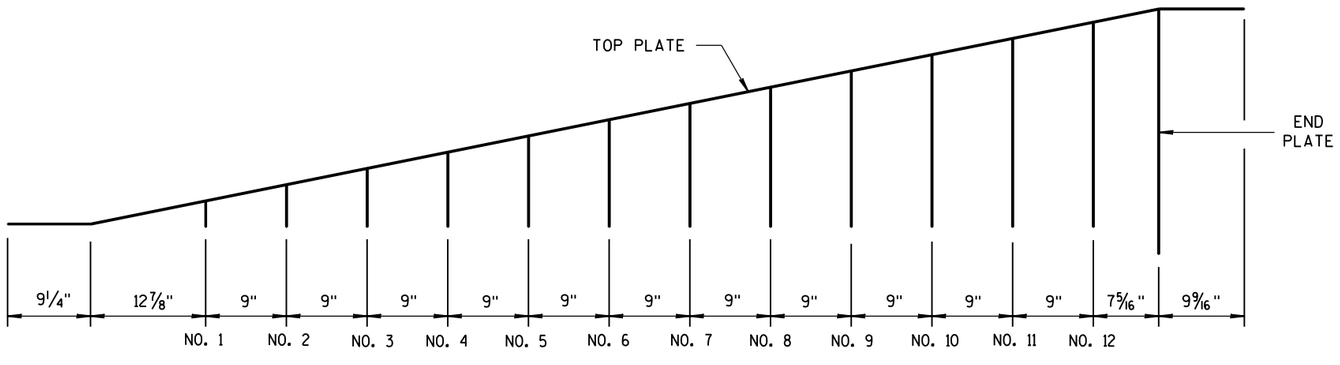
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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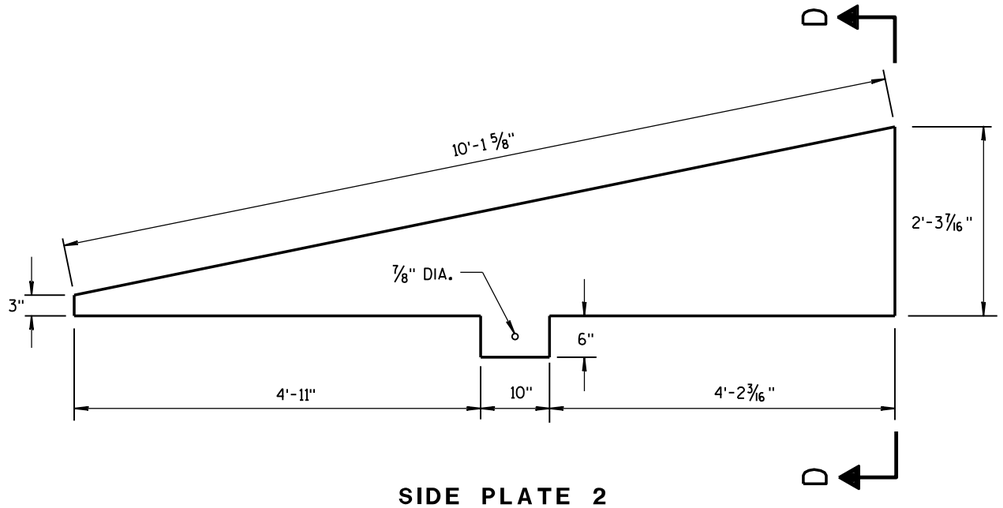
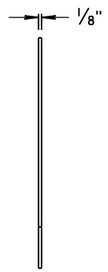
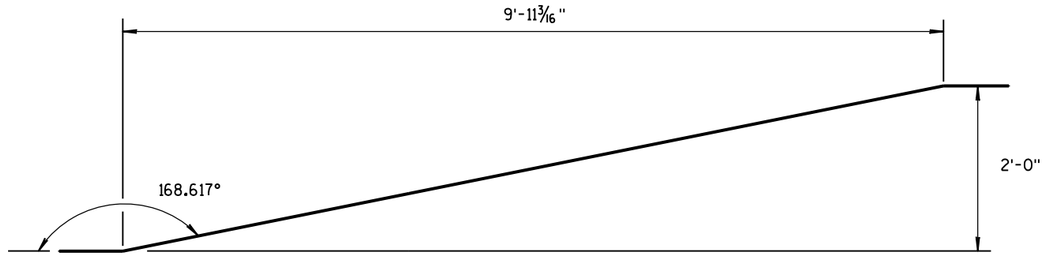
S.D.D. 14 B 7-14g



SIDE PLATE 2

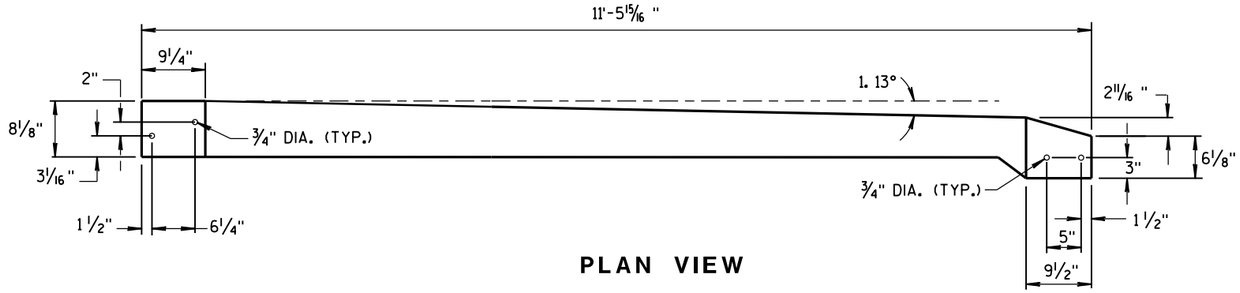


END VIEW



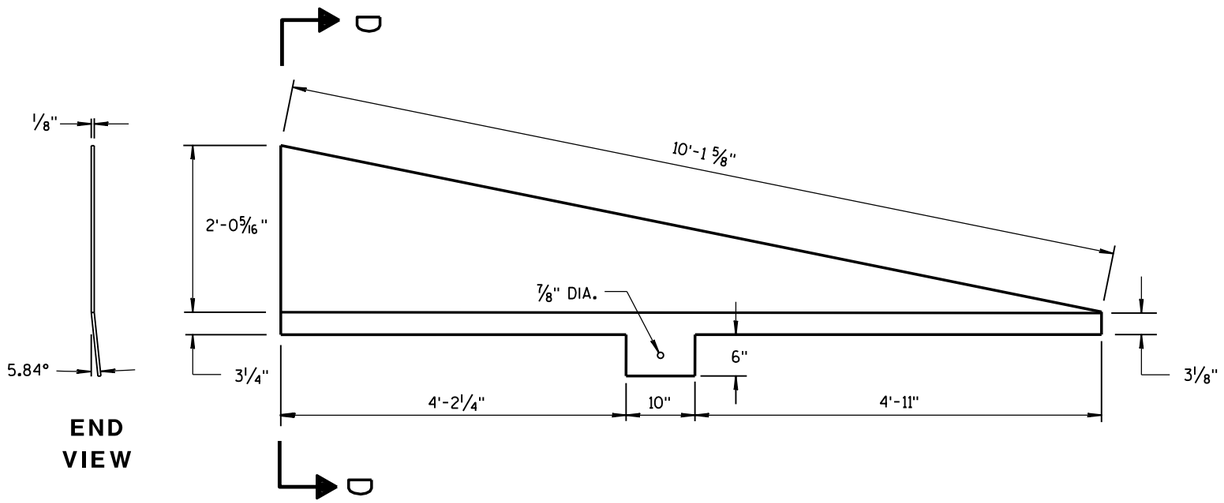
SIDE VIEW

TOP PLATE



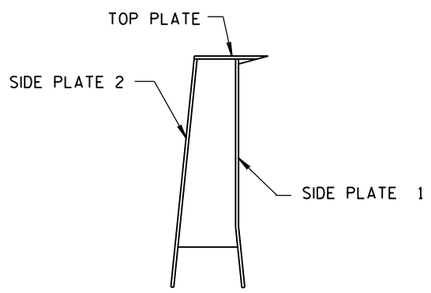
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 7-14h

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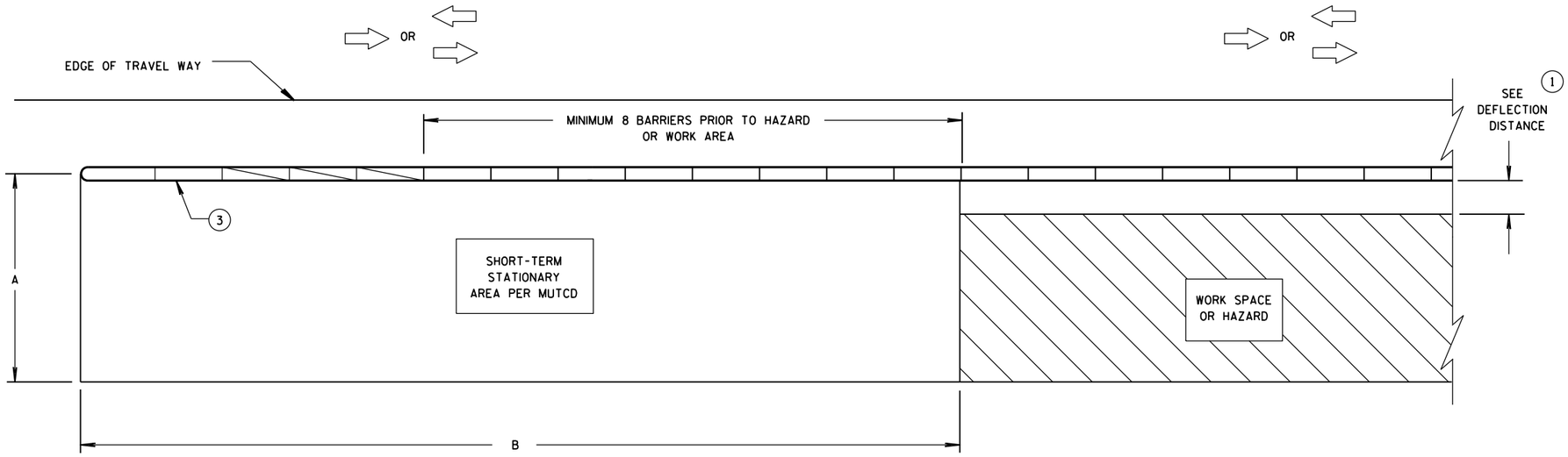
S.D.D. 14 B 7-14h



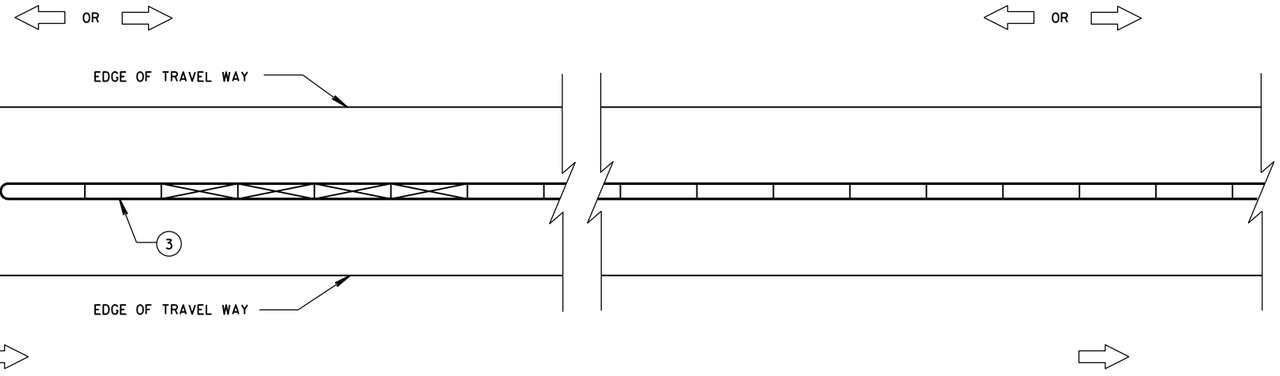
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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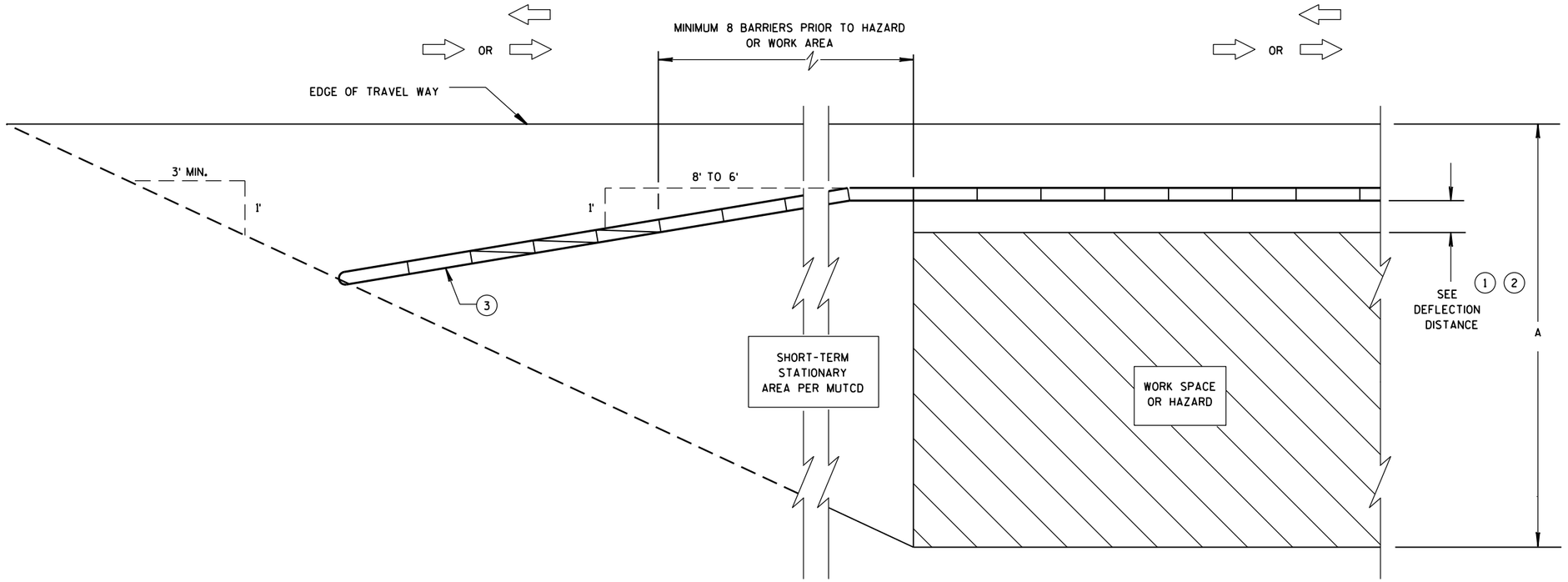
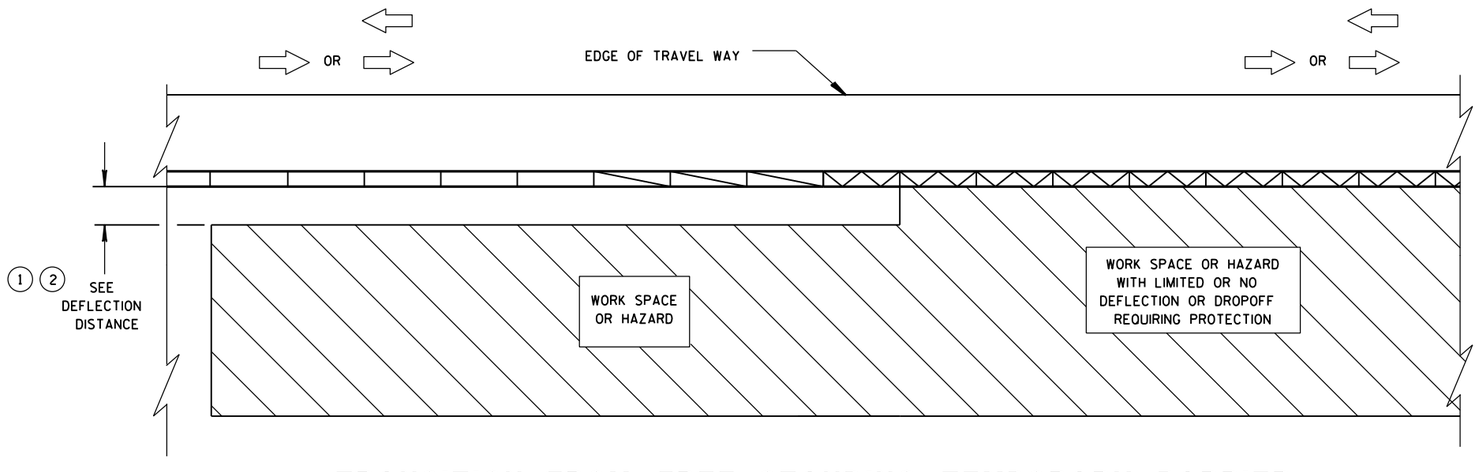
S.D.D. 14 B 8-2a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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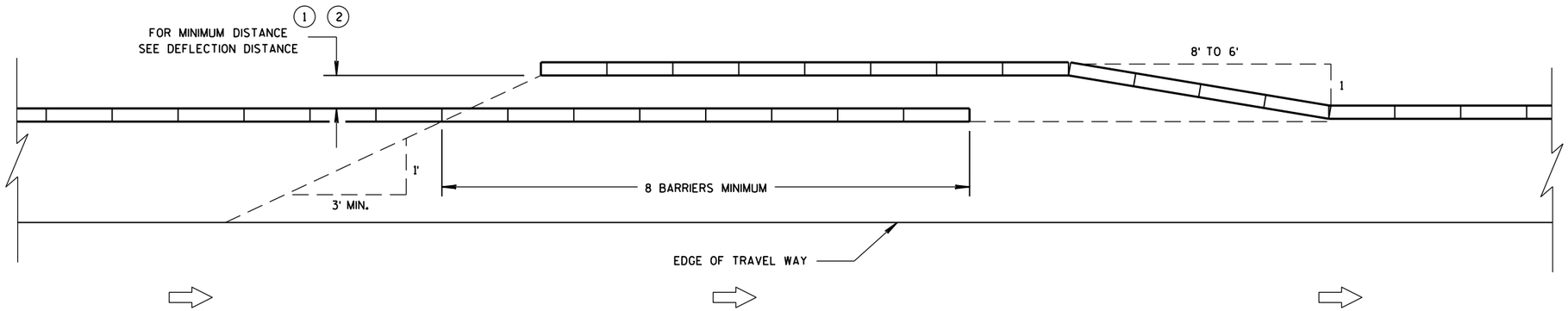
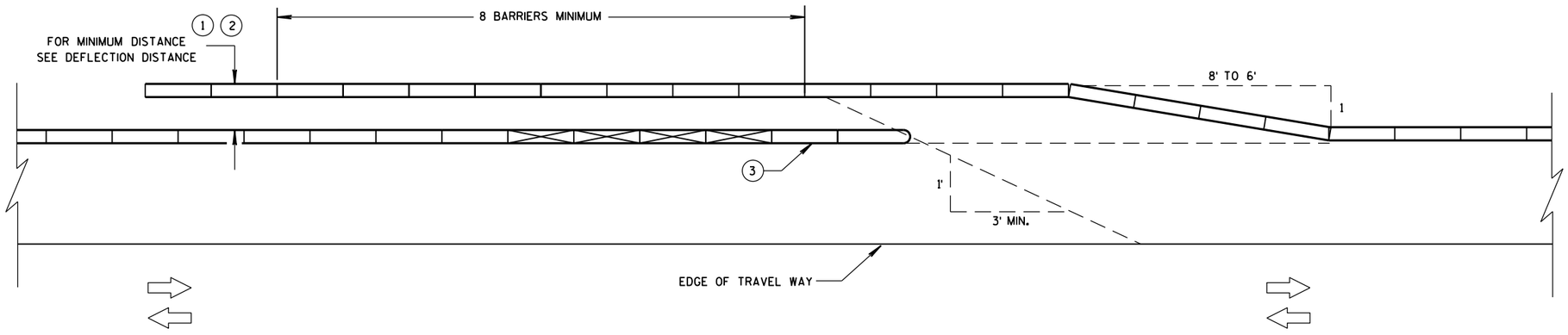
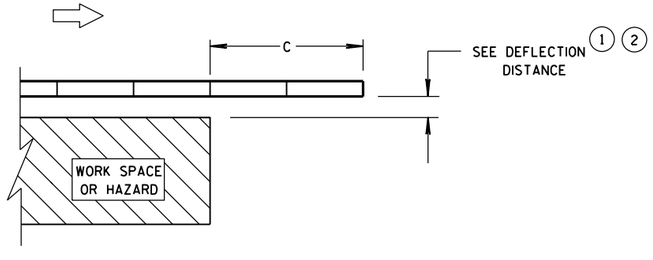
S.D.D. 14 B 8-2b



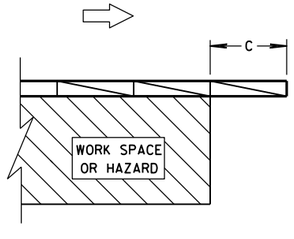
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

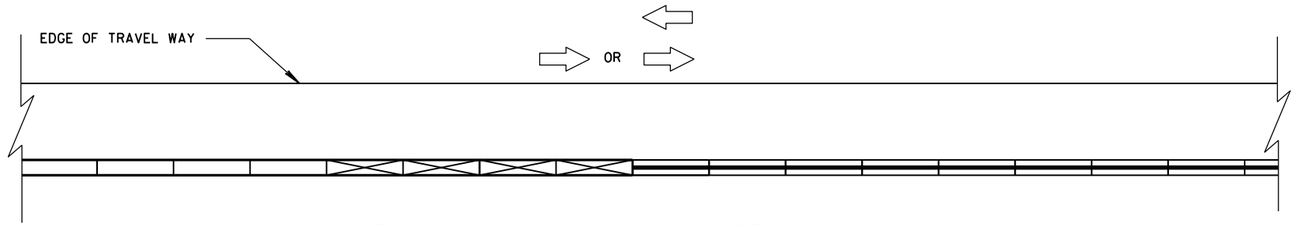
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

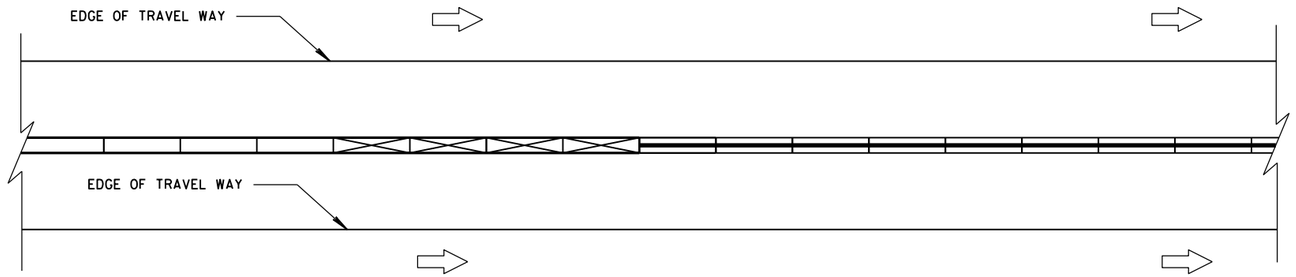
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 8-2c



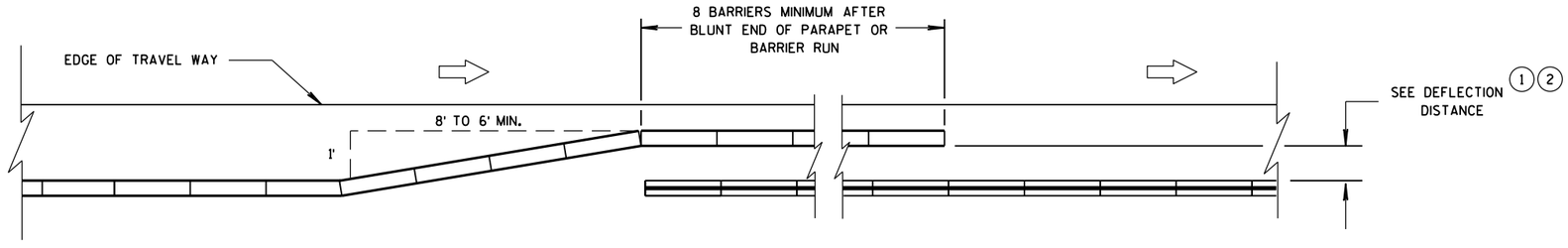
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



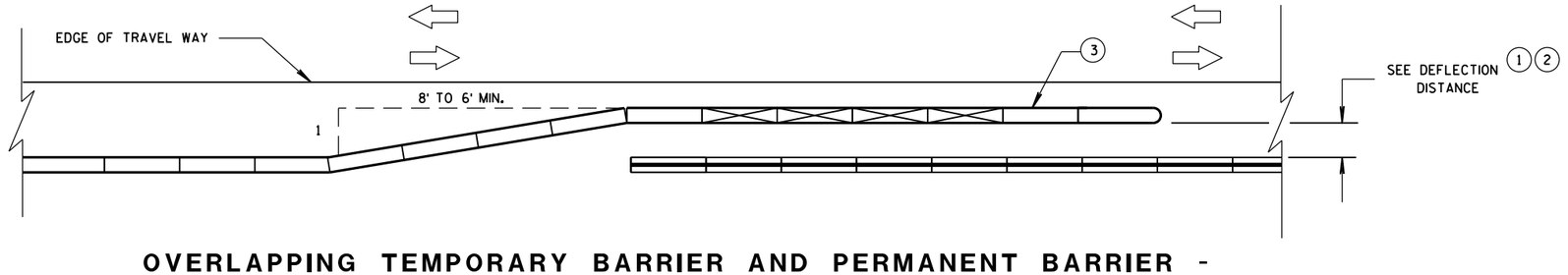
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 8-2d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

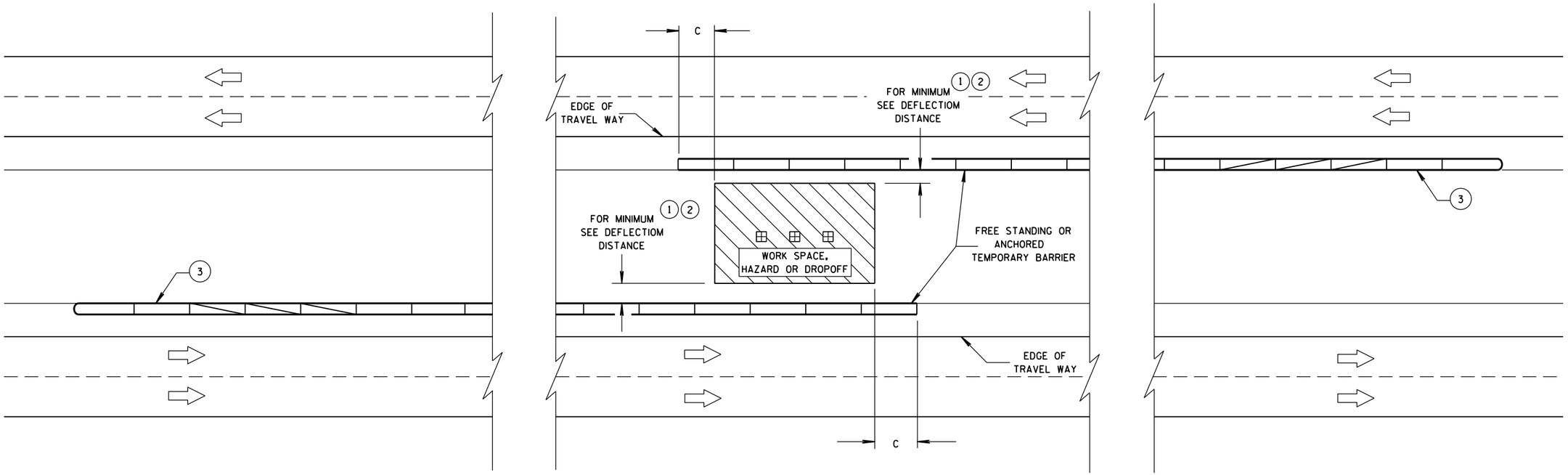
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER
FHWA

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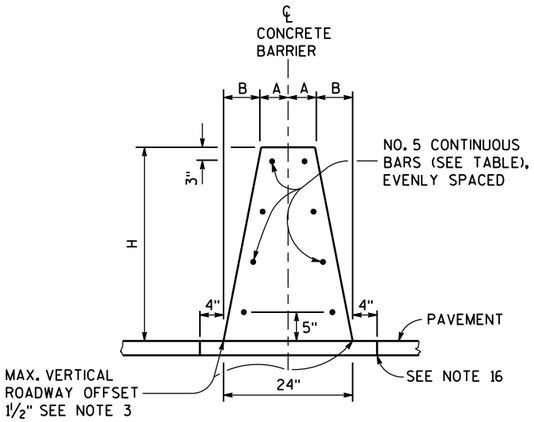
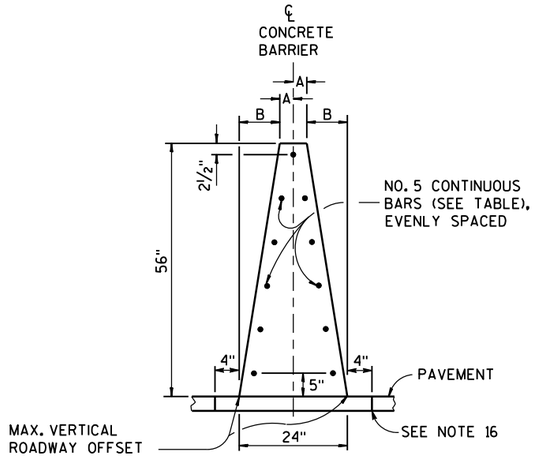
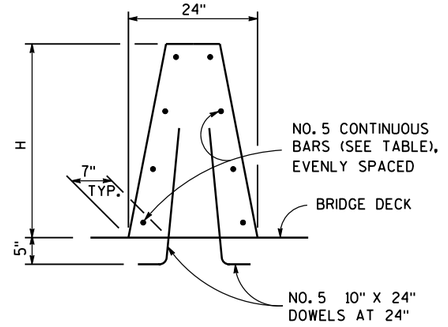
S.D.D. 14 B 8-2e



32-INCH, 36-INCH OR 42-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S32, TYPE S36, AND TYPE S42)



56-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S56)



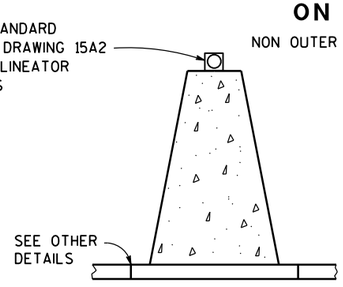
SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

NON OUTER PARAPET APPLICATION

GENERAL NOTES

1. WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
2. EXPANSION JOINTS IN CONCRETE BARRIER SHALL BE LOCATED AT ALL DECK, AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OR ½" MINIMUM.
3. WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1½", USE TYPE A
4. PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
5. EXCEPT IN ANCHORS, VERTICAL REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1'-0".
6. FOR TYPE S32, TYPE S36, TYPE S42, AND S56 MONOLITHIC FOOTING OR DOWELED FOOTING WITH 2-#8 x 8" @ 2'-0".
7. STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL 2 FEET. BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
8. 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
9. WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP-FORMING CUT OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.
10. USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
11. 2" CLEAR COVER TYPICAL.
12. COLD-JOINTS MAY BE USED BETWEEN ANCHOR INSTALLATIONS. WHEN A COLD JOINT IS NEEDED, 3 FEET OF LAP OF LONGITUDINAL STEEL IS REQUIRED. LAPS TO BE FIRMLY TIED.
13. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 NO ADDITIONAL VERTICAL STEEL NEEDED. IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A REQUIRES VERTICAL STEEL. SEE OTHER DETAIL.
14. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 DEPTH OF FOOTING 10". IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A MATCH TOTAL HEIGHT OF SINGLE SLOPE BARRIER RETAINING WALL.
15. FOR ALL BARRIER TYPES SHOWN, ANCHOR IS REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN ON DRAWING OR DETAILS SHOWN ON S.D.D. 14B33. ANCHORS INCIDENTAL TO CBSS.
16. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6¼	5¾	8
42	5¼	6¾	10
56	3	9	11



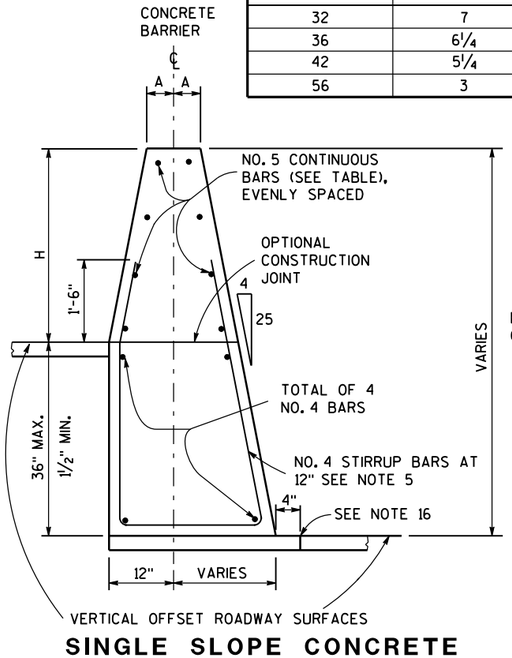
DELINEATION

DELINEATOR SPACING ON HORIZONTAL CURVES

RADIUS OF CURVE	APPROXIMATE SPACING ON CURVE
50 FEET	20 FEET
115 FEET	25 FEET
180 FEET	35 FEET
250 FEET	40 FEET
300 FEET	50 FEET
400 FEET	55 FEET
500 FEET	65 FEET
600 FEET	70 FEET
700 FEET	75 FEET
800 FEET	80 FEET
900 FEET	85 FEET
1000 FEET	90 FEET

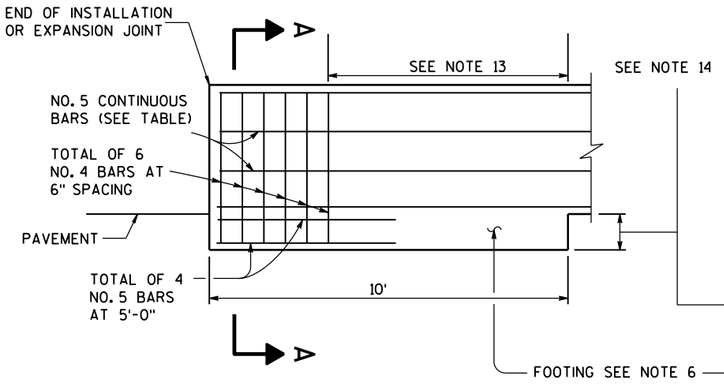
DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS

	LENGTH OF BARRIER	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2	



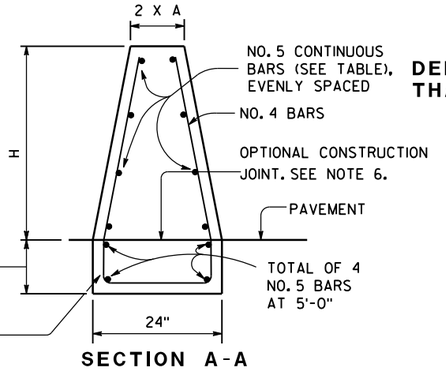
SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)

(BETWEEN ADJACENT ROADWAYS)



END ANCHOR SINGLE SLOPE CONCRETE BARRIER

AT CONSTRUCTION JOINT



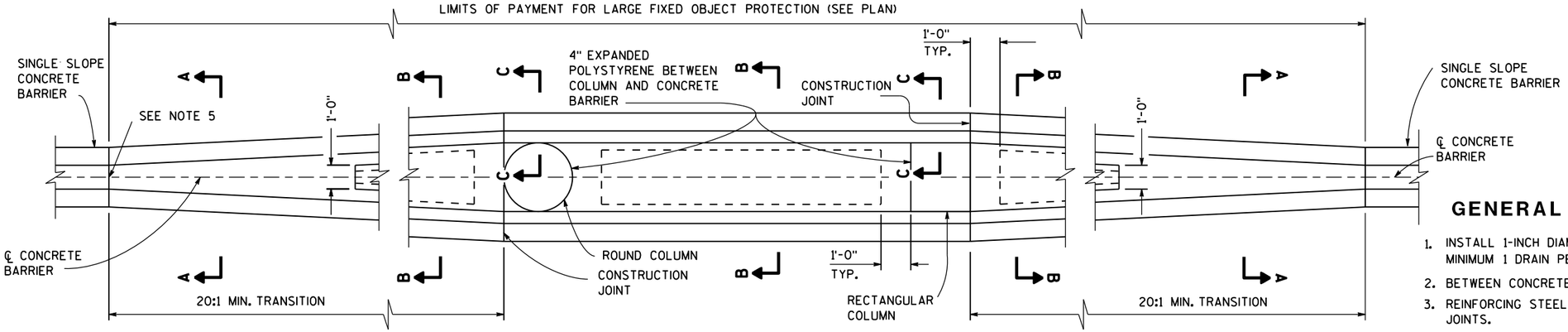
SECTION A-A

CONCRETE BARRIER SINGLE SLOPE (CBSS)

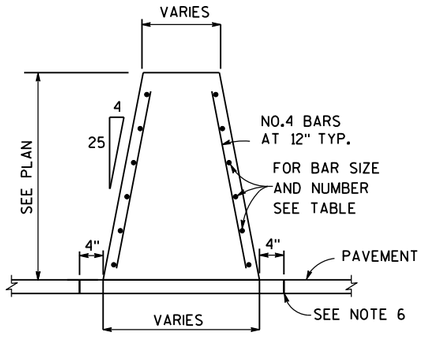
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

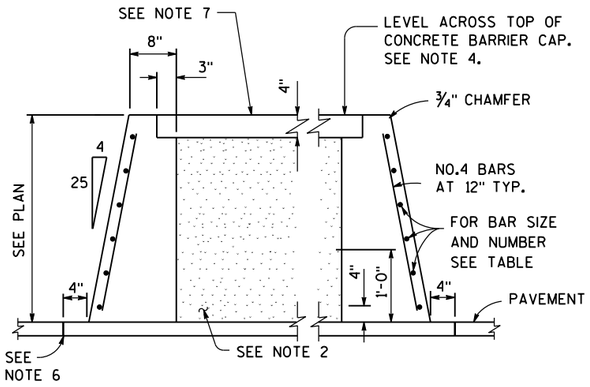
S.D.D. 14 B 32-4a



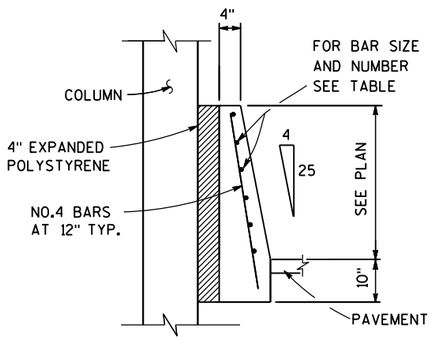
LARGE FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56



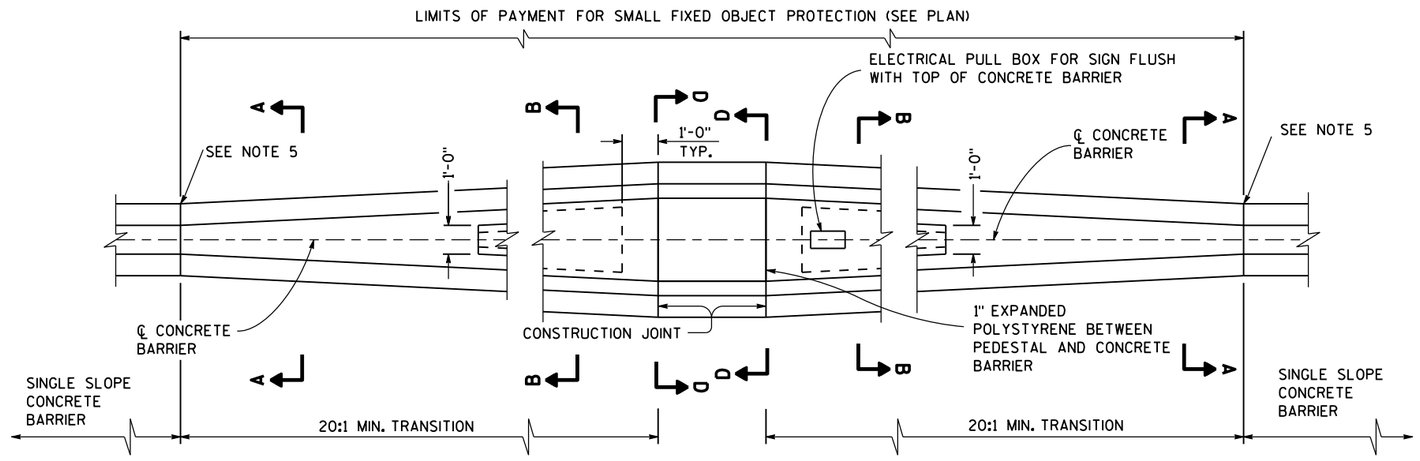
SECTION A-A



SECTION B-B



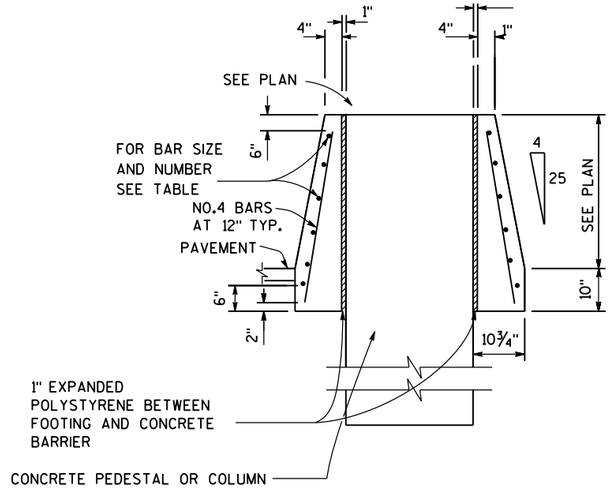
SECTION C-C



SMALL FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56

GENERAL NOTES

1. INSTALL 1-INCH DIAMETER DRAIN PIPE EVERY 20 FEET OF CROSS SECTION B-B. MINIMUM 1 DRAIN PER CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH FOUNDATION BACKFILL.
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET OR SUPERELEVATED ROADWAYS TO PROVIDE LEVEL GRADE ACROSS TOP OF CONCRETE CAP.
5. IF FIXED OBJECT PROTECTION IS INSTALLED FIRST, USE COLD JOINTS. IF CBSS PLACED FIRST, USE EXPANSION JOINT.
6. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
7. USE NO. 3 BAR SPACED 12 INCHES CENTER TO CENTER (PLACED IN EACH DIRECTION) OR EQUIVALENT WIRE MESH.



SECTION D-D

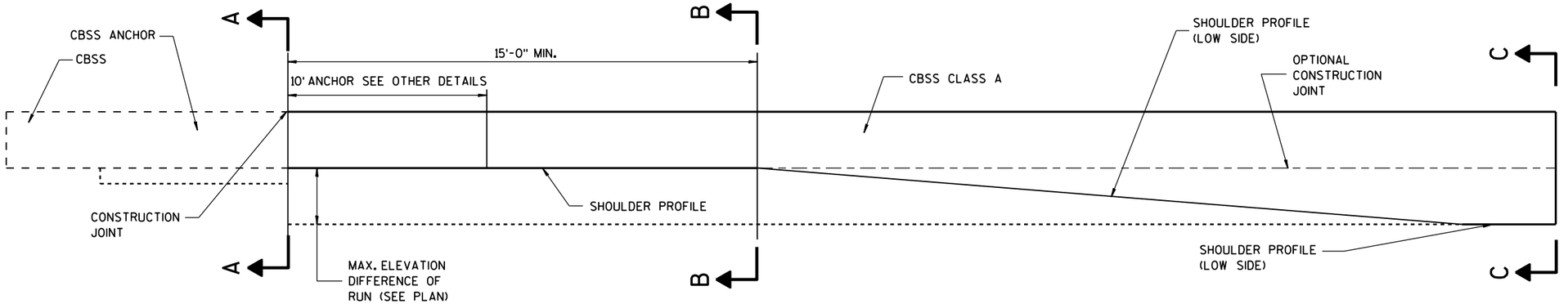
BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	9

CONCRETE BARRIER SINGLE SLOPE (CBSS)

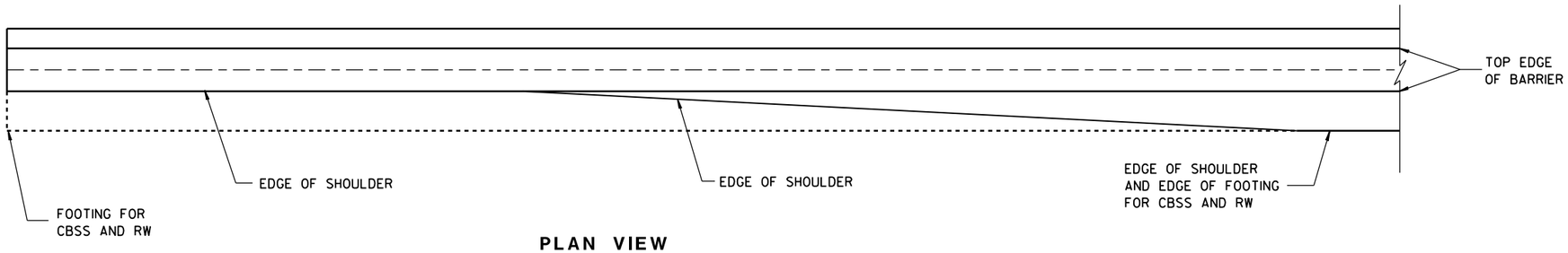
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

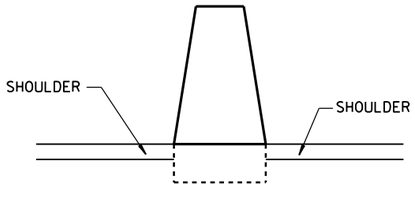
S.D.D. 14 B 32-4b



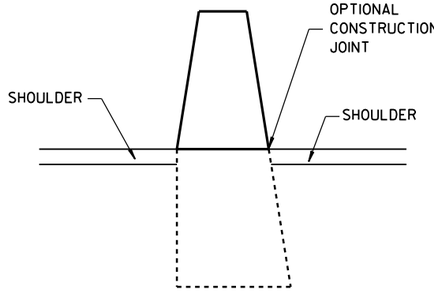
ELEVATION VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



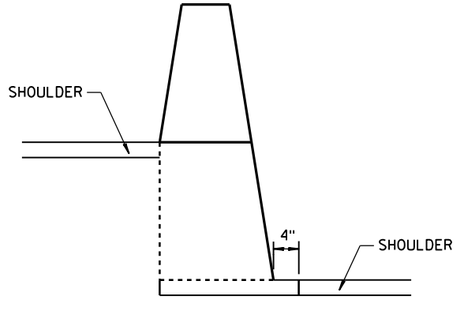
PLAN VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



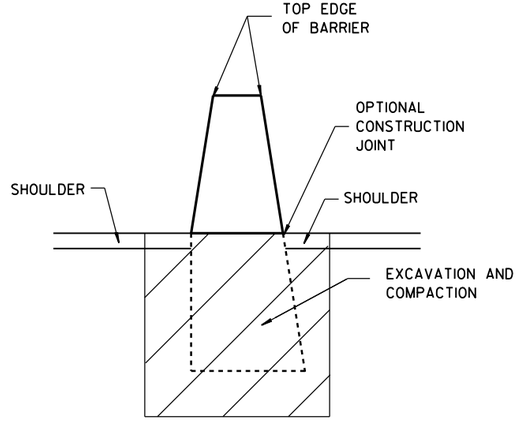
SECTION A-A



SECTION B-B



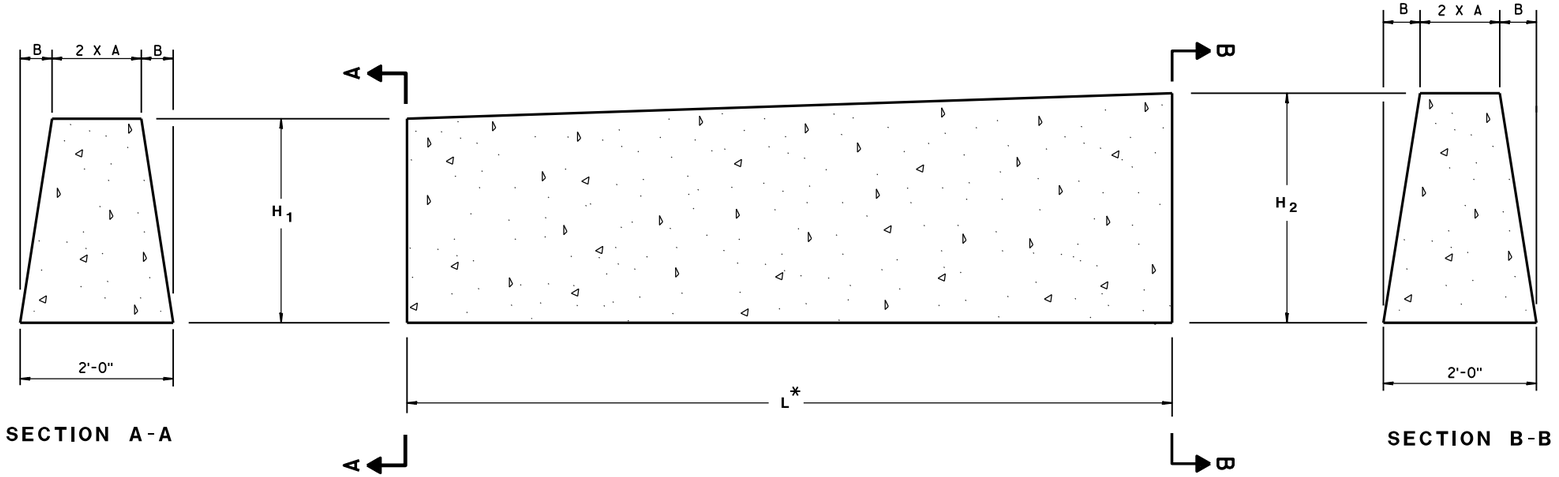
SECTION C-C



CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 32-4c



SECTION A-A

SECTION B-B

DOUBLE COLD JOINT HEIGHT TRANSITION

BARRIER DIMENSIONS

BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 1/4	5 3/4
42	5 1/4	6 3/4
56	3	9

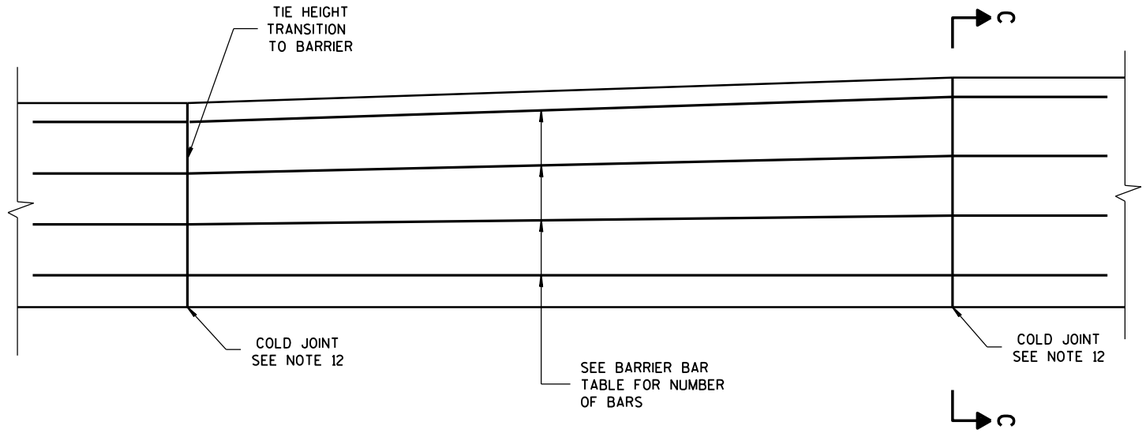
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

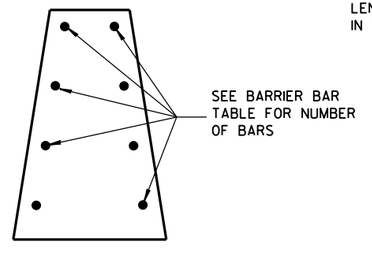
USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

BARRIER BARS

H_1	H_2	L*	NUMBER OF NO. 5 BARS
32"	36"	10'-0"	8
36"	42"	10'-6"	10
42"	56"	24'-6"	11

* LENGTH OF DOUBLE COLD JOINT INCLUDED IN THE TOTAL LENGTH OF CBSS.





SECTION C-C

STEEL REINFORCEMENT DETAIL

CONCRETE BARRIER SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

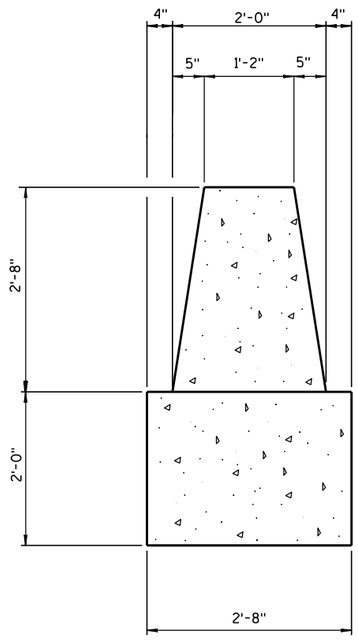
APPROVED
June 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

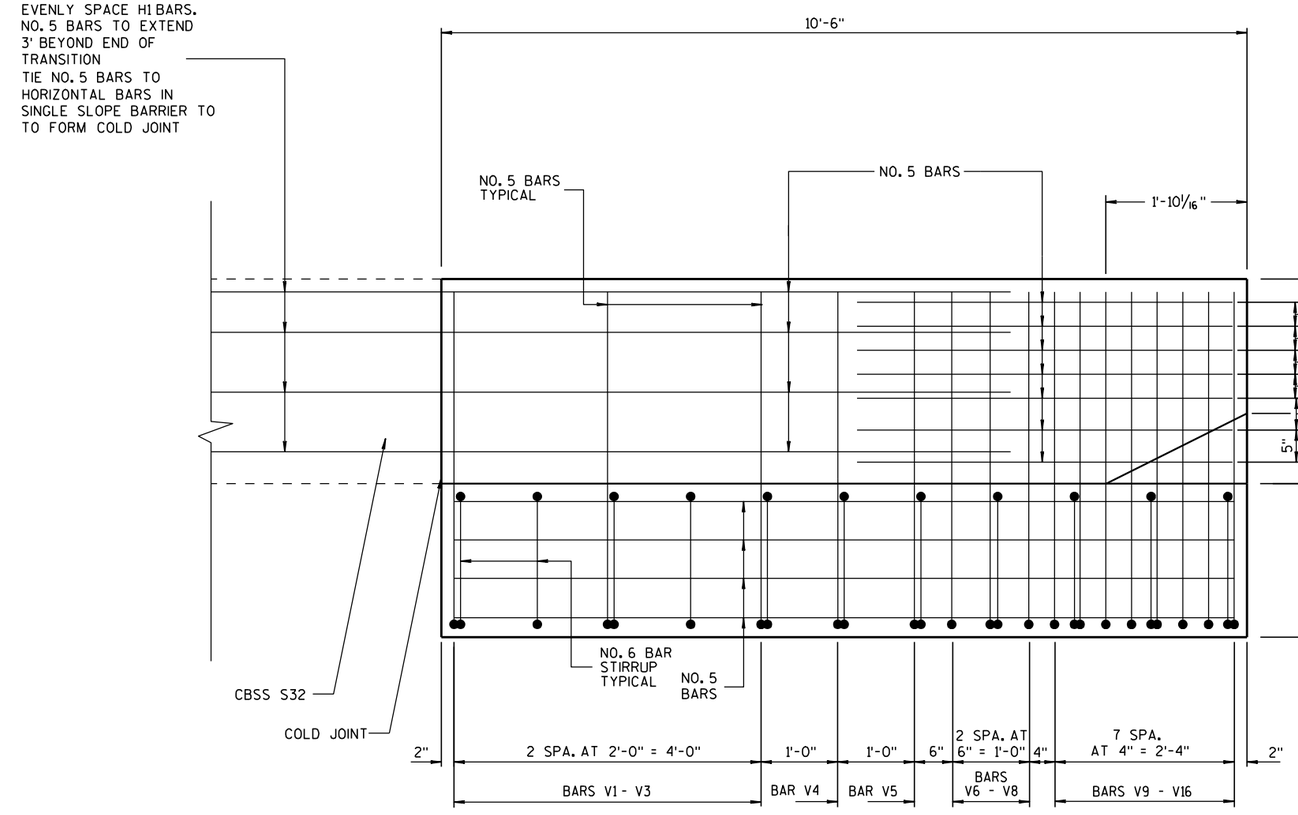
S.D.D. 14 B 32-4d

6

S.D.D. 14 B 32-4d

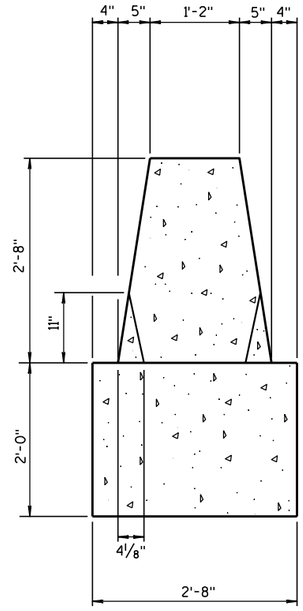


SECTION A-A

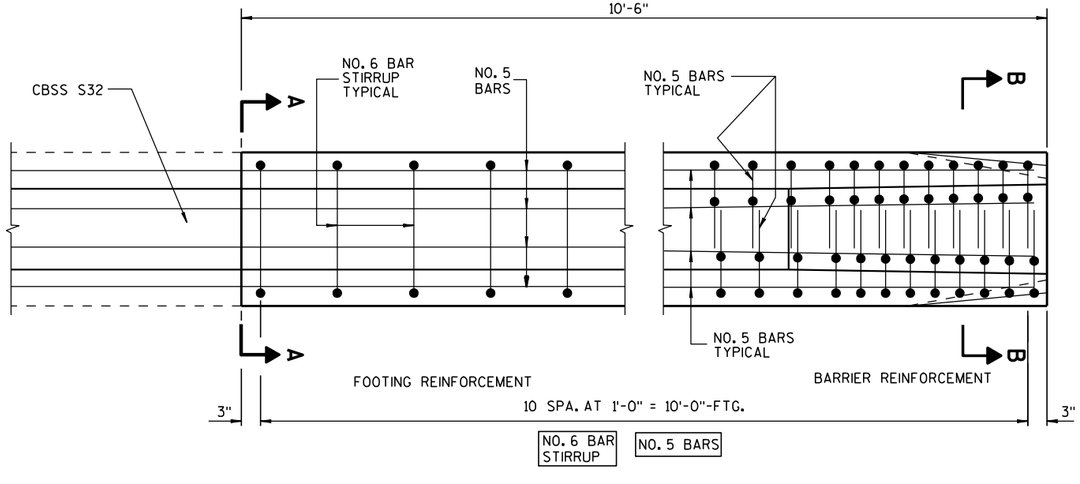


SEE SECTIONS (1) THRU (16)

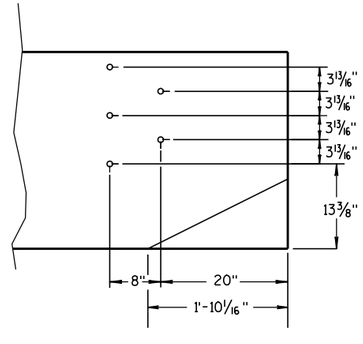
ELEVATION VIEW



SECTION B-B



PLAN VIEW



PVC PIPE LOCATIONS

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS SECTION 501.

USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THRIE BEAM ANCHOR INCIDENTAL TO CONCRETE BARRIER ITEM.

INSTALL SCHEDULE 40 PVC PIPE 1" DIAMETER AT LOCATIONS INDICATED.

EXTEND PVC PIPE COMPLETELY THROUGH BARRIER.

CUT ENDS OF PVC PIPE FLUSH WITH FINISHED FACE of BARRIER.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

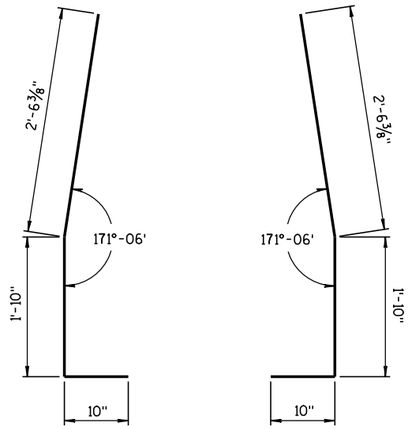
2" CLEAR COVER TYPICAL.

CONCRETE BARRIER
SINGLE SLOPE 32"
THRIE BEAM ANCHOR

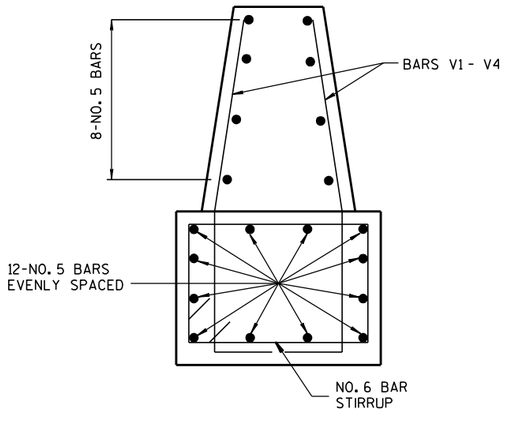
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

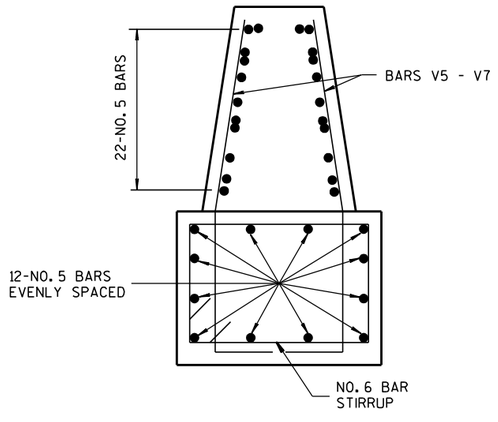
S.D.D. 14 B 33-1a



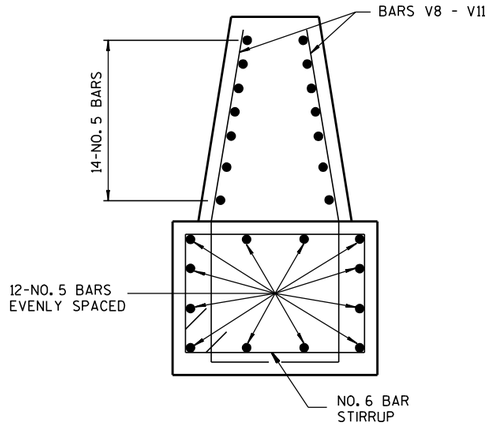
BAR BENDING DETAIL
FOR BARS V1 - V11



BAR DETAIL
SECTIONS 1 - 4



BAR DETAIL
SECTIONS 5 - 7



BAR DETAIL
SECTIONS 8 - 11

CONCRETE BARRIER
SINGLE SLOPE 32"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

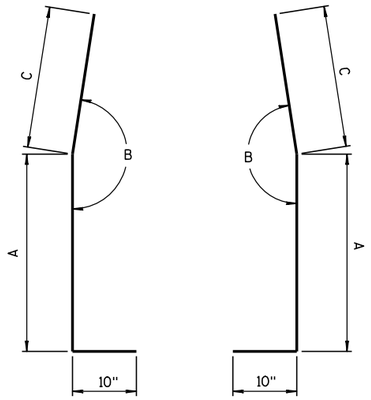
S.D.D. 14 B 33-1b

6

S.D.D. 14 B 33-1b

BAR CHART
SECTIONS V12 - V13

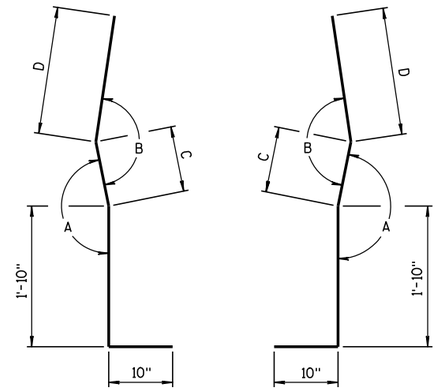
BAR	A	B	C
V12	2'-2"	171°-15'	2'-1 3/4"
V13	2'-7"	171°-05'	1'-9 3/8"



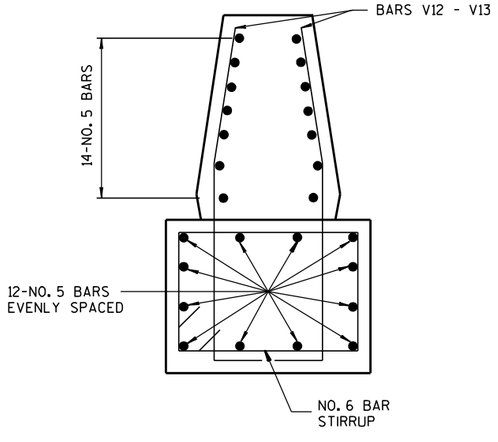
BAR BENDING DETAIL
FOR BARS V12 - V13

BAR CHART
SECTIONS V14 - V16

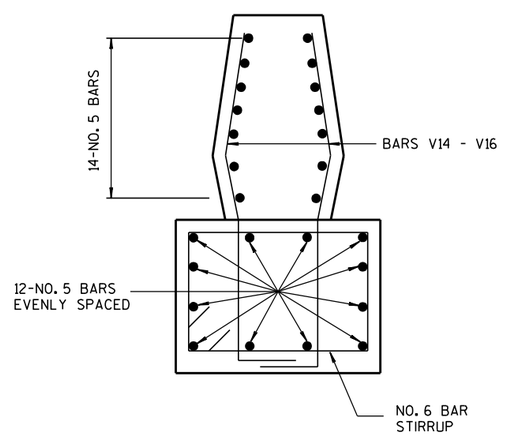
BAR	A	B	C	D
V14	168°-15'	159°-15'	6"	2'-0"
V15	169°-20'	161°-00'	8"	1'-10"
V16	168°-40'	160°-10'	10"	1'-8"



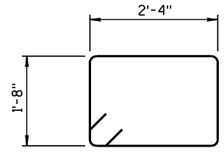
BAR BENDING DETAIL
FOR BARS V14 - V16



BAR DETAIL
SECTIONS 12 - 13



BAR DETAIL
SECTIONS 14 - 16



STIRRUP BAR
BENDING DETAIL

CONCRETE BARRIER
SINGLE SLOPE 32"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010
DATE

/S/ Jerry H. Zoss
ROADWAY STANDARDS ENGINEER

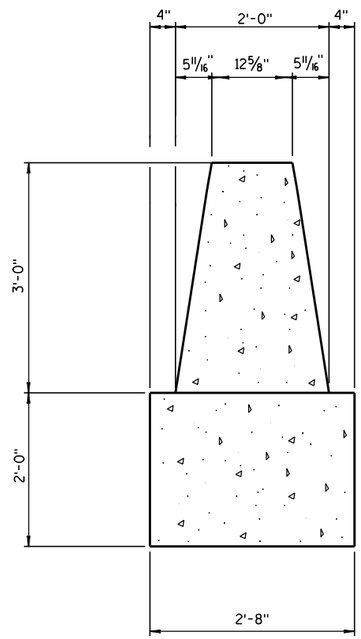
FHWA

6

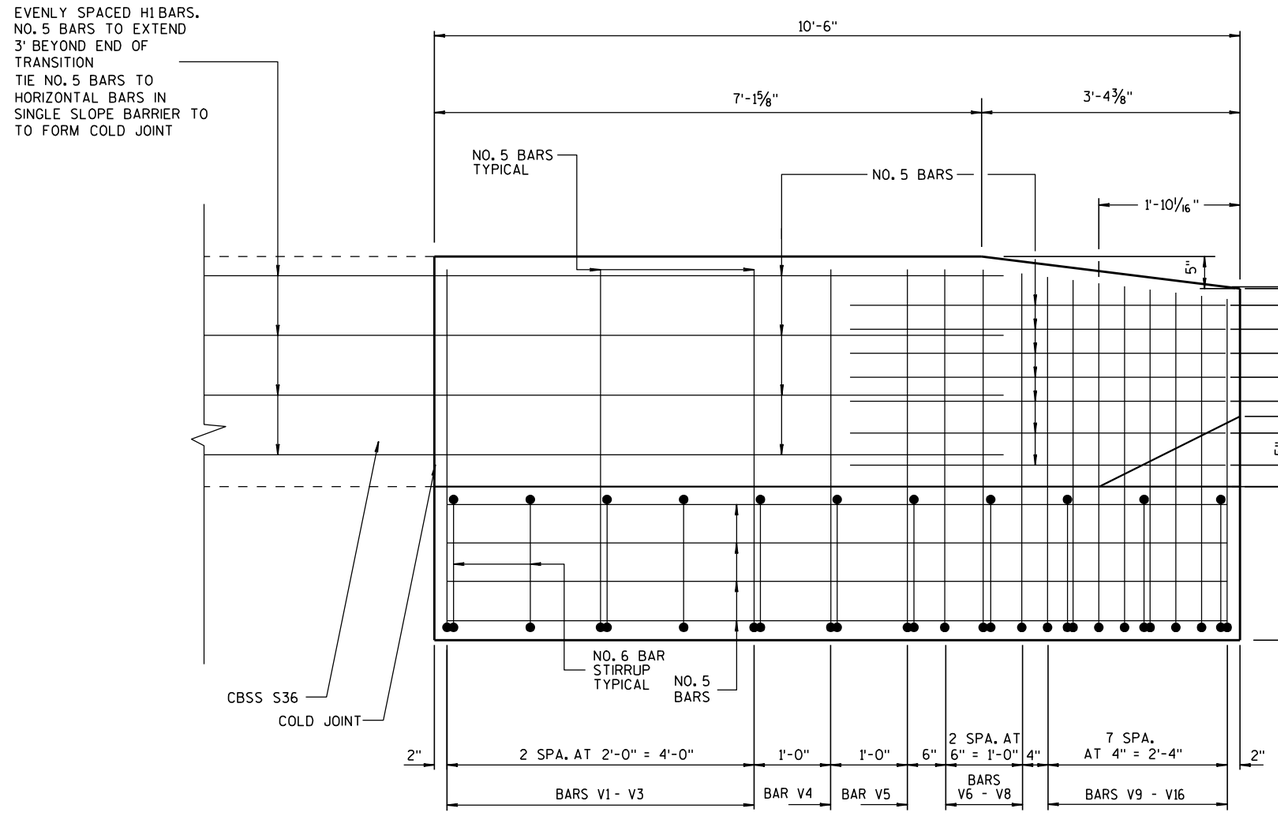
S.D.D. 14 B 33-1c

6

S.D.D. 14 B 33-1c

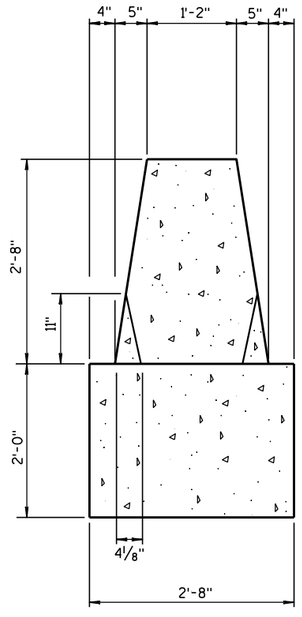


SECTION A-A

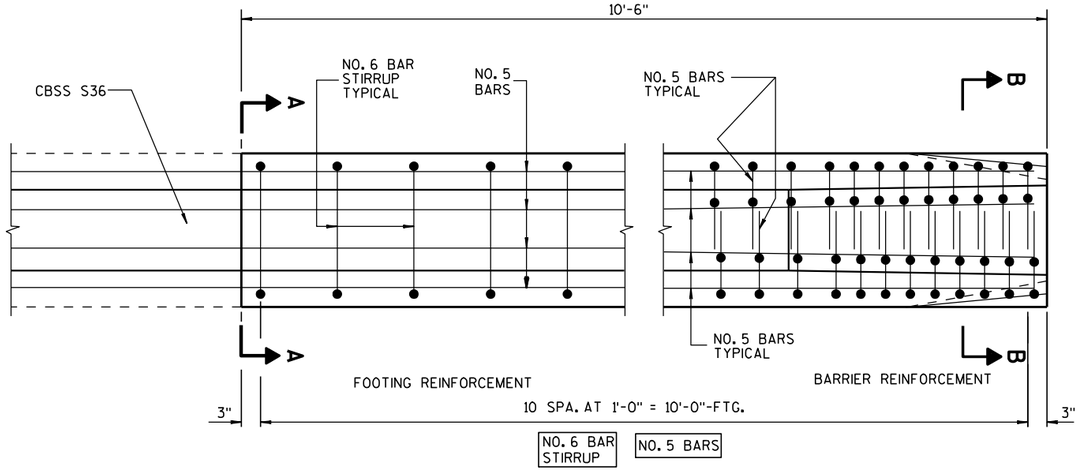


SEE SECTIONS (1) THRU (16)

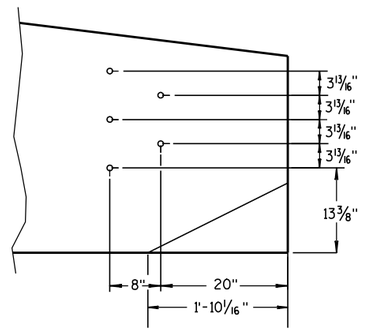
ELEVATION VIEW



SECTION B-B



PLAN VIEW



PVC PIPE LOCATIONS

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS SECTION 501.

USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THRIE BEAM ANCHOR INCIDENTAL TO CONCRETE BARRIER ITEM.

INSTALL SCHEDULE 40 PVC PIPE 1" DIAMETER AT LOCATIONS INDICATED.

EXTEND PVC PIPE COMPLETELY THROUGH BARRIER.

CUT ENDS OF PVC PIPE FLUSH WITH FINISHED FACE of BARRIER.

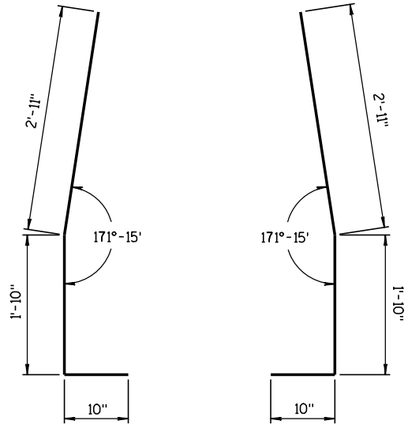
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

CONCRETE BARRIER
SINGLE SLOPE 36"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

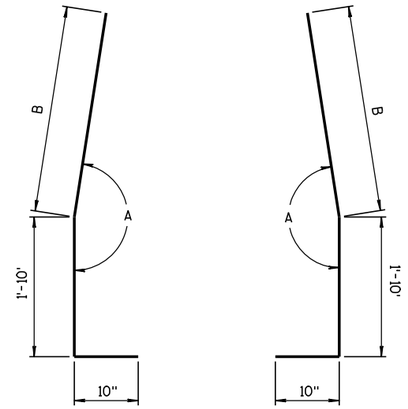
6
S.D.D. 14 B 33-1d



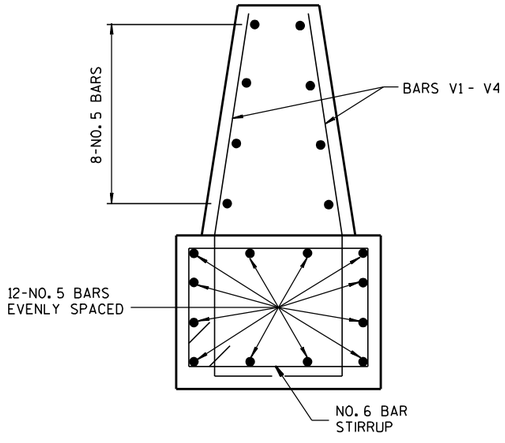
BAR BENDING DETAIL
FOR BARS V1 - V6

BAR CHART
SECTIONS V7 - V11

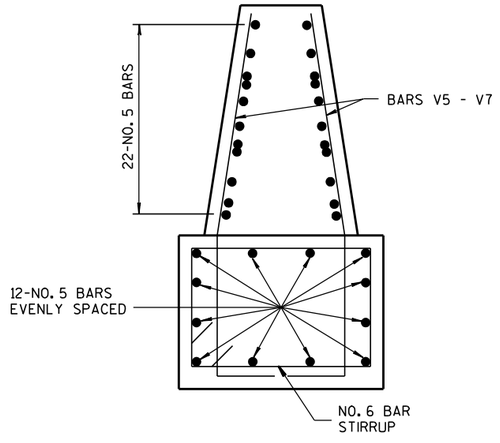
BAR	A	B
V7	171°-20'	2'-10½"
V8	171°-10'	2'-9½"
V9	171°-10'	2'-9"
V10	171°-05'	2'-8½"
V11	171°-10'	2'-8"



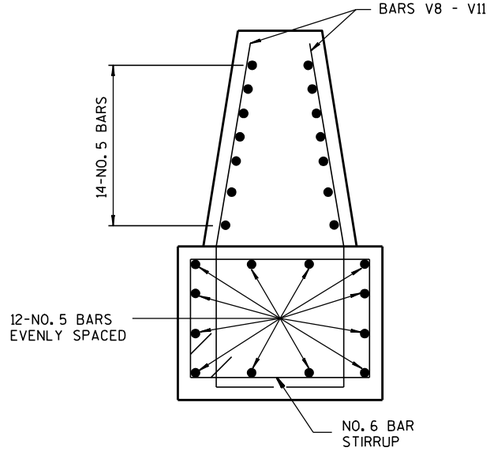
BAR BENDING DETAIL
FOR BARS V7 - V11



BAR DETAIL
SECTIONS 1 - 4



BAR DETAIL
SECTIONS 5 - 7



BAR DETAIL
SECTIONS 8 - 11

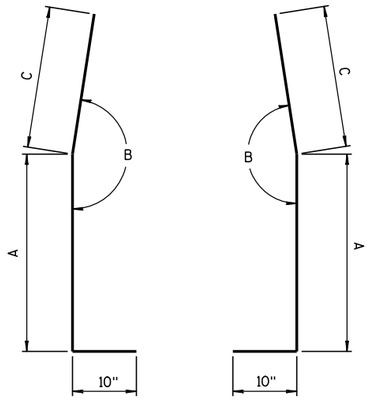
CONCRETE BARRIER
SINGLE SLOPE 36"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 33-1e

BAR CHART
SECTIONS V12 - V13

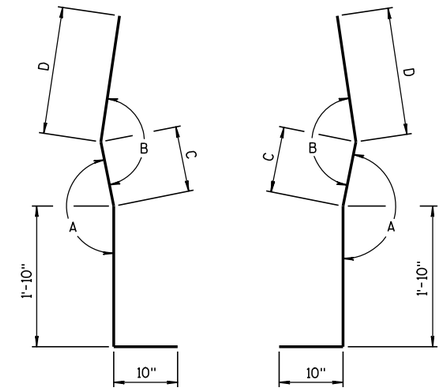
BAR	A	B	C
V12	2'-2"	171°-15'	2'-3½"
V13	2'-7"	171°-05'	1'-10"



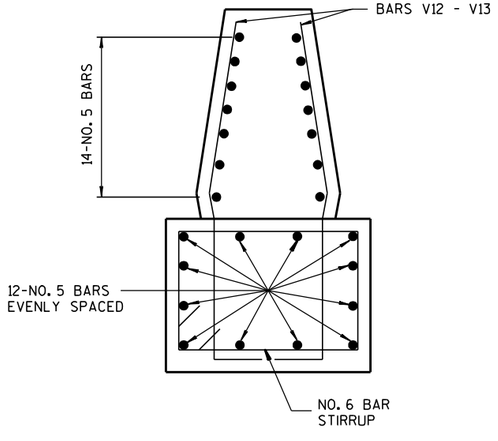
BAR BENDING DETAIL
FOR BARS V12 - V13

BAR CHART
SECTIONS V14 - V16

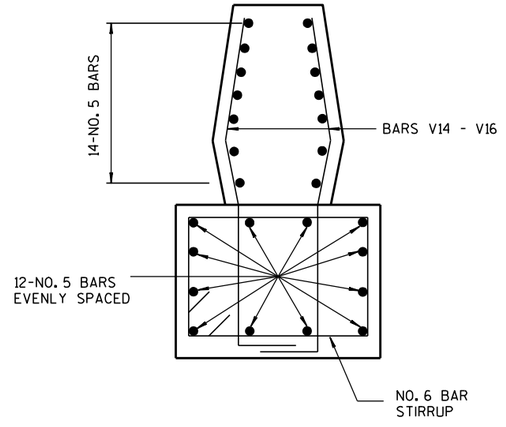
BAR	A	B	C	D
V14	168°-15'	159°-15'	6"	2'-0"
V15	169°-20'	161°-00'	8"	1'-10"
V16	168°-40'	160°-10'	10"	1'-8"



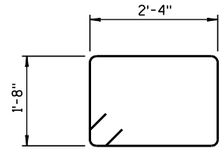
BAR BENDING DETAIL
FOR BARS V14 - V16



BAR DETAIL
SECTIONS 12 - 13



BAR DETAIL
SECTIONS 14 - 16



STIRRUP BAR
BENDING DETAIL

CONCRETE BARRIER
SINGLE SLOPE 36"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

206

FHWA

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S.D.D. 14 B 33-1f

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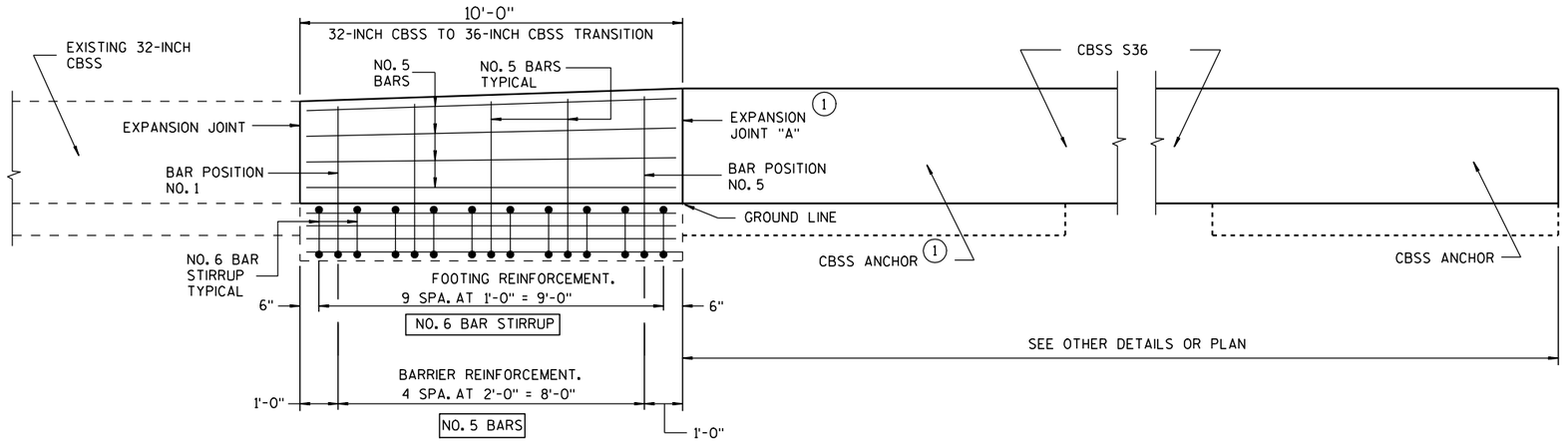
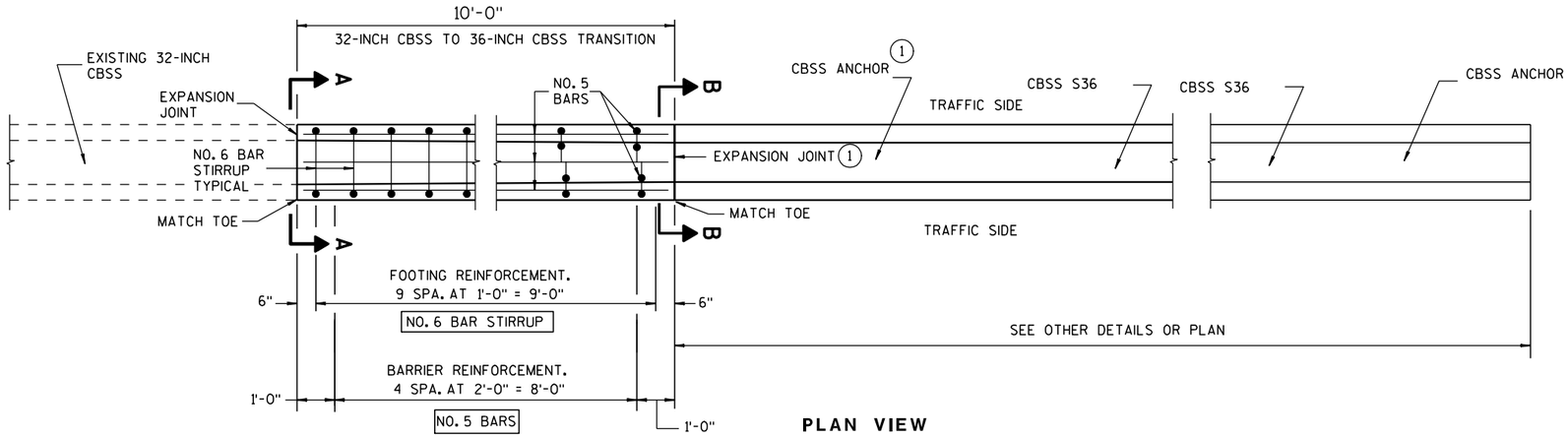
S.D.D. 14 B 33-1f



ELEVATION VIEW



PLAN VIEW

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

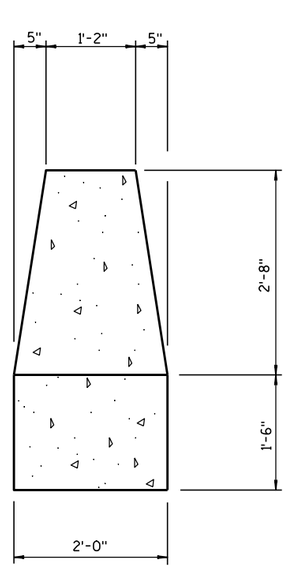
4000 PSICONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE $\frac{3}{4}$" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

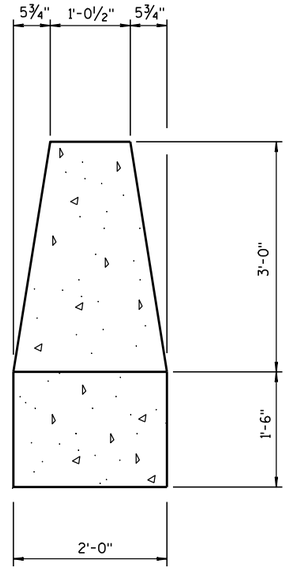
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

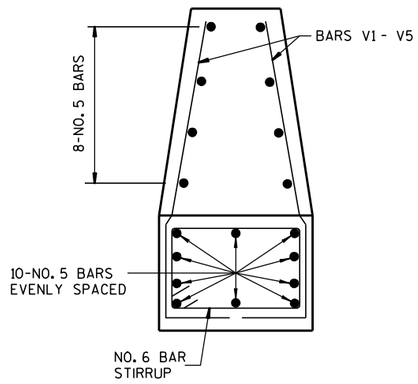
(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



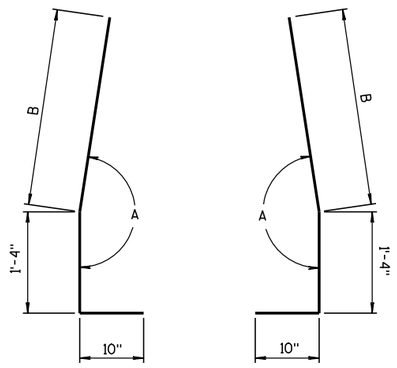
SECTION A-A



SECTION B-B



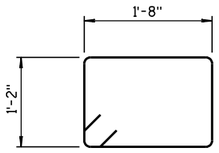
BAR DETAIL
BAR POSITION NO. 1 - NO. 5



BAR BENDING DETAIL
FOR BARS V1 - V5

BAR CHART
SECTIONS V1 - V5

BAR	A	B
V1	171°-10'	2'-6½"
V2	171°-05'	2'-8"
V3	170°-55'	2'-9"
V4	170°-40'	2'-9½"
V5	171°	2'-10"

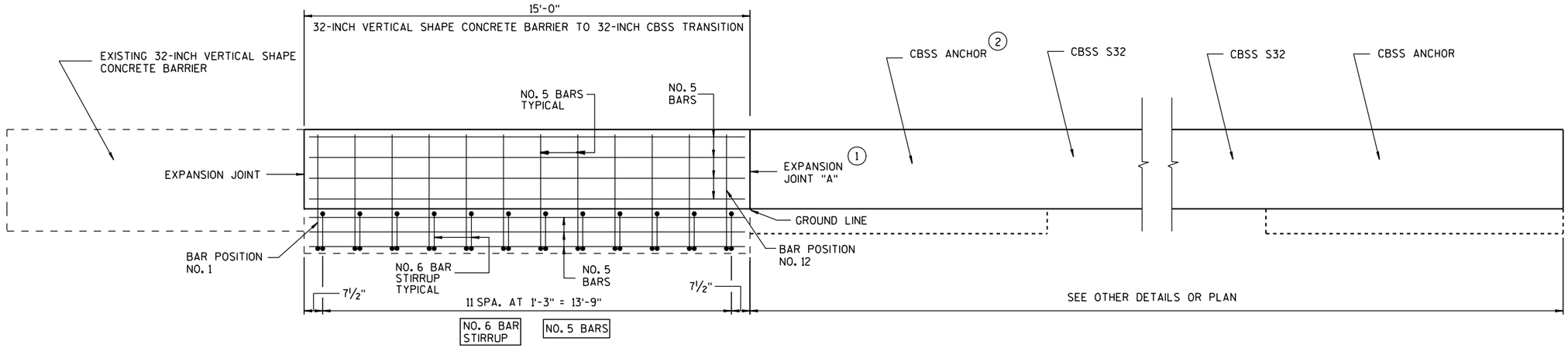


STIRRUP BAR
BENDING DETAIL

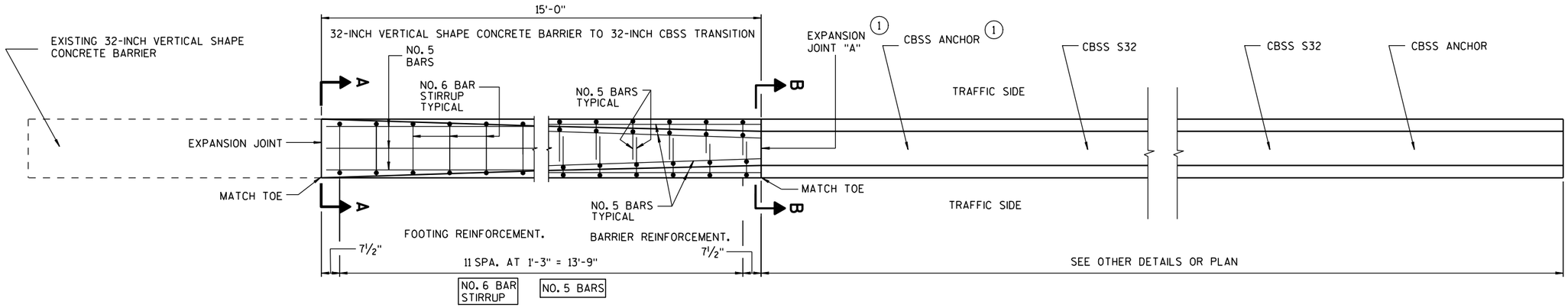
32-INCH SINGLE SLOPE CONCRETE BARRIER TO 36-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

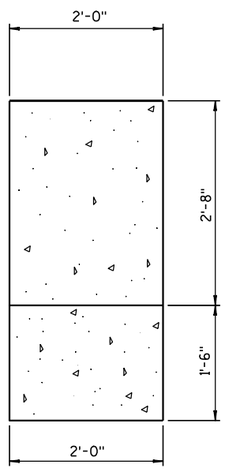
APPROVED
6-3-2010 DATE
/S/ Jerry H. ---- ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



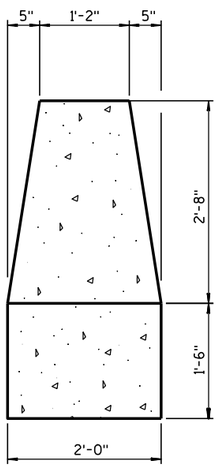
ELEVATION VIEW



PLAN VIEW



SECTION A-A



SECTION B-B

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.

32-INCH VERTICAL SHAPE CONCRETE BARRIER TO 32-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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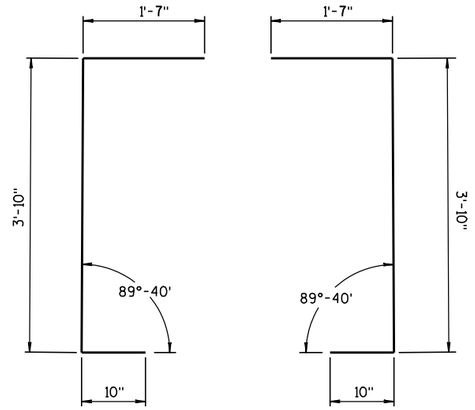
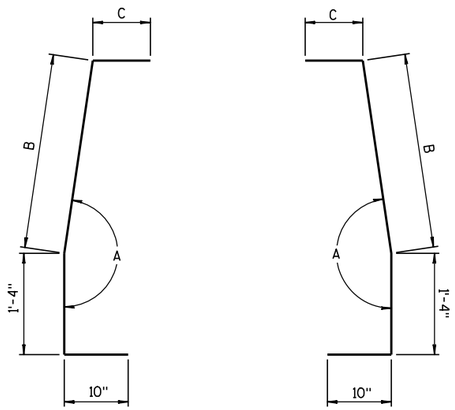
S.D.D. 14 B 40-1a



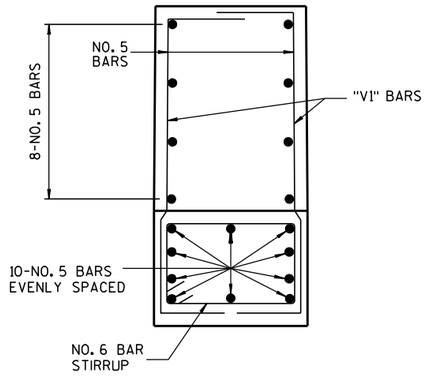
BAR NO. V1
BENDING DETAIL

BAR CHART
BAR POSITIONS V2 - V12

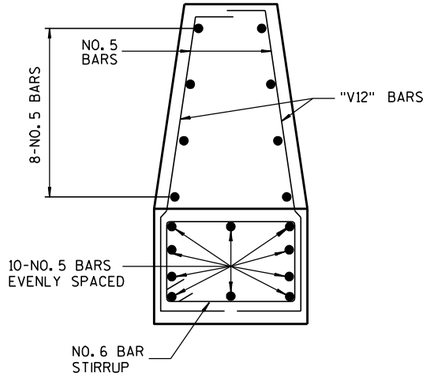
BAR	A	B	C
V2	178°-50'	2'-6"	1'-7"
V3	178°-15'	2'-6"	1'-7"
V4	177°-20'	2'-6"	1'-4"
V5	176°-40'	2'-6"	1'-4"
V6	176°	2'-6"	1'-2"
V7	175°-05'	2'-6"	1'-0"
V8	174°-25'	2'-6"	1'-0"
V9	173°-30'	2'-6"	11"
V10	172°-50'	2'-6"	11"
V11	172°-15'	2'-6½"	10"
V12	171°-35'	2'-6½"	9"



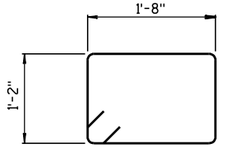
BAR NO. V2 - NO. V12
BENDING DETAIL



BAR DETAIL
BAR POSITION NO. 1



BAR DETAIL
BAR POSITION NO. 12



STIRRUP BAR
BENDING DETAIL

32-INCH VERTICAL SHAPE CONCRETE BARRIER TO 32-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

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S.D.D. 14 B 40-1b

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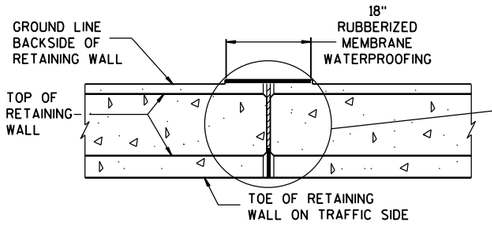
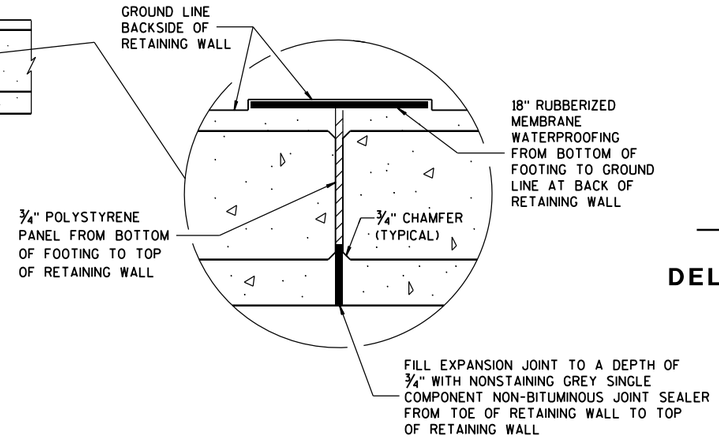
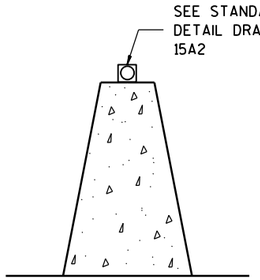
S.D.D. 14 B 40-1b



VERTICAL EXPANSION JOINT PLAN VIEW





DELINEATION

SPACING FOR DELINEATORS ON HORIZONTAL CURVES

RADIUS OF CURVE	APPROXIMATE SPACING ON CURVE
50 FEET	20 FEET
115 FEET	25 FEET
180 FEET	35 FEET
250 FEET	40 FEET
300 FEET	50 FEET
400 FEET	55 FEET
500 FEET	65 FEET
600 FEET	70 FEET
700 FEET	75 FEET
800 FEET	80 FEET
900 FEET	85 FEET
1000 FEET	90 FEET

GENERAL NOTES

PROVIDE EXPANSION JOINTS WHERE THERE ARE EXISTING EXPANSION JOINTS OR AT THE END OF EACH POUR.

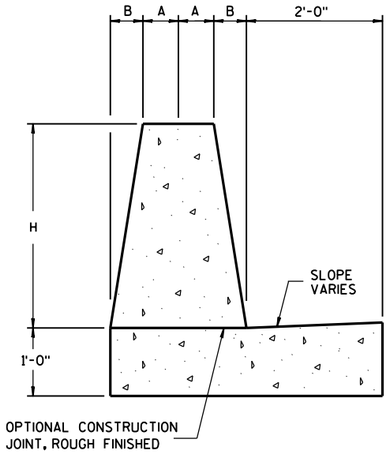
NO HORIZONTAL STEEL CROSSES EXPANSION JOINTS.

CONSTRUCT PER STANDARD SPECIFICATION 603. SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASETENED TOGETHER UNLESS NOTED OTHERWISES.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

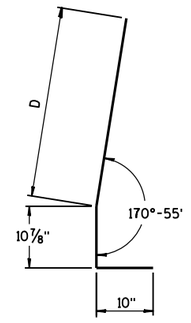
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR.



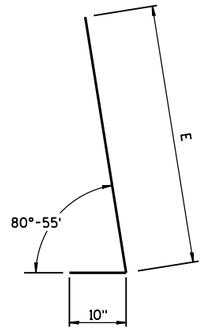
ROADSIDE RETAINING WALL

BARRIER WALL DIMENSIONS

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6¼	5¾	8
42	5¼	6¾	10
56	3	9	11



V1 BAR BENDING DETAIL



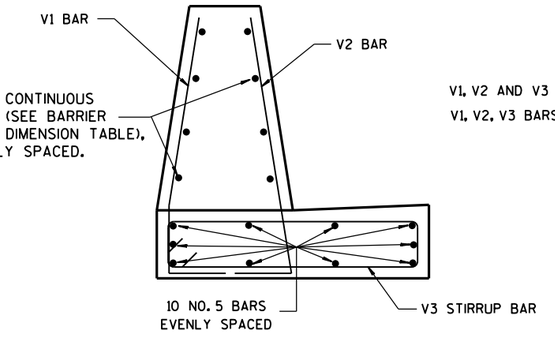
V2 BAR BENDING DETAIL

REFLECTOR SPACING

	LENGTH OF BARRIER	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2	3

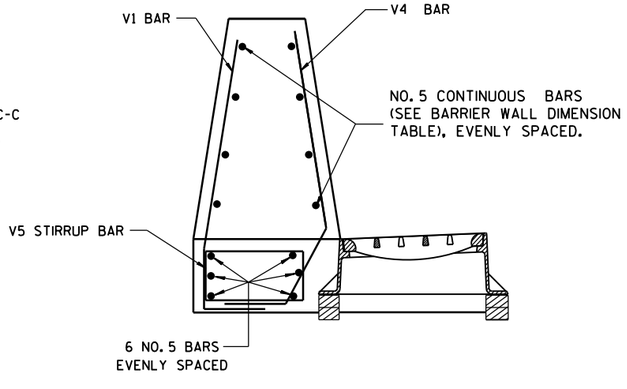
BAR CHART ROADSIDE RETAINING WALL

BARRIER HEIGHT	V1 BAR D	V2 BAR E	V4 BAR F
32"	2'-5½"	3'-4½"	2'-6½"
36"	2'-9½"	3'-9¾"	2'-10¾"
42"	3'-3½"	4'-2½"	3'-4¾"
56"	4'-5¾"	5'-4¾"	4'-6¾"

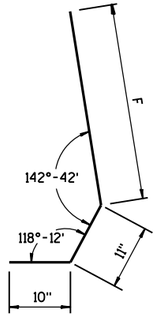


V1, V2 AND V3 ARE SPACED 18" C-C
V1, V2, V3 BARS ARE NO. 5 BARS

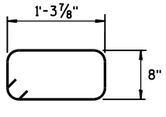
ROADSIDE RETAINING WALL NORMAL BAR PLACEMENT



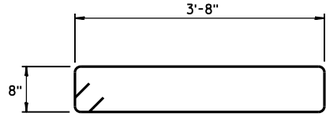
ROADSIDE RETAINING WALL BAR PLACEMENT NEAR INLET



V4 BAR BENDING DETAIL



V5 STIRRUP BAR BENDING DETAIL



V3 STIRRUP BAR BENDING DETAIL

SINGLE SLOPE ROADSIDE RETAINING WALL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 41-2a

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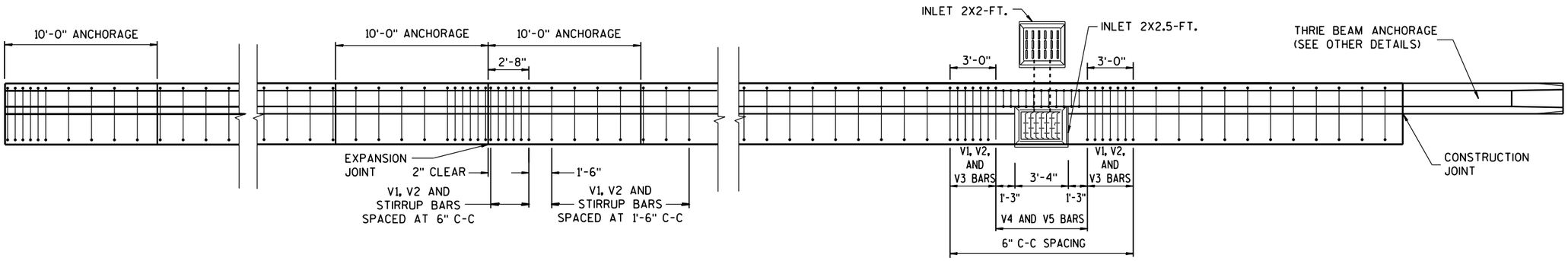
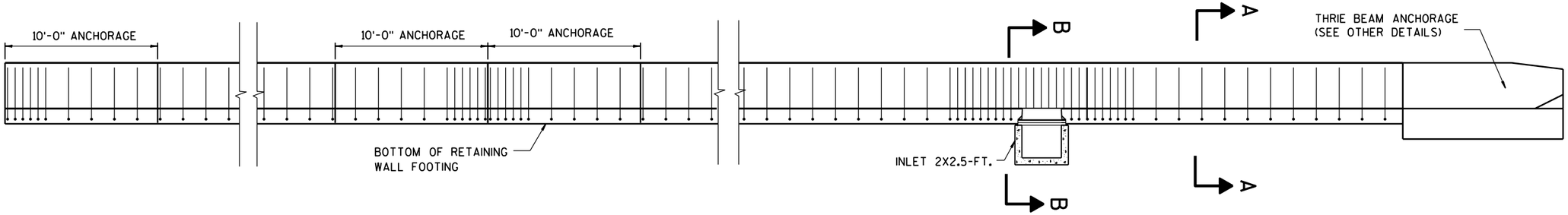
S.D.D. 14 B 41-2a



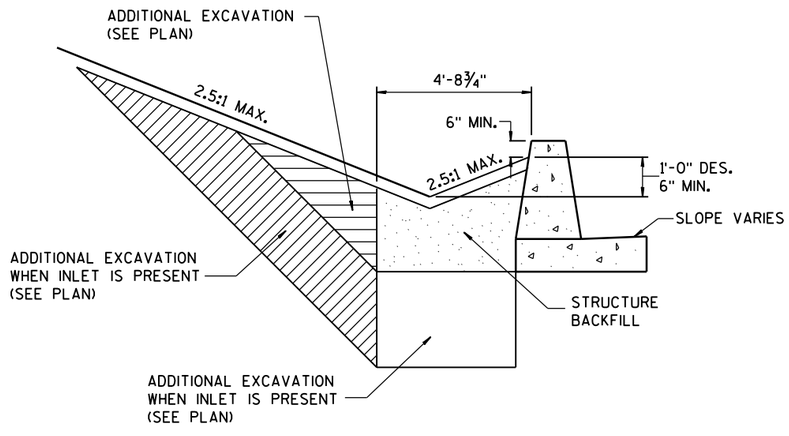
PLAN VIEW

NOTE: HORIZONTAL BARS ARE NOT SHOWN. SEE OTHER DETAILS FOR HORIZONTAL BARS.

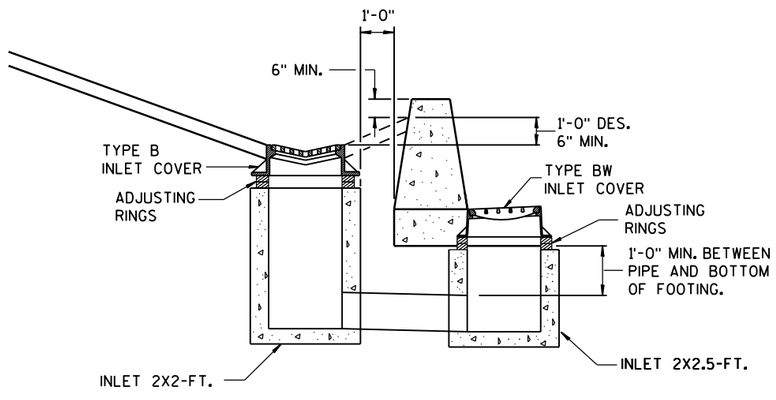


ELEVATION VIEW

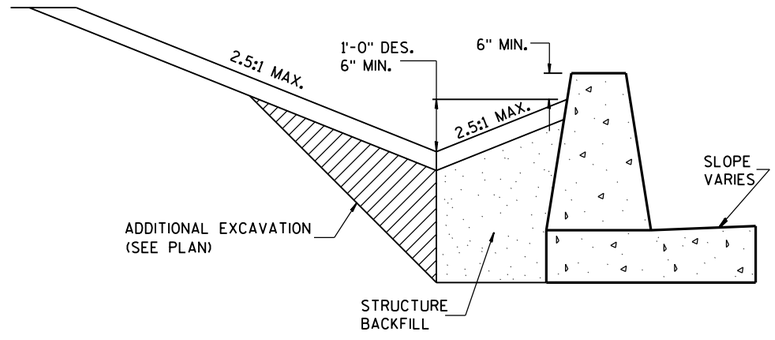
NOTE: HORIZONTAL BARS ARE NOT SHOWN. SEE OTHER DETAILS FOR HORIZONTAL BARS.



SECTION A-A



SECTION B-B



MINIMUM DESIGN OF EARTH WORK

MINIMUM DESIGN OF EARTH WORK FOR INLET

6

S.D.D. 14 B 41-2b

SINGLE SLOPE ROADSIDE RETAINING WALL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

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S.D.D. 14 B 41-2b

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.

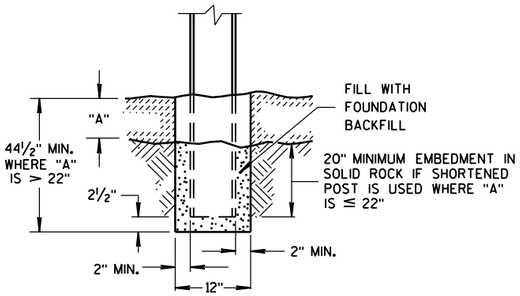
② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ 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.

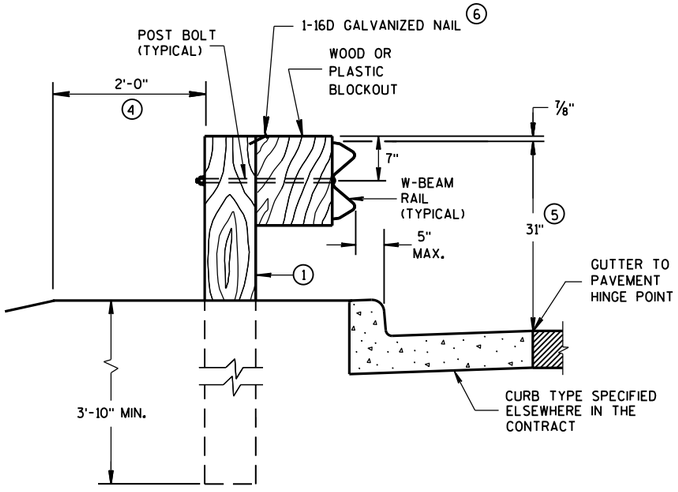
④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

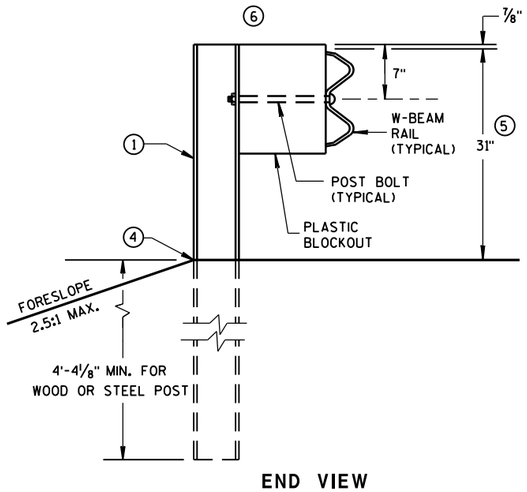
⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



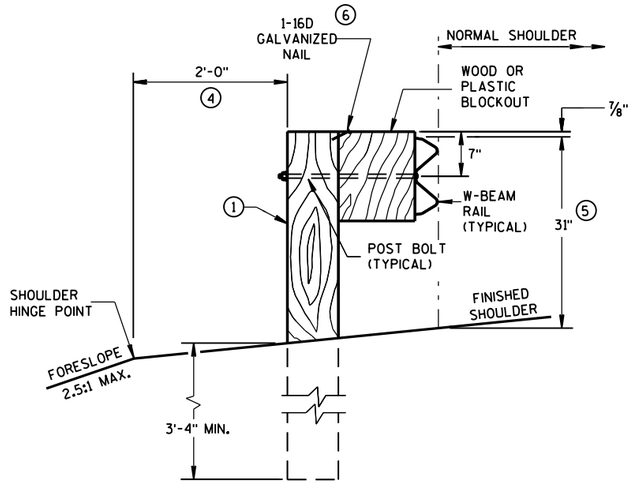
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



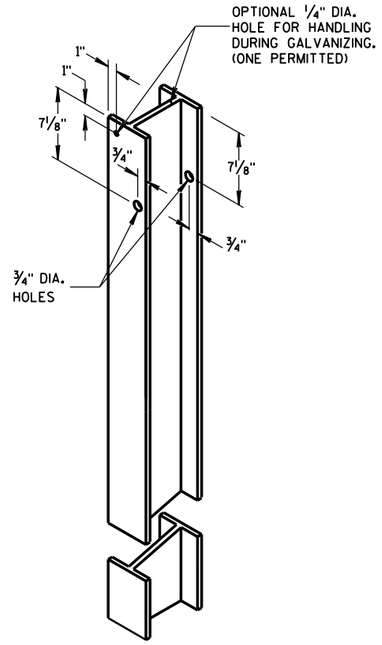
END VIEW
LOCATED ALONG A CURBED ROADWAY



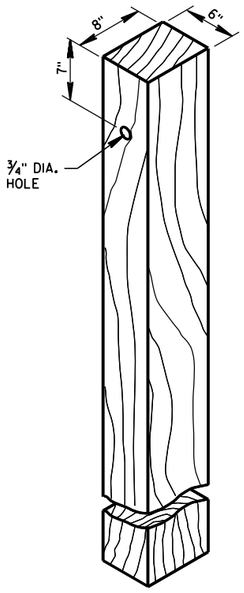
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



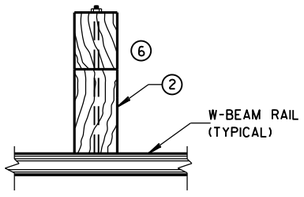
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



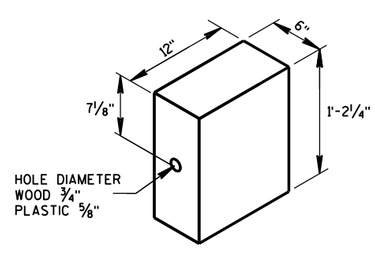
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



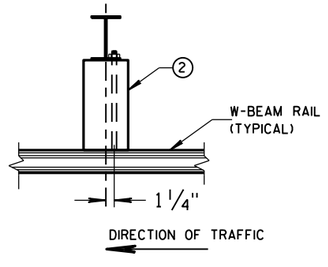
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

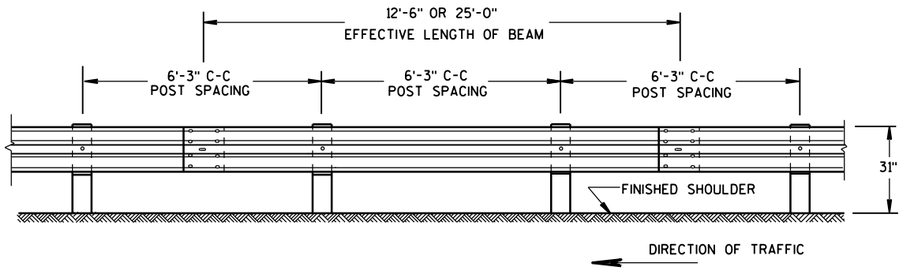


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

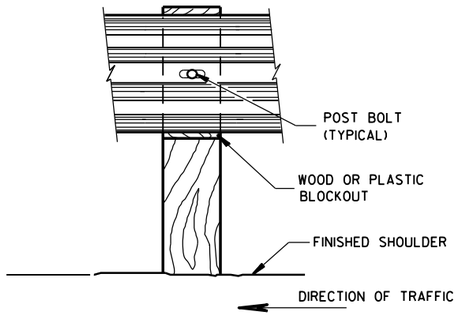
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 42-4a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

7. PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

8. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

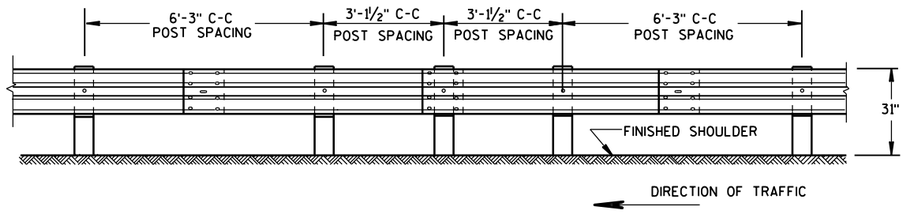
9. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

10. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

11. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

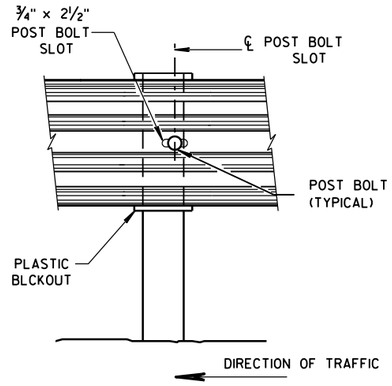
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

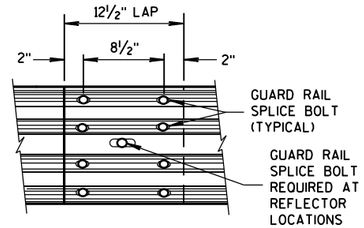


FRONT VIEW

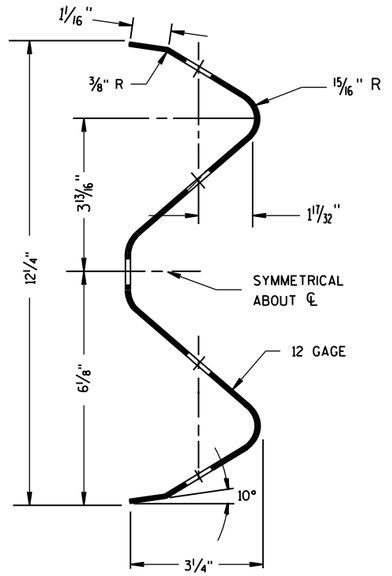
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



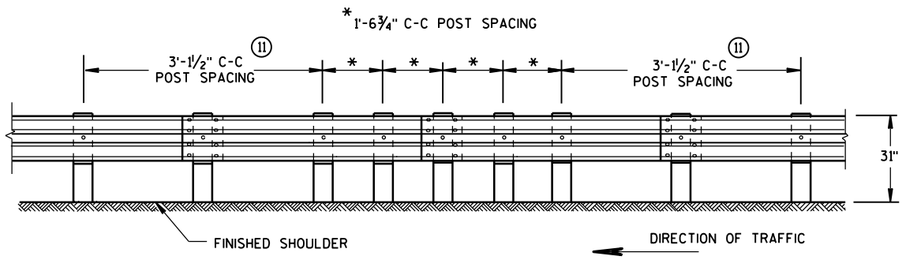
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

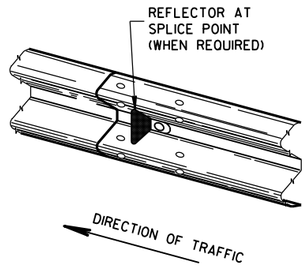


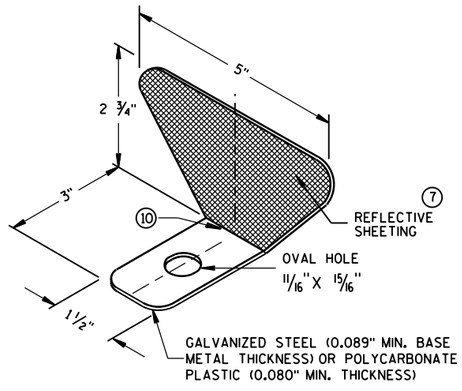
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (7)

REFLECTOR SPACING (8)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 (9)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 (10)	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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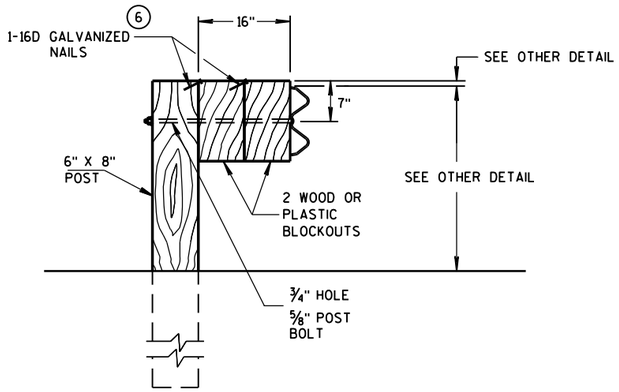
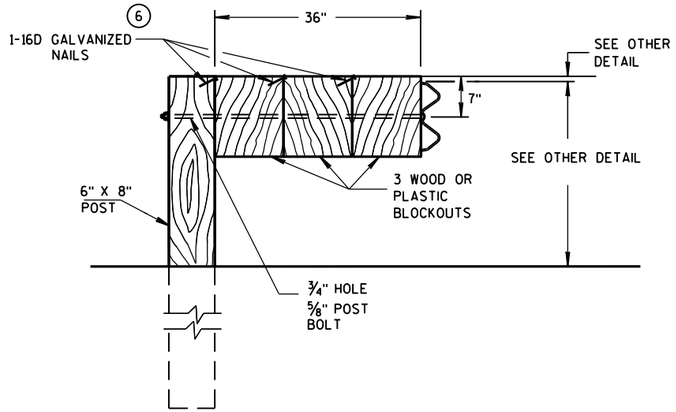
S.D.D. 14 B 42-4b



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.

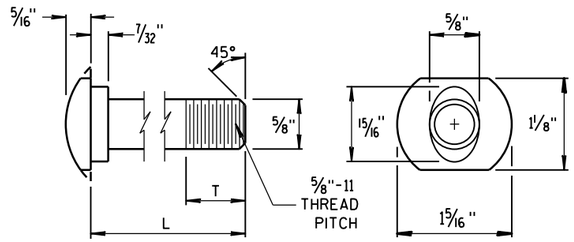


DETAIL FOR 36" BLOCKOUT DEPTH

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.

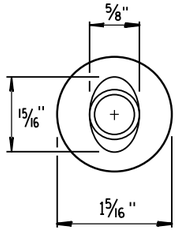
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

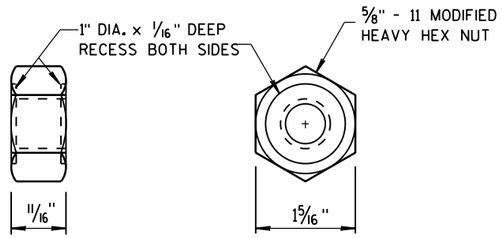


POST BOLT TABLE

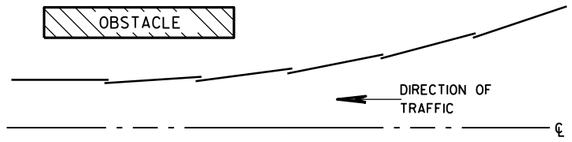
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

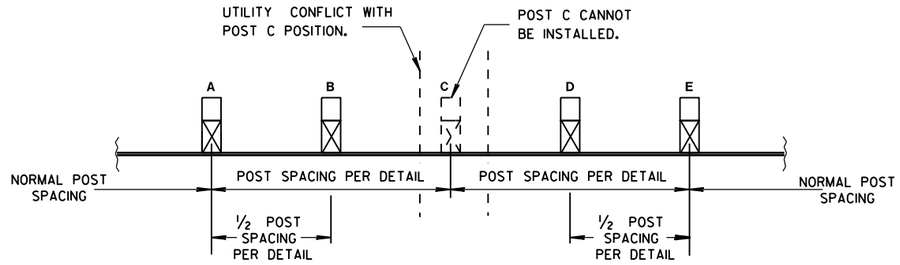


POST BOLT, SPLICE BOLT AND RECESS NUT

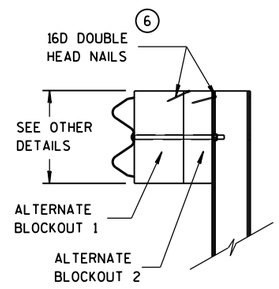


PLAN VIEW

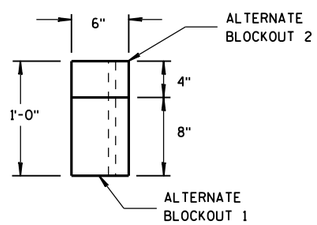
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 42-4c

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 MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

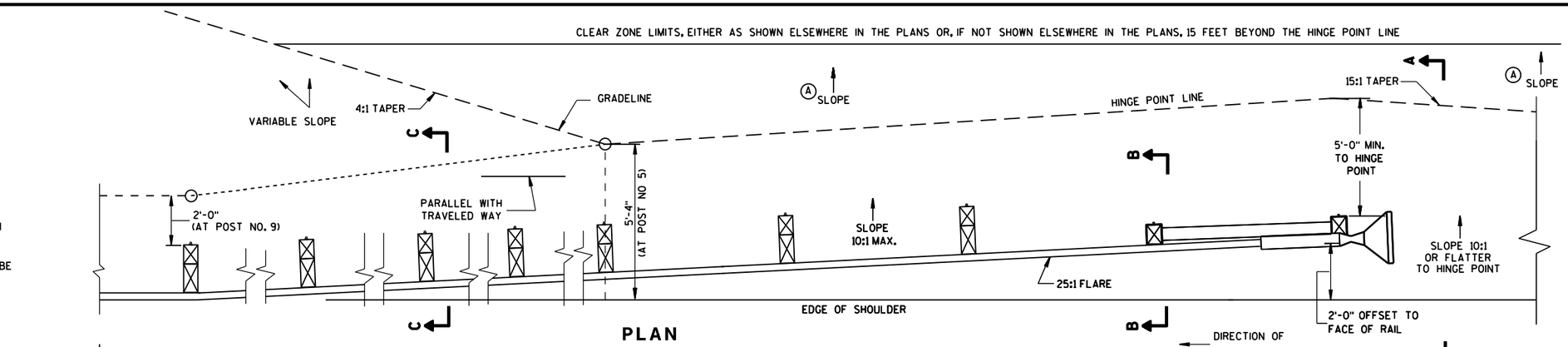
SEE SDD 14B42 FOR MORE INFORMATION.

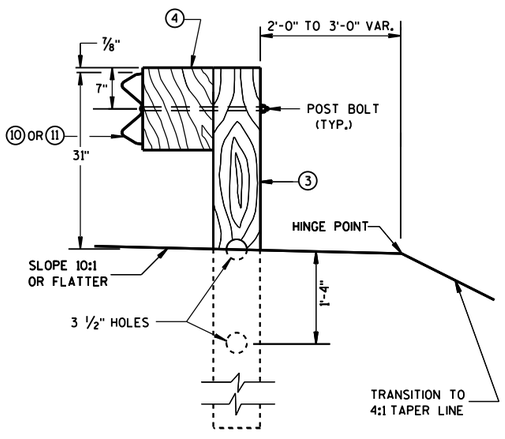
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

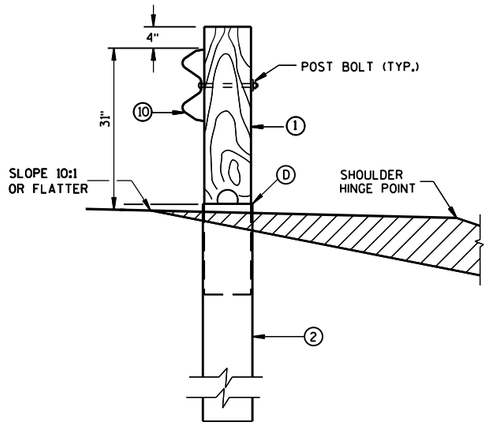
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" 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.

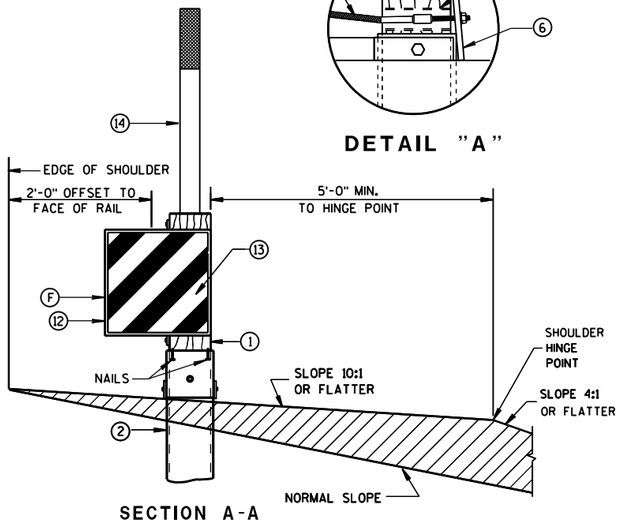




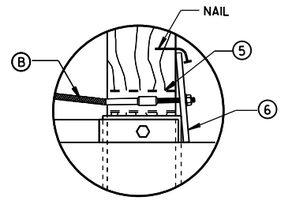
SECTION C-C
TYPICAL AT POST NOS. 3-9



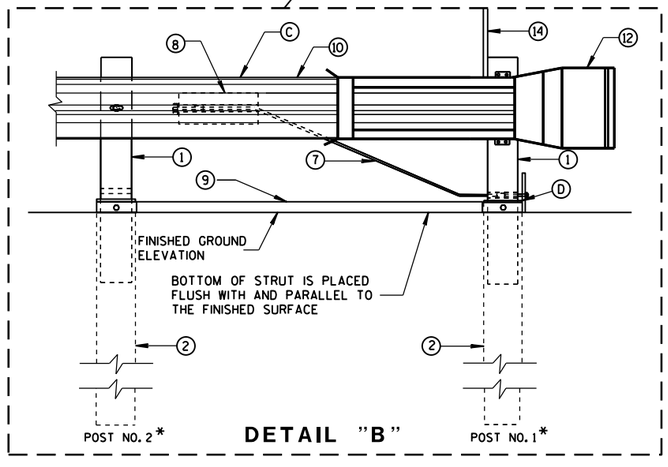
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



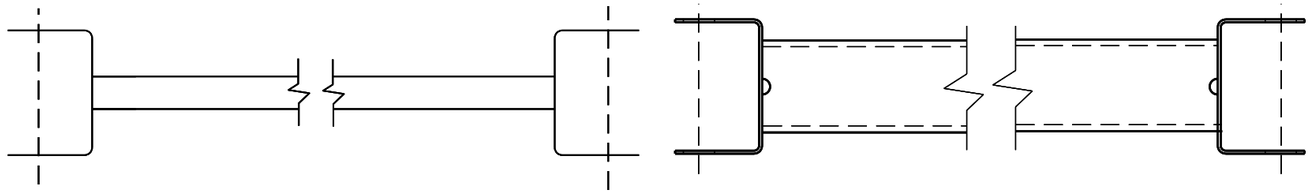
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 44-2a

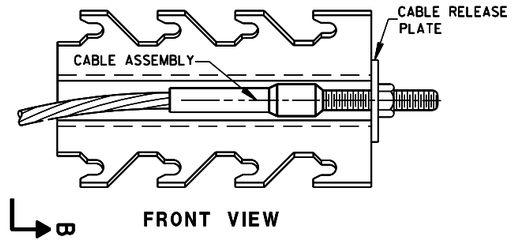
S.D.D. 14 B 44-2a



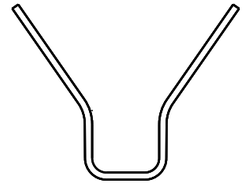
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

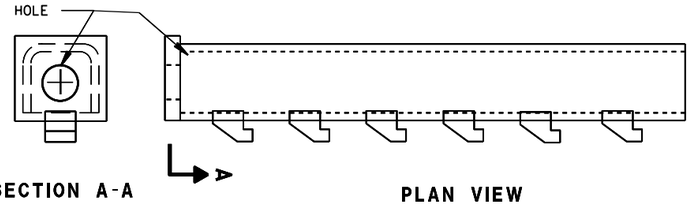
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR 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)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



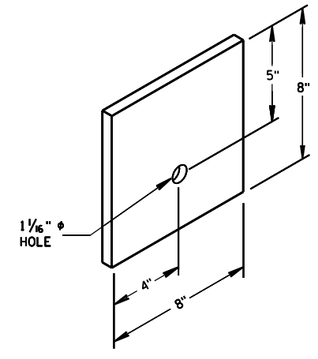
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



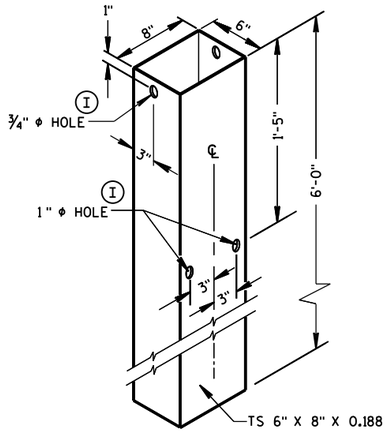
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

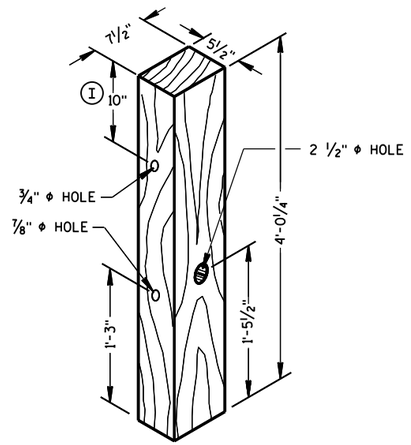
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 44-2b

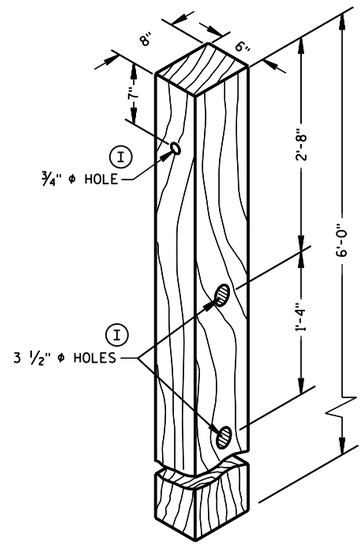


FOUNDATION TUBE (2)



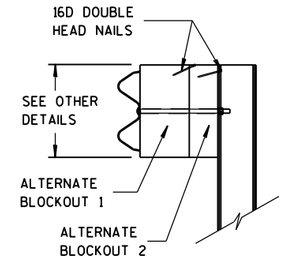
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

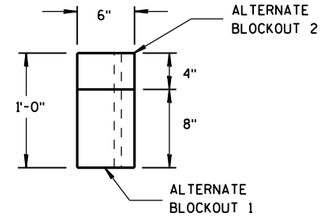


POSTS NUMBER 3-9

WOOD CRT POST (3)

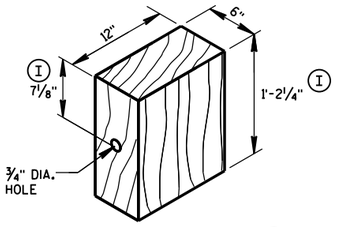


SIDE VIEW



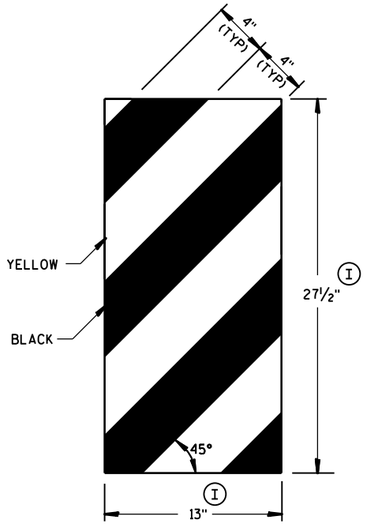
TOP VIEW

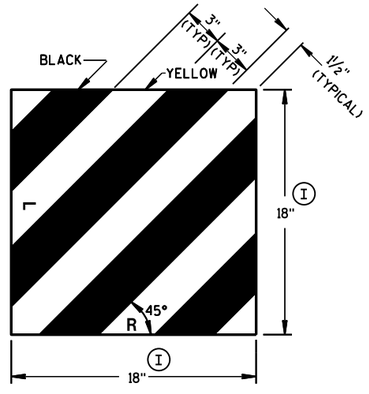
ALTERNATE WOOD BLOCKOUT DETAIL



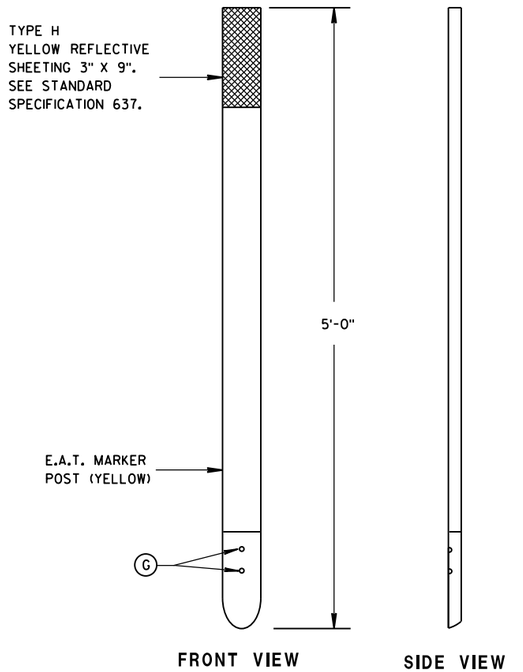
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





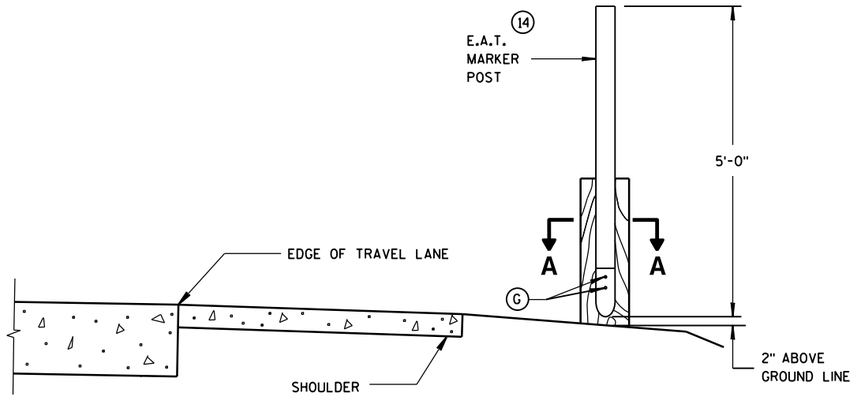
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

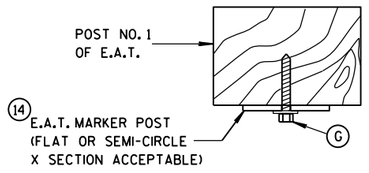
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 44-2c

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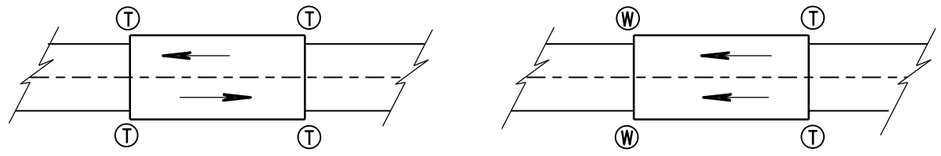
S.D.D. 14 B 44-2c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

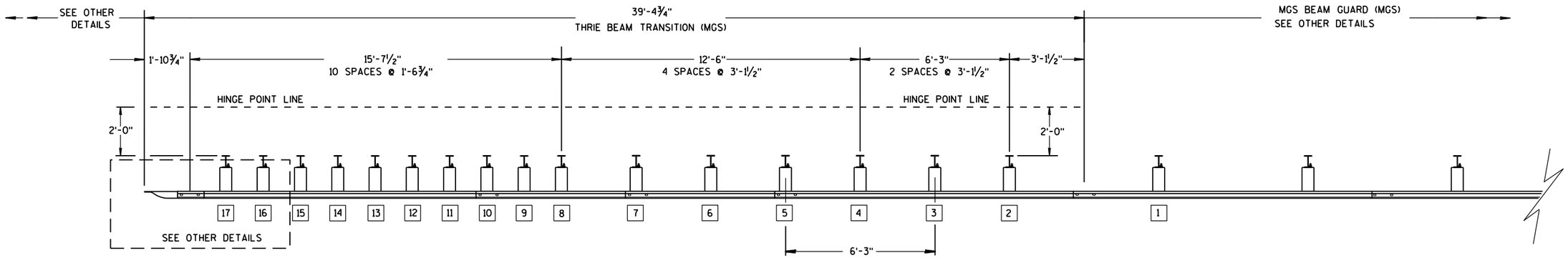
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

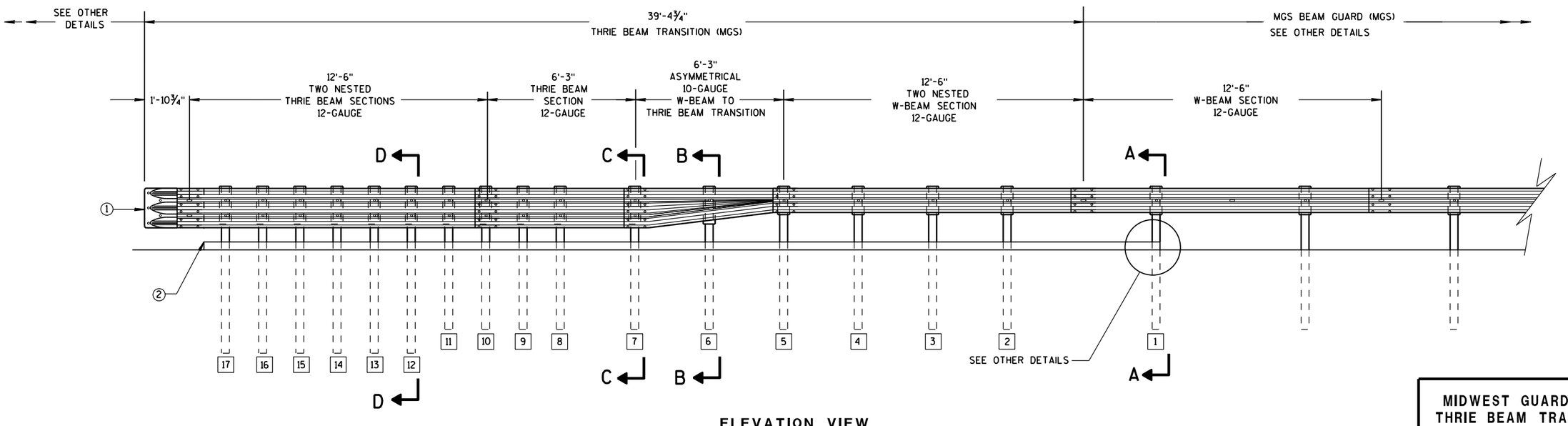
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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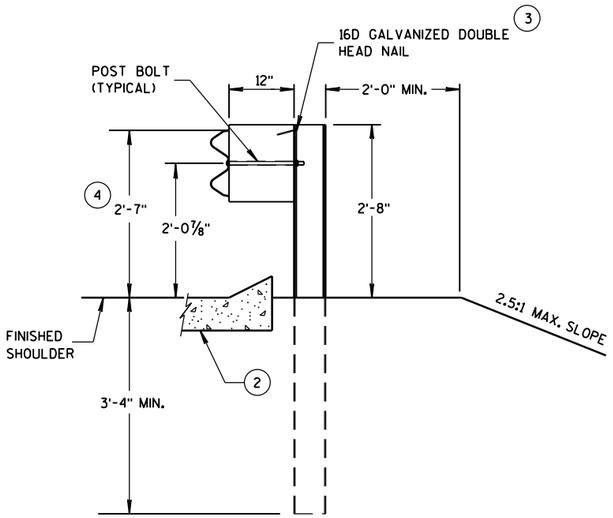
S.D.D. 14 B 45-4a

GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE_FEATURE SEE PLAN FOR INFORMATION.

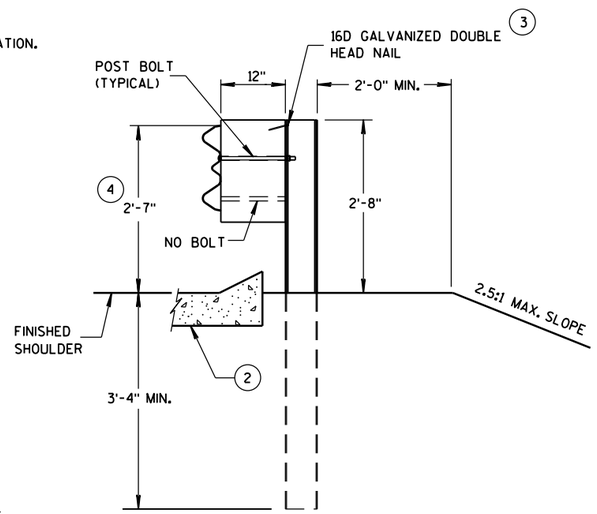
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



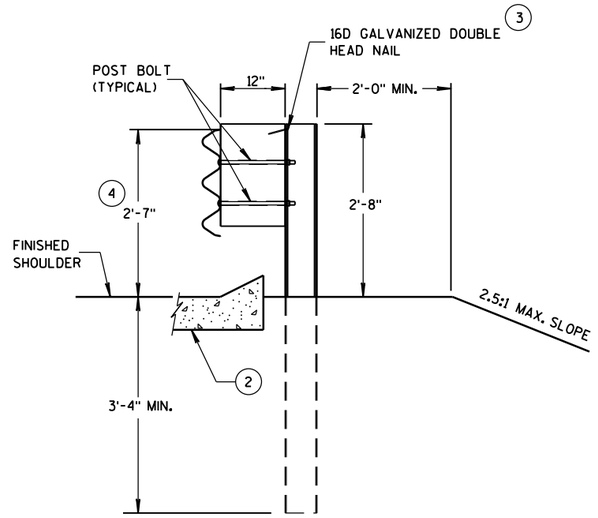
SECTION A-A

POSTS 1-5



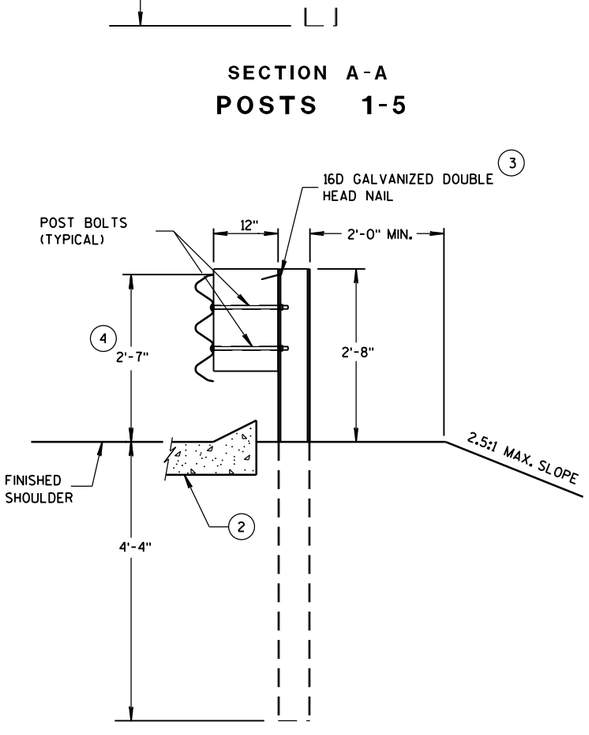
SECTION B-B

POST 6



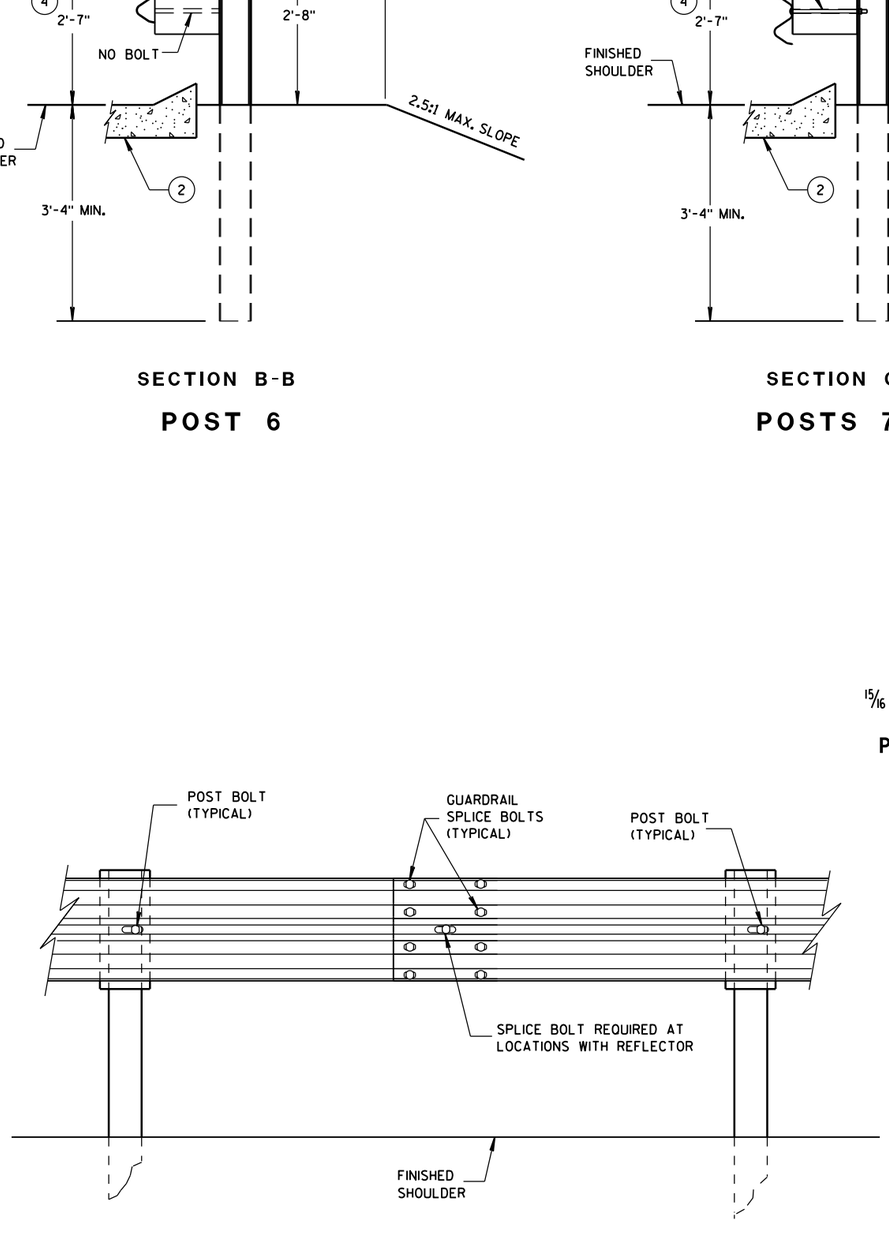
SECTION C-C

POSTS 7-11



SECTION D-D

POSTS 12-17



SPLICE DETAIL

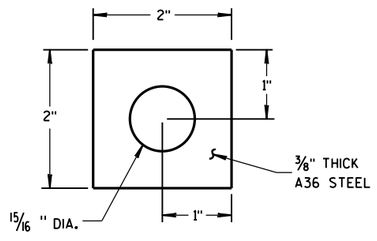
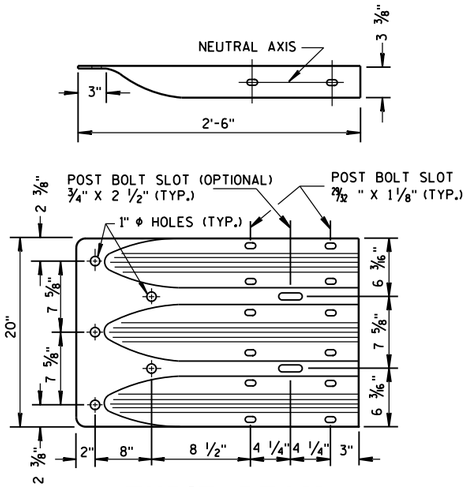
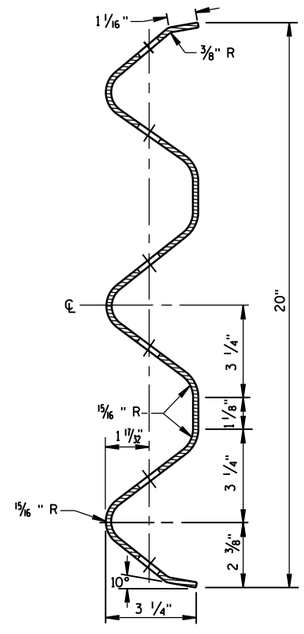


PLATE WASHER DETAIL



THRIE BEAM TERMINAL CONNECTOR



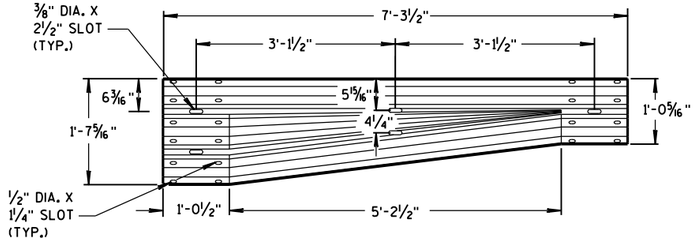
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

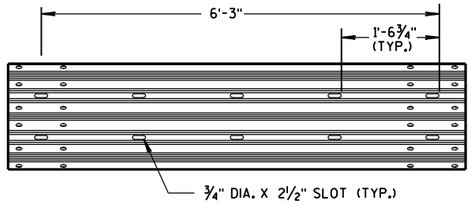
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

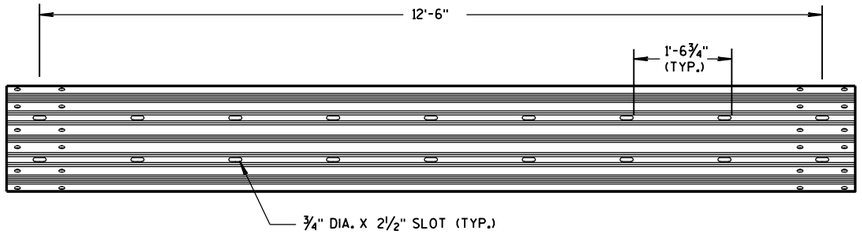
S.D.D. 14 B 45-4b



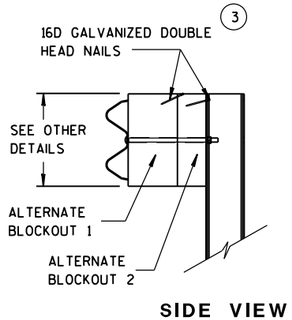
W-BEAM TO THRIE BEAM TRANSITION SECTION



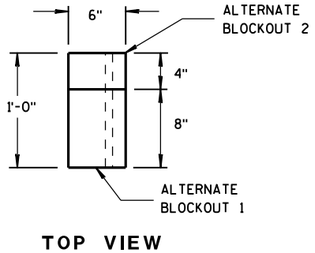
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

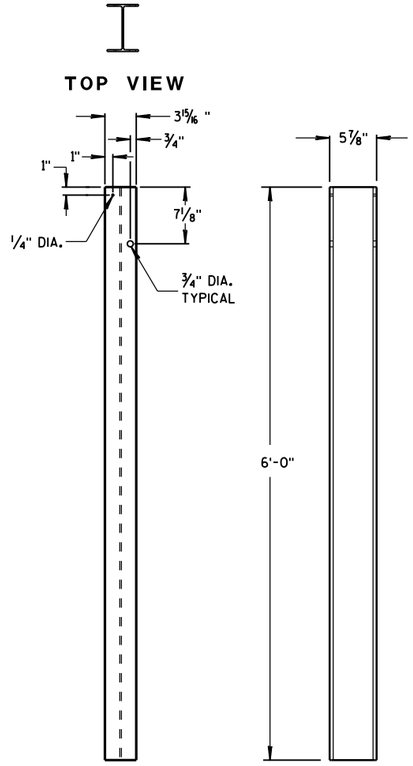


SIDE VIEW

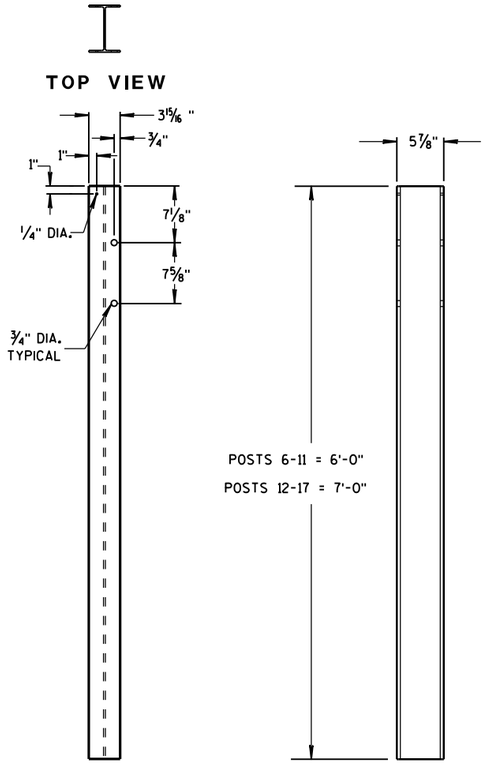


TOP VIEW

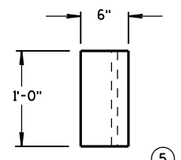
ALTERNATE WOOD BLOCKOUT DETAIL



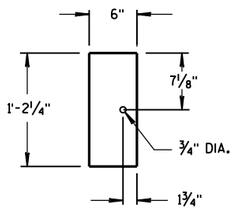
STEEL POSTS 1-5



STEEL POSTS 6-17

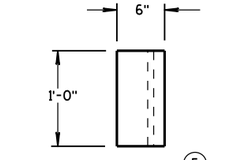


TOP VIEW

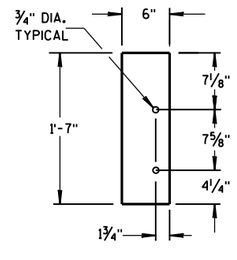


FRONT VIEW

BLOCKOUT POSTS 1-5



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS 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.

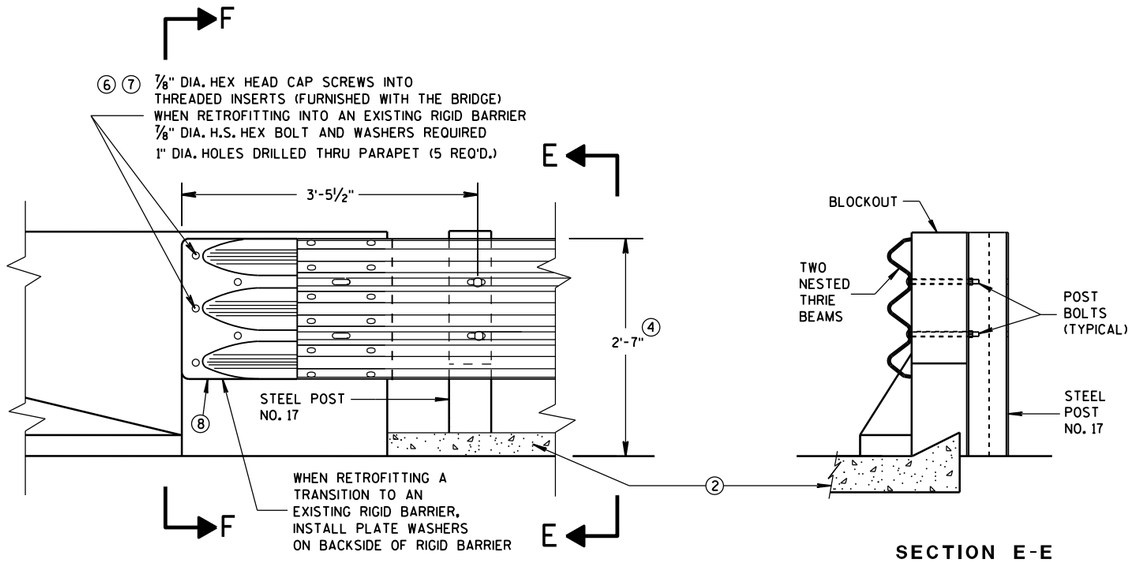
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-4c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

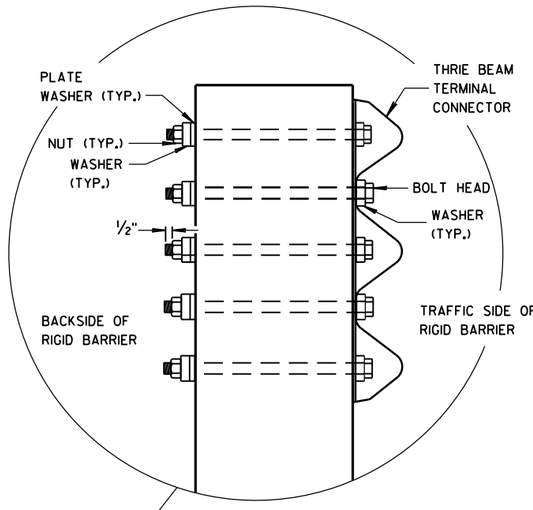
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

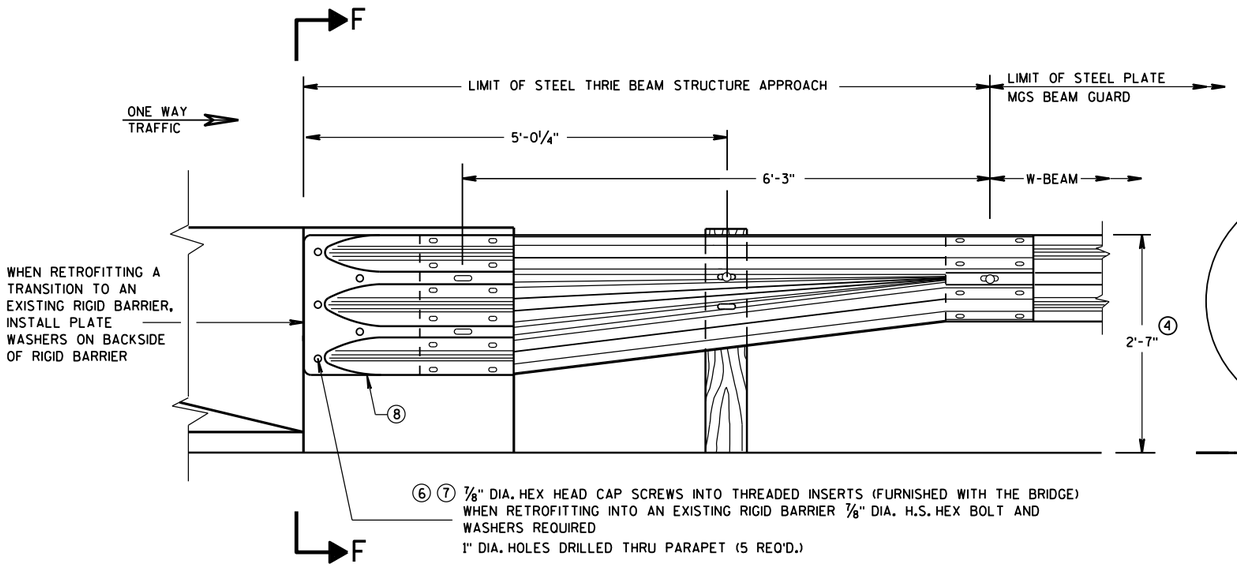
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

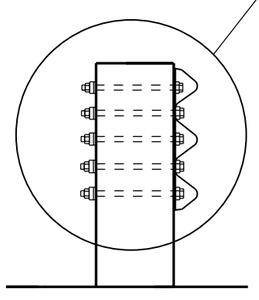
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

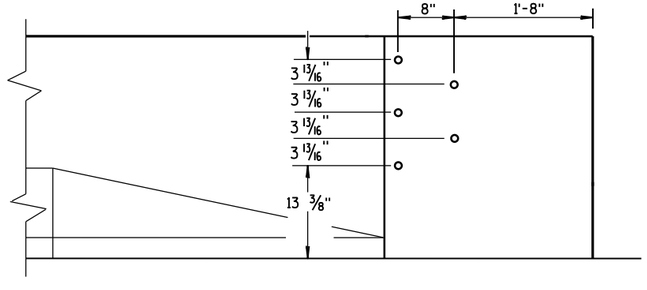




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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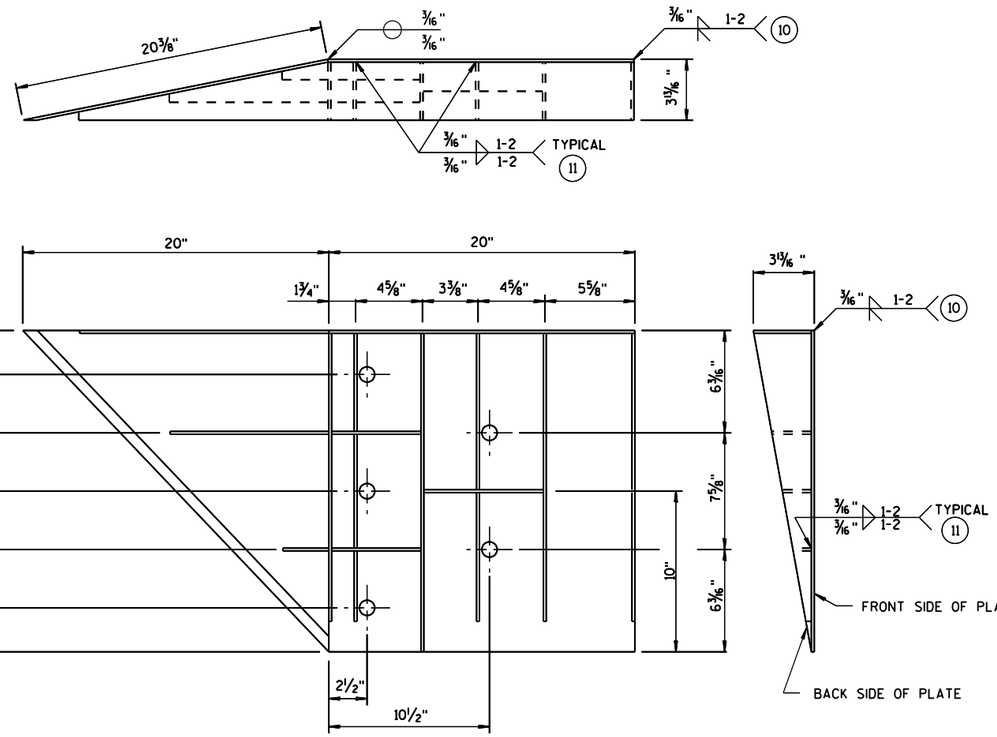
S.D.D. 14 B 45-4d



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

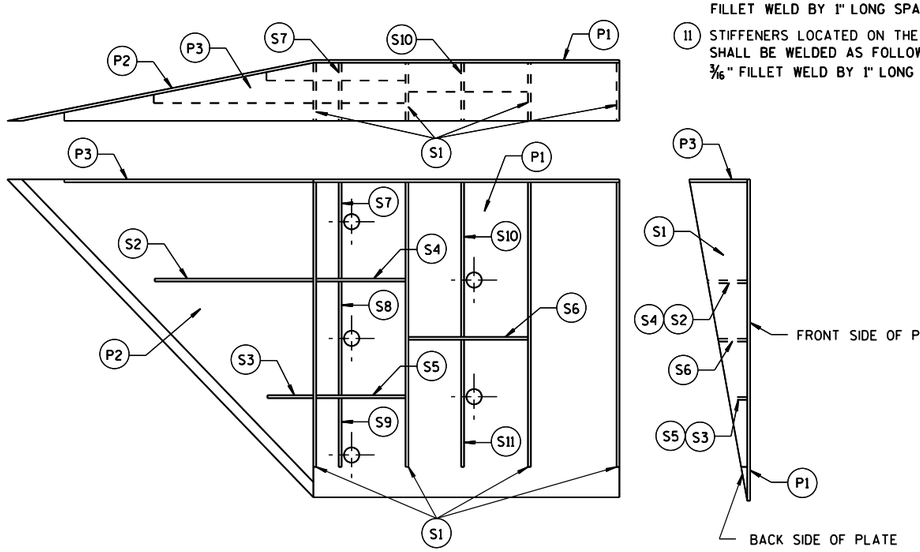


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 3/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 1/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 45-4i

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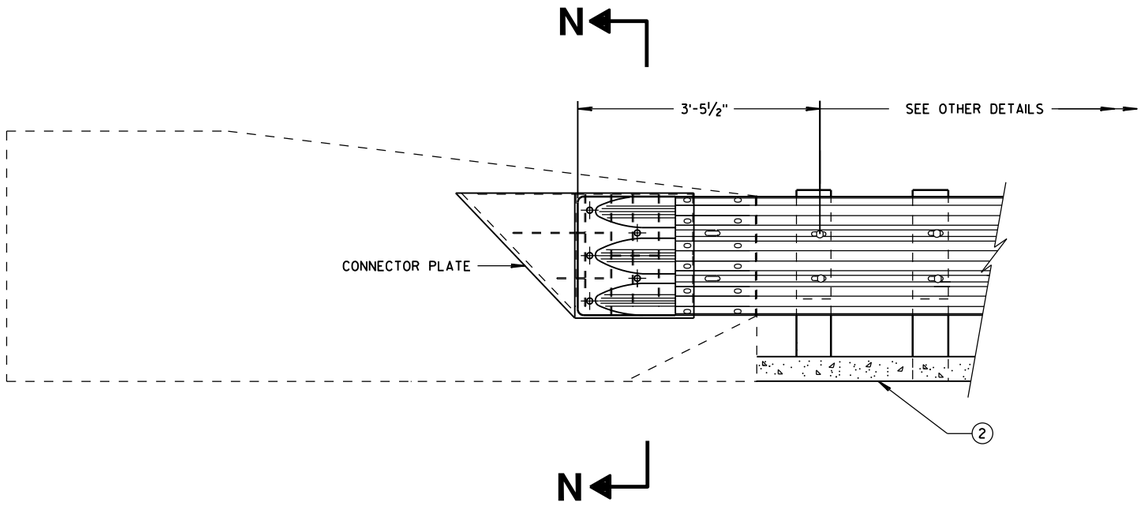
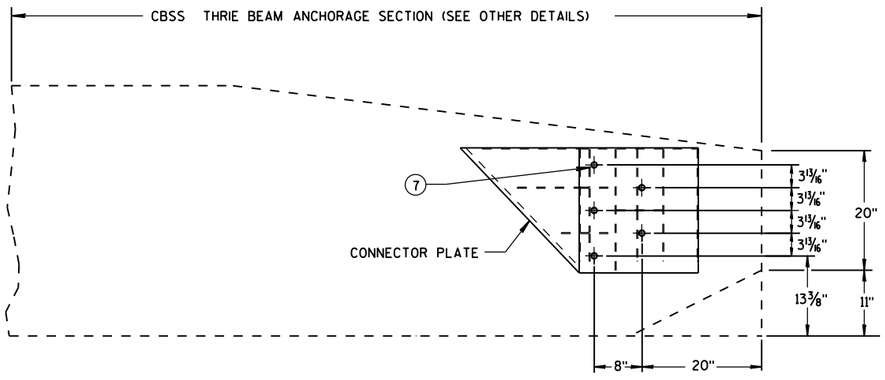
S.D.D. 14 B 45-4i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



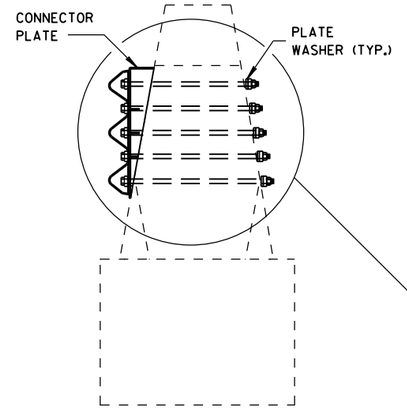
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

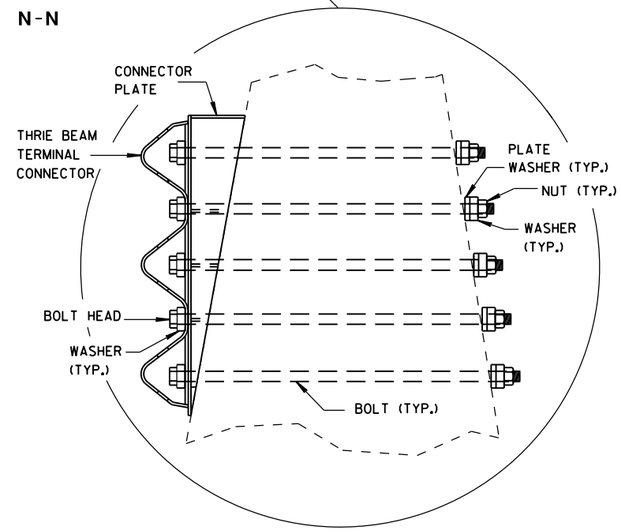
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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FHWA

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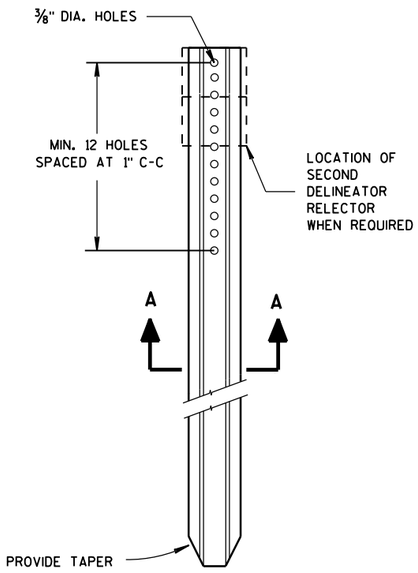
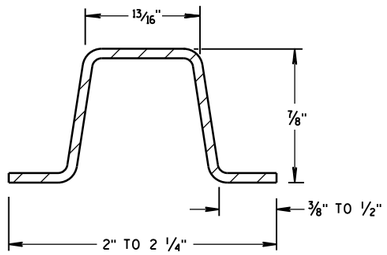
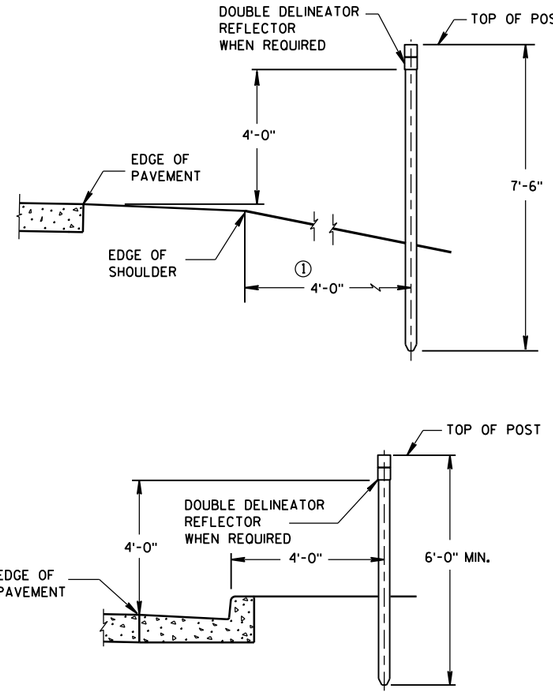


DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

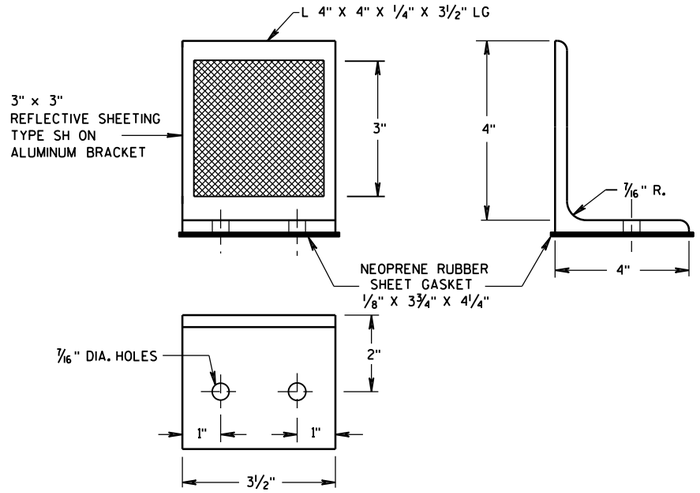


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

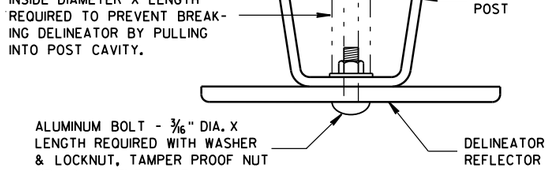
GENERAL NOTES

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

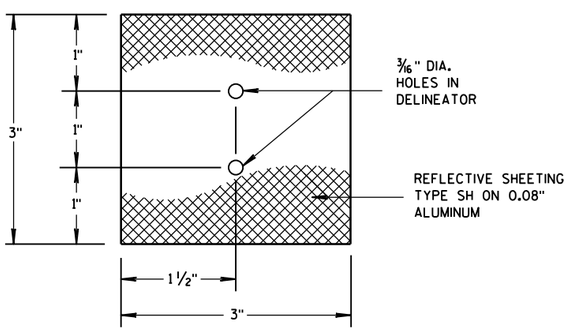
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



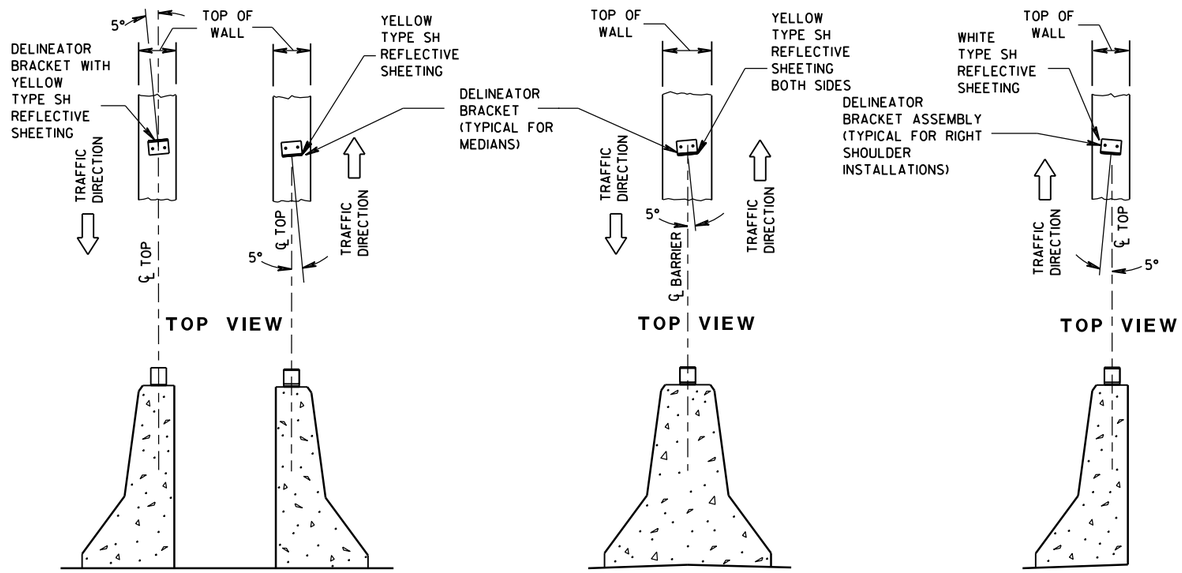
DELINEATOR BRACKET



MOUNTING DETAIL FOR DELINEATOR REFLECTOR

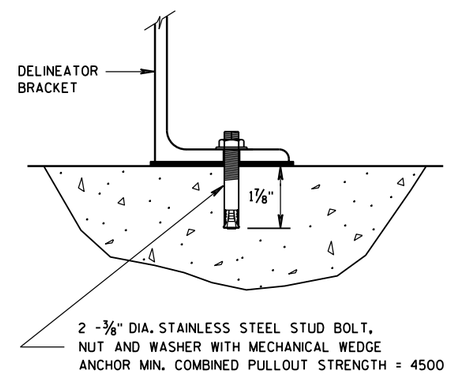


3"x 3" DELINEATOR REFLECTOR



DOUBLE BARRIERS IN MEDIAN | **MEDIAN BARRIER** | **BARRIER LOCATED TO RT. OF TRAFFIC FLOW**

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR REFLECTOR AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-18-16 DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MAR[illegible]INEER
FHWA

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S.D.D. 15 A 2-9

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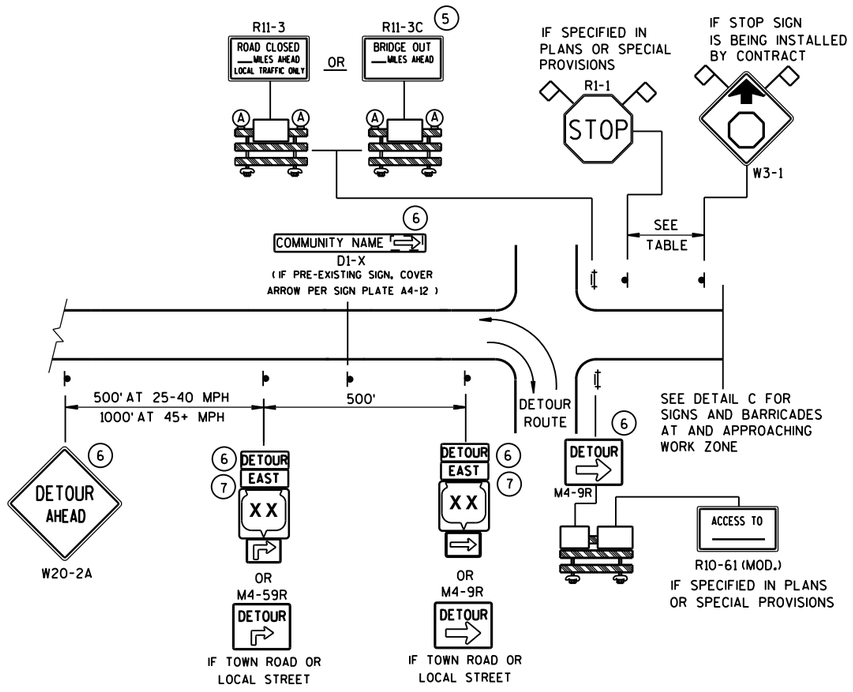
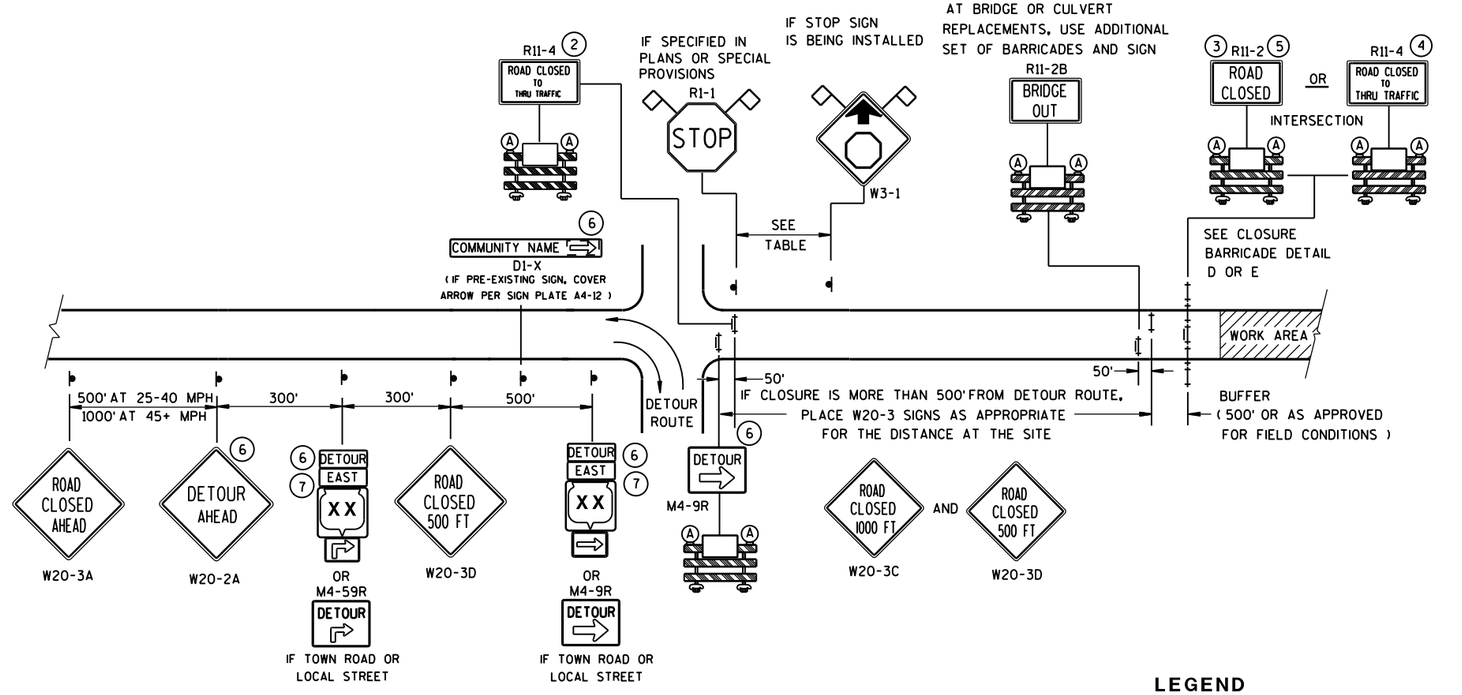
S.D.D. 15 A 2-9



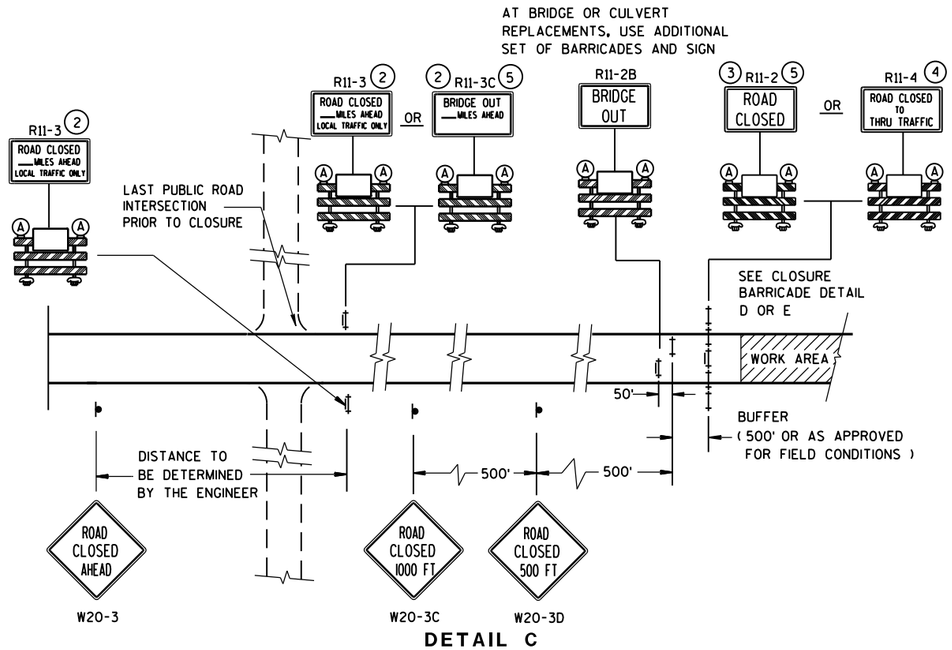
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

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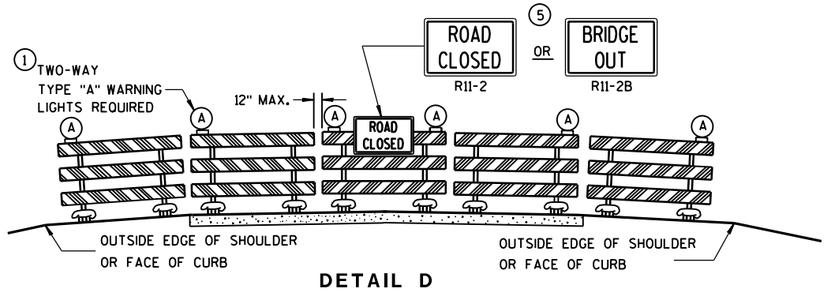
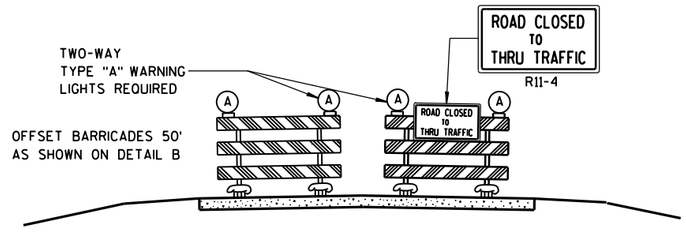
S.D.D. 15 C 2-6a



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 BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE 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, 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". (30" X 15" 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.)
- 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 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 LANE 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 MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI — FHWA — FIC

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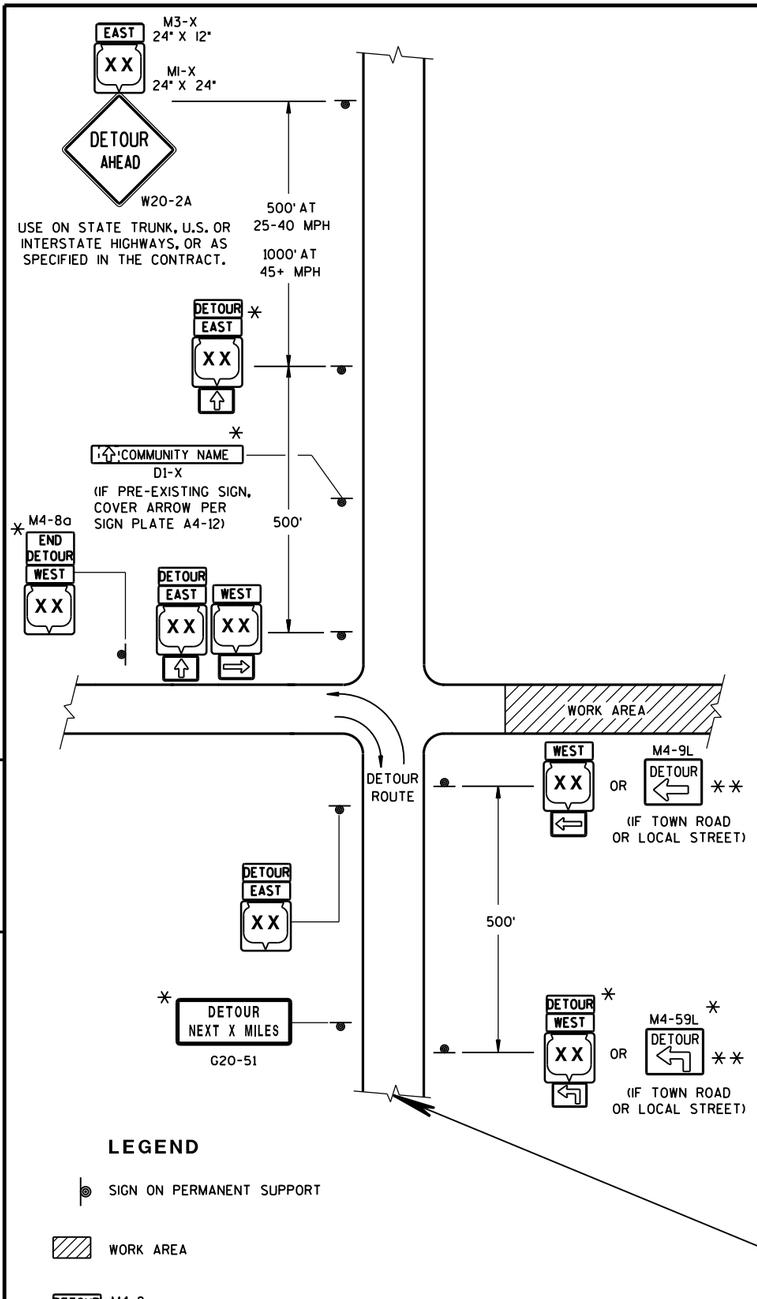
S.D.D. 15 C 2-6b



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

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.

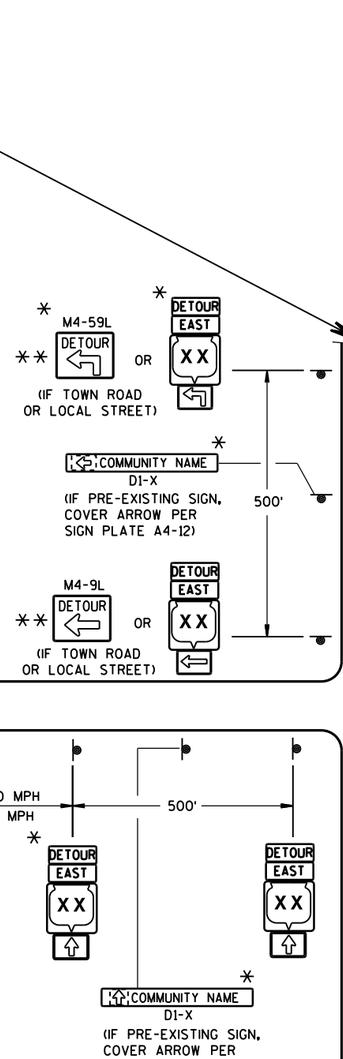
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

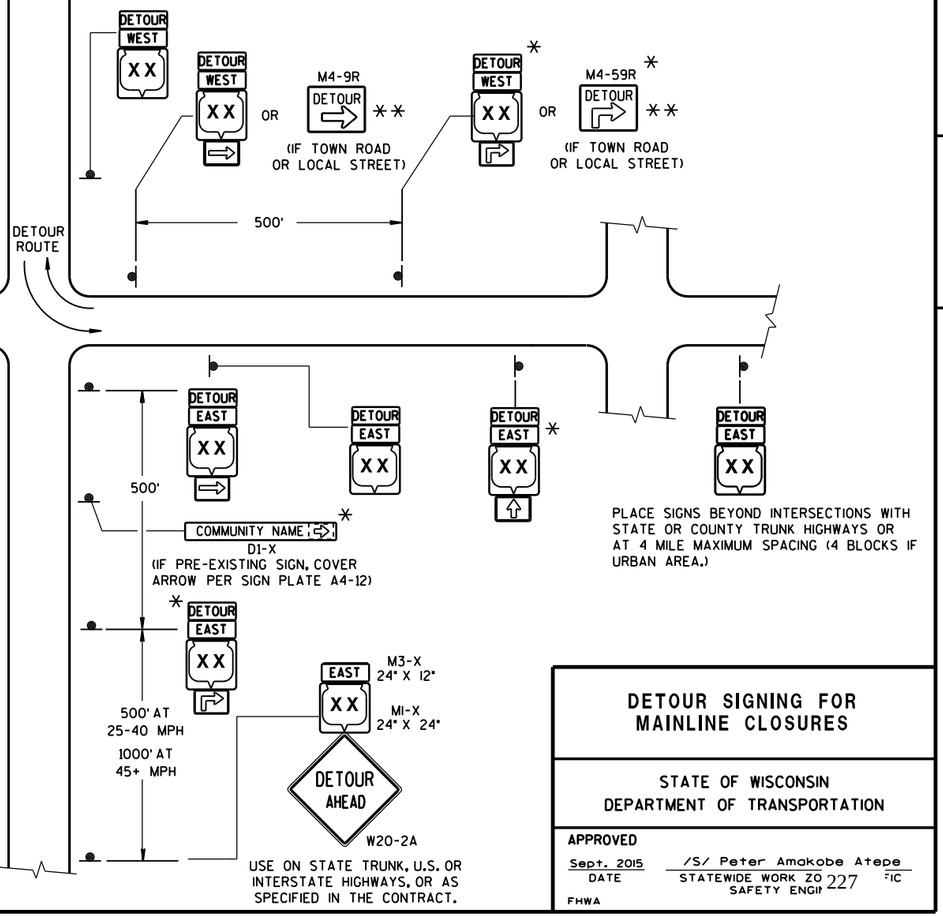
SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" 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.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 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.





LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR EAST — M4-8 / M3-X
- XX OR COUNTY XX OR XX — M1-4 / M1-5A / M1-6
- MO5-1 OR MO6-1 OR MO6-1

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD 15C2-SHEET "a"

DETAIL F

DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO... SAFETY ENGI...

FHWA

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

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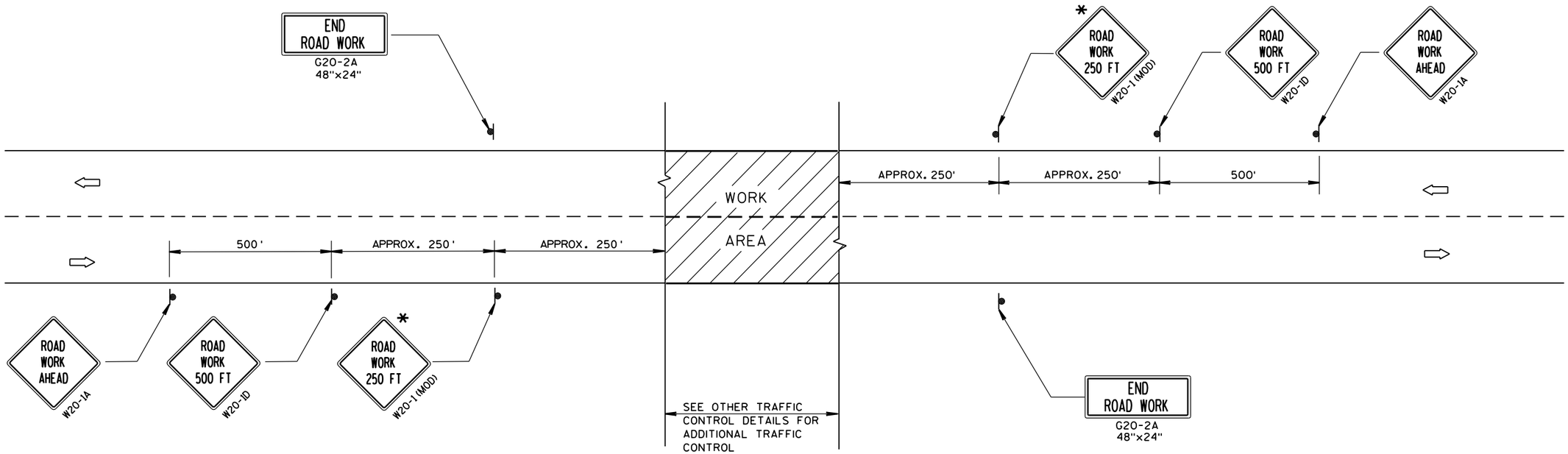
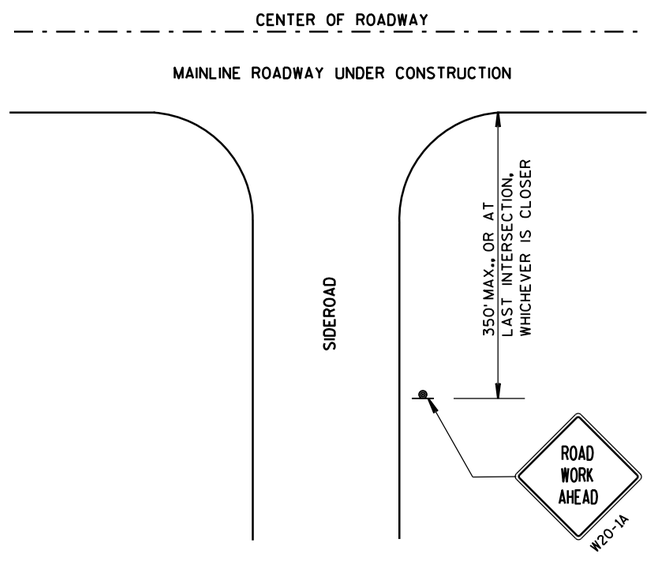
S.D.D. 15 C 2-6c



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



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 DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 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 RE-ESTABLISHED.

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

LEGEND

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

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

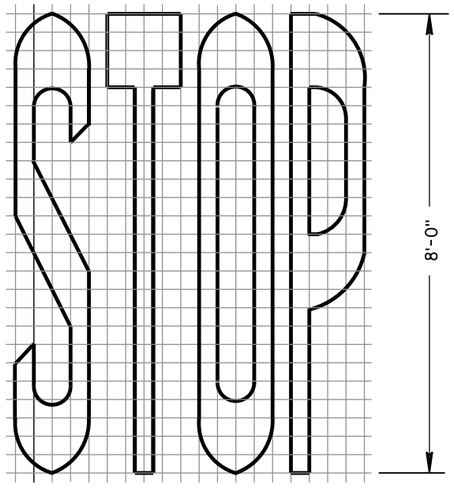
APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

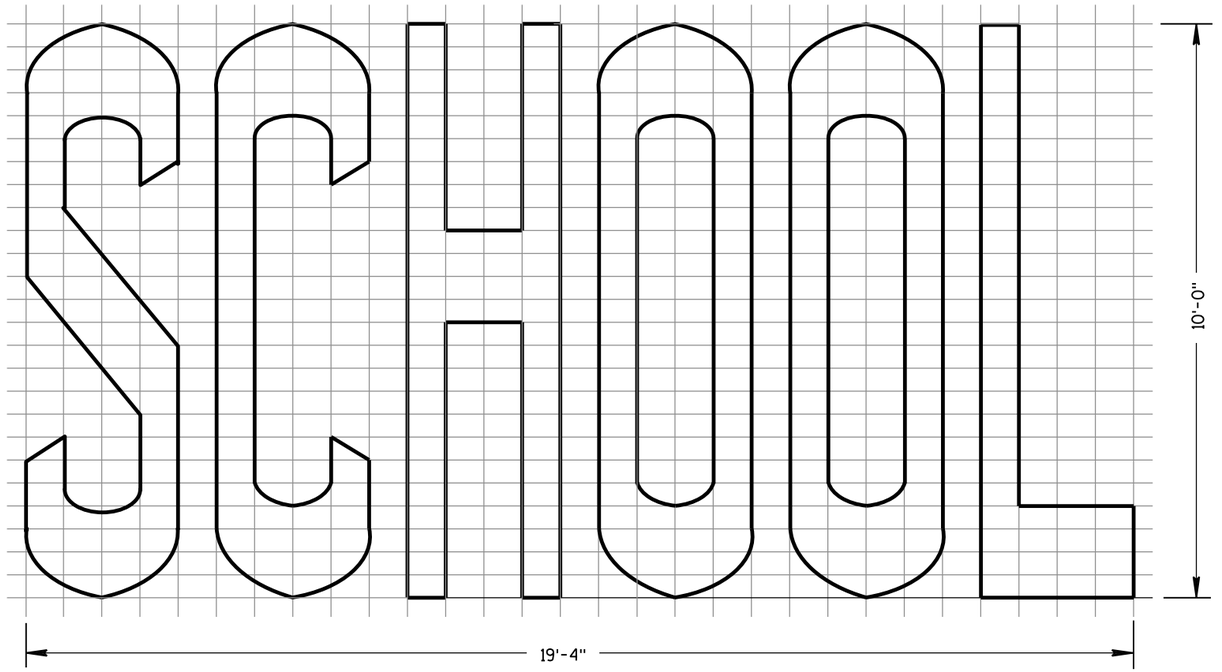
6

S.D.D. 15 C 5-3

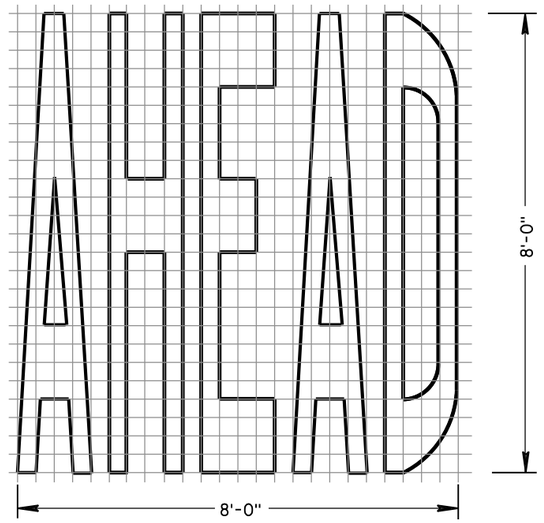
GENERAL NOTES

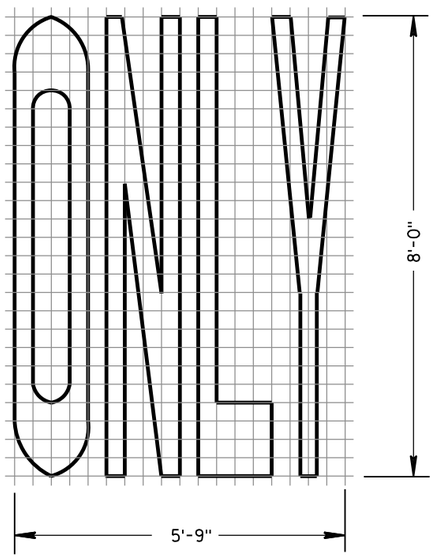
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

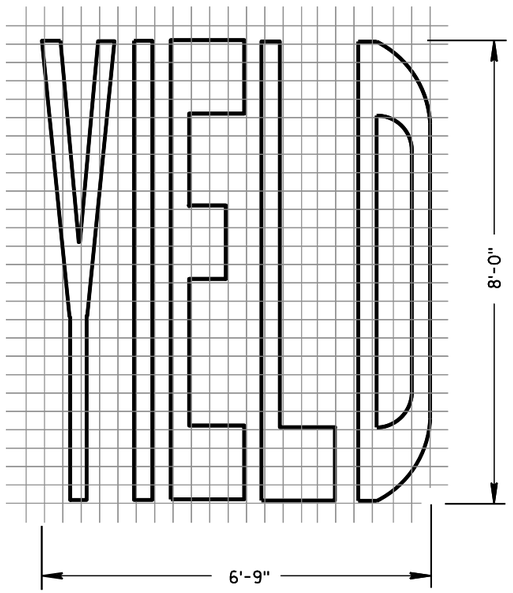


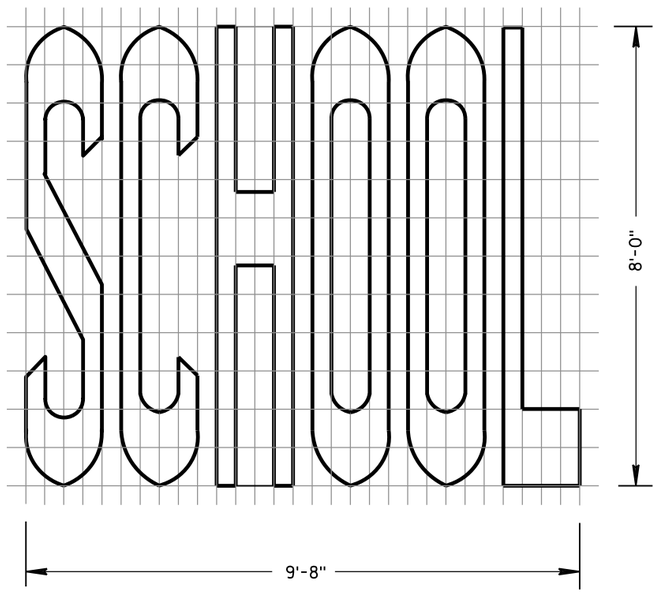


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-16	/S/ Matthew R. Rauch	
DATE	STATE SIGNING AND MARK	EER

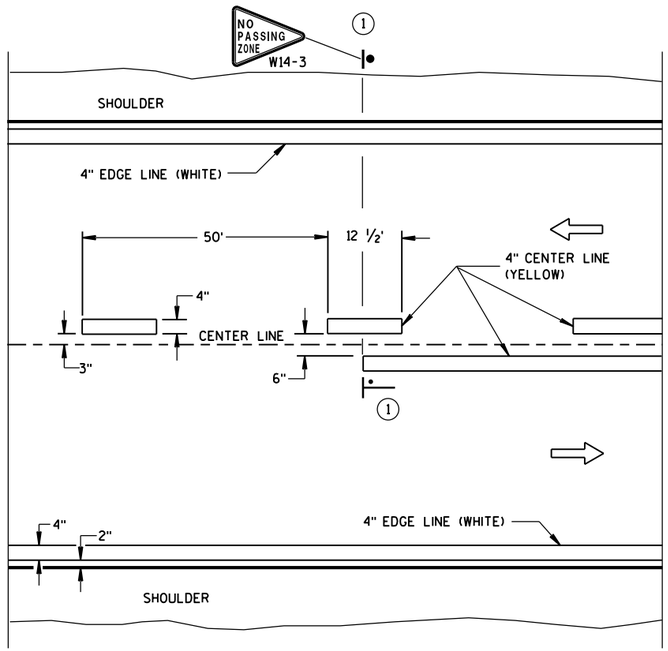
FHWA

6

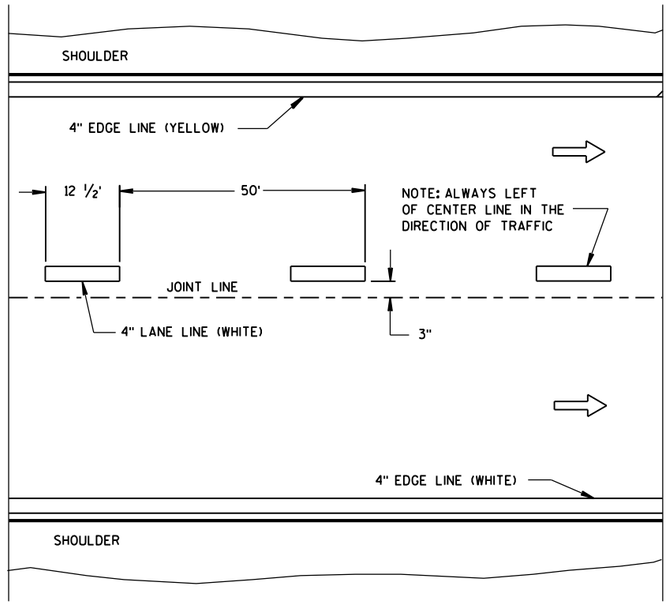
S.D.D. 15 C 7-13b

6

S.D.D. 15 C 7-13b



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

(1) NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

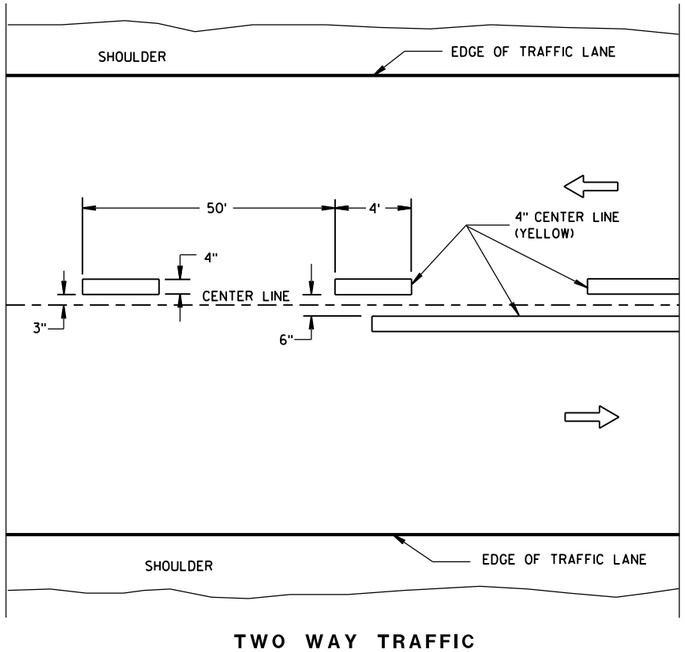
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

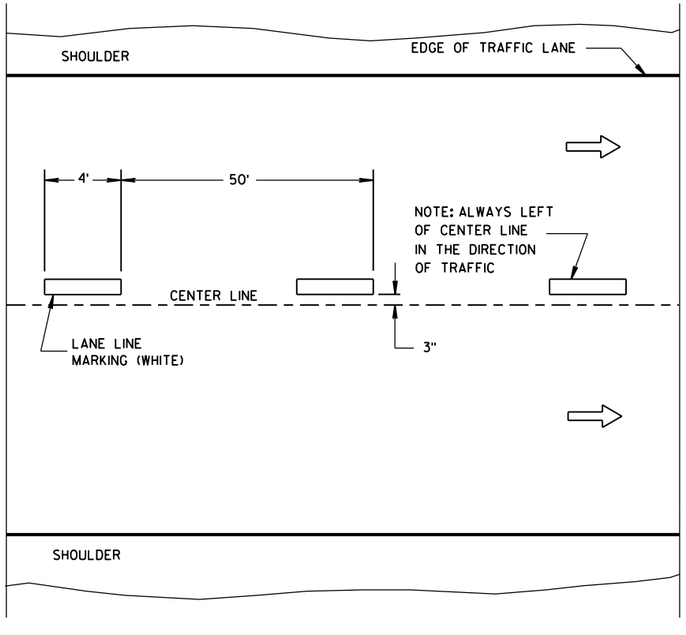
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

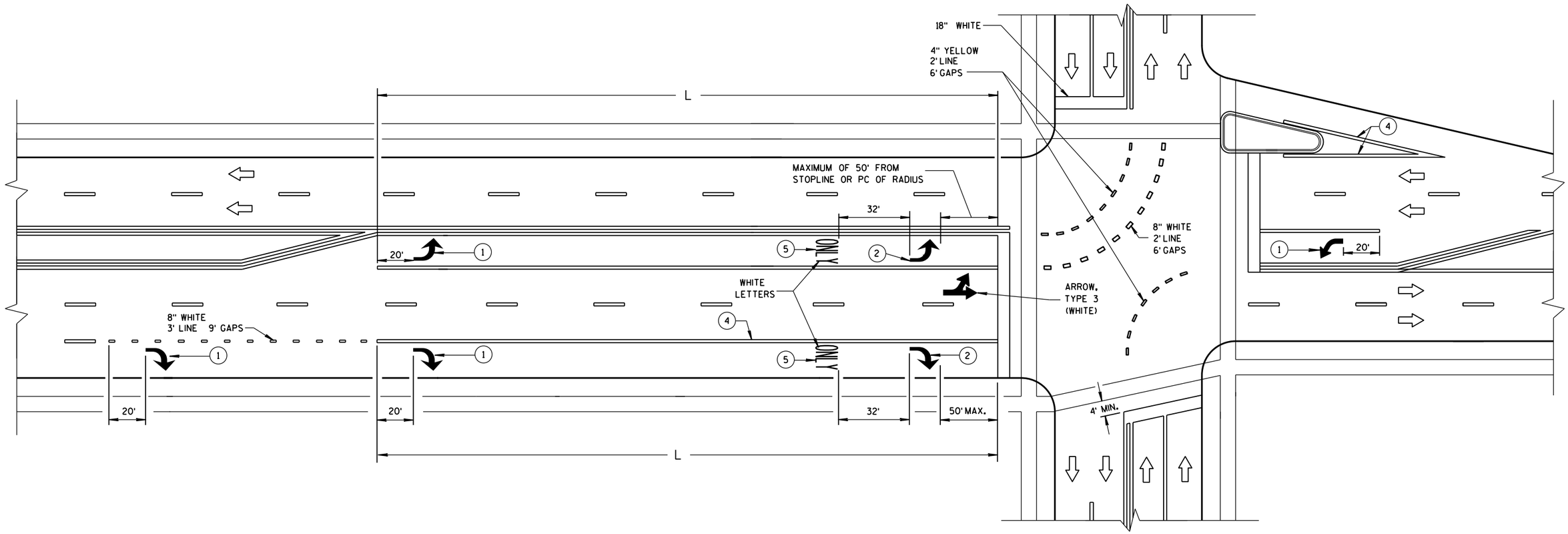
LONGITUDINAL MARKING (MAINLINE)

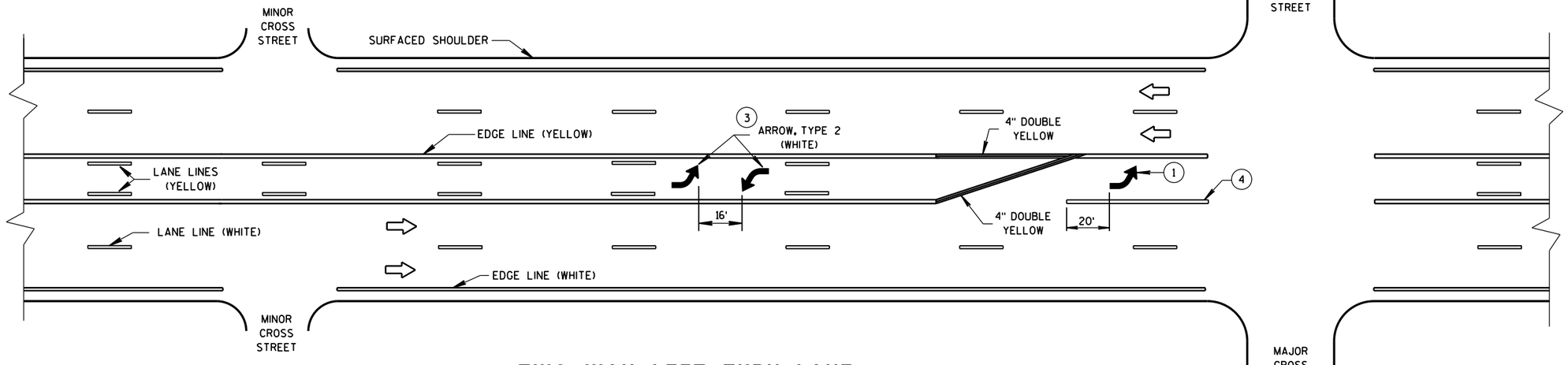
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

S.D.D. 15 C 8-17a





TWO WAY LEFT TURN LANE

GENERAL NOTES

(1) REQUIRED ARROW, TYPE 2 (WHITE).

(2) REQUIRED ARROW, TYPE 2 (WHITE) WHEN L IS GREATER THAN 78 FEET AND LESS THAN OR EQUAL TO 166 FEET.

(3) A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.

(4) 8" WHITE

(5) REQUIRED WORD ONLY WHEN L IS GREATER THAN 166 FEET.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL

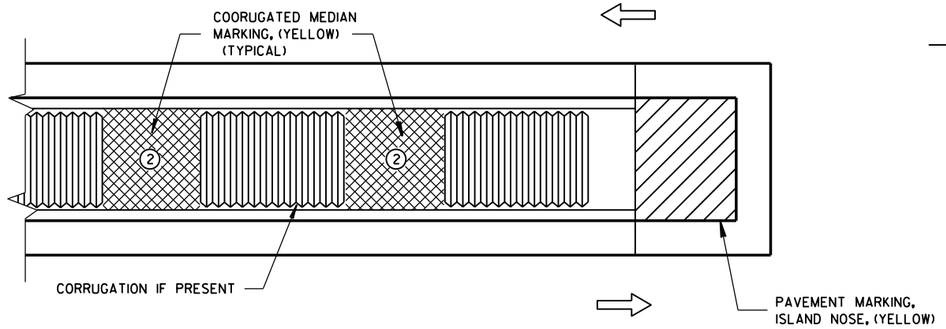
L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

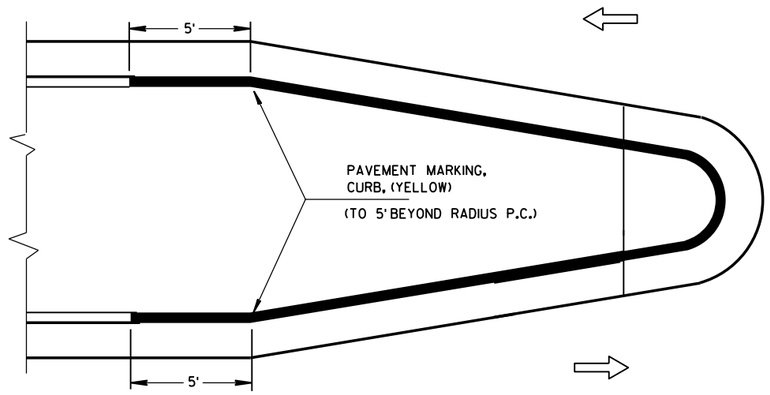
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

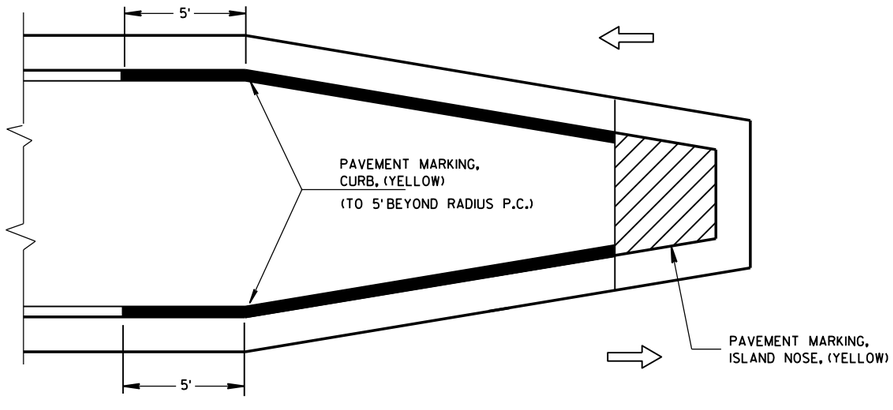
S.D.D. 15 C 8-17b



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

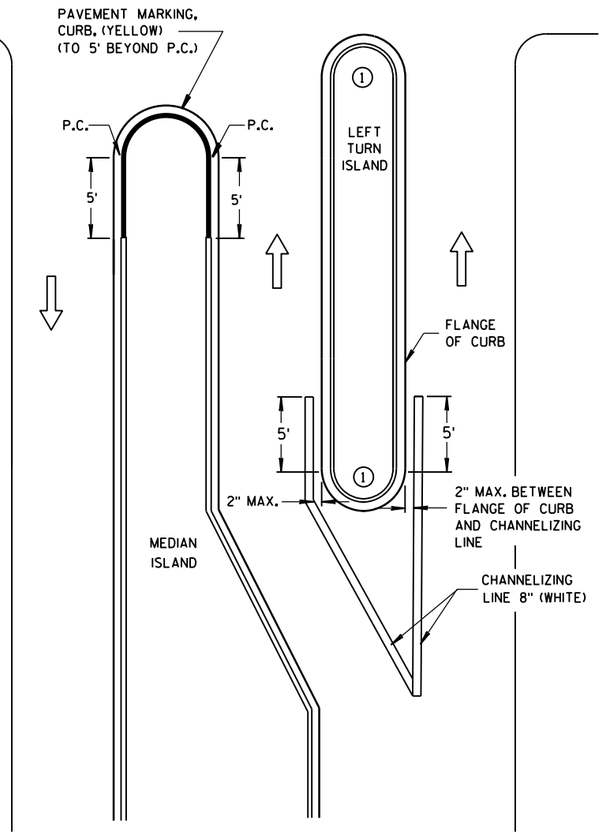


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

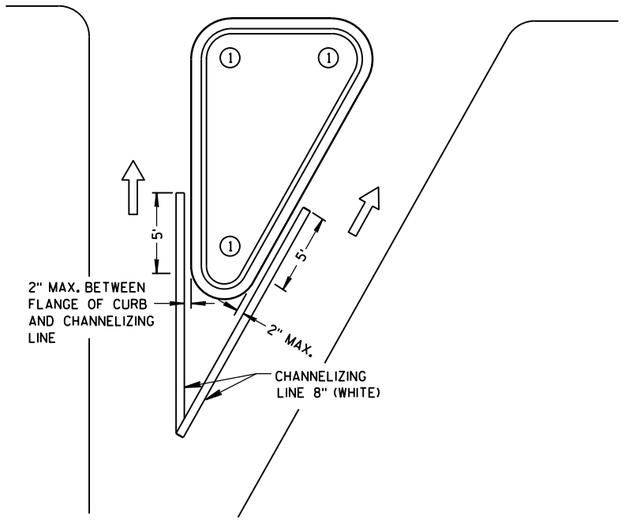


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. 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 AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

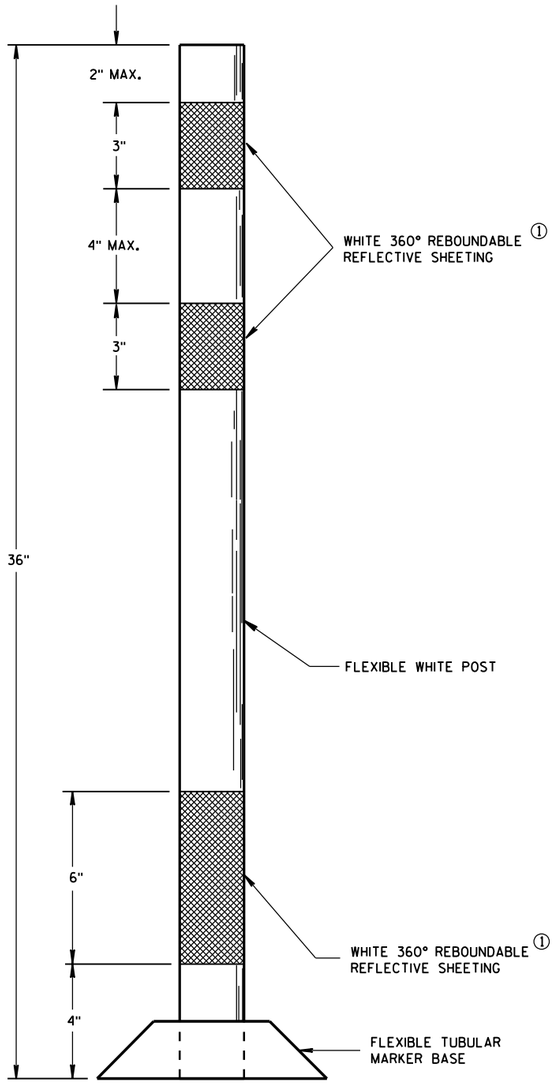
- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

6

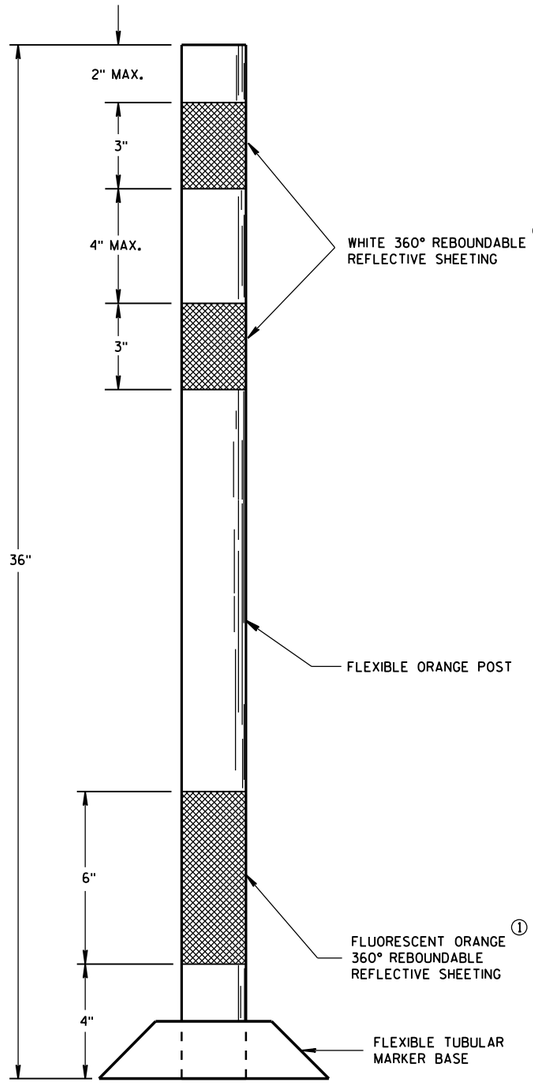
S.D.D. 15 C 8-17c

PAVEMENT MARKING
(ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



FLEXIBLE
TUBULAR MARKER POST
PERMANENT CROSSOVER



FLEXIBLE
TUBULAR MARKER POST
WORK ZONE

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

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

FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-16-2015
DATE
FHWA

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON
SAFETY ENGINE

6

S.D.D. 15 C 11-6

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

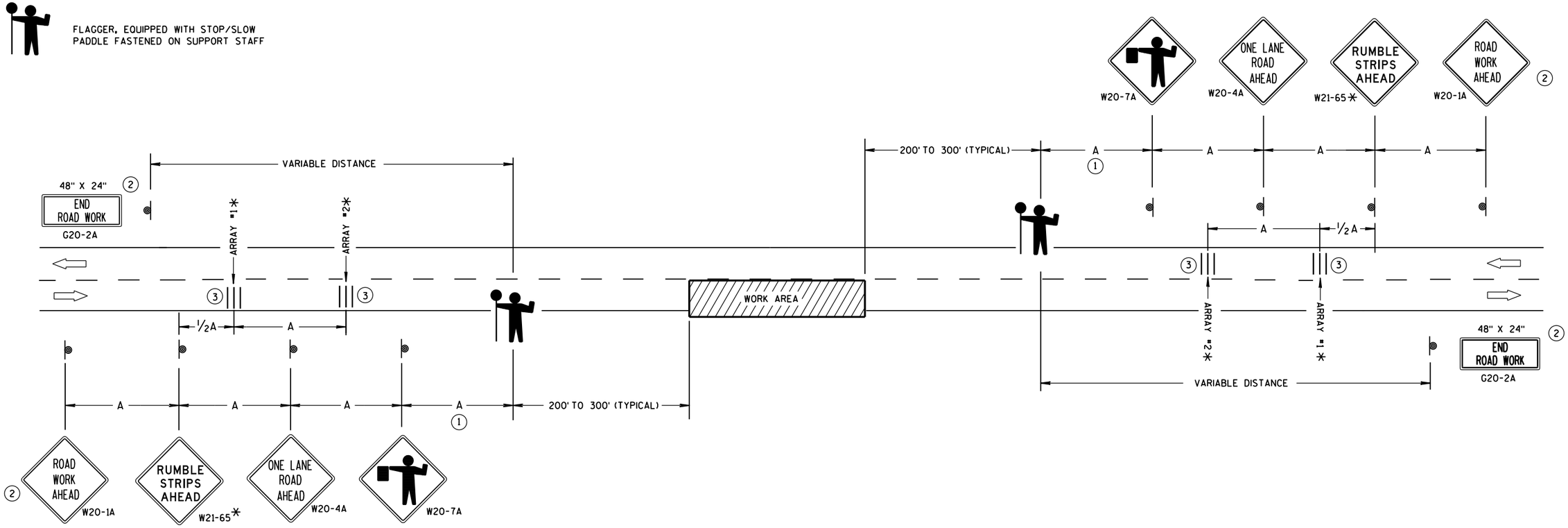
WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

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



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

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

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

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

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

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

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

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

(3) EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

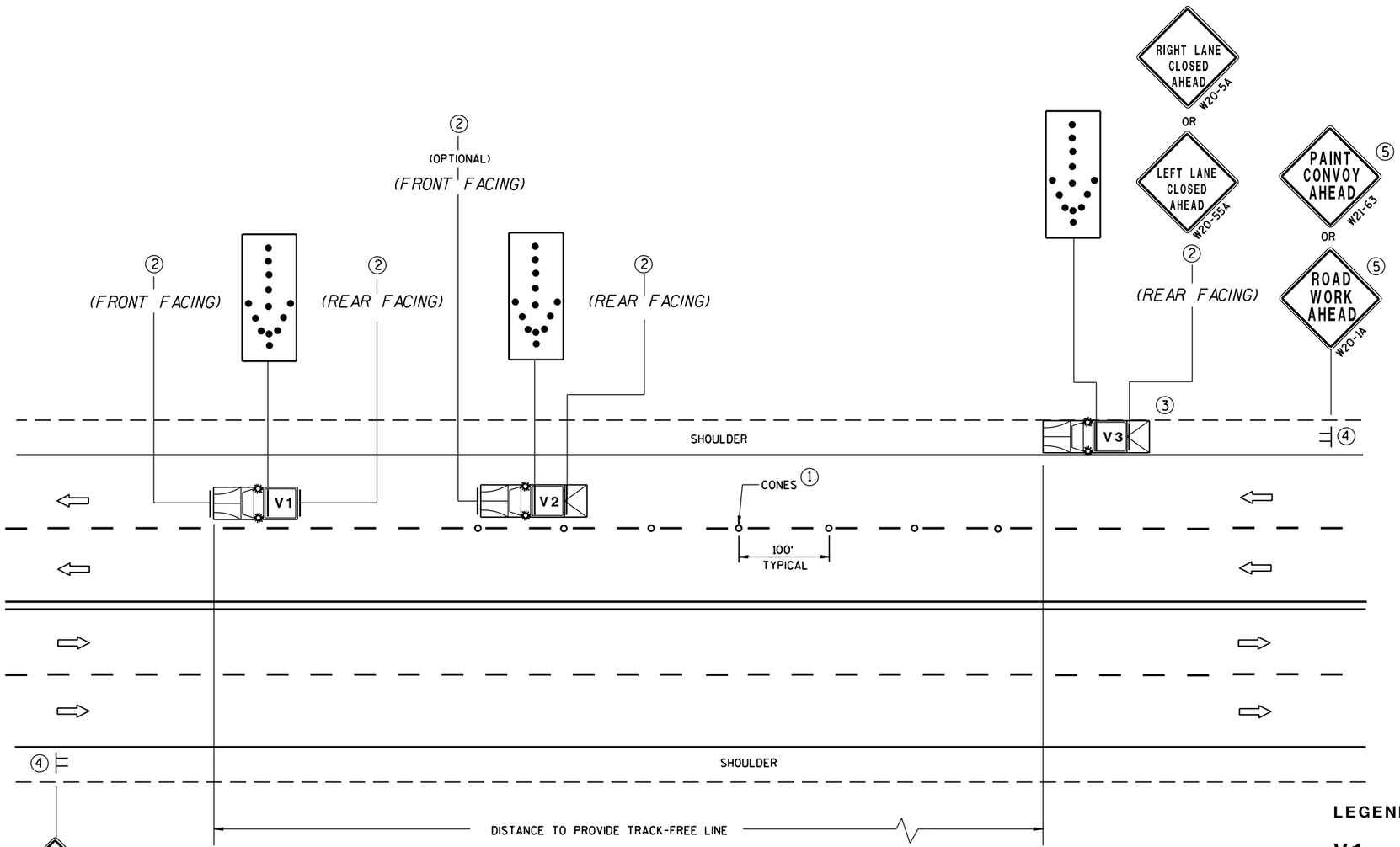
APPROVED
December, 2016 — /S/ Andrew Heldtke
DATE — WORK ZONE ENG
FHWA

6

S.D.D. 15 C 12-5

6

S.D.D. 15 C 12-5



PAINT CONVOY AHEAD W21-63
OR
ROAD WORK AHEAD W20-1A

MOVING PAVEMENT MARKING OPERATIONS
MULTI-LANE UNDIVIDED ROADWAY

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

FOR EDGELINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE OR LANELINE MARKING FOR MULTILANE UNDIVIDED ROADWAYS.

(1) CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

(4) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(5) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

V1	LEAD VEHICLE
V2	SHADOW VEHICLE
V3	TRAIL VEHICLE WITH TMA
TMA	TRUCK-MOUNTED ATTENUATOR
	SIGN ON TEMPORARY SUPPORT
	DIRECTION OF TRAFFIC
	CONES
	FLASHING ARROW PANEL (MERGE)

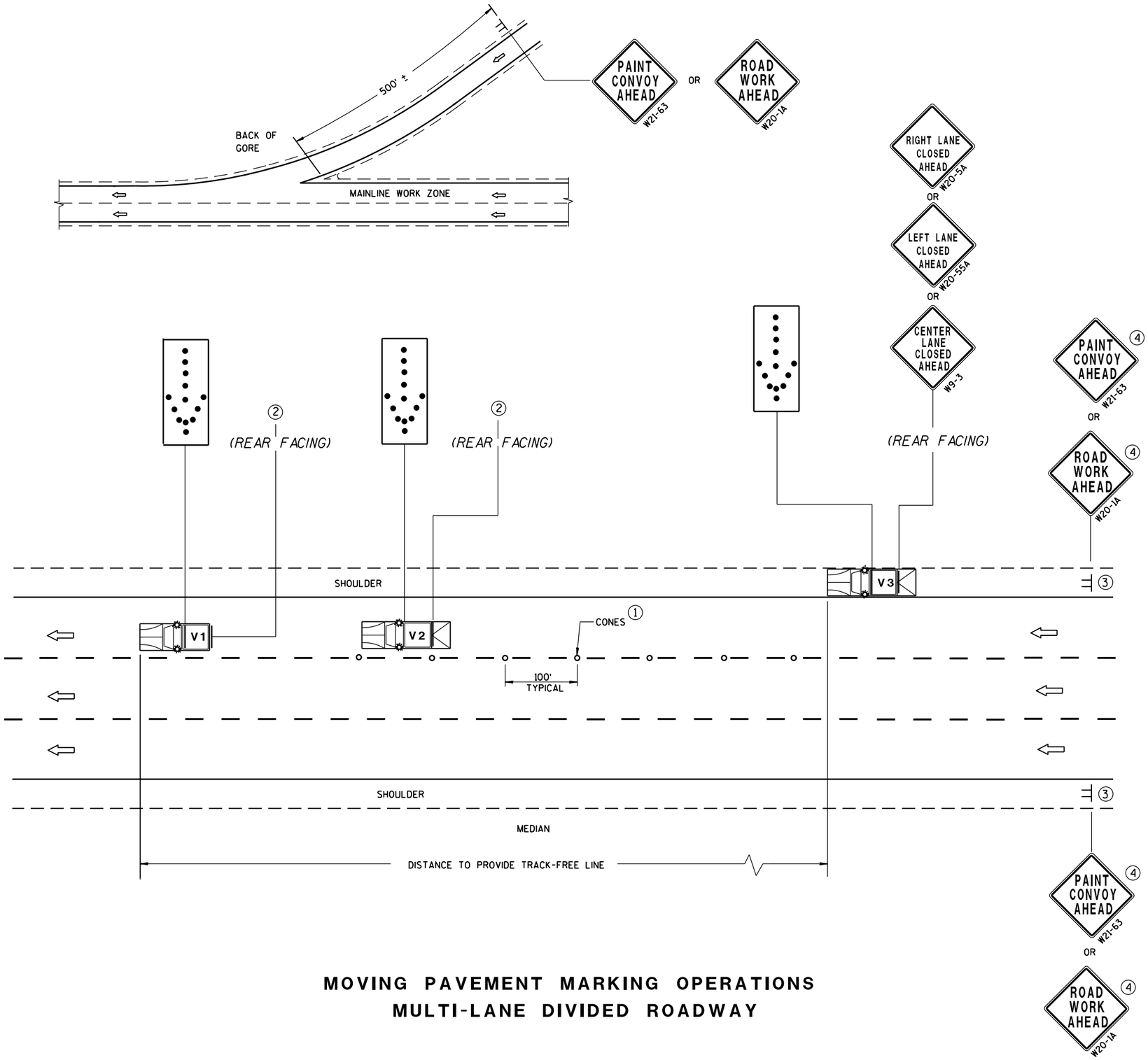
MOVING PAVEMENT MARKING OPERATION
MULTI-LANE UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZON SAFETY ENGINE
FHWA

6

S.D.D. 15 C 19-4b



MOVING PAVEMENT MARKING OPERATIONS
MULTI-LANE DIVIDED ROADWAY

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

FOR EDGELINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH. USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

THIS DRAWING SHALL BE USED FOR EDGELINE OR LANELINE MARKING FOR MULTILANE DIVIDED ROADWAYS.

(1) CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

(3) SIGNS SHALL BE REPEATED AFTER EVERY ON RAMP OR EVERY THREE MILES.

(4) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

V1	LEAD VEHICLE
V2	SHADOW VEHICLE
V3	TRAIL VEHICLE WITH TMA
TMA	TRUCK-MOUNTED ATTENUATOR
	SIGN ON TEMPORARY SUPPORT
	DIRECTION OF TRAFFIC
	CONES
	FLASHING ARROW PANEL (MERGE)

MOVING PAVEMENT MARKING OPERATION
MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

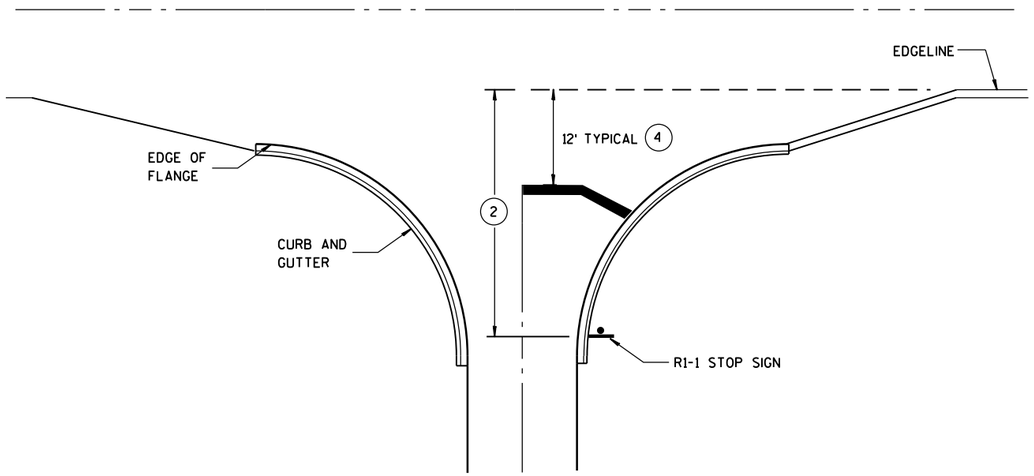
APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON SAFETY ENGINI
FHWA

6

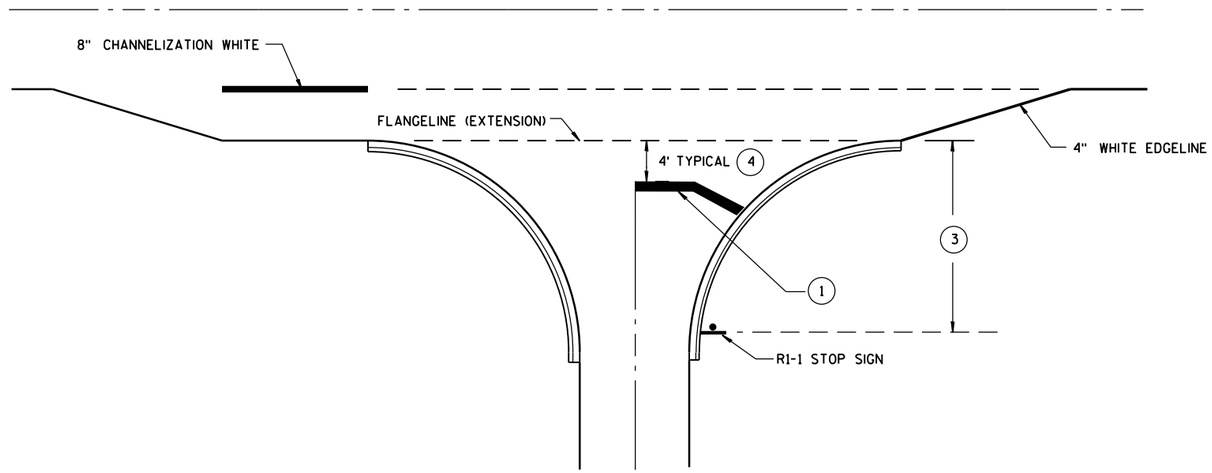
S.D.D. 15 C 19-4c

6

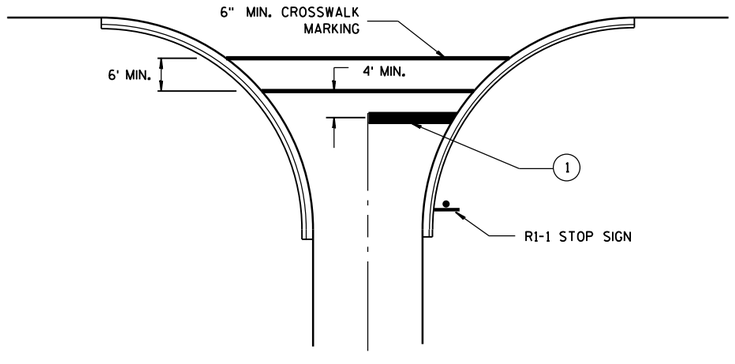
S.D.D. 15 C 19-4c



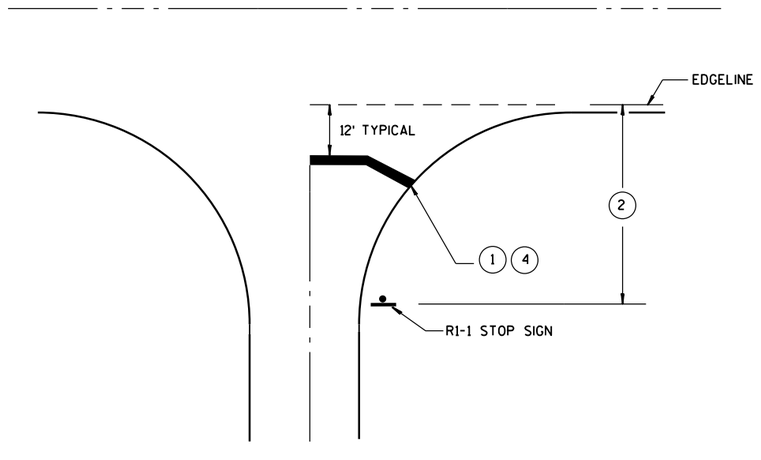
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

(1) 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.

(2) IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.

(3) IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.

(4) MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-2016
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAR 237 NEER

FHWA

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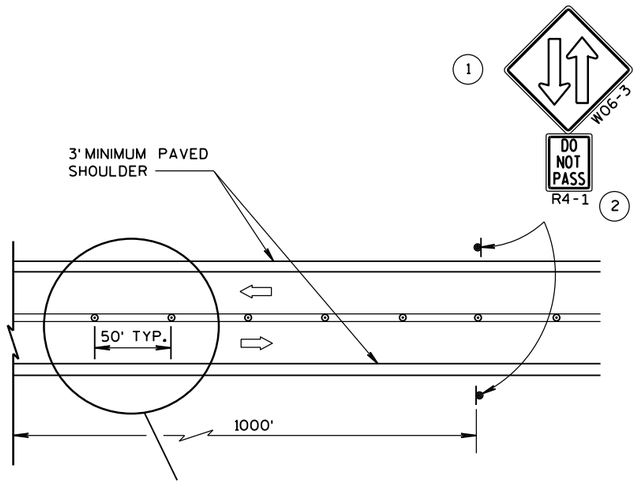
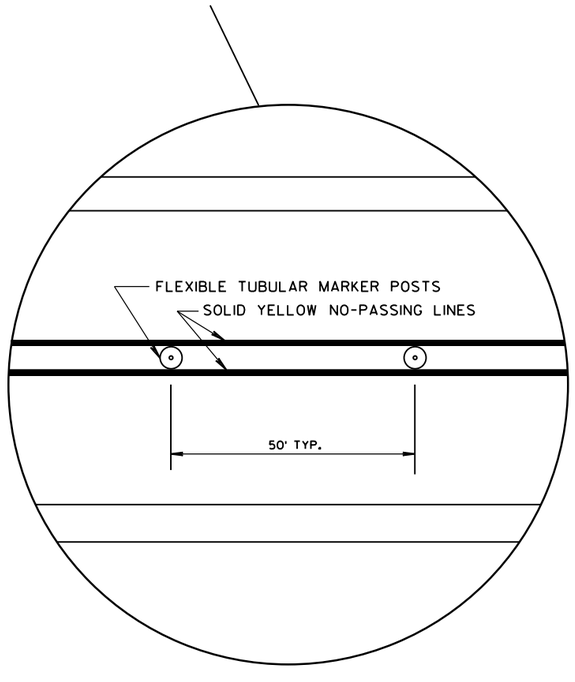


TWO LANE, TWO WAY OPERATION



GENERAL NOTES

ALL SIGNS ARE 48"x48" UNLESS OTHERS NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

A SINGLE ROW OF FLEXIBLE TUBULAR MARKERS ON CENTERLINE EXTEND FOR THE ENTIRE LENGTH OF TWO-WAY TRAFFIC AT 50-FOOT SPACING.

COVER EXISTING CENTERLINE STRIPE WITH TEMPORARY PAVEMENT MARKING, 4-INCH DOUBLE YELLOW.

THE W06-3 WITH THE W057-51 SHALL BE LOCATED 200 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND/OR 500 FEET BEYOND ANY SIDEROAD. THE W06-3 WITH THE R4-1 SHALL BE LOCATED 1000 FEET BEYOND THE W06-3 AND THE W057-51 AND THE SIGNS SHALL BE ALTERNATED WITH ONE MILE INTERVALS BETWEEN W06-3 SIGNS.

(2) CONVENTIONAL: 24"x30"
FREEWAY AND EXPRESSWAY: 36"x48"

LEGEND

- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 DATE
/S/ Travis Feltes STATE TRAFFIC ENGINEER
SIGN
FHWA

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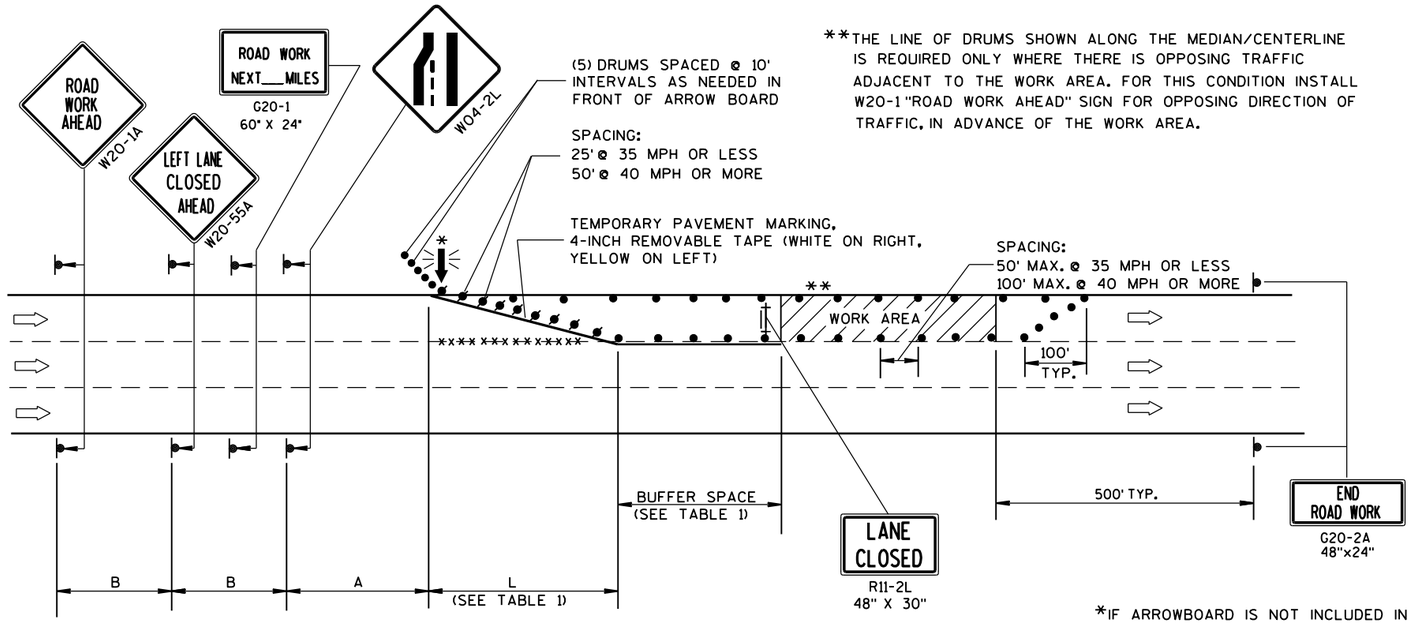

**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

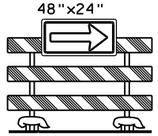

TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

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

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

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

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

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

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

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

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

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

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
FHWA

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER

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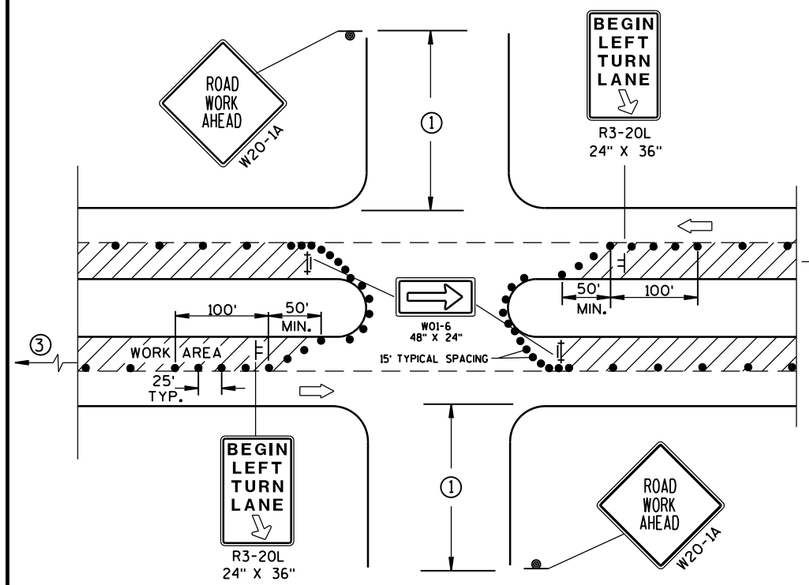
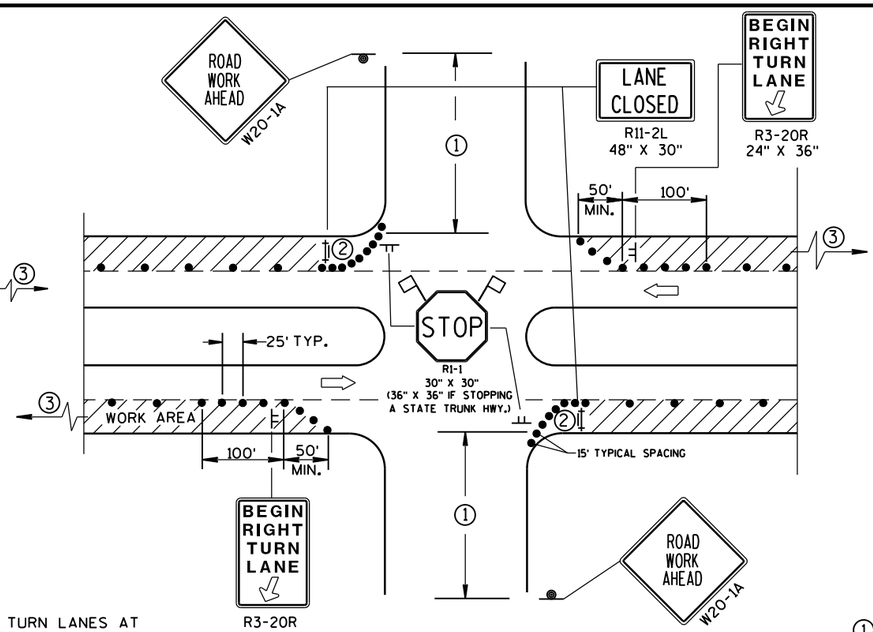
S.D.D. 15 D 20-4



DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

GENERAL NOTES

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

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

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

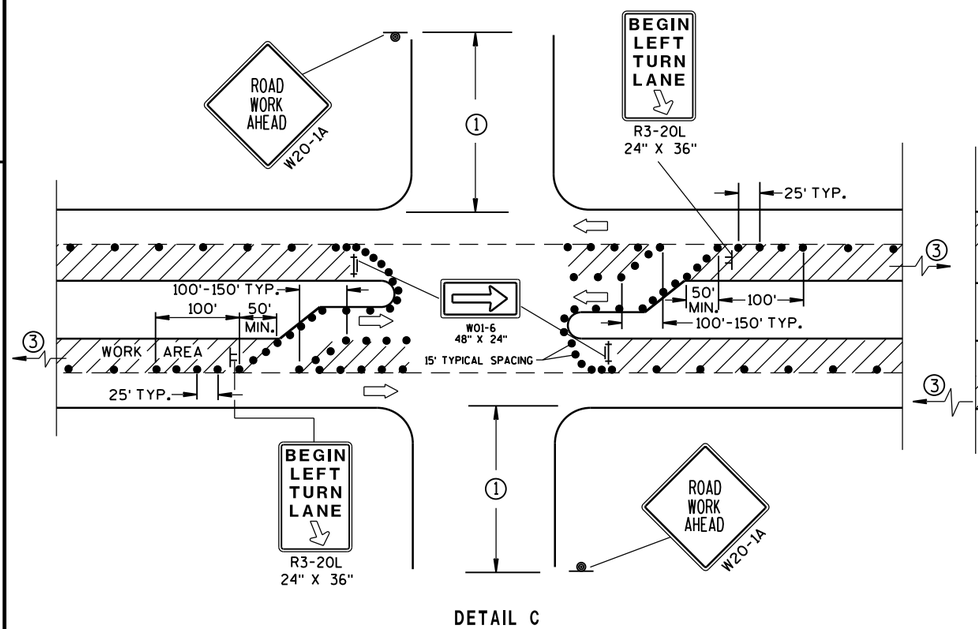
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

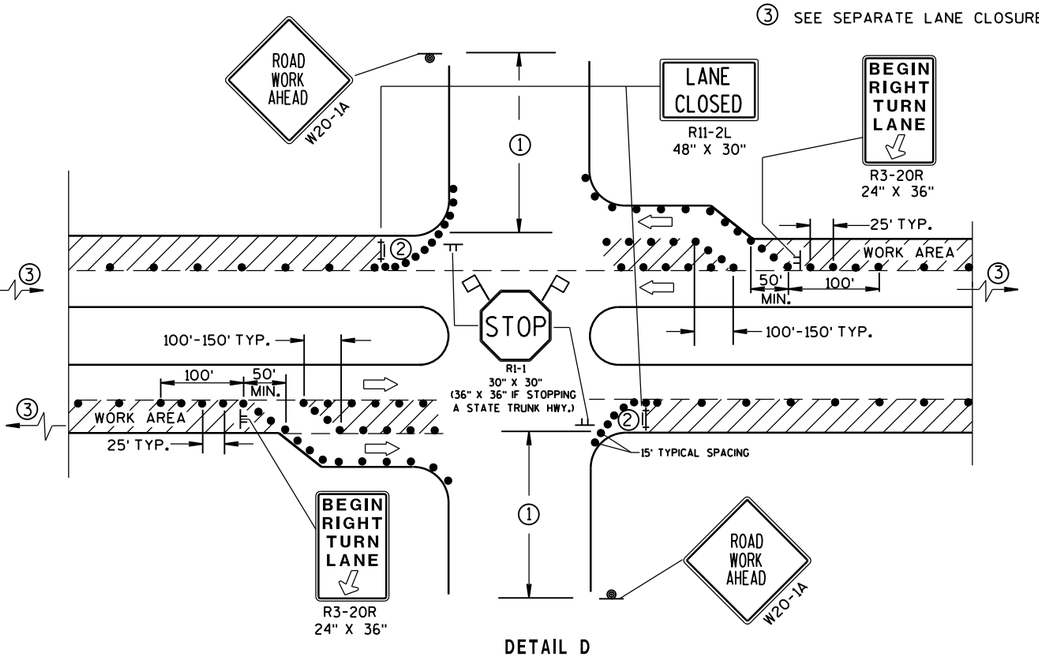
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Anakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI FIC
FHWA

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S.D.D. 15 D 21-4

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S.D.D. 15 D 21-4

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

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

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

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

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT TWO LANES. FOR CLOSING THE LEFT TWO LANES, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

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

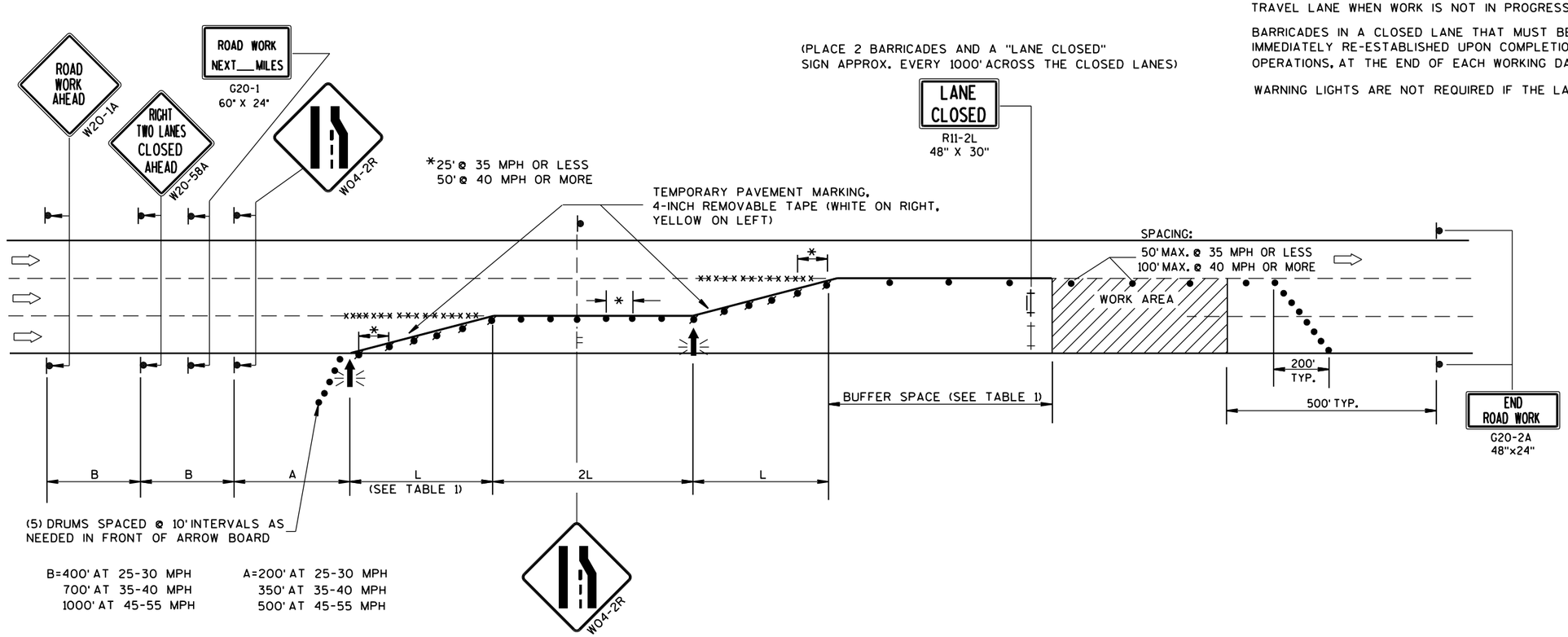
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO LOCATE THE ARROWBOARD AS SHOWN, PLACE THE ARROWBOARD IN THE LANE CLOSURE TAPER AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE TAPER.

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

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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



B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

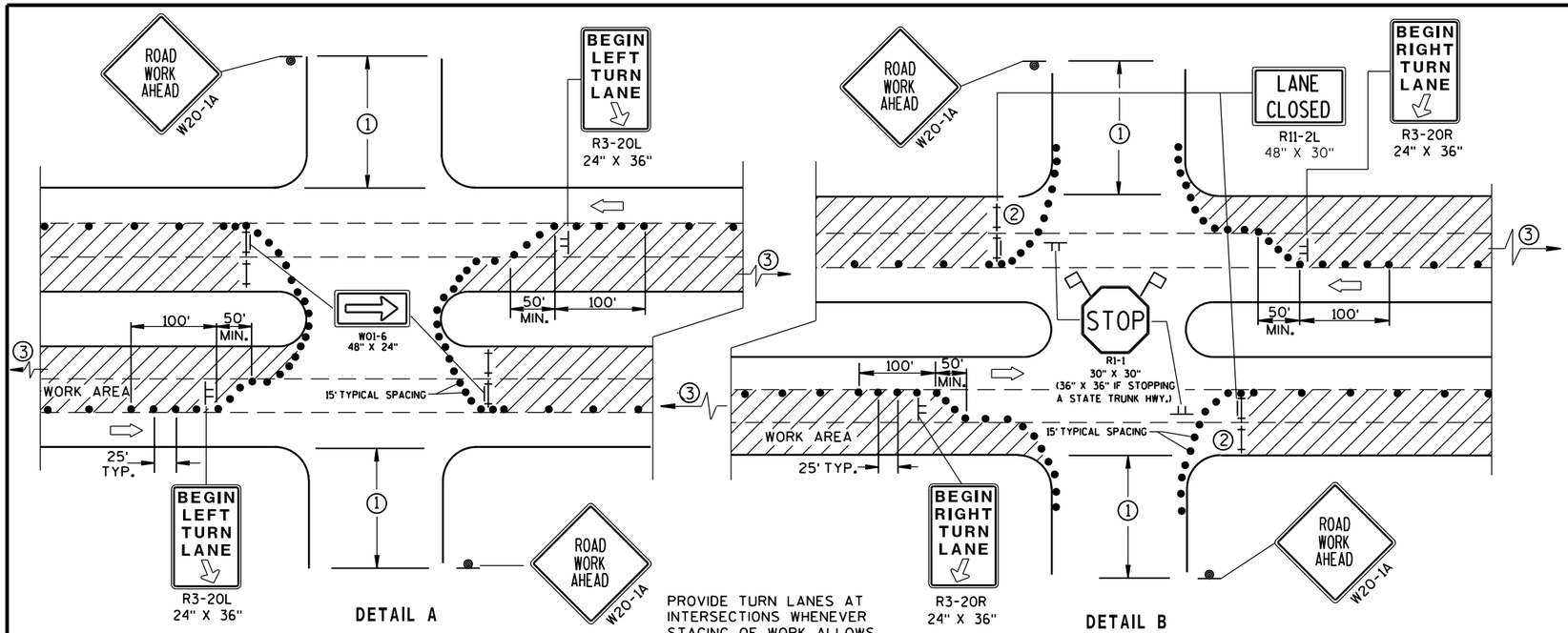
TRAFFIC CONTROL, TWO LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

S.D.D. 15 D 22-3

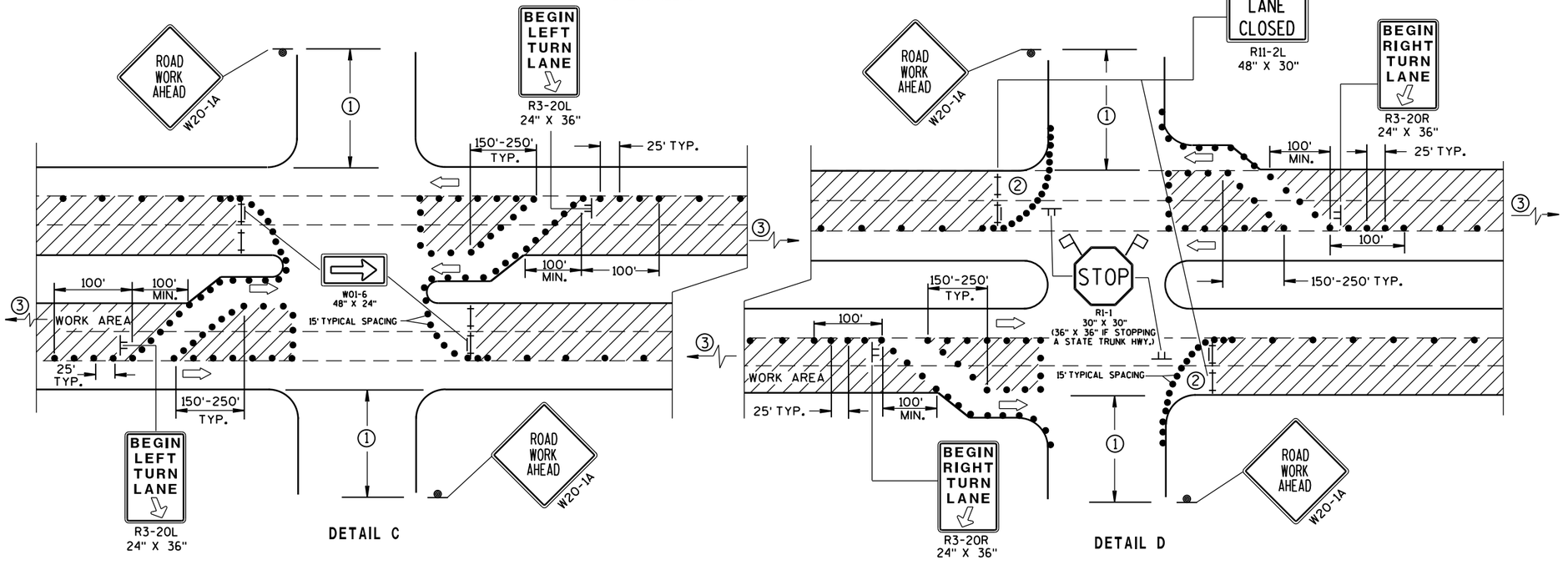
S.D.D. 15 D 22-3



FOR LEFT TWO LANES CLOSED AT INTERSECTION OR MEDIAN BREAK

FOR RIGHT TWO LANES CLOSED AT INTERSECTION

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



FOR LEFT TWO LANES CLOSED AT INTERSECTION OR MEDIAN BREAK (WITH LEFT TURN BAY OPEN)

FOR RIGHT TWO LANES CLOSED AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

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

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

① 500 FEET TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350 FEET IF 35-40 MPH.
200 FEET IF 25-30 MPH.

② ALSO USE BARRICADES AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN TWO LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER — FHWA — FIC

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S.D.D. 15 D 23-4

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S.D.D. 15 D 23-4

GENERAL NOTES

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

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

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

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

TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

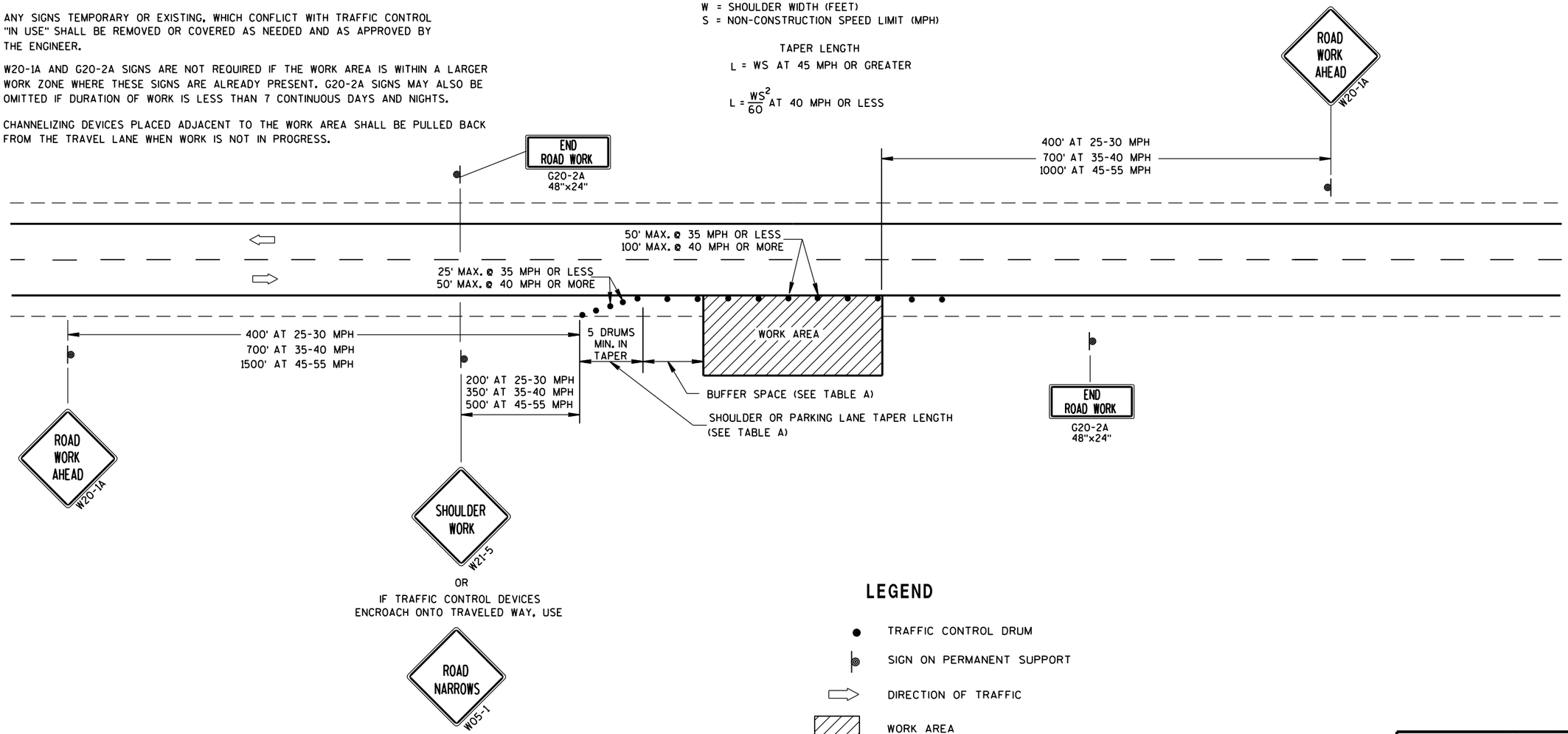
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER

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

SHOULDER TAPER LENGTH = $\frac{1}{3}L$



LEGEND

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

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

July 14, 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible] FIC

FHWA

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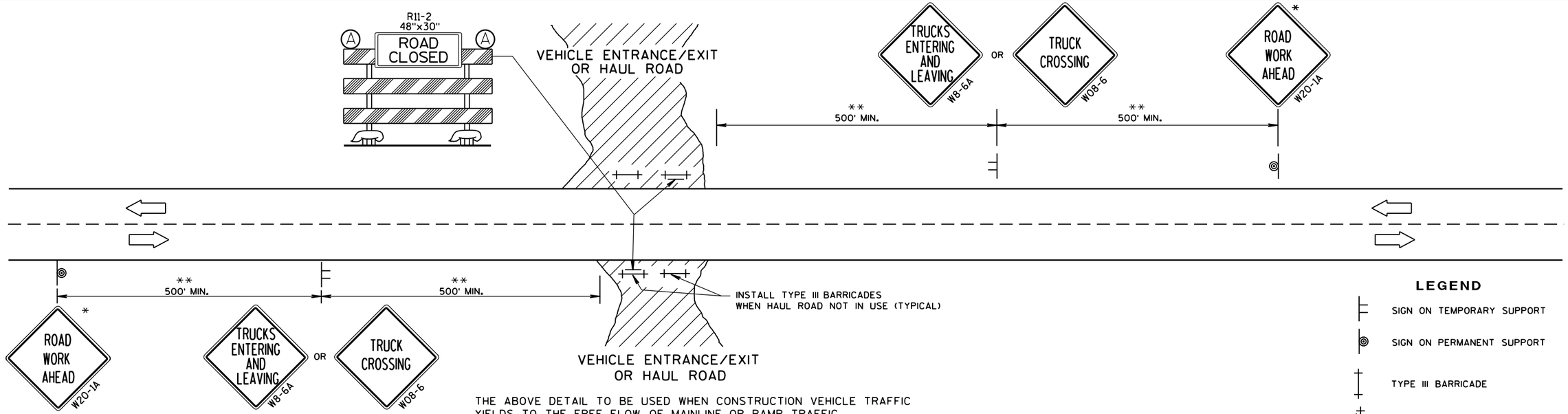


THE ABOVE DETAIL TO BE USED WHEN CONSTRUCTION VEHICLE TRAFFIC YIELDS TO THE FREE FLOW OF MAINLINE OR RAMP TRAFFIC

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

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

WHEN ACTIVITY REFLECTED BY THE SIGN IS NOT CURRENTLY TAKING PLACE, THE HIGHWAY SHALL BE RESTORED TO NORMAL CONDITION AND THE SIGNS SHALL BE REMOVED, COVERED OR TURNED AWAY FROM TRAFFIC.

WHEN A SIDE ROAD OR RAMP INTERSECTS WITHIN THE ADVANCE SIGNING AREA, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

* THESE SIGNS ARE TO BE USED ONLY WHEN VEHICLE **ENTRANCE/EXIT CONDITIONS ARE SEPARATED BY MORE THAN 2 MILES** FROM PREVIOUS WORK AREA OR SIGNING OR AS DIRECTED BY THE ENGINEER.

** 500 FEET SHOWN IS FOR ROADWAYS WITH A NON-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FEET. FOR 25-30 MPH, USE 200 FEET. USE 1000 FEET/1500 FEET FOR EXPRESSWAY/FREEWAY.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

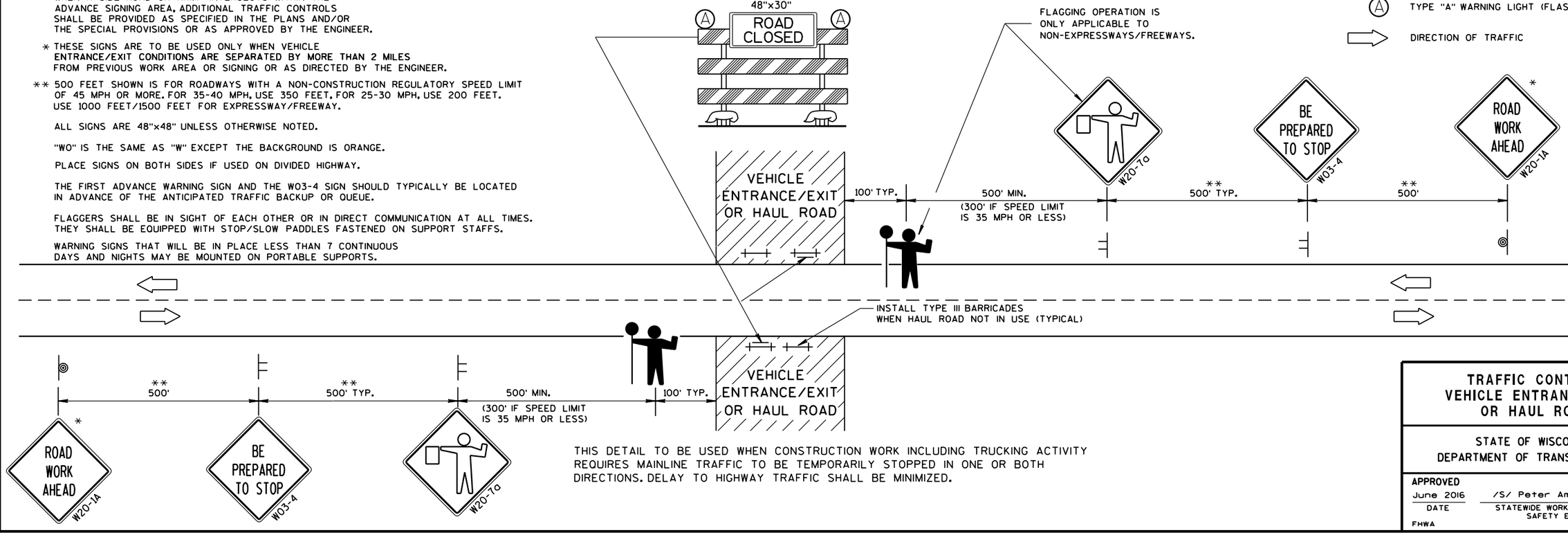
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

PLACE SIGNS ON BOTH SIDES IF USED ON DIVIDED HIGHWAY.

THE FIRST ADVANCE WARNING SIGN AND THE W03-4 SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

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.

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



THIS DETAIL TO BE USED WHEN CONSTRUCTION WORK INCLUDING TRUCKING ACTIVITY REQUIRES MAINLINE TRAFFIC TO BE TEMPORARILY STOPPED IN ONE OR BOTH DIRECTIONS. DELAY TO HIGHWAY TRAFFIC SHALL BE MINIMIZED.

TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

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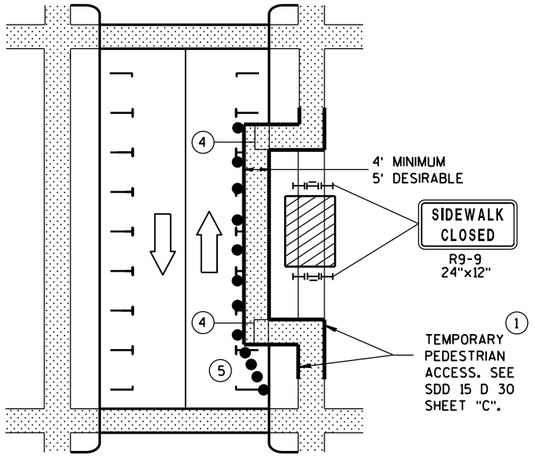
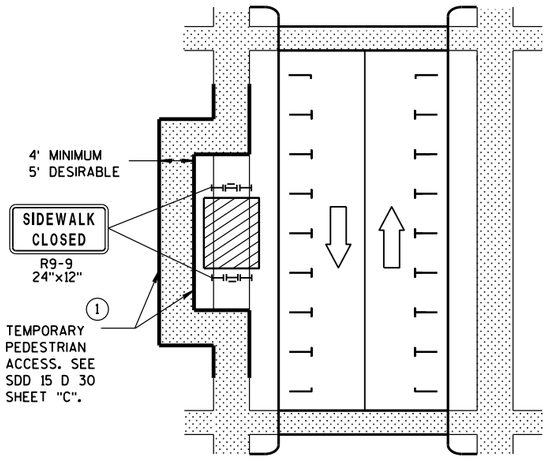
NOTE: MAY BE USED ON ROADWAY WITH POSTED SPEED OF LESS THAN 40 MPH.

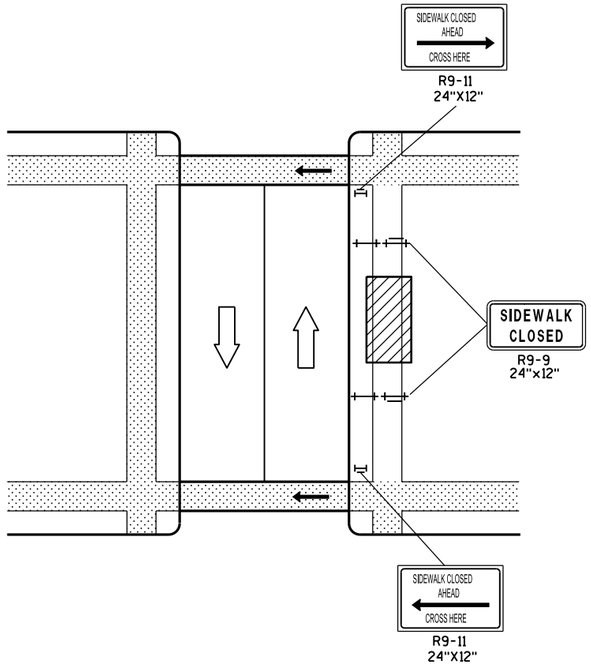


MID-BLOCK SIDEWALK CLOSURE IN PARKING LANE

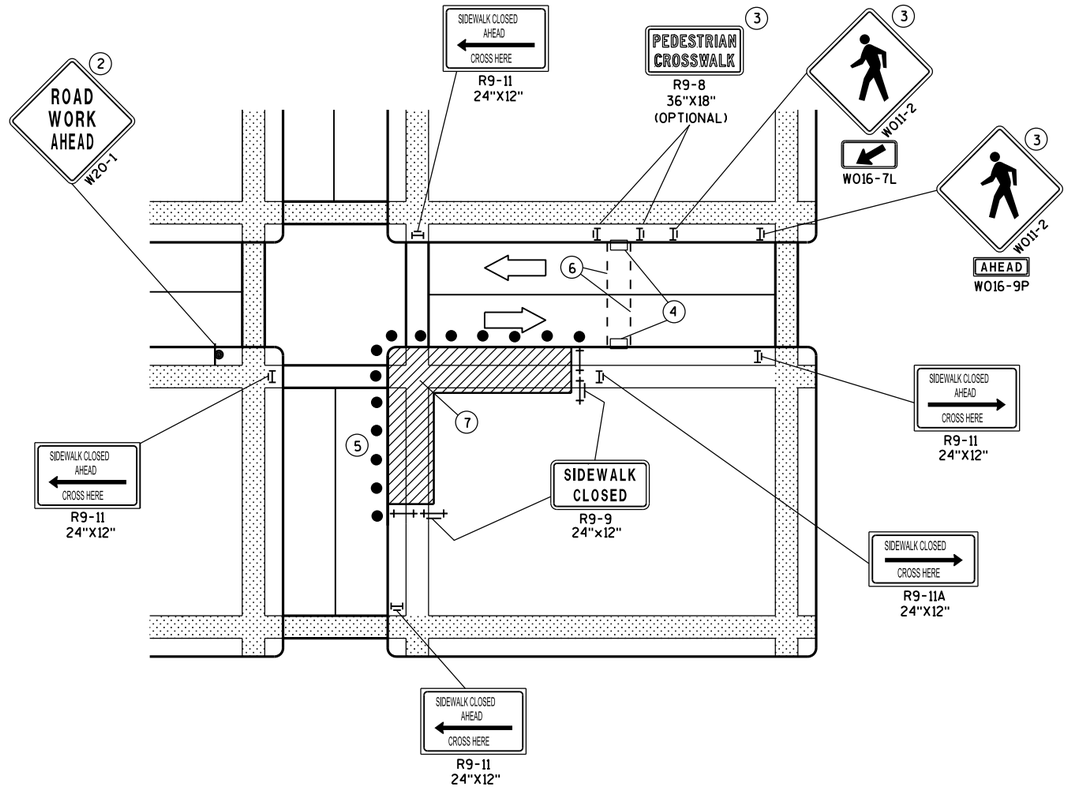
NOTE: LAYOUT SAME AS ABOVE.



SIDEWALK DIVERSION



MID-BLOCK SIDEWALK CLOSURE



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

(6) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

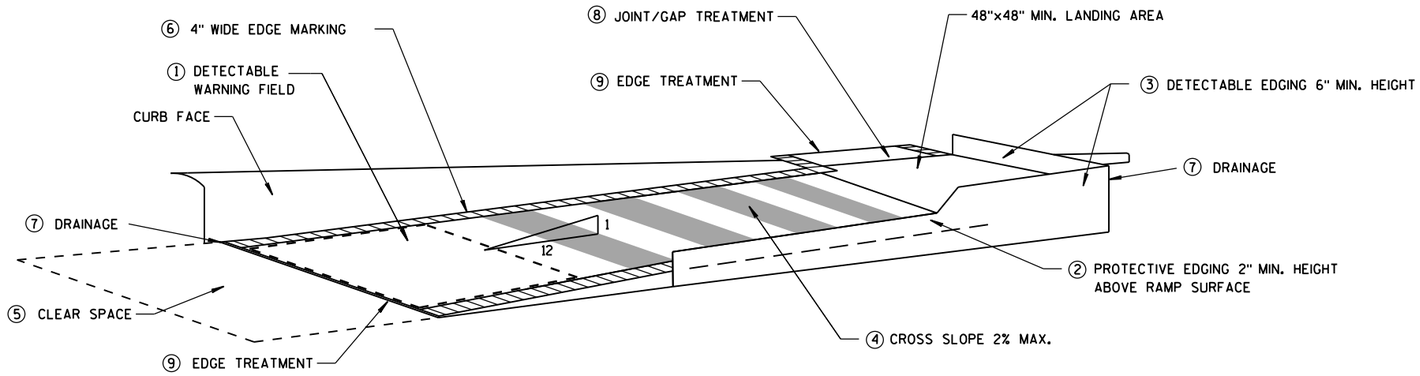
(7) LIMIT WORK TO ONE QUADRANT AT A TIME TO MINIMIZE PEDESTRIAN DISRUPTION.

LEGEND

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

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

6
S.D.D. 15 D 30-3a



TEMPORARY CURB RAMP PARALLEL TO CURB

GENERAL NOTES

NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

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

① CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE. INSTALL CONTRASTING DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS. REFER TO SDD 8D5 SHEET "E".

② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB 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 CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

⑤ CLEAR SPACE OF 48"X48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

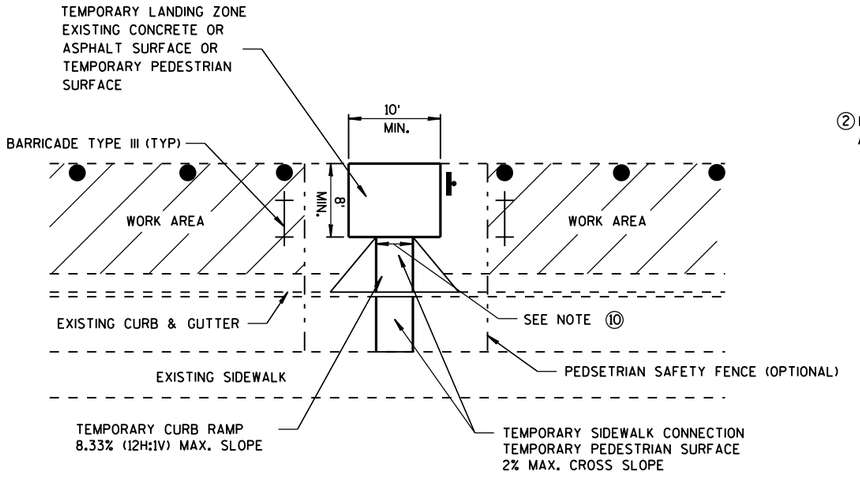
⑥ THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.

⑦ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

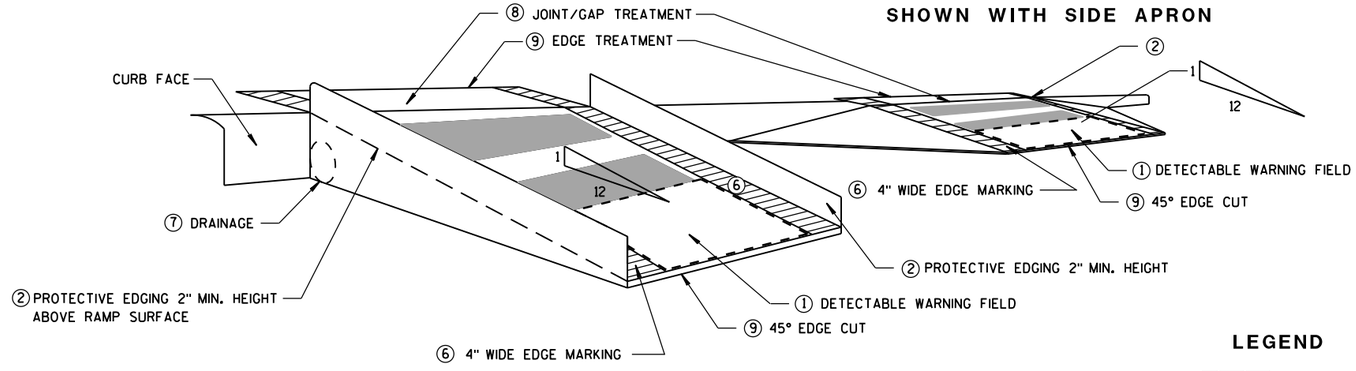
⑧ LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

⑨ CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHALL BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

⑩ 5' WIDE MIN. WITH PEDSETRIAN SAFETY FENCE, 10' WIDE MIN. WITHOUT PEDESTRIAN SAFETY FENCE.



TEMPORARY BUS STOP PAD



SHOWN WITH PROTECTIVE EDGE

SHOWN WITH SIDE APRON

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

LEGEND

WORK AREA

TYPE III BARRICADE

TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

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S.D.D. 15 D 30-3b

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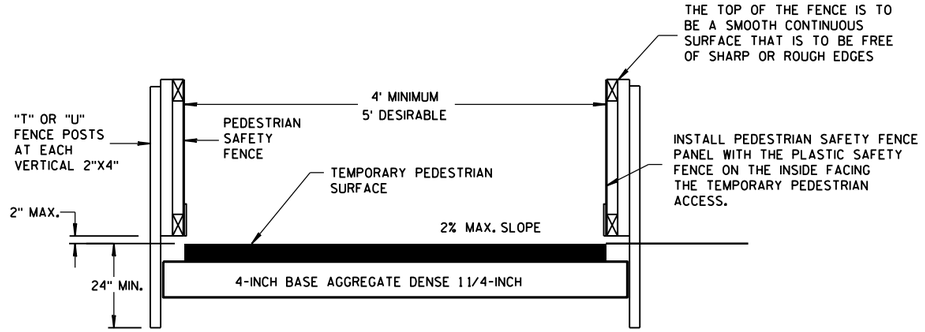
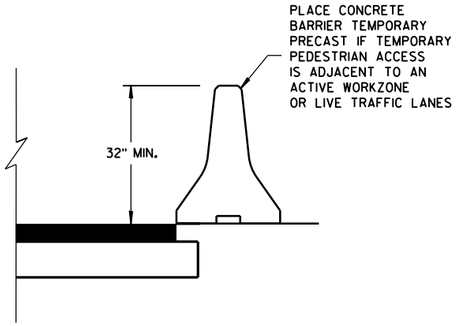
S.D.D. 15 D 30-3b

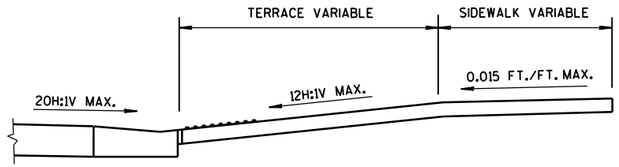




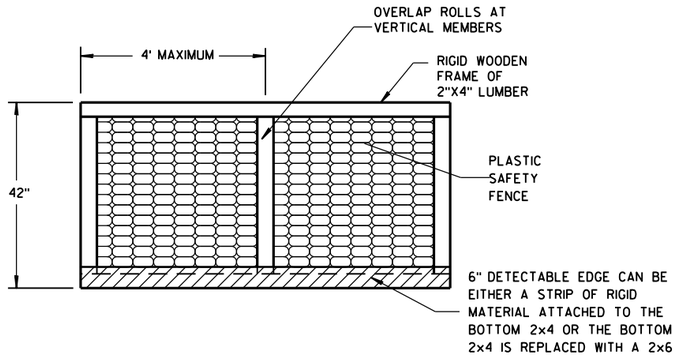
TEMPORARY PEDESTRIAN ACCESS

GENERAL NOTES

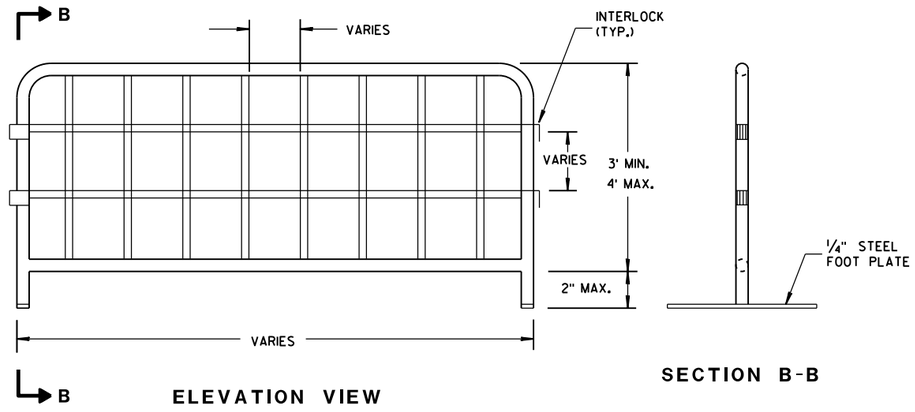
(1) INTERCHANGEABLE WITH THE PEDESTRIAN SAFETY FENCE.



SECTION A-A



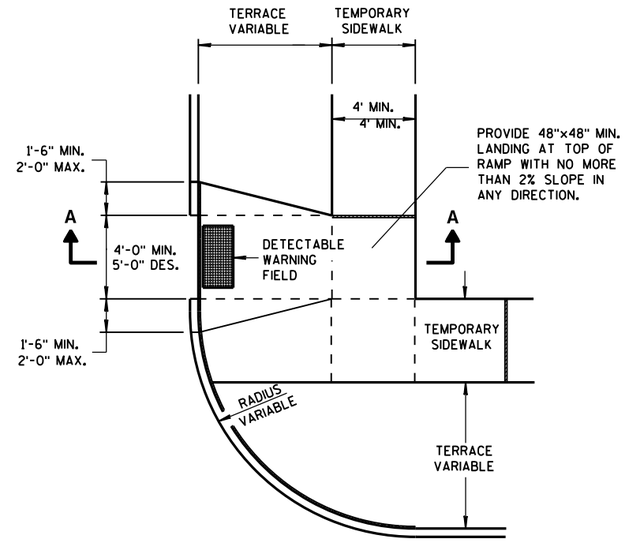
PEDESTRIAN SAFETY FENCE



ELEVATION VIEW

SECTION B-B

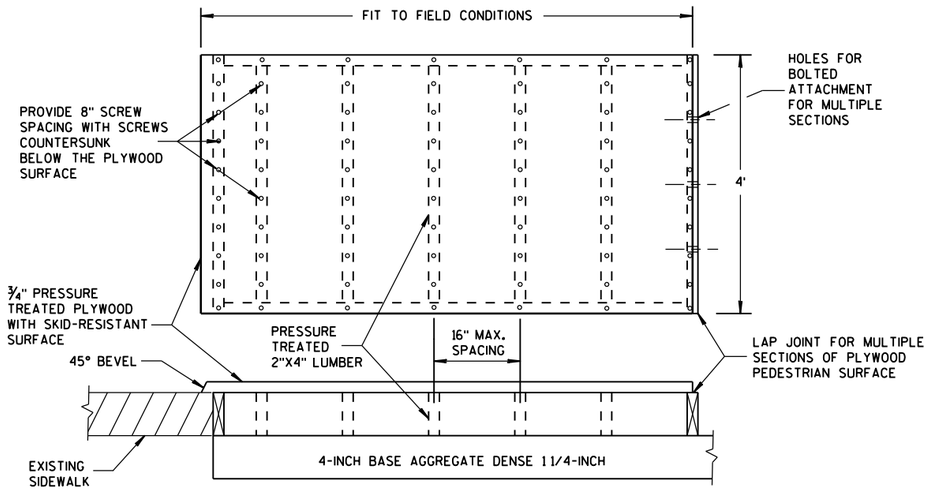
TEMPORARY PEDESTRIAN STEEL BARRICADE (1)



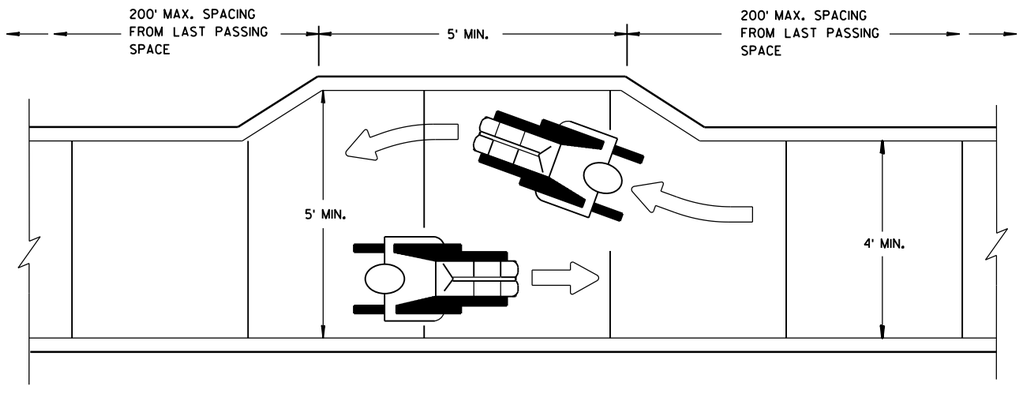
PLAN VIEW

TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)



TEMPORARY PEDESTRIAN SURFACE PLYWOOD



NARROW SIDEWALK PASSING DETAIL

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016
DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON SAFETY ENGIN IC
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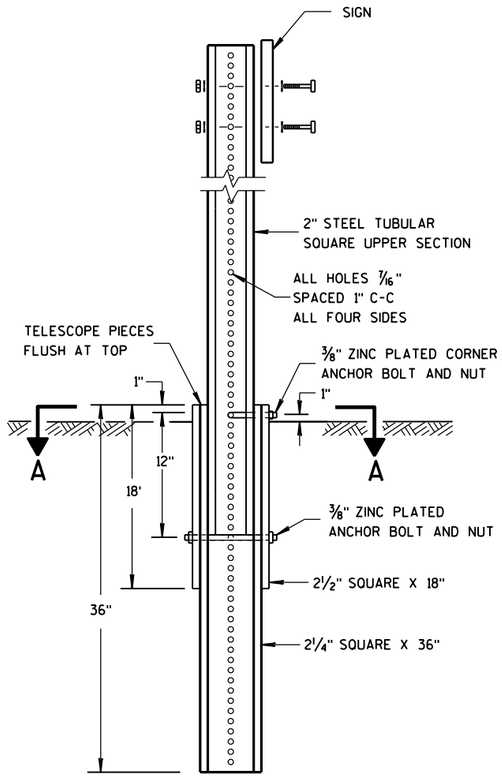
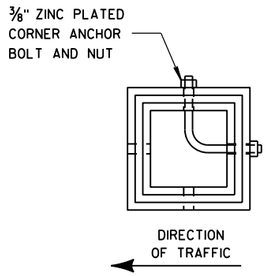
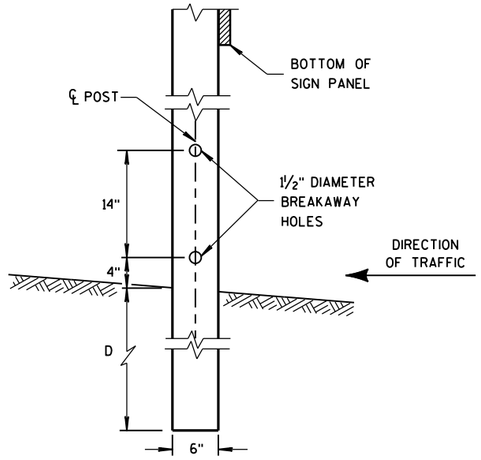


DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



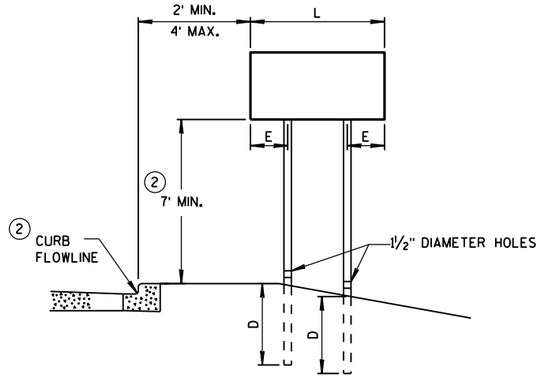
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

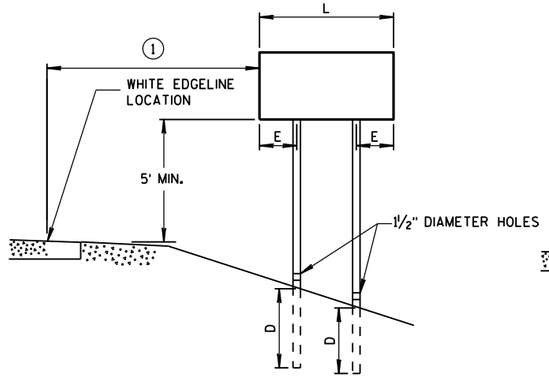
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

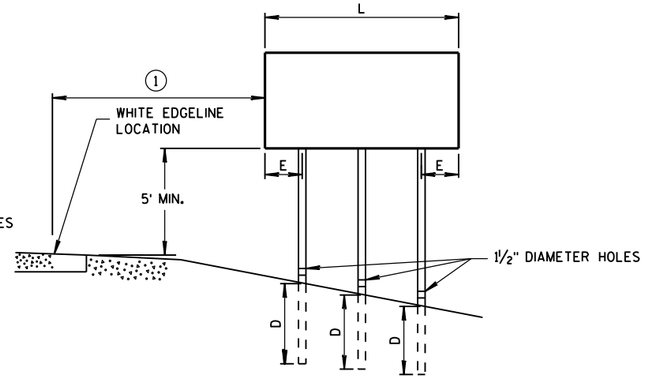
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN DEPARTMENT OF TRANSPO

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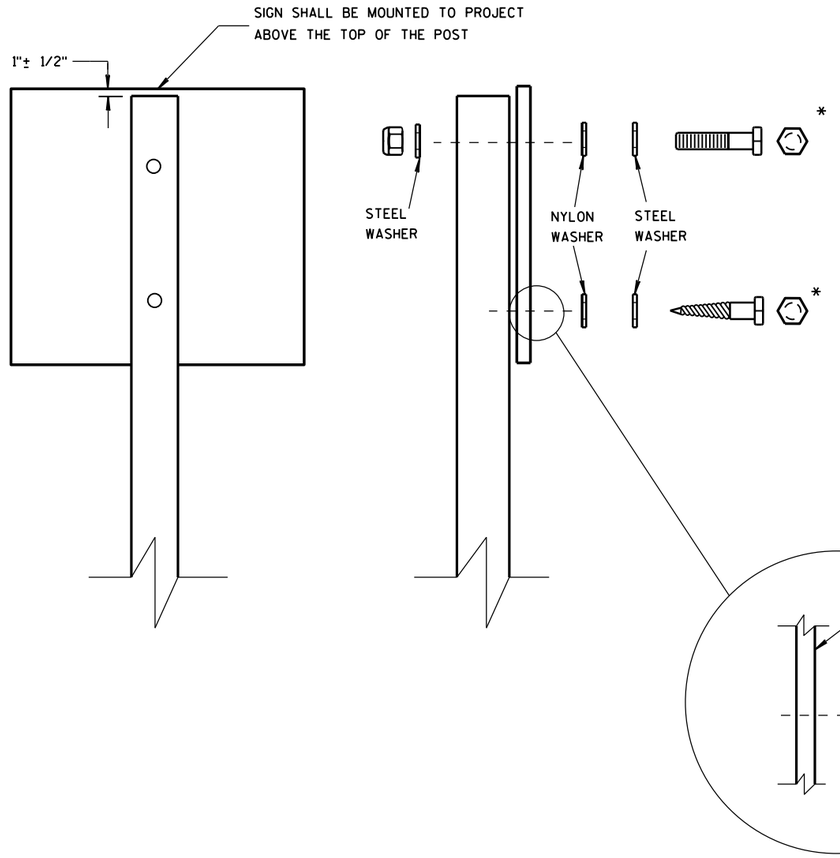

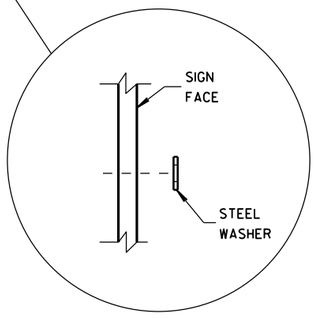

WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

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

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

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

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S.D.D. 15 D 38-1b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Feb. 2015
DATE

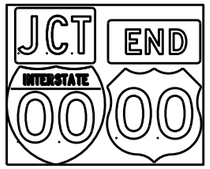
/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

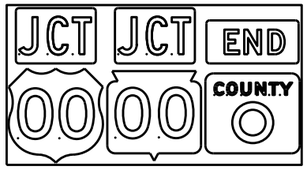
SIGN

TYPICAL ASSEMBLIES

J1-1

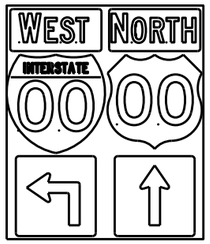


J1-2

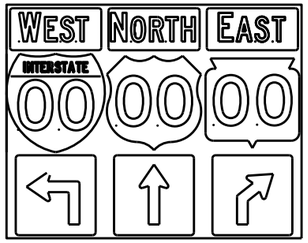


J1-3

J2-1



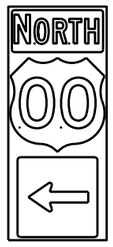
J2-2



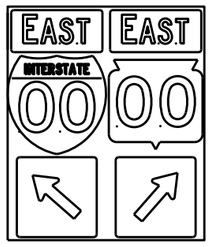
J2-3

JV

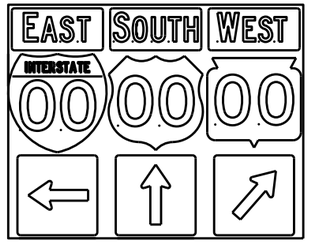
(Typical Vertical J-Assembly
See Note 10 and 11)



J3-1



J3-2



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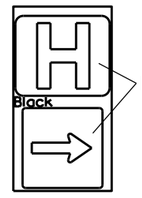
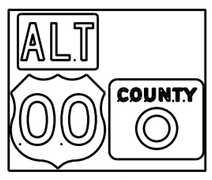


JH-1

J4-1



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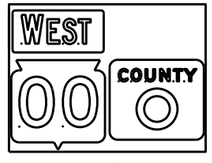
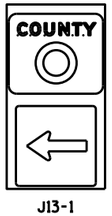


J4-2



J13-1

J12-1

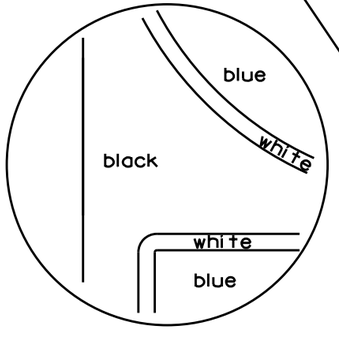
J32-1

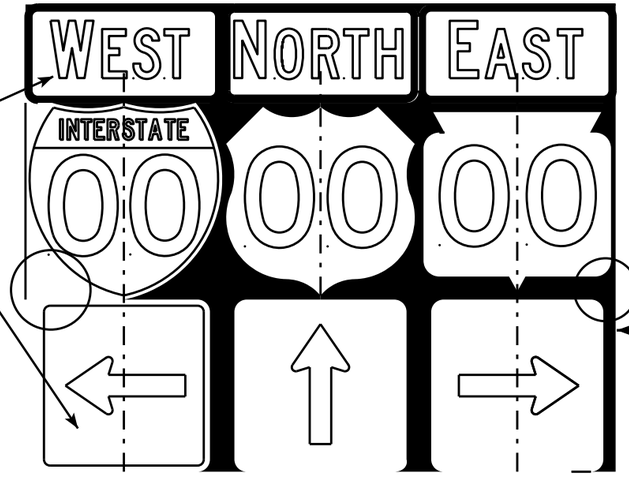
J33-1

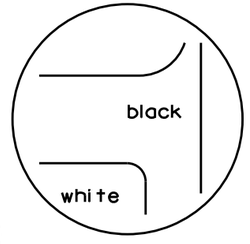
J23-1

J22-1

blue background
with interstate







black background

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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

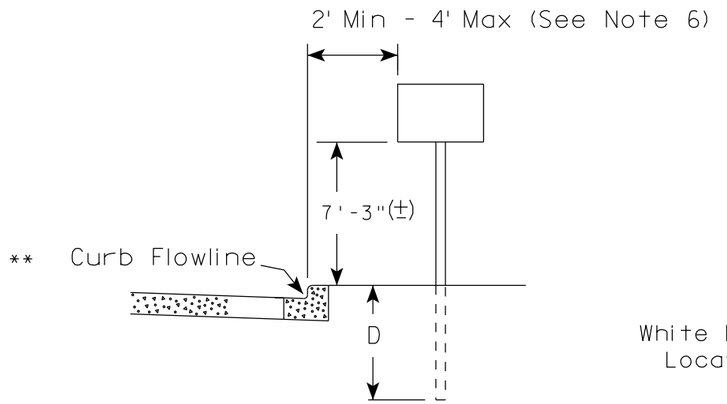
DATE 2/06/14 PL... A2-1S.8

PROJECT NO: | SHEET NO: E

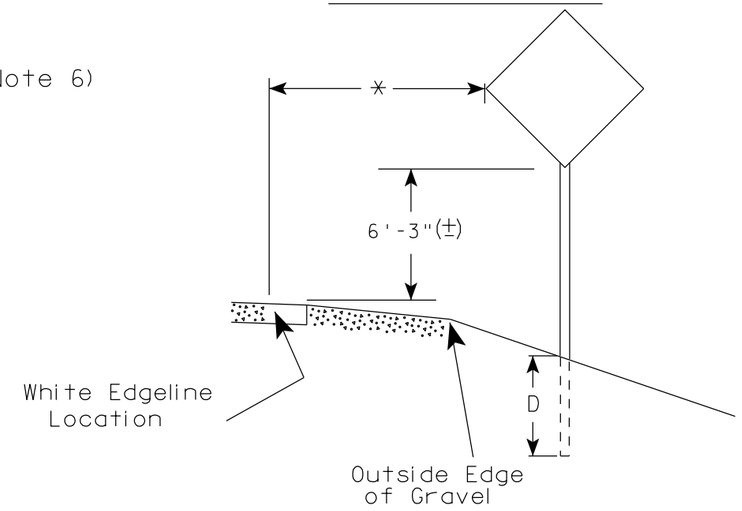
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :

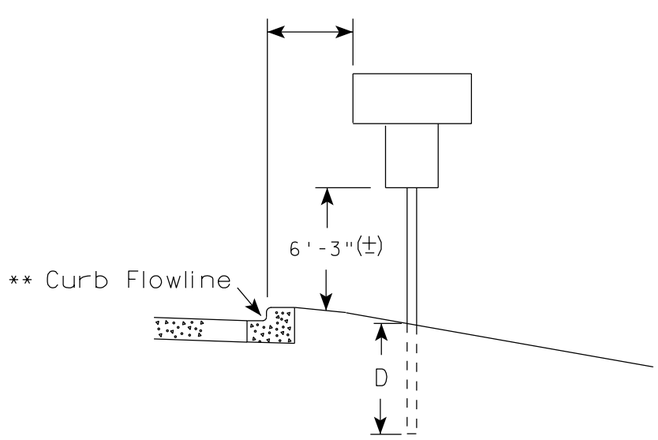
WISDOT/CADDS SHEET 42

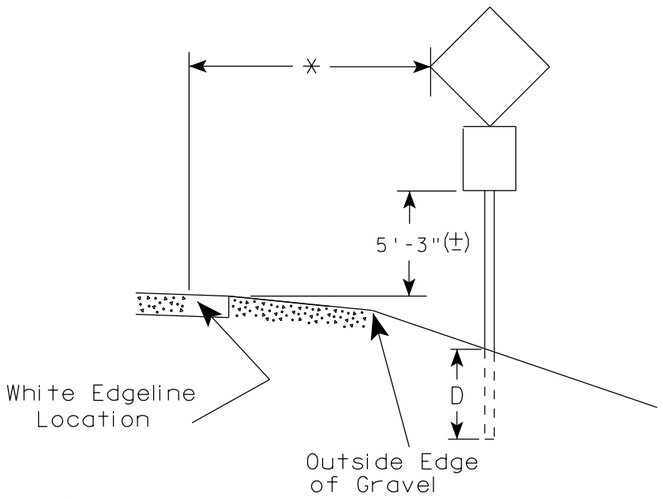
URBAN AREA



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

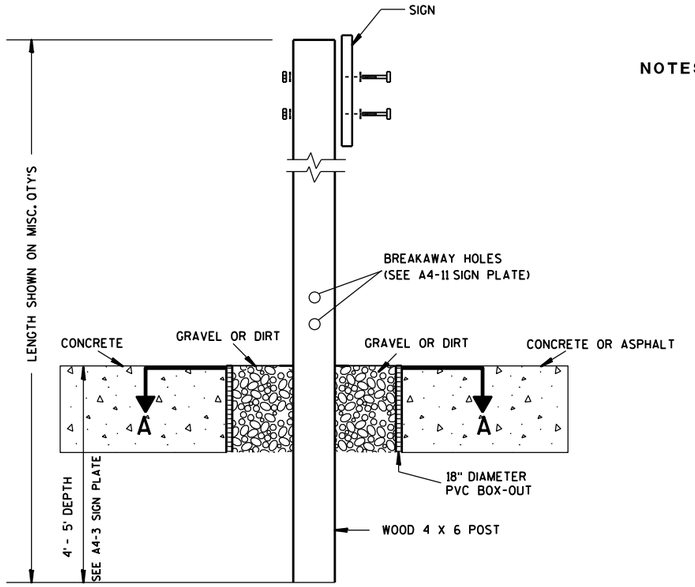
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

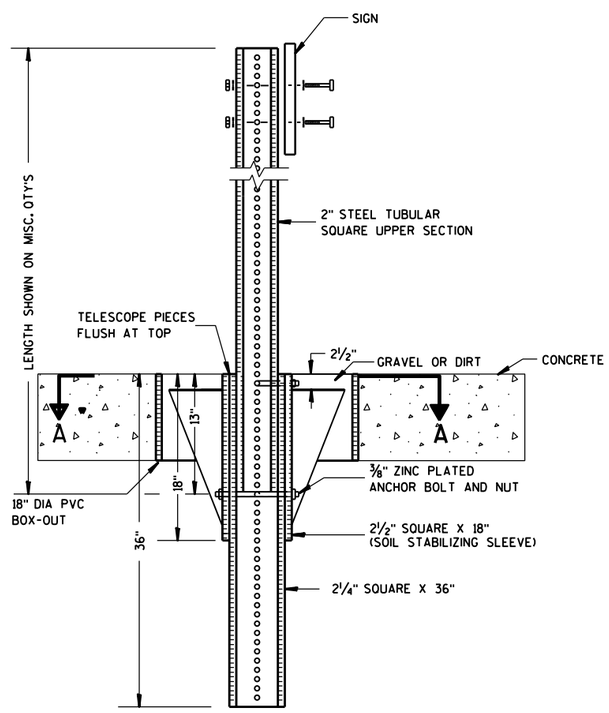
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

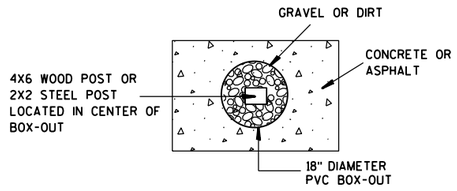
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

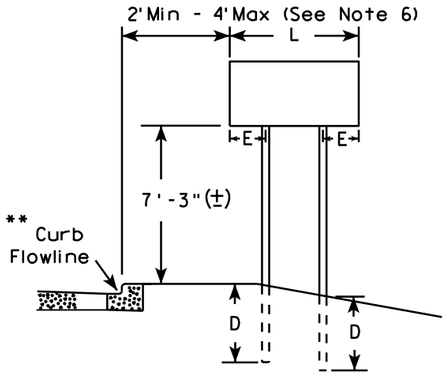
APPROVED Matthew R Rauch
for State Traffic Engineer

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

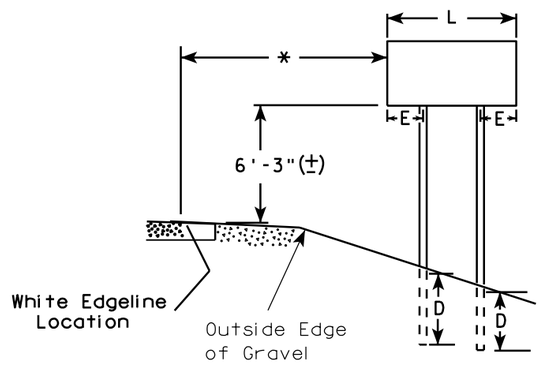
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

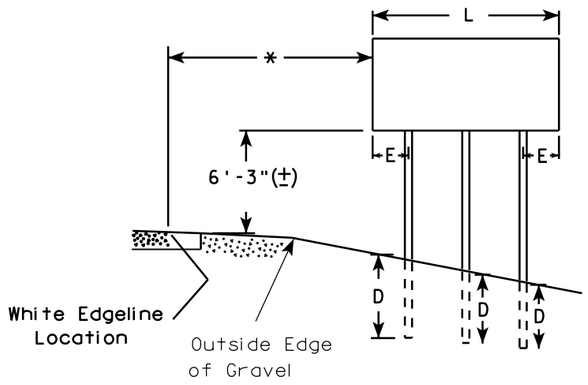
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

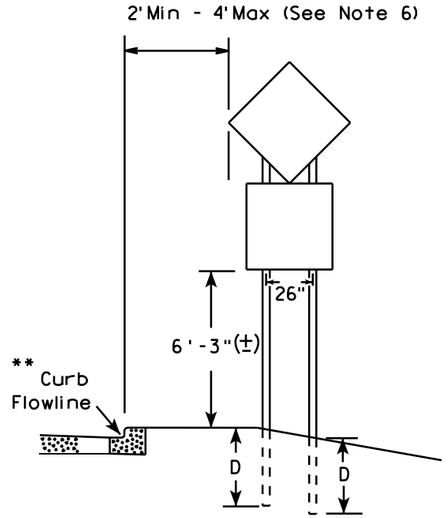
URBAN AREA



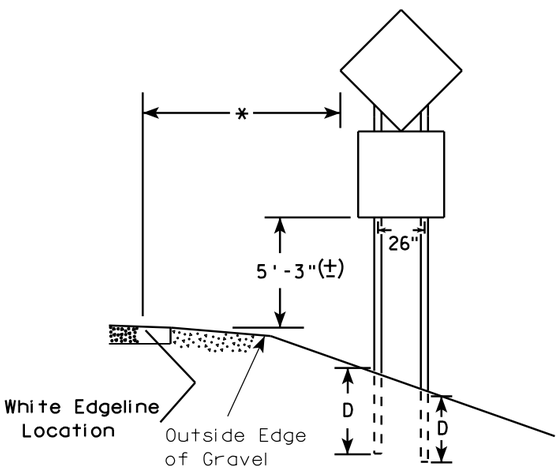
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
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.

***

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

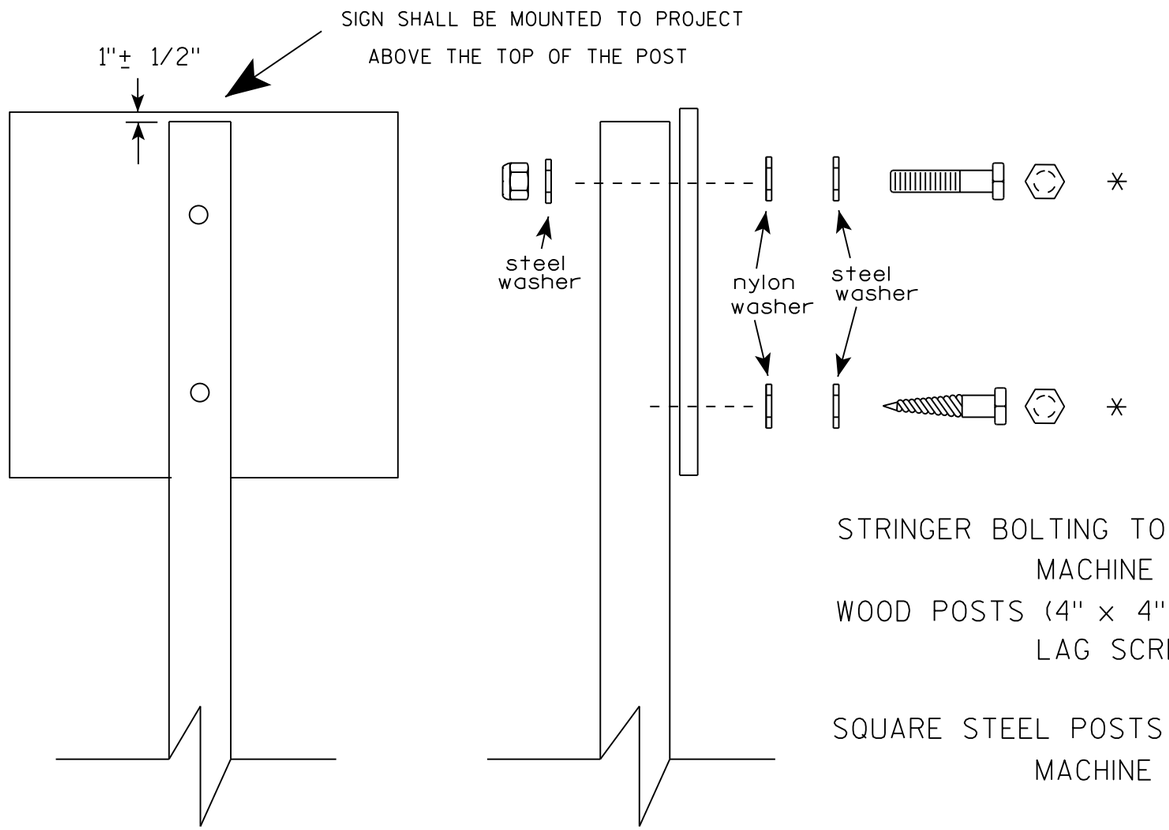
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 253 14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



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

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

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

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

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

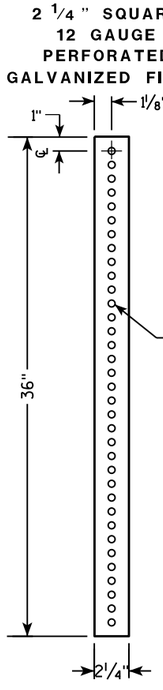
PROJECT NO:

SHEET NO: E

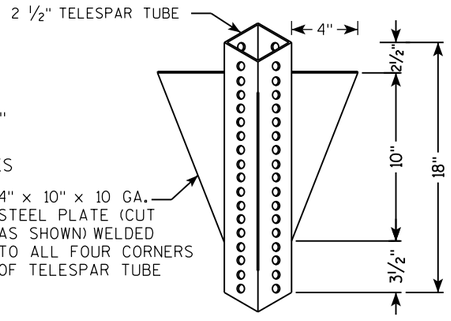
FILE NAME : C:\CADfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

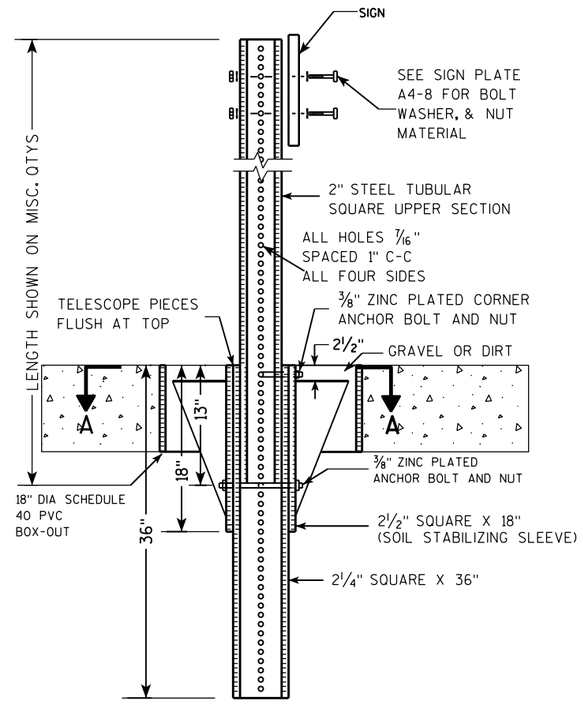
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



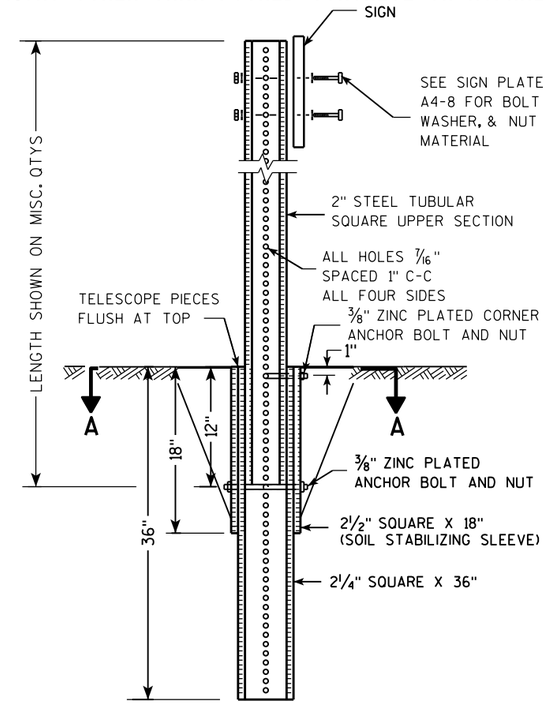
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

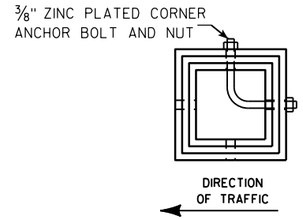


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

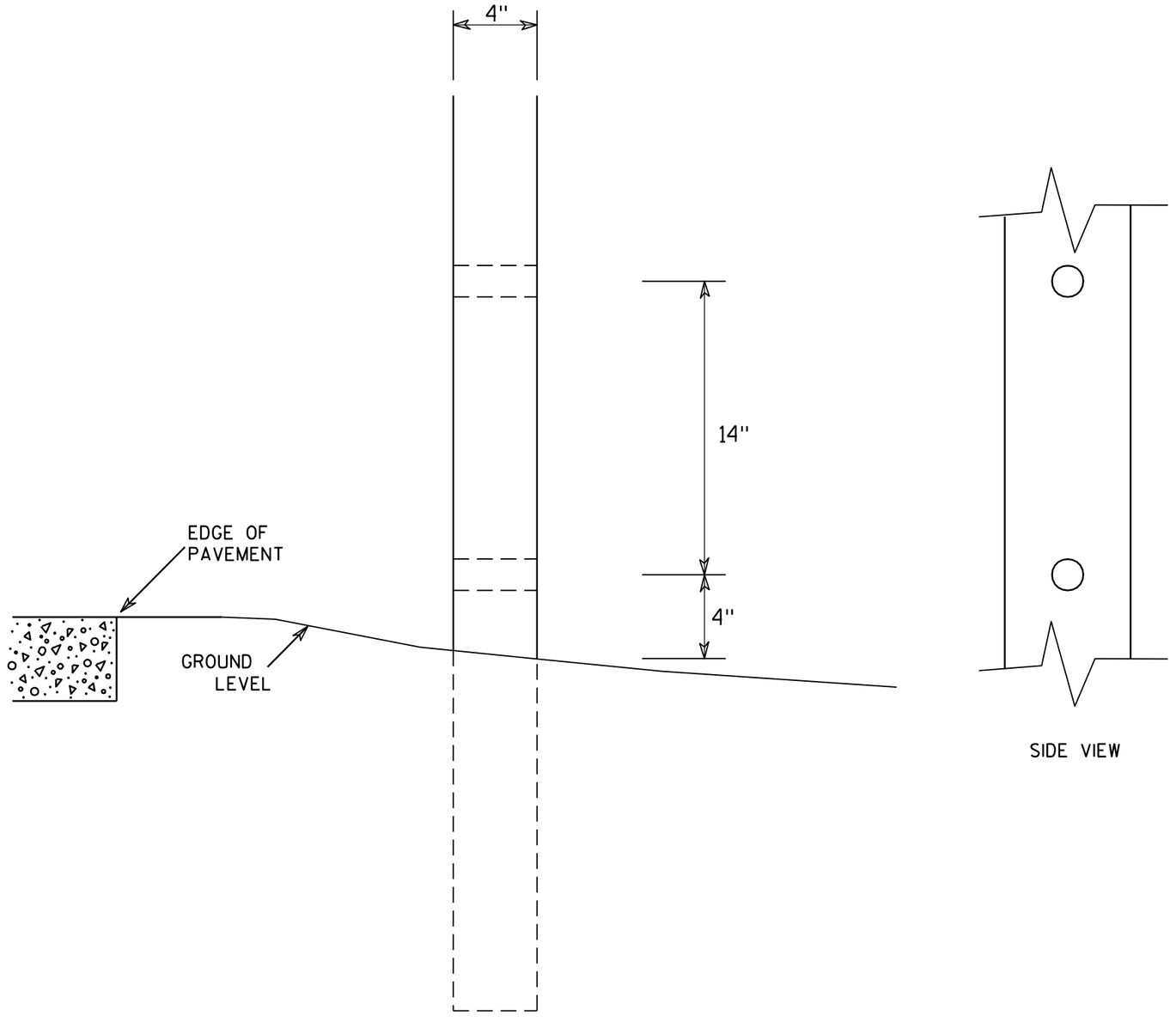
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 255 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

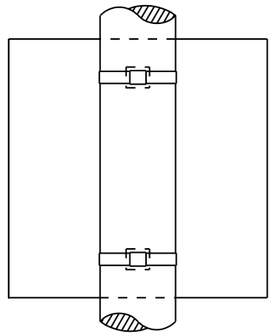
APPROVED Chester J Spang for State Traffic Engineer

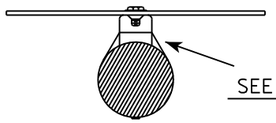
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 256	E

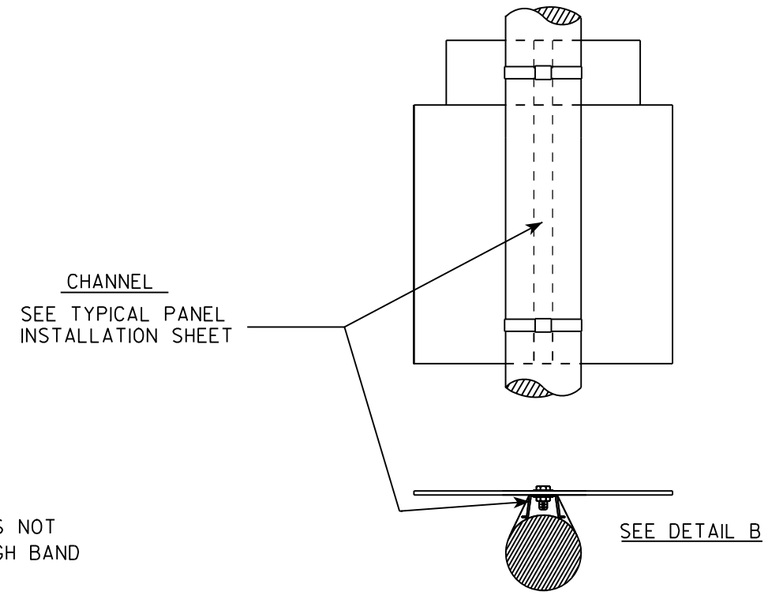
BANDING

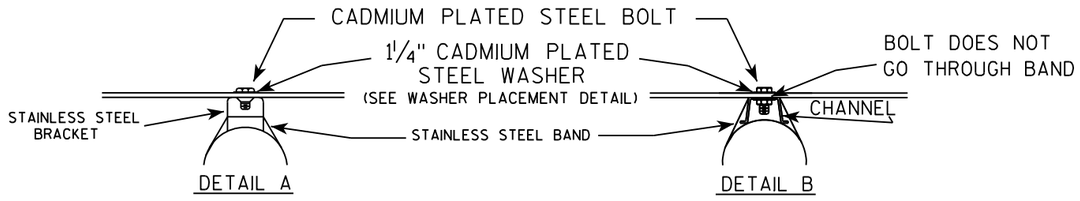
SINGLE SIGN



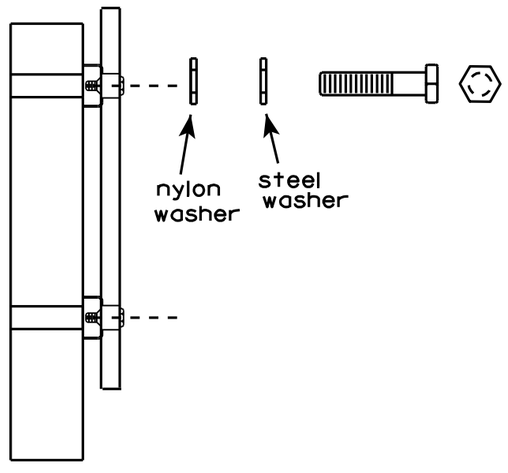


"J" ASSEMBLY





WASHER PLACEMENT



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

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

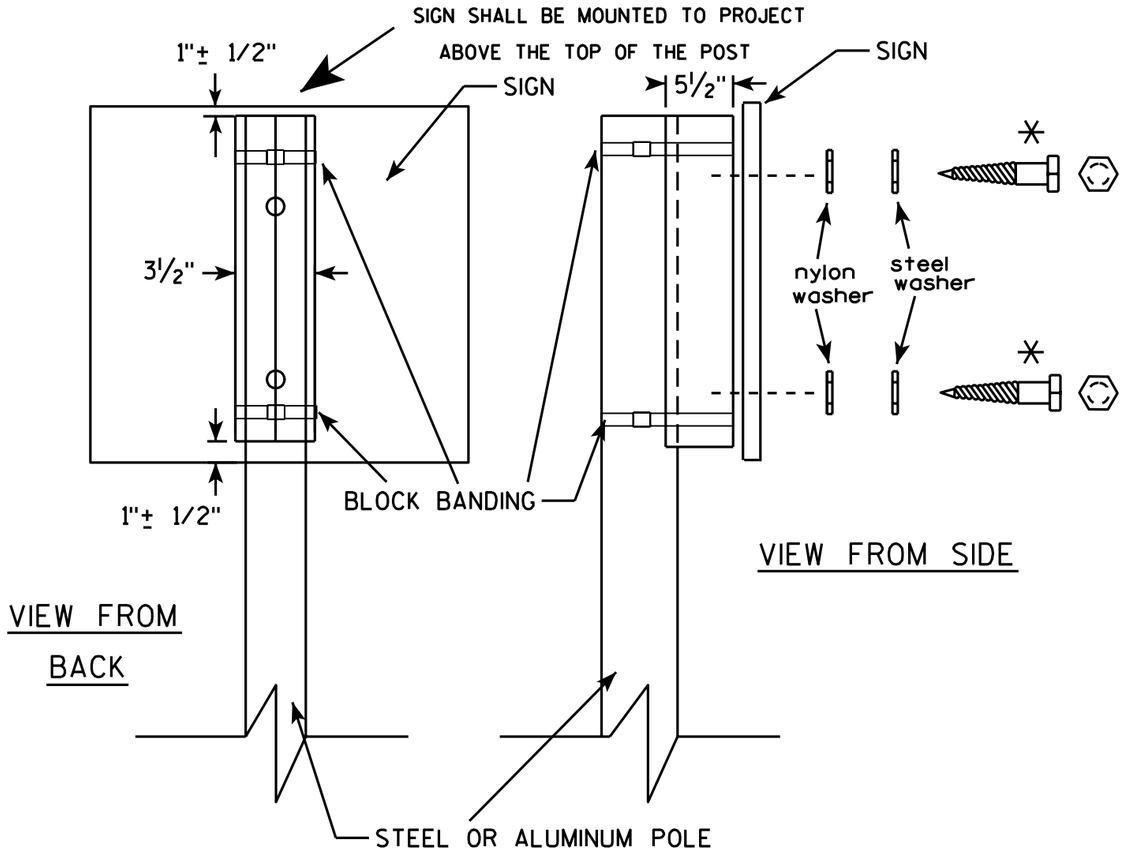
STANDARD SIGN
SIGN BANDING DETAILS

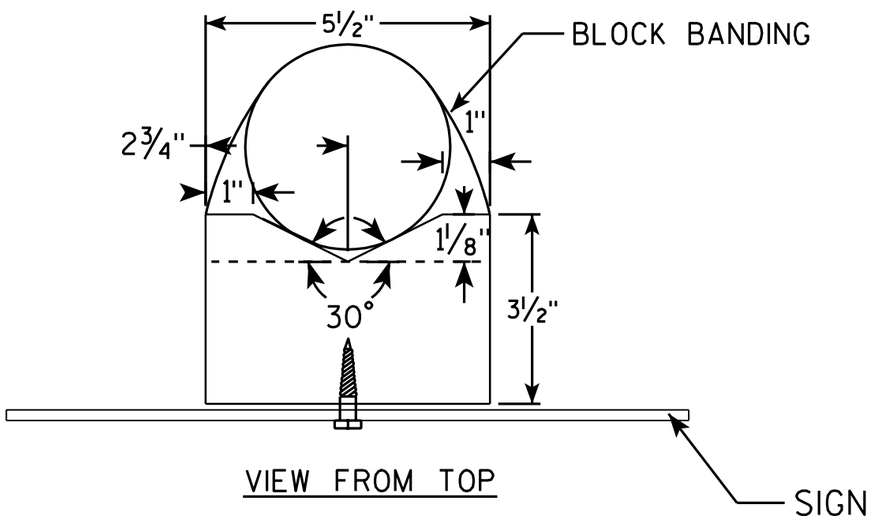
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 257	E





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, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. 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

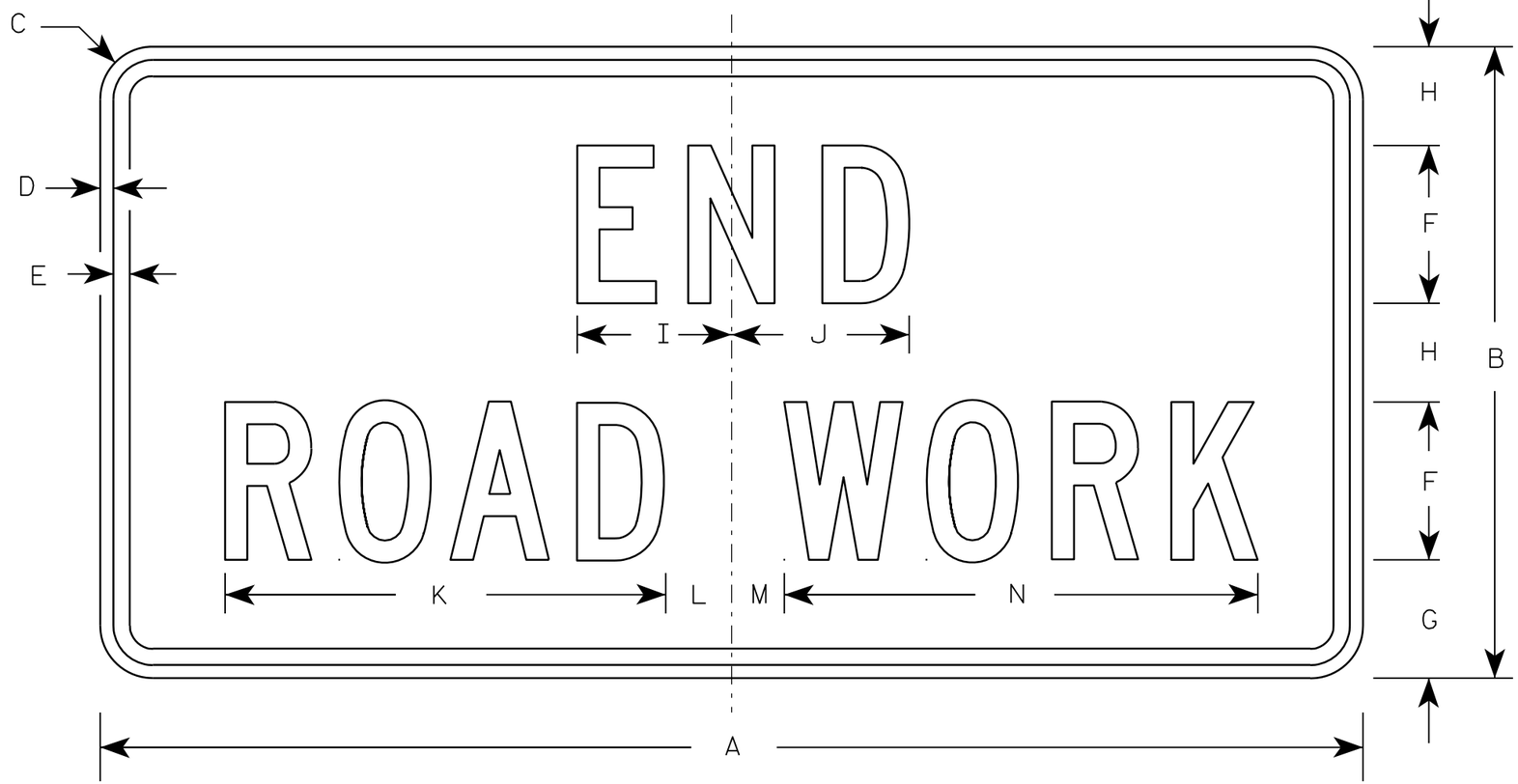
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

SHEET NO: 258 E

FILE NAME : C:\Users\Projects\tr_stdplate\A510.dgn PLOT DATE : 06-AUG-2007 13:37 PLOT BY : ditjph

WISDOT/CADDS SHEET 42



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

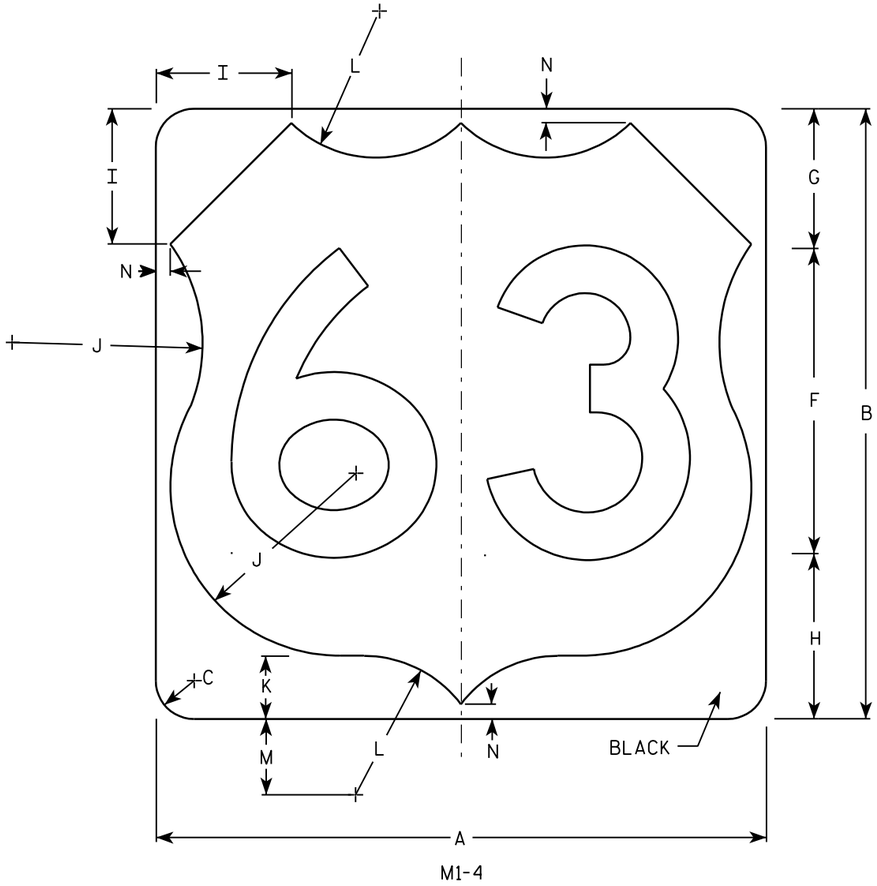
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

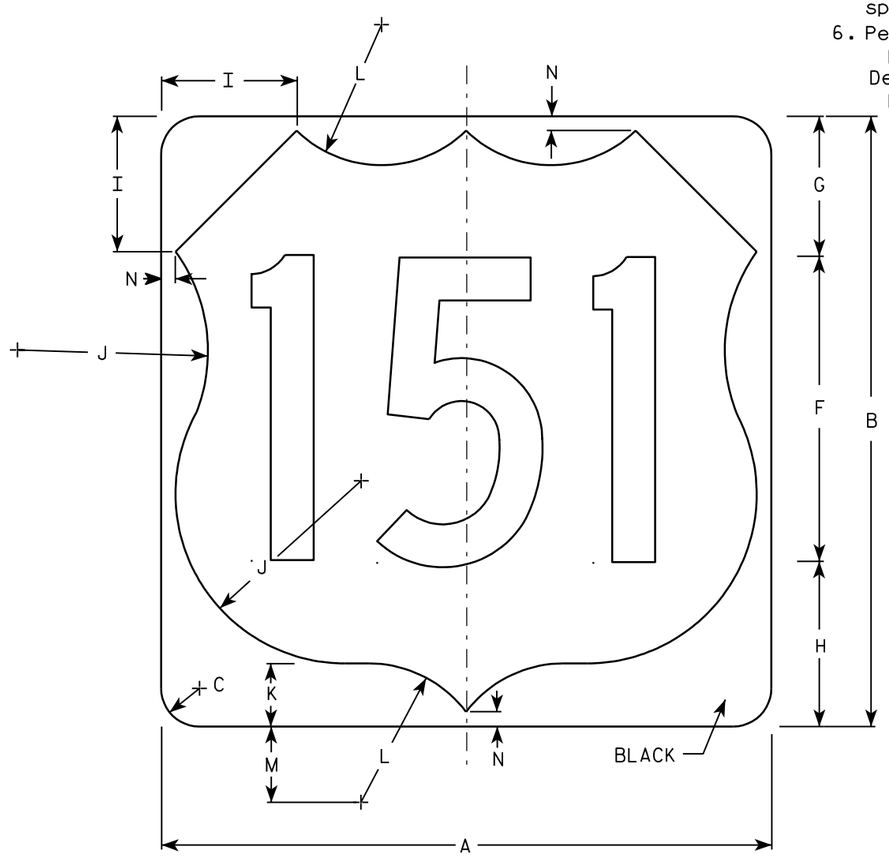
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 259	E

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   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. Substitute appropriate numerals and adjust spacing as per Plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or other temporary signs
   Background - Reflective



M1-4



M1-4

7

7

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 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																												
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81

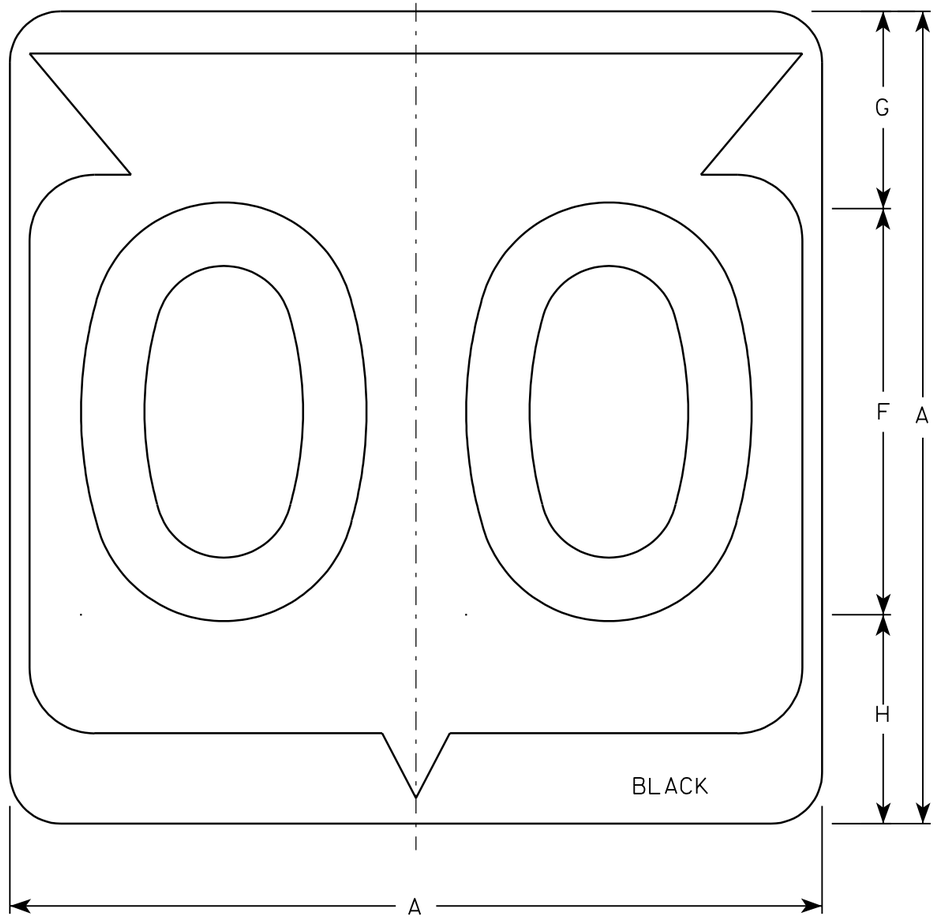
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/25/05 PLATE NO. M1-4.9

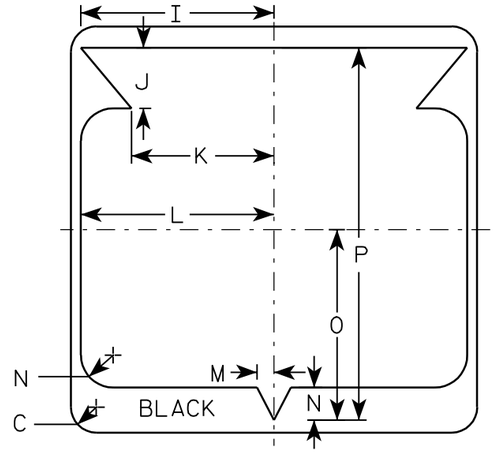
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 260	E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   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. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 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																												
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	.36
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	.81
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	.81
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	.81

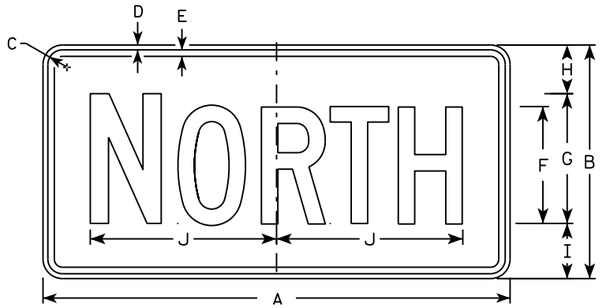
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

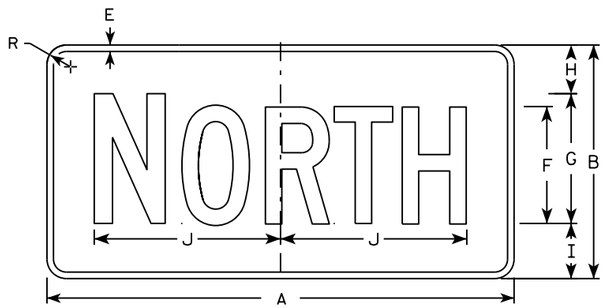
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 261	E



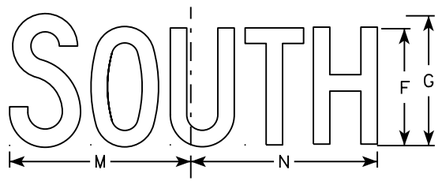
M3-1
MM3-1
MP3-1



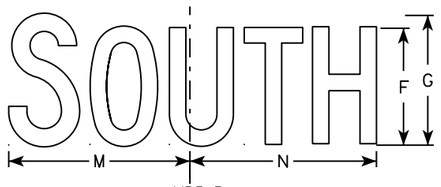
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

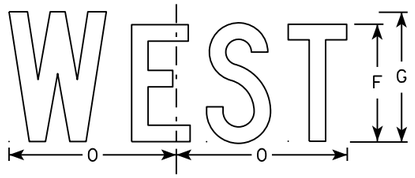
MB3-2
MK3-2
MN3-2



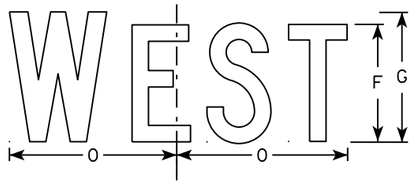
M3-3
MM3-3
MP3-3



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

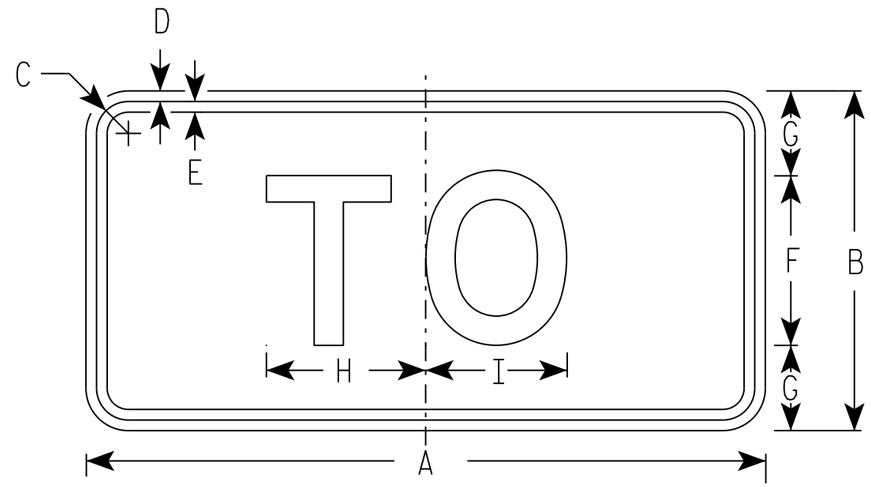
APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

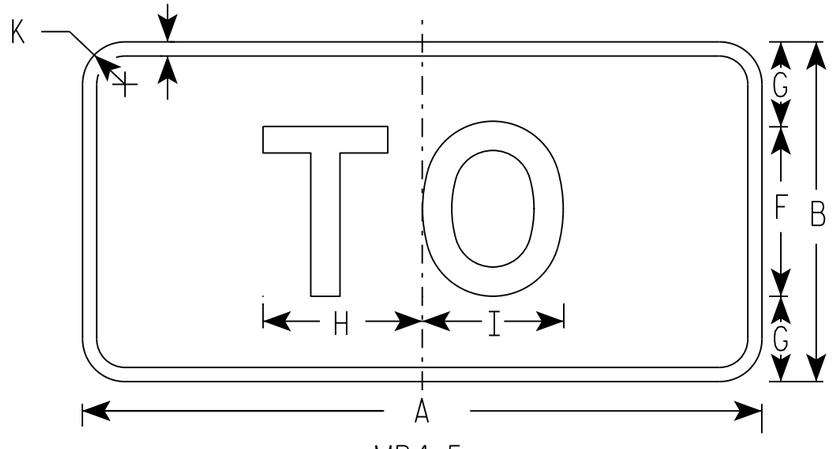
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

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

7



M4-5
MM4-5
MP4-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H
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

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

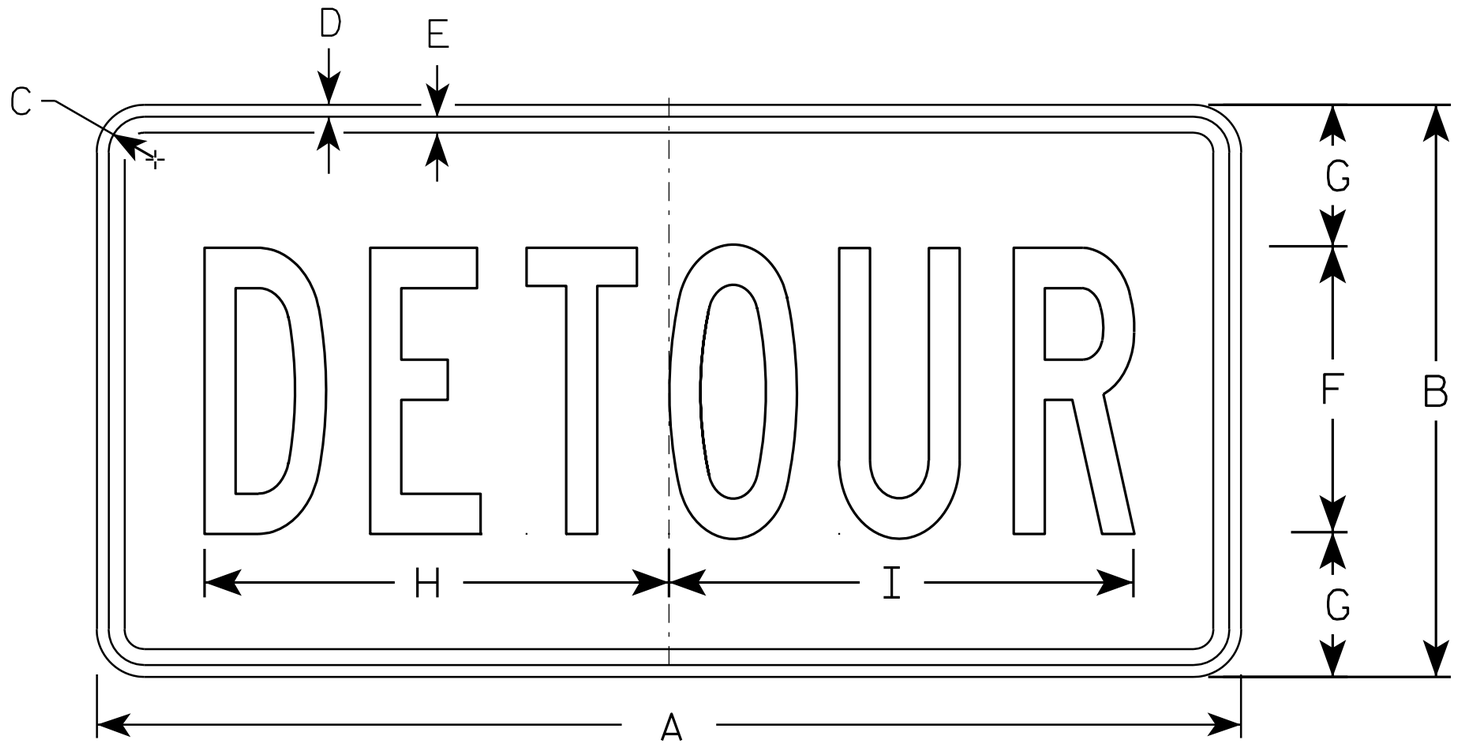
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 263 M4-5.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M45.DGN PLOT DATE : 01-DEC-2015 17:55 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.351066:1.000000



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																											

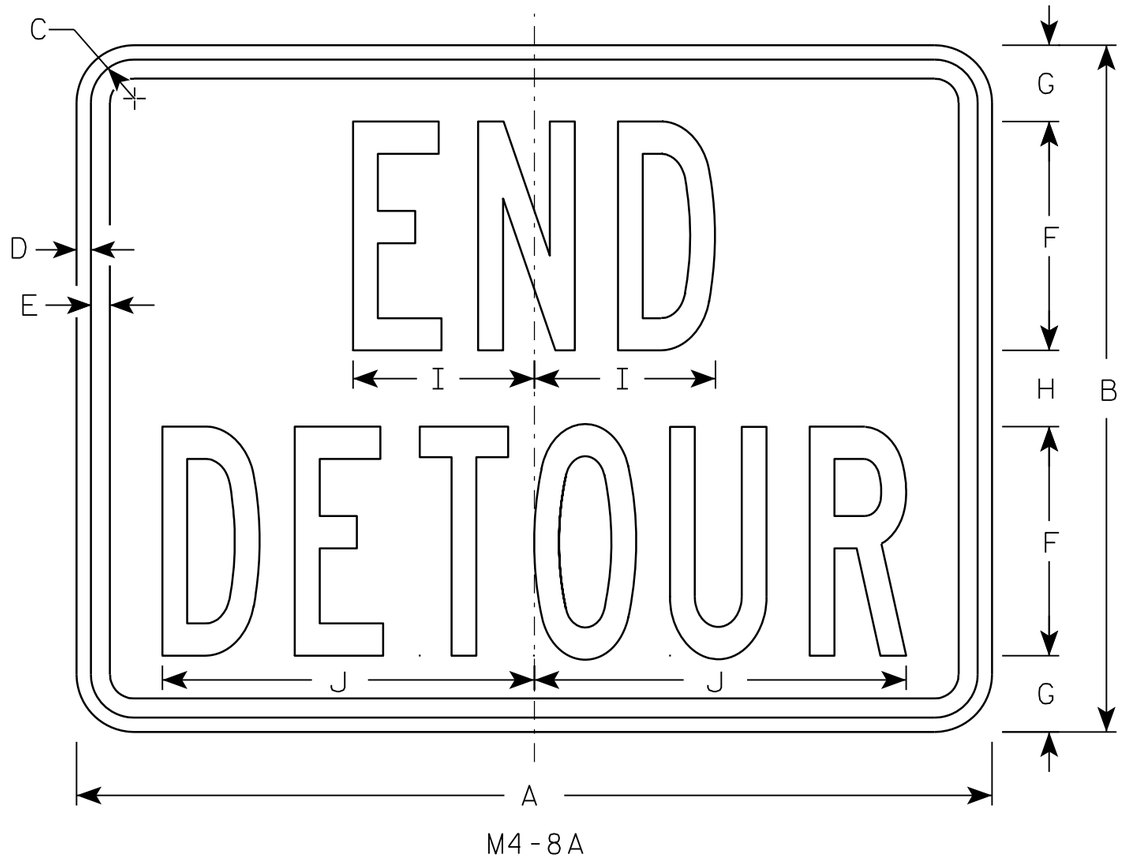
STANDARD SIGN
M4-8

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: 264	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																											

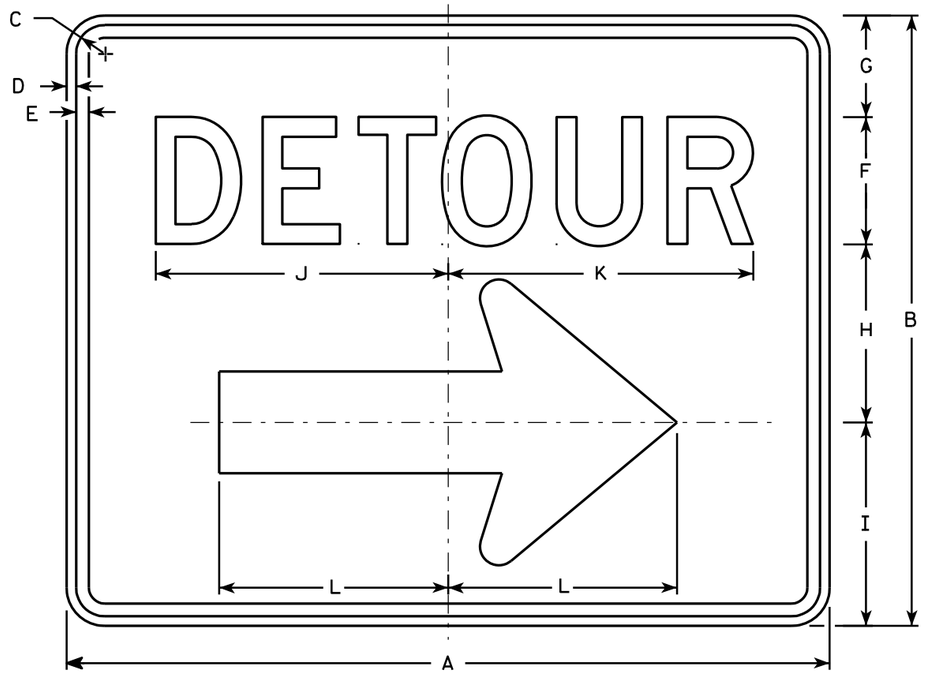
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

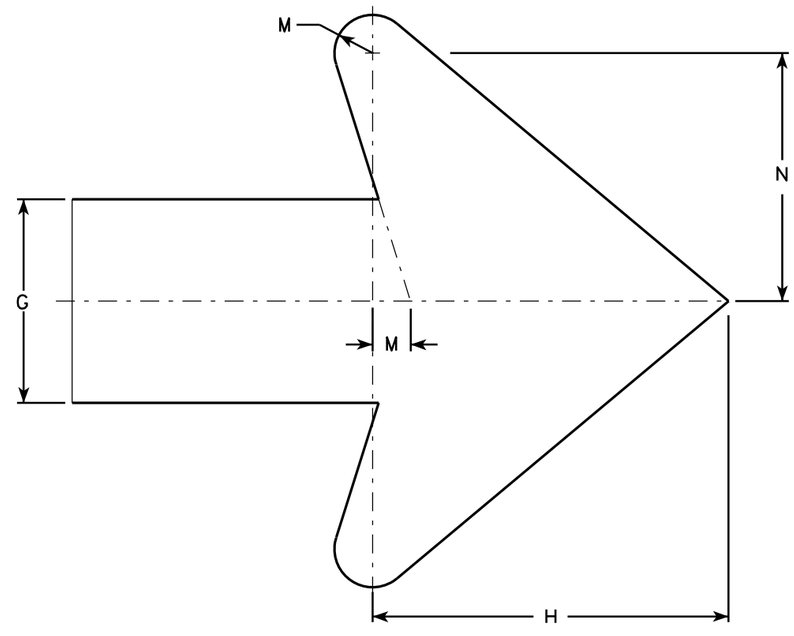
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 265	E



M4-9R

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 - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-9L is the same as M4-9R 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	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

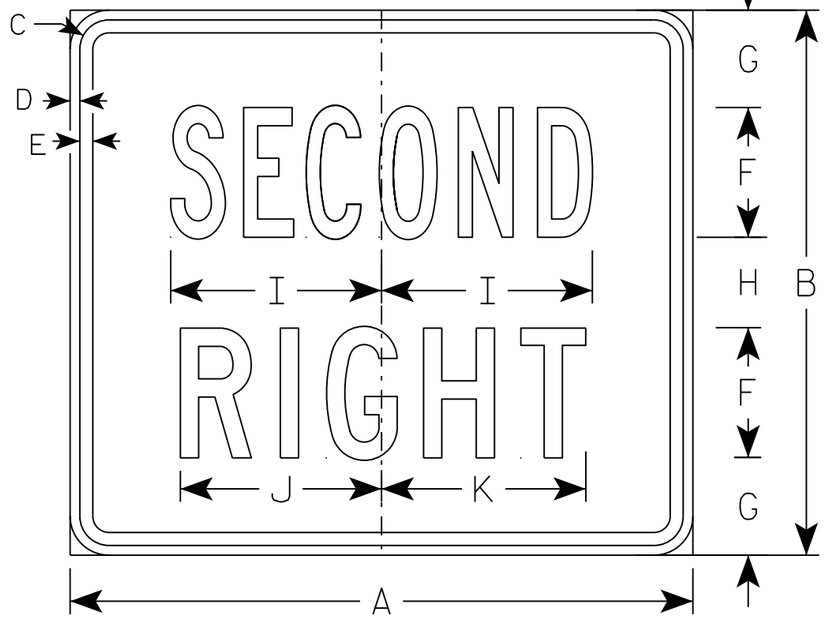
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

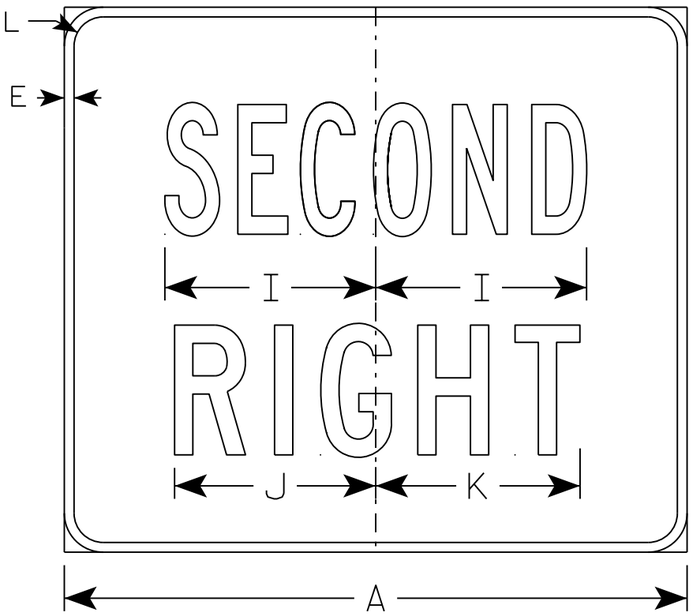
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

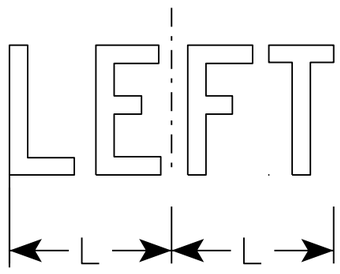
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 266 | E



M4-22R
MM4-22R
M04-22R
MP4-22R



MB4-22R
MK4-22R
MN4-22R
MR4-22R



M4-22L
MB4-22L
MK4-22L
MM4-22L
MN4-22L
M04-22L
MP4-22L
MR4-22L

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. M4-22 Background - White
   Message - Black
   MB4-22 Background - Blue
   Message - White
   MK4-22 Background - Green
   Message - White
   MM4-22 Background - White
   Message - Green
   MN4-22 Background - Brown
   Message - White
   M04-22 Background - Orange - Type F Reflective
   Message - Black
   MP4-22 Background - White
   Message - Blue
   MR4-22 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	21	1 1/8	3/8	1/2	5	3 3/4	3 1/2	8 1/8	7 3/4	7 7/8	1 1/2															3.5
3	36	30	1 5/8	5/8	3/4	8	4 3/4	4 1/2	13 1/8	12 5/8	12 1/2	1 7/8															7.5
4																											
5																											

STANDARD SIGN
M4-22

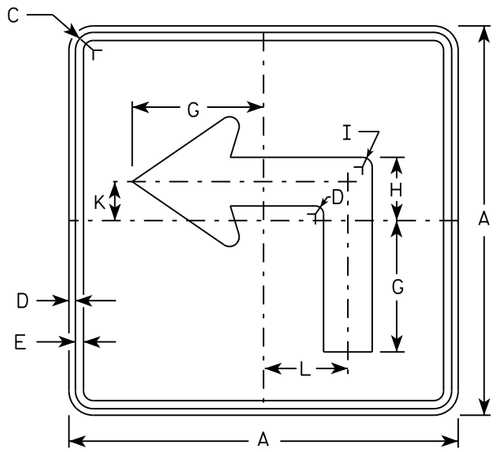
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

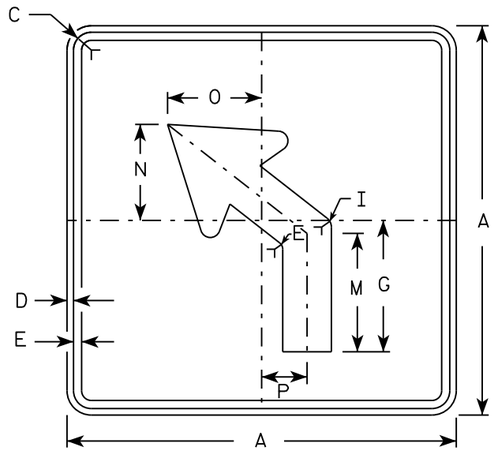
DATE 10/15/15 PLATE NO. M4-22.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

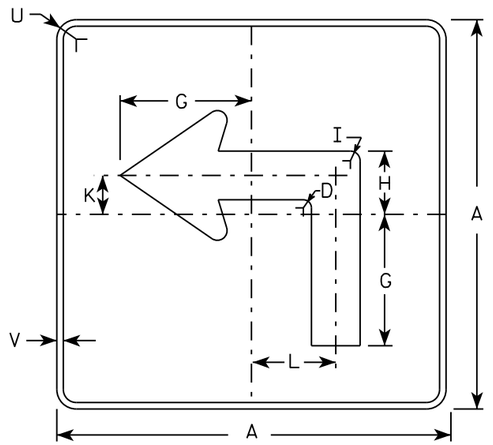
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M422.DGN PLOT DATE : 01-DEC-2015 18:04 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.837526:1.000000



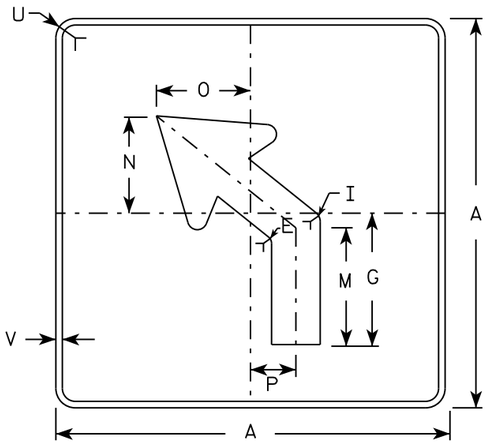
M5-1L
MM5-1L
MO5-1L
MP5-1L



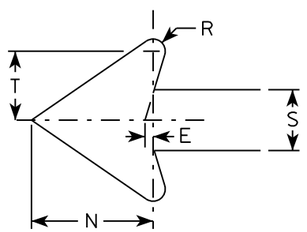
M5-2L
MM5-2L
MO5-2L
MP5-2L



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

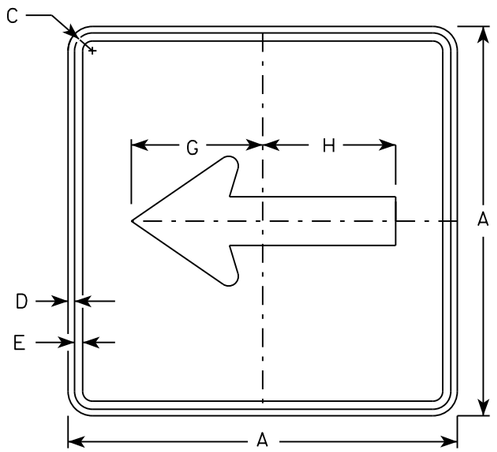
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

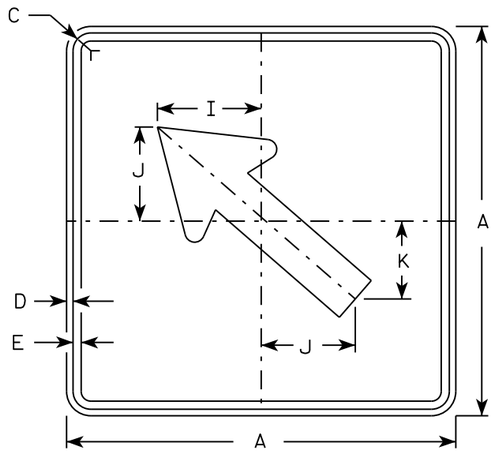
DATE 10/15/15 PLATE NO. M5-1.13

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



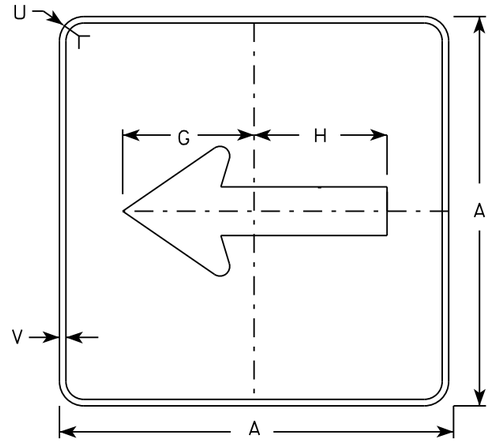
M6-1
MM6-1
MO6-1
MP6-1



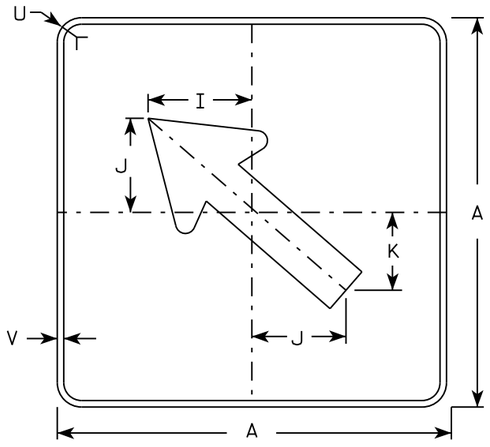
M6-2
MM6-2
MO6-2
MP6-2

NOTES

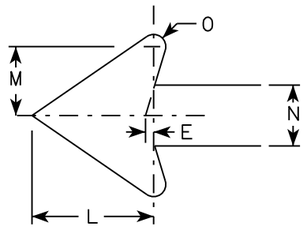
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - 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

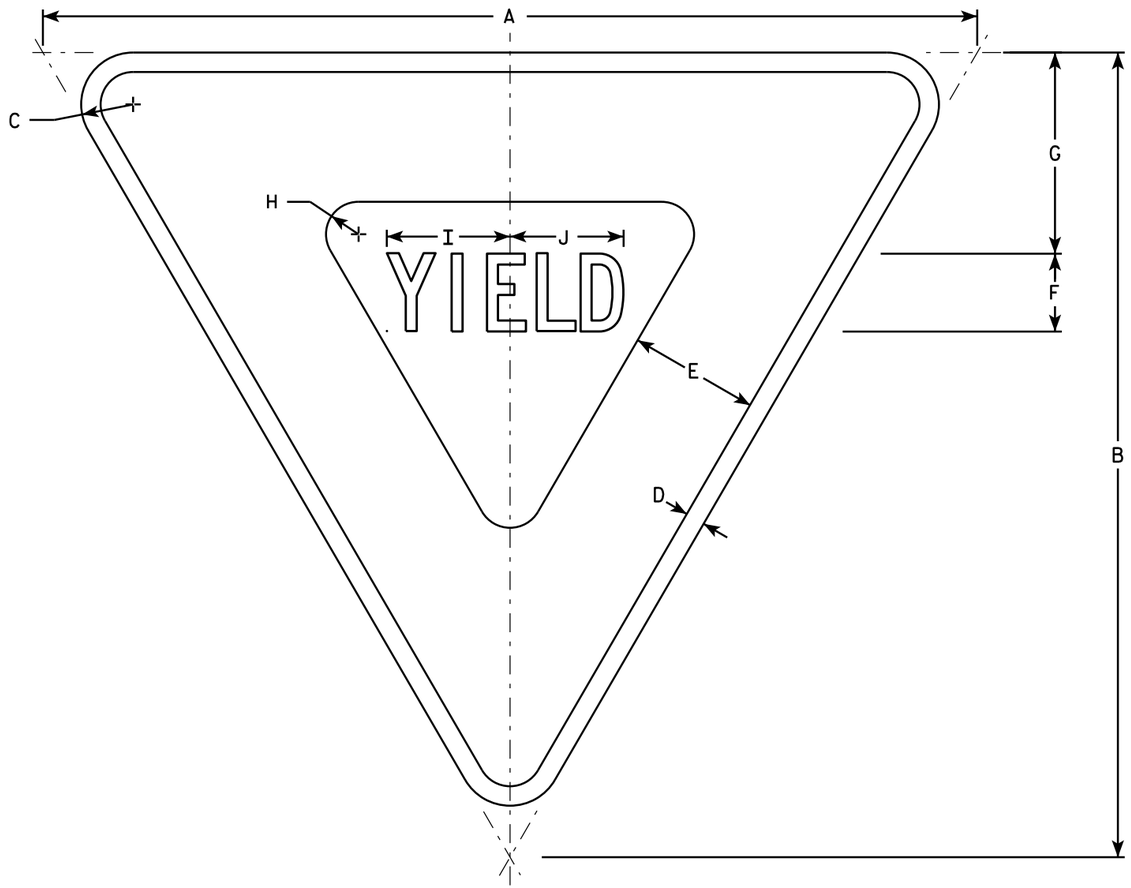
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 269 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



R1-2

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 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. The border strip and word message are reflectorized red.

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	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

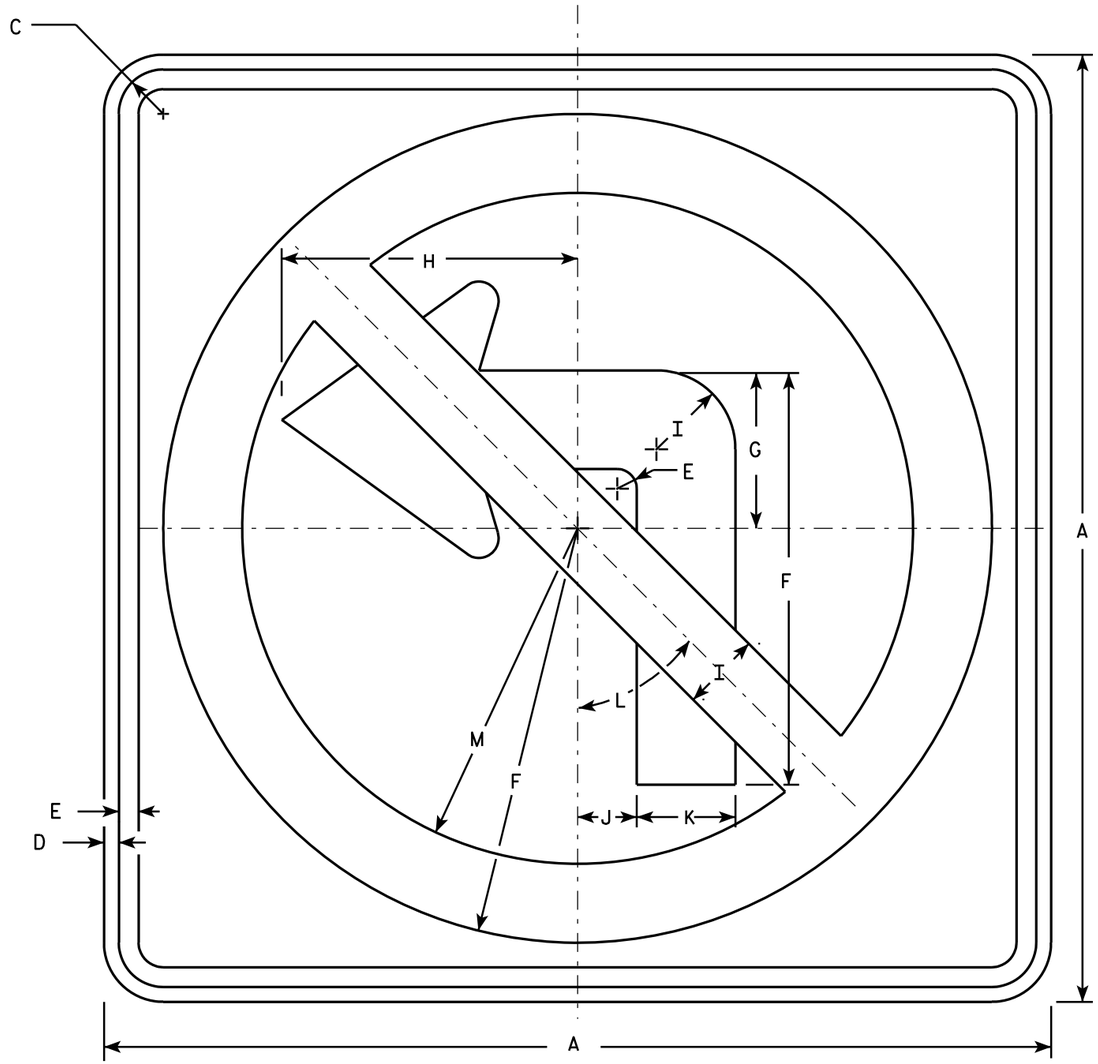
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE R1-2.12

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

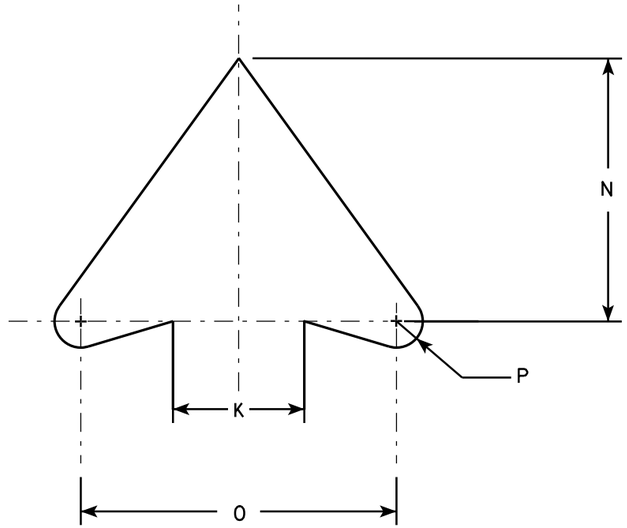
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



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

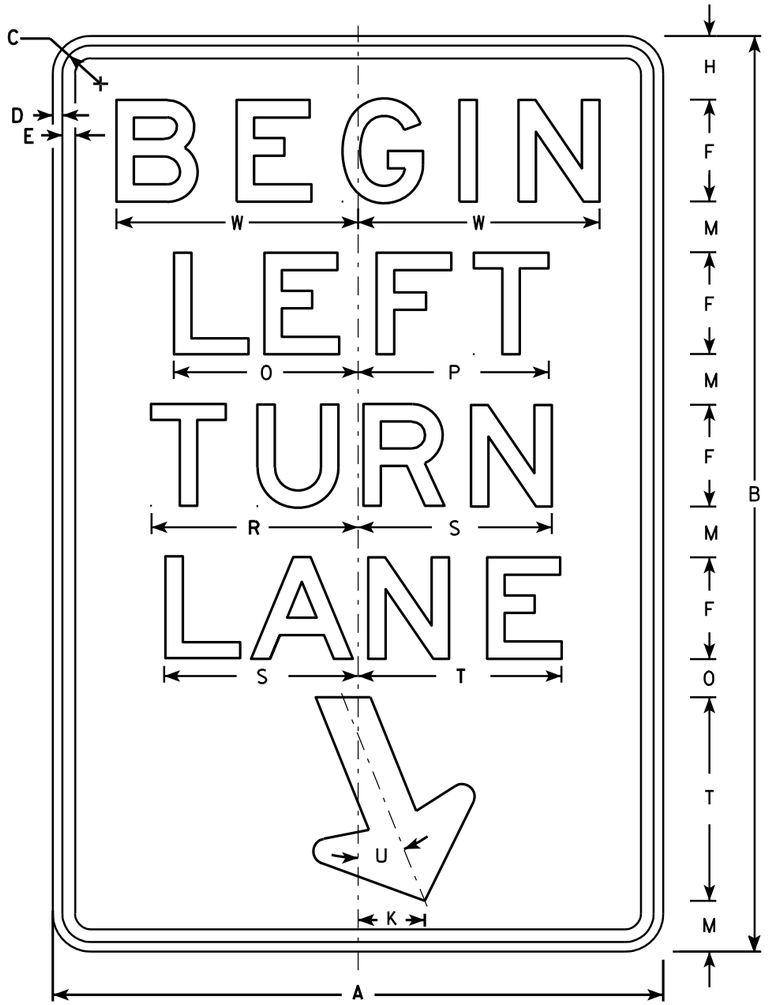
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

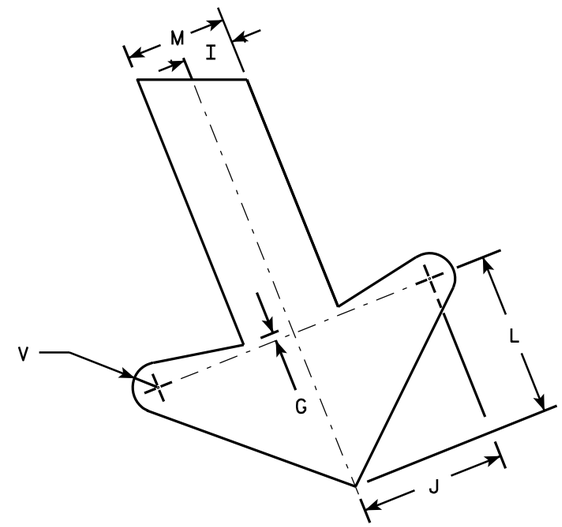
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 271	E



R3-20L

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	7 1/4	7 1/2		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	7 1/4	7 1/2		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	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

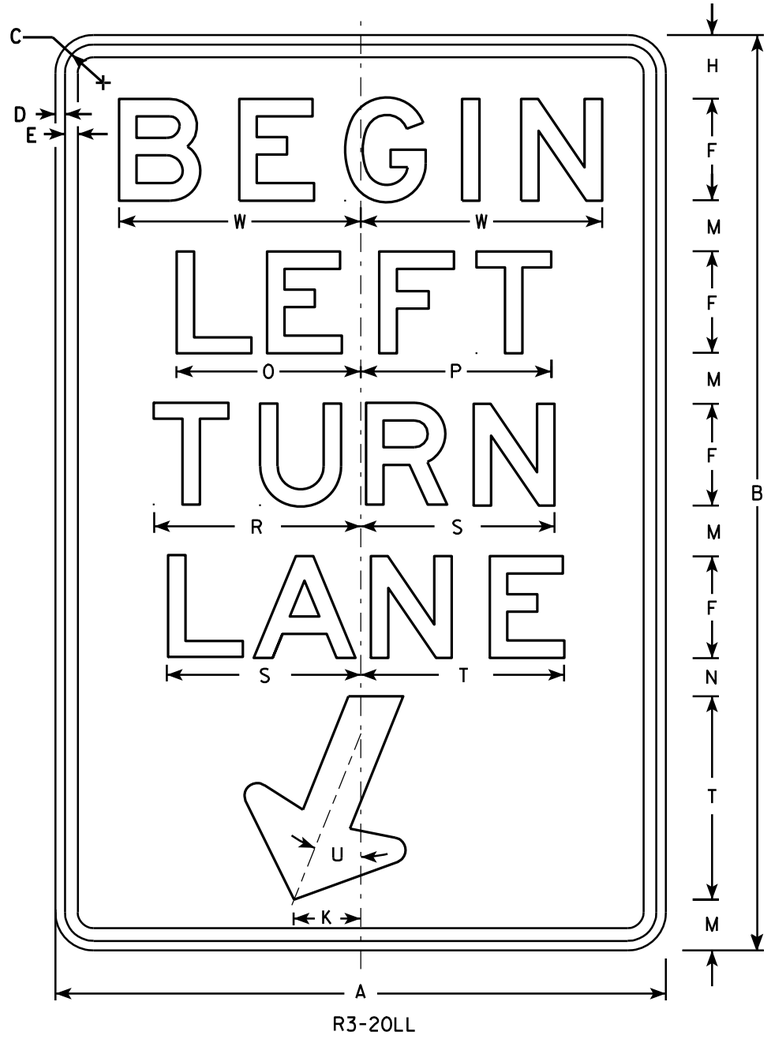
STANDARD SIGN
R3-20L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

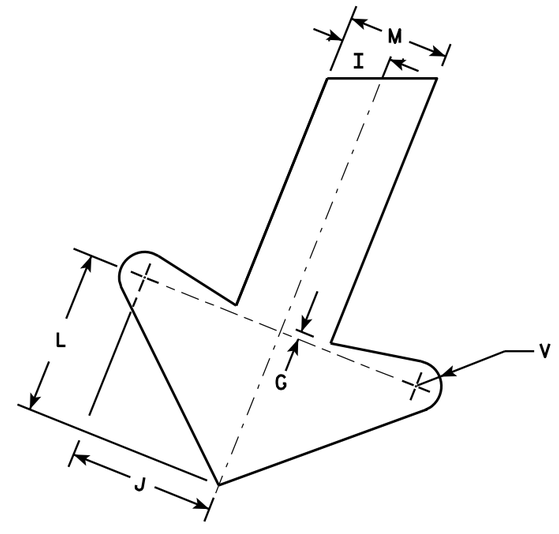
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 272 | E



R3-20LL

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	7 1/4	7 1/2		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	7 1/4	7 1/2		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	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

STANDARD SIGN
R3-20LL

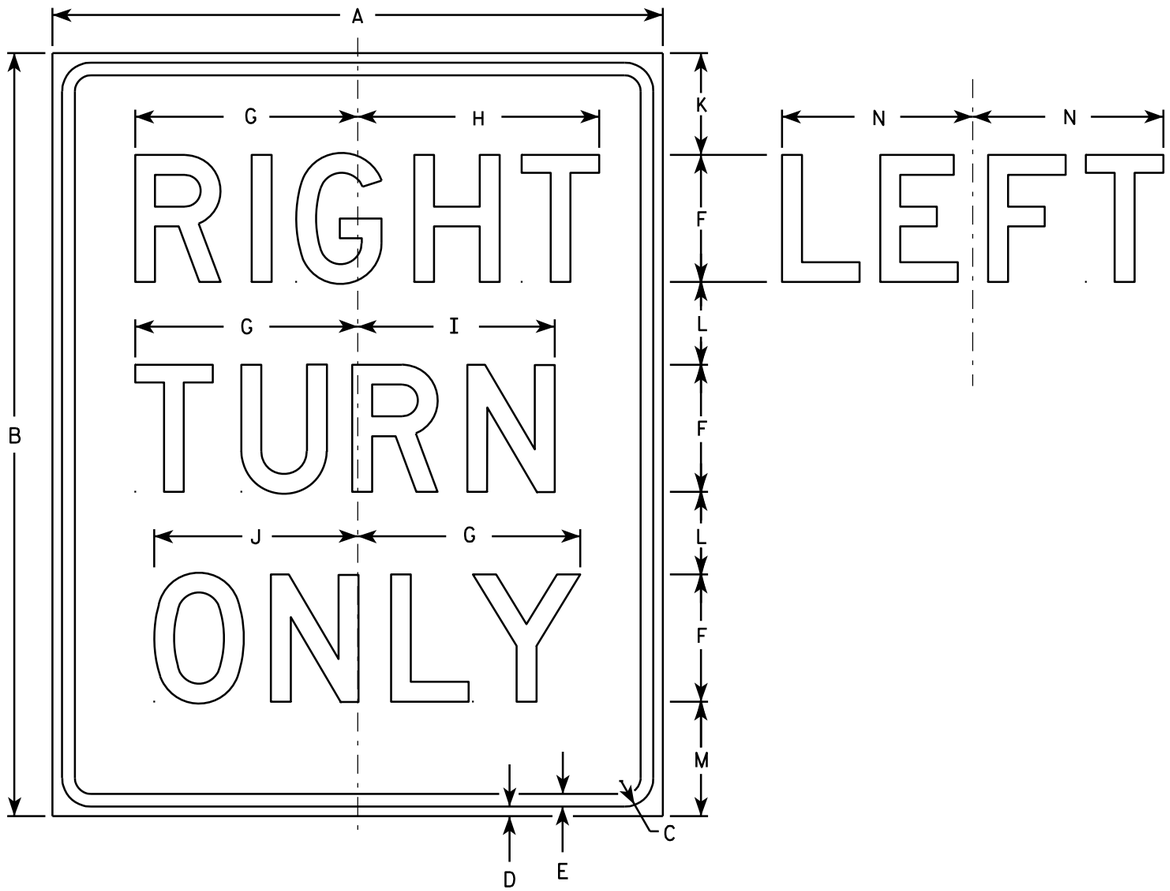
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20LL.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 273	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R320LL.DGN PLOT DATE : 15-OCT-2010 14:38 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 5.959043:1.000000
WISDOT/CADDS SHEET 42



R3-53R

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.
5. R3-53L same as R3-53R except LEFT is substituted for 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																											
2S	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
2M	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
3	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
4																											
5																											

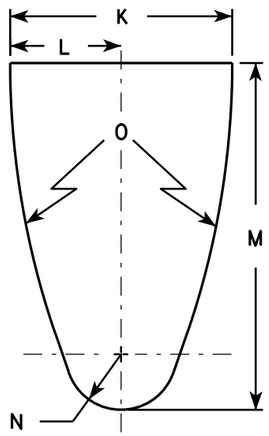
STANDARD SIGN
R3-53

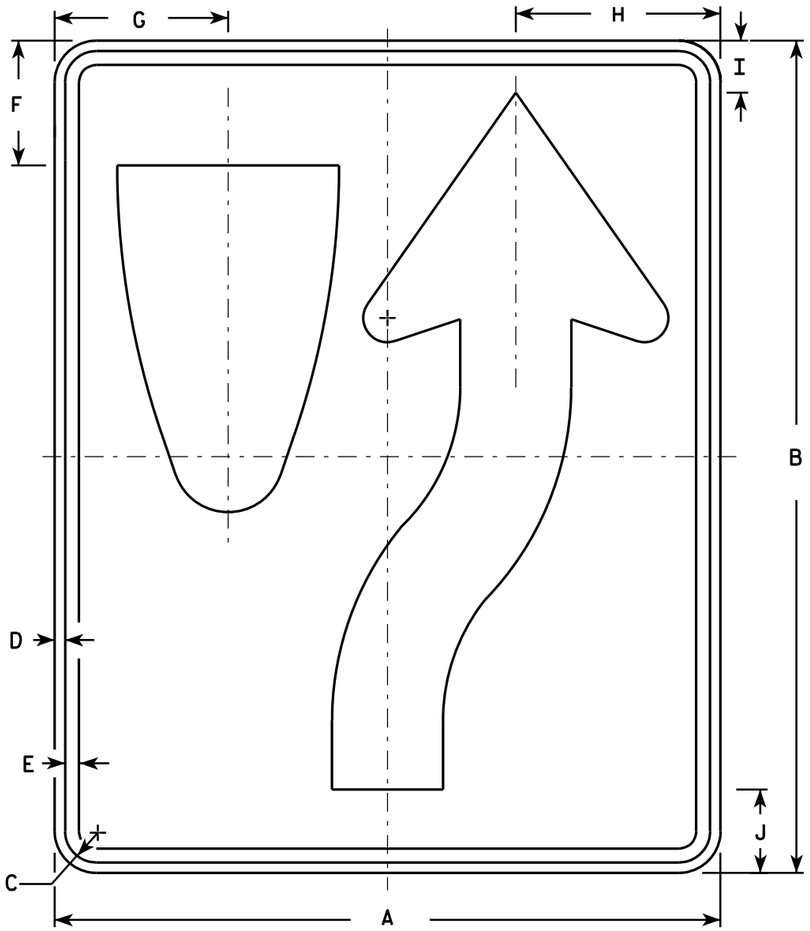
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-53.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 274	E

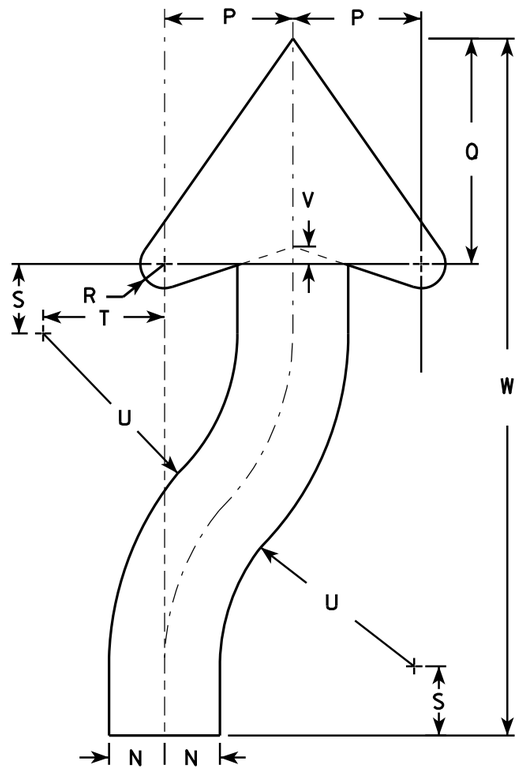




R4-7

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

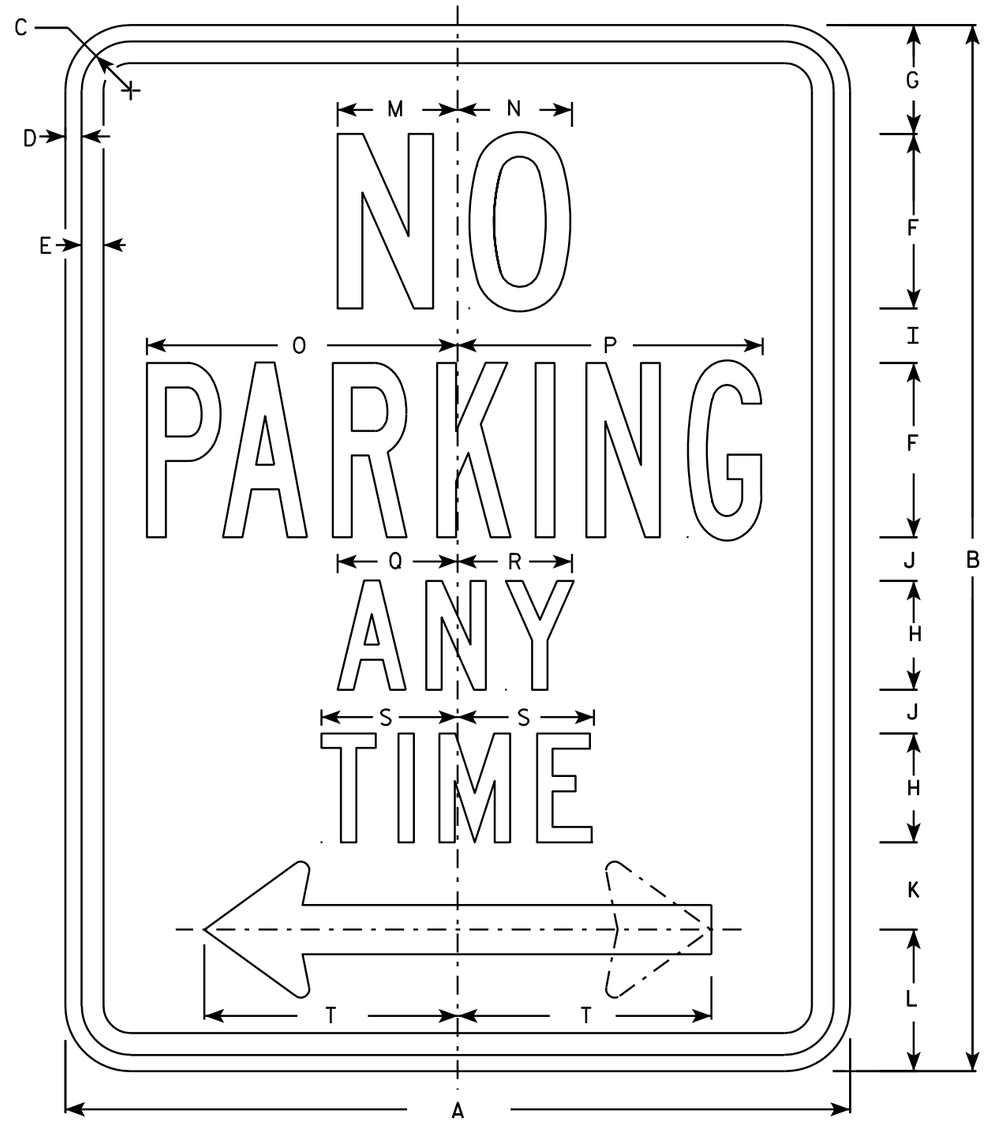
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

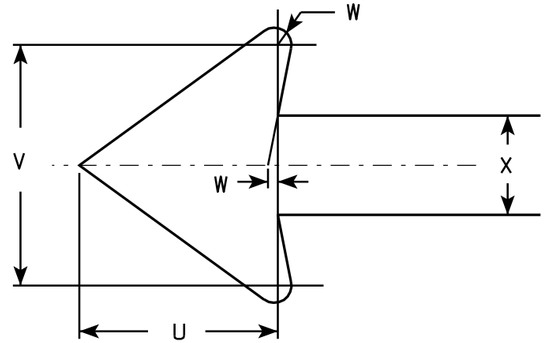
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 275	E



R7-1

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 - Red
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, 3 and 4 are series C, line 2 is series B.
6. 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																											

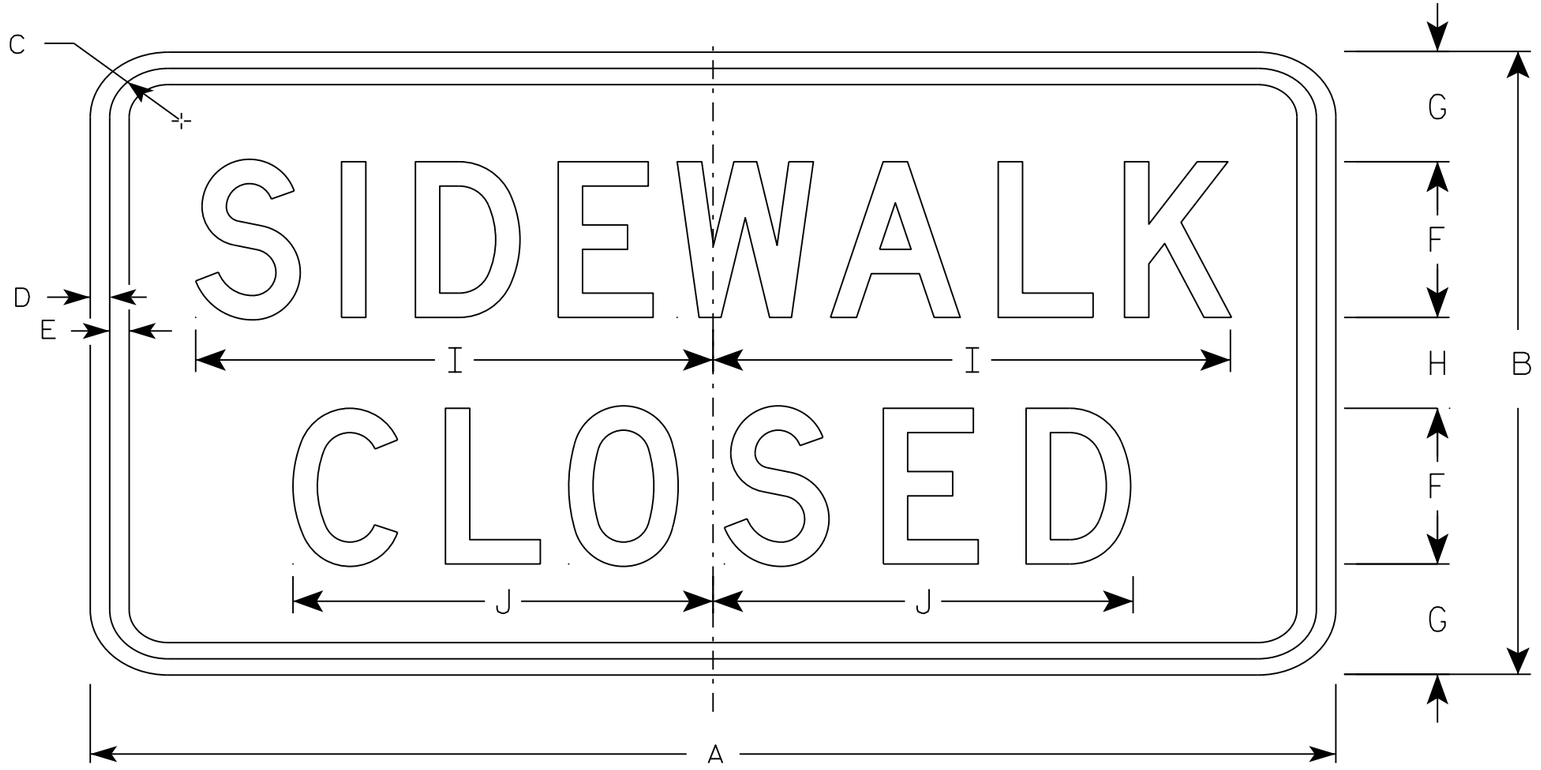
STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 276	E



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

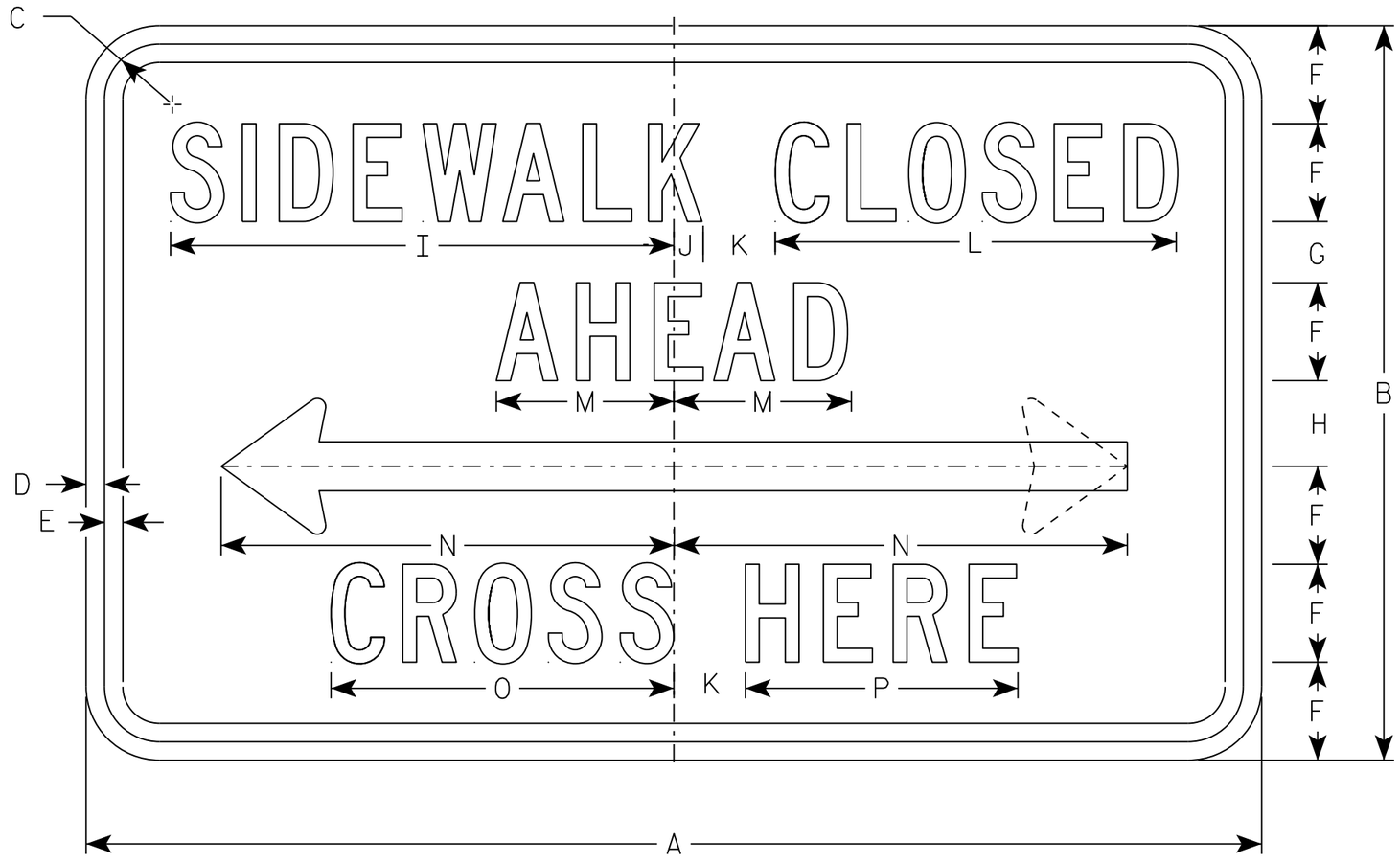
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

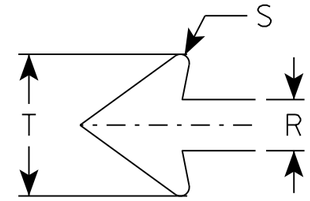
DATE 8/11/16 PLATE 277 R9-9.6

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



R9-11



NOTES

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

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

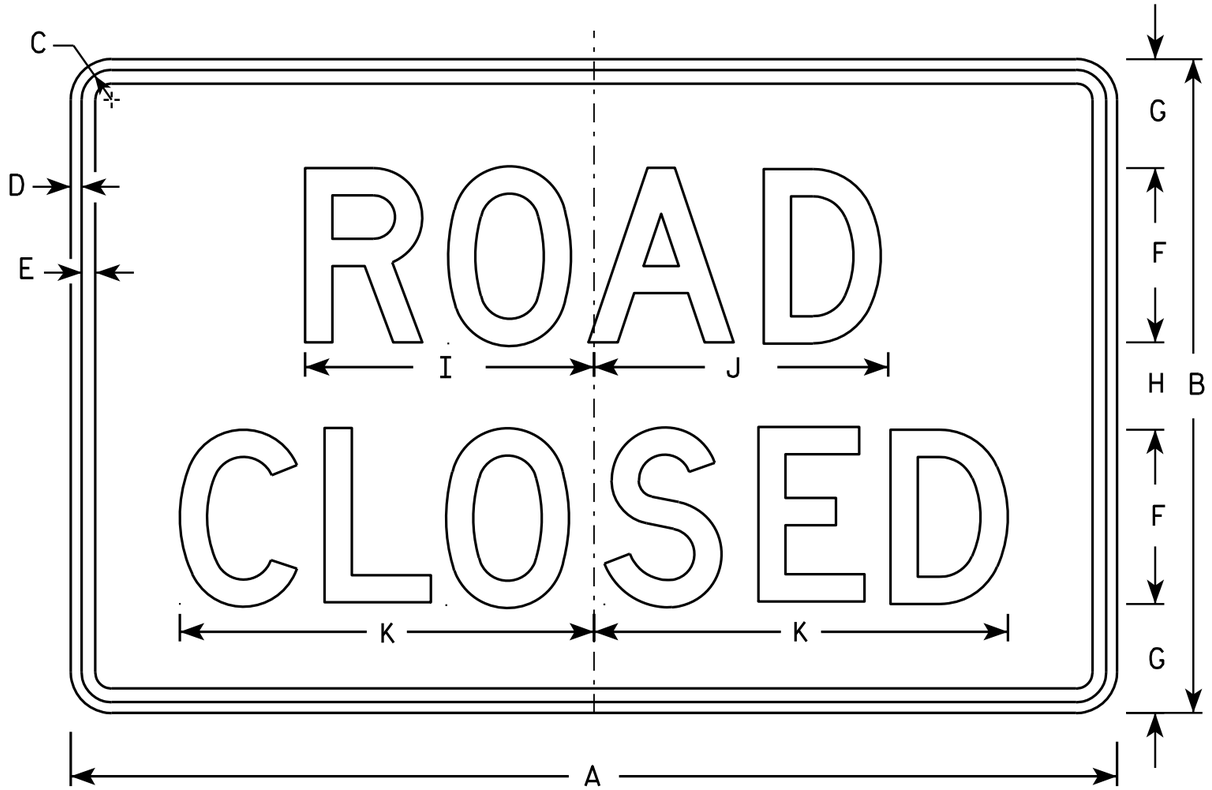
STANDARD SIGN
R9-11

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/29/16 PLATE NO. R9-11.3

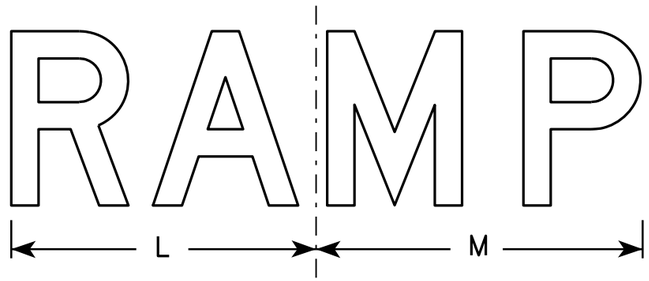
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 278	E



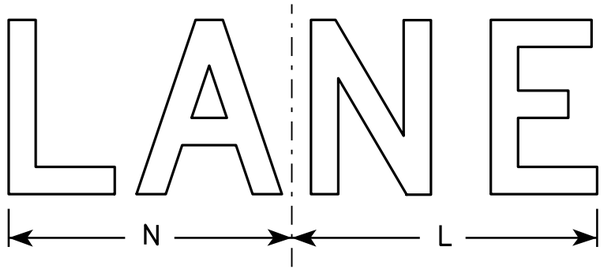
R11-2

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 - 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



R11-2L

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													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													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													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													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													10.0

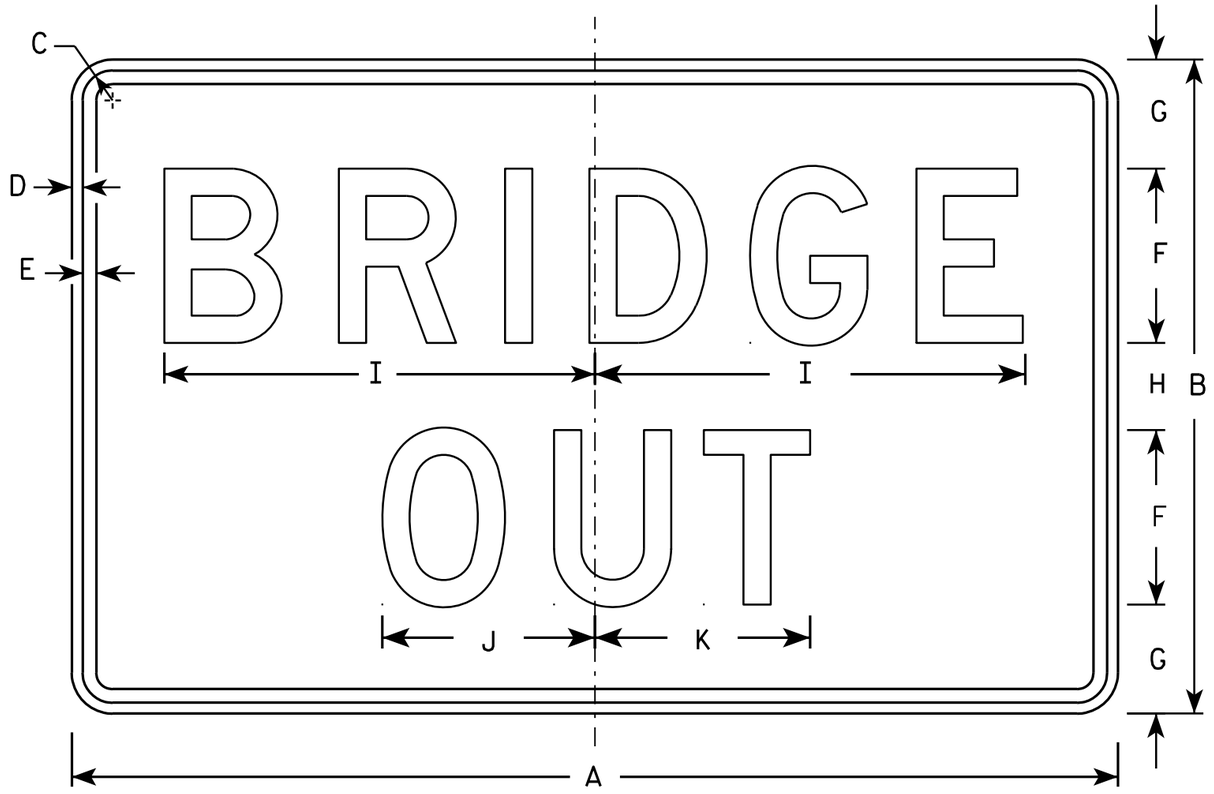
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 279	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

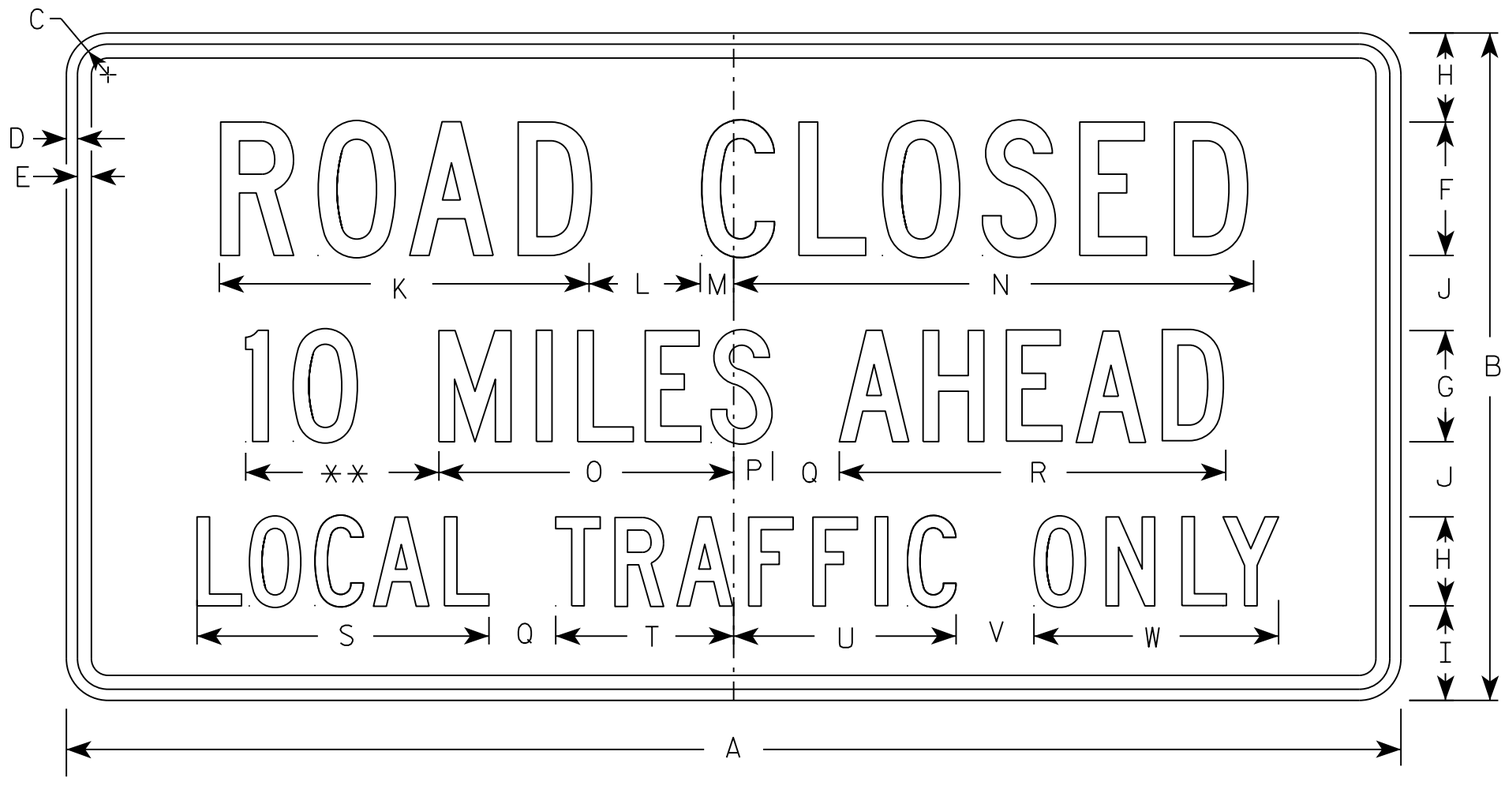
DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

SHEET NO: 280 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 3/8	1/2	5/8	4	3	2 1/2	2	2	11 1/8	3	1 1/8	15 1/4	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4				4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11				12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11				12.5
3																											
4																											
5																											

STANDARD SIGN
R11-3

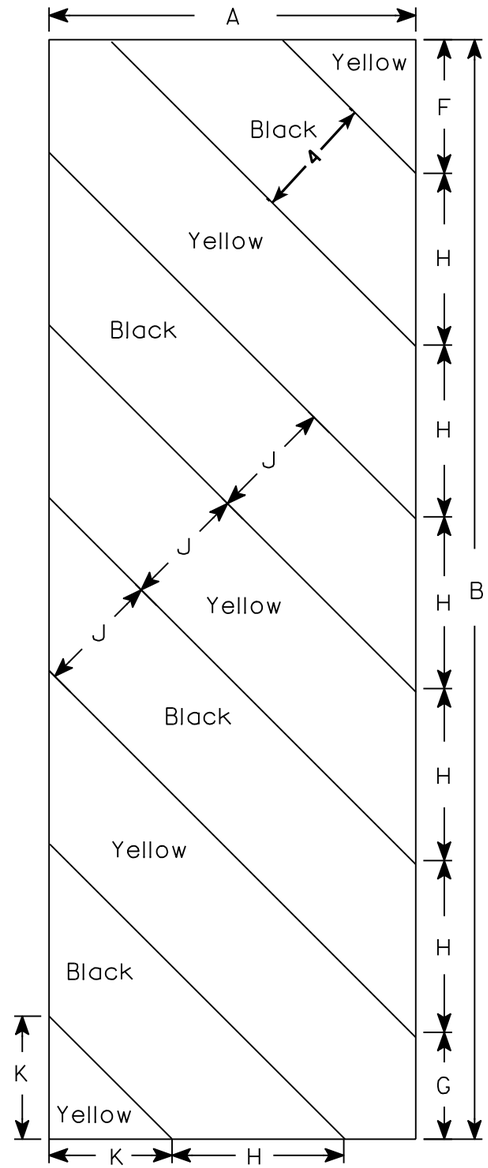
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

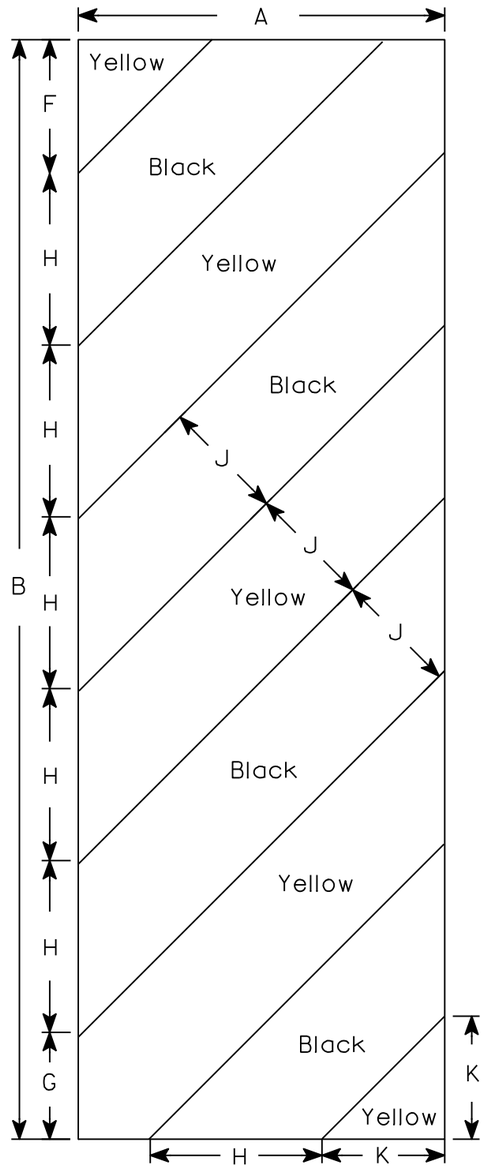
DATE 7/28/16 PLATE NO. R11-3.7

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R113.DGN PLOT DATE : 28-JUL-2016 16:25 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 6.810445:1.000000



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

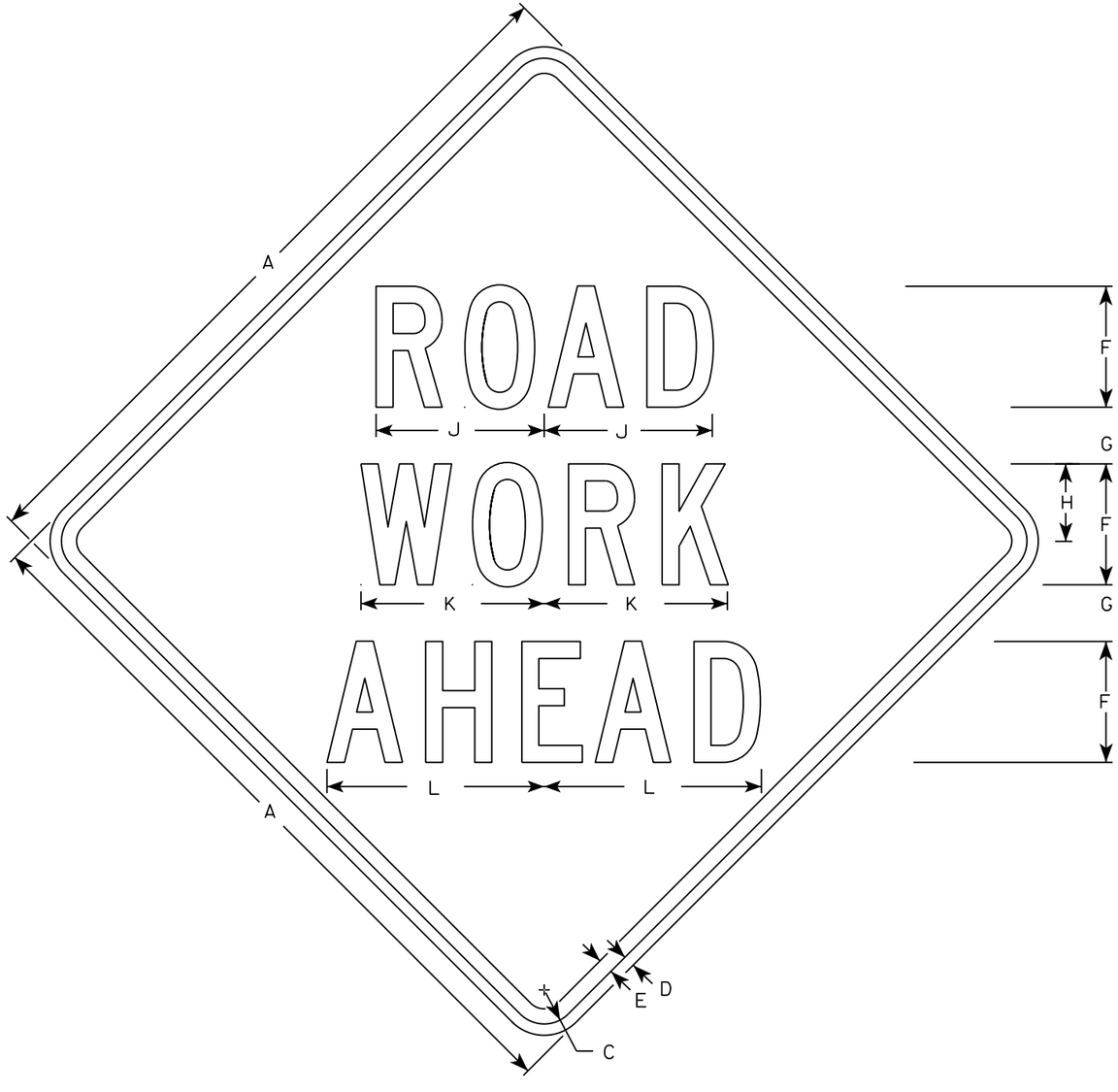
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

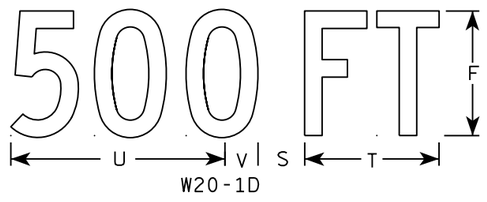
APPROVED Matthew R Rauch
for State Traffic Engineer

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

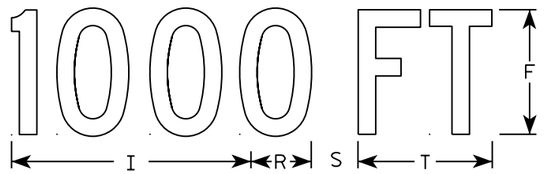
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 282	E



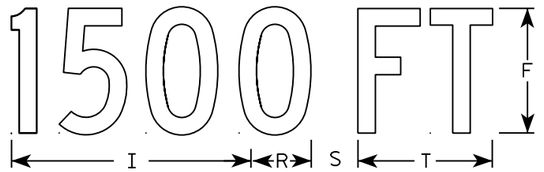
W20-1A



W20-1D

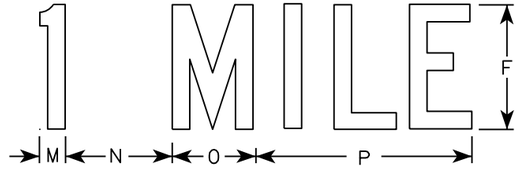


W20-1C

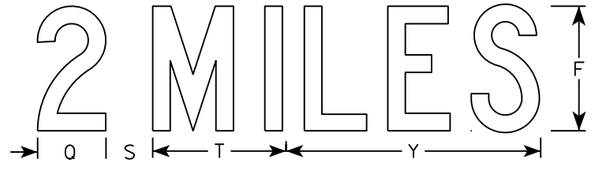


W20-1B

W20-1G



W20-1F



W20-1E

NOTES

1. Sign is Type II - Type F Reflective
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.

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 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

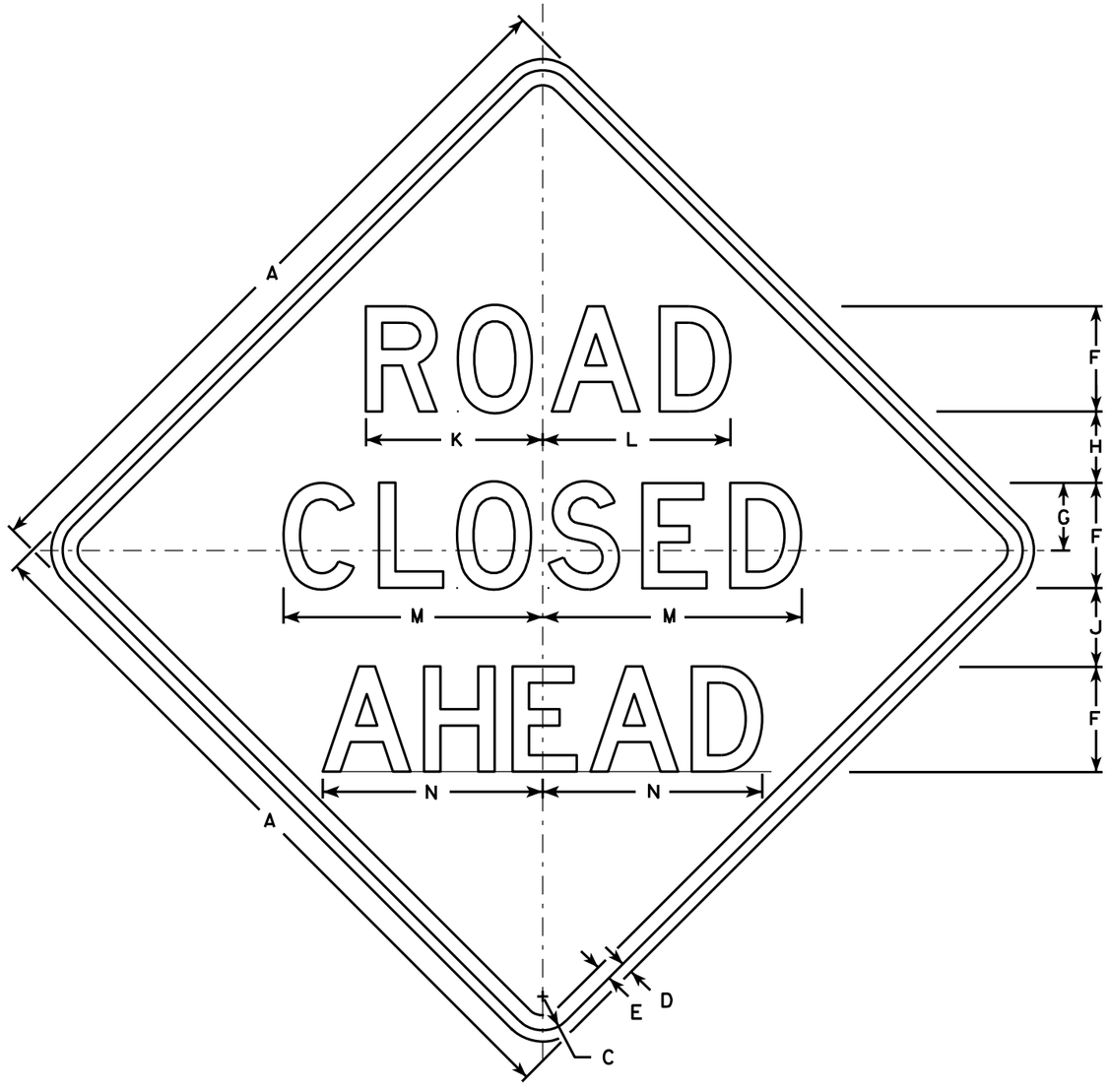
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

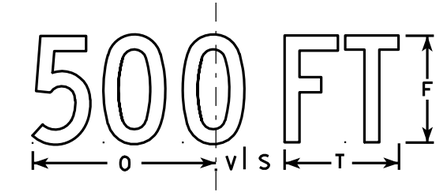
PROJECT NO:

SHEET NO: E

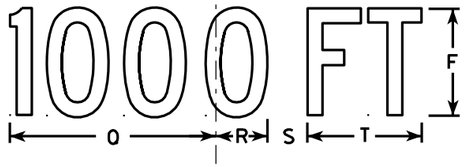
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



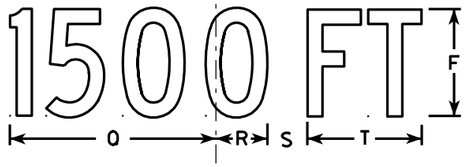
W20-3A



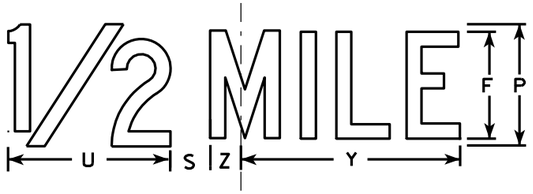
W20-3D



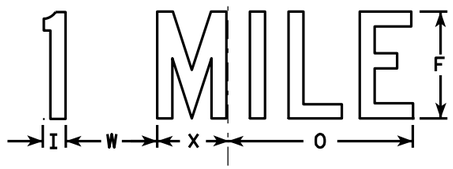
W20-3C



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: 284 | E

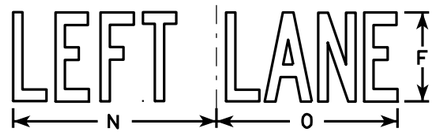
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000

WISDOT/CADDS SHEET 42

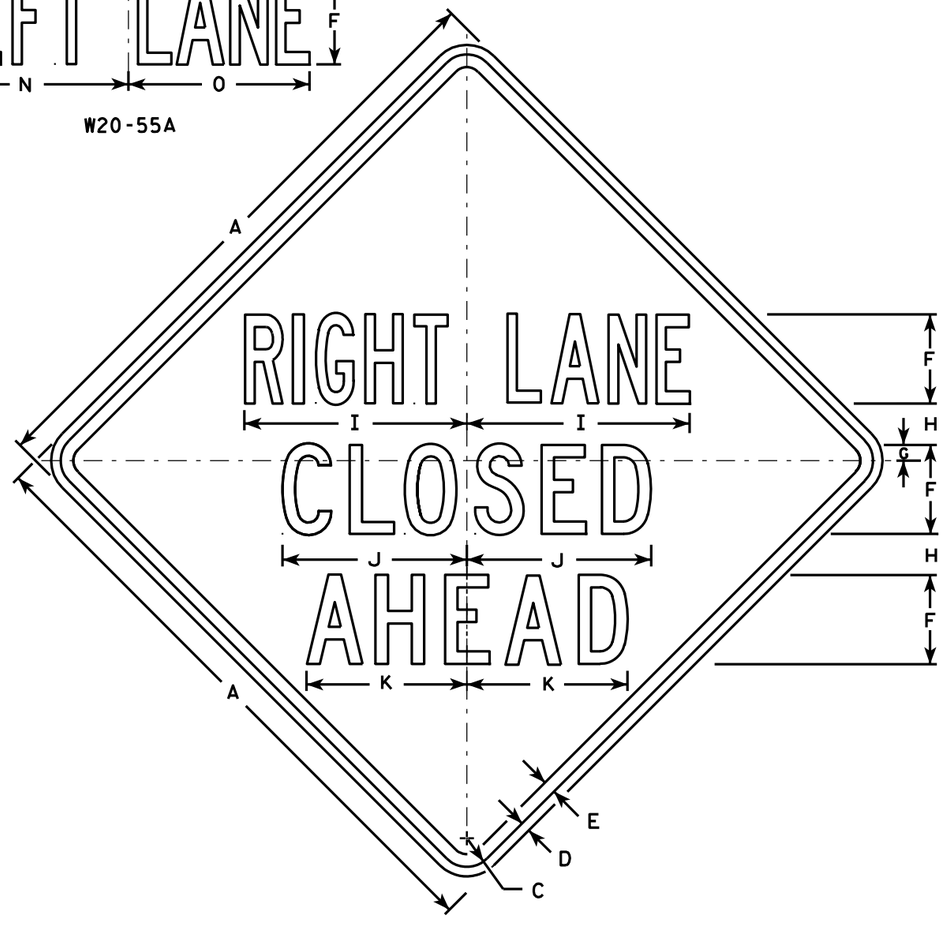
7

7

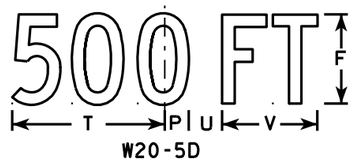
W20-56A



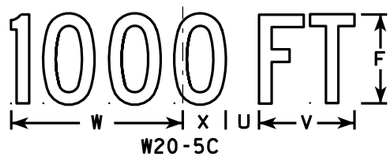
W20-55A



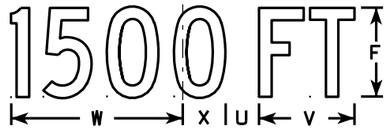
W20-5A



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

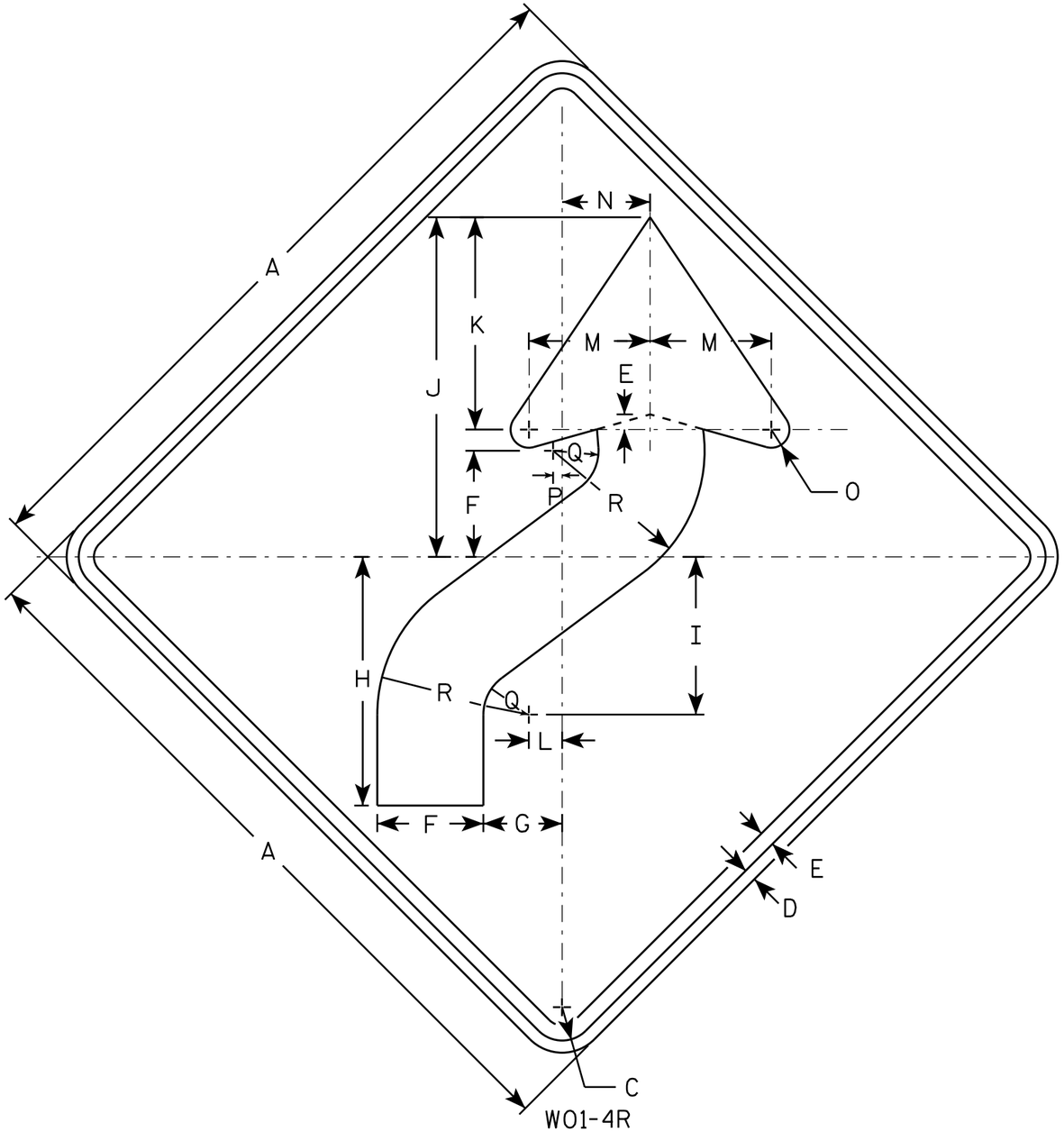
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 285	E

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



W01-4R

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. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN
W01-4

WISCONSIN DEPT OF TRANSPORTATION

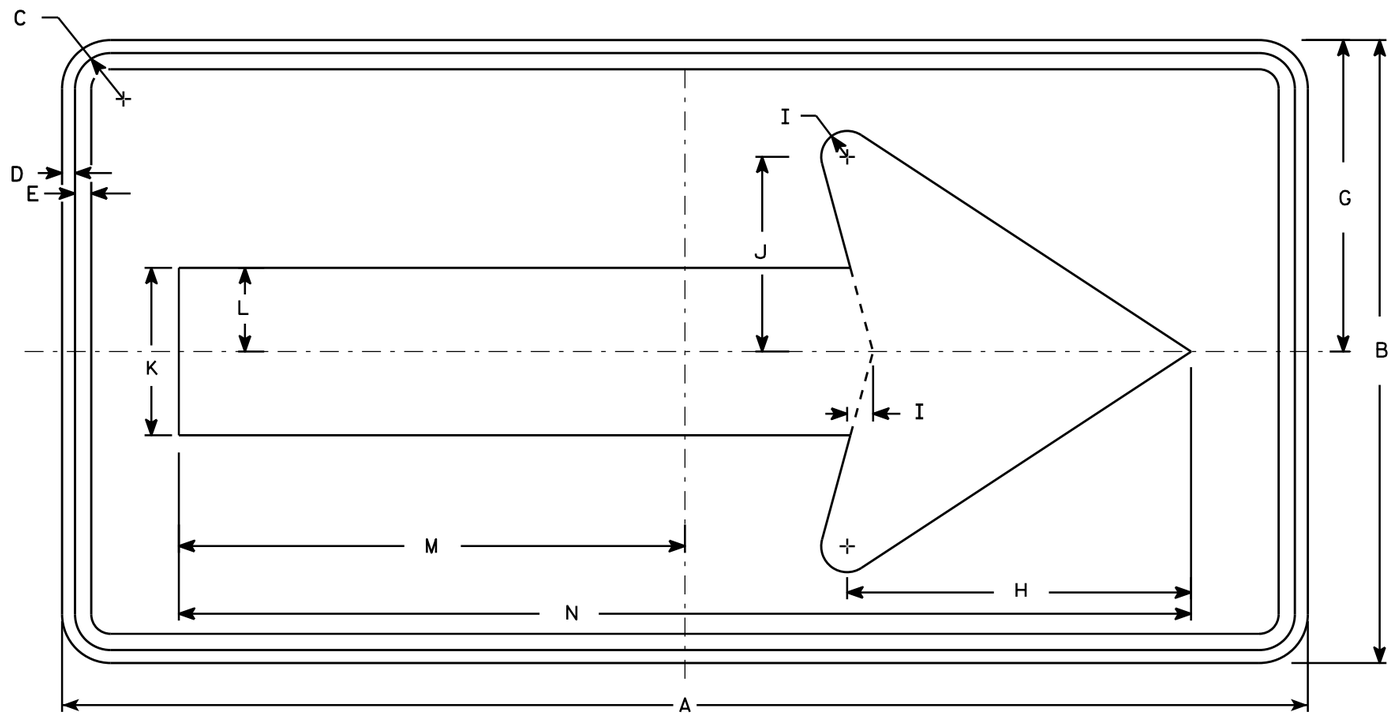
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO W01-4.1

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W014.DGN PLOT DATE : 28-FEB-2014 11:35 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.755110:1.000000
WISDOT/CADDS SHEET 42

7



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

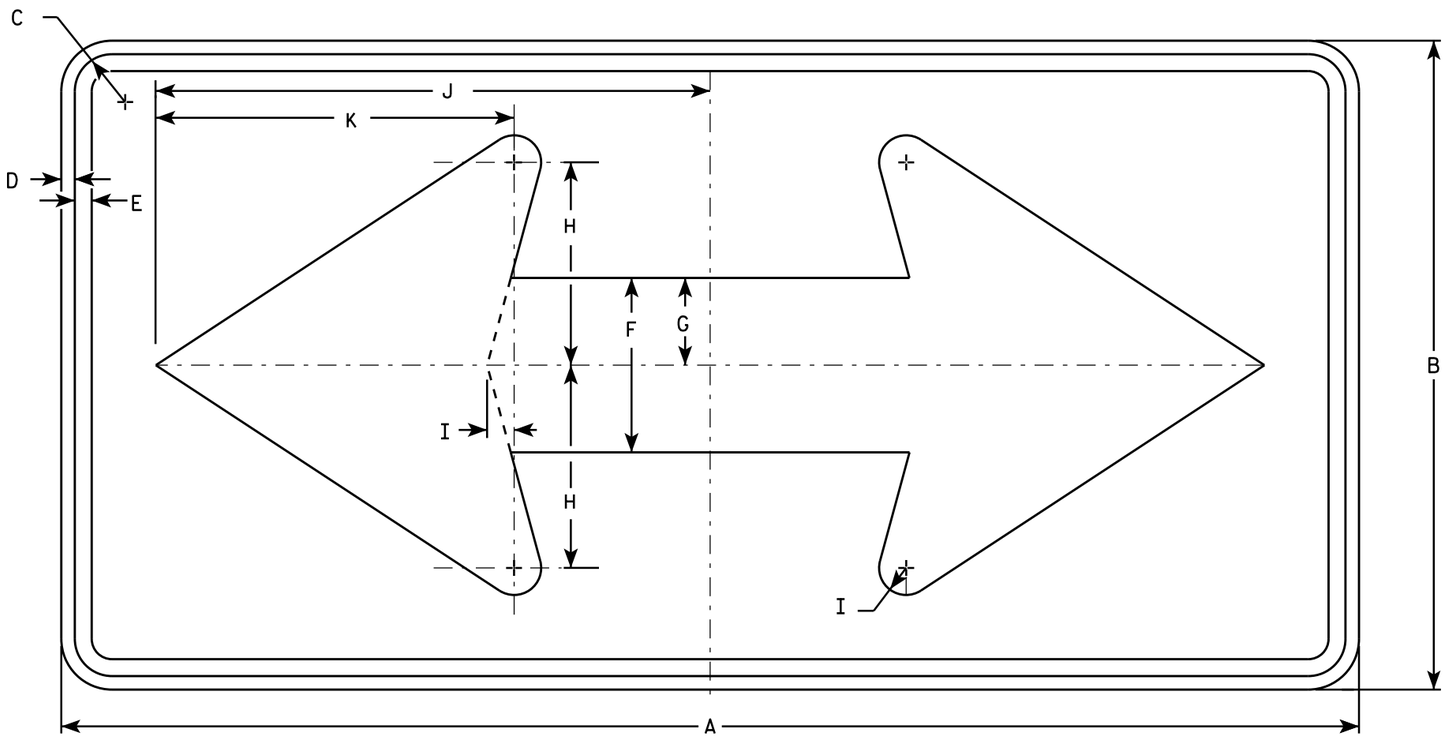
WISCONSIN DEPT OF TRANSPORTATION

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



W01-7

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - 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	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5

STANDARD SIGN
W01-7

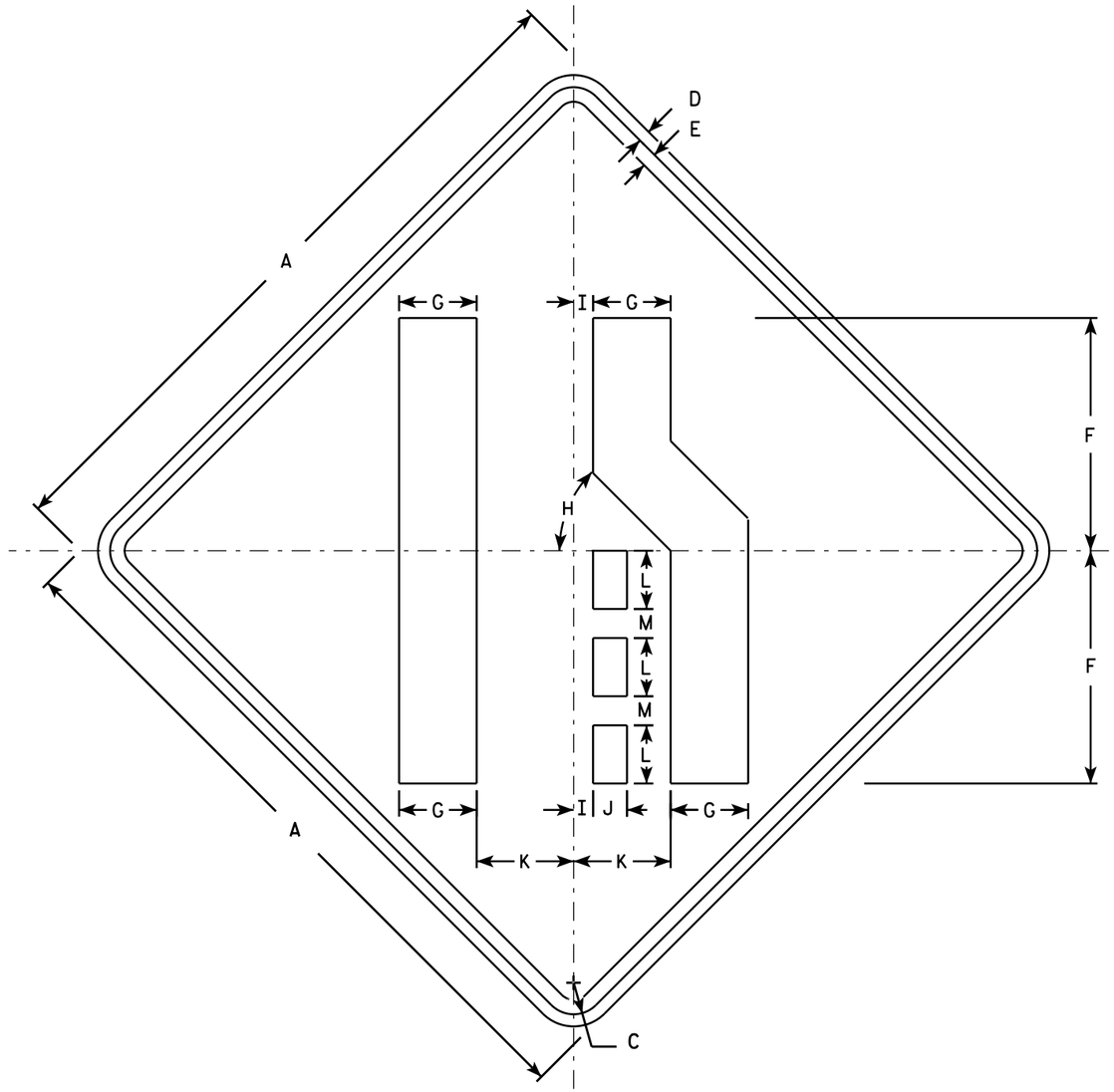
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE 1288 W01-7.1

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W017.DGN PLOT DATE : 20-NOV-2013 10:35 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.604022:1.000000
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

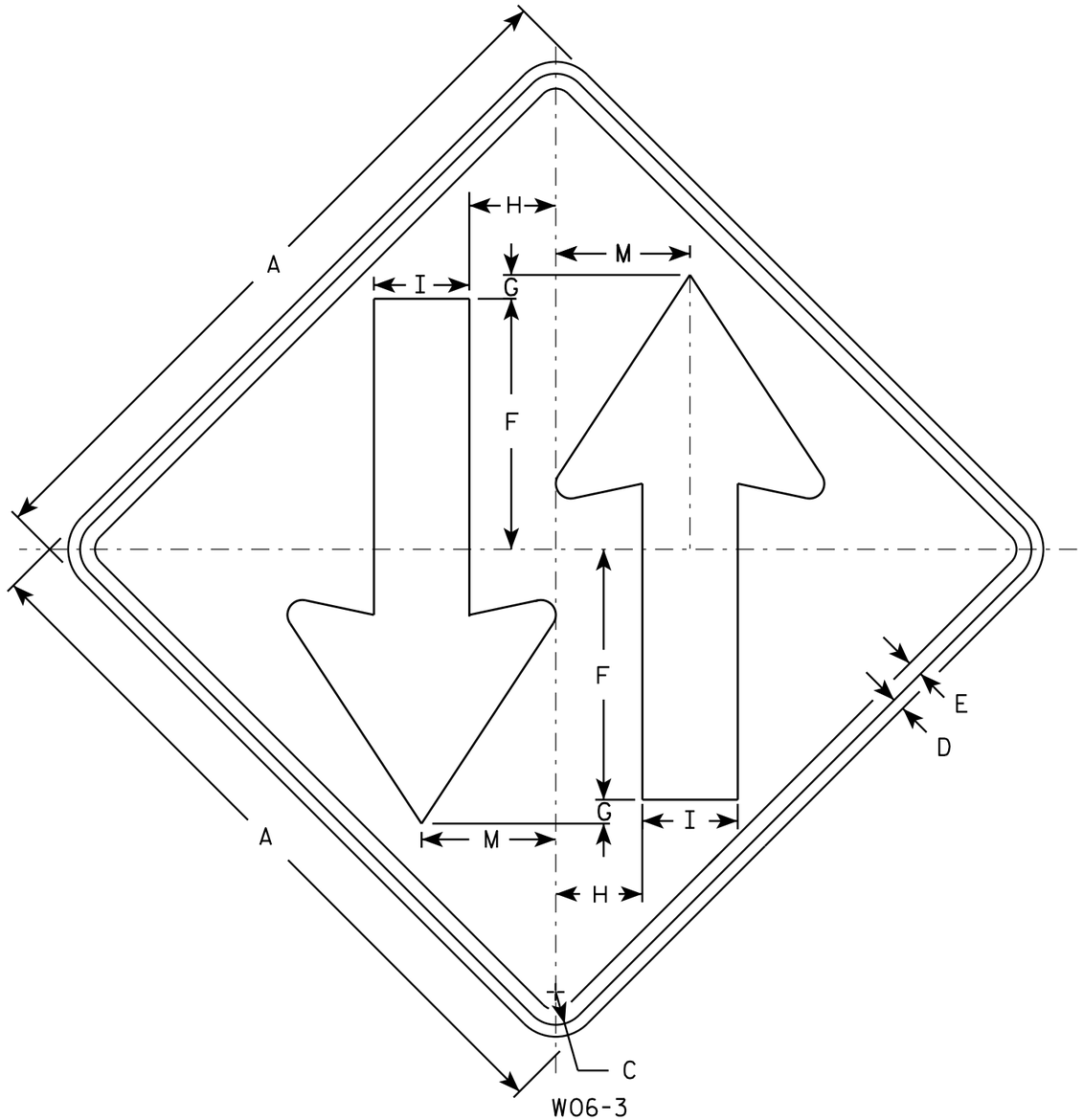
STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 289 W04-2.1

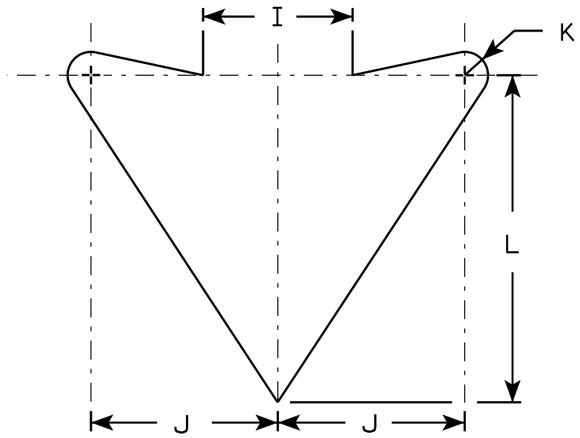
PROJECT NO: | SHEET NO: E



W06-3

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.



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	36		1 5/8	5/8	3/4	12	1	4 1/4	5	6	3/4	10 1/2	6 3/4														9.0
2S	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
2M	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
3	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
4	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
5	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0

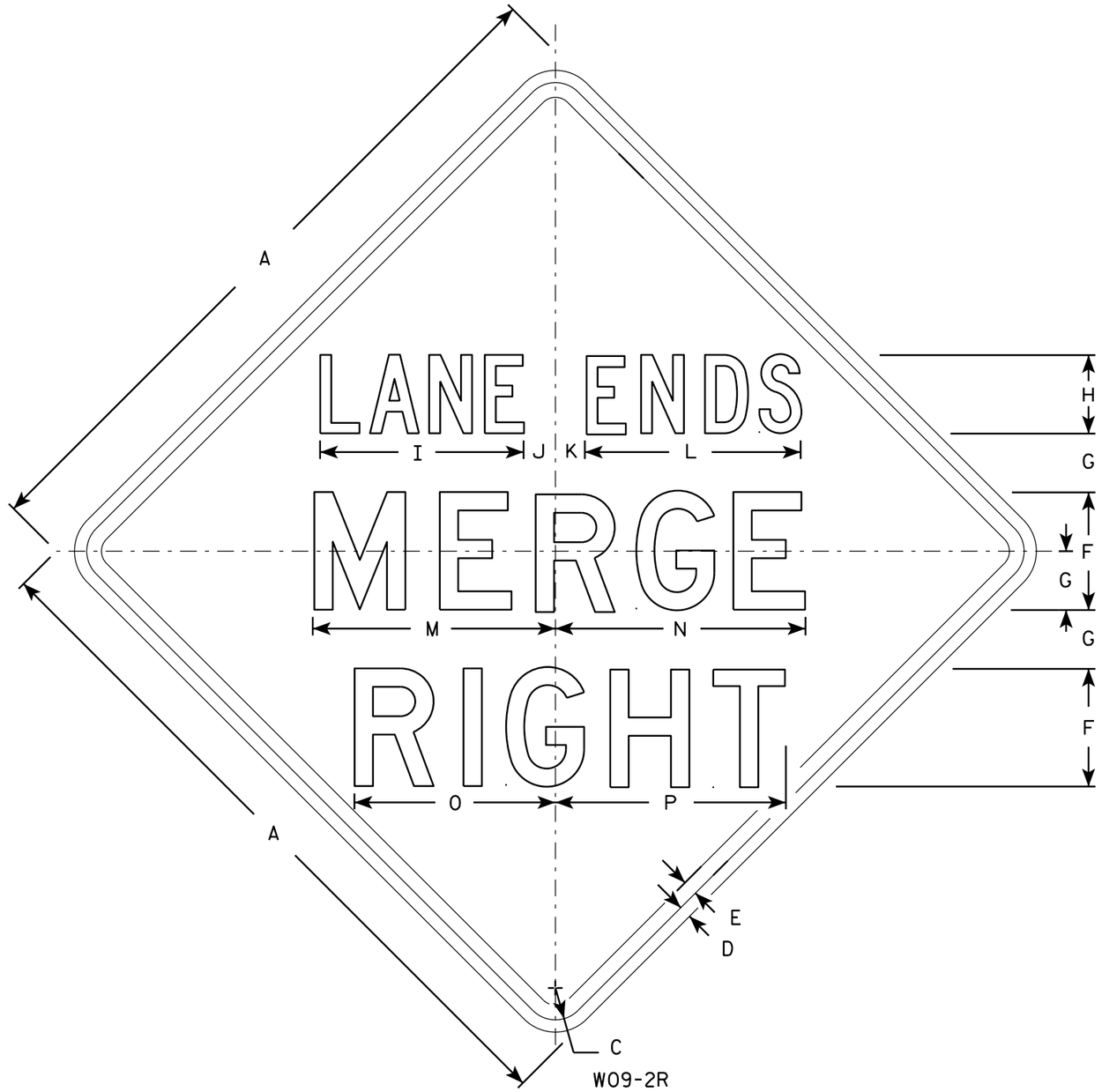
STANDARD SIGN
W06-3

WISCONSIN DEPT OF TRANSPORTATION

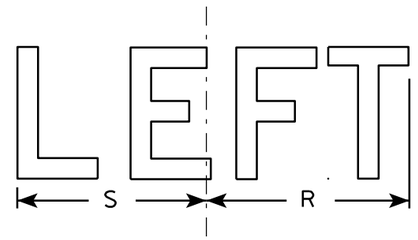
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 290 W06-3.1

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



W09-2R



W09-2L

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 C, lines 2 & 3 are Series D.
6. W09-2L is the same as W09-2R except the word LEFT replaces 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	36		1 5/8	5/8	3/4	6	3	4	10 3/8	1 5/8	1 1/2	11	12 3/8	12 3/4	10 1/4	11 3/4		9 1/8	8 1/2								9.0
2S	48		2 1/4	3/4	1	8	4	6	14 1/2	2	3 1/4	13 3/4	16 3/8	17 1/8	13 3/4	15 3/4		12 1/4	11 1/4								16.0
2M	48		2 1/4	3/4	1	8	4	6	14 1/2	2	3 1/4	13 3/4	16 3/8	17 1/8	13 3/4	15 3/4		12 1/4	11 1/4								16.0
3	48		2 1/4	3/4	1	8	4	6	14 1/2	2	3 1/4	13 3/4	16 3/8	17 1/8	13 3/4	15 3/4		12 1/4	11 1/4								16.0
4	48		2 1/4	3/4	1	8	4	6	14 1/2	2	3 1/4	13 3/4	16 3/8	17 1/8	13 3/4	15 3/4		12 1/4	11 1/4								16.0
5	48		2 1/4	3/4	1	8	4	6	14 1/2	2	3 1/4	13 3/4	16 3/8	17 1/8	13 3/4	15 3/4		12 1/4	11 1/4								16.0

STANDARD SIGN
W09-2

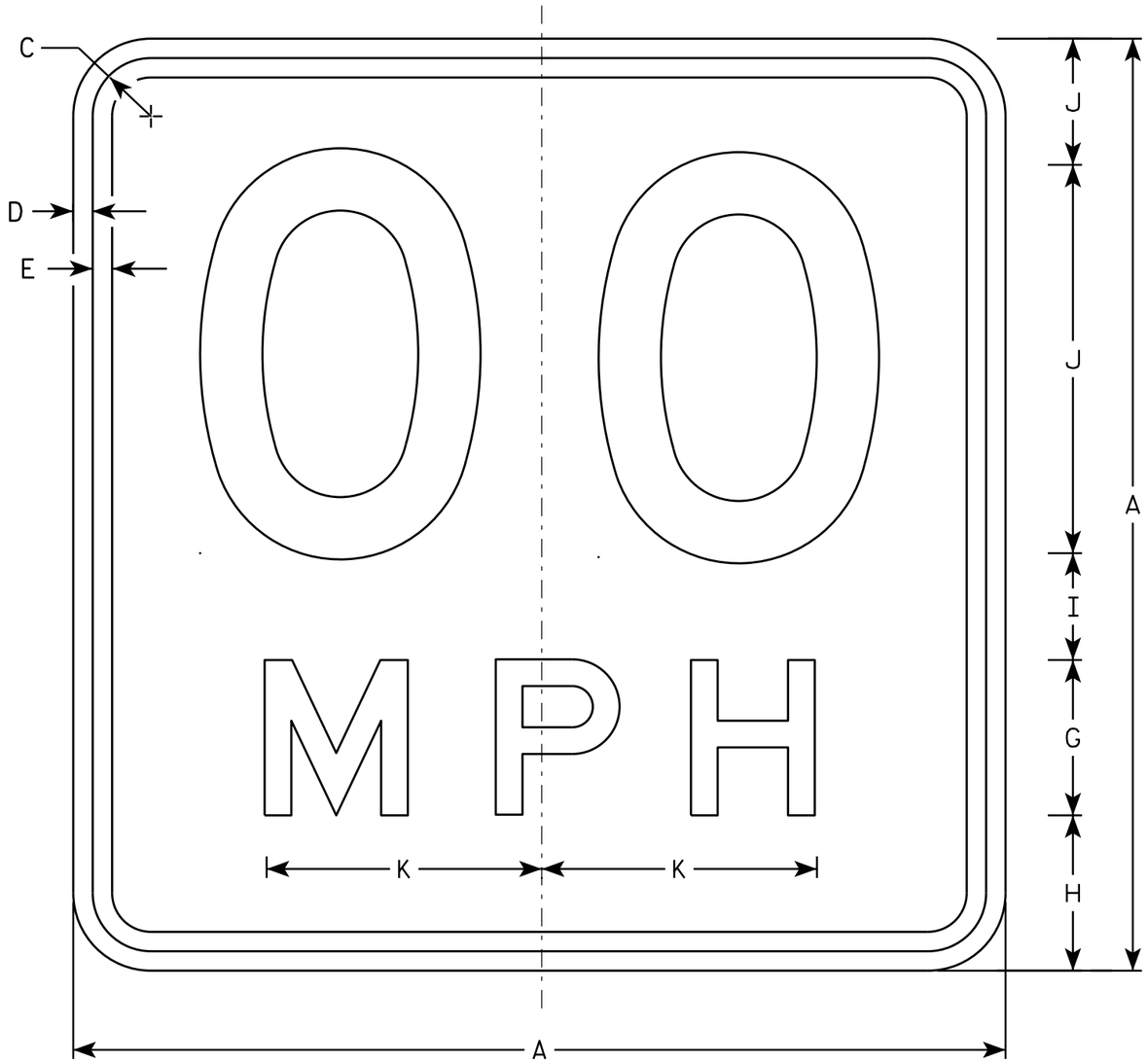
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/02/13 PLATE NO W09-2.1

PROJECT NO: SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W092.DGN PLOT DATE : 02-DEC-2013 15:18 PLOT BY : mscsja



W013-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 6
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 space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

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	4	4	2 3/4	3 1/4	7 1/8																4.00
2S	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
2M	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
3	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN
W013-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

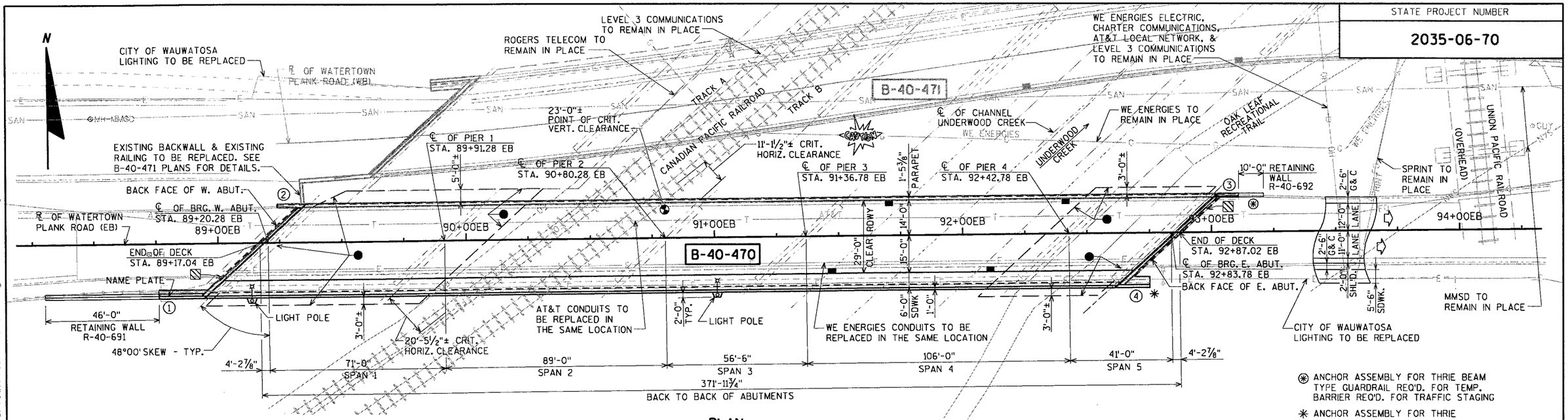
DATE 11/21/13 PLATE 292 W013-1.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

$PRFNAME$
U:\42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County\Bridge\Plans\B-40-470\B-40-470 General Plan.dgn

STATE PROJECT NUMBER

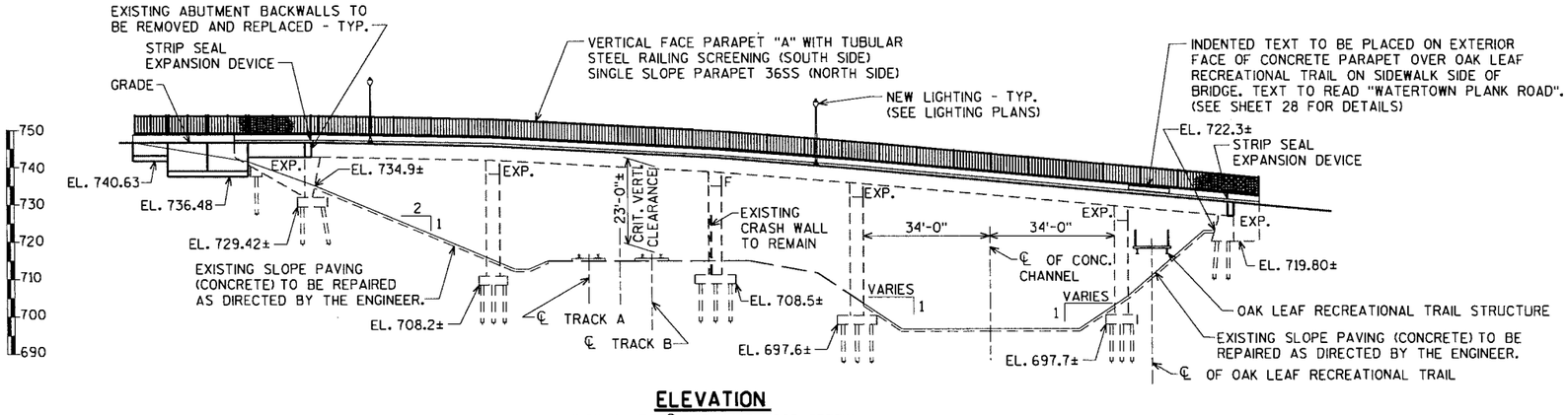
2035-06-70



PLAN

(5 SPAN - STEEL GIRDER BRIDGE)
RE-DECK & WIDENING

- ⊛ ANCHOR ASSEMBLY FOR THRIE BEAM TYPE GUARDRAIL REQ'D. FOR TEMP. BARRIER REQ'D. FOR TRAFFIC STAGING
- ✳ ANCHOR ASSEMBLY FOR THRIE BEAM TYPE GUARDRAIL.
- ◯ DENOTES WING NUMBER.
- ▨ PAVING NOTCH - TYP.
- ● EXISTING SLOPE PAVING (CONCRETE)
- ■ REMOVE EXISTING FLOOR DRAINS AND REPLACE WITH NEW



ELEVATION

(NORMAL TO ℄ OF UNDERWOOD CREEK)

FOR TYPICAL SECTION, DESIGN DATA, & PROFILE GRADE LINE, SEE SHEET 2

FOR QUANTITIES AND GENERAL NOTES, SEE SHEET 3

LIST OF DRAWINGS

1. GENERAL PLAN
2. TYPICAL SECTION, DESIGN DATA, & PROFILE GRADE LINE
3. QUANTITIES AND NOTES
4. WEST ABUTMENT
5. WEST ABUTMENT WING 1 DETAILS
6. WEST ABUTMENT WING 2 DETAILS
7. WEST ABUTMENT DETAILS AND BILL OF BARS
8. EAST ABUTMENT
9. EAST ABUTMENT WING 3 DETAILS
10. EAST ABUTMENT WING 4 DETAILS
11. EAST ABUTMENT DETAILS AND BILL OF BARS
12. BEARING DETAILS
13. EAST ABUTMENT HOLD DOWN DEVICE
14. SUPERSTRUCTURE
15. TRANSVERSE SLAB STEEL LAYOUT
16. SUPERSTRUCTURE PLAN
17. DECK ELEVATIONS
18. DECK ELEVATIONS
19. TABLE OF DEFLECTIONS
20. SUPERSTRUCTURE LIGHT STANDARD DETAILS
21. STRIP SEAL EXPANSION DEVICE
22. PARAPET COVER PLATE DETAILS
23. SIDEWALK COVER PLATE DETAILS
24. FLOOR DRAIN TYPE 'GC' AT PARAPET
25. FLOOR DRAIN TYPE 'GC' AT SIDEWALK
26. SINGLE SLOPE PARAPET 36SS
27. VERTICAL FACE PARAPET "A"
28. PARAPET LAYOUT
29. TUBULAR STEEL RAILING SCREENING
30. LIGHT ACCESS GATE DETAILS

WISCONSIN
CHRISTOPHER B. McMAHON
E-29454
EAU CLAIRE
WI
PROFESSIONAL ENGINEER
1/30/17

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
CHRIS MCMAHON
(715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 02/14/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-40-470

WATERTOWN PLANK ROAD EB OVER UNDERWOOD CREEK

COUNTY	TOWN/CITY/VILLAGE
MILWAUKEE	WAUWATOSA

DESIGN SPEC.
REHABILITATION: N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
AEB	CKJ	CLS	CBM

GENERAL PLAN

SHEET 1 OF 30
293

DATE:
DATE:
DATE:
CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

8

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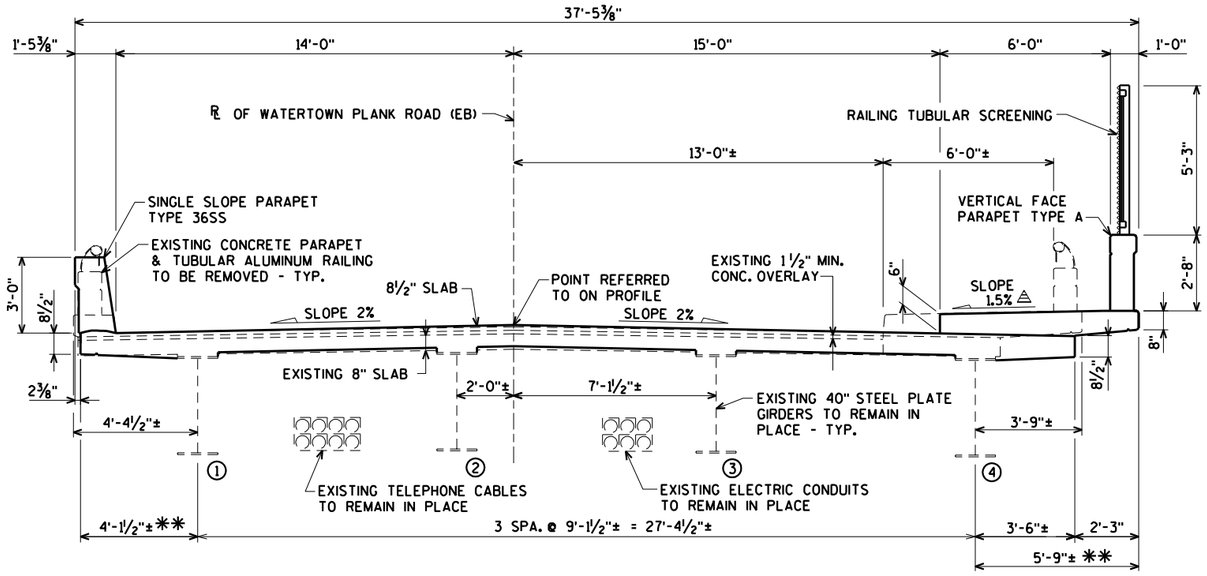
$PRFNAME$
U:\42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee

STATE PROJECT NUMBER

2035-06-70

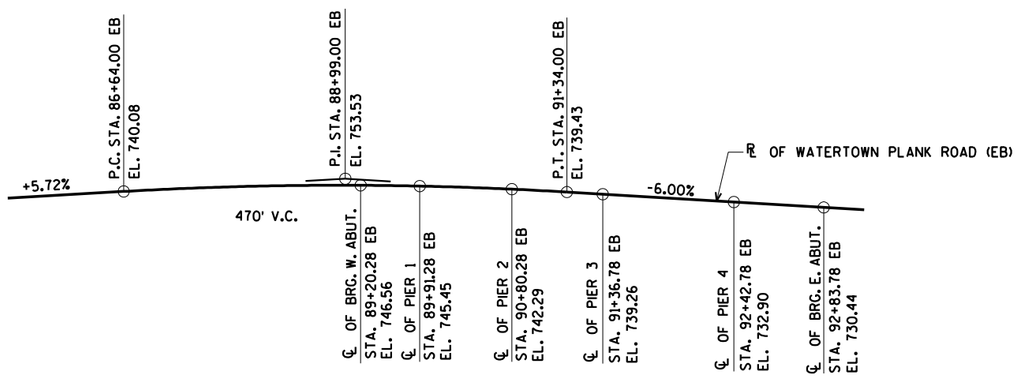


TYPICAL CROSS SECTION THRU DECK

(LOOKING EAST)

** TEMPORARILY BRACE THE LOWER FLANGE OF THE EXTERIOR GIRDERS PER STANDARD SPECIFICATIONS SECTION 502.3.2.3 UNTIL THE SIDEWALK AND PARAPETS ARE CONSTRUCTED.

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



PROFILE GRADE LINE

WATERTOWN PLANK ROAD (EB)

BENCH MARK:

CHIS. SQ. TOP OF WALL S. SIDE STRUCTURE B-40-470
STA. 89+19 EB, 19'RT.
EL. 748.87

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-20
OPERATING RATING: HS-34
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 #/S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY	SUPERSTRUCTURE	f'_c =	4,000 p.s.i.
	ALL OTHER	f'_c =	3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60)		f_y =	60,000 p.s.i.
STRUCTURAL CARBON STEEL (EXISTING) ASTM A36		f_y =	36,000 p.s.i.
STRUCTURAL LOW ALLOY STEEL (EXISTING) ASTM A441 ¾" & UNDER		f_y =	50,000 p.s.i.
ASTM A441 ¾" TO 1½"		f_y =	46,000 p.s.i.
ASTM A588 UP TO 4"		f_y =	50,000 p.s.i.

TRAFFIC DATA:

A.D.T. = 14,700 (2017)
A.D.T. = 20,000 (2037)
R.D.S. = 40 M.P.H.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

DRAWN BY CLS | PLANS CK'D. CBM

TYPICAL SECTION DESIGN DATA, & PROFILE GRADE LINE

SHEET 2 OF 30
294

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

8

8

$PRFNAME$
U:\42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee

STATE PROJECT NUMBER

2035-06-70

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	W. ABUT.	E. ABUT.	SUPER.	TOTAL
	203.0210.S.01	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-40-470	LS	-----	-----	-----	1
	203.0225.S.01	DEBRIS CONTAINMENT B-40-470	LS	-----	-----	-----	1
	203.0600.S.01	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 91+02 EB	LS	-----	-----	-----	1
①	204.0175	REMOVING CONCRETE SLOPE PAVING	SY	-----	-----	-----	50
	206.1000.01	EXCAVATION FOR STRUCTURES BRIDGES B-40-470	LS	-----	-----	-----	1
	210.1500	BACKFILL STRUCTURE TYPE A	TON	110	110	-----	220
	502.0100	CONCRETE MASONRY BRIDGES	CY	30	26	499	555
	502.3100.01	EXPANSION DEVICE B-40-470	LS	-----	-----	-----	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	1,465	1,465
	502.3210	PIGMENTED SURFACE SEALER	SY	13	10	309	332
	502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	210	169	-----	379
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3,730	3,400	109,660	116,790
	506.6000.01	BEARING ASSEMBLIES EXPANSION B-40-470	EACH	4	4	-----	8
	506.7050.S.01	REMOVING BEARINGS	EACH	4	4	-----	8
①	509.1500	CONCRETE SURFACE REPAIR	SF	-----	-----	-----	100
	513.4091.01	RAILING TUBULAR SCREENING B-40-470	LF	18	14	364	396
	514.0445	FLOOR DRAINS TYPE GC	EACH	-----	-----	4	4
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	16	13	-----	29
	517.0900.S.01	PREPARATION AND COATING OF TOP FLANGES B-40-470	LS	-----	-----	-----	1
	517.1800.S.01	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-40-470	LS	-----	-----	-----	1
	517.3000.S.01	STRUCTURE OVERCOATING CLEANING AND PRIMING B-40-470	LS	-----	-----	-----	1
	517.4500.S.01	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-40-470	LS	-----	-----	-----	1
	517.6001.S	PORTABLE DECONTAMINATION FACILITY	LS	-----	-----	-----	1
②	604.0400	SLOPE PAVING CONCRETE	SY	-----	-----	-----	50
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	70	-----	150
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	-----	1	------	1
	652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	3	3	6	12
	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	16	20	365	401
	653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	-----	-----	2	2
	657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH	-----	-----	2	2
		NON-BID ITEMS					
		FILLER	SIZE	-----	-----	-----	½"

① UNDISTRIBUTED QUANTITY FOR CONCRETE SURFACE REPAIR ON THE PIERS AND ABUTMENTS AS DIRECTED BY THE ENGINEER IN THE FIELD, IF NECESSARY.

② UNDISTRIBUTED QUANTITY FOR SLOPE PAVING REPAIRS AS DIRECTED BY THE ENGINEER IN THE FIELD, IF NECESSARY.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS ARE BASED ON ORIGINAL STRUCTURE PLANS.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT UNLESS SHOWN OR NOTED OTHERWISE.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW THE ORIGINAL CONSTRUCTION YEAR OF 1972.

AT ABUTMENTS ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

VARIATIONS TO THE NEW GRADE LINE OVER 1/4" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER ARE TO BE APPLIED AS SHOWN IN DETAILS ON THIS SHEET.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.

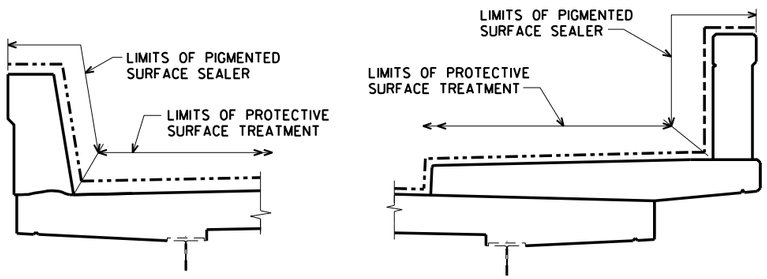
ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER FRICTION TYPE HIGH-TENSILE STRENGTH BOLTS UNLESS SHOWN OR NOTED OTHERWISE.

THE COLOR OF THE FINISH EPOXY TOP COAT FOR THE GIRDERS AND CONNECTING STRUCTURAL STEEL SHALL BE BLUE (FEDERAL COLOR NO. 25240).

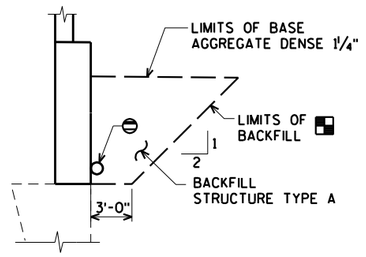
APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF THE ABUTMENTS BELOW EXPANSION DEVICES.

EXISTING BEARINGS AT THE ABUTMENTS WILL BE REMOVED AND REPLACED.

REMOVE EXISTING FLOOR DRAINS AND DOWN SPOUTS, INCLUDED IN BID ITEM "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS".



PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER DETAILS



BACKFILL STRUCTURE LIMITS
AT ABUTMENT BACKWALLS

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 7.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

DRAWN BY CLS | PLANS CK'D. CBM

QUANTITIES AND NOTES

SHEET 3 OF 30
295

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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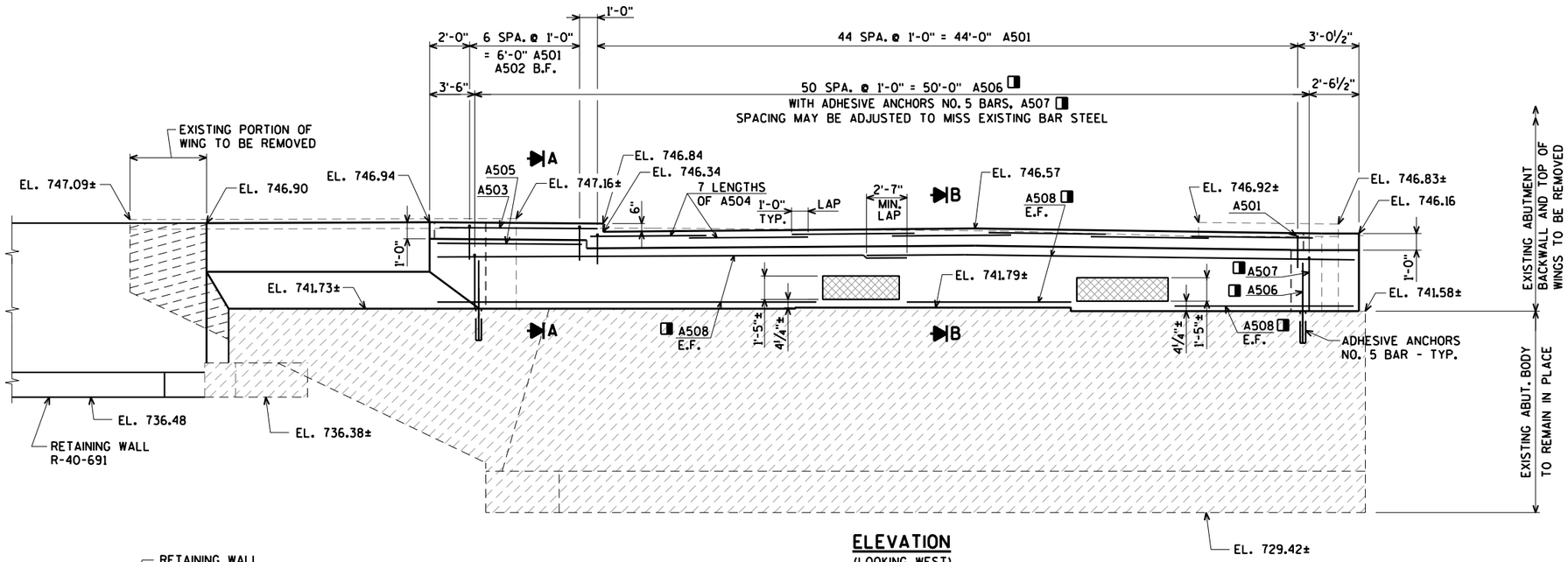
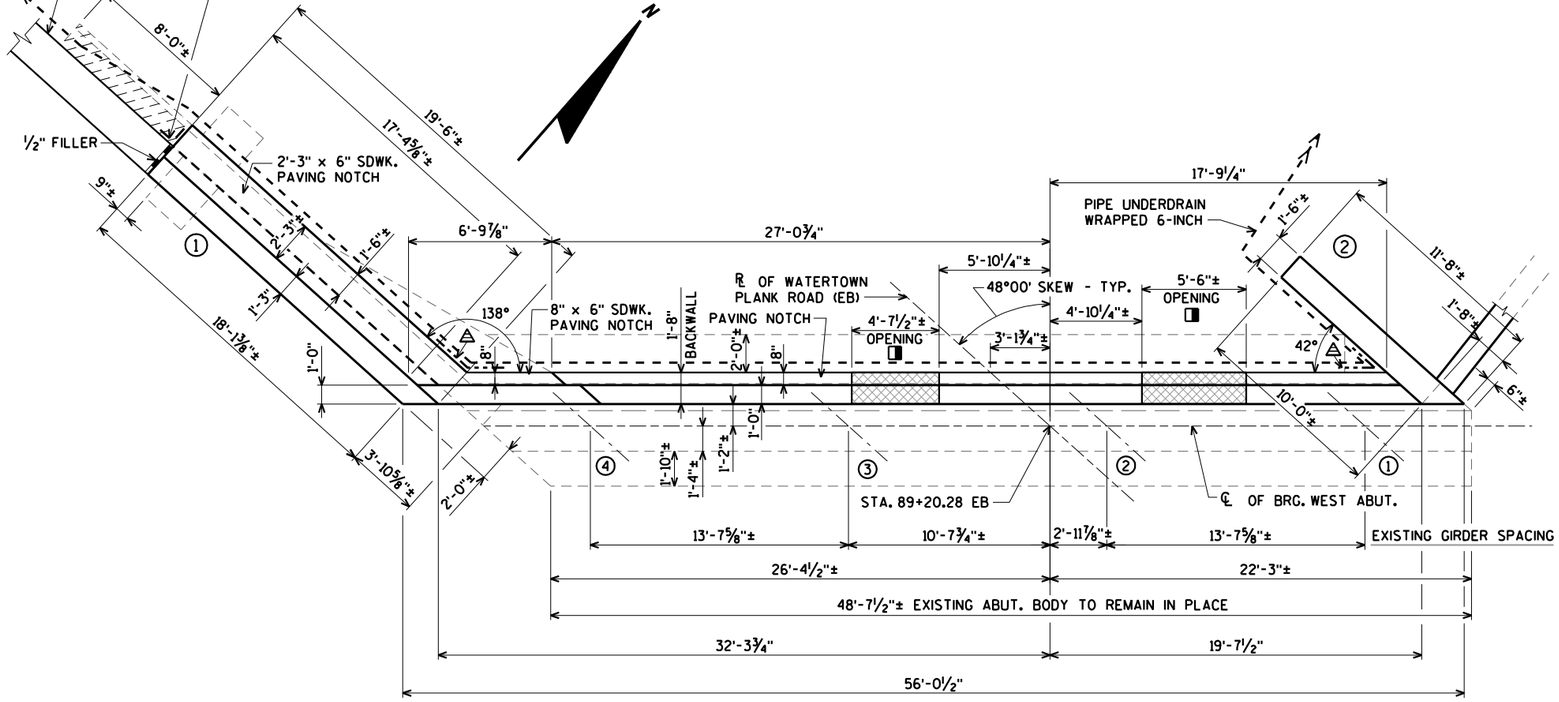
STATE PROJECT NUMBER

2035-06-70



ELEVATION
(LOOKING WEST)

FOR SECTIONS A & B SEE SHEET 7



PLAN

FIELD CUT AND SPACE BARS TO MISS UTILITY BLOCK OUTS

△ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT AND WINGS.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

DRAWN BY CLS | PLANS CK'D. CBM

WEST ABUTMENT

SHEET 4 OF 30
296

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

ecpdf.plt
420808 470 wa.dgn

8

8

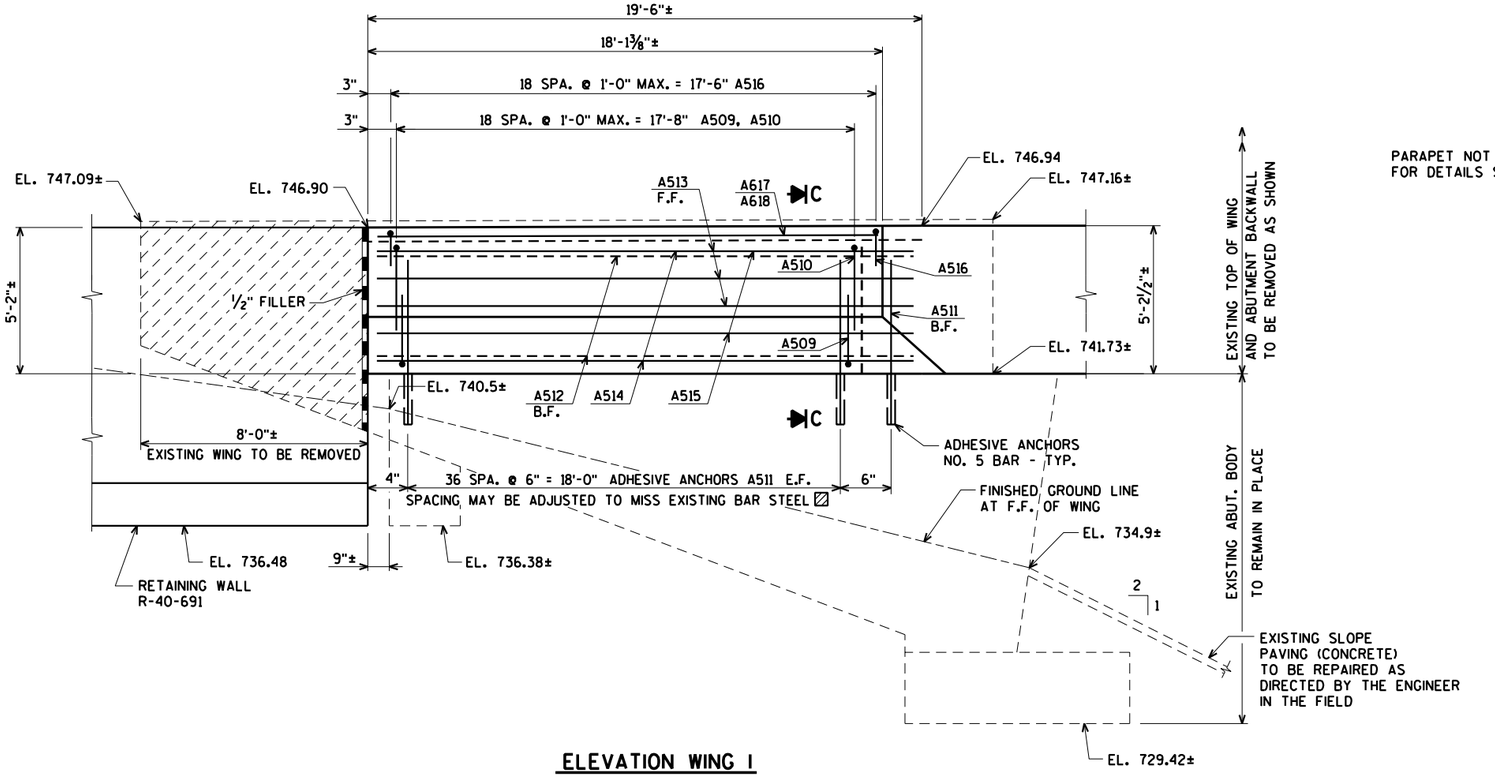
1/25/2017

black.tbl

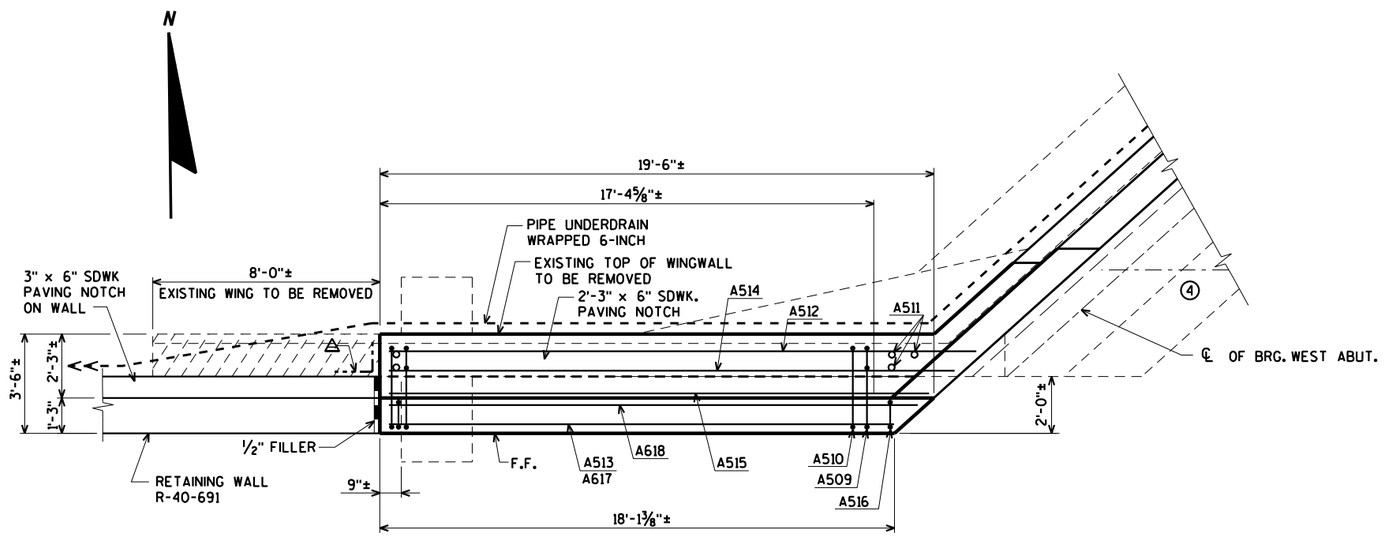
$PRFNAME$
U:\42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County\BRIDGE new Jan 2017\B-40-470+4208

STATE PROJECT NUMBER

2035-06-70

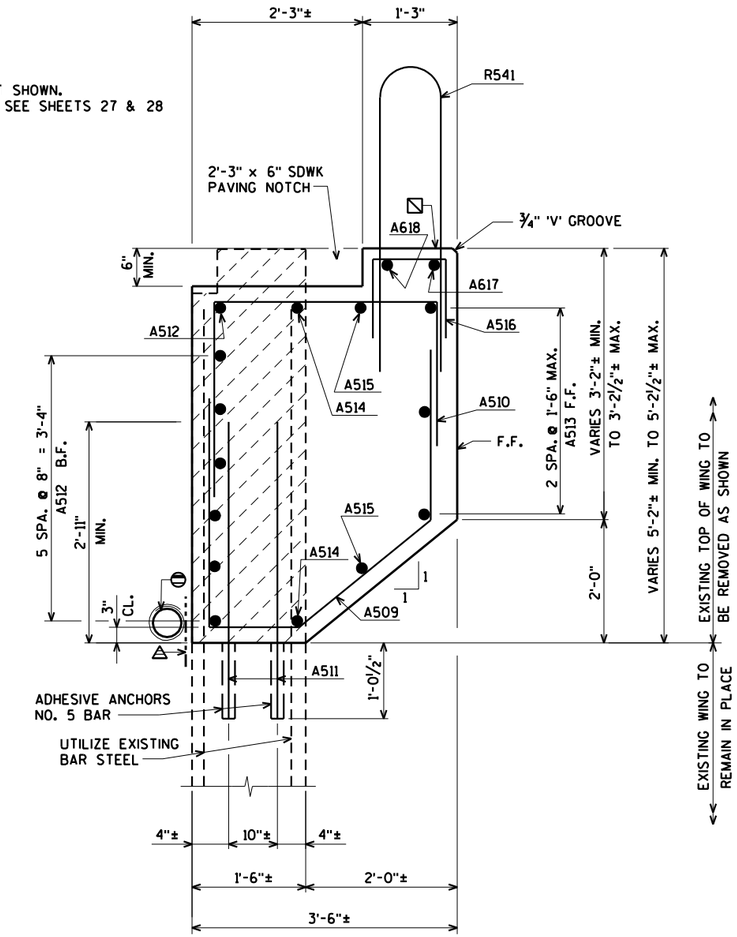


ELEVATION WING 1



PLAN - WING 1

PARAPET NOT SHOWN.
FOR DETAILS SEE SHEETS 27 & 28



SECTION C

▨ ADHESIVE ANCHORS NO. 5 BARS SHALL NOT BE SPACED LESS THAN 3¾".

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON SHEET 7.

△ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT AND WINGS.

▧ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

DRAWN BY CLS | PLANS CK'D. CBM

WEST ABUTMENT WING 1 DETAILS

SHEET 5 OF 30
297

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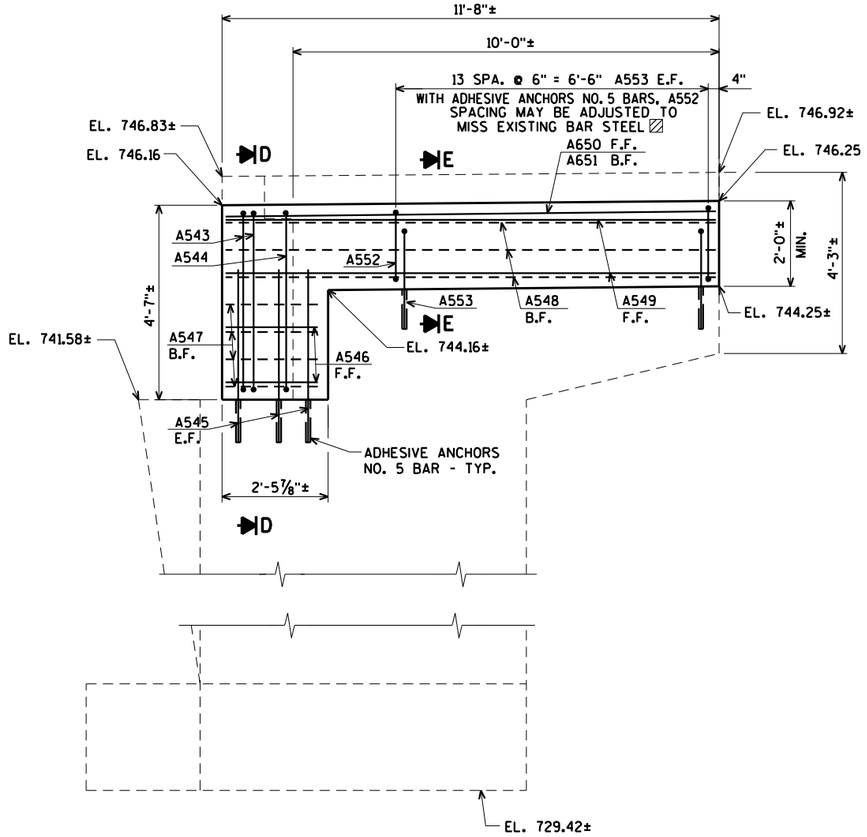
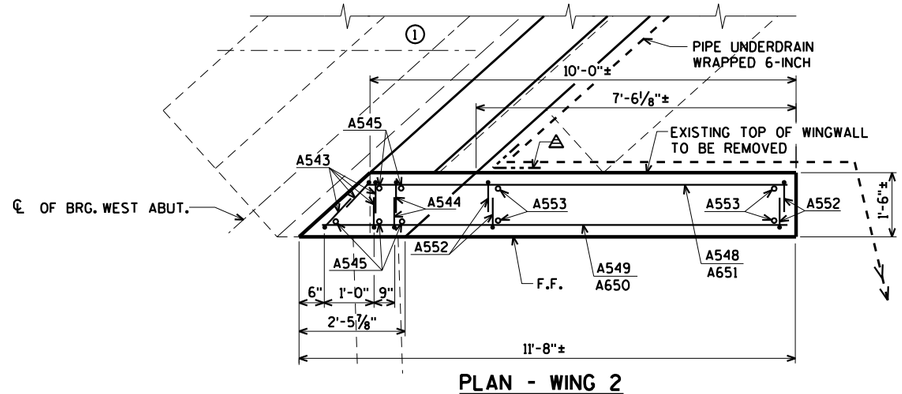
U:\42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County\BRIDGE new Jan 2017\B-40-470\42080

STATE PROJECT NUMBER

2035-06-70



ELEVATION WING 2



PLAN - WING 2

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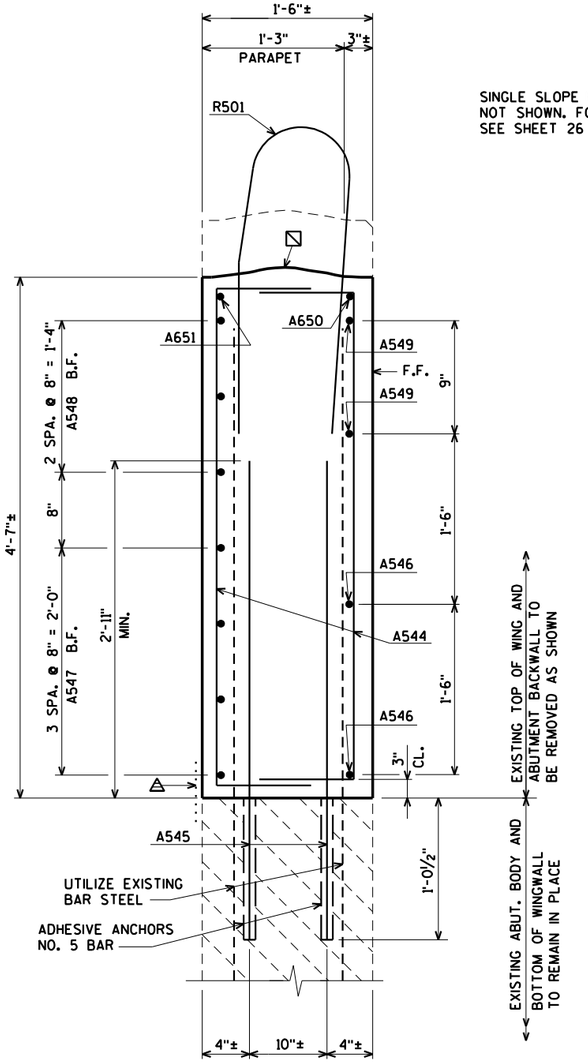
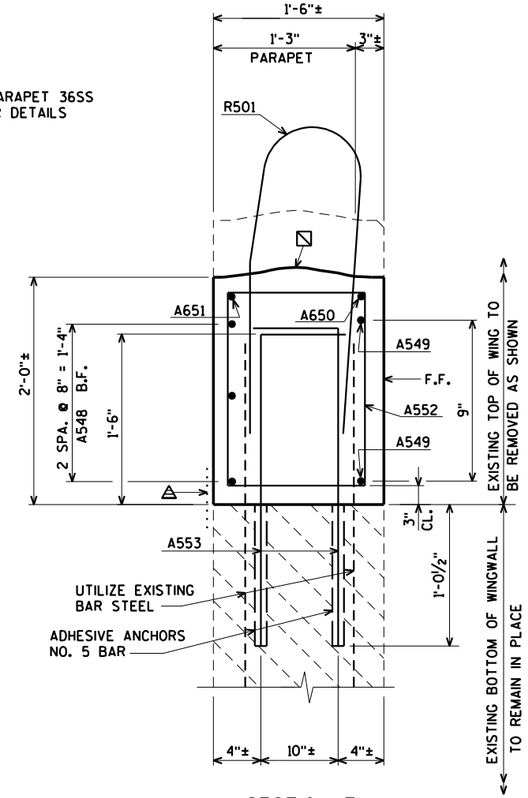


SECTION D

SINGLE SLOPE PARAPET 36SS
NOT SHOWN. FOR DETAILS
SEE SHEET 26



SECTION E

▨ ADHESIVE ANCHORS NO. 5 BARS SHALL NOT BE SPACED LESS THAN 3¾".

△ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT AND WINGS.

▧ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

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WEST ABUTMENT
WING 2 DETAILS

SHEET 6 OF 30
298

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STATE PROJECT NUMBER

2035-06-70

BILL OF BARS

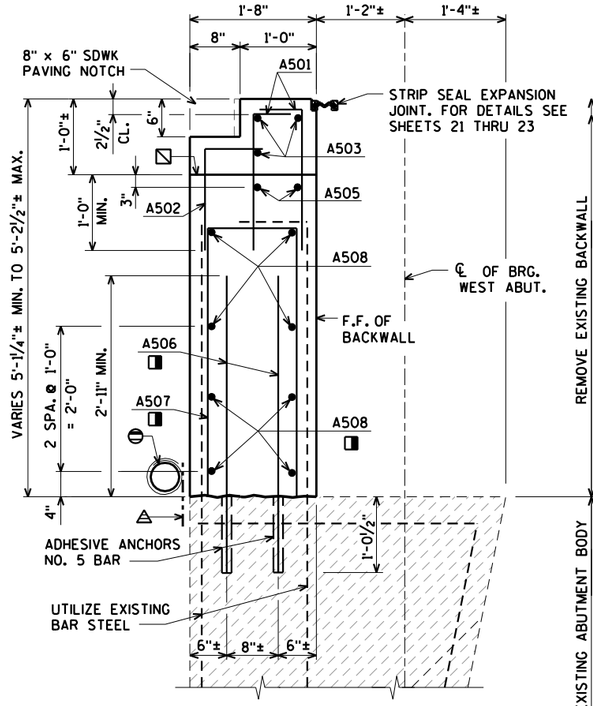
WEIGHT INCLUDES PARAPET STEEL SHOWN ON SHEETS 26 & 27

	BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	3,730# COATED LOCATION
	A501	X	104	2-6	X		PAVING BLOCK VERT. DOWELS
	A502	X	7	2-3	X		PAVING BLOCK VERT. DOWELS @ SDWK B.F.
	A503	X	3	8-3			PAVING BLOCK HORIZ. @ SDWK
	A504	X	21	8-0			PAVING BLOCK HORIZ.
	A505	X	2	7-6			BACKWALL HORIZ. @ SDWK E.F.
▲	A506	X	102	4-0			BACKWALL VERT. DOWELS E.F.
	A507	X	51	7-7	X		BACKWALL VERT.
	A508	X	16	29-1			BACKWALL HORIZ. E.F.
	A509	X	19	8-9	X		WING 1 VERT.
	A510	X	19	8-0	X		WING 1 VERT.
▲	A511	X	75	4-0			WING 1 VERT. DOWELS E.F.
	A512	X	7	21-3			WING 1 HORIZ. B.F.
	A513	X	3	17-11			WING 1 HORIZ. F.F.
	A514	X	2	20-2			WING 1 HORIZ.
	A515	X	2	19-0			WING 1 HORIZ.
	A516	X	19	3-9	X		WING 1 VERT. TOP
	A617	X	1	17-11			WING 1 HORIZ. TOP
	A618	X	1	18-8			WING 1 HORIZ. TOP
	A543	X	3	6-3	X		WING 2 VERT. @ CORNER E.F.
	A544	X	2	5-3	X		WING 2 VERT. @ CORNER E.F.
▲	A545	X	5	4-0			WING 2 VERT. DOWELS CORNER E.F.
	A546	X	2	1-11			WING 2 HORIZ. @ CORNER F.F.
	A547	X	4	1-11			WING 2 HORIZ. @ CORNER B.F.
	A548	X	3	9-8			WING 2 HORIZ. B.F.
	A549	X	2	10-8			WING 2 HORIZ. F.F.
	A650	X	1	10-8			WING 2 HORIZ. F.F. TOP
	A651	X	1	9-8			WING 2 HORIZ. B.F. TOP
	A552	X	14	6-0	X		WING 2 VERT.
▲	A553	X	28	3-3	X		WING 2 VERT. DOWELS E.F.

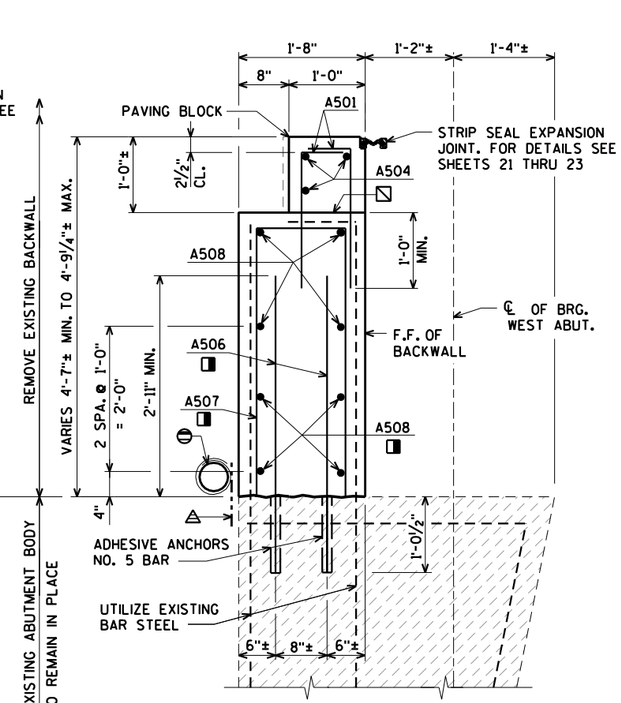
BENDING DIMENSIONS ARE OUT TO OUT OF BARS

▲ ADHESIVE ANCHORS NO. 5 BAR

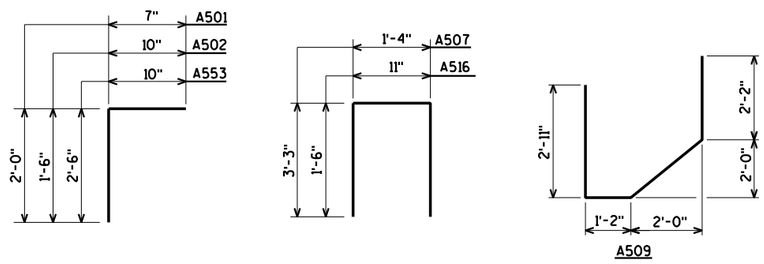
FOR LOCATIONS OF SECTIONS A & B SEE SHEET 4

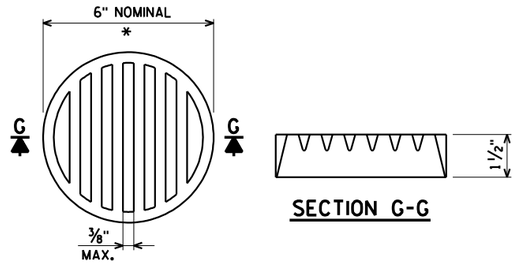


SECTION A



SECTION B





SECTION G-G

* 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.

RODENT SHIELD DETAIL

◨ FIELD CUT AND SPACE BARS TO MISS UTILITY BLOCK OUTS

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON THIS SHEET.

△ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT AND WINGS.

▨ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

DRAWN BY CLS | PLANS CK'D. CBM

WEST ABUTMENT DETAILS AND BILL OF BARS

SHEET 7 OF 30
299

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Eau Claire, WI 54701
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STATE PROJECT NUMBER

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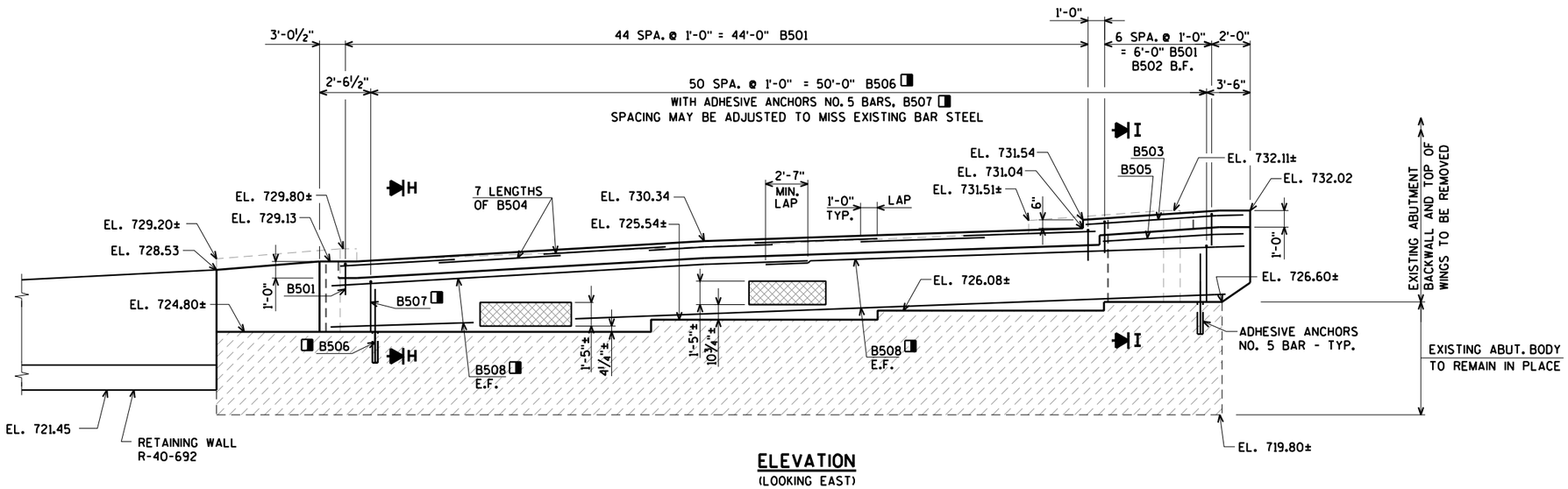
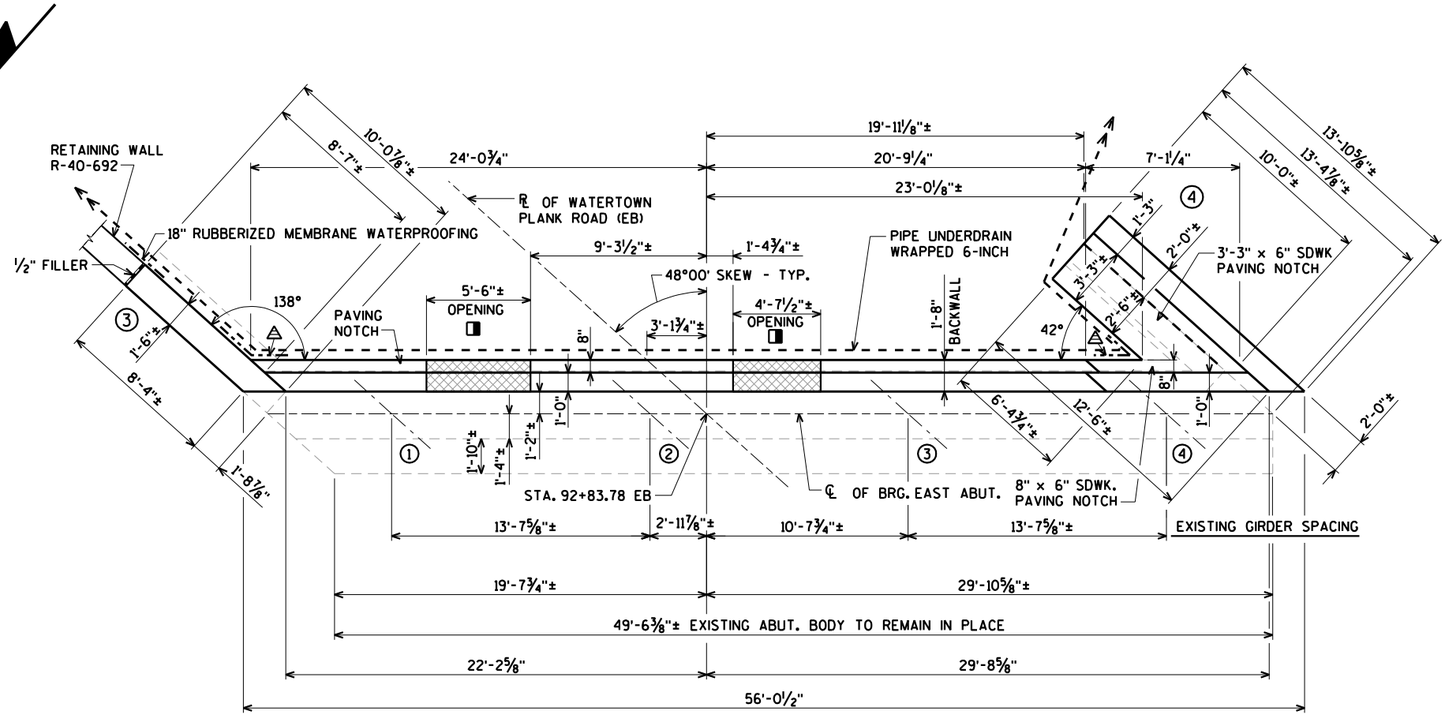


ELEVATION
(LOOKING EAST)

FOR SECTIONS H & I SEE SHEET 11



PLAN

◨ FIELD CUT AND SPACE BARS TO MISS UTILITY BLOCK OUTS

△ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT AND WINGS.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

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EAST ABUTMENT

SHEET 8 OF 30
300

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STATE PROJECT NUMBER

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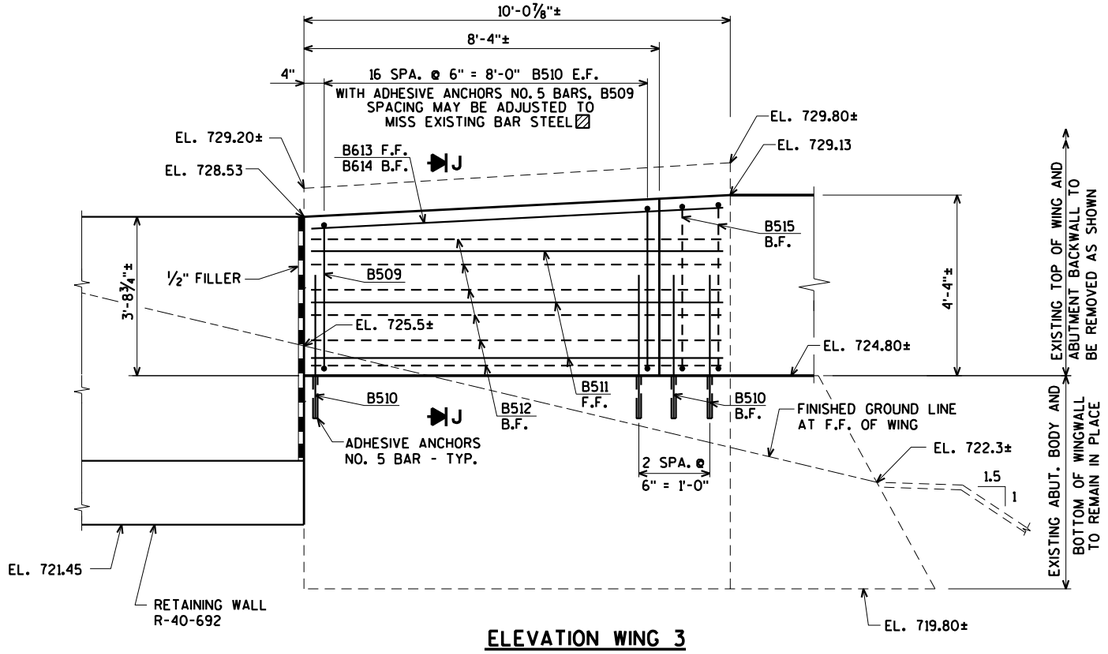
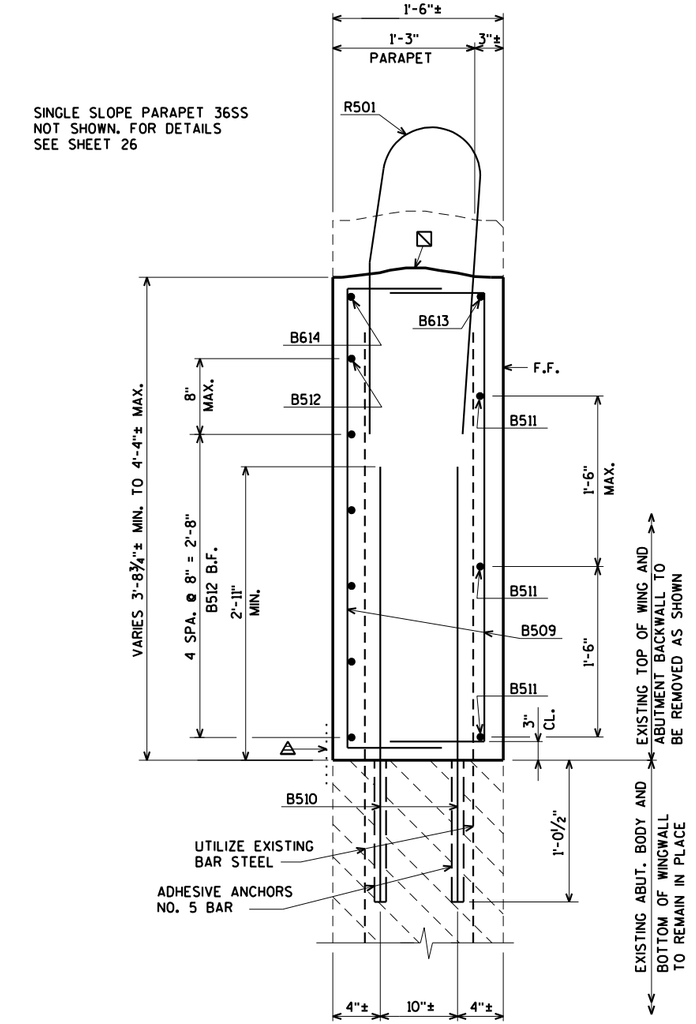
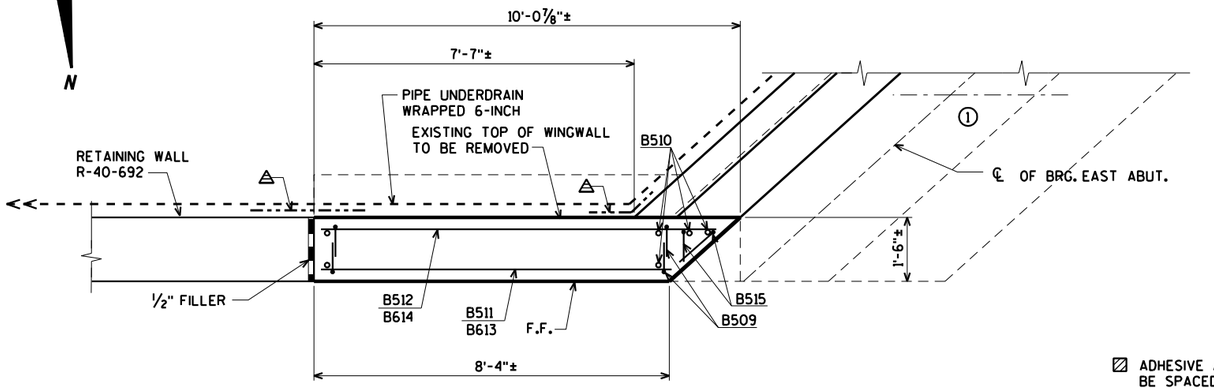


ELEVATION WING 3



SECTION J



PLAN - WING 3

▨ ADHESIVE ANCHORS NO. 5 BARS SHALL NOT BE SPACED LESS THAN 3¾".

△ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT AND WINGS.

▧ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

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EAST ABUTMENT
WING 3 DETAILS

SHEET 9 OF 30
301

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STATE PROJECT NUMBER

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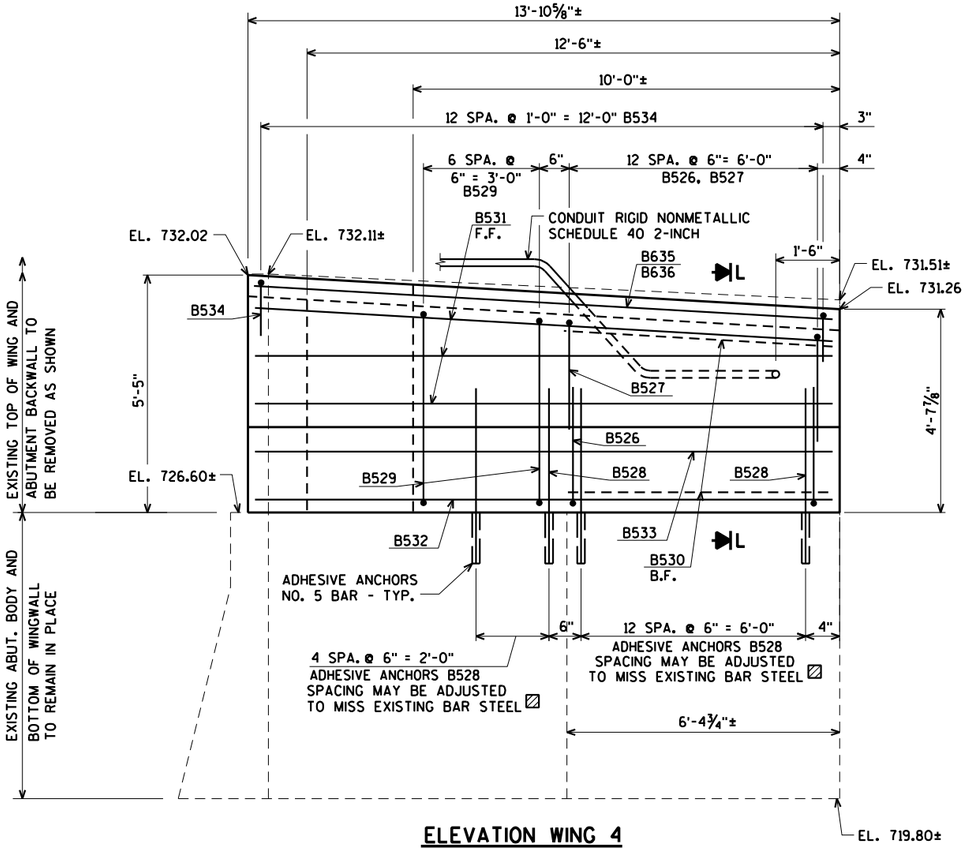
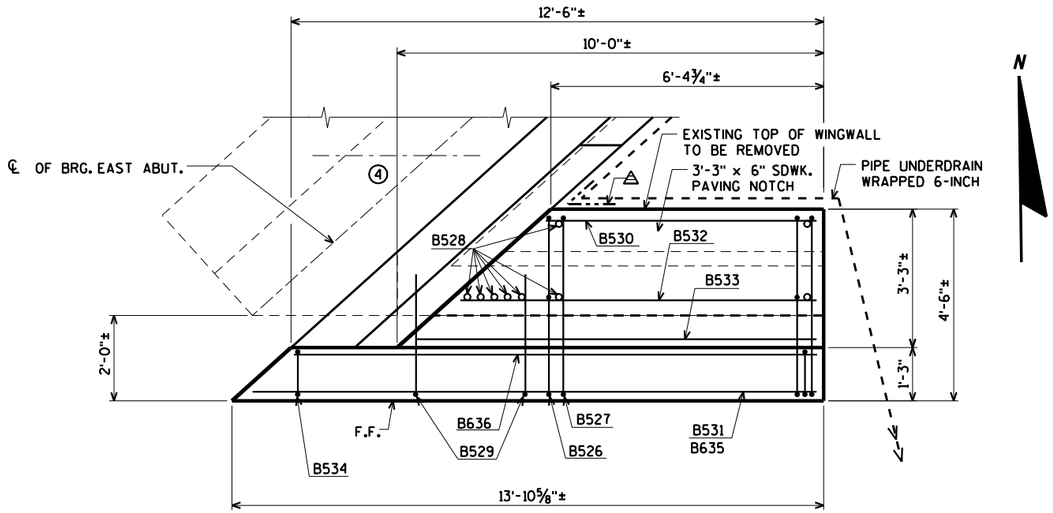
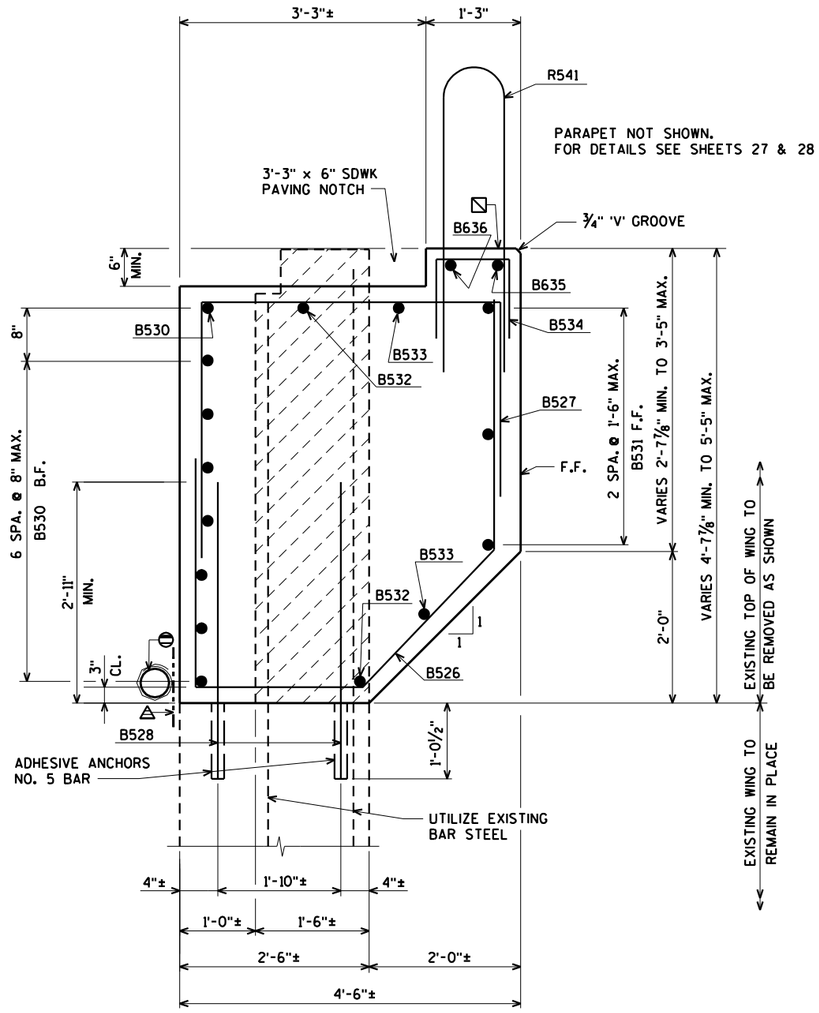


ELEVATION WING 4



PLAN - WING 4



SECTION L

▨ ADHESIVE ANCHORS NO. 5 BARS SHALL NOT BE SPACED LESS THAN 3¾".

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON SHEET 7

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▧ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

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EAST ABUTMENT WING 4 DETAILS

SHEET 10 OF 30
302

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STATE PROJECT NUMBER

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BILL OF BARS

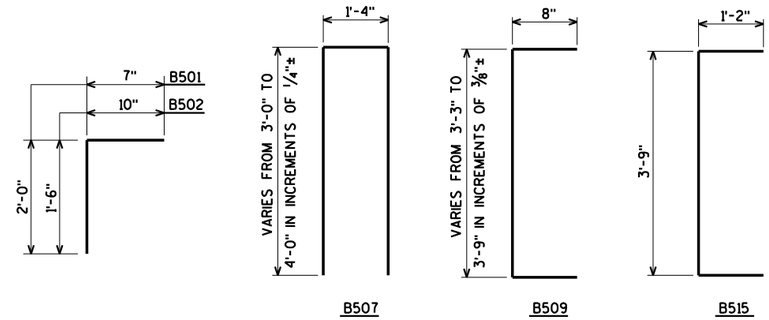
WEIGHT INCLUDES PARAPET STEEL SHOWN ON SHEETS 26 & 27

	BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	3,400# COATED LOCATION
	B501	X	104	2-6	X			PAVING BLOCK VERT. DOWELS
	B502	X	7	2-3	X			PAVING BLOCK VERT. DOWELS @ SDWK B.F.
	B503	X	3	8-3				PAVING BLOCK HORIZ. @ SDWK
	B504	X	21	8-0				PAVING BLOCK HORIZ.
	B505	X	2	7-6				BACKWALL HORIZ. @ SDWK E.F.
▲	B506	X	102	4-0				BACKWALL VERT. DOWELS E.F.
	B507	X	51	8-2	X		⊗	BACKWALL VERT.
	B508	X	16	29-1				BACKWALL HORIZ. E.F.
	B509	X	34	4-7	X		⊗	WING 3 VERT. E.F.
▲	B510	X	36	4-0				WING 3 VERT. DOWELS E.F.
	B511	X	3	8-0				WING 3 HORIZ. F.F.
	B512	X	6	9-8				WING 3 HORIZ. B.F.
	B613	X	1	8-0				WING 3 HORIZ. F.F. TOP
	B614	X	1	9-8				WING 3 HORIZ. B.F. TOP
	B515	X	2	5-11	X			WING 3 VERT. @ CORNER B.F.
	B526	X	13	9-9	X			WING 4 VERT.
	B527	X	13	8-10	X			WING 4 VERT.
▲	B528	X	31	4-0				WING 4 VERT. DOWELS E.F.
	B529	X	7	9-6	X			WING 4 VERT. F.F.
	B530	X	8	6-1				WING 4 HORIZ. B.F.
	B531	X	3	13-5				WING 4 HORIZ. F.F.
	B532	X	2	7-6				WING 4 HORIZ.
	B533	X	2	9-8				WING 4 HORIZ.
	B534	X	13	3-9	X			WING 4 VERT. TOP
	B635	X	1	13-5				WING 4 HORIZ. TOP
	B636	X	1	12-7				WING 4 HORIZ. TOP

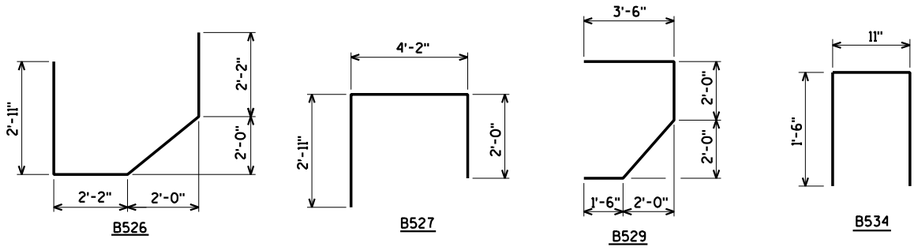
BENDING DIMENSIONS ARE OUT TO OUT OF BARS

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

▲ ADHESIVE ANCHORS NO. 5 BAR



B507 B509 B515



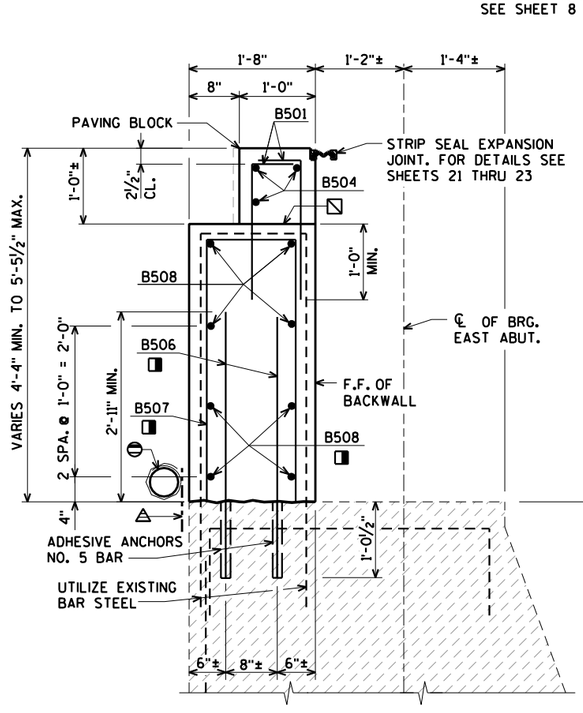
B526 B527 B529 B534

BAR SERIES TABLE

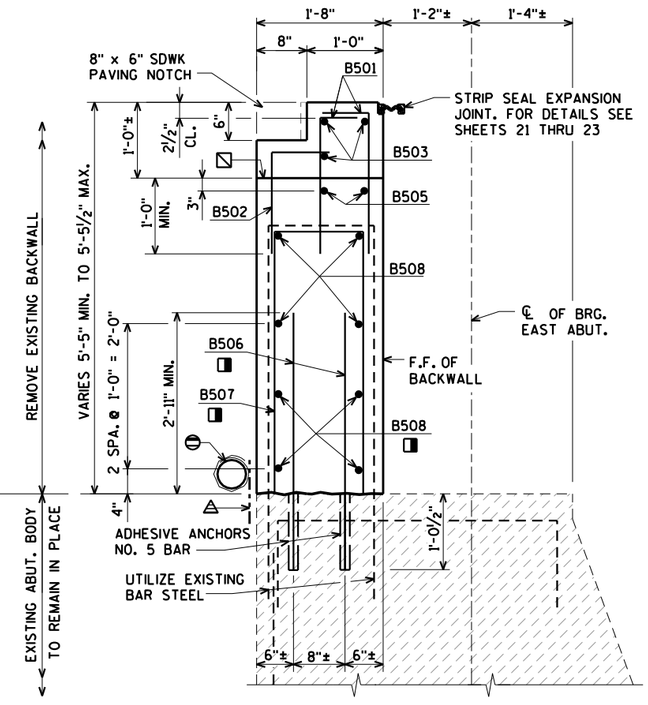
BAR MARK	NO REQ'D.	LENGTH
B507	1 SERIES OF 51	7'-2" TO 9'-2"
B509	2 SERIES OF 17	4'-4" TO 4'-10

BUNDLE AND TAG EACH SERIES SEPARATELY.

FOR LOCATIONS OF SECTIONS H & I SEE SHEET 8



SECTION H



SECTION I

◨ FIELD CUT AND SPACE BARS TO MISS UTILITY BLOCK OUTS

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON SHEET 7.

△ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT AND WINGS.

▨ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

DRAWN BY CLS | PLANS CK'D. CBM

EAST ABUTMENT DETAILS AND BILL OF BARS

SHEET 11 OF 30
303

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STATE PROJECT NUMBER

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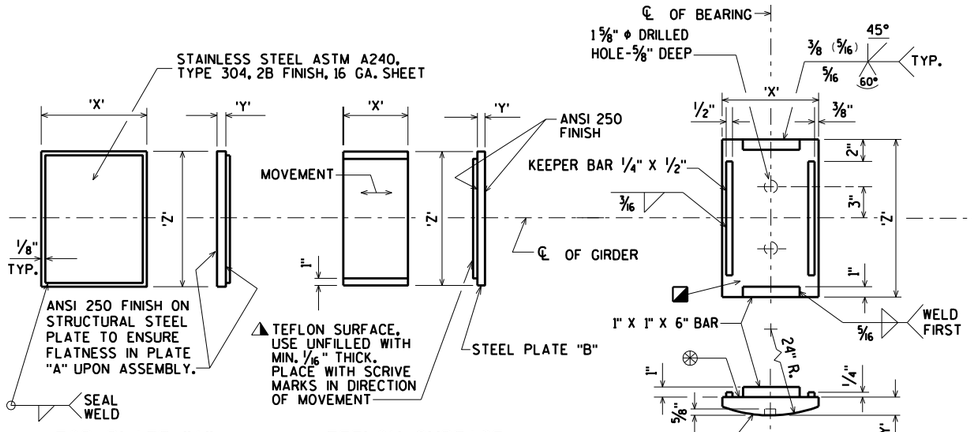


TOP PLATE "A"

TEFLON SURFACE ON PLATE "B"

ROCKER PLATE "C"

TYPE I TYPE II

MASONRY PLATE "D"

*SEE MASONRY PLATE 'D' PLAN DETAILS BELOW

EXPANSION BEARING ASSEMBLY

EXPANSION BEARING

	PLATE "A"			PLATE "B"			PLATE "C"			PLATE "D"			PLATE "D" TYPE	ANCHOR BOLT SIZE	ANCHOR BOLT LENGTH	NO. OF BRG'S REQ'D.	LOCATION	HEIGHT FEET
	'X'	'Y'	'Z'	'X'	'Y'	'Z'	'X'	'Y'	'Z'	'X'	'Y'	'Z'						
EXPANSION BEARING	9"	11/16"	1'-2"	5"	1/2"	1'-2"	7"	1 7/16"	1'-4 1/4"	1'-0"	1 1/2"	2'-0"	I	1 1/4"ϕ	1'-5"	4	AT WEST ABUTMENT	0.365
	9"	11/16"	1'-0"	5"	1/2"	1'-0"	7"	1 7/16"	1'-2 1/4"	1'-5"	1 1/2"	2'-2 1/2"	II	1 1/2"ϕ	3'-0"	4	AT EAST ABUTMENT	0.365

*SEE MASONRY PLATE 'D' PLAN DETAILS BELOW

BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES 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 FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. BOLT LENGTH TO BE AS SHOWN. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS + SHIM PLATE IF APPLICABLE + 2 1/4", ABOVE TOP OF CONCRETE.

CHAMFER TOP OF PINTLES 1/8". DRILL HOLES FOR ALL PINTLES IN MASONRY PLATE "D" FOR A DRIVING FIT.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES, BUT EXCLUDING ANCHOR BOLTS, STAINLESS STEEL SHEET, TEFLON SURFACE, PINTLES, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

PROVIDE 1/8" THICK BEARING PAD THE SAME SIZE AS MASONRY PLATE "D" FOR EACH BEARING.

ALL MATERIAL IN BEARINGS, INCLUDING ANCHOR BOLTS, SHIM PLATES, AND BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-40-470" EACH.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.

PLACE SHIM PLATES BETWEEN BEARING PAD AND MASONRY PLATE "D". PLATES SHALL HAVE "X" AND "Z" DIMENSIONS THAT MATCH MASONRY PLATE "D".

IN LIEU OF USING SHIM PLATES, FABRICATOR MAY INCREASE THICKNESS OF TOP PLATE "A" OR MASONRY PLATE "D" BY THE SHIM PLATE THICKNESS.

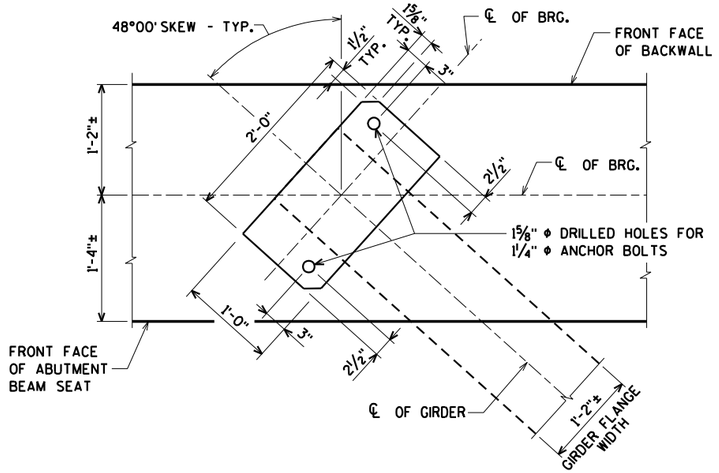
TOP PLATE "A" AND STEEL PLATE "B" SHALL BE SHOP PAINTED. USE A WELDABLE PRIMER ON TOP PLATE "A". ROCKER PLATE "C" AND MASONRY PLATE "D" SHALL BE GALVANIZED. DO NOT PAINT STAINLESS STEEL OR TEFLON SURFACES.

⊛ FINISH THESE SURFACES TO ANSI 250 IF 'Y' DIMENSION IS GREATER THAN 2".

◪ PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.

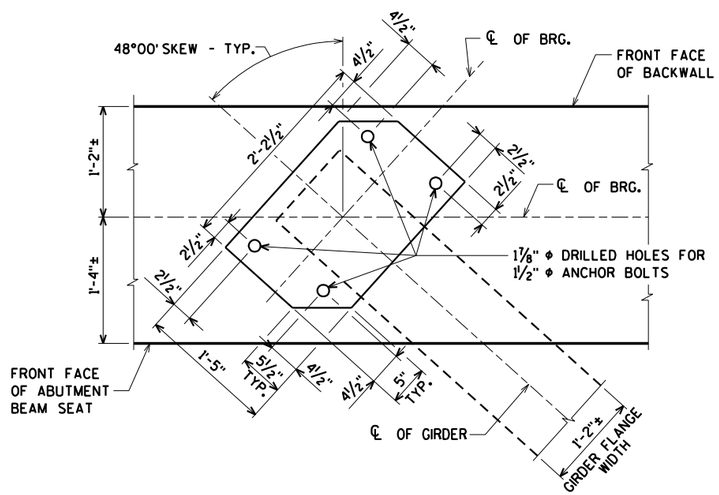
◭ BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING FEDERAL SPECIFICATION MMM-A-134, FEP FILM OR EQUAL.

AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, AND OTHER FOREIGN MATTER.



MASONRY PLATE 'D' PLAN AT WEST ABUTMENT

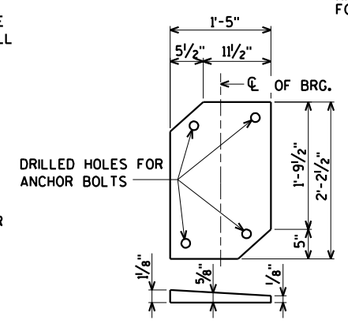
TYPE I



MASONRY PLATE 'D' PLAN AT EAST ABUTMENT

TYPE II

NOTE: ABUTMENT DIAPHRAGMS MAY NEED TO BE REMOVED, SALVAGED, AND REINSTALLED IN KIND IN ORDER TO INSTALL NEW BEARINGS AND ANCHOR BOLTS. COST OF REMOVING, SALVAGING, AND REINSTALLING THE ABUTMENT DIAPHRAGMS IS INCLUDED IN THE BID ITEM "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 91+02 EB".



SHIM PLATE AT EAST ABUTMENT

PLACE SHIM PLATES BETWEEN MASONRY PLATES AND BEARING PADS (4 REQ'D.)

☆TABLE OF FILLET WELD SIZES

MATERIAL THICKNESS OF THICKER PART JOINED.	+ MIN. SIZE OF FILLET WELD
TO 1/2" INCLUSIVE	3/16"
OVER 1/2" TO 3/4"	1/4"
OVER 3/4" TO 1 1/2"	△ 5/16"
OVER 1 1/2"	△ 3/8"

+ EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

△ MIN. PASS SIZE IS 5/16"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

DRAWN BY CLS | PLANS CK'D. CBM

BEARING DETAILS

SHEET 12 OF 30
304

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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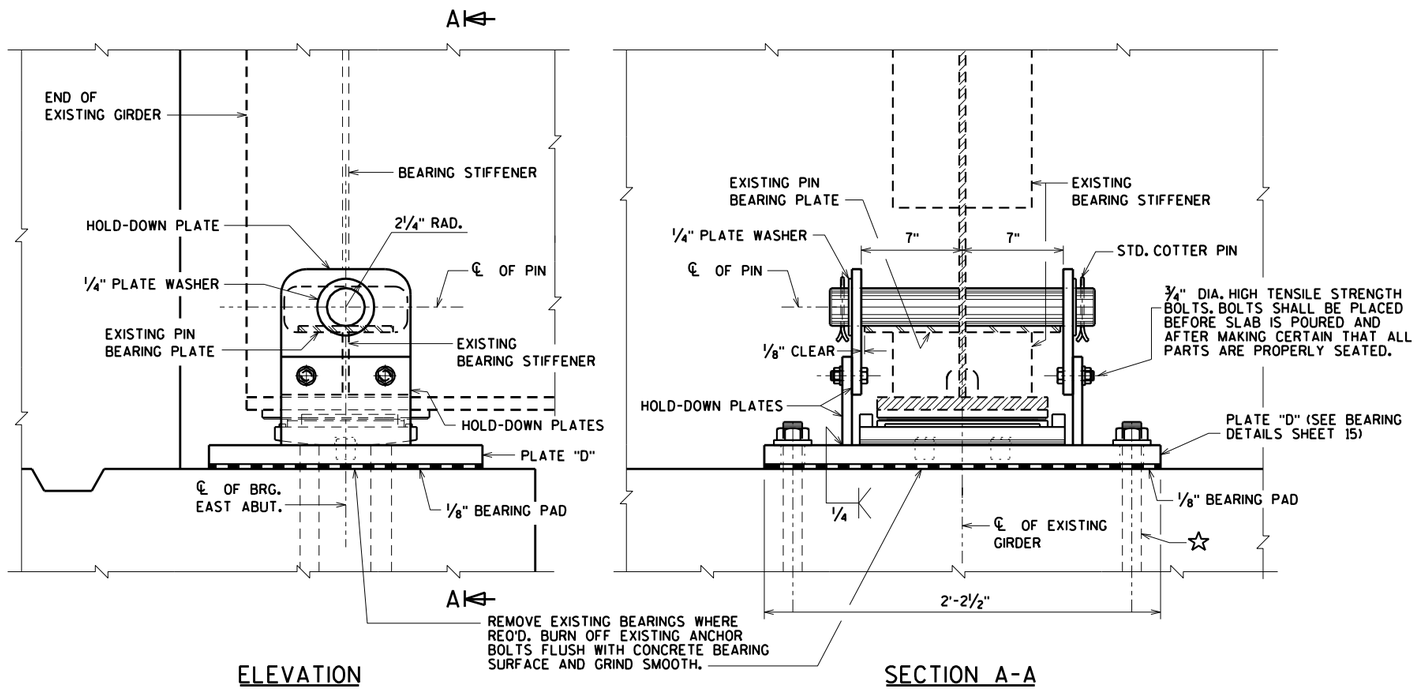
8

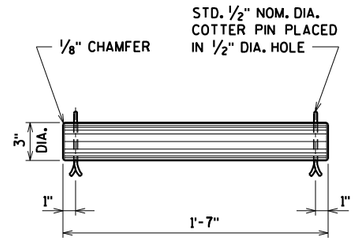
PENTABLE:BReau_shd_util.tbl



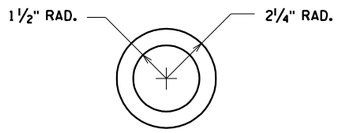
ELEVATION

SECTION A-A

PERMANENT HOLD DOWN DEVICE
(AT EAST ABUTMENT)



PIN DETAIL
COLD ROLLED STEEL OR CARBON STEEL FORGING.



¼" PLATE WASHER

HOLD DOWN DEVICE NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED STEEL PLATES 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.

CHAMFER TOP OF ANCHOR BOLTS PRIOR TO THREADING.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.

THE MATERIAL FOR THE HOLD-DOWN PLATES SHALL CONFORM TO ASTM A709 GRADE 50W.

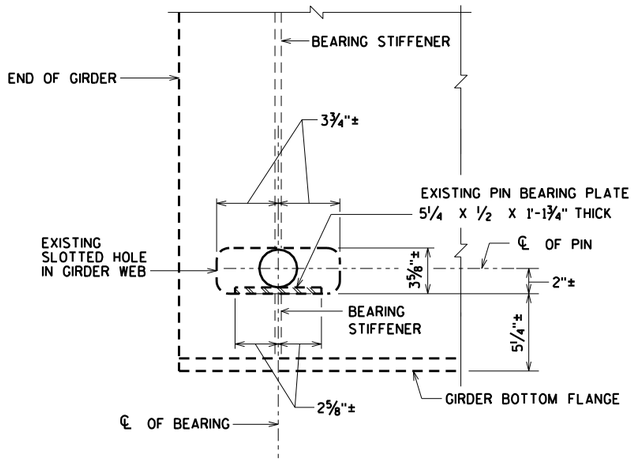
ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

PROVIDE ⅛" THICK BEARING PAD THE SAME SIZE AS PLATE "D" FOR EACH BEARING.

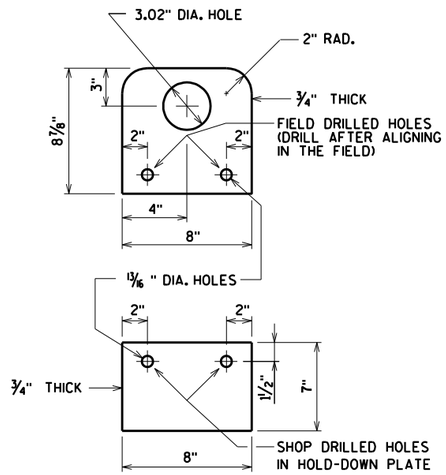
ALL MATERIAL IN HOLD DOWN DEVICES, WHICH INCLUDES HOLD-DOWN PLATES, HIGH TENSILE STRENGTH BOLTS, PINS AND ANCHOR BOLTS, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-40-470", EACH.

☆ ANCHOR BOLTS SHALL BE 1½" DIA. X 3'-0" LONG AND FULLY THREADED ADHESIVE ANCHORS. ANCHOR BOLTS SHALL BE PAID FOR AS "ADHESIVE ANCHORS 1½- INCH". EMBED IN CONCRETE AS DETAILED.

PROJECT ANCHOR BOLTS MASONRY PLATE 'D' THICKNESS + 2¼" ABOVE TOP OF CONCRETE.



GIRDER DETAIL



HOLD-DOWN PLATES

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

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EAST ABUTMENT HOLD DOWN DEVICE

SHEET 13 OF 30
305

ORIGINAL PLANS PREPARED BY
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U:\42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County\BRIDGE new Jan 2017\B-40-470\42080

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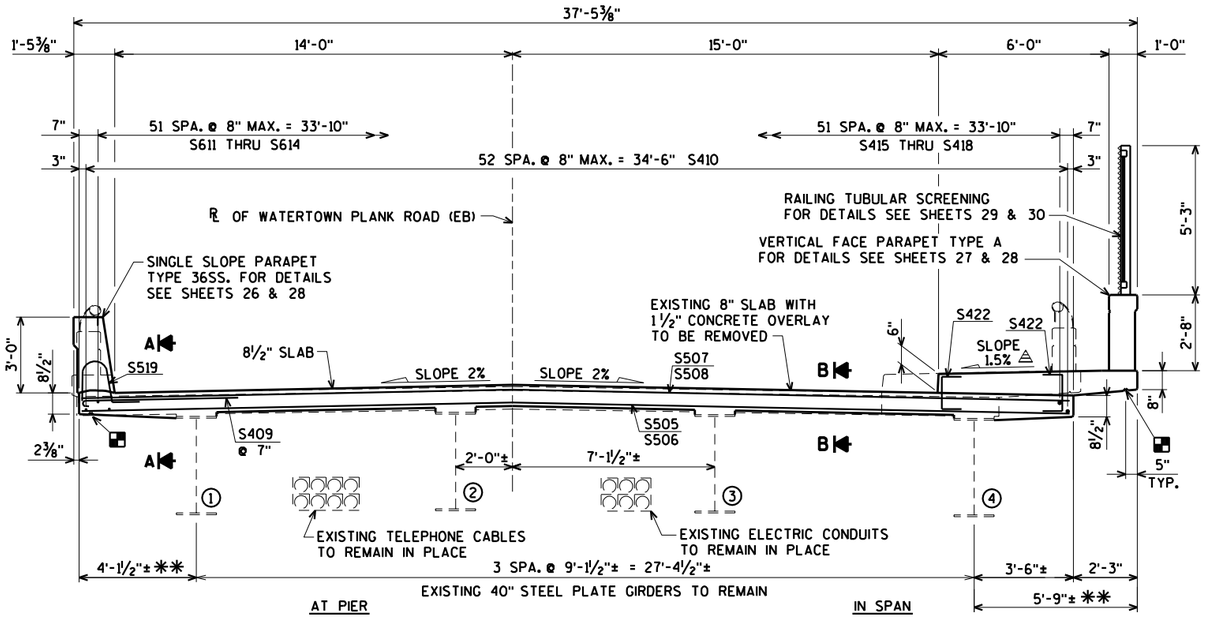
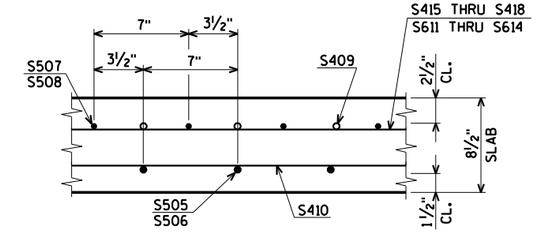
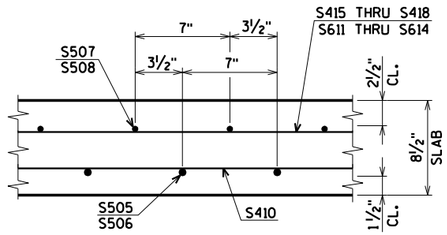


TYPICAL CROSS SECTION THRU DECK

(LOOKING EAST)



SECTION A



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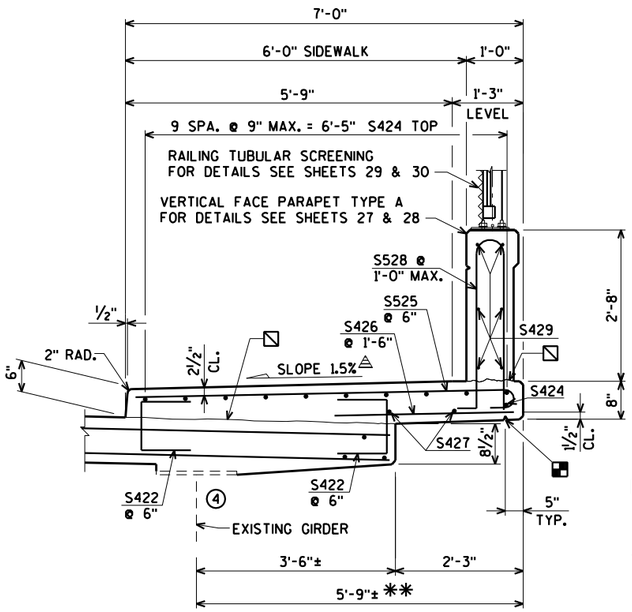
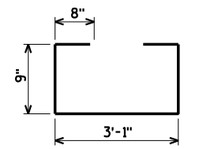
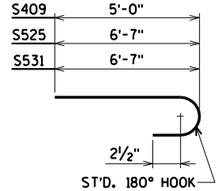


SECTION AT SIDEWALK

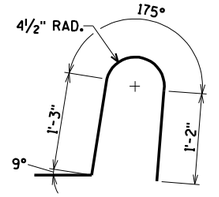
(LOOKING EAST)



S401



ST'D. 180° HOOK



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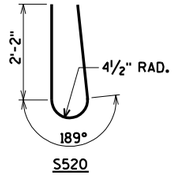

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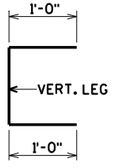

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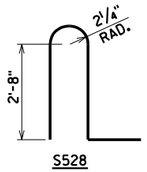

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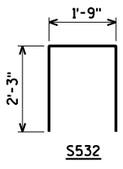

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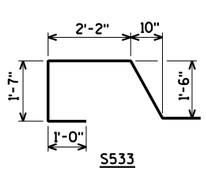

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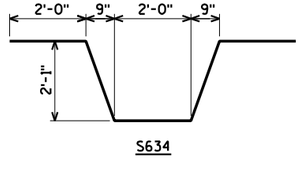

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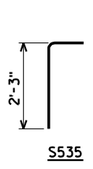

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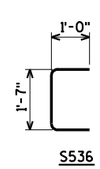

S536

BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	109,660# COATED LOCATION
S401	X	66	5-7	X		DIAPH. @ ABUT. VERT.
S702	X	30	11-7			DIAPH. @ ABUT. HORIZ. BOT.
S403	X	12	11-7			DIAPH. @ ABUT. HORIZ.
S404	X	12	11-7			DIAPH. @ ABUT. HORIZ. TOP
S505	X	559	34-8			SLAB TRANS. BOT.
S506	X	128	18-0		⊗	SLAB TRANS. BOT. SPANS 1 & 5
S507	X	560	34-8			SLAB TRANS. TOP
S508	X	128	17-9		⊗	SLAB TRANS. TOP SPANS 1 & 5
S409	X	616	5-7	X		SLAB TRANS. TOP @ PARAPET
S410	X	530	38-2			SLAB LONG. BOT.
S611	X	52	47-8			SLAB LONG. TOP PIER 1
S612	X	52	41-2			SLAB LONG. TOP PIER 2
S613	X	52	48-0			SLAB LONG. TOP PIER 3
S614	X	52	58-10			SLAB LONG. TOP PIER 4
S415	X	104	25-1			SLAB LONG. TOP SPAN 1
S416	X	104	29-7			SLAB LONG. TOP SPAN 2
S417	X	104	34-7			SLAB LONG. TOP SPAN 4
S418	X	52	7-11			SLAB LONG. TOP SPAN 5
S519	X	548	4-5	X		PARAPET VERT. @ SLAB
S520	X	548	5-8	X		PARAPET VERT.
S521	X	80	38-10			PARAPET HORIZ.
S422	X	1460	2-7	X		SDWK. VERT. @ SLAB
S523	X	16	5-0			SLAB LONG. @ FLOOR DRAINS
S424	X	110	38-2			SDWK. LONG. TOP
S525	X	730	7-3	X		SDWK. TRANS. TOP
S426	X	244	3-1			SDWK. TRANS. BOT.
S427	X	20	38-2			SDWK. LONG. BOT.
S528	X	366	6-8	X		SDWK. VERT. @ PARAPET
S429	X	60	38-2			PARAPET HORIZ. @ SDWK.
S530	X	24	6-8			SDWK. TRANS. BOT. @ LIGHT STANDARD
S531	X	24	7-3	X		SDWK. TRANS. TOP @ LIGHT STANDARD
S532	X	8	6-0	X		PARAPET VERT. @ LIGHT STANDARD
S533	X	8	7-0	X		PARAPET VERT. @ LIGHT STANDARD
S634	X	14	10-0	X		PARAPET HORIZ. @ LIGHT STANDARD
S535	X	4	3-2	X		PARAPET VERT. @ LIGHT STANDARD
S536	X	4	3-4	X		PARAPET VERT. @ LIGHT STANDARD

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

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

BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
S506	2 SERIES OF 64	1'-6" TO 34'-6"
S508	2 SERIES OF 64	1'-2" TO 34'-4"

BUNDLE AND TAG EACH SERIES SEPARATELY.

■ ¾" V - GROOVE TERMINATE 2'-0" FROM FRONT FACE OF ABUTMENTS - TYP.

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

** TEMPORARILY BRACE THE LOWER FLANGE OF THE EXTERIOR GIRDERS PER STANDARD SPECIFICATIONS SECTION 502.3.2.3 UNTIL THE SIDEWALK AND PARAPETS ARE CONSTRUCTED.

▨ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE X-SLOPE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

DRAWN BY CLS | PLANS CK'D. CBM

SUPERSTRUCTURE

SHEET 14 OF 30
306

STATE PROJECT NUMBER
2035-06-70

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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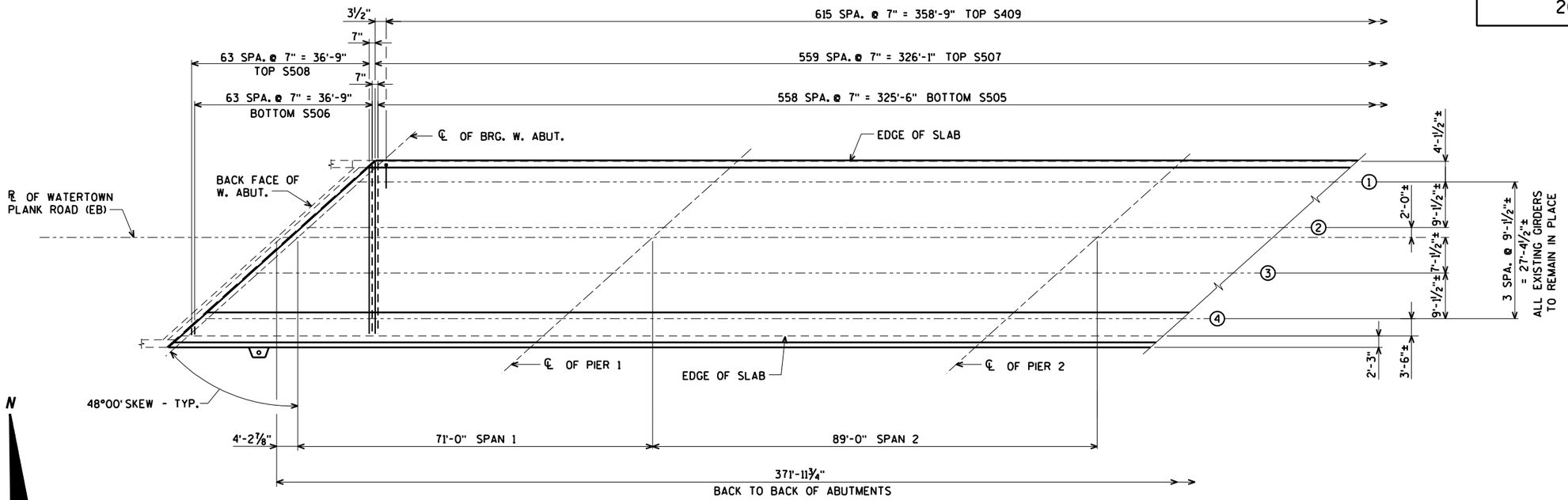
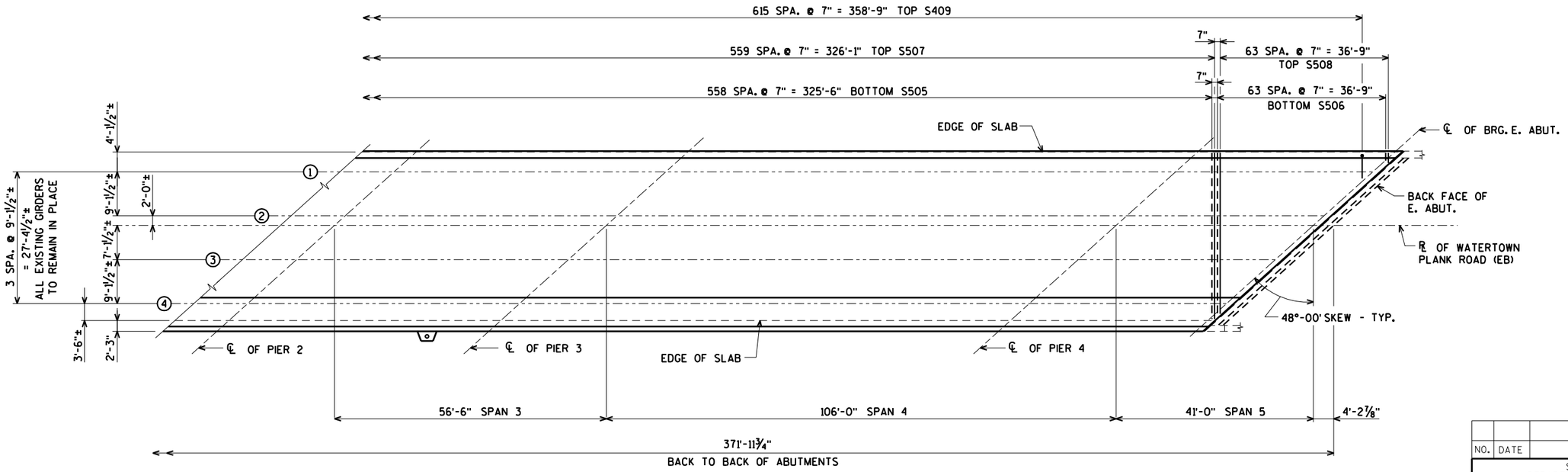
U:\42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County\BRIDGE new Jan 2017\B-40-470\42080

STATE PROJECT NUMBER

2035-06-70



PARTIAL PLAN



PARTIAL PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

DRAWN BY CLS | PLANS CK'D. CBM

TRANSVERSE SLAB STEEL LAYOUT

SHEET 15 OF 30
307

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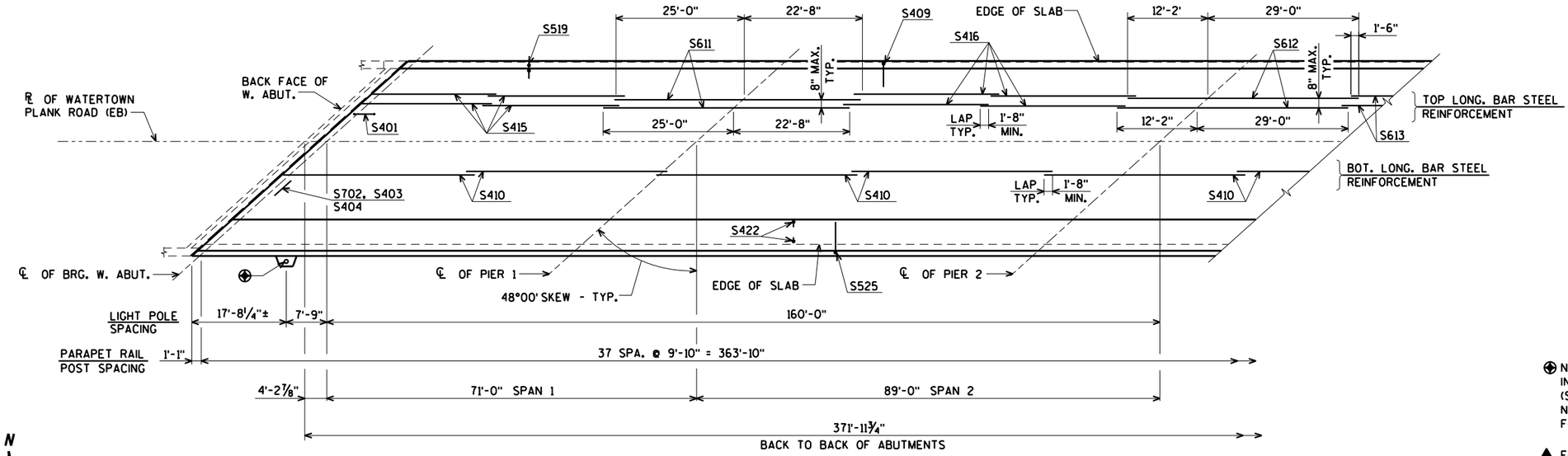
STATE PROJECT NUMBER

2035-06-70



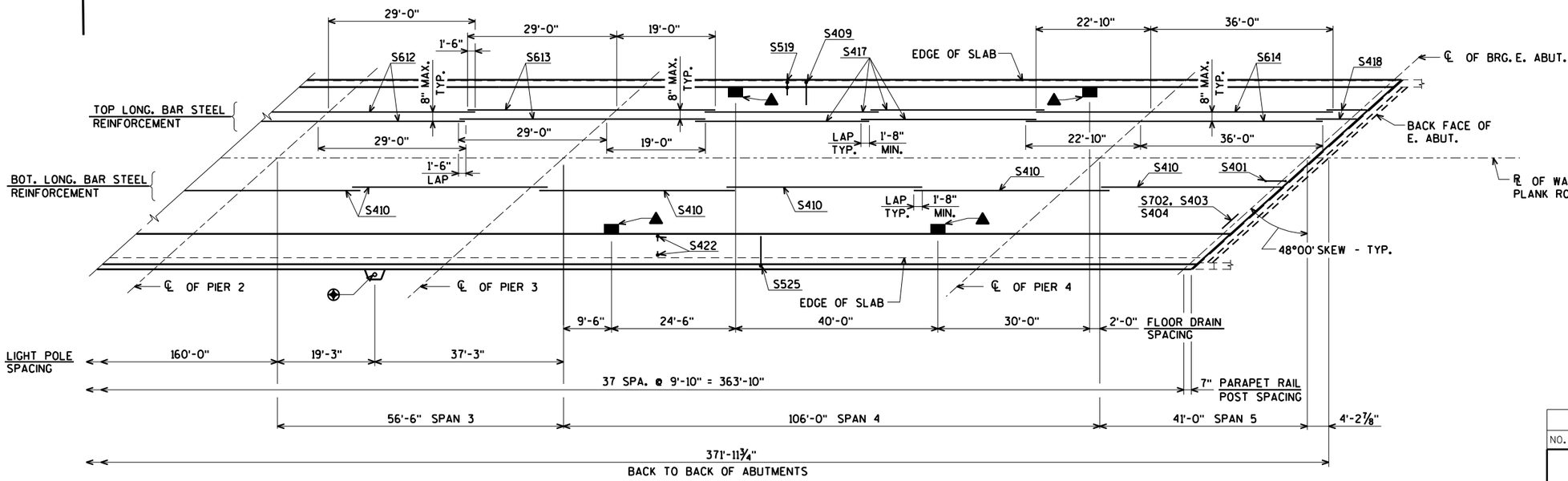
PARTIAL PLAN

N

⊕ NEW LIGHT POLES TO BE INSTALLED - TYP.
(SEE LIGHTING PLANS)
NEW ANCHOR ASSEMBLY REQ'D.
FOR DETAILS SEE SHEET 20

▲ FLOOR DRAIN - TYP.
FOR DETAILS SEE SHEETS 24 & 25

FOR EXISTING GIRDER SPACING
SEE SHEET 15



PARTIAL PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

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SUPERSTRUCTURE PLAN

SHEET 16 OF 30
308

ORIGINAL PLANS PREPARED BY
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TOP OF DECK ELEVATIONS

SPAN 1	℄ OF BRG. WEST ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 1
FACE OF PARAPET	746.14	746.05	745.96	745.85	745.73	745.60	745.46	745.30	745.13	744.95	744.76
GIRDER 1	746.23	746.15	746.06	745.96	745.85	745.72	745.58	745.43	745.27	745.09	744.90
GIRDER 2	746.49	746.44	746.37	746.28	746.19	746.08	745.96	745.83	745.68	745.52	745.35
REF. LINE OF WATERTOWN PLANK ROAD EB	746.56	746.50	746.43	746.35	746.26	746.16	746.04	745.91	745.77	745.61	745.45
GIRDER 3	746.45	746.41	746.36	746.30	746.22	746.13	746.03	745.91	745.78	745.64	745.49
GIRDER 4	746.31	746.28	746.25	746.20	746.14	746.07	745.99	745.89	745.78	745.66	745.52
EDGE OF DECK	746.24	746.22	746.20	746.16	746.10	746.04	745.96	745.87	745.77	745.65	745.53

SPAN 2	℄ OF PIER 1	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 2
FACE OF PARAPET	744.76	744.49	744.21	743.91	743.59	743.25	742.89	742.51	742.11	741.69	741.25
GIRDER 1	744.90	744.65	744.37	744.08	743.77	743.43	743.08	742.71	742.31	741.90	741.47
GIRDER 2	745.35	745.12	744.87	744.60	744.30	743.99	743.66	743.31	742.94	742.55	742.14
REF. LINE OF WATERTOWN PLANK ROAD EB	745.45	745.22	744.97	744.70	744.42	744.11	743.79	743.44	743.08	742.69	742.29
GIRDER 3	745.49	745.28	745.05	744.80	744.53	744.24	743.93	743.61	743.26	742.89	742.50
GIRDER 4	745.52	745.33	745.13	744.90	744.65	744.39	744.10	743.80	743.47	743.13	742.76
EDGE OF DECK	745.53	745.35	745.15	744.93	744.70	744.44	744.16	743.87	743.55	743.21	742.86

SPAN 3	℄ OF PIER 2	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 3
EDGE OF DECK	741.18	740.89	740.59	740.28	739.97	739.64	739.31	738.98	738.64	738.31	737.97
FACE OF PARAPET	741.25	740.96	740.66	740.36	740.05	739.73	739.40	739.07	738.73	738.39	738.05
GIRDER 1	741.47	741.18	740.89	740.59	740.28	739.96	739.64	739.31	738.98	738.64	738.30
GIRDER 2	742.14	741.87	741.59	741.31	741.01	740.71	740.40	740.08	739.75	739.42	739.09
REF. LINE OF WATERTOWN PLANK ROAD EB	742.29	742.02	741.74	741.46	741.17	740.87	740.56	740.25	739.92	739.59	739.26
GIRDER 3	742.50	742.25	741.98	741.71	741.43	741.14	740.85	740.54	740.23	739.91	739.58
GIRDER 4	742.76	742.52	742.27	742.01	741.75	741.47	741.19	740.90	740.60	740.30	739.98
EDGE OF DECK	742.86	742.62	742.38	742.13	741.87	741.60	741.32	741.04	740.75	740.45	740.14

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION.

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

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DECK ELEVATIONS

SHEET 17 OF 30
309

ORIGINAL PLANS PREPARED BY
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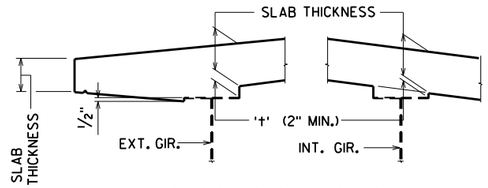
TOP OF DECK ELEVATIONS

SPAN 4	℄ OF PIER 3	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 4
FACE OF PARAPET	738.05	737.41	736.78	736.14	735.51	734.87	734.23	733.60	732.96	732.33	731.69
GIRDER 1	738.30	737.66	737.03	736.39	735.76	735.12	734.48	733.85	733.21	732.58	731.94
GIRDER 2	739.09	738.45	737.82	737.18	736.55	735.91	735.27	734.64	734.00	733.37	732.73
REF. LINE OF WATERTOWN PLANK ROAD EB	739.26	738.63	737.99	737.36	736.72	736.08	735.45	734.81	734.18	733.54	732.90
GIRDER 3	739.58	738.96	738.32	737.69	737.05	736.42	735.78	735.14	734.51	733.87	733.24
GIRDER 4	739.98	739.37	738.75	738.11	737.48	736.84	736.21	735.57	734.93	734.30	733.66
EDGE OF DECK	740.14	739.54	738.92	738.29	737.65	737.02	736.38	735.74	735.11	734.47	733.84

SPAN 5	℄ OF PIER 4	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF BRG. EAST ABUT.
FACE OF PARAPET	731.69	731.44	731.20	730.95	730.71	730.46	730.21	729.97	729.72	729.48	729.23
GIRDER 1	731.94	731.69	731.45	731.20	730.96	730.71	730.46	730.22	729.97	729.73	729.48
GIRDER 2	732.73	732.48	732.24	731.99	731.75	731.50	731.25	731.01	730.76	730.52	730.27
REF. LINE OF WATERTOWN PLANK ROAD EB	732.90	732.66	732.41	732.17	731.92	731.67	731.43	731.18	730.94	730.69	730.44
GIRDER 3	733.24	732.99	732.74	732.50	732.25	732.01	731.76	731.51	731.27	731.02	730.78
GIRDER 4	733.66	733.42	733.17	732.92	732.68	732.43	732.19	731.94	731.69	731.45	731.20
EDGE OF DECK	733.84	733.59	733.34	733.10	732.85	732.61	732.36	732.11	731.87	731.62	731.38

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION.



SLAB HAUNCH DETAIL

IF 2" 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 SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN AND PROFILE BY MORE THAN ½".

TO DETERMINE 'T', ELEV. OF TOP OF GIRDERS AT ℄ OF SUBSTRUCTURE UNITS AND 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
+ DEADLOAD DEFLECTION
-SLAB THICKNESS
=HAUNCH HEIGHT 't'

NOTE:
AN AVERAGE HAUNCH ('T') OF 2⅜" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES"

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DECK ELEVATIONS

SHEET 18 OF 30
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ORIGINAL PLANS PREPARED BY
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TABLE OF DEFLECTIONS

GIRDERS 1-3												
	DEFLECTION	℄ BRG.	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	℄ BRG.
SPAN 1	CONCRETE ONLY	0.0	0.3	0.6	0.8	0.8	0.8	0.7	0.6	0.3	0.2	0.0
SPAN 2	CONCRETE ONLY	0.0	0.4	0.8	1.2	1.5	1.6	1.5	1.3	0.9	0.5	0.0
SPAN 3	CONCRETE ONLY	0.0	-0.3	-0.5	-0.6	-0.7	-0.8	-0.8	-0.7	-0.6	-0.4	0.0
SPAN 4	CONCRETE ONLY	0.0	0.8	1.6	2.3	2.8	2.9	2.6	2.1	1.4	0.6	0.0
SPAN 5	CONCRETE ONLY	0.0	-0.2	-0.3	-0.4	-0.5	-0.4	-0.4	-0.3	-0.2	0.1	0.0

GIRDER 4												
	DEFLECTION	℄ BRG.	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	℄ BRG.
SPAN 1	CONCRETE ONLY	0.0	0.3	0.6	0.7	0.8	0.8	0.7	0.5	0.3	0.1	0.0
SPAN 2	CONCRETE ONLY	0.0	0.3	0.7	1.1	1.4	1.5	1.5	1.2	0.9	0.5	0.0
SPAN 3	CONCRETE ONLY	0.0	-0.3	-0.4	-0.6	-0.7	-0.7	-0.7	-0.6	-0.6	-0.3	0.0
SPAN 4	CONCRETE ONLY	0.0	0.7	1.5	2.1	2.5	2.6	2.3	1.8	1.2	0.5	0.0
SPAN 5	CONCRETE ONLY	0.0	-0.2	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	-0.2	-0.1	0.0

DEFLECTIONS ARE GIVEN IN INCHES.
NEGATIVE DEFLECTION VALUE DENOTES AN UPWARD DELFECTION.
DEFLECTIONS ARE THEORETICAL AND MAY VARY IN THE FIELD.

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

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TABLE OF DEFLECTIONS

SHEET 19 OF 30
311

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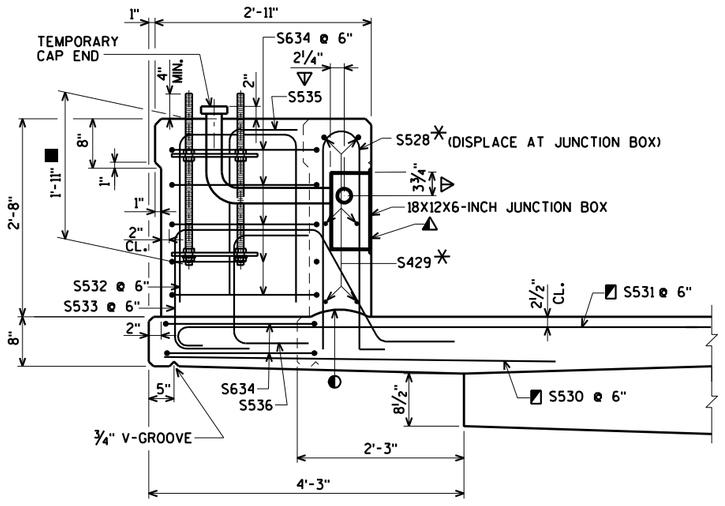
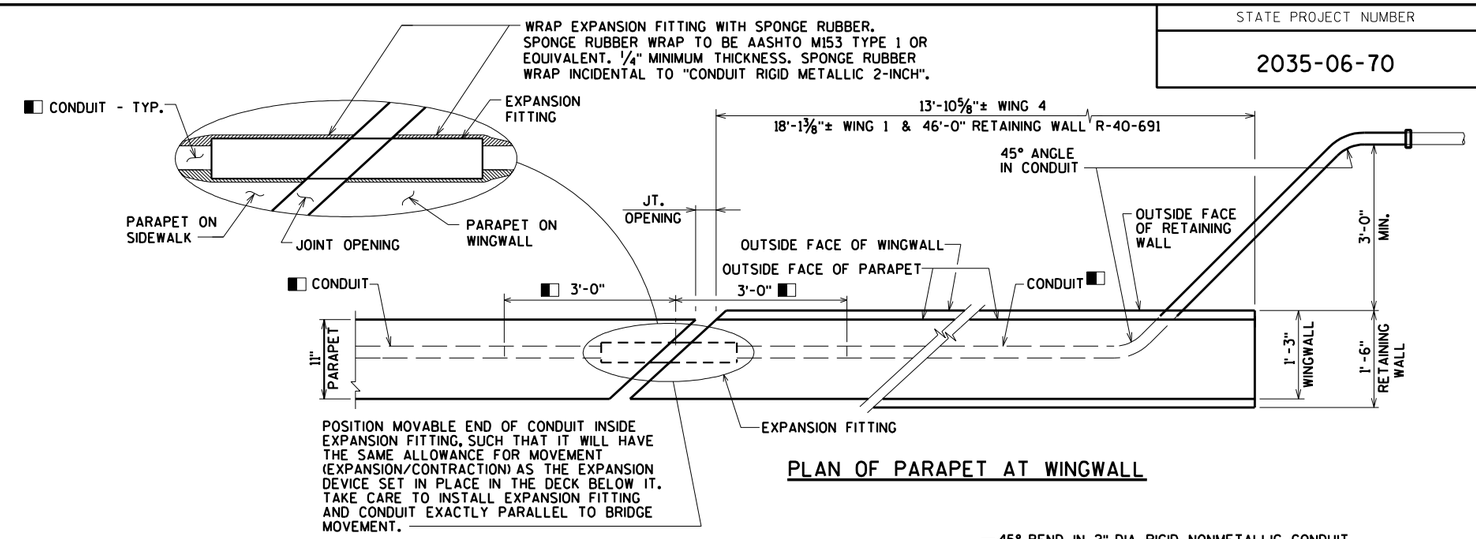
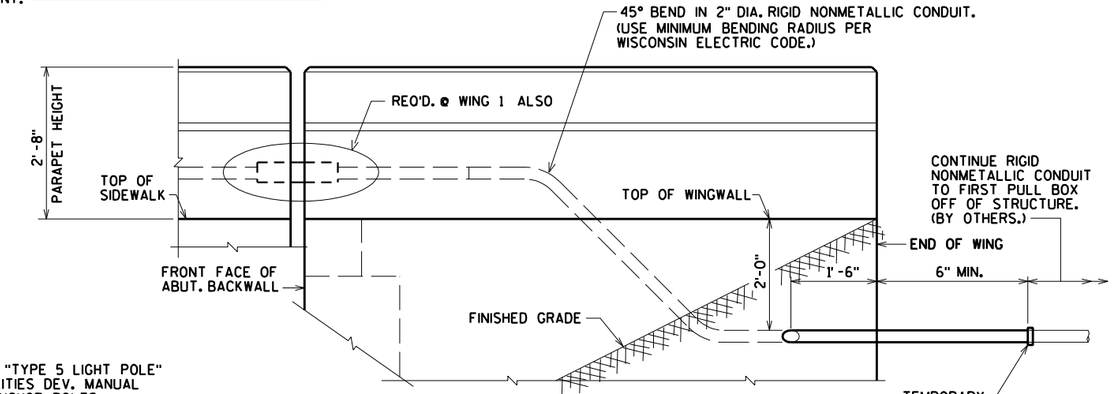


SECTION C-C

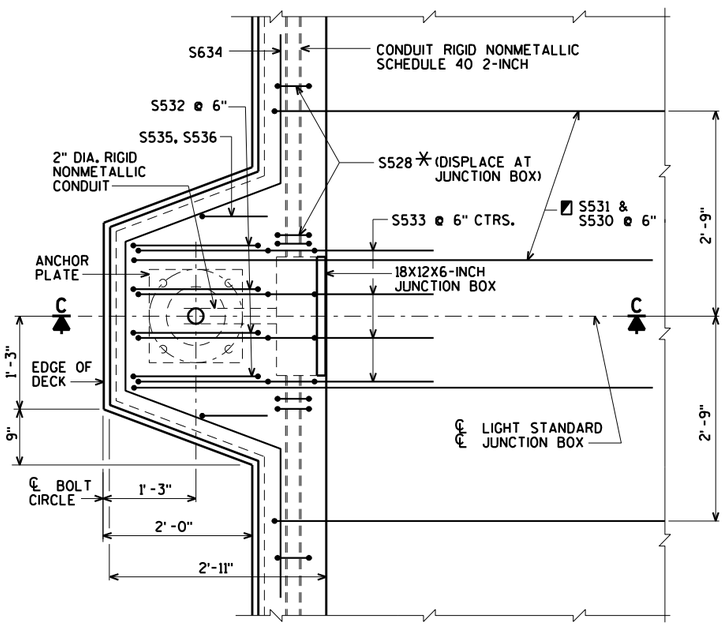


PLAN OF PARAPET AT WINGWALL



OUTSIDE ELEVATION OF PARAPET AT WINGWALL

(WING 4 SHOWN, END OF RETAINING WALL R-40-691 SIMILAR)



PLAN AT LIGHT STANDARD

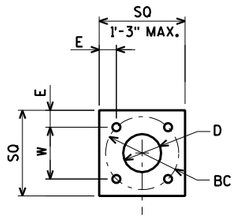
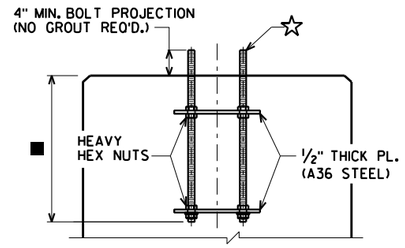


PLATE DETAIL

TABLE FOR "TYPE 5 LIGHT POLE" FROM FACILITIES DEV. MANUAL WITH 1" ϕ ANCHOR BOLTS. (ANY OTHER LIGHT POLE TYPE MUST BE DESIGNED FOR).

SQ	1'-1½"
E	2 11/16 "
W	8⅛"
BC	11½"
D	9½"

W = 0.707 x BC
SQ = BC + 2d
d = ANCHOR BOLT DIA.
E = (SQ-W1/2)
$D_{MAX.}$ = BC - 2d
$D_{MIN.}$ = 2 x CONDUIT DIA. + 1"



ANCHORAGE DETAIL

(2 REQ'D.)

- ■ USE 2" ϕ RIGID NONMETALLIC CONDUIT EXCEPT AT EXPANSION FITTING. AT EXPANSION FITTING USE RIGID METALLIC CONDUIT 3'-0" INTO PARAPET ON DECK OR SIDEWALK AND WING SIDES OF THE JOINT OPENING.
- ■ 1" ϕ ANCHOR BOLTS = 1'-11" < 1" ϕ ANCHOR BOLTS = 1'-2"
- ◐ CONST. JT. STRIKE OFF AS SHOWN
- ◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- ◩ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN SIDEWALK.
- ✳ SEE VERTICAL FACE PARAPET "A" SHEET FOR ADDITIONAL BAR STEEL DETAILS
- ☆ 1" ϕ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153, CLASS C, UPPER 8" (MIN.) OF BOLT INCLUDING NUTS & WASHERS. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X12X6-INCH", EACH.
"ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURE", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
AX-DX FLEXIBLE CONDUIT COUPLING
(4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

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STRUCTURE B-40-470

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SUPERSTRUCTURE LIGHT STANDARD DETAILS

SHEET 20 OF 30
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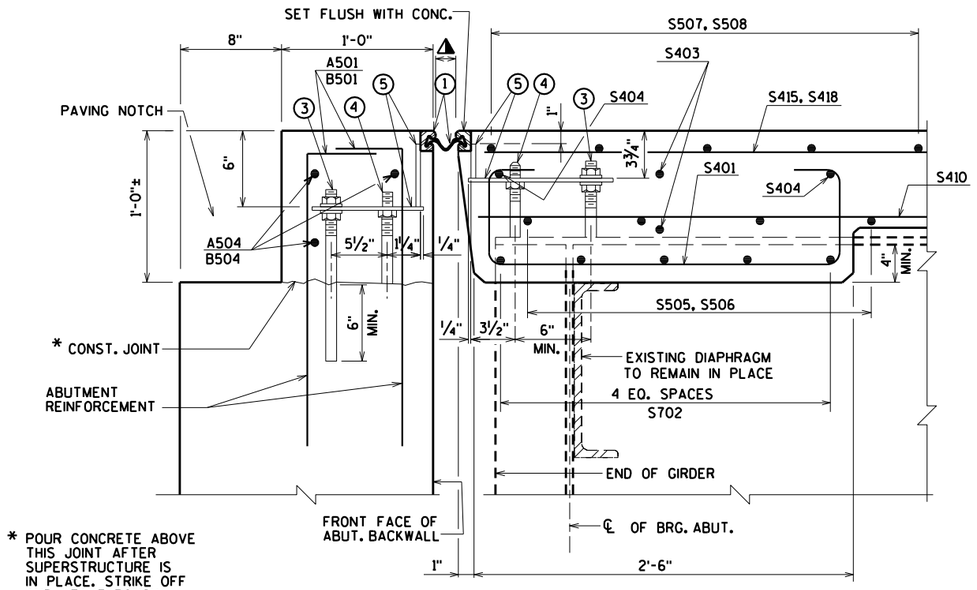


* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

⚠ TEMPERATURE TABLE

SHADED UNDERSIDE DECK TEMP. (°F)	JOINT OPENING (NORMAL TO JT.)
85°	1½"
75°	1⅝"
65°	1¾"
55°	1⅞"
45°	2"
35°	2⅛"
25°	2¼"
15°	2⅜"
5°	2½"

A SMALL JOINT OPENING DUE TO A HIGH TEMPERATURE AT TIME OF CONSTRUCTION MAY REQUIRE NEOPRENE STRIP SEAL INSTALLATION INTO STEEL EXTRUSIONS PRIOR TO SETTING THE EXPANSION JOINT.

LEGEND

⚠ (1) NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.

(2) STUDS ⅝"Φ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) ¾" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾"Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" Φ HOLE FOR NO. 3 AND 1" Φ HOLE FOR NO. 4.

(6) GALVANIZED PLATE ⅜" X 10" X 3'-0" WITH HOLES FOR NO. 7.

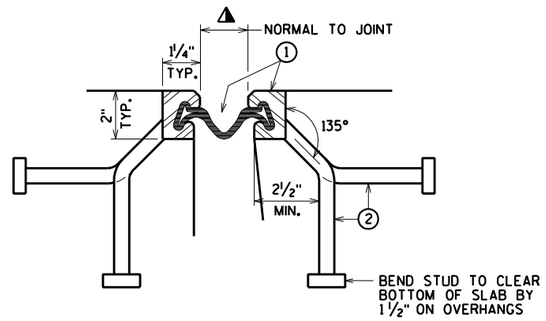
(7) ¾"Φ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) ¾"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) ¾"Φ X 2¼" GALVANIZED THREADED COUPLING.

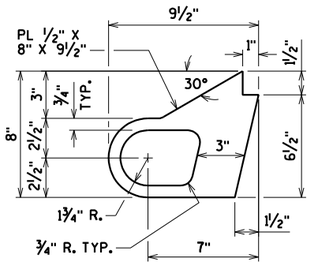
(10) SIDEWALK COVER PLATE ⅜" X 3'-0" WIDE BY LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK WITH HOLES FOR NO. 7. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

(11) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

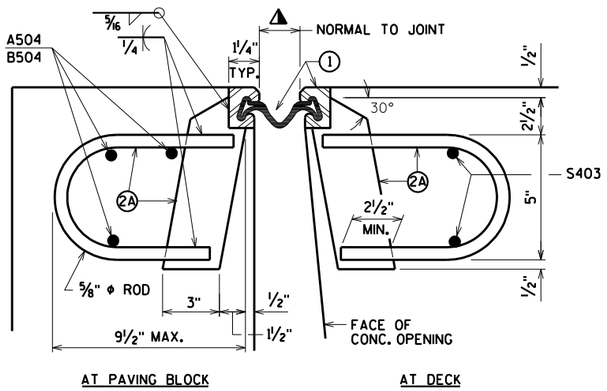


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS AND SIDEWALKS

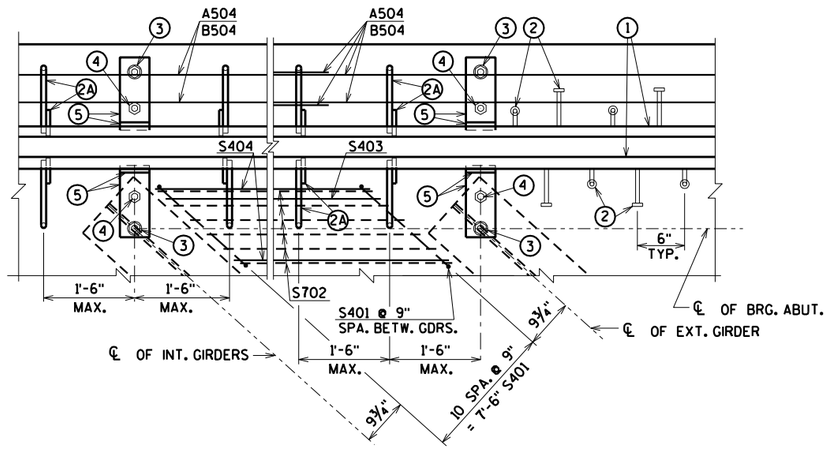


ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-40-470".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

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STRIP SEAL EXPANSION DEVICE

SHEET 21 OF 30
313

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AYRES ASSOCIATES
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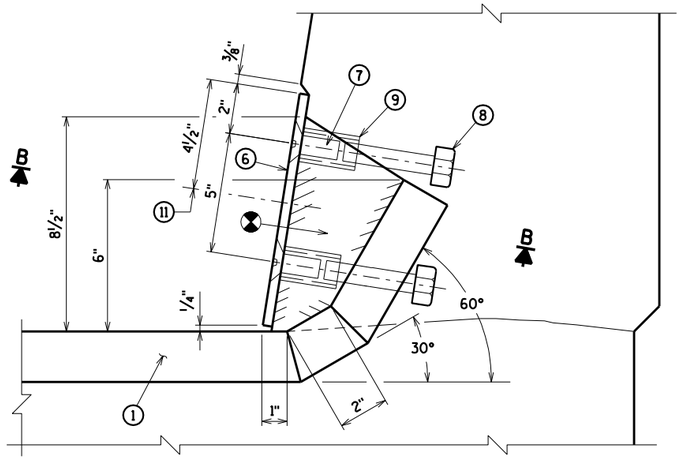
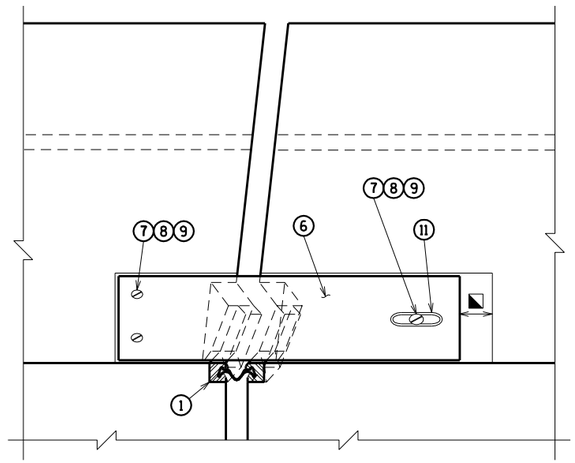
STATE PROJECT NUMBER

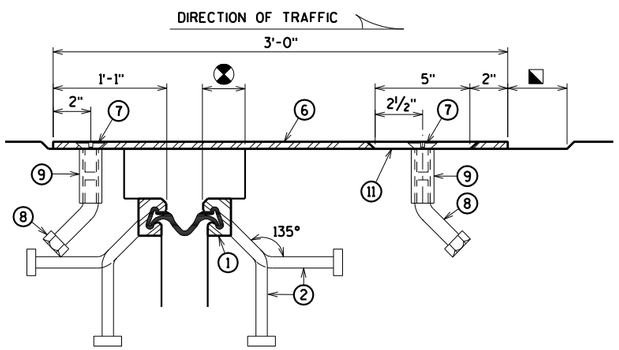
2035-06-70



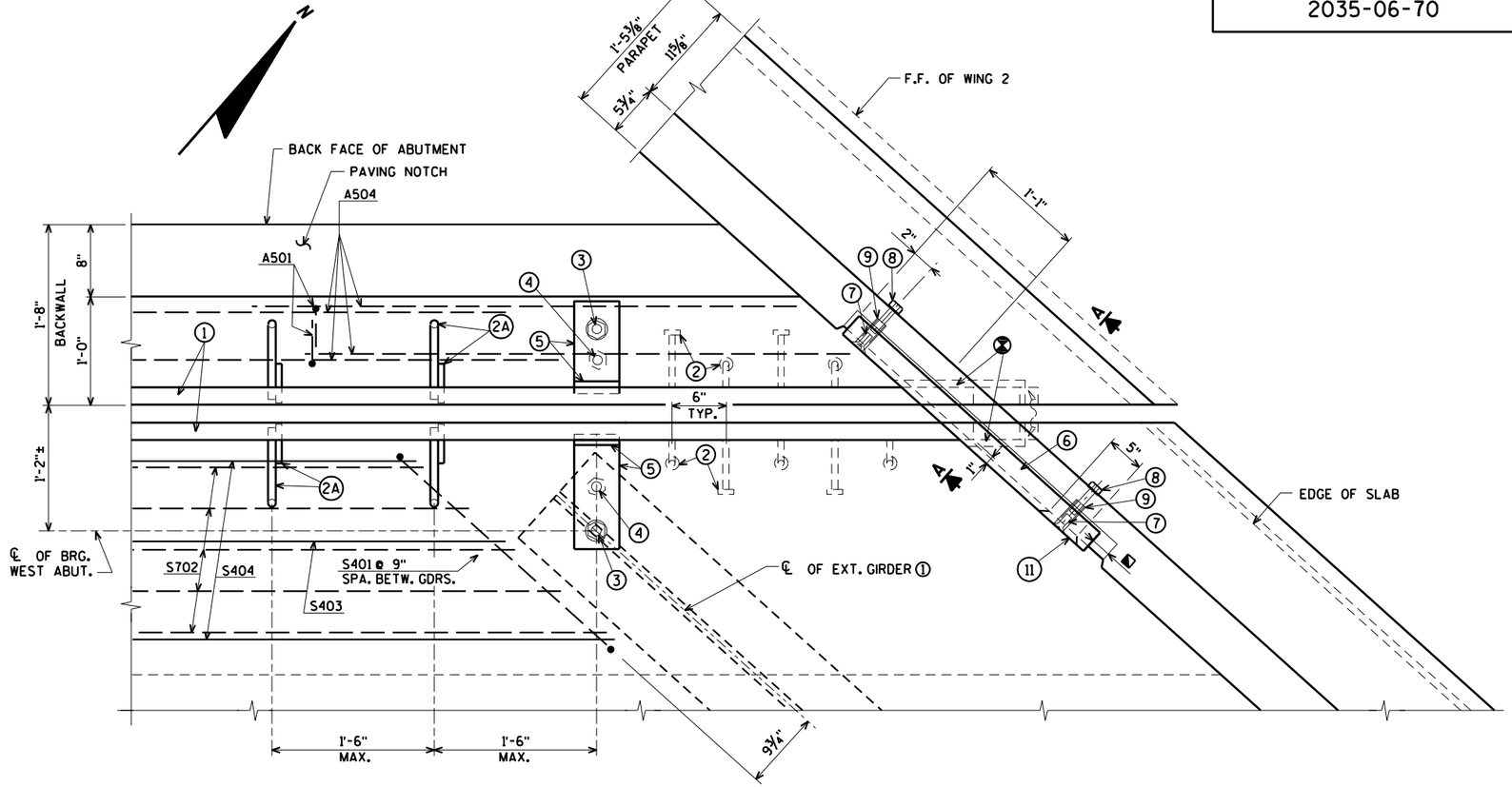
SECTION A-A



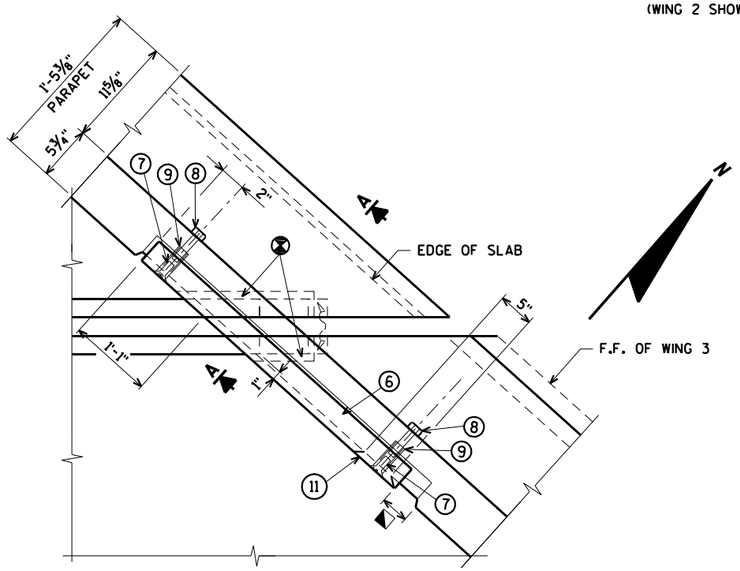
VIEW OF PARAPET PLATE FROM ROADWAY



SECTION B-B



PART PLAN AT PARAPET
(WING 2 SHOWN)



PART PLAN OF PARAPET PLATE
(WING 3)

F.F. DENOTES FRONT FACE

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIM. ALONG SKEW PLUS ½".

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

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PARAPET COVER PLATE DETAILS

SHEET 22 OF 30
314

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
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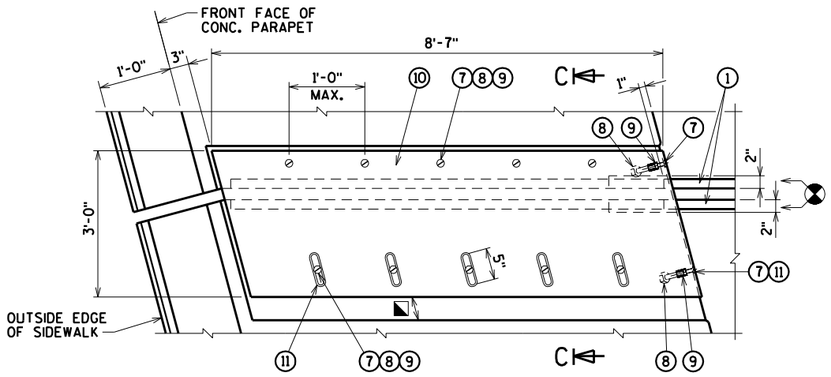
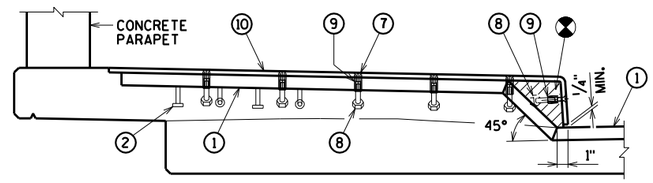
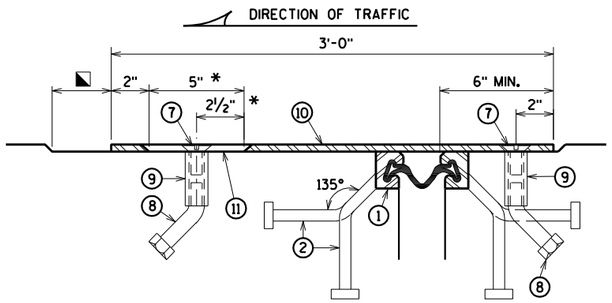


PLAN AT SIDEWALK

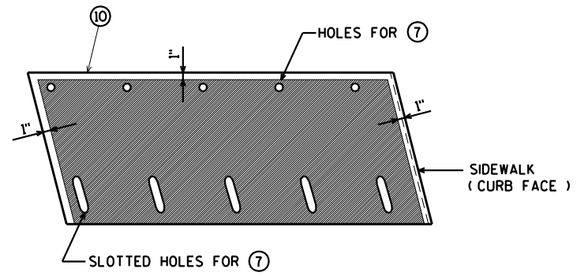


SECTION AT SIDEWALK



SECTION C-C

* DIMENSION ALONG DIRECTION OF MOVEMENT



PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY (NOT ON CURB FACE).

APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◺ JOINT OPENING DIMENSION ALONG SKEW PLUS ½".

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

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SIDEWALK COVER PLATE DETAILS

SHEET 23 OF 30
315

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
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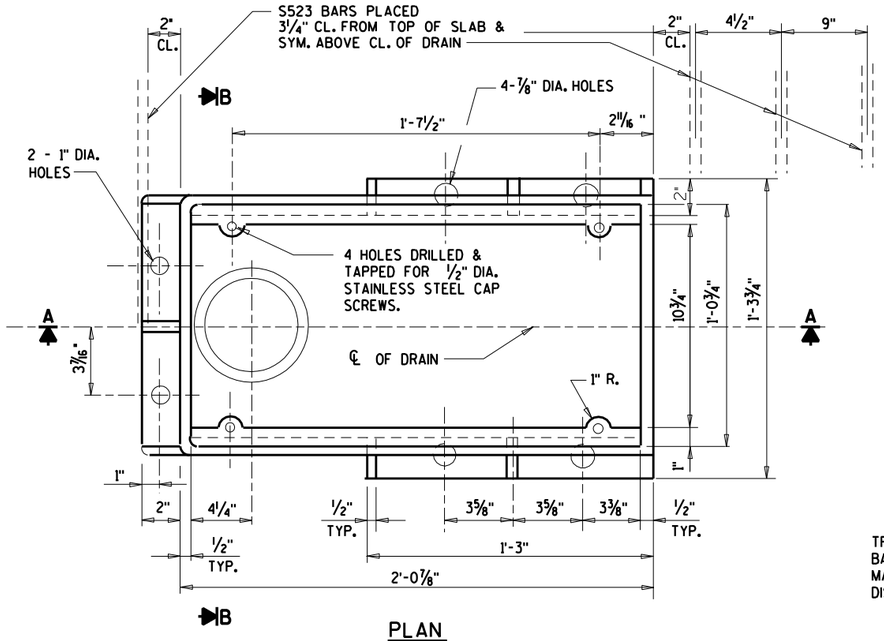
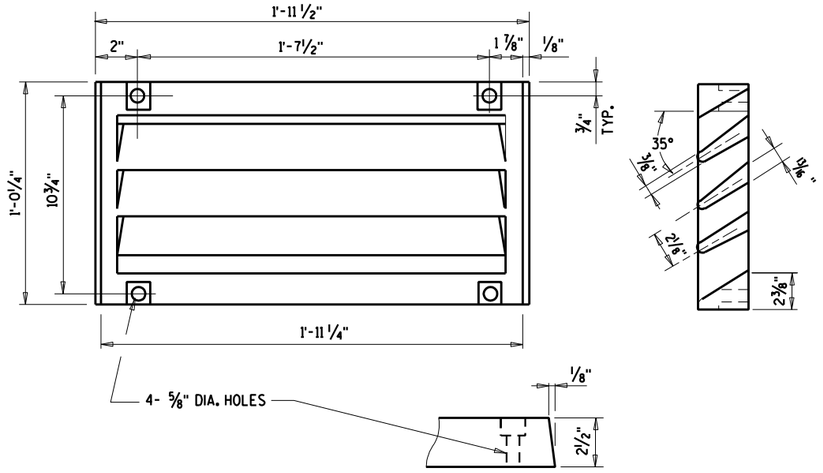
2035-06-70



PLAN



GRATE CASTING DETAIL

ATTACH GRATE TO FRAME FOR SHIPMENT

TRANS. AND LONGIT. SLAB BAR REINF. TO BE CUT A MAX. 1" CL. FROM DRAIN DISPLACE BARS WHERE POSSIBLE

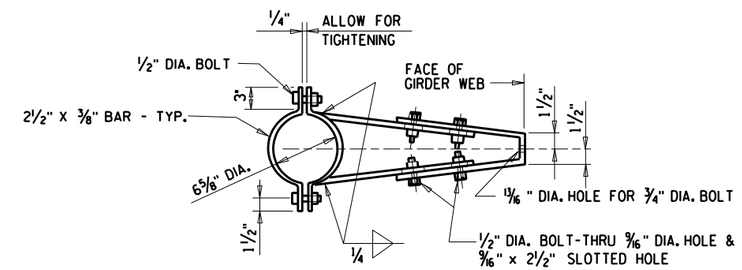
GENERAL NOTES

ALL MATERIAL FOR TYPE "GC" CASTING, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO A.S.T.M. A48, CLASS 30. (APPROX. WEIGHT = 225#)

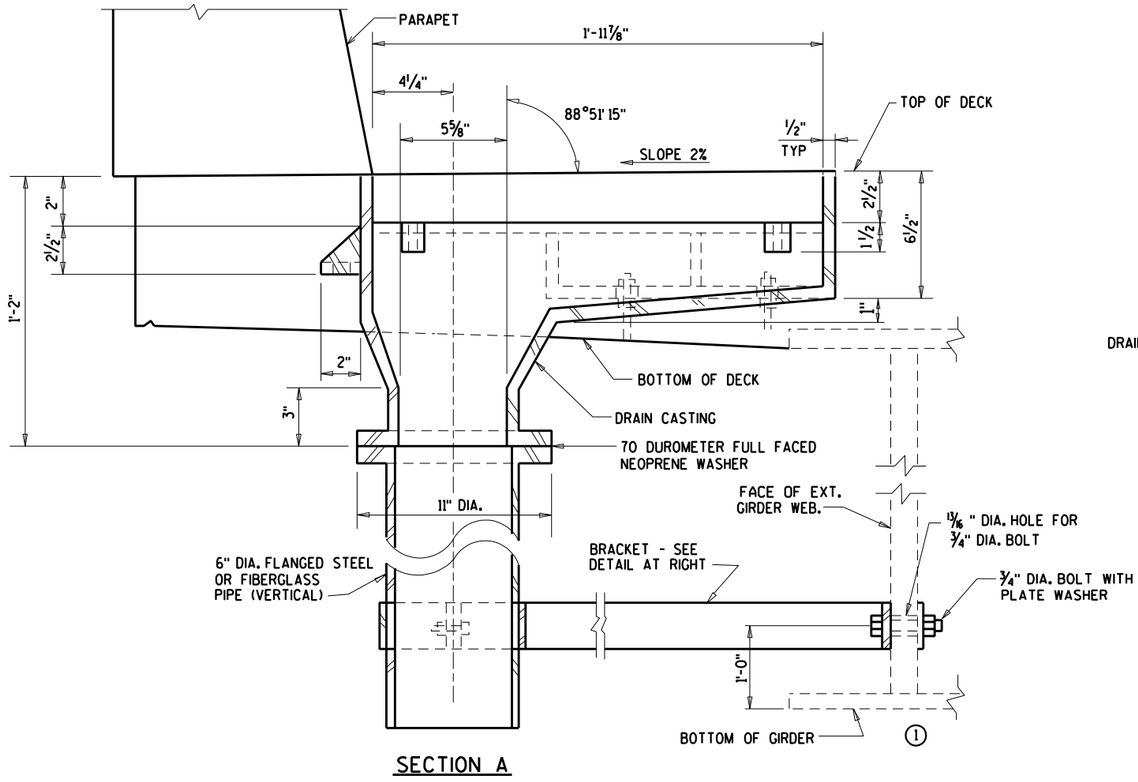
MATERIAL FOR BRACKETS SHALL CONFORM TO A.S.T.M. A36.

THE CONTRACTOR MAY PROPOSE AN ALTERNATE TYPE OF BRACKET. THE PROPOSED ALTERNATE DETAILS SHALL BE SUBMITTED AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

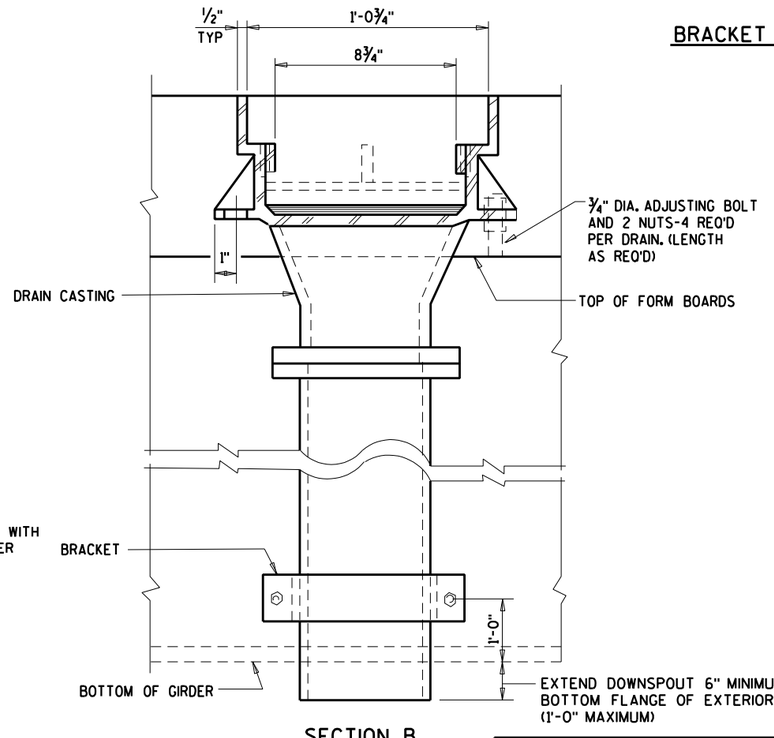
FLANGED 6" DIA. DOWNSPOUTS SHALL BE EITHER STEEL OR REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.



BRACKET DETAIL



SECTION A



SECTION B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

DRAWN BY CLS | PLANS CK'D. CBM

FLOOR DRAIN TYPE 'GC' AT PARAPET

SHEET 24 OF 30
316

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
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1/25/2017

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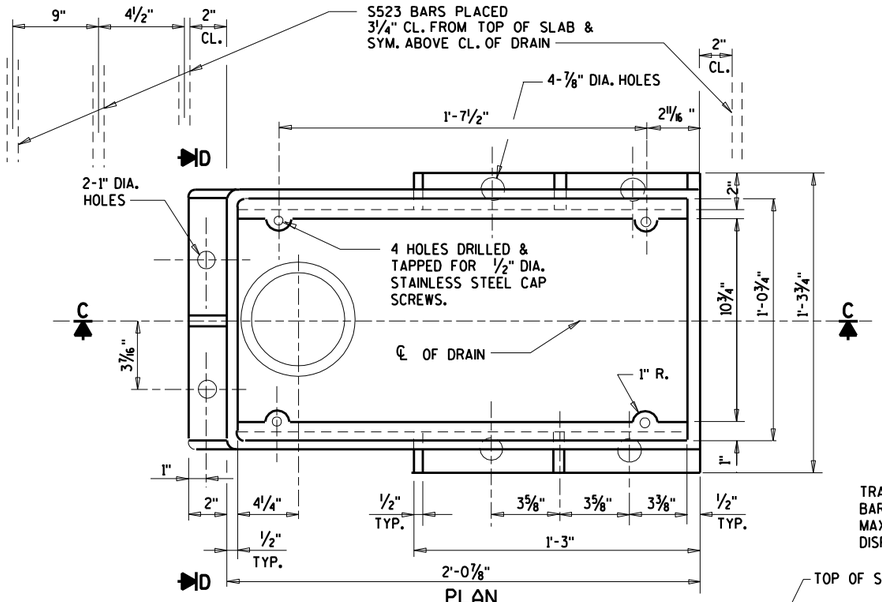
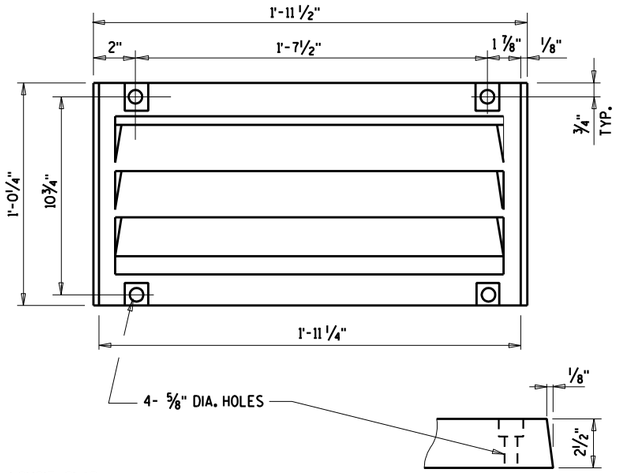


PLAN

TRANS. AND LONGIT. SLAB BAR REINF. TO BE CUT A MAX. 1" CL. FROM DRAIN DISPLACE BARS WHERE POSSIBLE



GRATE CASTING DETAIL

ATTACH GRATE TO FRAME FOR SHIPMENT

GENERAL NOTES

ALL MATERIAL FOR TYPE "GC" CASTING, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO A.S.T.M. A48, CLASS 30. (APPROX. WEIGHT = 225#)

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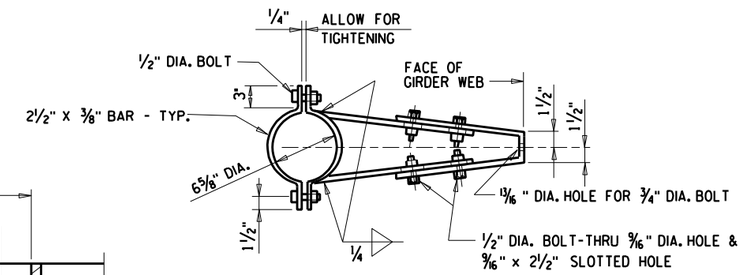
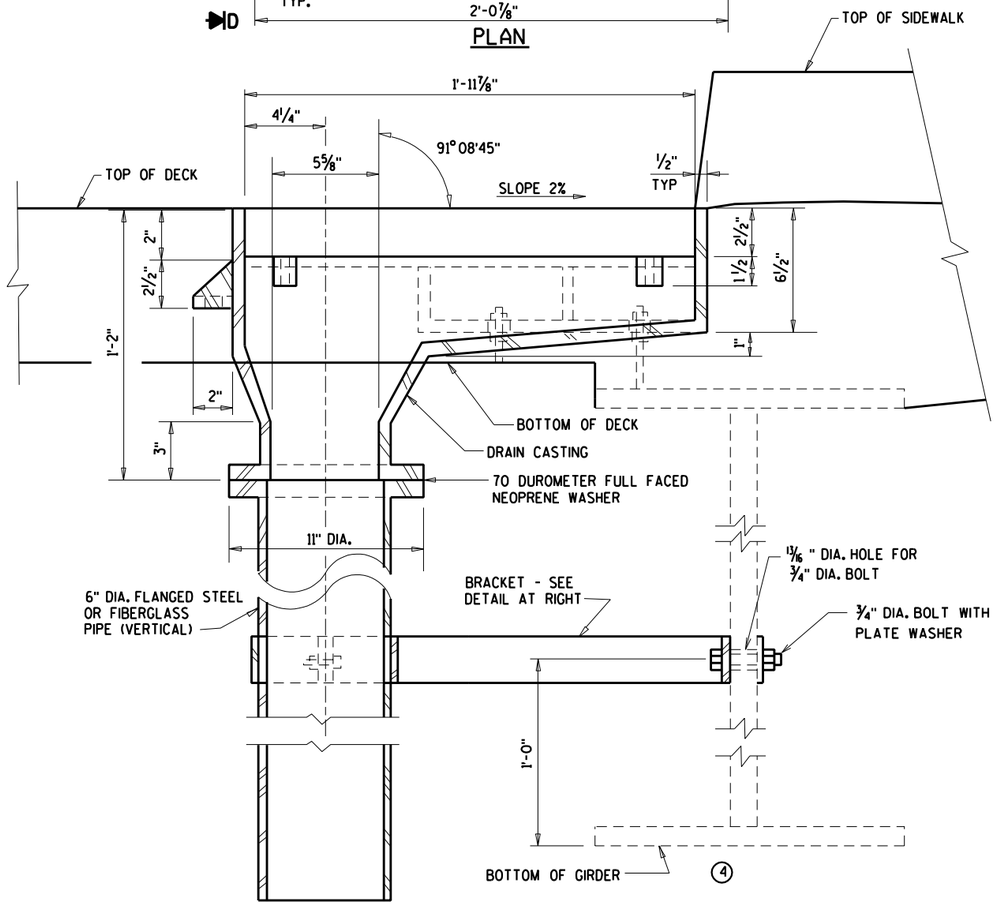
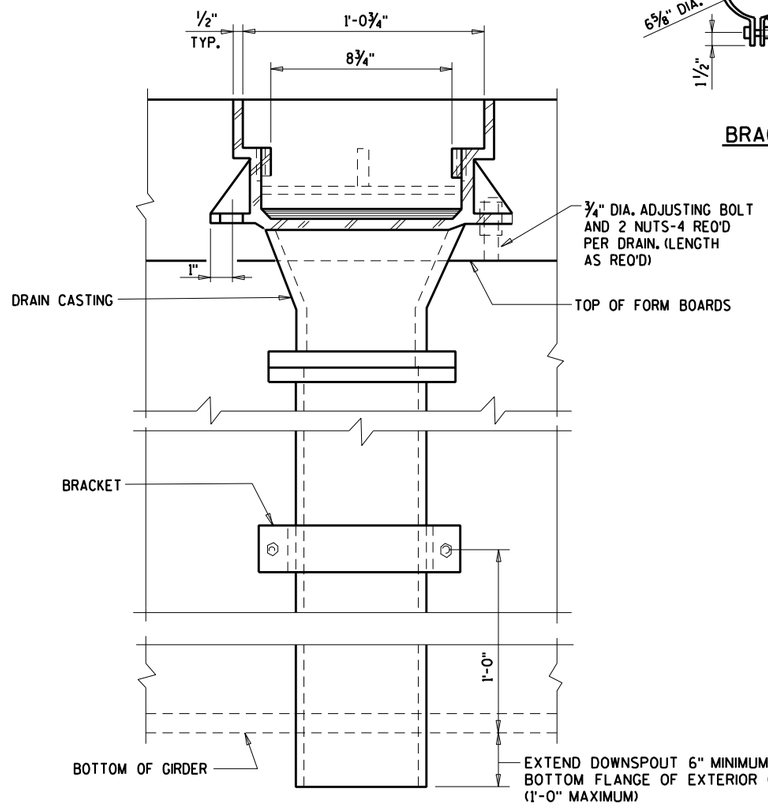


BRACKET DETAIL



SECTION C



SECTION D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

DRAWN BY CLS | PLANS CK'D. CBM

FLOOR DRAIN TYPE 'GC' AT SIDEWALK

SHEET 25 OF 30
317

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
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STATE PROJECT NUMBER

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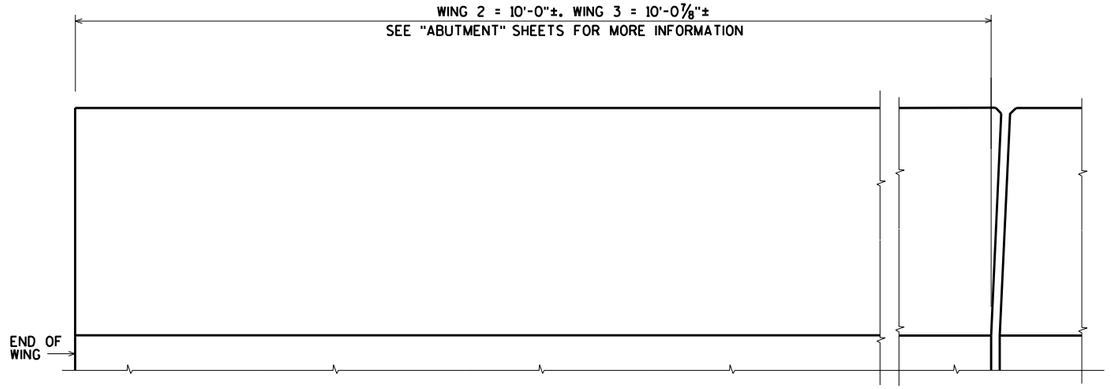
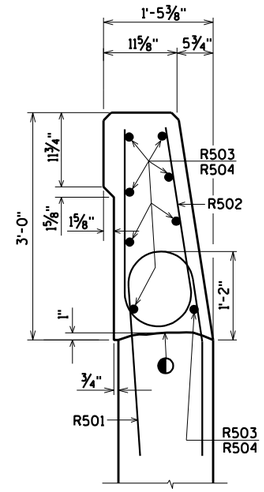


INSIDE ELEVATION
(WING 2 SHOWN, WING 3 SIMILAR)

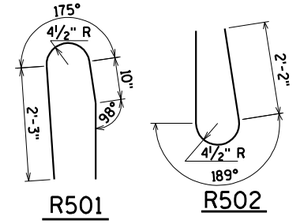


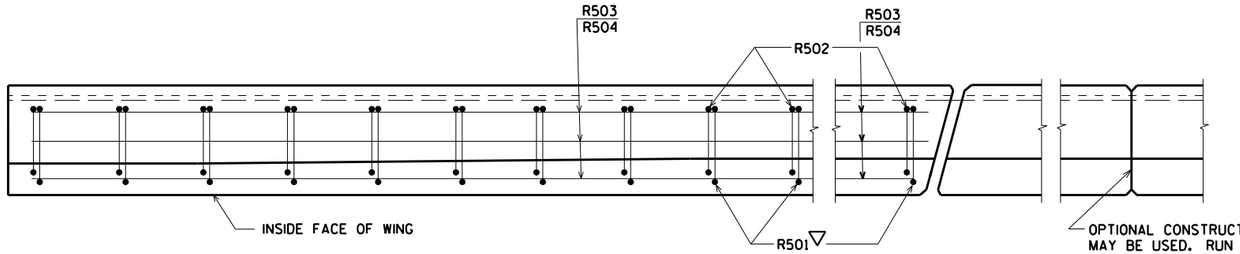
SECTION AT WING 2 & WING 3

BILL OF BARS
FOR ABUTMENT PARAPETS

260ª COATED WEST ABUTMENT
220ª COATED EAST ABUTMENT

BAR MARK	COAT	WEST ABUT.	EAST ABUT.	LENGTH	BENT	LOCATION
R501	X	15	13	5-10	X	PARAPET VERT.
R502	X	15	13	5-8	X	PARAPET VERT.
R503	X	8	—	9-7		PARAPET HORIZ.
R504	X	—	8	8-0		PARAPET HORIZ



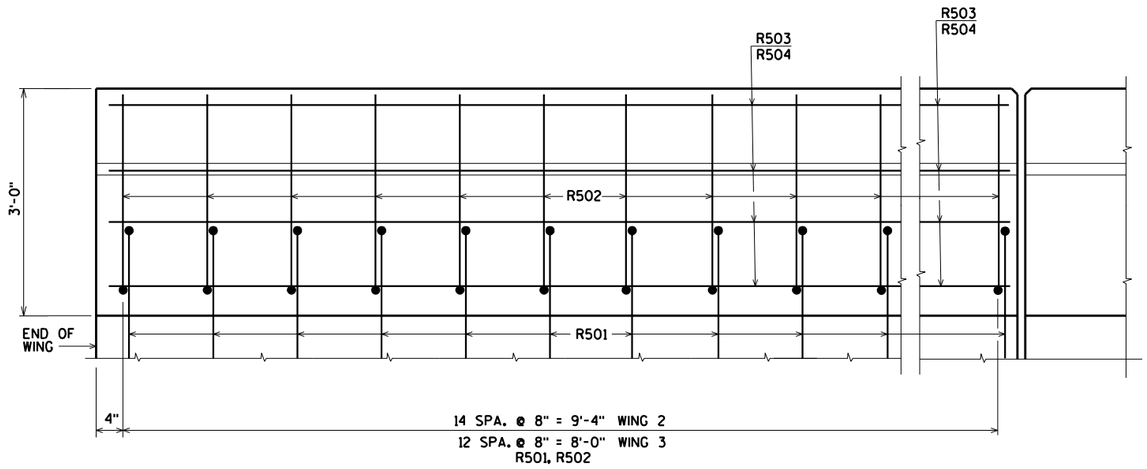


PLAN

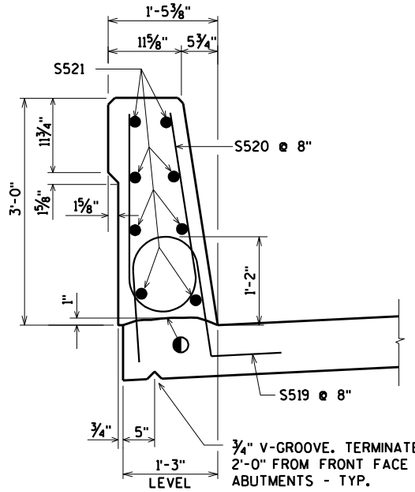
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾"-'V' GROOVE.

▽R501 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

◐CONST. JOINT - STRIKE OFF AS SHOWN.



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

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SINGLE SLOPE PARAPET 36SS

SHEET 26 OF 30
318

ORIGINAL PLANS PREPARED BY
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STATE PROJECT NUMBER

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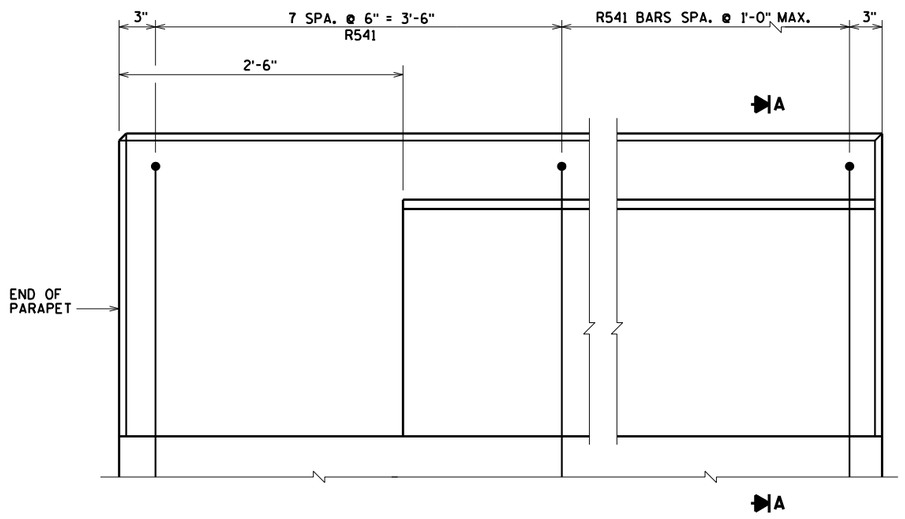
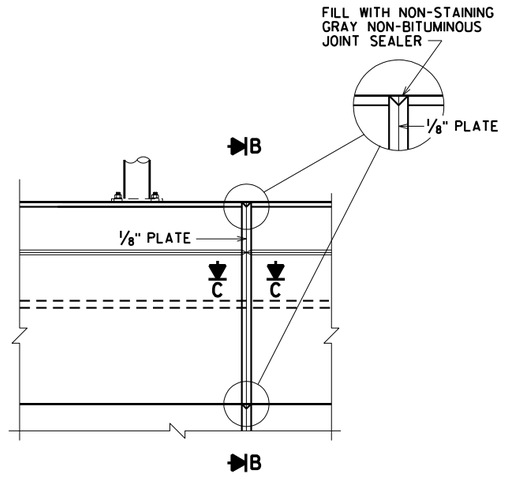
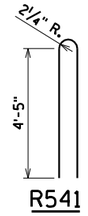


FRONT FACE OF PARAPET

(WING 4 SHOWN, END OF RETAINING WALL R-40-691 SIMILAR)



ELEVATION OF PARAPET AT DEFLECTION JOINT



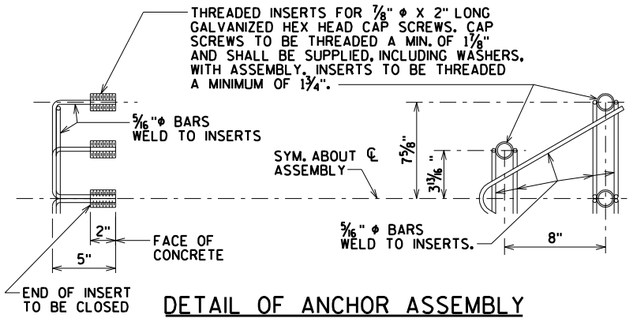
R541

BILL OF BARS

FOR ABUTMENT PARAPETS

260# COATED WEST ABUTMENT
220# COATED EAST ABUTMENT

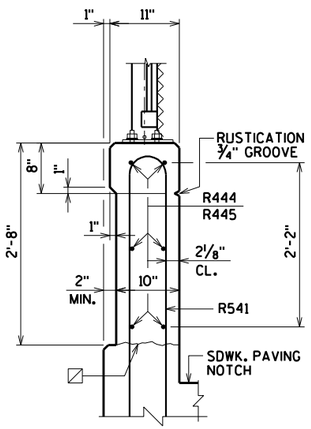
BAR MARK	COAT	WEST ABUT.	EAST ABUT.	LENGTH	BENT	LOCATION
R541	X	19	17	9-5	X	PARAPET VERT.
R444	X	6	---	17-8		PARAPET HORIZ. WING 1
R445	X	---	6	12-1		PARAPET HORIZ. WING 4



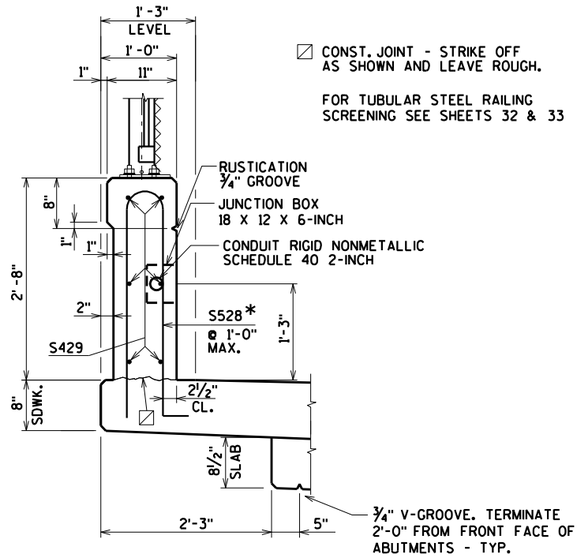
DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.



SECTION A-A

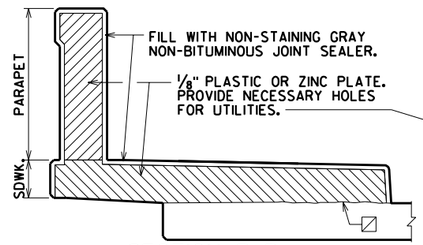


☒ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

FOR TUBULAR STEEL RAILING SCREENING SEE SHEETS 32 & 33

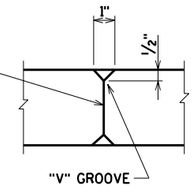
SECTION THRU PARAPET ON BRIDGE

*ADJUST LOCATIONS OF BARS TO ALLOW PLACEMENT OF ANCHOR ASSEMBLY FOR RAILING



SECTION B-B

(SHOWING DEFLECTION JOINT IN PARAPET AND SIDEWALK.)



SECTION C-C

WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF 1/8" ZINC OR PLASTIC PLATE CUT AS SHOWN IN SECTION B-B BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH AN APPROVED LIQUID BOND BREAKER AND PLATE SEPARATORS MAY BE OMITTED.

PLACE A DEFLECTION JOINT IN THE SIDEWALK AND PARAPET OVER THE PIER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-470

DRAWN BY CLS | PLANS CK'D. CBM

VERTICAL FACE PARAPET "A"

SHEET 27 OF 30
319

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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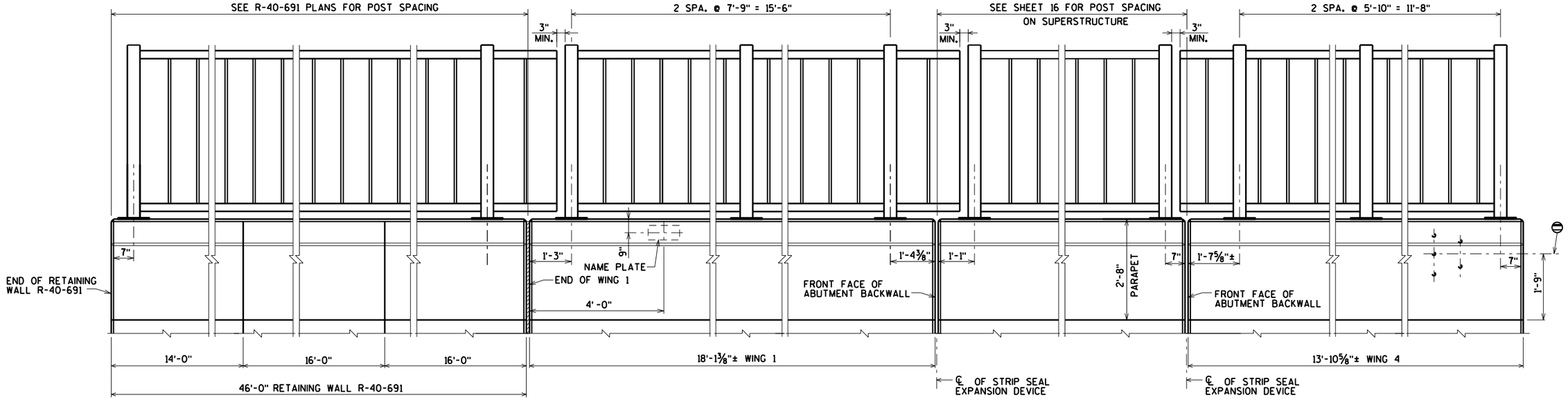
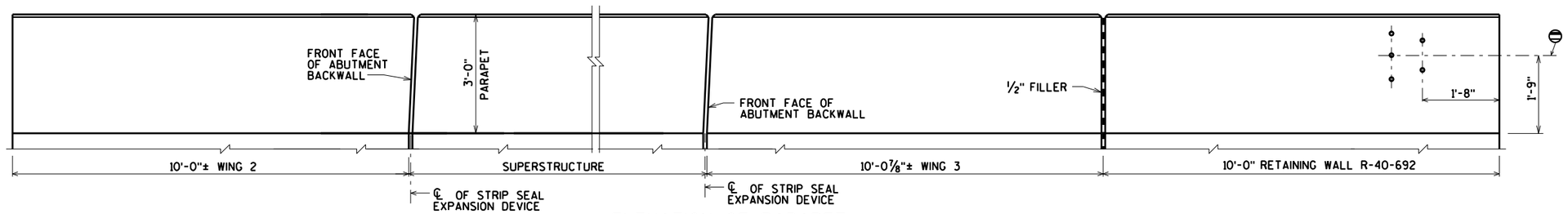
PENTABLE:BReau_shd_util.tbl



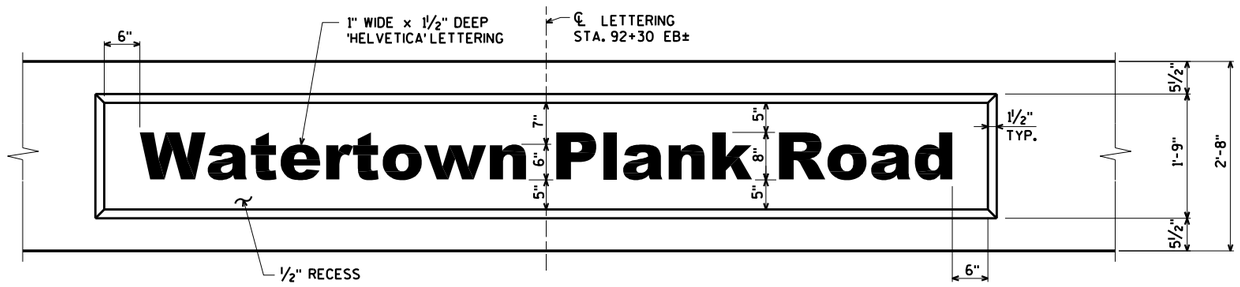
ELEVATION OF PARAPET

VERTICAL FACE PARAPET 'A'
(OUTSIDE FACE SHOWN - LOOKING NORTH)



ELEVATION OF PARAPET

SINGLE SLOPE PARAPET 36SS
(INSIDE FACE SHOWN - LOOKING NORTH)



PARTIAL OUTSIDE ELEVATION OF PARAPET

(DETAIL SHOWING INDENTED TEXT)
REQUIRED IN OUTSIDE FACE OF VERTICAL FACE PARAPET "A"
CENTERED OVER THE OAK LEAF RECRATIONAL TRAIL

NOTES:

FORMING LETTERING WORK SHALL BE PAID FOR UNDER THE BID ITEM "CONCRETE MASONRY BRIDGES".

THE LETTERING FONT TYPE SHALL BE "HELVETICA" (1" WIDE BY 1½" DEEP) WITH 8" HIGH UPPERCASE LETTERS AND 6" HIGH LOWER CASE LETTERS.

LETTERING SHALL ONLY BE PLACED AT THE OUTSIDE FACE OF THE PARAPET AS SHOWN.

℄ OF ANCHOR ASSEMBLY FOR THRIE BEAM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-470

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PARAPET LAYOUT

SHEET 28 OF 30
320

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3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

$PRFNAME$
U:±42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County±BRIDGE new Jan 2017±B-40-470±4208

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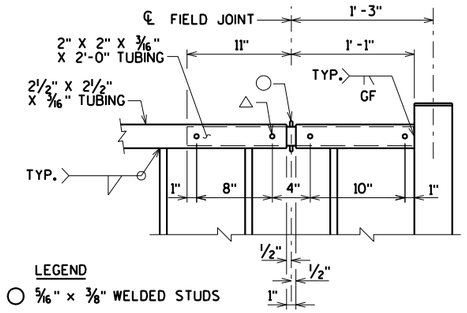
$PRFNAME$
U:±42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County±BRIDGE new Jan 2017±B-40-470±42080

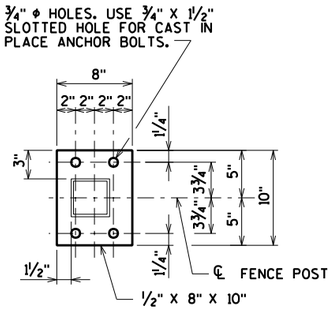


LEGEND

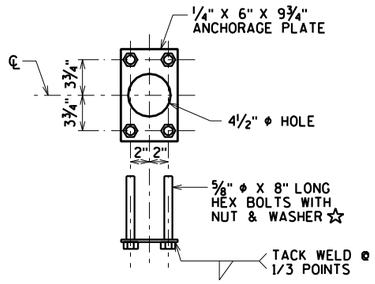
○ 5/16" × 3/8" WELDED STUDS

△ WELD BEAD ON EACH SIDE OF TUBE. GRIND BEADS SO THAT SLEEVE FITS FREELY INSIDE THE 2½" × 2½" TUBE.

RAILING EXPANSION JOINT DETAIL



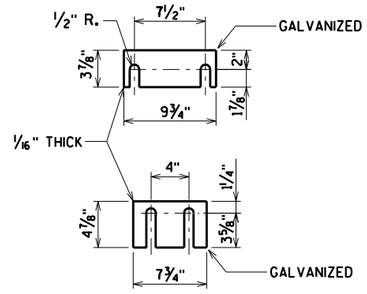
BASE PLATE



ANCHORAGE DETAIL

☆ ALTERNATIVE ANCHORAGE:
ADHESIVE ANCHORS ⅝-INCH.
EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.

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



SHIM PLATE DETAILS

TWO SHIMS OF EACH SIZE REQUIRED PER POST

NOTES

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

STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B. PLATES, ANGLES, BARS AND SHIMS SHALL CONFORM TO ASTM A709, GRADE 36. FENCE FABRIC SHALL CONFORM TO F668, CLASS 2B.

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

ALL POST SPACINGS ARE TAKEN HORIZONTAL ALONG CENTERLINE OF RAILING AT BASE OF POST.

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

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE VERTICAL IN TRANSVERSE DIRECTION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED. ☆

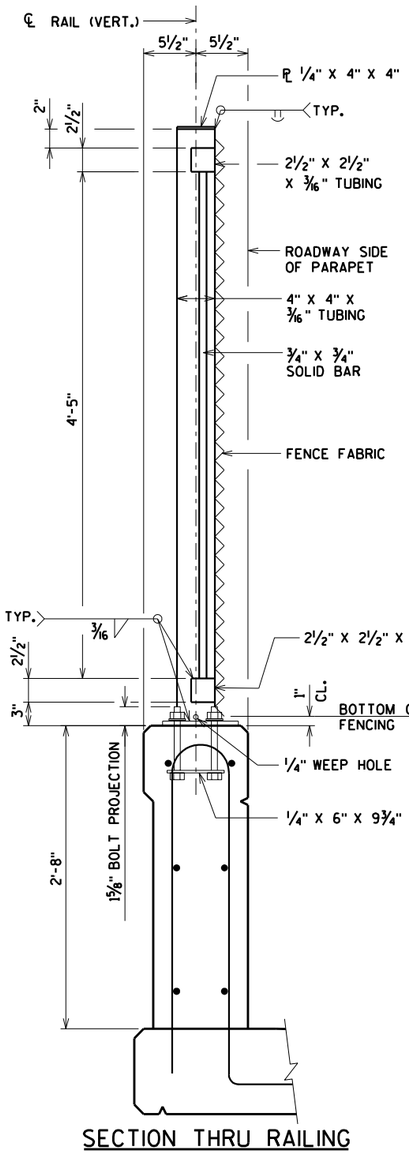
THE BID ITEM SHALL BE "RAILING TUBULAR SCREENING B-40-470" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE NOT MORE THAN 3 POSTS.

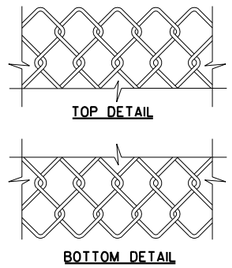
VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

ALL RAILING MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED FEDERAL COLOR NO. 27038, BLACK.
FENCE FABRIC AND TIES TO BE VINYL-COATED. COLOR SHALL BE BLACK IN ACCORDANCE WITH ASTM F934.

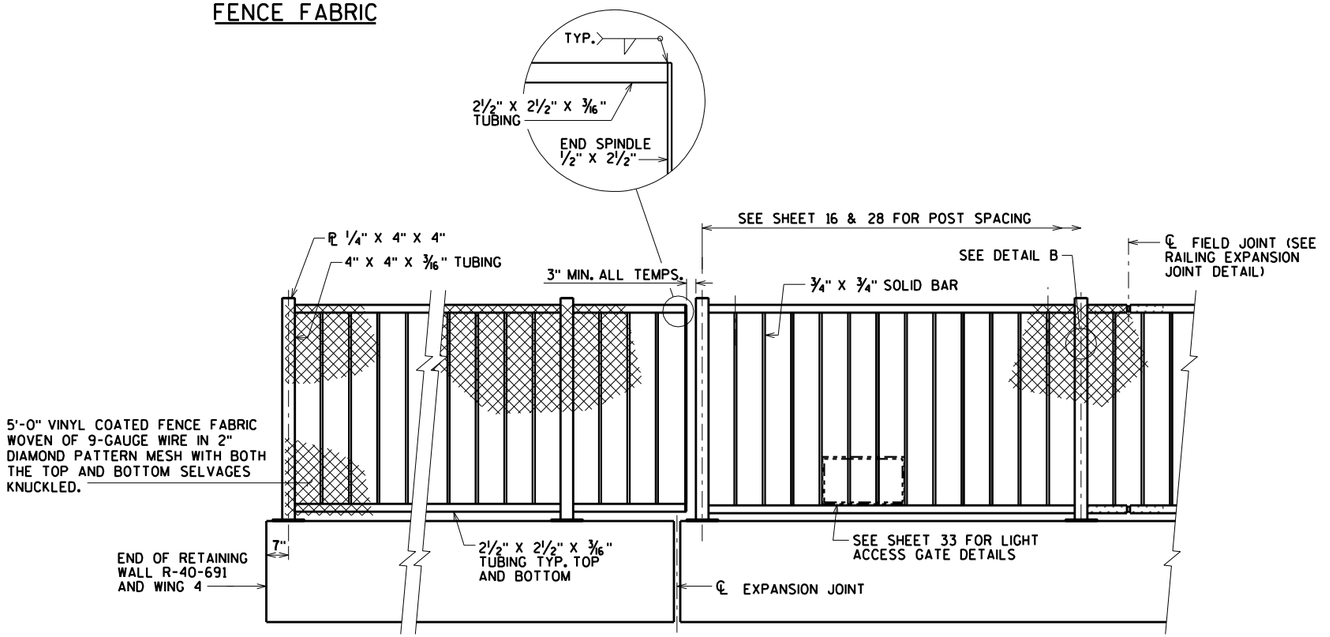
THE END OF THE FABRIC SHALL BE ATTACHED TO THE POST BY MEANS OF A TENSION BAR THREADED THROUGH THE END LOOPS OF THE FABRIC AND SECURED TO THE POST WITH CLAMPS & BOLT. THE FABRIC SHALL BE STRETCHED TO REMOVE ALL SLACK.



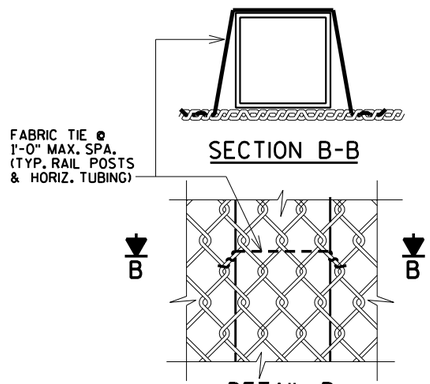
SECTION THRU RAILING



FENCE FABRIC



INSIDE ELEVATION OF RAILING



SECTION B-B

DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

DRAWN BY CLS | PLANS CK'D. CBM

TUBULAR STEEL RAILING SCREENING

SHEET 29 OF 30
321

STATE PROJECT NUMBER
2035-06-70

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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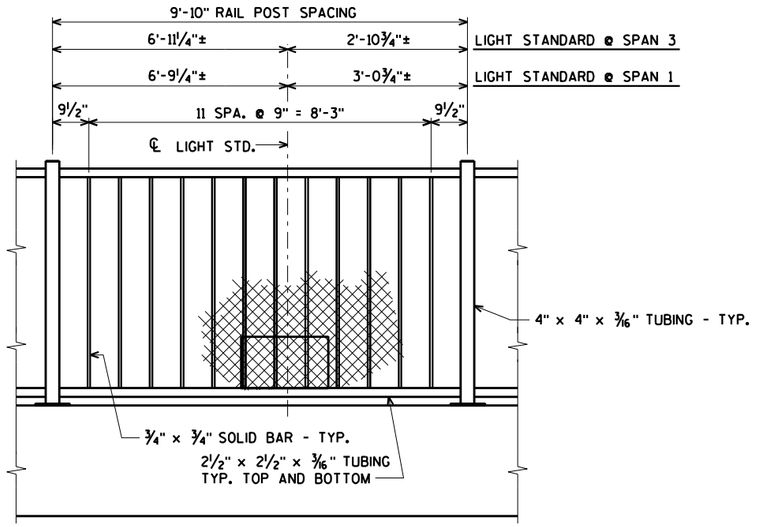
1/25/2017

PENTABLE:BReau_shd_util.tbl

$PRFNAME$
U:±42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County±BRIDGE new Jan 2017±B-40-470±4

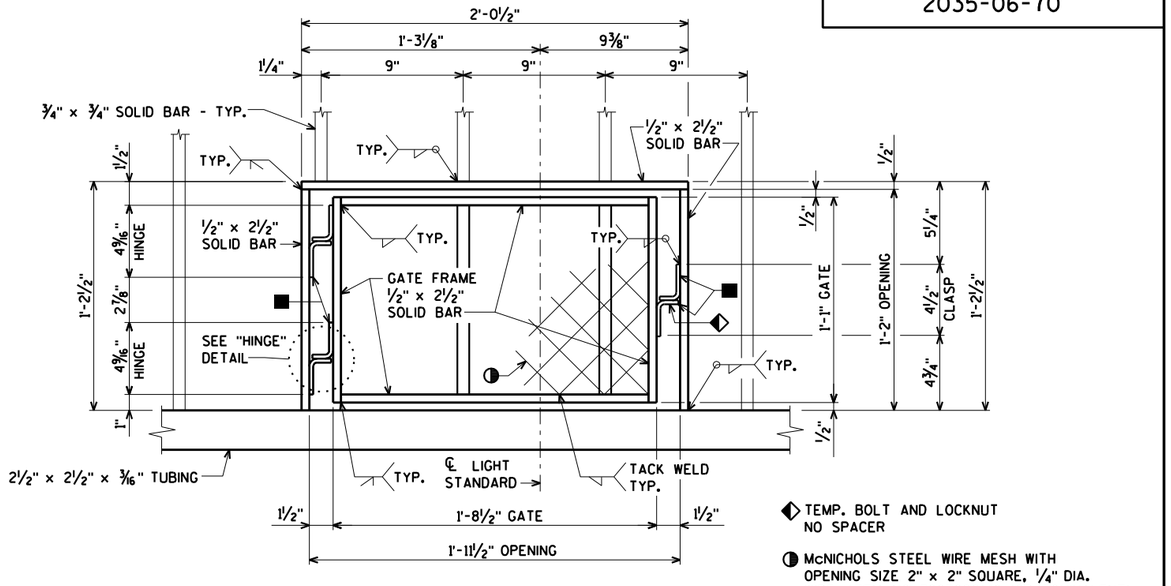
STATE PROJECT NUMBER

2035-06-70



OUTSIDE ELEVATION VIEW

(LOOKING NORTH)

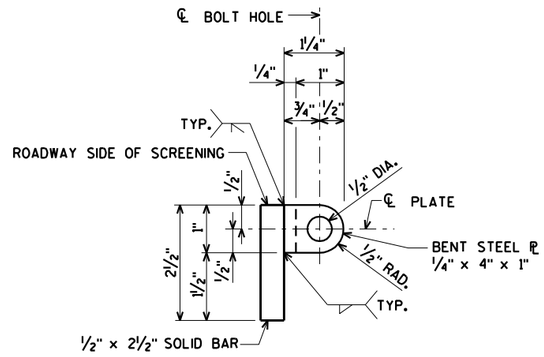


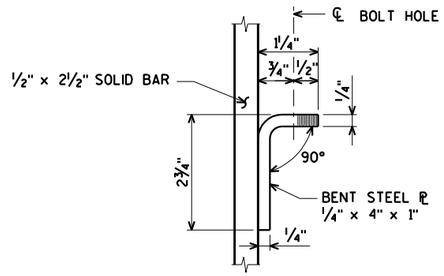
◆ TEMP. BOLT AND LOCKNUT NO SPACER

◑ McNICHOLS STEEL WIRE MESH WITH OPENING SIZE 2" x 2" SQUARE, ¼" DIA. WIRE. ITEM NO. 3293920148 (OR EQUIVALENT).

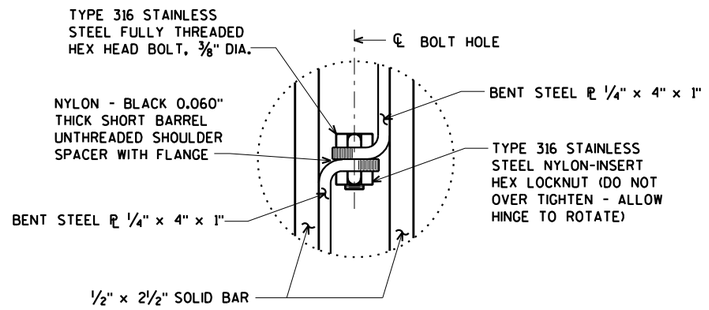
■ BENT STEEL PL ¼" x 4" x 1" SEE "STEEL PLATE DETAIL".

LIGHT ACCESS GATE DETAIL



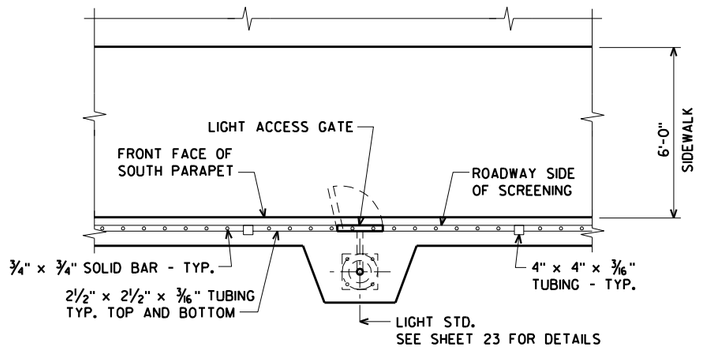


STEEL PLATE DETAIL



HINGE DETAIL

PROVIDE ADDITIONAL STAINLESS STEEL FULLY THREADED HEX HEAD BOLT, ⅜" ϕ AND STAINLESS STEEL NYLON-INSERT HEX LOCKNUT. HAND TIGHTENED, TO ACT AS TEMPPORARY LOCK.



PLAN

NOTE:

THE STEEL WIRE MESH SHALL BE ATTACHED TO THE LIGHT ACCESS GATE BY MEANS OF TACK WELDING AT ALL LOCATIONS WHERE THE STEEL WIRE MESH MEETS THE LIGHT ACCESS GATE ½" x 2½" SOLID BAR GATE FRAME AND ¾" x ¾" SOLID BARS. THE STEEL WIRE MESH SHALL BE WELDED TO THE ROADWAY SIDE OF THE ¾" x ¾" SOLID BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-470

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LIGHT ACCESS GATE DETAILS

SHEET 30 OF 30
322

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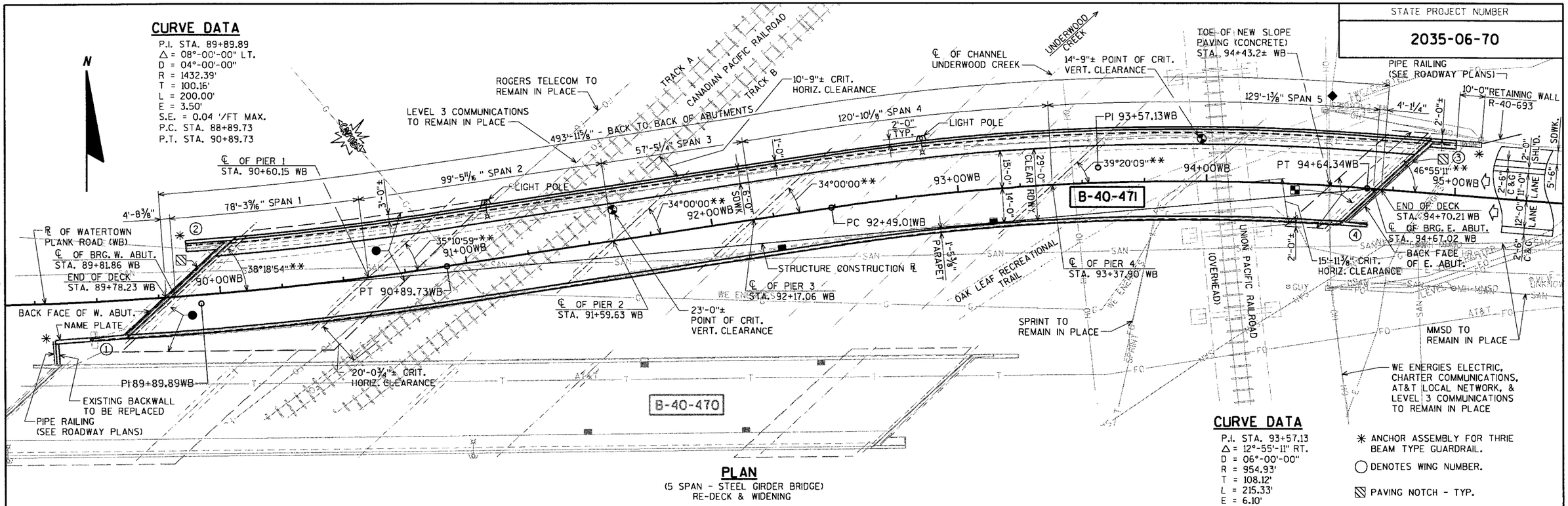
$PRFNAME$
U:42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County±Bi
DATE:
DATE:
DATE:
BACK CHECKED BY:
CORRECTED BY:

STATE PROJECT NUMBER

2035-06-70

CURVE DATA

P.I. STA. 89+89.89
△ = 08°-00'-00" LT.
D = 04°-00'-00"
R = 1432.39'
T = 100.16'
L = 200.00'
E = 3.50'
S.E. = 0.04 '/FT MAX.
P.C. STA. 88+89.73
P.T. STA. 90+89.73



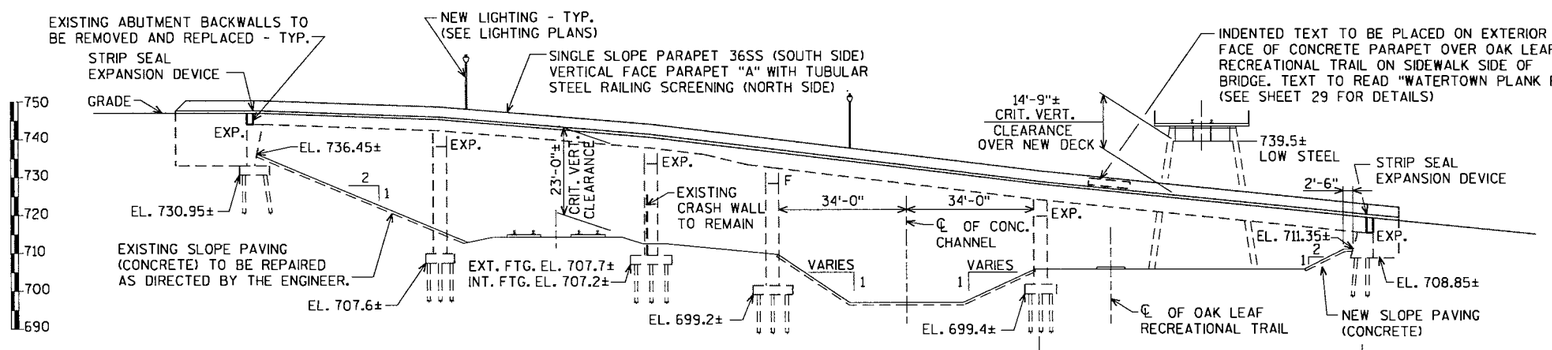
PLAN

(5 SPAN - STEEL GIRDER BRIDGE)
RE-DECK & WIDENING

CURVE DATA

P.I. STA. 93+57.13
△ = 12°-55'-11" RT.
D = 06°-00'-00"
R = 954.93'
T = 108.12'
L = 215.33'
E = 6.10'
S.E. = 0.05 '/FT MAX.
P.C. STA. 92+49.01
P.T. STA. 94+64.34

- ✳ ANCHOR ASSEMBLY FOR THRIE BEAM TYPE GUARDRAIL.
- ◯ DENOTES WING NUMBER.
- ▨ PAVING NOTCH - TYP.
- ● EXISTING SLOPE PAVING (CONCRETE)
- ▪ NEW SLOPE PAVING (CONCRETE)
- ■ REMOVE EXISTING FLOOR DRAINS AND REPLACE WITH NEW
- ** ANGLES GIVEN TO A TANGENT AT INTERSECTION OF ℄ OF RDWY AND ℄ OF SUBSTRUCTURE UNIT.



ELEVATION

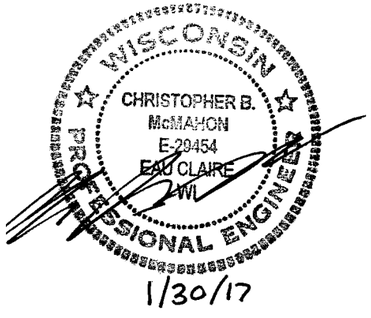
(NORMAL TO ℄ OF UNDERWOOD CREEK)

FOR TYPICAL SECTION, DESIGN DATA, & PROFILE GRADE LINE, SEE SHEET 2

FOR QUANTITIES AND GENERAL NOTES, SEE SHEET 3

LIST OF DRAWINGS

1. GENERAL PLAN
2. TYPICAL SECTION, DESIGN DATA, & PROFILE GRADE LINE
3. QUANTITIES AND NOTES
4. WEST ABUTMENT
5. WEST ABUTMENT WING 1 DETAILS
6. WEST ABUTMENT WING 2 DETAILS
7. WEST ABUTMENT WING DETAILS
8. WEST ABUTMENT DETAILS AND BILL OF BARS
9. EAST ABUTMENT
10. EAST ABUTMENT WING 3 DETAILS
11. EAST ABUTMENT WING 4 DETAILS
12. EAST ABUTMENT DETAILS AND BILL OF BARS
13. BEARING DETAILS
14. SUPERSTRUCTURE
15. TRANSVERSE SLAB STEEL LAYOUT
16. SUPERSTRUCTURE PLAN
17. SUPERSTRUCTURE POURING DIAGRAM
18. EDGE OF DECK OFFSETS
19. DECK ELEVATIONS
20. DECK ELEVATIONS
21. TABLE OF DEFLECTIONS
22. SUPERSTRUCTURE LIGHT STANDARD DETAILS
23. STRIP SEAL EXPANSION DEVICE
24. PARAPET COVER PLATE DETAILS
25. SIDEWALK COVER PLATE DETAILS
26. FLOOR DRAIN TYPE 'GC'
27. SINGLE SLOPE PARAPET 36SS
28. VERTICAL FACE PARAPET "A"
29. PARAPET LAYOUT
30. TUBULAR STEEL RAILING SCREENING
31. LIGHT ACCESS GATE DETAILS



BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
CHRIS MCMAHON
(715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
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3433 Oakwood Hills Parkway
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 02/14/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-40-471

WATERTOWN PLANK ROAD WB OVER UNDERWOOD CREEK

COUNTY MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~ WAUWATOSA
DESIGN SPEC. REHABILITATION: N/A	
DESIGNED BY AEB	DESIGN CK'D. CKJ
DRAWN BY CLS	PLANS CK'D. CBM

GENERAL PLAN

SHEET 1 OF 31
323

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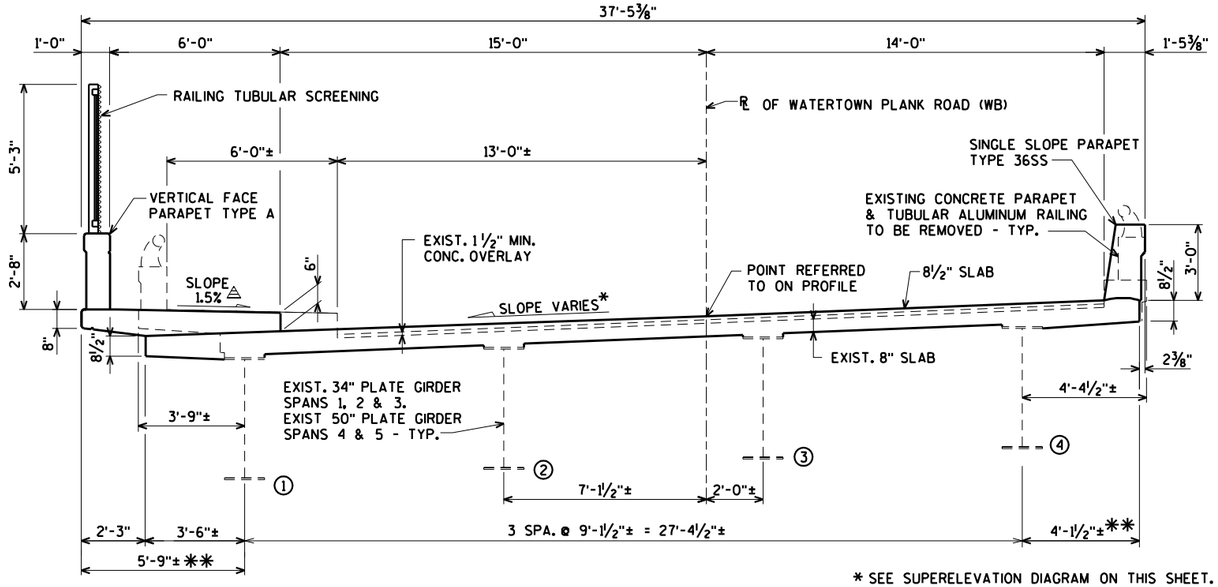
$PRFNAME$
U:\42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee

STATE PROJECT NUMBER

2035-06-70



TYPICAL CROSS SECTION THRU DECK

(LOOKING EAST)

* SEE SUPERELEVATION DIAGRAM ON THIS SHEET. CROSS SECTION SHOWN IS TYPICAL OF SPANS 1 & 2. SLOPE IS OPPOSITE DIRECTION SPANS 4 & 5 WITH A TRANSITION OCCURING IN SPAN 3.

** TEMPORARILY BRACE THE LOWER FLANGE OF THE EXTERIOR GIRDERS PER STANDARD SPECIFICATIONS SECTION 502.3.2.3 UNTIL THE SIDEWALK AND PARAPETS ARE CONSTRUCTED.

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

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-15
OPERATING RATING: HS-26
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 190 KIPS

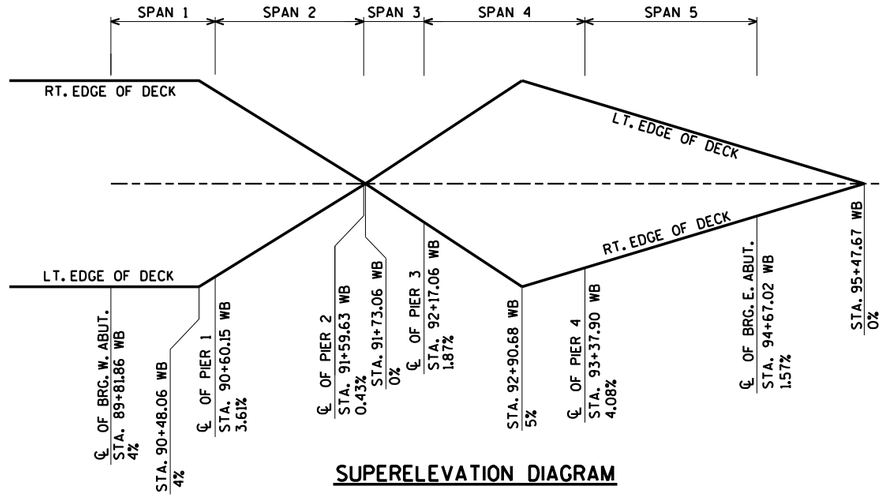
STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 #/S.F.

MATERIAL PROPERTIES:

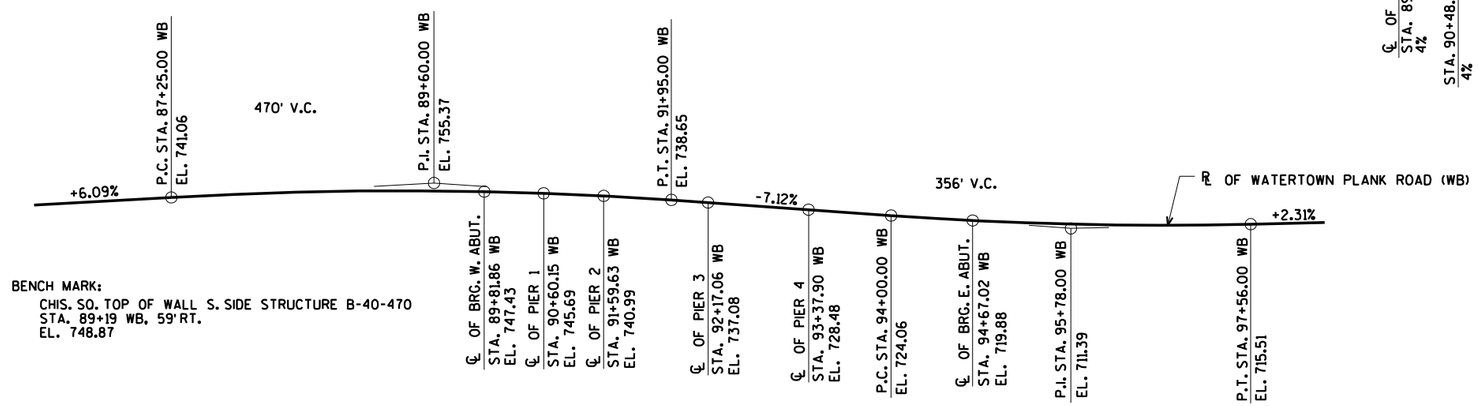
CONCRETE MASONRY	SUPERSTRUCTURE	f'_c = 4,000 p.s.i.
	ALL OTHER	f'_c = 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60)		f_y = 60,000 p.s.i.
STRUCTURAL CARBON STEEL (EXISTING) ASTM A36		f_y = 36,000 p.s.i.
STRUCTURAL LOW ALLOY STEEL (EXISTING) ASTM A441 ¾" & UNDER		f_y = 50,000 p.s.i.
ASTM A441 ¾" TO 1½"		f_y = 46,000 p.s.i.
ASTM A588 UP TO 4"		f_y = 50,000 p.s.i.

TRAFFIC DATA:

A.D.T. = 14,700 (2017)
A.D.T. = 20,000 (2037)
R.D.S. = 40 M.P.H.



SUPERELEVATION DIAGRAM



BENCH MARK:
CHIS. SO. TOP OF WALL S. SIDE STRUCTURE B-40-470
STA. 89+19 WB, 59' RT.
EL. 748.87

PROFILE GRADE LINE

WATERTOWN PLANK ROAD (WB)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

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TYPICAL SECTION DESIGN DATA, & PROFILE GRADE LINE

SHEET 2 OF 31
324

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U:\42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee

STATE PROJECT NUMBER

2035-06-70

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	W. ABUT.	E. ABUT.	SUPER.	TOTAL
	203.0210.S.02	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-40-471	LS	-----	-----	-----	1
	203.0225.S.02	DEBRIS CONTAINMENT B-40-471	LS	-----	-----	-----	1
	203.0600.S.02	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 92+24 WB	LS	-----	-----	-----	1
①	204.0175	REMOVING CONCRETE SLOPE PAVING	SY	50	-----	-----	50
	206.1000.02	EXCAVATION FOR STRUCTURES BRIDGES B-40-471	LS	-----	-----	-----	1
	210.1500	BACKFILL STRUCTURE TYPE A	TON	100	115	-----	215
	502.0100	CONCRETE MASONRY BRIDGES	CY	38	29	679	746
	502.3100.02	EXPANSION DEVICE B-40-471	LS	-----	-----	-----	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	1,940	1,940
	502.3210	PIGMENTED SURFACE SEALER	SY	21	9	415	445
	502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	314	173	-----	487
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	5,760	3,440	143,230	152,430
	506.6000.02	BEARING ASSEMBLIES EXPANSION B-40-471	EACH	4	4	-----	8
	506.7050.S.02	REMOVING BEARINGS	EACH	4	4	-----	8
①	509.1500	CONCRETE SURFACE REPAIR	SF	-----	-----	-----	100
	513.4091.02	RAILING TUBULAR SCREENING B-40-471	LF	18	11	481	510
	514.0445	FLOOR DRAINS TYPE GC	EACH	-----	-----	2	2
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	21	14	-----	35
	517.0900.S.02	PREPARATION AND COATING OF TOP FLANGES B-40-471	LS	-----	-----	-----	1
	517.1800.S.02	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-40-471	LS	-----	-----	-----	1
	517.3000.S.02	STRUCTURE OVERCOATING CLEANING AND PRIMING B-40-471	LS	-----	-----	-----	1
	517.4500.S.02	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-40-471	LS	-----	-----	-----	1
	517.6001.S	PORTABLE DECONTAMINATION FACILITY	LS	-----	-----	-----	1
②	604.0400	SLOPE PAVING CONCRETE	SY	50	95	-----	145
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	120	70	-----	190
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	-----	-----	2
	652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	3	3	6	12
	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	25	8	480	513
	653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	-----	-----	2	2
	657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH	-----	-----	2	2
		NON-BID ITEMS					
		FILLER	SIZE	-----	-----	-----	½"

① UNDISTRIBUTED QUANTITY FOR CONCRETE SURFACE REPAIR ON THE PIERS AND ABUTMENTS AS DIRECTED BY THE ENGINEER IN THE FIELD, IF NECESSARY.

② UNDISTRIBUTED QUANTITY FOR SLOPE PAVING REPAIRS AS DIRECTED BY THE ENGINEER IN THE FIELD, IF NECESSARY.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS ARE BASED ON ORIGINAL STRUCTURE PLANS.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT UNLESS SHOWN OR NOTED OTHERWISE.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW THE ORIGINAL CONSTRUCTION YEAR OF 1972.

AT ABUTMENTS ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER ARE TO BE APPLIED AS SHOWN IN DETAILS ON THIS SHEET.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

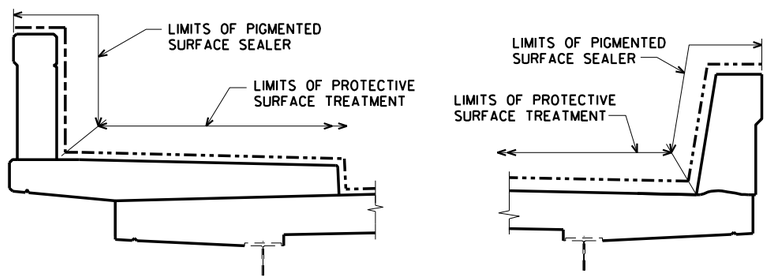
ALL FIELD CONNECTIONS SHALL BE MADE WITH ¾" DIAMETER FRICTION TYPE HIGH-TENSILE STRENGTH BOLTS UNLESS SHOWN OR NOTED OTHERWISE.

THE COLOR OF THE FINISH EPOXY TOP COAT FOR THE GIRDERS AND CONNECTING STRUCTURAL STEEL SHALL BE BLUE (FEDERAL COLOR NO. 25240).

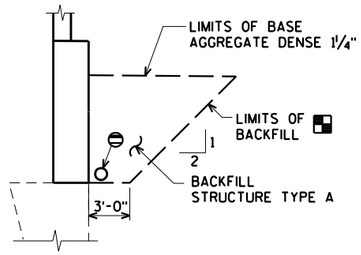
APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF THE ABUTMENTS BELOW EXPANSION DEVICES.

EXISTING BEARINGS AT THE ABUTMENTS WILL BE REMOVED AND REPLACED.

REMOVE EXISTING FLOOR DRAINS AND DOWN SPOUTS, INCLUDED IN BID ITEM "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS".



PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER DETAILS



BACKFILL STRUCTURE LIMITS

AT ABUTMENT BACKWALLS

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 AS DETAILED ON SHEET 6.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

DRAWN BY CLS | PLANS CK'D. CBM

QUANTITIES AND NOTES

SHEET 3 OF 31
325

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8

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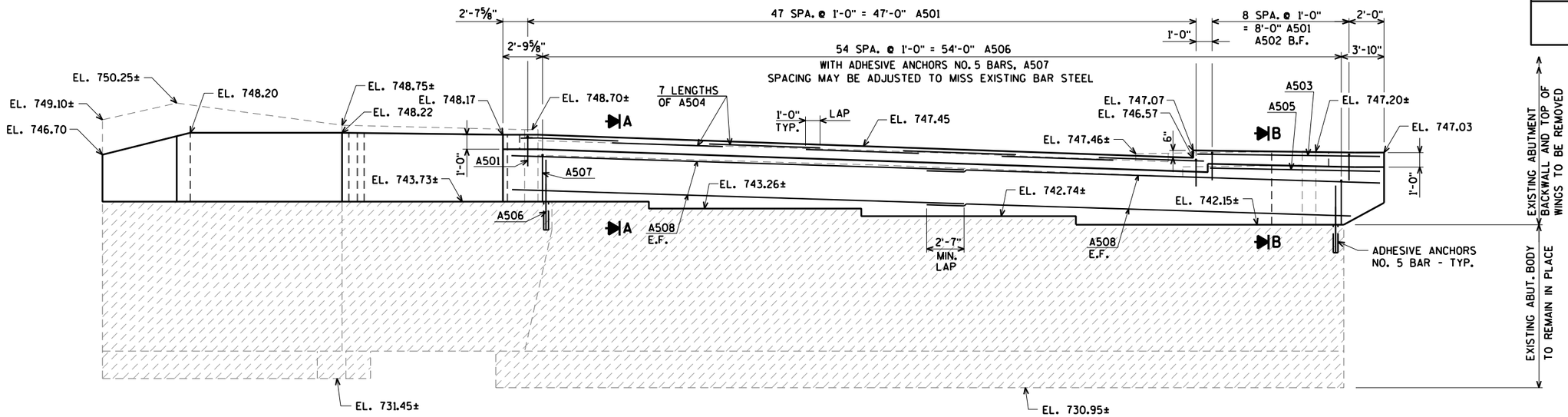


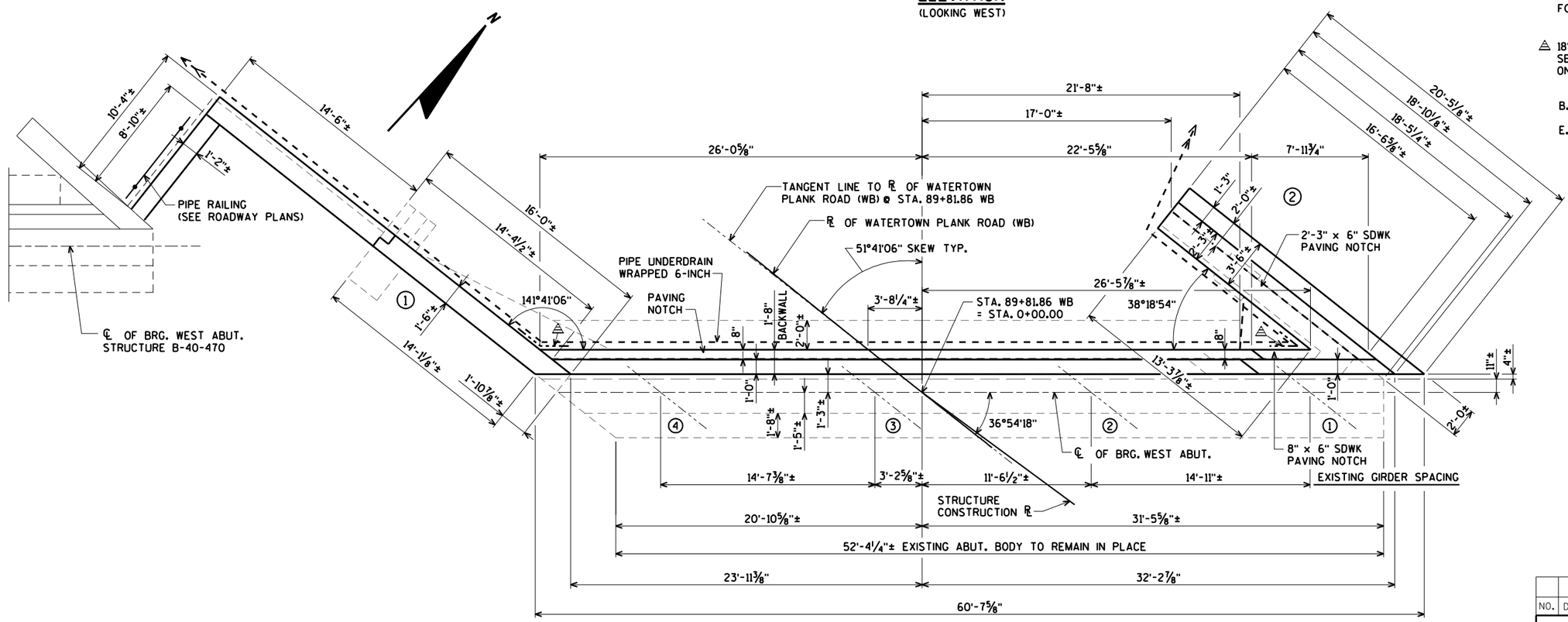
ELEVATION
(LOOKING WEST)

FOR SECTIONS A & B SEE SHEET 8

△ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT AND WINGS.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE



PLAN

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8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

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WEST ABUTMENT

SHEET 4 OF 31
326

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1/25/2017

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$PRFNAME$
U:\42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County\BRIDGE new Jan 2017\B-40-471\42080

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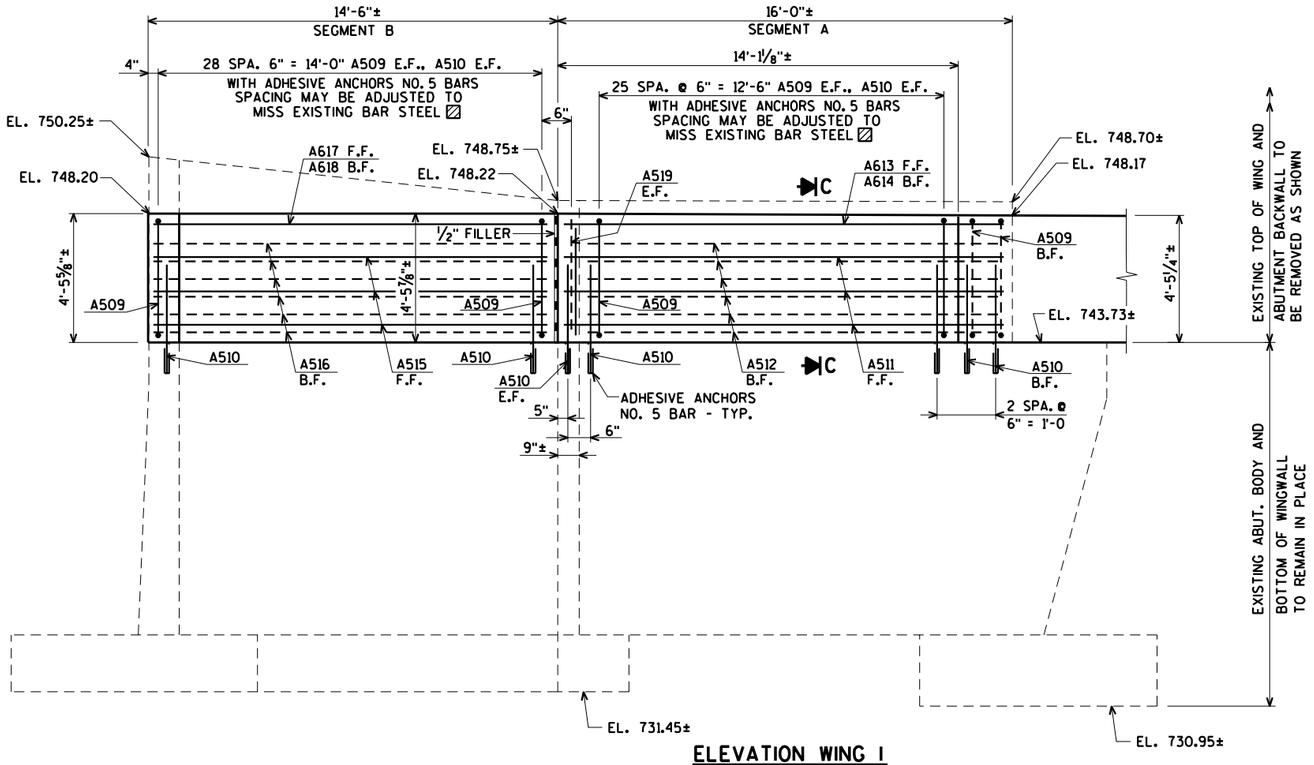
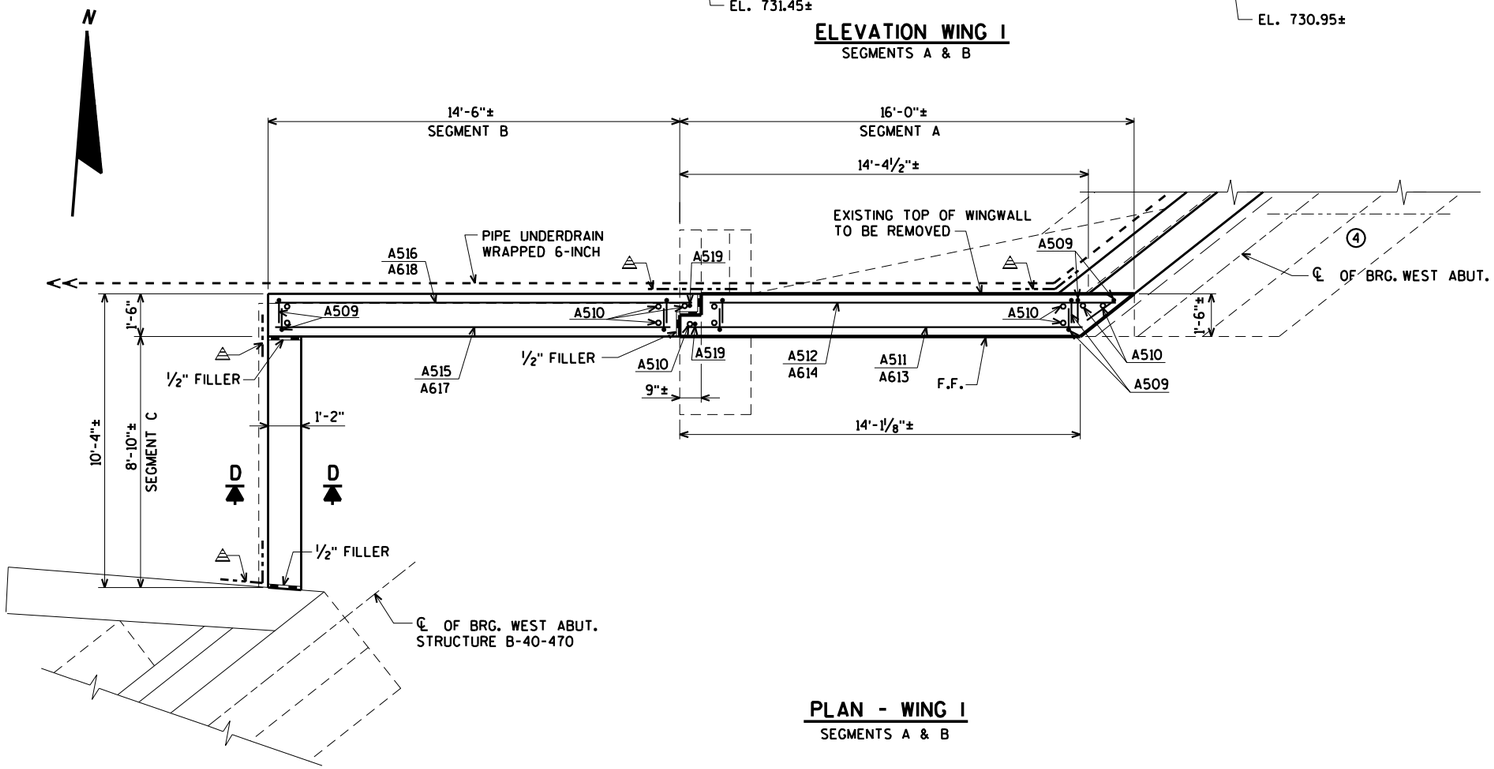
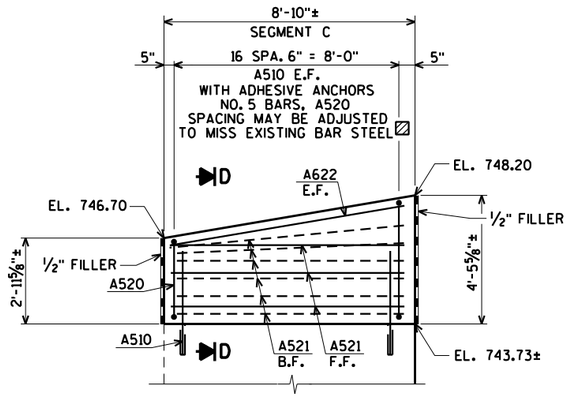


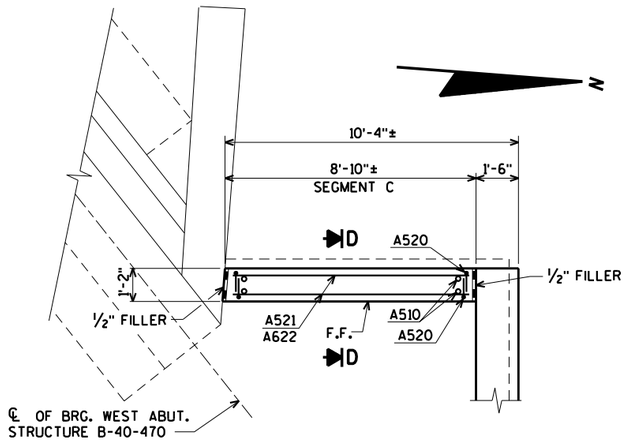
ELEVATION WING 1
SEGMENTS A & B



PLAN - WING 1
SEGMENTS A & B



ELEVATION WING 1
SEGMENT C



PLAN - WING 1
SEGMENT C

FOR LOCATIONS OF SECTIONS C & D
SEE SHEET 7

▨ ADHESIVE ANCHORS NO. 5 BARS SHALL NOT BE SPACED LESS THAN 3¾".

△ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT AND WINGS.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

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WEST ABUTMENT
WING 1 DETAILS

SHEET 5 OF 31
327

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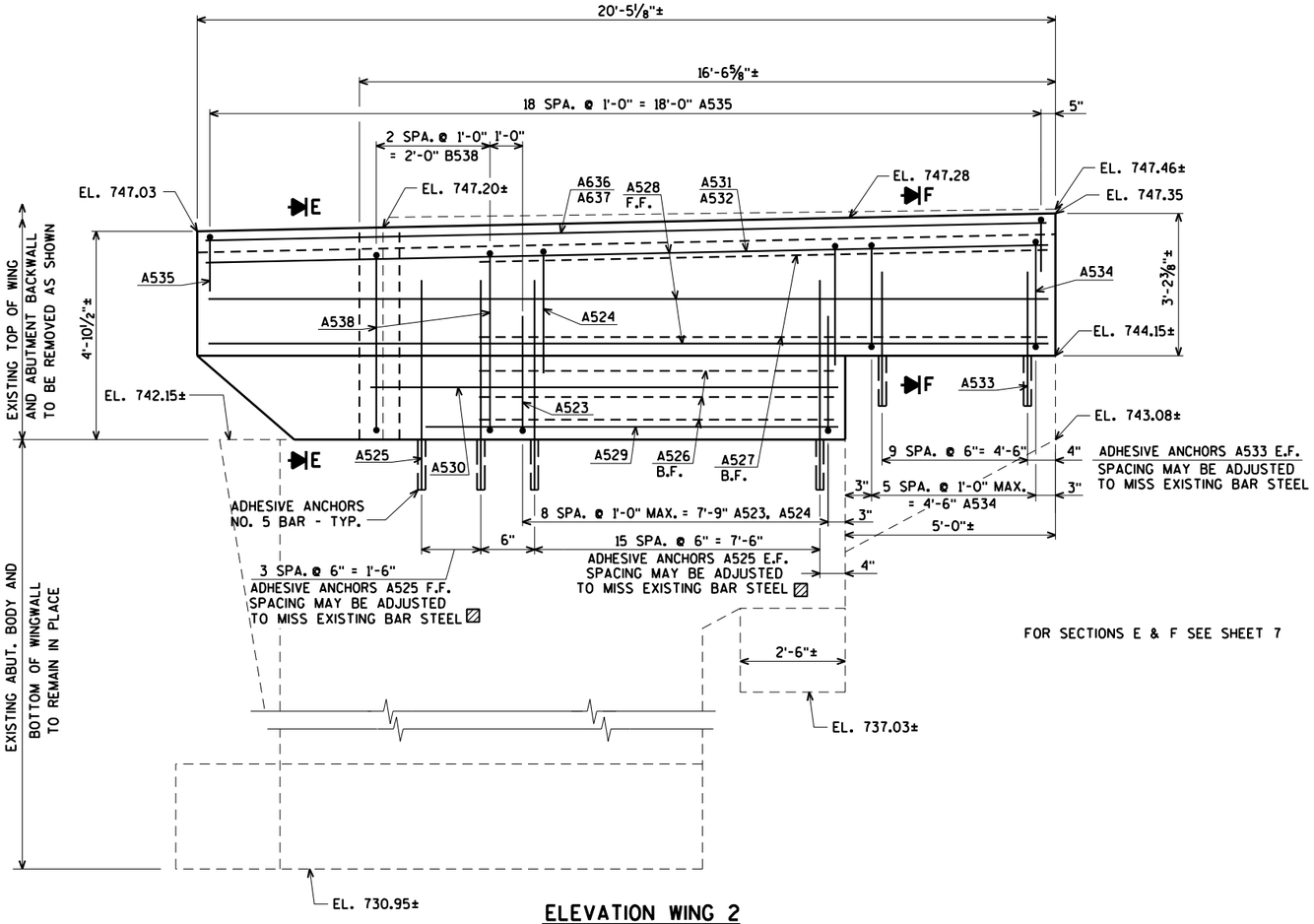
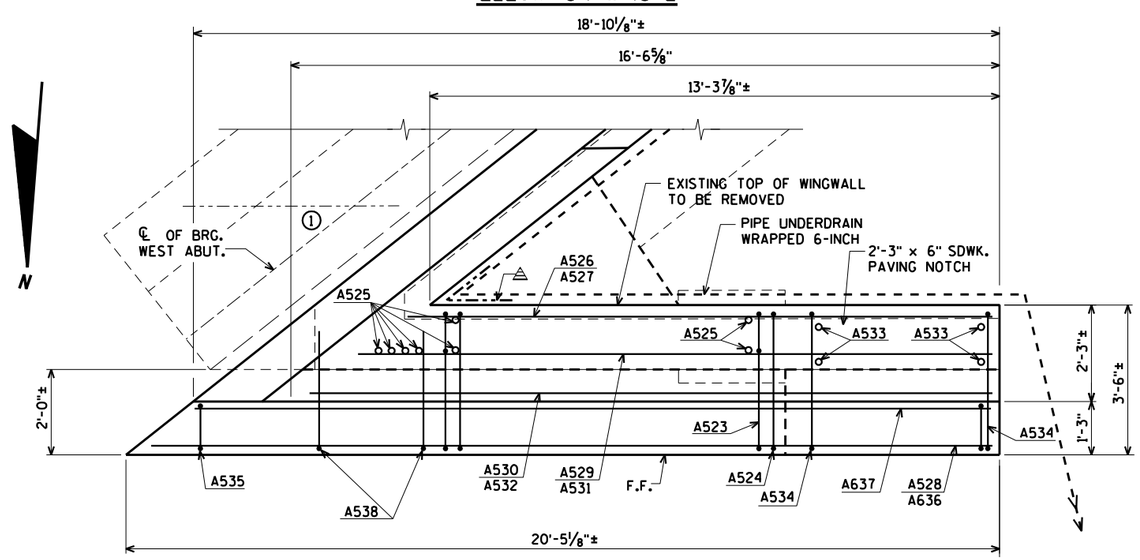
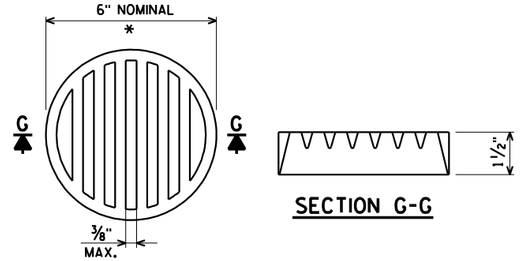


FOR SECTIONS E & F SEE SHEET 7

ELEVATION WING 2



PLAN - WING 2



SECTION G-G

* 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.

RODENT SHIELD DETAIL

▨ ADHESIVE ANCHORS NO. 5 BARS SHALL NOT BE SPACED LESS THAN 3¾".

△ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT AND WINGS.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

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WEST ABUTMENT
WING 2 DETAILS

SHEET 6 OF 31
328

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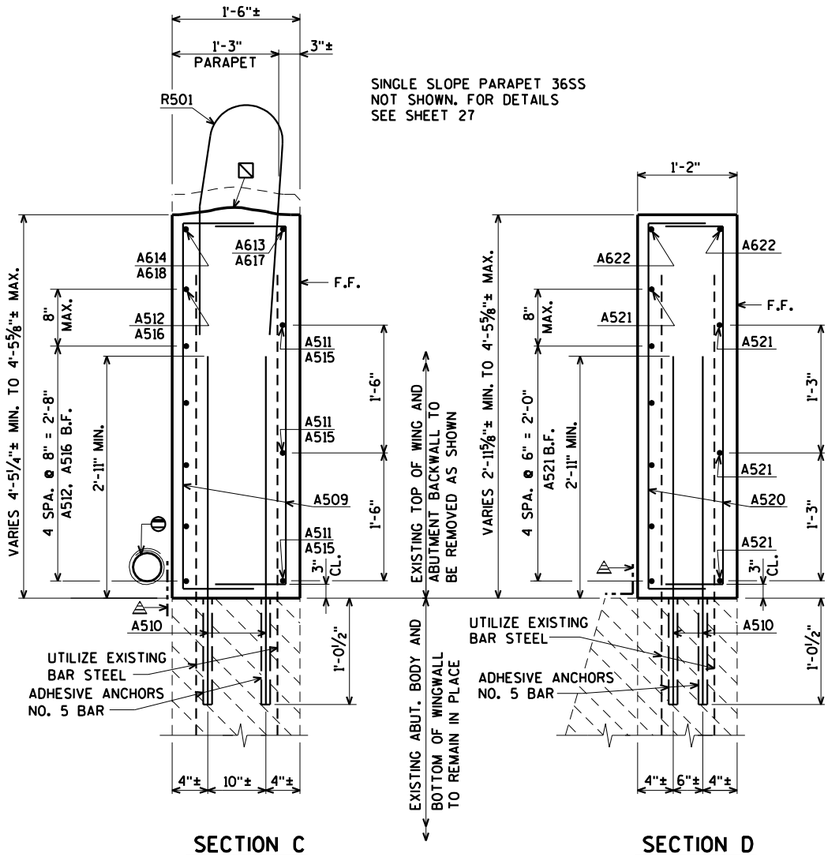
U:\42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County\BRIDGE new Jan 2017\B-40-471\42080

$PRFNAME$
U:±42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County±BRIDGE new Jan 2017±B-40-471±42080

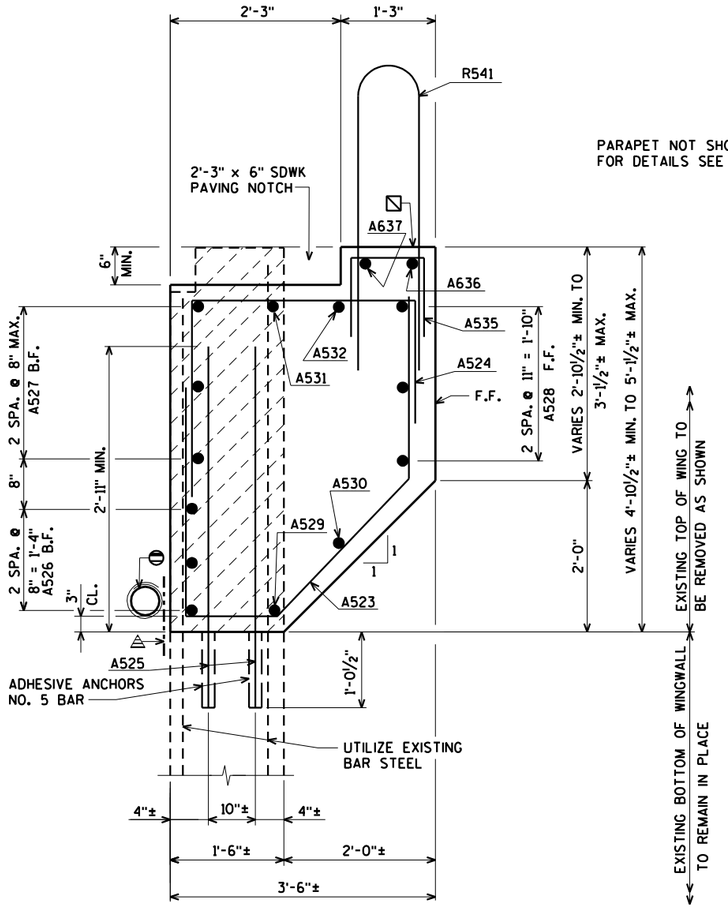
STATE PROJECT NUMBER

2035-06-70



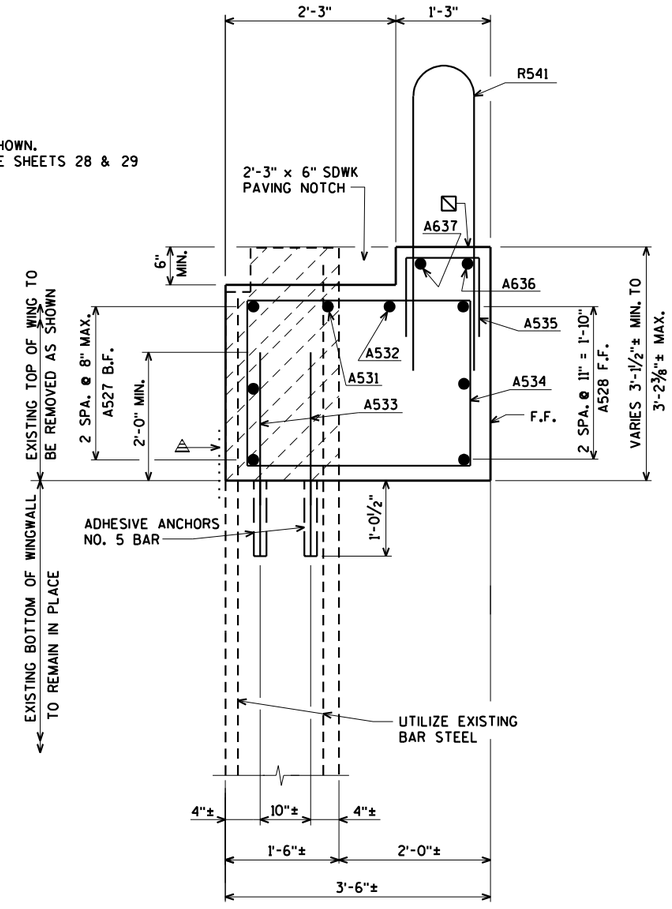
SECTION C

SECTION D



SECTION E

PARAPET NOT SHOWN.
FOR DETAILS SEE SHEETS 28 & 29



SECTION F

FOR LOCATIONS OF SECTIONS C & D
SEE SHEET 5

FOR LOCATIONS OF SECTIONS E & F
SEE SHEET 6

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON SHEET 6

△ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT AND WINGS.

▨ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

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WEST ABUTMENT
WING DETAILS

SHEET 7 OF 31
329

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STATE PROJECT NUMBER

2035-06-70

BILL OF BARS

WEIGHT INCLUDES PARAPET STEEL SHOWN ON SHEETS 27 & 28

	BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR	SERIES	5,760# COATED LOCATION
	A501	X	114	2-6	X			PAVING BLOCK VERT. DOWELS
	A502	X	9	2-3	X			PAVING BLOCK VERT. DOWELS @ SDWK B.F.
	A503	X	3	11-0				PAVING BLOCK HORIZ. @ SDWK
	A504	X	21	8-0				PAVING BLOCK HORIZ.
	A505	X	2	9-6				BACKWALL HORIZ. @ SDWK E.F.
▲	A506	X	110	4-0				BACKWALL VERT. DOWELS E.F.
	A507	X	55	8-9	X			BACKWALL VERT.
	A508	X	16	31-5				BACKWALL HORIZ. E.F.
	A509	X	112	5-1	X			WING 1 VERT. E.F. SEGMENTS A & B
▲	A510	X	148	4-0				WING 1 VERT. DOWELS E.F. SEGMENTS A, B & C
	A511	X	3	13-9				WING 1 HORIZ. F.F. SEGMENT A
	A512	X	6	14-6				WING 1 HORIZ. B.F. SEGMENT A
	A613	X	1	13-9				WING 1 HORIZ. F.F. SEGMENT A TOP
	A614	X	1	14-6				WING 1 HORIZ. B.F. SEGMENT A TOP
	A515	X	3	14-1				WING 1 HORIZ. F.F. SEGMENT B
	A516	X	6	14-10				WING 1 HORIZ. B.F. SEGMENT B
	A617	X	1	14-1				WING 1 HORIZ. F.F. SEGMENT B TOP
	A618	X	1	14-10				WING 1 HORIZ. B.F. SEGMENT B TOP
	A519	X	2	4-0				WING 1 VERT. SEGMENT A & B
	A520	X	34	4-4	X		⊗	WING 1 VERT. E.F. SEGMENT C
	A521	X	9	8-5				WING 1 HORIZ. E.F. SEGMENT C
	A622	X	2	8-5				WING 1 HORIZ. F.F. SEGMENT C TOP
	A523	X	9	8-5	X			WING 2 VERT.
	A524	X	9	7-8	X			WING 2 VERT.
▲	A525	X	36	4-0				WING 2 VERT. DOWELS E.F.
	A526	X	3	8-0				WING 2 HORIZ. B.F.
	A527	X	3	13-1				WING 2 HORIZ. B.F.
	A528	X	3	19-9				WING 2 HORIZ. F.F.
	A529	X	1	9-4				WING 2 HORIZ.
	A530	X	1	10-6				WING 2 HORIZ.
	A531	X	1	14-4				WING 2 HORIZ.
	A532	X	1	15-6				WING 2 HORIZ.
▲	A533	X	20	3-1				WING 2 VERT. DOWELS E.F.
	A534	X	6	11-4	X			WING 2 VERT.
	A535	X	19	3-9	X			WING 2 VERT. TOP
	A636	X	1	19-9				WING 2 HORIZ. TOP
	A637	X	1	18-8				WING 2 HORIZ. TOP
	A538	X	3	8-7	X			WING 2 VERT. F.F.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS

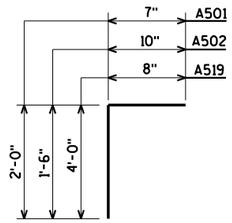
⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

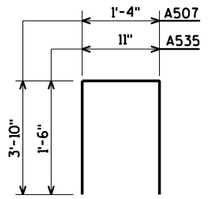
▲ ADHESIVE ANCHORS NO. 5 BAR

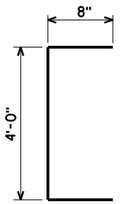
BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
A520	2 SERIES OF 17	3'-7" TO 5'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.

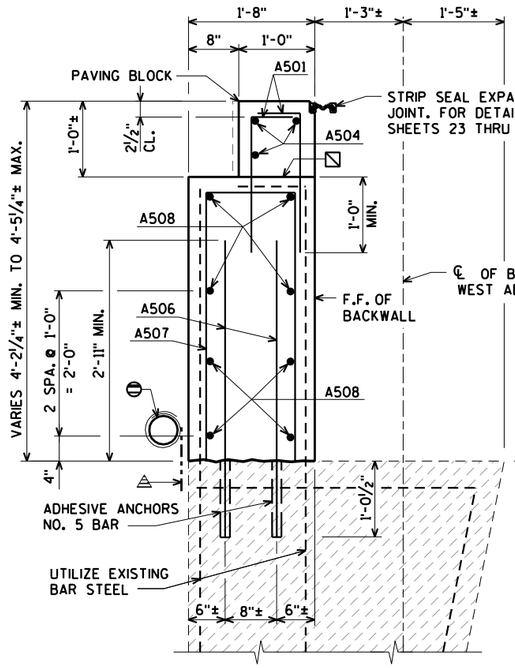




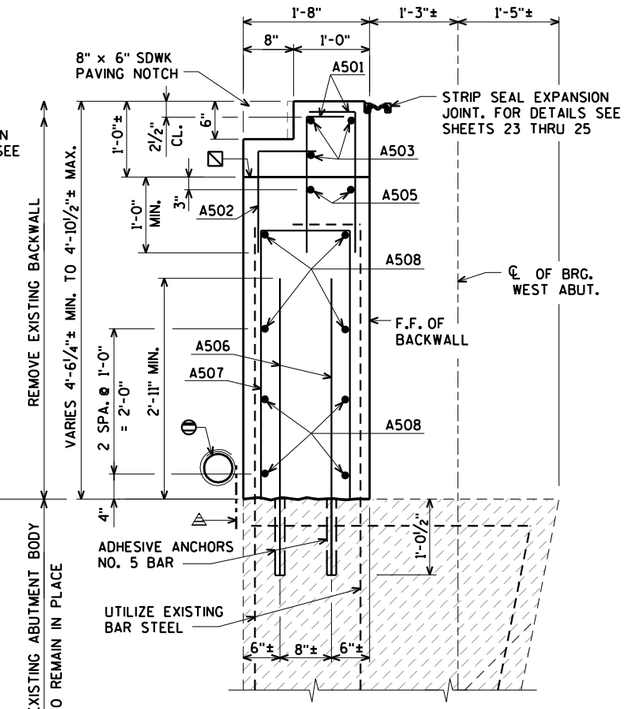


A509

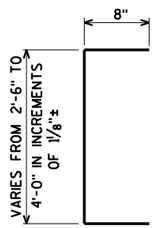
FOR LOCATIONS OF SECTIONS A & B SEE SHEET 4



SECTION A



SECTION B



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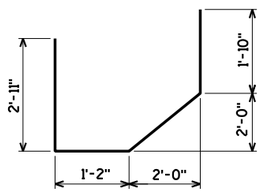

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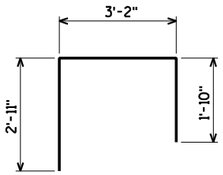

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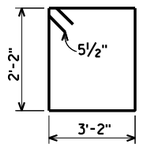

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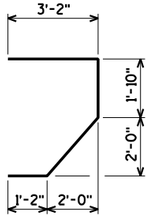

A538

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON SHEET 6

△ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT AND WINGS.

▨ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

DRAWN BY CLS | PLANS CK'D. CBM

WEST ABUTMENT DETAILS AND BILL OF BARS

SHEET 8 OF 31
330

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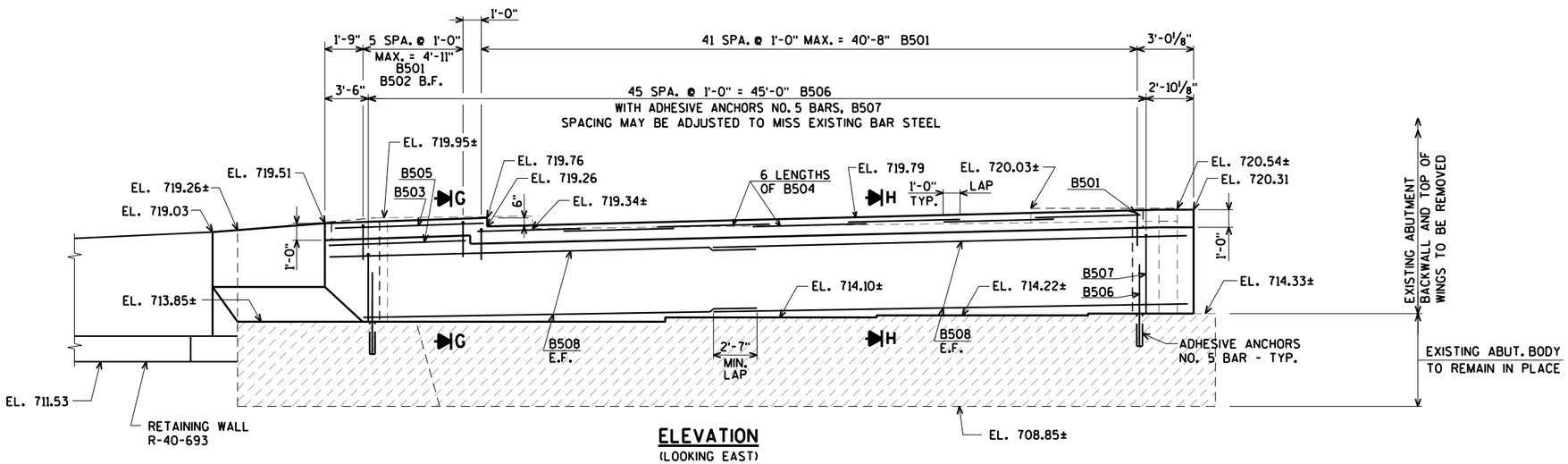
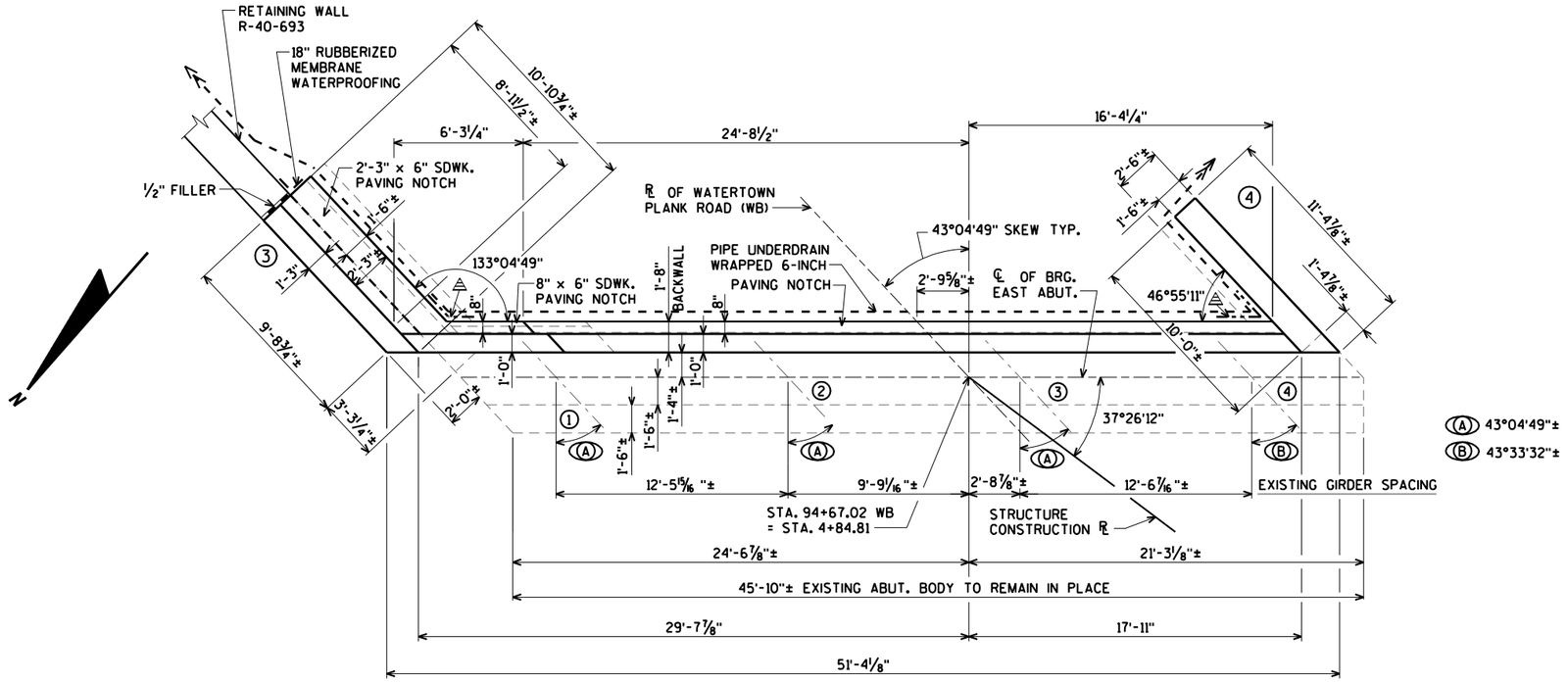


ELEVATION
(LOOKING EAST)

FOR SECTIONS G & H SEE SHEET 12



PLAN

△ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT AND WINGS.

B.F. DENOTES BACK FACE

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STATE OF WISCONSIN
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STRUCTURE B-40-471

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EAST ABUTMENT

SHEET 9 OF 31
331

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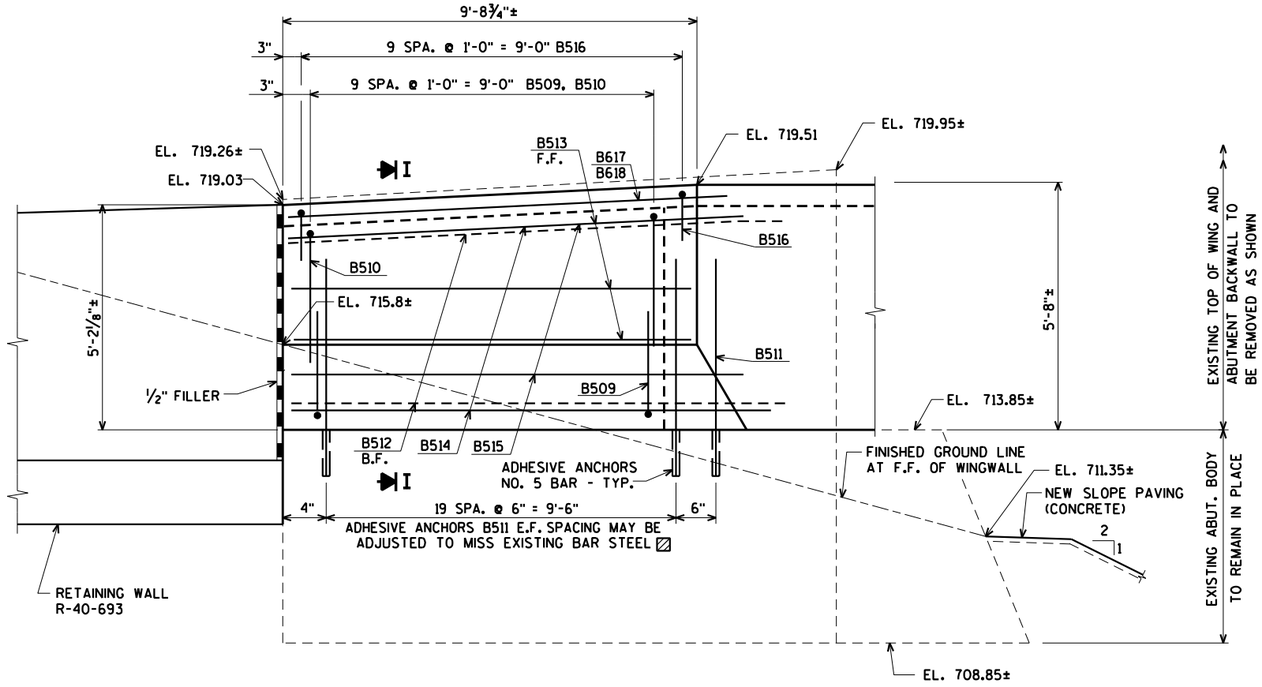
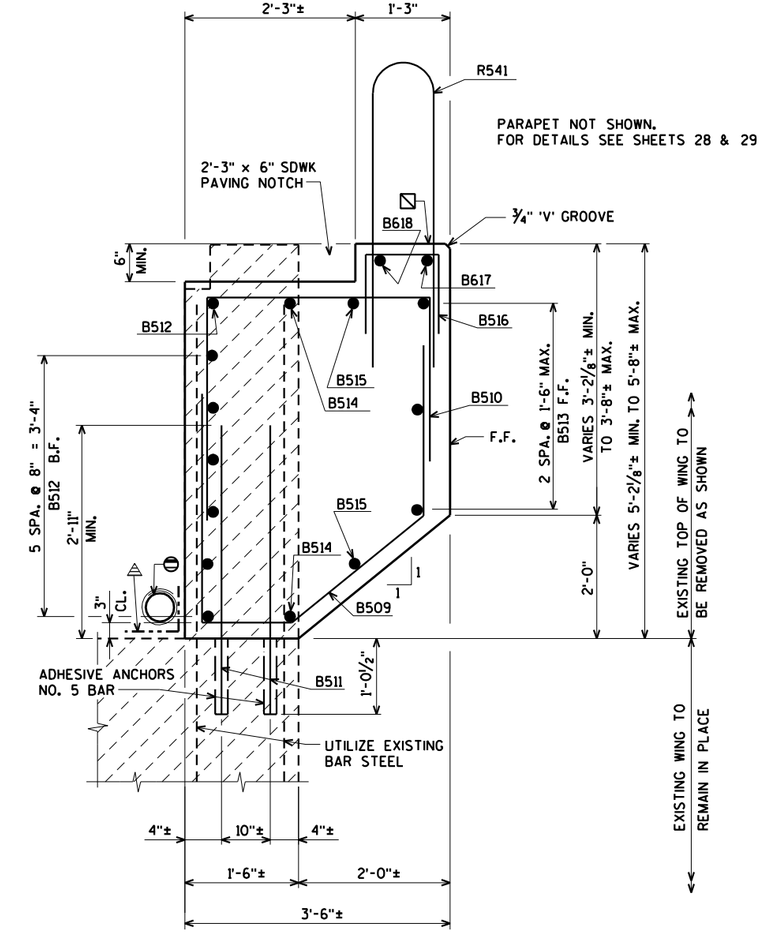
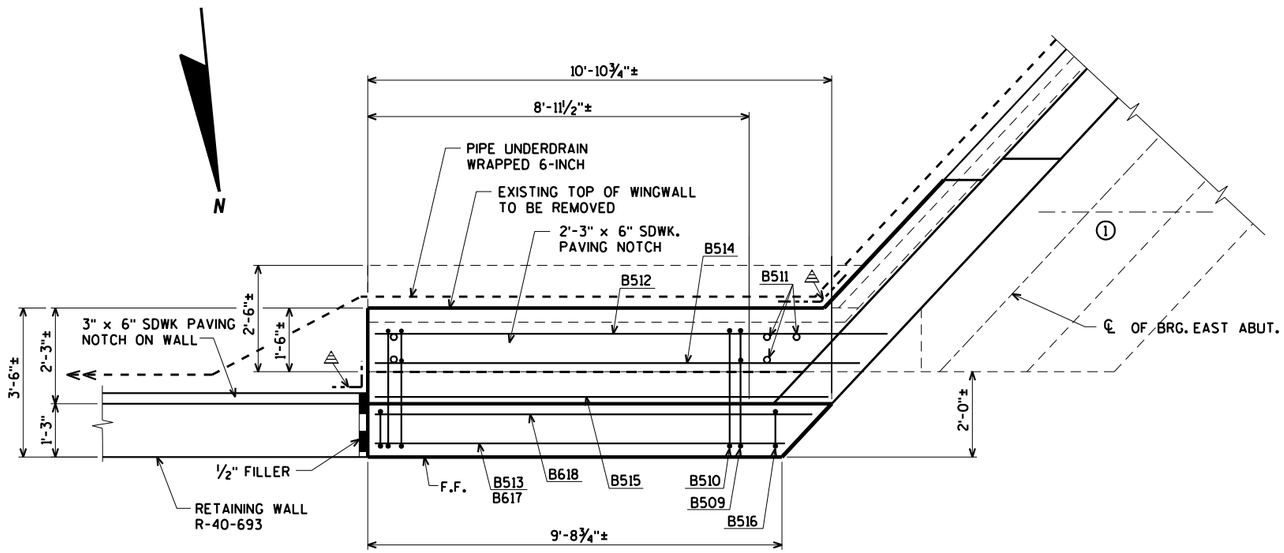


ELEVATION WING 3



SECTION I



PLAN - WING 3

▨ ADHESIVE ANCHORS NO. 5 BARS SHALL NOT BE SPACED LESS THAN 3¾".

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

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EAST ABUTMENT
WING 3 DETAILS

SHEET 10 OF 31
332

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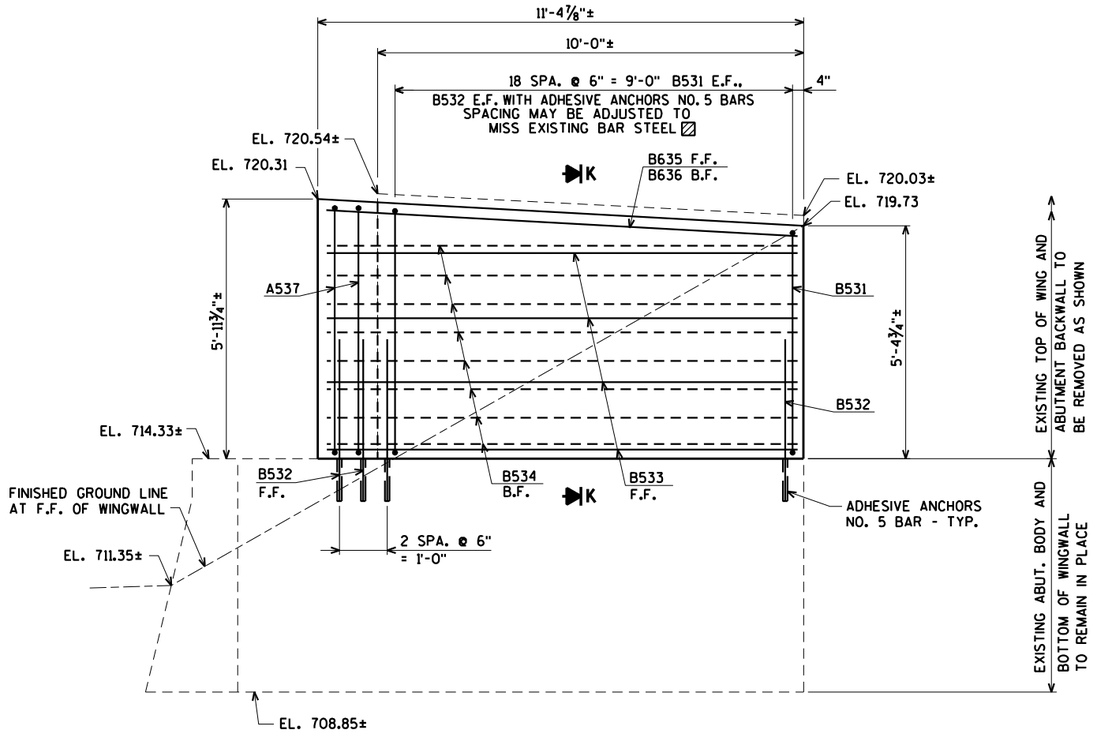
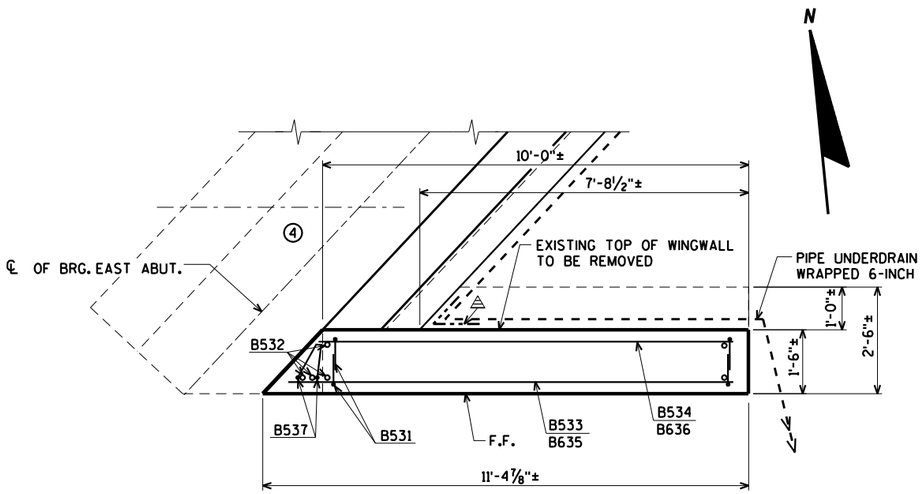
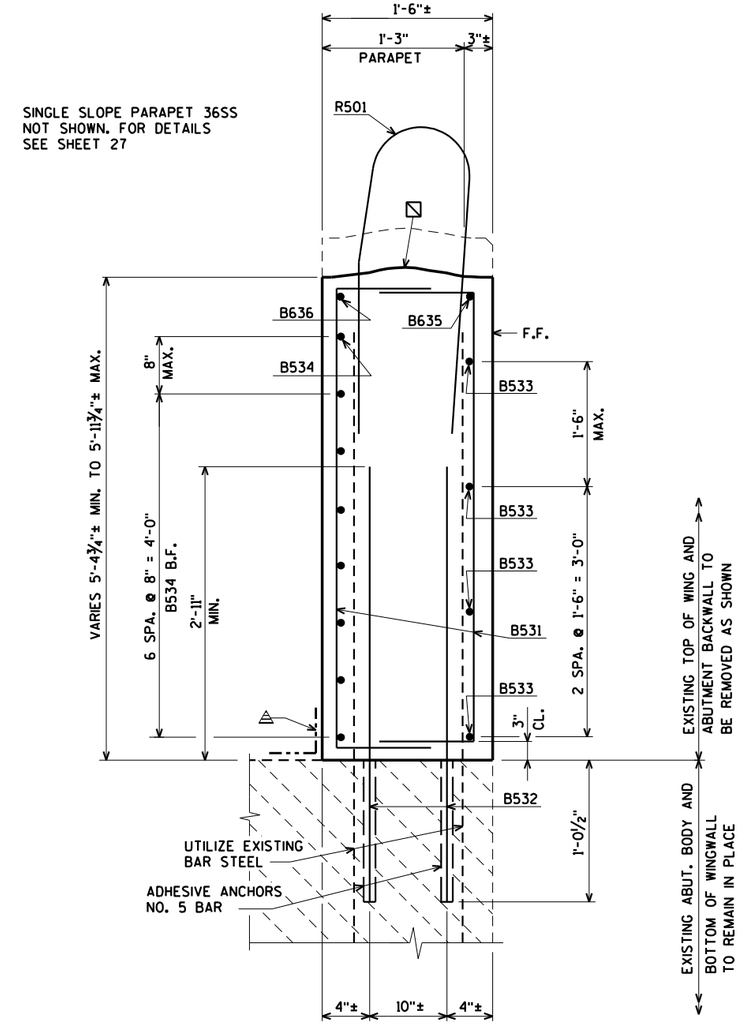


ELEVATION WING 4



PLAN - WING 4



SECTION K

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EAST ABUTMENT
WING 4 DETAILS

SHEET 11 OF 31
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STATE PROJECT NUMBER

2035-06-70

FOR LOCATIONS OF SECTIONS G & H
SEE SHEET 9

BILL OF BARS

WEIGHT INCLUDES PARAPET STEEL SHOWN ON SHEETS 27 & 28

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	3,440# COATED LOCATION
B501	X	96	2-6	X			PAVING BLOCK VERT. DOWELS
B502	X	6	2-3	X			PAVING BLOCK VERT. DOWELS @ SDWK B.F.
B503	X	3	9-4				PAVING BLOCK HORIZ. @ SDWK
B504	X	18	8-0				PAVING BLOCK HORIZ.
B505	X	2	8-0				BACKWALL HORIZ. @ SDWK E.F.
▲ B506	X	92	4-0				BACKWALL VERT. DOWELS E.F.
B507	X	46	9-5	X			BACKWALL VERT.
B508	X	20	26-9				BACKWALL HORIZ. E.F.
B509	X	10	8-9	X			WING 3 VERT.
B510	X	10	8-0	X			WING 3 VERT.
▲ B511	X	41	4-0				WING 3 VERT. DOWELS E.F.
B512	X	7	12-0				WING 3 HORIZ. B.F.
B513	X	3	9-4				WING 3 HORIZ. F.F.
B514	X	2	11-4				WING 3 HORIZ.
B515	X	2	10-7				WING 3 HORIZ.
B516	X	10	3-9	X			WING 3 VERT. TOP
B617	X	1	9-4				WING 3 HORIZ. TOP
B618	X	1	10-6				WING 3 HORIZ. TOP
B531	X	38	6-4	X		⊗	WING 4 VERT. E.F.
▲ B532	X	40	4-0				WING 4 VERT. DOWELS E.F.
B533	X	4	10-9				WING 4 HORIZ. F.F.
B534	X	8	9-9				WING 4 HORIZ. B.F.
B635	X	1	10-9				WING 4 HORIZ. F.F. TOP
B636	X	1	9-9				WING 4 HORIZ. B.F. TOP
B537	X	2	7-7	X			WING 4 VERT. @ CORNER F.F.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS

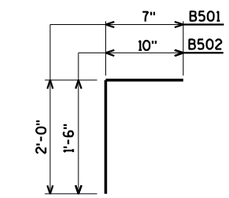
⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

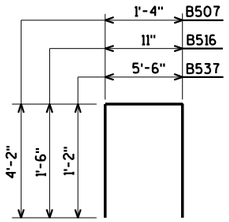
▲ ADHESIVE ANCHORS NO. 5 BAR

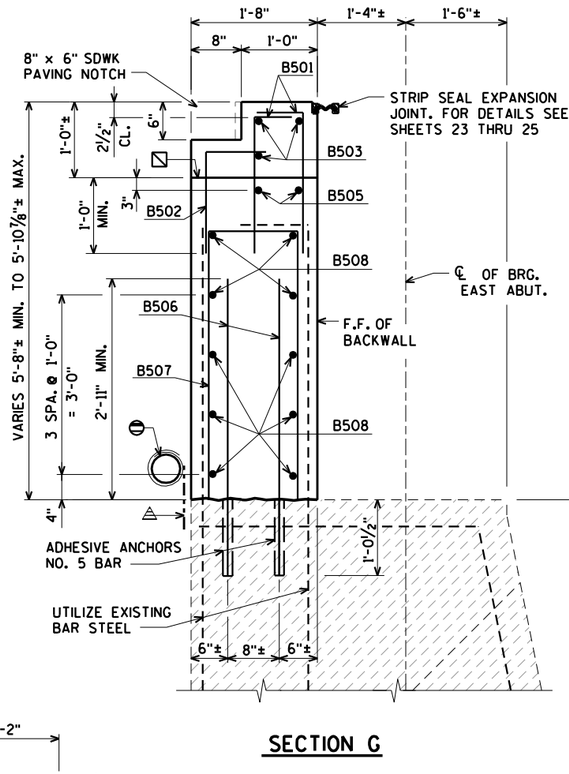
BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
B531	2 SERIES OF 19	6'-1" TO 6'-7"

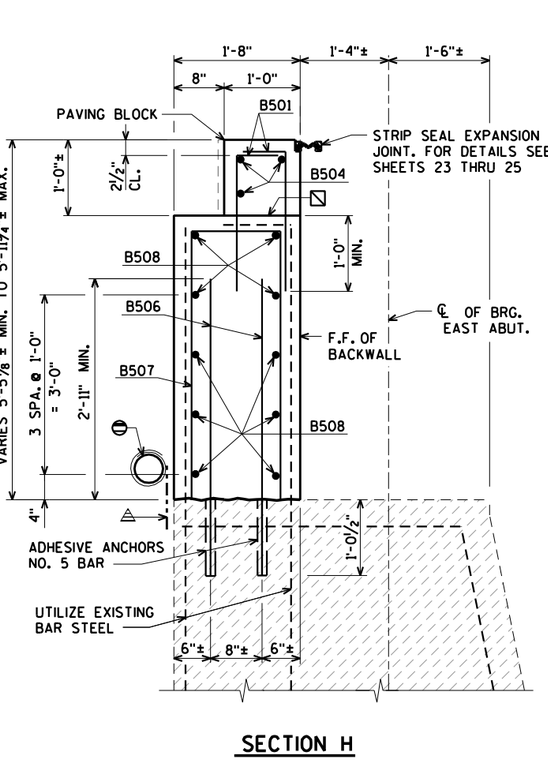
BUNDLE AND TAG EACH SERIES SEPARATELY.







SECTION G



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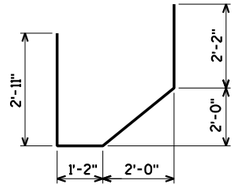

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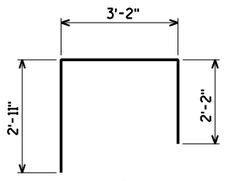

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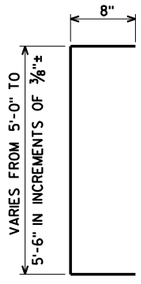

B531

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STRUCTURE B-40-471

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EAST ABUTMENT DETAILS AND BILL OF BARS

SHEET 12 OF 31
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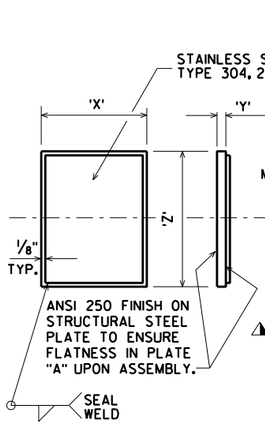
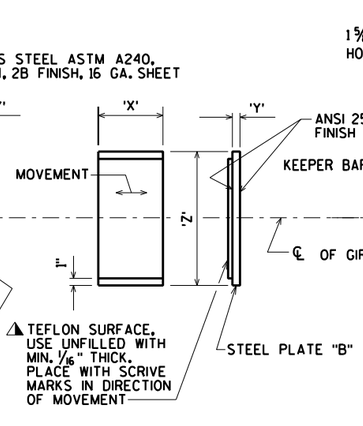
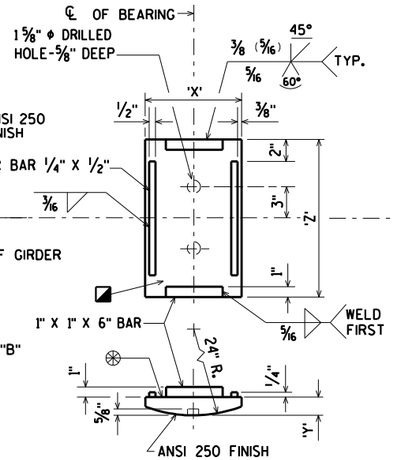


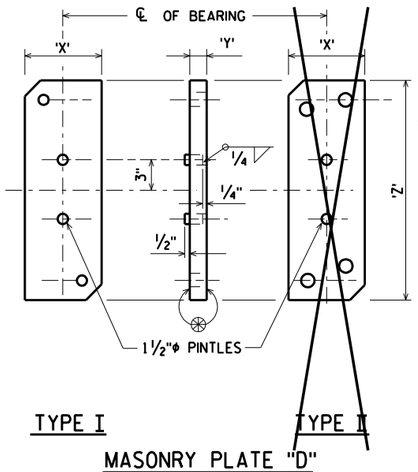
TOP PLATE "A"



TEFLON SURFACE ON PLATE "B"



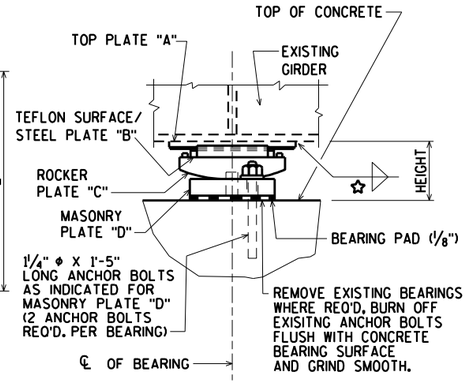
ROCKER PLATE "C"



TYPE I TYPE II

MASONRY PLATE "D"

*SEE MASONRY PLATE 'D' PLAN DETAILS BELOW



EXPANSION BEARING ASSEMBLY

EXPANSION BEARING

	PLATE "A"			PLATE "B"			PLATE "C"			PLATE "D"			PLATE "D" TYPE	ANCHOR BOLT SIZE	ANCHOR BOLT LENGTH	NO. OF BRG'S REQ'D.	LOCATION	HEIGHT FEET
	'X'	'Y'	'Z'	'X'	'Y'	'Z'	'X'	'Y'	'Z'	'X'	'Y'	'Z'						
EXPANSION BEARING	9"	11/16"	1'-4"	5"	1/2"	1'-4"	7"	1 7/16"	1'-6 1/4"	1'-0"	1 1/2"	2'-2"	I	1 1/4"ϕ	1'-5"	4	AT WEST ABUTMENT	0.365
	9"	11/16"	1'-8"	5"	1/2"	1'-8"	7"	1 7/16"	1'-10 1/4"	1'-0"	1 1/2"	2'-6"	I	1 1/4"ϕ	1'-5"	4	AT EAST ABUTMENT	0.365

*SEE MASONRY PLATE 'D' PLAN DETAILS BELOW

BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES 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 FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. BOLT LENGTH TO BE AS SHOWN. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS + SHIM PLATE IF APPLICABLE + 2 1/4", ABOVE TOP OF CONCRETE.

CHAMFER TOP OF PINTLES 1/8". DRILL HOLES FOR ALL PINTLES IN MASONRY PLATE "D" FOR A DRIVING FIT.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES, BUT EXCLUDING ANCHOR BOLTS, STAINLESS STEEL SHEET, TEFLON SURFACE, PINTLES, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

PROVIDE 1/8" THICK BEARING PAD THE SAME SIZE AS MASONRY PLATE "D" FOR EACH BEARING.

ALL MATERIAL IN BEARINGS, INCLUDING ANCHOR BOLTS, SHIM PLATES, AND BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-40-471" EACH.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.

PLACE SHIM PLATES BETWEEN BEARING PAD AND MASONRY PLATE "D". PLATES SHALL HAVE "X" AND "Z" DIMENSIONS THAT MATCH MASONRY PLATE "D".

IN LIEU OF USING SHIM PLATES, FABRICATOR MAY INCREASE THICKNESS OF TOP PLATE "A" OR MASONRY PLATE "D" BY THE SHIM PLATE THICKNESS.

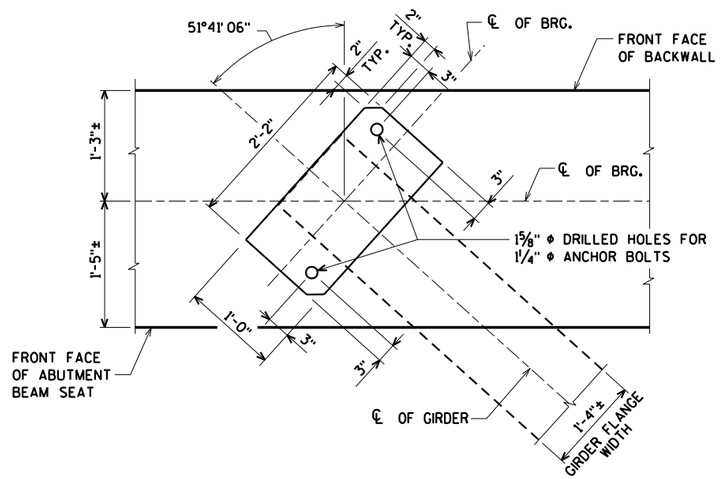
TOP PLATE "A" AND STEEL PLATE "B" SHALL BE SHOP PAINTED. USE A WELDABLE PRIMER ON TOP PLATE "A". ROCKER PLATE "C" AND MASONRY PLATE "D" SHALL BE GALVANIZED. DO NOT PAINT STAINLESS STEEL OR TEFLON SURFACES.

⊛ FINISH THESE SURFACES TO ANSI 250 IF 'Y' DIMENSION IS GREATER THAN 2".

◪ PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.

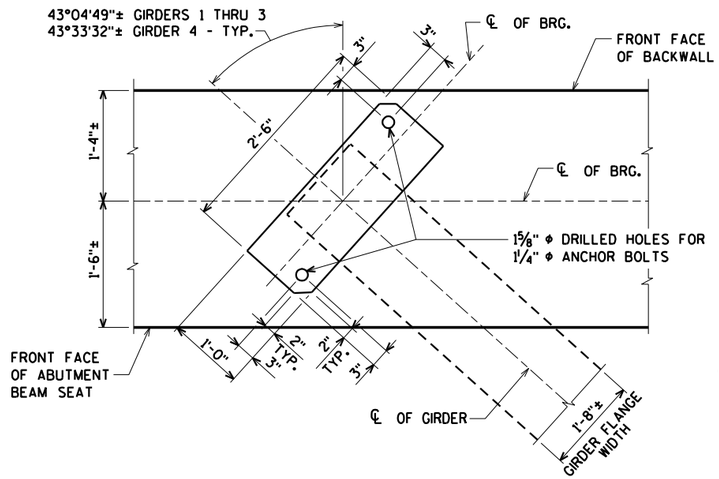
⚠ BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING FEDERAL SPECIFICATION MMM-A-134, FEP FILM OR EQUAL.

AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, AND OTHER FOREIGN MATTER.



MASONRY PLATE 'D' PLAN AT WEST ABUTMENT

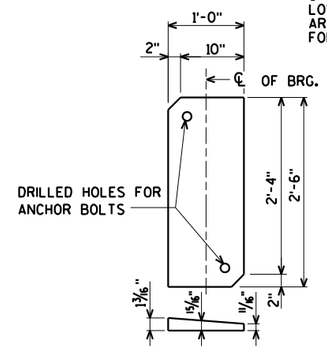
TYPE I



MASONRY PLATE 'D' PLAN AT EAST ABUTMENT

TYPE I

NOTE: ABUTMENT DIAPHRAGMS MAY NEED TO BE REMOVED, SALVAGED, AND REINSTALLED IN KIND IN ORDER TO INSTALL NEW BEARINGS AND ANCHOR BOLTS. COST OF REMOVING, SALVAGING, AND REINSTALLING THE ABUTMENT DIAPHRAGMS IS INCLUDED IN THE BID ITEM "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 92+24 WB".



SHIM PLATE AT EAST ABUTMENT

PLACE SHIM PLATES BETWEEN MASONRY PLATES AND BEARING PADS (4 REQ'D.)

☆TABLE OF FILLET WELD SIZES

MATERIAL THICKNESS OF THICKER PART JOINED.	+ MIN. SIZE OF FILLET WELD
TO 1/2" INCLUSIVE	3/16"
OVER 1/2" TO 3/4"	1/4"
OVER 3/4" TO 1 1/2"	△ 5/16"
OVER 1 1/2"	△ 3/8"

+ EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

△ MIN. PASS SIZE IS 5/16"

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BEARING DETAILS

SHEET 13 OF 31
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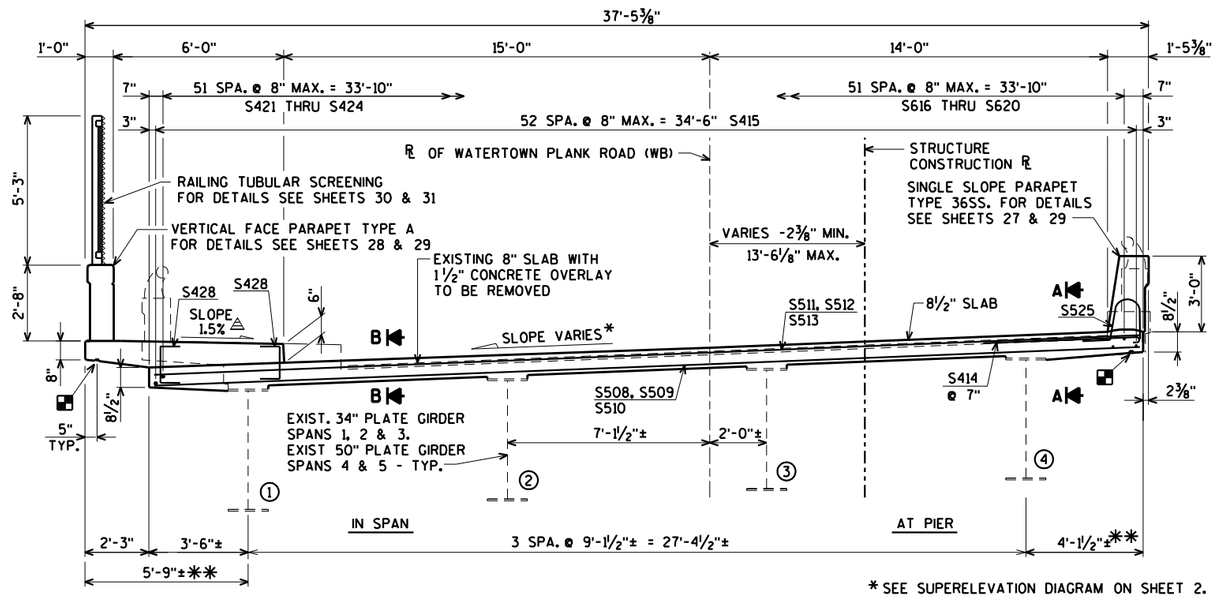
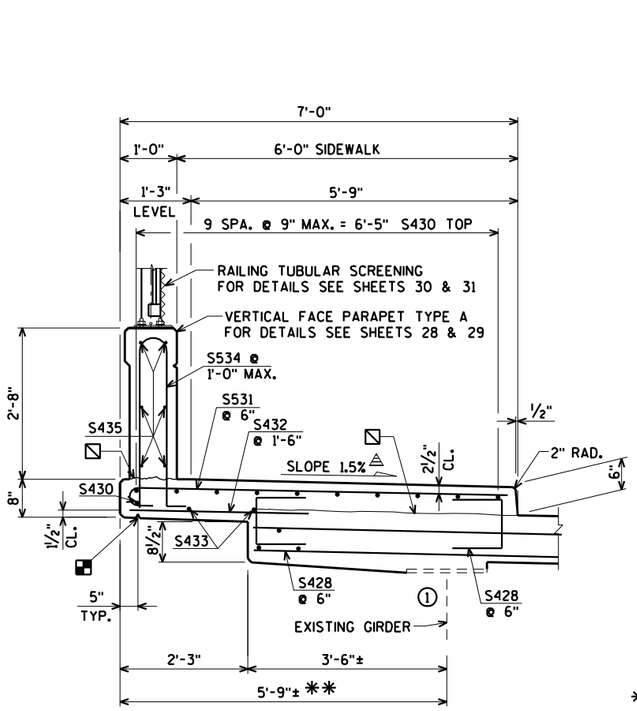


TYPICAL CROSS SECTION THRU DECK

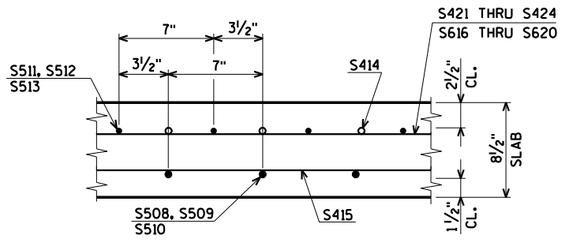
(LOOKING EAST)

* SEE SUPERELEVATION DIAGRAM ON SHEET 2. CROSS SECTION SHOWN IS TYPICAL OF SPANS 1 & 2. SLOPE IS OPPOSITE DIRECTION SPANS 4 & 5 WITH A TRANSITION OCCURING IN SPAN 3.

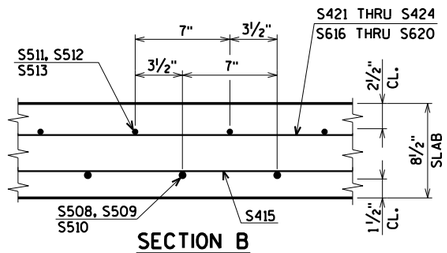


SECTION AT SIDEWALK

(LOOKING EAST)
(IN SPANS 4 & 5)



SECTION A



SECTION B

◪ ¾" V - GROOVE TERMINATE 2'-0" FROM FRONT FACE OF ABUTMENTS - TYP.

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

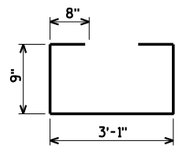
** TEMPORARILY BRACE THE LOWER FLANGE OF THE EXTERIOR GIRDERS PER STANDARD SPECIFICATIONS SECTION 502.3.2.3 UNTIL THE SIDEWALK AND PARAPETS ARE CONSTRUCTED.

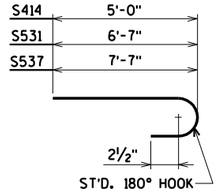
◹ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE X-SLOPE IN SPANS 1, 2, & 3. FOR DECK POUR, PROVIDE FOR 8" MIN. SIDEWALK THICKNESS AT EDGE OF DECK IN SPANS 4 & 5.

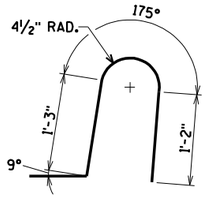
BAR SERIES TABLE

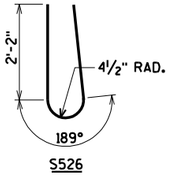
BAR MARK	NO REQ'D.	LENGTH
S509	1 SERIES OF 71	2'-3" TO 34'-5"
S510	1 SERIES OF 52	2'-7" TO 34'-3"
S512	1 SERIES OF 71	2'-0" TO 34'-2"
S513	1 SERIES OF 52	2'-3" TO 34'-1"

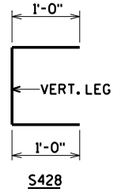
BUNDLE AND TAG EACH SERIES SEPARATELY.

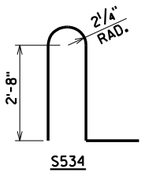


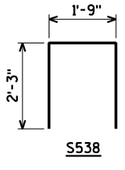


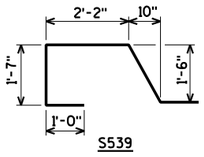


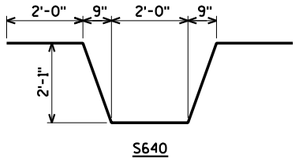


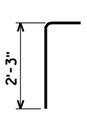


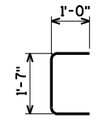












STATE PROJECT NUMBER

2035-06-70

BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	143,230# COATED LOCATION
S401	X	66	5-7	X		DIAPH. @ ABUT. VERT.
S702	X	15	12-6			DIAPH. @ W. ABUT. HORIZ. BOT.
S703	X	15	9-9			DIAPH. @ E. ABUT. HORIZ. BOT.
S404	X	6	12-6			DIAPH. @ W. ABUT. HORIZ.
S405	X	6	9-9			DIAPH. @ E. ABUT. HORIZ.
S406	X	6	12-6			DIAPH. @ W. ABUT. HORIZ. TOP
S407	X	6	9-9			DIAPH. @ E. ABUT. HORIZ. TOP
S508	X	770	34-8			SLAB TRANS. BOT.
S509	X	71	18-4		⊗	SLAB TRANS. BOT. SPAN 1
S510	X	52	18-5		⊗	SLAB TRANS. BOT. SPAN 5
S511	X	771	34-8			SLAB TRANS. TOP
S512	X	71	18-1		⊗	SLAB TRANS. TOP SPAN 1
S513	X	52	18-2		⊗	SLAB TRANS. TOP SPAN 5
S414	X	833	5-7	X		SLAB TRANS. TOP @ PARAPET
S415	X	636	42-5			SLAB LONG. BOT.
S616	X	52	48-4			SLAB LONG. TOP PIER 1
S617	X	52	40-5			SLAB LONG. TOP PIER 2
S618	X	52	43-11			SLAB LONG. TOP PIER 3
S619	X	52	50-0			SLAB LONG. TOP PIER 4
S620	X	52	21-4			SLAB LONG. TOP PIER 4
S421	X	104	30-8			SLAB LONG. TOP SPAN 1
S422	X	104	33-6			SLAB LONG. TOP SPAN 2
S423	X	156	26-3			SLAB LONG. TOP SPAN 4
S424	X	156	33-11			SLAB LONG. TOP SPAN 5
S525	X	738	4-5	X		PARAPET VERT. @ SLAB
S526	X	738	5-8	X		PARAPET VERT.
S527	X	96	43-4			PARAPET HORIZ.
S428	X	1930	2-7	X		SDWK. VERT. @ SLAB
S529	X	8	5-0			SLAB LONG. @ FLOOR DRAINS
S430	X	132	42-5			SDWK. LONG. TOP
S531	X	965	7-3	X		SDWK. TRANS. TOP
S432	X	322	3-1			SDWK. TRANS. BOT.
S433	X	24	42-5			SDWK. LONG. BOT.
S534	X	481	6-8	X		SDWK. VERT. @ PARAPET
S435	X	72	42-5			PARAPET HORIZ. @ SDWK.
S536	X	24	6-8			SDWK. TRANS. BOT. @ LIGHT STANDARD
S537	X	24	7-3	X		SDWK. TRANS. TOP @ LIGHT STANDARD
S538	X	8	6-0	X		PARAPET VERT. @ LIGHT STANDARD
S539	X	8	7-0	X		PARAPET VERT. @ LIGHT STANDARD
S640	X	14	10-0	X		PARAPET HORIZ. @ LIGHT STANDARD
S541	X	4	3-2	X		PARAPET VERT. @ LIGHT STANDARD
S542	X	4	3-4	X		PARAPET VERT. @ LIGHT STANDARD

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

DRAWN BY CLS | PLANS CK'D. CBM

SUPERSTRUCTURE

SHEET 14 OF 31
336

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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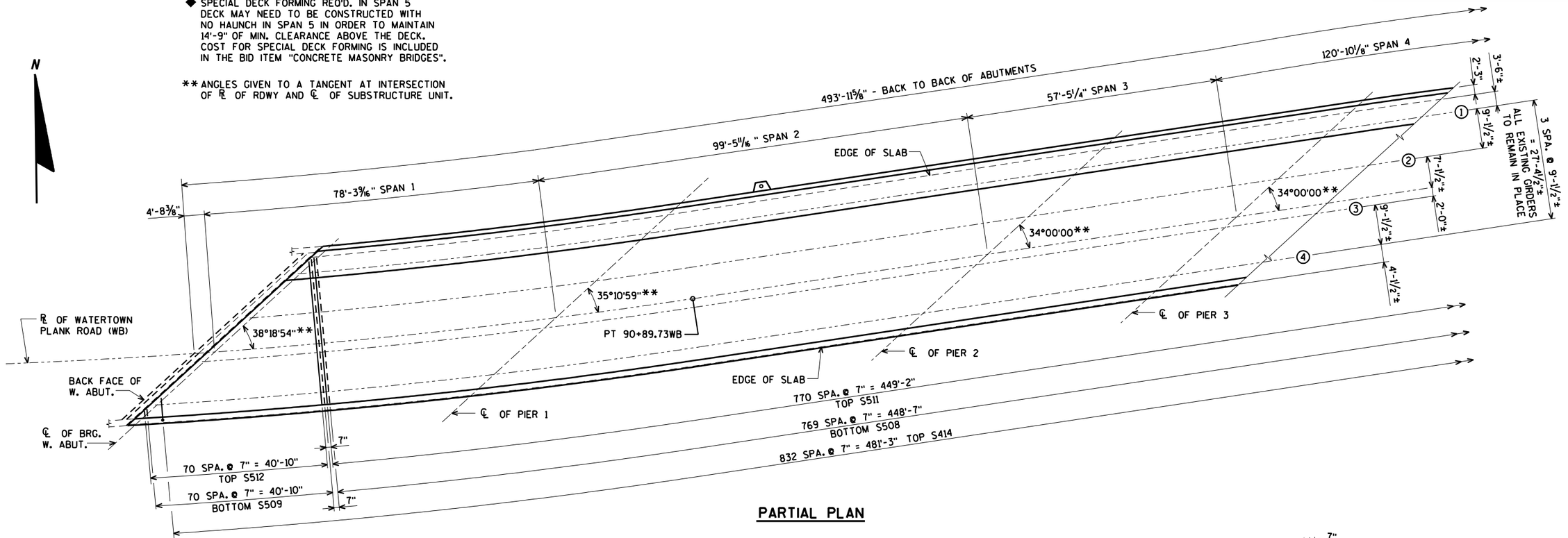
STATE PROJECT NUMBER

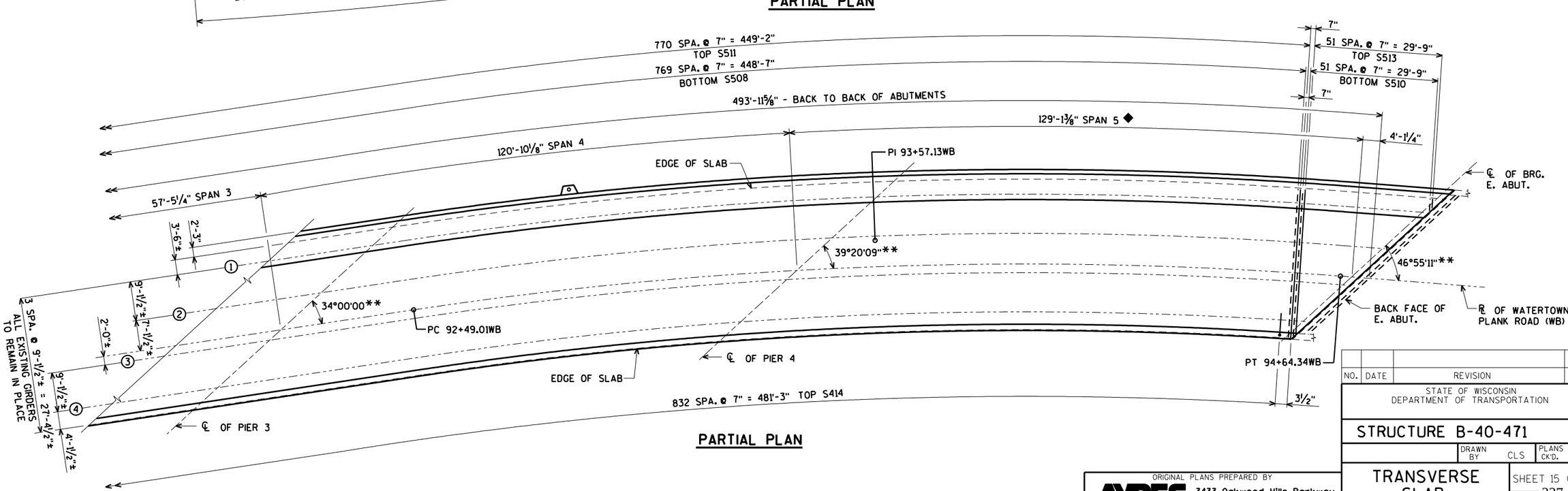
2035-06-70

◆ SPECIAL DECK FORMING REQ'D. IN SPAN 5
DECK MAY NEED TO BE CONSTRUCTED WITH
NO HAUNCH IN SPAN 5 IN ORDER TO MAINTAIN
14'-9" OF MIN. CLEARANCE ABOVE THE DECK.
COST FOR SPECIAL DECK FORMING IS INCLUDED
IN THE BID ITEM "CONCRETE MASONRY BRIDGES".

** ANGLES GIVEN TO A TANGENT AT INTERSECTION
OF ℄ OF RDWY AND ℄ OF SUBSTRUCTURE UNIT.



PARTIAL PLAN



PARTIAL PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

DRAWN BY CLS | PLANS CK'D. CBM

TRANSVERSE SLAB STEEL LAYOUT

SHEET 15 OF 31
337

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1/25/2017

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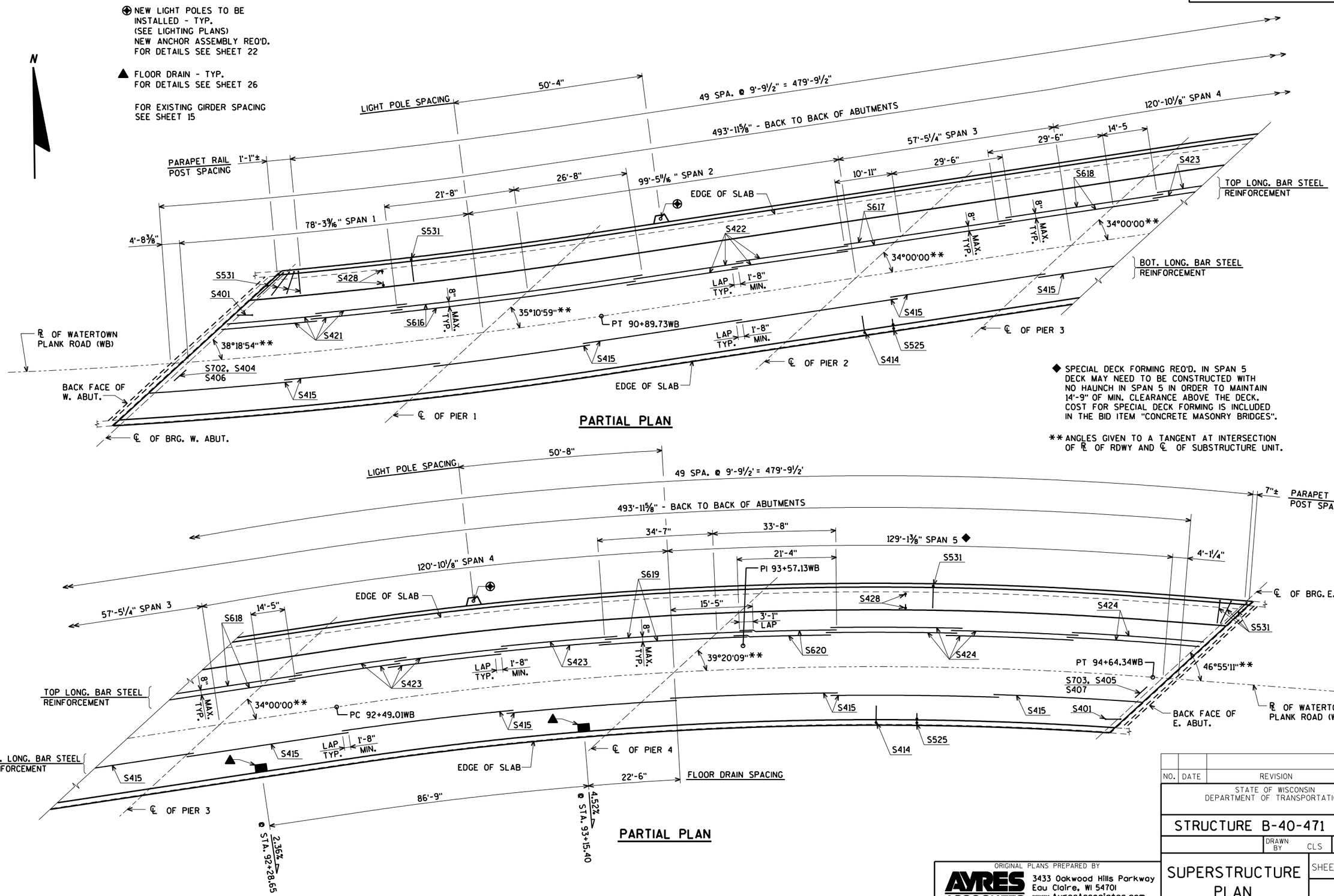
STATE PROJECT NUMBER

2035-06-70

NEW LIGHT POLES TO BE INSTALLED - TYP.
(SEE LIGHTING PLANS)
NEW ANCHOR ASSEMBLY REQ'D.
FOR DETAILS SEE SHEET 22

▲ FLOOR DRAIN - TYP.
FOR DETAILS SEE SHEET 26

FOR EXISTING GIRDER SPACING
SEE SHEET 15



PARTIAL PLAN

◆ SPECIAL DECK FORMING REQ'D. IN SPAN 5 DECK MAY NEED TO BE CONSTRUCTED WITH NO HAUNCH IN SPAN 5 IN ORDER TO MAINTAIN 14'-9" OF MIN. CLEARANCE ABOVE THE DECK. COST FOR SPECIAL DECK FORMING IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY BRIDGES".

** ANGLES GIVEN TO A TANGENT AT INTERSECTION OF ℞ OF RDWY AND ℄ OF SUBSTRUCTURE UNIT.

PARTIAL PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

DRAWN BY CLS | PLANS CK'D. CBM

SUPERSTRUCTURE PLAN

SHEET 16 OF 31
338

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STATE PROJECT NUMBER

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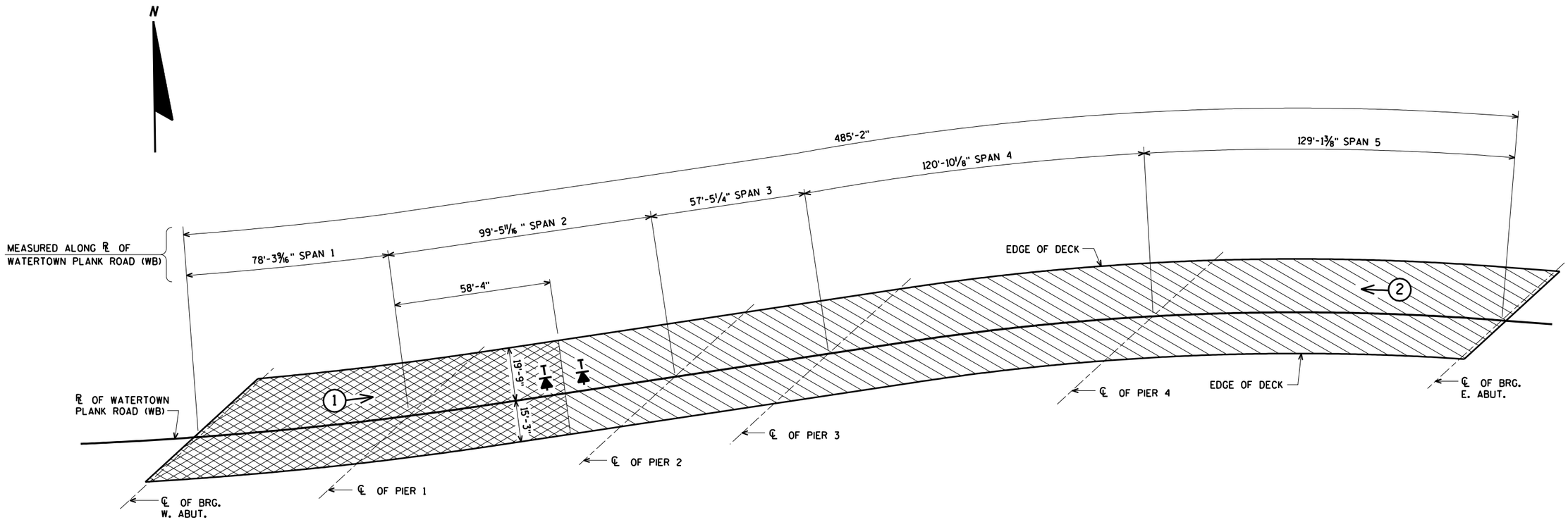
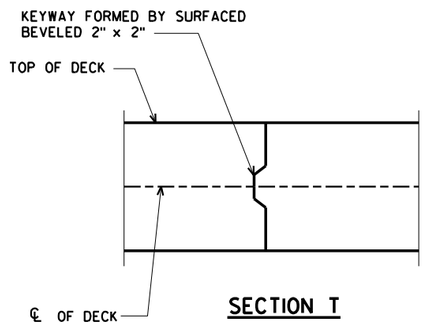


POURING DIAGRAM



SECTION T

POURING DIAGRAM NOTES

POURS 1 AND 2 MAY BE COMBINED AND THE TRANSVERSE CONSTRUCTION JOINT OMITTED IF THE COMBINED POUR CAN BE COMPLETED WITHIN FOUR HOURS AFTER CONCRETE OVER THE LAST PIER IS PLACED.

DIRECTION OF POUR MAY BE REVERSED IF PORTION OF POUR FROM THE PIER CAN BE COMPLETED IN A FOUR HOUR PERIOD.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

DRAWN BY CLS | PLANS CK'D. CBM

SUPERSTRUCTURE POURING DIAGRAM

SHEET 17 OF 31
339

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STATE PROJECT NUMBER
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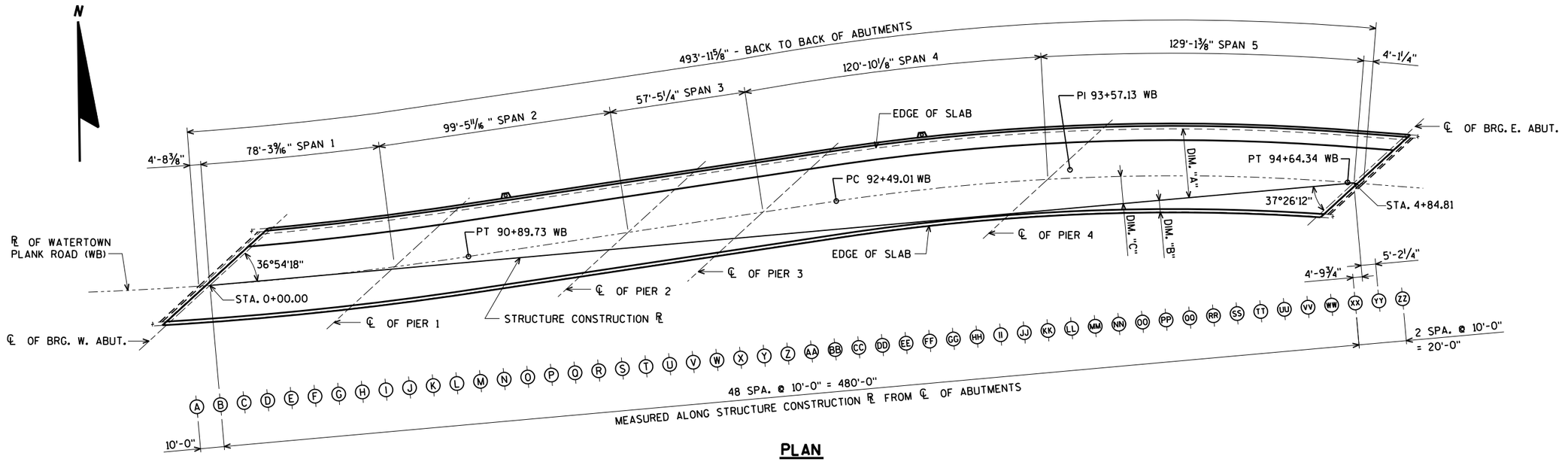

PLAN

EDGE OF DECK OFFSETS

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
DIM. "A"	- - - - -	- - - - -	- - - - -	- - - - -	19'-7 1/8"	19'-8 1/8"	19'-10 1/8"	20'-0 7/8"	20'-4 1/2"	20'-8 7/8"	21'-2 1/4"	21'-8 3/8"	22'-3 3/8"	22'-10 1/2"	23'-5 3/4"	24'-0 7/8"	24'-8"	25'-3 1/4"	25'-10 3/8"
DIM. "B"	15'-0 3/8"	15'-3"	15'-4 1/2"	15'-5 1/8"	15'-4 7/8"	15'-3 7/8"	15'-2"	14'-11 1/4"	14'-7 3/4"	14'-3 3/8"	13'-10 1/4"	13'-4 1/4"	12'-9 3/8"	12'-2 1/4"	11'-7"	10'-11 7/8"	10'-4 3/4"	9'-9 1/2"	9'-2 3/8"
DIM. "C"	-	0'-0"	- 0'-1 1/2"	- 0'-2 1/8"	- 0'-1 7/8"	- 0'-0 7/8"	0'-1"	0'-3 3/4"	0'-7 3/8"	0'-11 3/4"	1'-5"	1'-11 1/8"	2'-6"	3'-1 1/8"	3'-8 1/4"	4'-3 1/2"	4'-10 5/8"	5'-5 3/4"	6'-0 7/8"

	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF	GG	HH	II	JJ	KK	LL
DIM. "A"	26'-5 1/2"	27'-0 5/8"	27'-7 7/8"	28'-3"	28'-10 1/8"	29'-5 3/8"	30'-0 1/2"	30'-7 5/8"	31'-2 3/4"	31'-9 7/8"	32'-3 7/8"	32'-8 5/8"	33'-0 1/8"	33'-2 1/2"	33'-3 1/2"	33'-3 3/8"	33'-2"	32'-11 3/8"	32'-7 1/2"
DIM. "B"	8'-7 1/4"	8'-0 1/8"	7'-4 7/8"	6'-9 3/4"	6'-2 5/8"	5'-7 3/8"	5'-0 1/4"	4'-5 1/8"	3'-10"	3'-2 3/4"	2'-8 5/8"	2'-3 5/8"	2'-0"	1'-9 5/8"	1'-8 1/2"	1'-8 5/8"	1'-10 1/8"	2'-0 3/4"	2'-4 3/4"
DIM. "C"	6'-8 1/8"	7'-3 1/4"	7'-10 3/8"	8'-5 5/8"	9'-0 3/4"	9'-7 7/8"	10'-3 1/8"	10'-10 1/4"	11'-5 3/8"	12'-0 1/2"	12'-6 5/8"	12'-11 1/2"	13'-3 1/8"	13'-5 1/2"	13'-6 1/2"	13'-6 3/8"	13'-5"	13'-2 1/4"	12'-10 3/8"

	MM	NN	OO	PP	QQ	RR	SS	TT	UU	VV	WW	XX	YY	ZZ
DIM. "A"	32'-2 3/8"	31'-8 1/8"	31'-0 1/2"	30'-3 3/4"	29'-5 5/8"	28'-6 3/8"	27'-5 7/8"	26'-4"	25'-1"	23'-8 3/4"	22'-3 1/8"	20'-8 1/4"	19'-0 1/4"	17'-4 1/4"
DIM. "B"	2'-10 1/8"	3'-4 5/8"	4'-0 1/2"	4'-9 5/8"	5'-8"	6'-7 3/4"	7'-8 3/4"	8'-11 1/8"	10'-2 3/4"	11'-7 5/8"	- - - - -	- - - - -	- - - - -	- - - - -
DIM. "C"	12'-5 1/8"	11'-10 5/8"	11'-3"	10'-6"	9'-7 3/4"	8'-8 1/4"	7'-7 3/8"	6'-5 3/8"	5'-2"	3'-9 1/4"	2'-3 3/8"	0'-8 1/8"	- - - - -	- - - - -

NOTE:
DIMENSION "C" NEGATIVE VALUES ARE DISTANCES TO THE RIGHT OF THE STRUCTURE CONSTRUCTION ℄. POSITIVE VALUES ARE TO THE LEFT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

DRAWN BY CLS | PLANS CK'D. AEB

EDGE OF DECK OFFSETS

SHEET 18 OF 31
340

ORIGINAL PLANS PREPARED BY
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TOP OF DECK ELEVATIONS

SPAN 1	℄ OF BRG. WEST ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 1
EDGE OF DECK	746.25	746.09	745.91	745.72	745.50	745.27	745.06	744.84	744.60	744.34	744.07
GIRDER 1	746.48	746.33	746.16	745.98	745.77	745.55	745.33	745.11	744.88	744.62	744.35
GIRDER 2	747.03	746.91	746.78	746.62	746.45	746.26	746.05	745.83	745.60	745.36	745.10
REF. LINE OF WATERTOWN PLANK ROAD WB	747.43	747.34	747.22	747.09	746.94	746.78	746.59	746.39	746.18	745.94	745.69
GIRDER 3	747.54	747.45	747.34	747.22	747.08	746.92	746.74	746.55	746.34	746.11	745.86
GIRDER 4	748.01	747.95	747.86	747.77	747.65	747.52	747.38	747.21	747.03	746.84	746.62
FACE OF PARAPET	748.15	748.09	748.02	747.93	747.83	747.71	747.57	747.41	747.24	747.06	746.85

SPAN 2	℄ OF PIER 1	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 2
EDGE OF DECK	744.07	743.70	743.30	742.88	742.43	741.95	741.45	740.92	740.36	739.78	739.21
GIRDER 1	744.35	743.99	743.60	743.18	742.74	742.27	741.77	741.24	740.68	740.10	739.51
GIRDER 2	745.10	744.74	744.36	743.96	743.52	743.06	742.57	742.05	741.50	740.92	740.32
REF. LINE OF WATERTOWN PLANK ROAD WB	745.69	745.35	744.97	744.57	744.14	743.69	743.20	742.69	742.15	741.59	740.99
GIRDER 3	745.86	745.52	745.15	744.75	744.32	743.87	743.39	742.88	742.34	741.77	741.18
GIRDER 4	746.62	746.30	745.95	745.56	745.15	744.70	744.23	743.73	743.21	742.65	742.07
FACE OF PARAPET	746.85	746.56	746.21	745.84	745.43	745.00	744.53	744.03	743.50	742.95	742.35

SPAN 3	℄ OF PIER 2	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 3
EDGE OF DECK	739.21	738.85	738.49	738.13	737.77	737.41	737.05	736.69	736.33	735.97	735.61
GIRDER 1	739.51	739.15	738.79	738.42	738.05	737.68	737.31	736.94	736.57	736.20	735.83
GIRDER 2	740.32	739.96	739.60	739.22	738.84	738.45	738.06	737.67	737.28	736.88	736.49
REF. LINE OF WATERTOWN PLANK ROAD WB	740.99	740.63	740.27	739.89	739.51	739.12	738.71	738.31	737.90	737.49	737.08
GIRDER 3	741.18	740.83	740.46	740.09	739.70	739.31	738.91	738.50	738.08	737.67	737.26
GIRDER 4	742.07	741.72	741.36	740.99	740.61	740.23	739.83	739.41	738.99	738.56	738.12
FACE OF PARAPET	742.35	742.01	741.65	741.28	740.91	740.52	740.13	739.71	739.29	738.86	738.42

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURE B-40-471

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DECK ELEVATIONS

SHEET 19 OF 31
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ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
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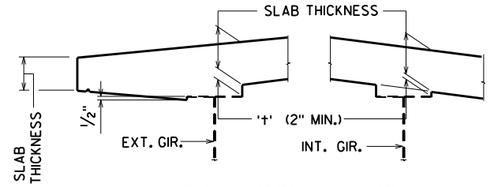
TOP OF DECK ELEVATIONS

SPAN 4	℄ OF PIER 3	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 4
EDGE OF DECK	735.61	734.87	734.14	733.43	732.69	731.84	730.98	730.12	729.26	728.40	727.57
GIRDER 1	735.83	735.08	734.34	733.60	732.86	732.03	731.17	730.31	729.45	728.59	727.73
GIRDER 2	736.49	735.68	734.87	734.06	733.25	732.44	731.60	730.74	729.88	729.02	728.16
REF. LINE OF WATERTOWN PLANK ROAD WB	737.08	736.22	735.36	734.50	733.64	732.78	731.92	731.06	730.20	729.34	728.48
GIRDER 3	737.26	736.38	735.51	734.64	733.76	732.89	732.01	731.15	730.29	729.43	728.57
GIRDER 4	738.12	737.19	736.26	735.33	734.39	733.45	732.51	731.57	730.68	729.82	728.97
FACE OF PARAPET	738.42	737.49	736.56	735.62	734.68	733.71	732.73	731.76	730.83	729.97	729.09

SPAN 5	℄ OF PIER 4	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF BRG. EAST ABUT.
EDGE OF DECK	727.57	726.64	725.72	724.79	723.88	723.01	722.17	721.37	720.62	719.89	719.18
GIRDER 1	727.73	726.80	725.87	724.94	724.02	723.14	722.29	721.49	720.73	720.00	719.31
GIRDER 2	728.16	727.23	726.31	725.39	724.46	723.55	722.69	721.86	721.08	720.34	719.64
REF. LINE OF WATERTOWN PLANK ROAD WB	728.48	727.56	726.64	725.72	724.80	723.89	723.00	722.15	721.35	720.60	719.88
GIRDER 3	728.57	727.65	726.73	725.82	724.90	723.98	723.09	722.24	721.43	720.67	719.95
GIRDER 4	728.97	728.05	727.14	726.23	725.32	724.40	723.49	722.62	721.79	721.00	720.26
FACE OF PARAPET	729.09	728.17	727.26	726.34	725.43	724.52	723.61	722.72	721.88	721.09	720.36

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION.



SLAB HAUNCH DETAIL

IF 2" 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 SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN AND PROFILE BY MORE THAN ½".

TO DETERMINE 't', ELEV. OF TOP OF GIRDERS AT ℄ OF SUBSTRUCTURE UNITS AND 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
+ DEADLOAD DEFLECTION
-SLAB THICKNESS
=HAUNCH HEIGHT 't'

NOTE:
AN AVERAGE HAUNCH ('T') OF 3⅜" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES"

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

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DECK ELEVATIONS

SHEET 20 OF 31
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TABLE OF DEFLECTIONS

		DEFLECTION	℄ BRG.	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	℄ BRG.
GIRDER 1	SPAN 1	CONCRETE ONLY	0.0	0.5	0.9	1.2	1.2	1.1	0.8	0.4	0.1	0.0	0.0
	SPAN 2	CONCRETE ONLY	0.0	0.3	1.0	1.7	2.3	2.6	2.6	2.2	1.5	0.7	0.0
	SPAN 3	CONCRETE ONLY	0.0	-0.3	-0.4	-0.5	-0.6	-0.6	-0.6	-0.5	-0.4	-0.2	0.0
	SPAN 4	CONCRETE ONLY	0.0	0.6	1.2	1.7	1.9	1.7	1.3	0.7	0.2	0.0	0.0
	SPAN 5	CONCRETE ONLY	0.0	0.4	1.1	2.0	2.6	3.0	3.1	2.8	2.1	1.1	0.0

		DEFLECTION	℄ BRG.	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	℄ BRG.
GIRDER 2	SPAN 1	CONCRETE ONLY	0.0	0.5	0.9	1.2	1.2	1.1	0.8	0.4	0.1	0.0	0.0
	SPAN 2	CONCRETE ONLY	0.0	0.3	1.0	1.7	2.3	2.6	2.6	2.1	1.5	0.7	0.0
	SPAN 3	CONCRETE ONLY	0.0	-0.3	-0.4	-0.5	-0.6	-0.6	-0.6	-0.5	-0.4	-0.2	0.0
	SPAN 4	CONCRETE ONLY	0.0	0.6	1.2	1.6	1.8	1.6	1.2	0.6	0.1	0.1	0.0
	SPAN 5	CONCRETE ONLY	0.0	0.6	1.4	2.4	3.4	3.9	4.1	3.7	2.8	1.5	0.0

		DEFLECTION	℄ BRG.	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	℄ BRG.
GIRDER 3	SPAN 1	CONCRETE ONLY	0.0	0.5	0.9	1.2	1.2	1.1	0.8	0.4	0.1	0.0	0.0
	SPAN 2	CONCRETE ONLY	0.0	0.3	1.0	1.7	2.3	2.6	2.6	2.1	1.5	0.7	0.0
	SPAN 3	CONCRETE ONLY	0.0	-0.3	-0.4	-0.5	-0.6	-0.6	-0.6	-0.5	-0.4	-0.2	0.0
	SPAN 4	CONCRETE ONLY	0.0	0.6	1.2	1.6	1.8	1.6	1.2	0.6	0.1	0.1	0.0
	SPAN 5	CONCRETE ONLY	0.0	0.6	1.4	2.4	3.4	3.9	4.1	3.7	2.8	1.5	0.0

		DEFLECTION	℄ BRG.	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	℄ BRG.
GIRDER 4	SPAN 1	CONCRETE ONLY	0.0	0.5	0.9	1.2	1.2	1.1	0.8	0.5	0.2	0.0	0.0
	SPAN 2	CONCRETE ONLY	0.0	0.3	0.8	1.5	2.0	2.3	2.3	1.9	1.3	0.6	0.0
	SPAN 3	CONCRETE ONLY	0.0	-0.2	-0.4	-0.5	-0.5	-0.5	-0.5	-0.5	-0.4	-0.2	0.0
	SPAN 4	CONCRETE ONLY	0.0	0.6	1.2	1.6	1.8	1.6	1.1	0.6	0.1	-0.1	0.0
	SPAN 5	CONCRETE ONLY	0.0	0.6	1.4	2.5	3.4	3.9	4.1	3.7	2.8	1.5	0.0

DEFLECTIONS ARE GIVEN IN INCHES.
NEGATIVE DEFLECTION VALUE DENOTES AN UPWARD DELFECTION.
DEFLECTIONS ARE THEORETICAL AND MAY VARY IN THE FIELD.

8

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TABLE OF DEFLECTIONS

SHEET 21 OF 31
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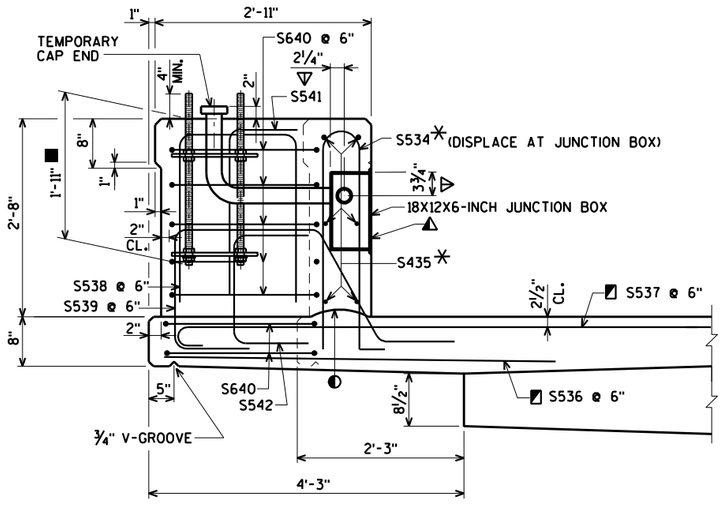
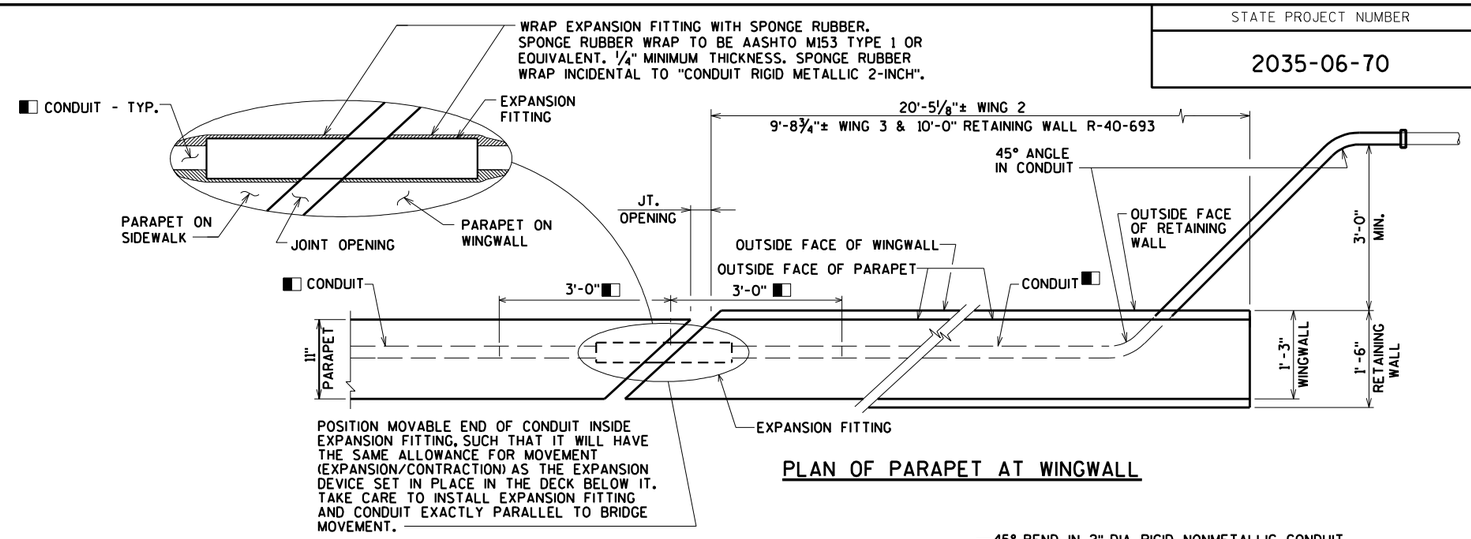
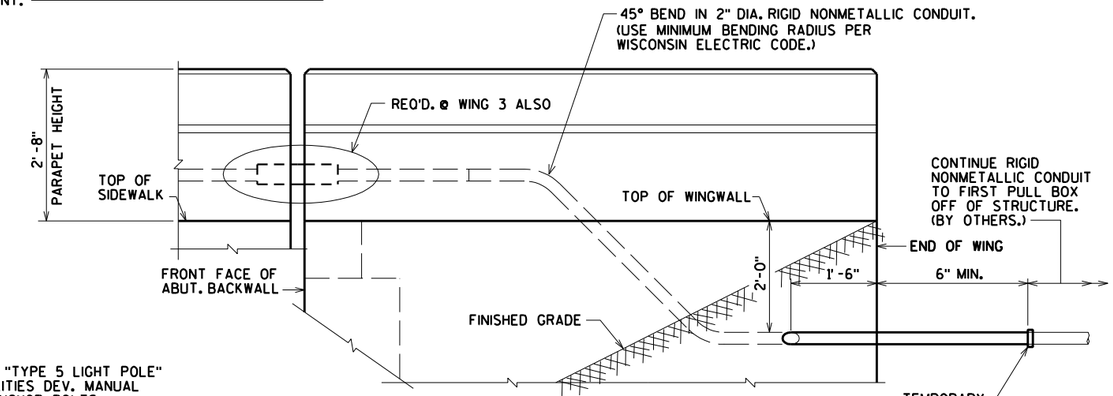


SECTION C-C

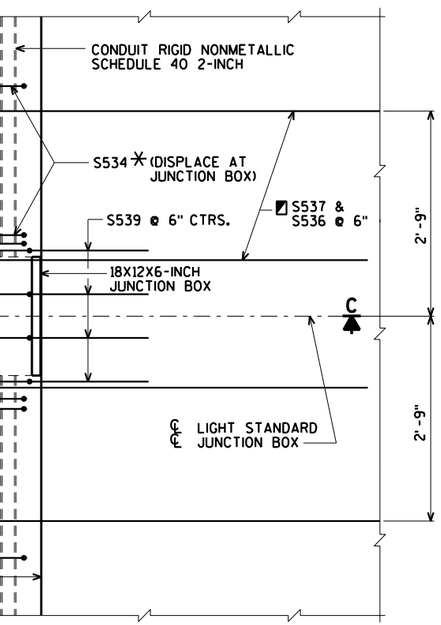


PLAN OF PARAPET AT WINGWALL



OUTSIDE ELEVATION OF PARAPET AT WINGWALL

(WING 2 SHOWN, END OF RETAINING WALL R-40-693 SIMILAR)



PLAN AT LIGHT STANDARD

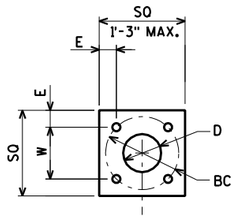
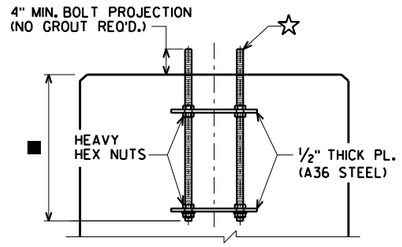


PLATE DETAIL

TABLE FOR "TYPE 5 LIGHT POLE" FROM FACILITIES DEV. MANUAL WITH 1" ϕ ANCHOR BOLTS. (ANY OTHER LIGHT POLE TYPE MUST BE DESIGNED FOR).

SQ	1'-1½"
E	2 11/16 "
W	8⅛"
BC	11½"
D	9½"

W = 0.707 x BC
SQ = BC + 2d
d = ANCHOR BOLT DIA.
E = (SQ-W1/2)
$D_{MAX.}$ = BC - 2d
$D_{MIN.}$ = 2 x CONDUIT DIA. + 1"



ANCHORAGE DETAIL

(2 REQ'D.)

- ■ USE 2" ϕ RIGID NONMETALLIC CONDUIT EXCEPT AT EXPANSION FITTING. AT EXPANSION FITTING USE RIGID METALLIC CONDUIT 3'-0" INTO PARAPET ON DECK OR SIDEWALK AND WING SIDES OF THE JOINT OPENING.
- ■ 1" ϕ ANCHOR BOLTS = 1'-11" < 1" ϕ ANCHOR BOLTS = 1'-2"
- ◐ CONST. JT. STRIKE OFF AS SHOWN
- ◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- ◩ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN SIDEWALK.
- ✳ SEE VERTICAL FACE PARAPET "A" SHEET FOR ADDITIONAL BAR STEEL DETAILS
- ☆ 1" ϕ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153, CLASS C, UPPER 8" (MIN.) OF BOLT INCLUDING NUTS & WASHERS. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X12X6-INCH", EACH.
"ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURE", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
AX-DX FLEXIBLE CONDUIT
COUPLING (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

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SUPERSTRUCTURE LIGHT STANDARD DETAILS

SHEET 22 OF 31
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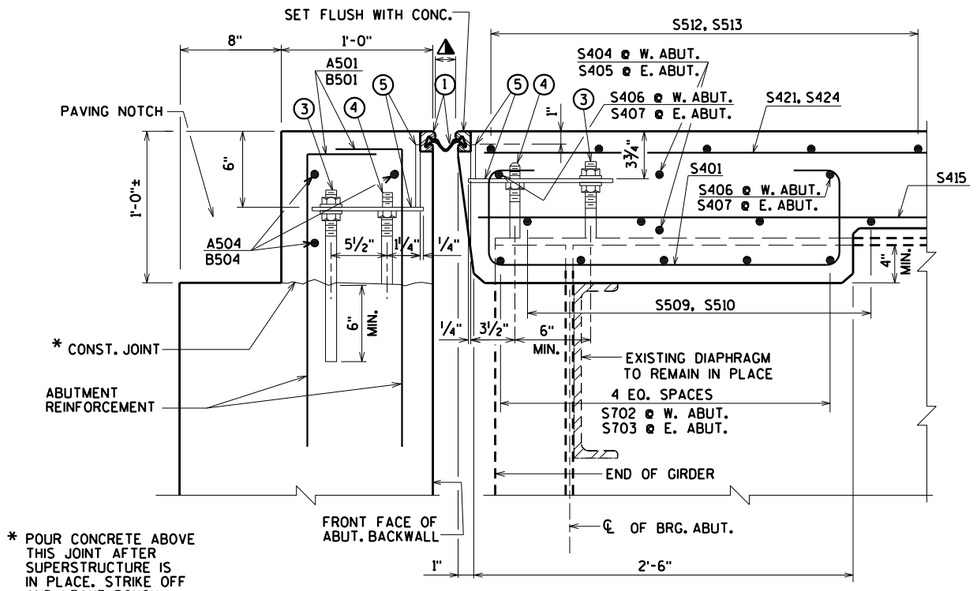
STATE PROJECT NUMBER

2035-06-70



* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

⚠ TEMPERATURE TABLE

SHADED UNDERSIDE DECK TEMP. (°F)	JOINT OPENING (NORMAL TO JT.)
85°	1½"
75°	1⅝"
65°	1¾"
55°	1⅞"
45°	2"
35°	2⅛"
25°	2¼"
15°	2⅜"
5°	2½"

A SMALL JOINT OPENING DUE TO A HIGH TEMPERATURE AT TIME OF CONSTRUCTION MAY REQUIRE NEOPRENE STRIP SEAL INSTALLATION INTO STEEL EXTRUSIONS PRIOR TO SETTING THE EXPANSION JOINT.

LEGEND

⚠ ① NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS AT EAST ABUTMENT.
NEOPRENE STRIP SEAL (5 - INCH) AND STEEL EXTRUSIONS AT WEST ABUTMENT.

② STUDS ⅝"Φ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

2A ½" THICK ANCHOR PLATE WITH ⅝"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

③ ¾" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

④ ¾"Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" Φ HOLE FOR NO. 3 AND 1" Φ HOLE FOR NO. 4.

⑥ GALVANIZED PLATE ⅜" X 10" X 3'-0" WITH HOLES FOR NO. 7.

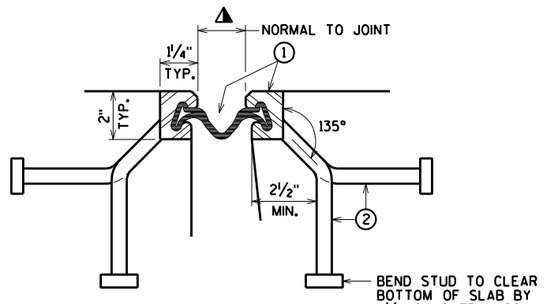
⑦ ¾"Φ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

⑧ ¾"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

⑨ ¾"Φ X 2¼" GALVANIZED THREADED COUPLING.

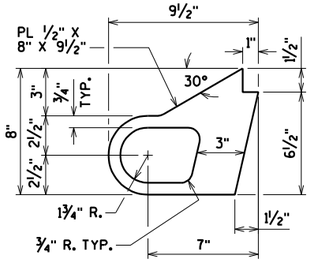
⑩ SIDEWALK COVER PLATE ⅜" X 3'-0" WIDE BY LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK WITH HOLES FOR NO. 7. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

⑪ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

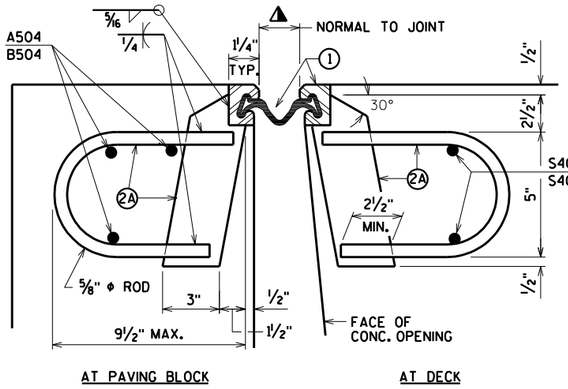


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS AND SIDEWALKS

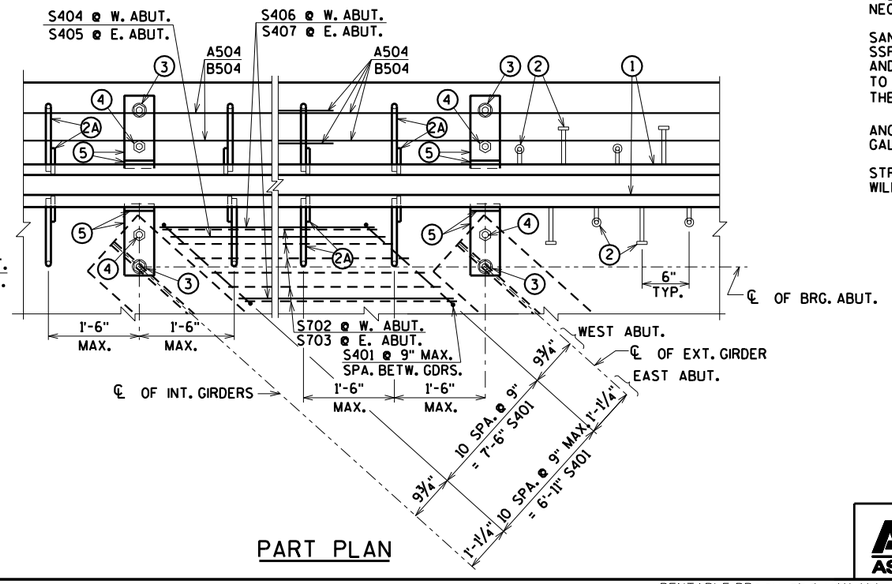


ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-40-471".

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STATE OF WISCONSIN
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STRIP SEAL EXPANSION DEVICE

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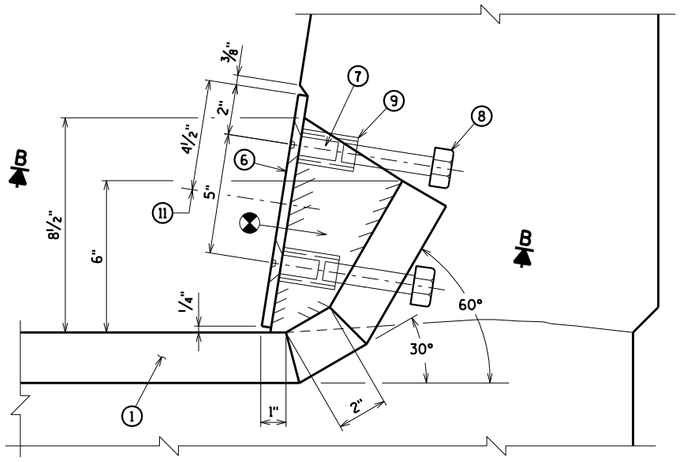
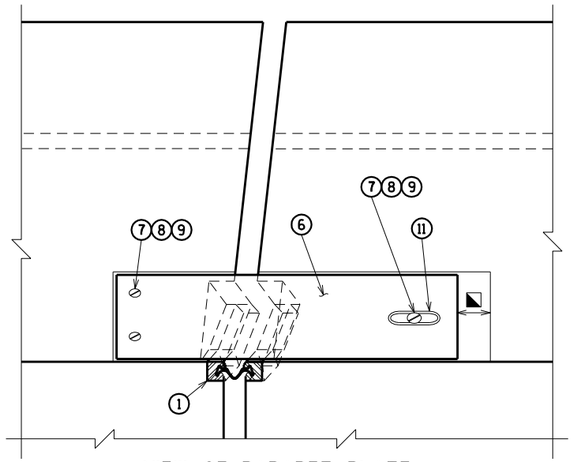
U:\42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County\BRIDGE new Jan 2017\B-40-471\42080

STATE PROJECT NUMBER

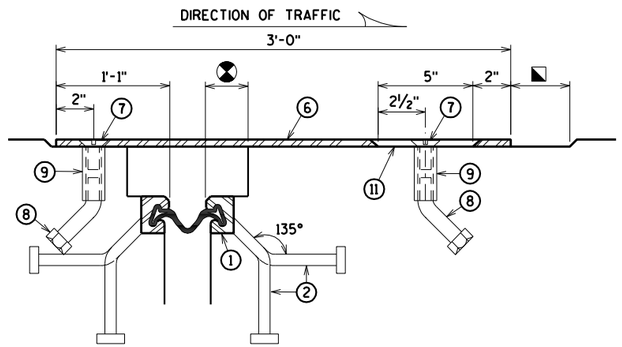
2035-06-70



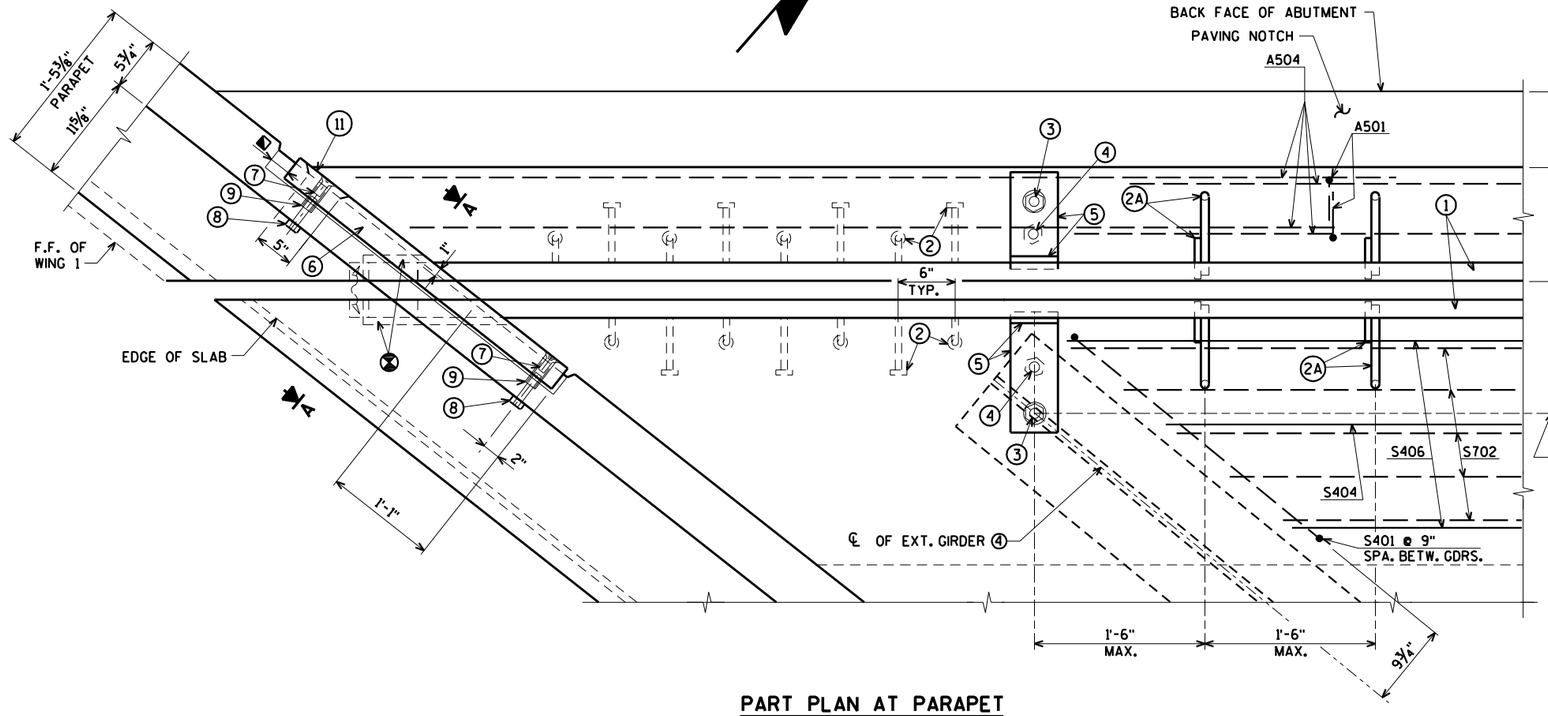
SECTION A-A



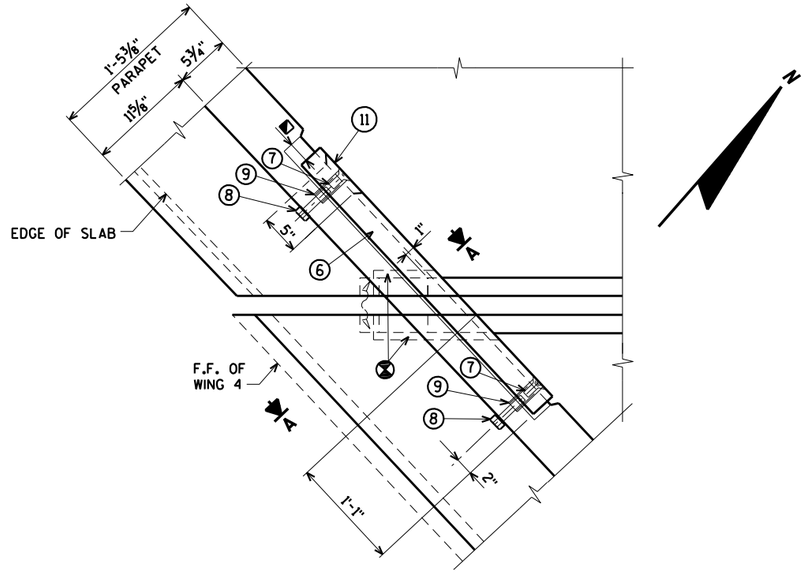
VIEW OF PARAPET PLATE FROM ROADWAY



SECTION B-B



PART PLAN AT PARAPET
(WING 1 SHOWN)



PART PLAN OF PARAPET PLATE
(WING 4)

F.F. DENOTES FRONT FACE

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIM. ALONG SKEW PLUS ½".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

DRAWN BY	CLS	PLANS CK'D.	CBM

PARAPET COVER PLATE DETAILS

SHEET 24 OF 31
346

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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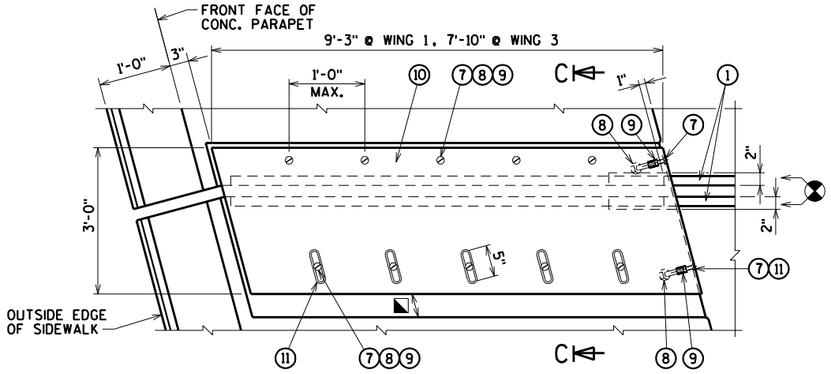
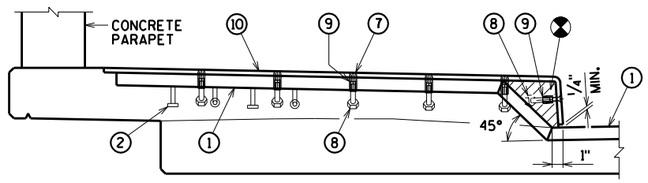
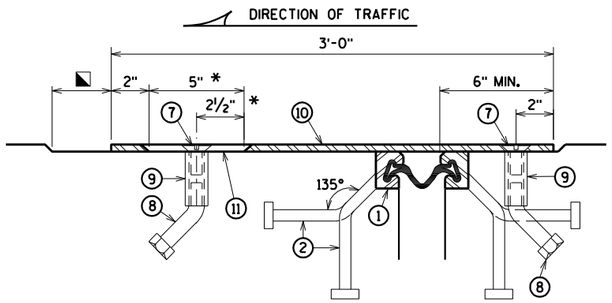
$PRFNAME$
U:±42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County±BRIDGE new Jan 2017±B-40-471±42080



PLAN AT SIDEWALK

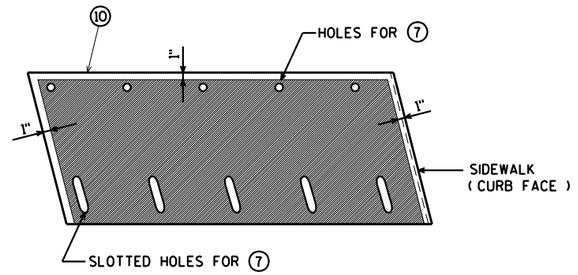


SECTION AT SIDEWALK



SECTION C-C

* DIMENSION ALONG DIRECTION OF MOVEMENT



PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY (NOT ON CURB FACE).

APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

⊠ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIMENSION ALONG SKEW PLUS ½".

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

DRAWN BY CLS | PLANS CK'D. CBM

SIDEWALK COVER PLATE DETAILS

SHEET 25 OF 31
347

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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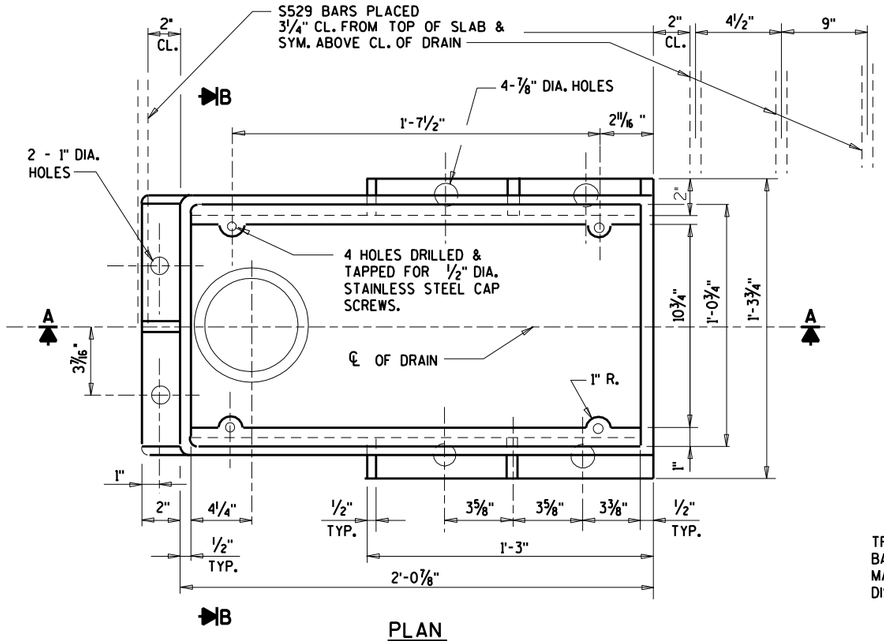
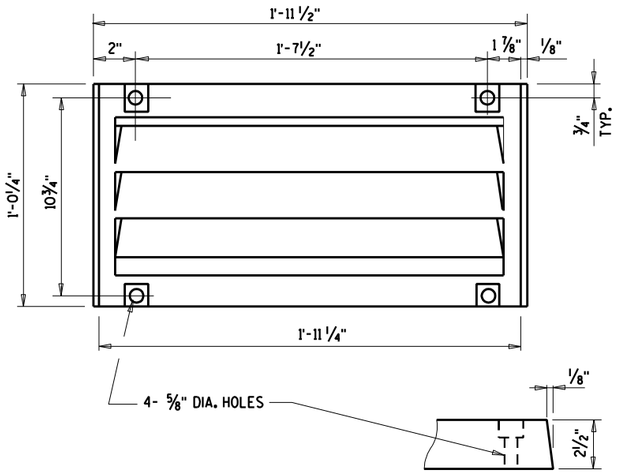
STATE PROJECT NUMBER

2035-06-70



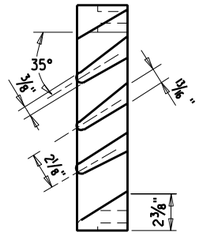
PLAN

TRANS. AND LONGIT. SLAB BAR REINF. TO BE CUT A MAX. 1" CL. FROM DRAIN DISPLACE BARS WHERE POSSIBLE



GRATE CASTING DETAIL

ATTACH GRATE TO FRAME FOR SHIPMENT



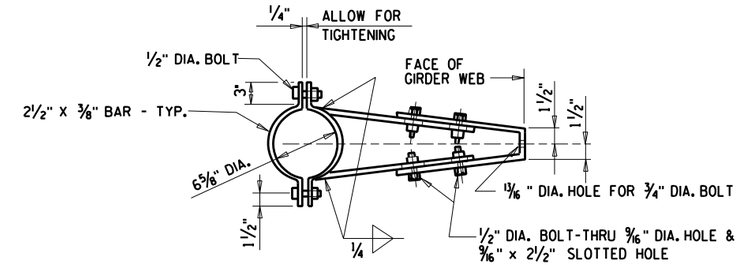
GENERAL NOTES

ALL MATERIAL FOR TYPE "GC" CASTING, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO A.S.T.M. A48, CLASS 30. (APPROX. WEIGHT = 225#)

MATERIAL FOR BRACKETS SHALL CONFORM TO A.S.T.M. A36.

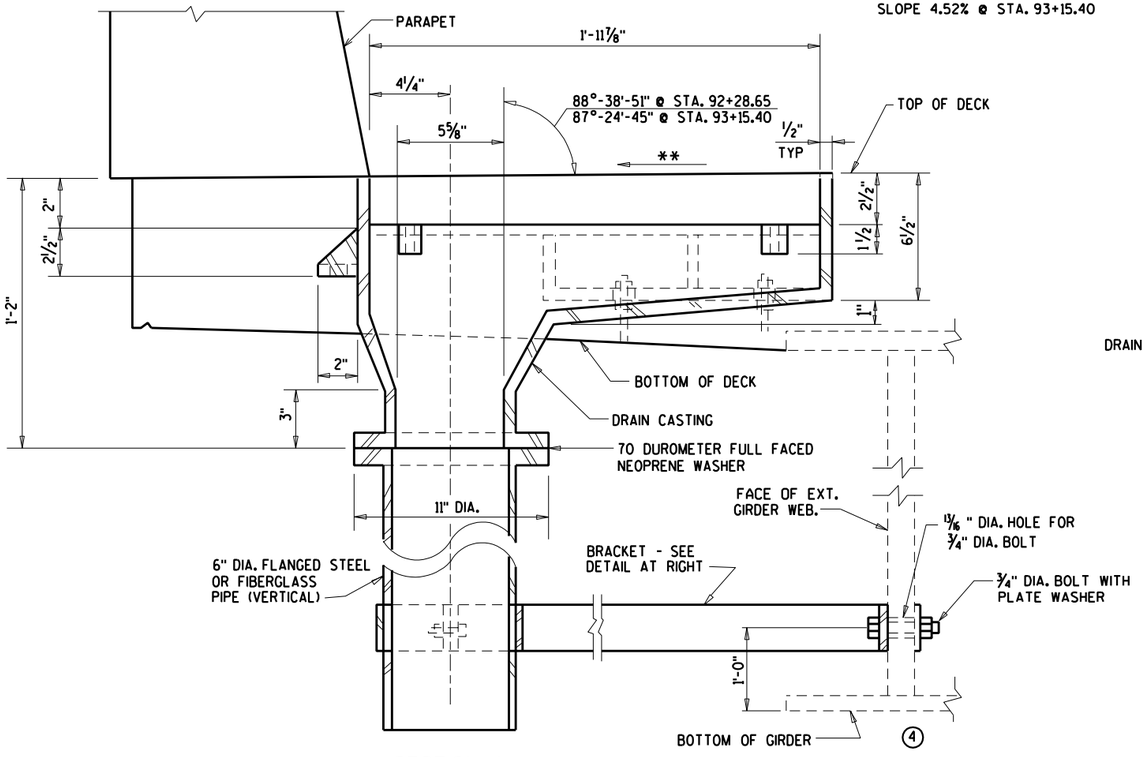
THE CONTRACTOR MAY PROPOSE AN ALTERNATE TYPE OF BRACKET. THE PROPOSED ALTERNATE DETAILS SHALL BE SUBMITTED AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

FLANGED 6" DIA. DOWNSPOUTS SHALL BE EITHER STEEL OR REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.

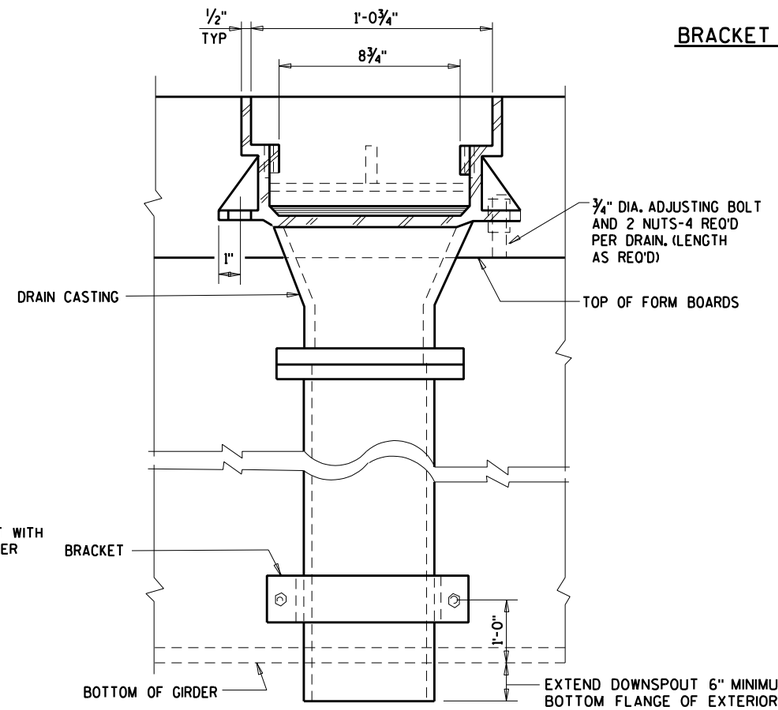


BRACKET DETAIL

** SLOPE 2.36% @ STA. 92+28.65
SLOPE 4.52% @ STA. 93+15.40



SECTION A



SECTION B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

DRAWN BY CLS | PLANS CK'D. CBM

FLOOR DRAIN TYPE 'GC' AT PARAPET

SHEET 26 OF 31
348

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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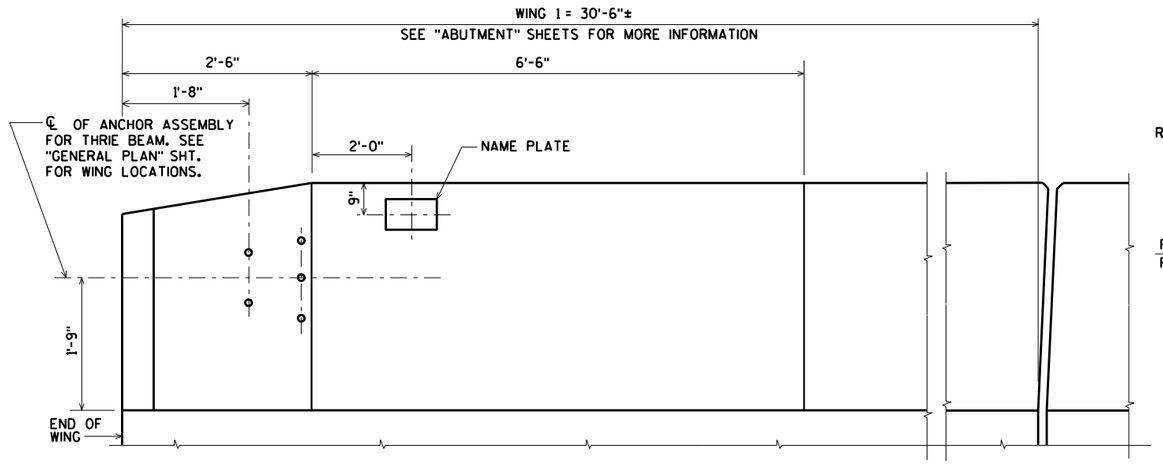
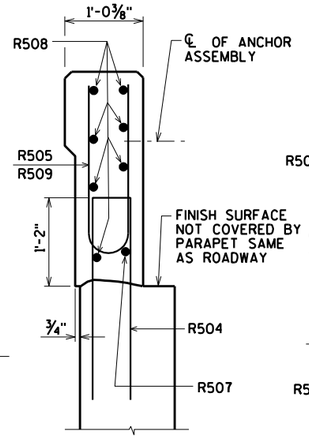
STATE PROJECT NUMBER

2035-06-70

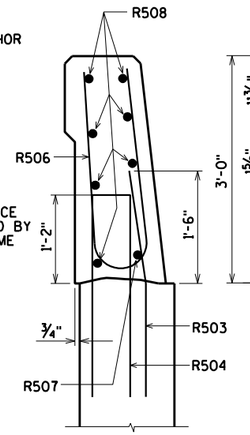


INSIDE ELEVATION

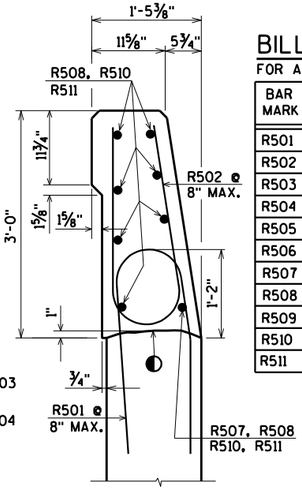
(WING 1 IS OPPOSITE OF WHAT IS SHOWN)



SECTION A



SECTION B



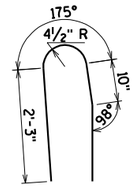
SECTION C
& SECTION @ WING 4

BILL OF BARS

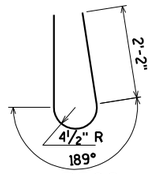
FOR ABUTMENT PARAPETS

820* COATED WEST ABUTMENT
270* COATED EAST ABUTMENT

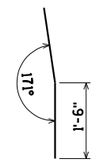
BAR MARK	COAT	WEST ABUT.	EAST ABUT.	LENGTH	BENT	LOCATION
R501	X	30	16	5-10	X	PARAPET VERT.
R502	X	30	16	5-8	X	PARAPET VERT.
R503	X	12	---	3-0	X	PARAPET VERT.
R504	X	17	---	5-7	X	PARAPET VERT.
R505	X	6	---	5-5	X	PARAPET VERT.
R506	X	6	---	5-6	X	PARAPET VERT.
R507	X	1	---	15-0	X	PARAPET HORIZ.
R508	X	7	---	13-5		PARAPET HORIZ.
R509	X	5	---	4-9	X	PARAPET VERT.
R510	X	8	---	13-10		PARAPET HORIZ.
R511	X	---	8	9-9		PARAPET HORIZ.



R501



R502

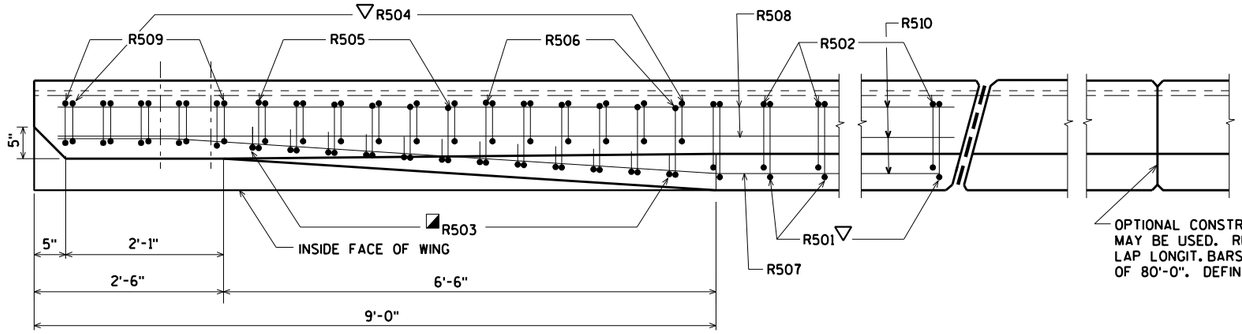


R503

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 OR S503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

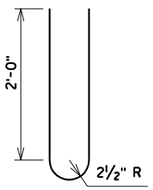
▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.



PLAN

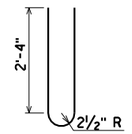
(WING 1 IS OPPOSITE OF WHAT IS SHOWN)

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾"-'V' GROOVE.

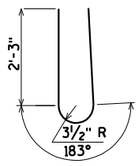


R509

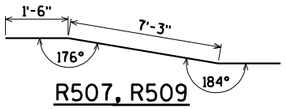
R504



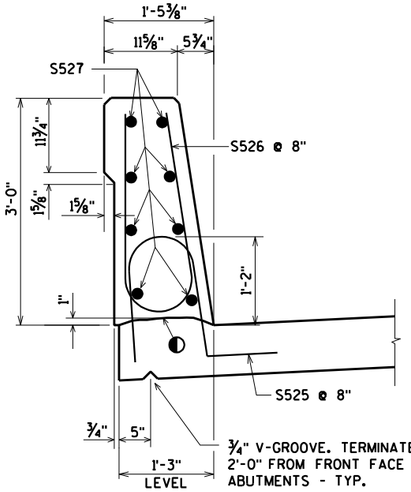
R505



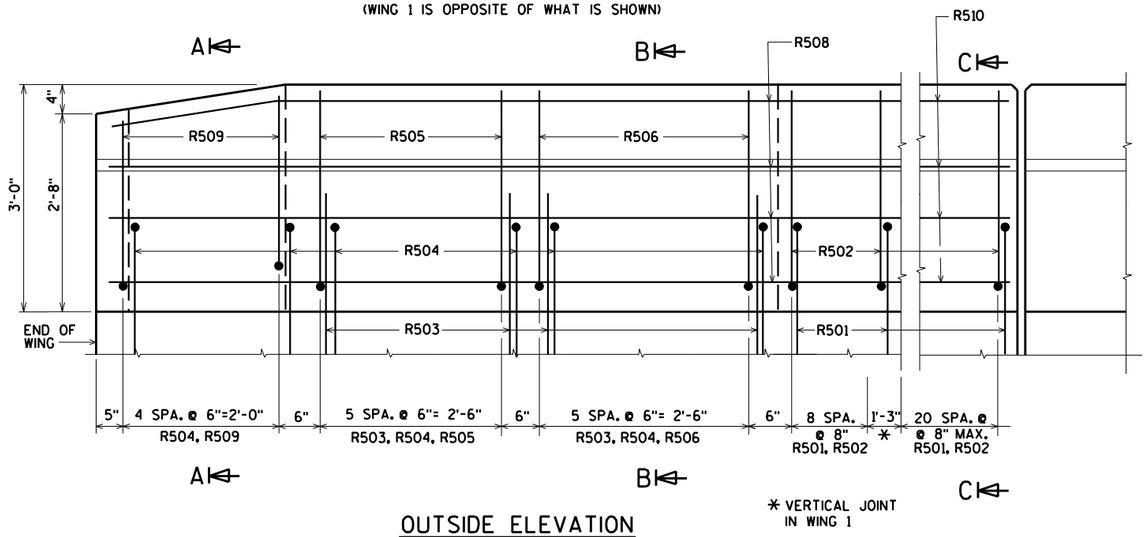
R506



R507, R509



SECTION THRU PARAPET ON BRIDGE



OUTSIDE ELEVATION

* VERTICAL JOINT IN WING 1

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

DRAWN BY: CLS | PLANS CK'D.: CBM

SINGLE SLOPE PARAPET 36SS

SHEET 27 OF 31
349

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
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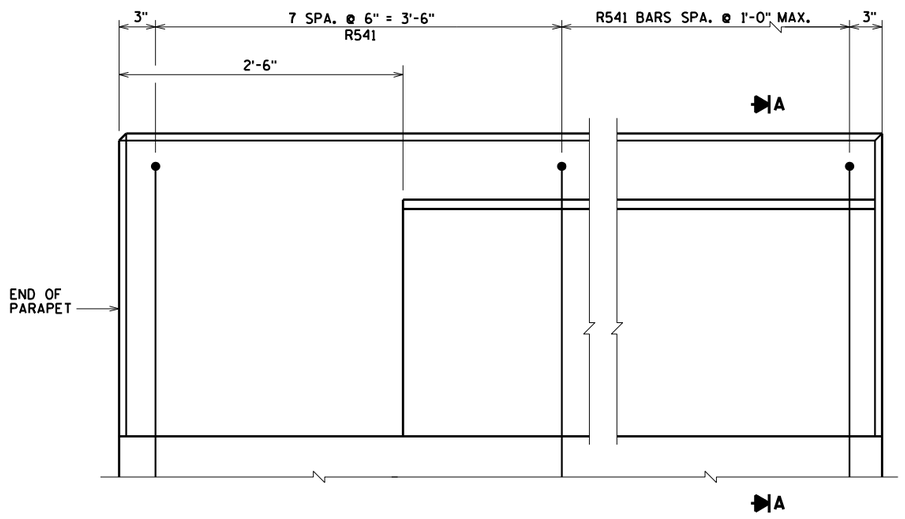
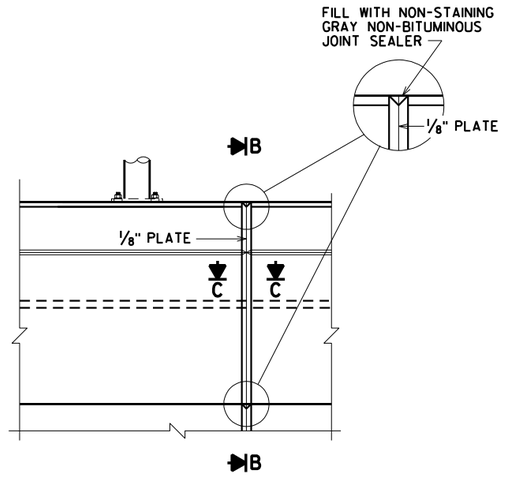
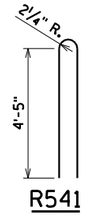


FRONT FACE OF PARAPET

(WING 2 SHOWN, END OF RETAINING WALL R-40-693 SIMILAR)



ELEVATION OF PARAPET AT DEFLECTION JOINT



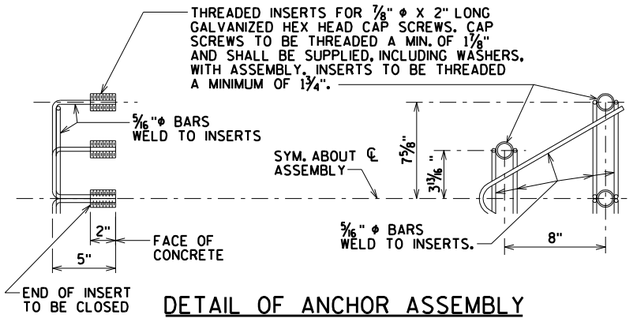
R541

BILL OF BARS

FOR ABUTMENT PARAPETS

300# COATED WEST ABUTMENT
150# COATED EAST ABUTMENT

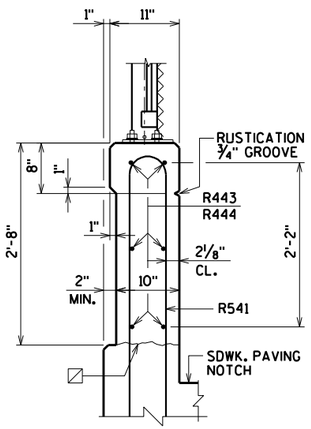
BAR MARK	COAT	WEST ABUT.	EAST ABUT.	LENGTH	BENT	LOCATION
R541	X	23	11	9-5	X	PARAPET VERT.
R443	X	6	---	18-8		PARAPET HORIZ. WING 2
R444	X	---	6	9-6		PARAPET HORIZ. WING 3



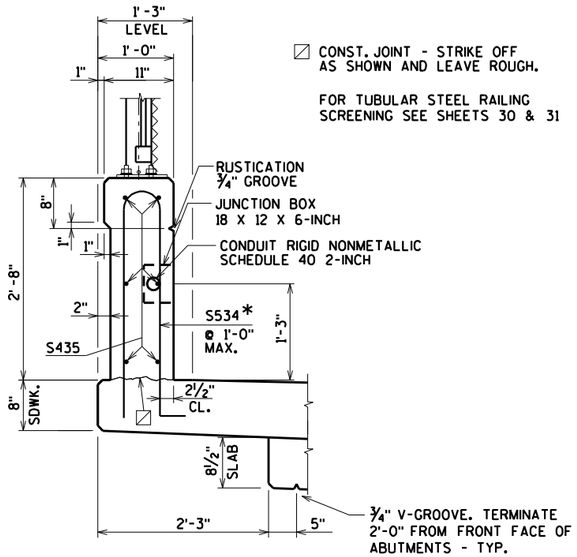
DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.



SECTION A-A

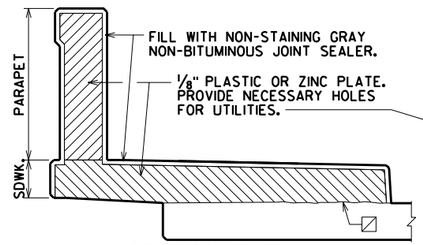


☒ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

FOR TUBULAR STEEL RAILING SCREENING SEE SHEETS 30 & 31

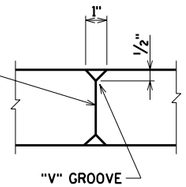
SECTION THRU PARAPET ON BRIDGE

*ADJUST LOCATIONS OF BARS TO ALLOW PLACEMENT OF ANCHOR ASSEMBLY FOR RAILING



SECTION B-B

(SHOWING DEFLECTION JOINT IN PARAPET AND SIDEWALK.)



SECTION C-C

WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF 1/8" ZINC OR PLASTIC PLATE CUT AS SHOWN IN SECTION B-B BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH AN APPROVED LIQUID BOND BREAKER AND PLATE SEPARATORS MAY BE OMITTED.

PLACE A DEFLECTION JOINT IN THE SIDEWALK AND PARAPET OVER THE PIER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-471

DRAWN BY CLS | PLANS CK'D. CBM

VERTICAL FACE PARAPET "A"

SHEET 28 OF 31
350

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
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Eau Claire, WI 54701
www.AyresAssociates.com

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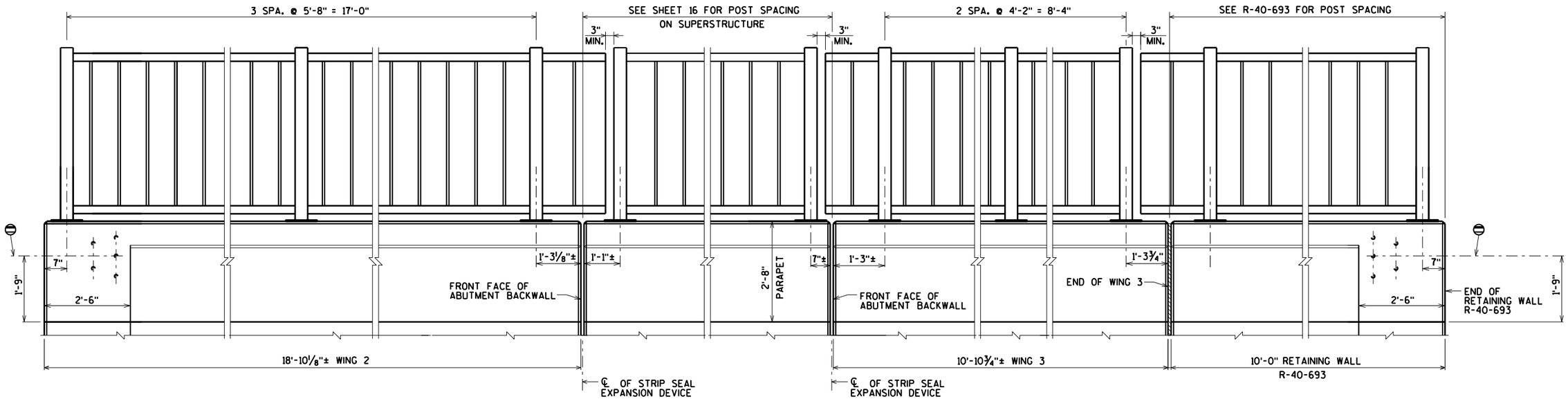
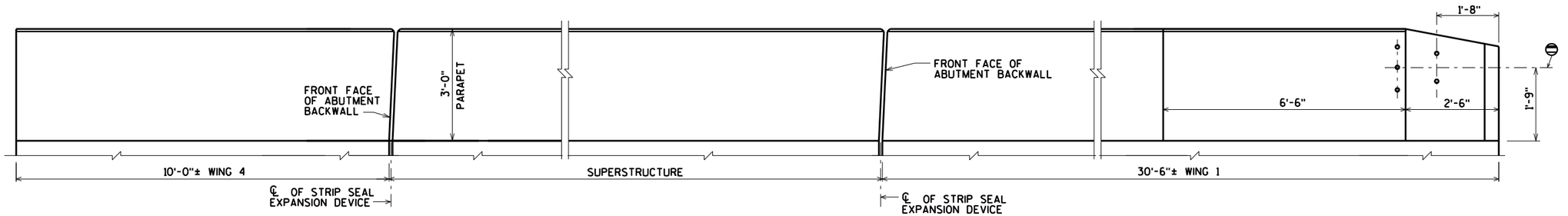
STATE PROJECT NUMBER

2035-06-70



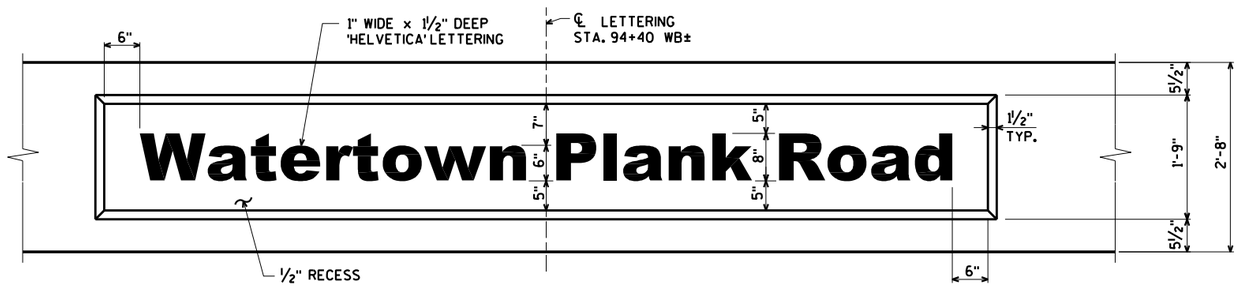
ELEVATION OF PARAPET

VERTICAL FACE PARAPET 'A'
(INSIDE FACE SHOWN - LOOKING NORTH)



ELEVATION OF PARAPET

SINGLE SLOPE PARAPET 36SS
(INSIDE FACE SHOWN - LOOKING SOUTH)



PARTIAL OUTSIDE ELEVATION OF PARAPET

(DETAIL SHOWING INDENTED TEXT)
REQUIRED IN OUTSIDE FACE OF VERTICAL FACE PARAPET "A"
CENTERED OVER THE OAK LEAF RECRATIONAL TRAIL

NOTES:

FORMING LETTERING WORK SHALL BE PAID FOR UNDER THE BID ITEM "CONCRETE MASONRY BRIDGES".

THE LETTERING FONT TYPE SHALL BE "HELVETICA" (1" WIDE BY 1/2" DEEP) WITH 8" HIGH UPPERCASE LETTERS AND 6" HIGH LOWER CASE LETTERS.

LETTERING SHALL ONLY BE PLACED AT THE OUTSIDE FACE OF THE PARAPET AS SHOWN.

℄ OF ANCHOR ASSEMBLY FOR THRIE BEAM FOR DETAILS SEE SHEET 28.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-471

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PARAPET LAYOUT

SHEET 29 OF 31
351

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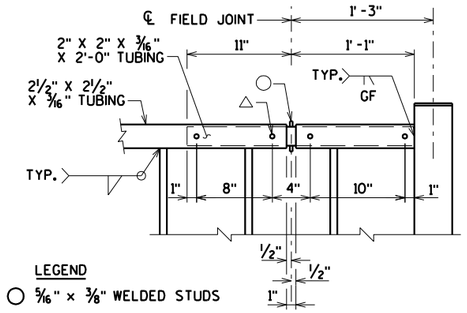
U:±42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County±BRIDGE new Jan 2017±B-40-471±42080

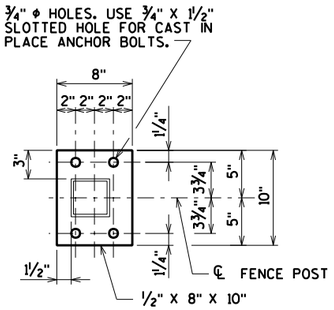


LEGEND

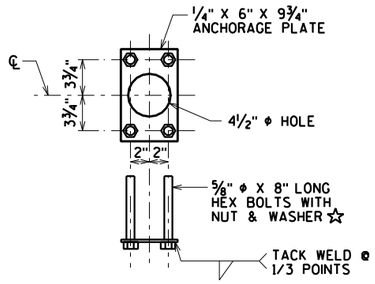
○ 5/16" × 3/8" WELDED STUDS

△ WELD BEAD ON EACH SIDE OF TUBE. GRIND BEADS SO THAT SLEEVE FITS FREELY INSIDE THE 2½" × 2½" TUBE.

RAILING EXPANSION JOINT DETAIL



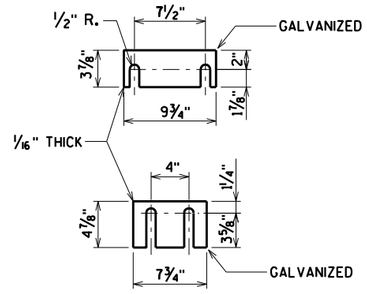
BASE PLATE



ANCHORAGE DETAIL

☆ ALTERNATIVE ANCHORAGE:
ADHESIVE ANCHORS ⅝-INCH.
EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.

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



SHIM PLATE DETAILS

TWO SHIMS OF EACH SIZE REQUIRED PER POST

NOTES

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

STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B. PLATES, ANGLES, BARS AND SHIMS SHALL CONFORM TO ASTM A709, GRADE 36. FENCE FABRIC SHALL CONFORM TO F668, CLASS 2B.

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

ALL POST SPACINGS ARE TAKEN HORIZONTAL ALONG CENTERLINE OF RAILING AT BASE OF POST.

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

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE VERTICAL IN TRANSVERSE DIRECTION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED. ☆

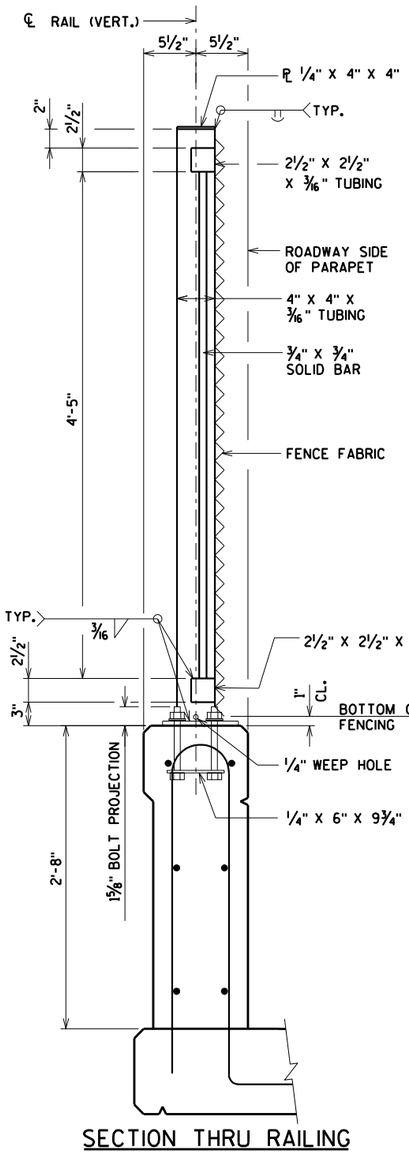
THE BID ITEM SHALL BE "RAILING TUBULAR SCREENING B-40-471" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE NOT MORE THAN 3 POSTS.

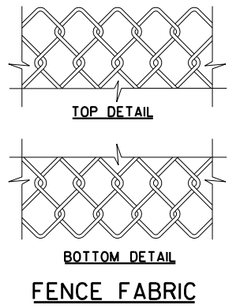
VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

ALL RAILING MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED FEDERAL COLOR NO. 27038, BLACK.
FENCE FABRIC AND TIES TO BE VINYL-COATED. COLOR SHALL BE BLACK IN ACCORDANCE WITH ASTM F934.

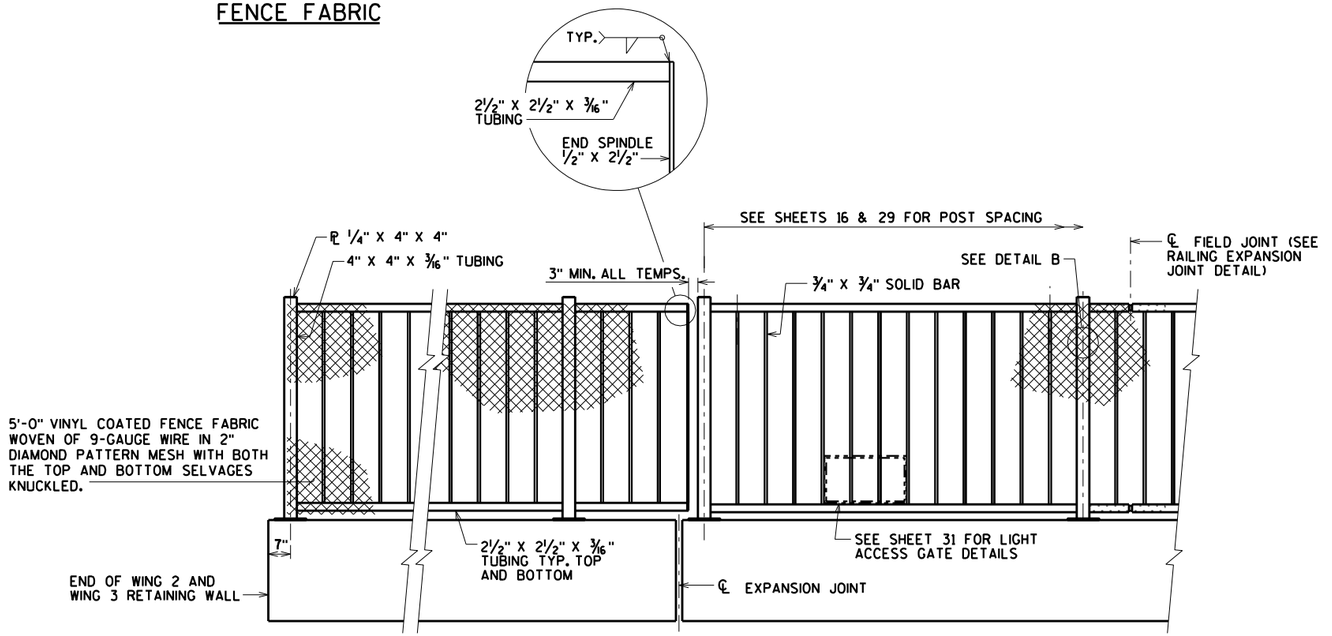
THE END OF THE FABRIC SHALL BE ATTACHED TO THE POST BY MEANS OF A TENSION BAR THREADED THROUGH THE END LOOPS OF THE FABRIC AND SECURED TO THE POST WITH CLAMPS & BOLT. THE FABRIC SHALL BE STRETCHED TO REMOVE ALL SLACK.



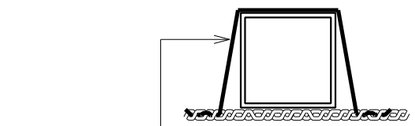
SECTION THRU RAILING



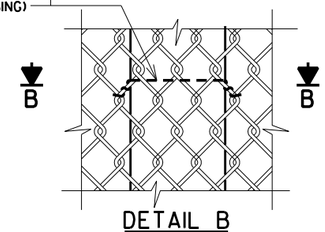
FENCE FABRIC



INSIDE ELEVATION OF RAILING



SECTION B-B



DETAIL B

NO.	DATE	REVISION	BY

STATE PROJECT NUMBER

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

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TUBULAR STEEL RAILING SCREENING

SHEET 30 OF 31
352

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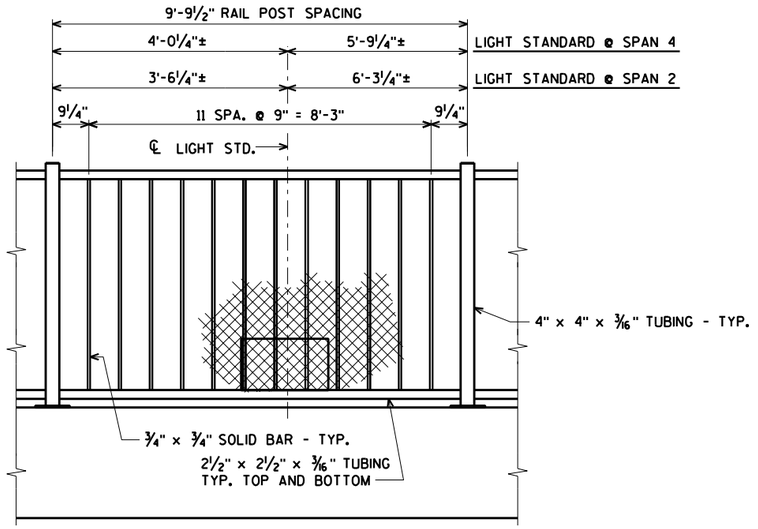
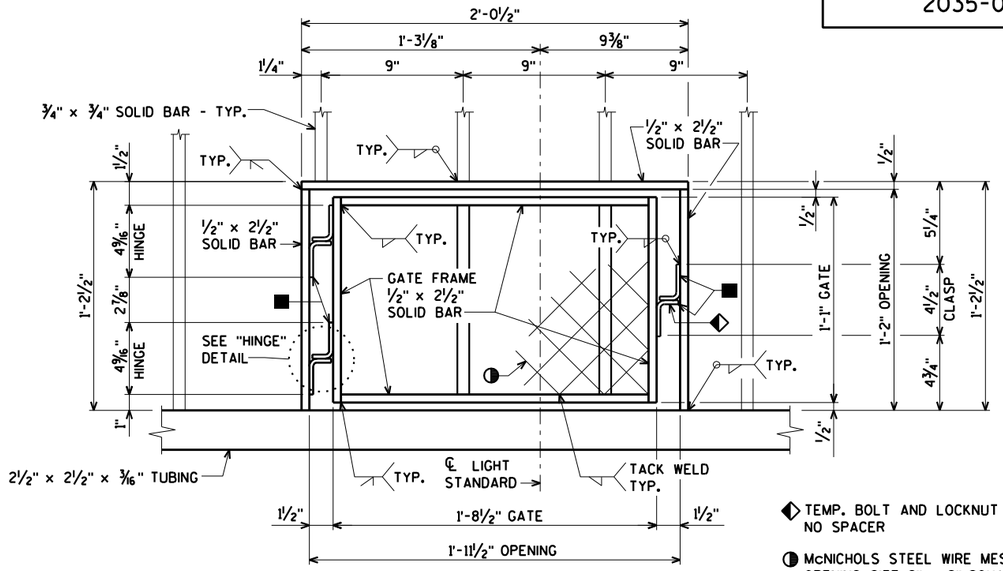
STATE PROJECT NUMBER

2035-06-70



OUTSIDE ELEVATION VIEW

(LOOKING NORTH)

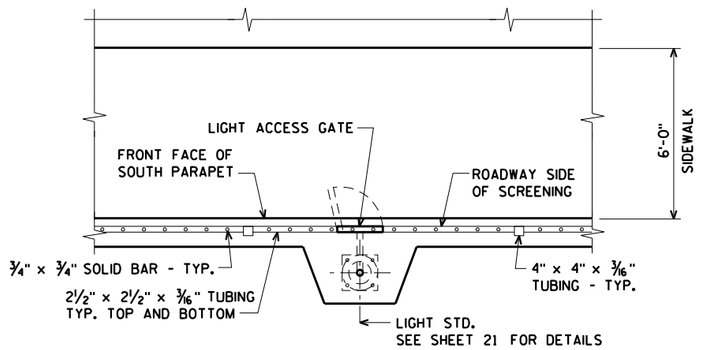


LIGHT ACCESS GATE DETAIL

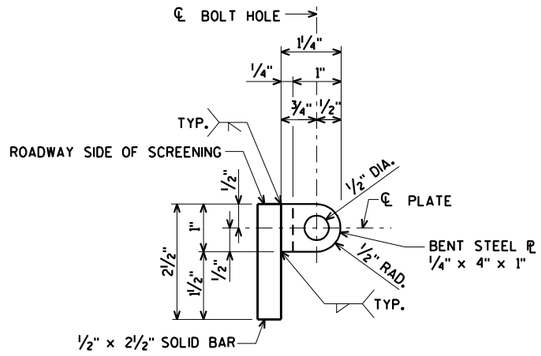
◆ TEMP. BOLT AND LOCKNUT NO SPACER

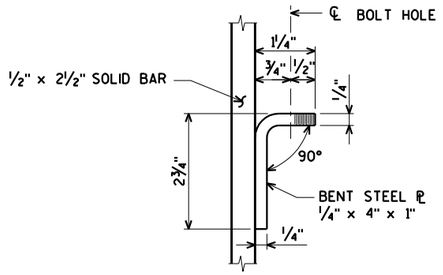
◑ McNICHOLS STEEL WIRE MESH WITH OPENING SIZE 2" x 2" SQUARE, ¼" DIA. WIRE. ITEM NO. 3293920148 (OR EQUIVALENT).

■ BENT STEEL PL ¼" x 4" x 1" SEE "STEEL PLATE DETAIL".

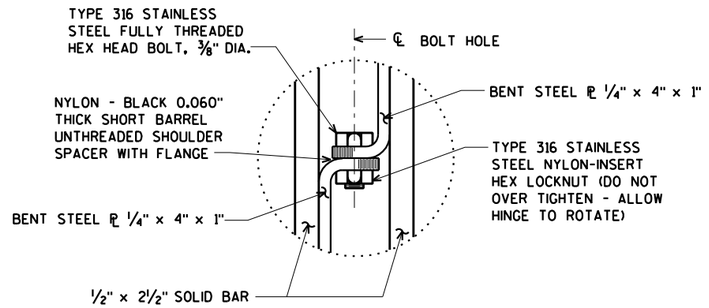


PLAN





STEEL PLATE DETAIL



HINGE DETAIL

PROVIDE ADDITIONAL STAINLESS STEEL FULLY THREADED HEX HEAD BOLT, ⅜" ϕ AND STAINLESS STEEL NYLON-INSERT HEX LOCKNUT. HAND TIGHTENED, TO ACT AS TEMPPORARY LOCK.

NOTE:

THE STEEL WIRE MESH SHALL BE ATTACHED TO THE LIGHT ACCESS GATE BY MEANS OF TACK WELDING AT ALL LOCATIONS WHERE THE STEEL WIRE MESH MEETS THE LIGHT ACCESS GATE ½" x 2½" SOLID BAR GATE FRAME AND ¾" x ¾" SOLID BARS. THE STEEL WIRE MESH SHALL BE WELDED TO THE ROADWAY SIDE OF THE ¾" x ¾" SOLID BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-471

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LIGHT ACCESS GATE DETAILS

SHEET 31 OF 31
353

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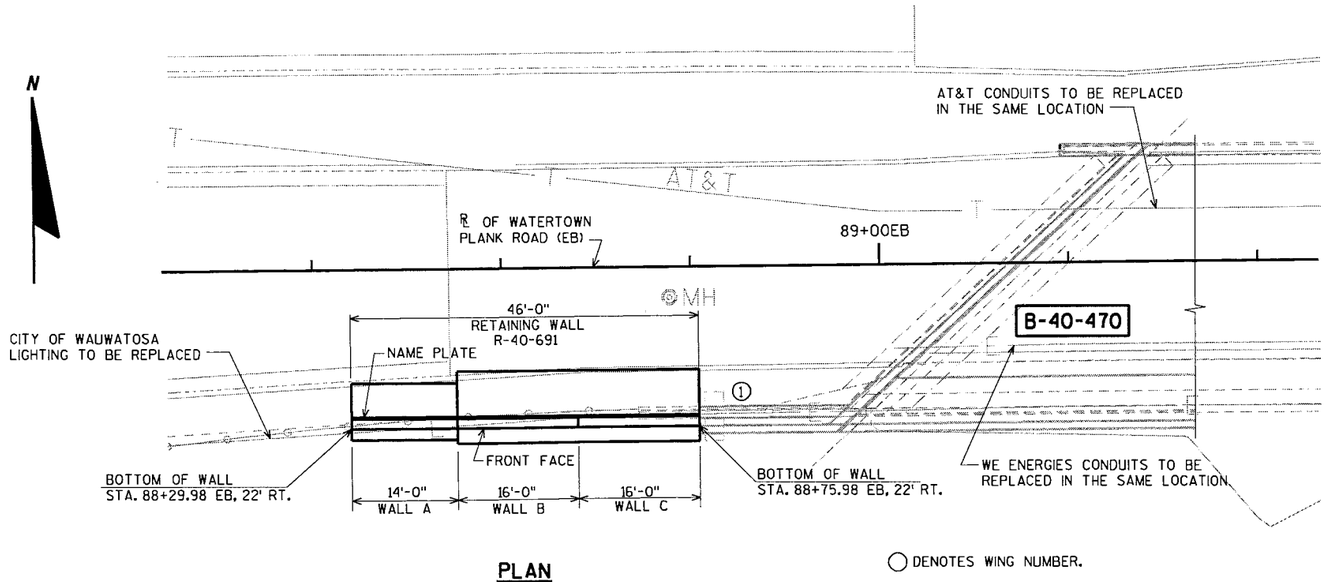
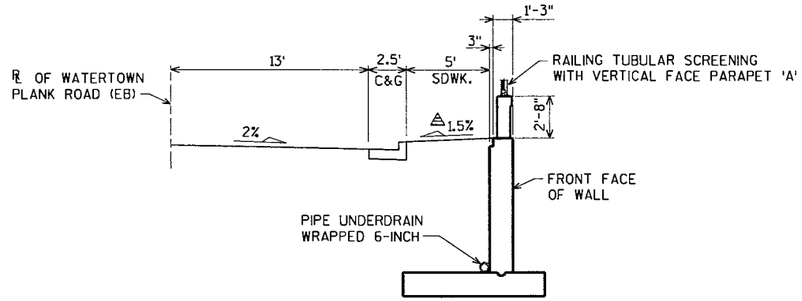
DATE:
DATE:
DATE:
CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

STATE PROJECT NUMBER
2035-06-70



PLAN
(CAST-IN-PLACE RETAINING WALL)

◯ DENOTES WING NUMBER.



TYPICAL SECTION THRU RETAINING WALL R-40-691

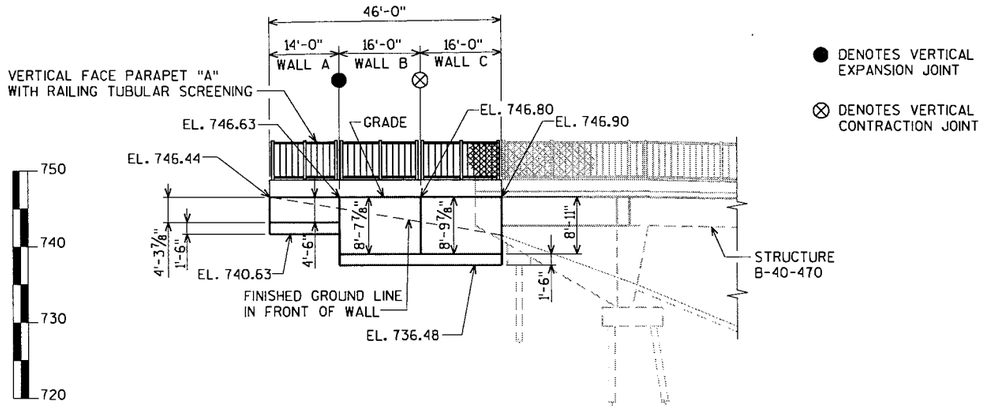
△ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LIST OF DRAWINGS

1. GENERAL PLAN
2. TYPICAL SECTION, DESIGN DATA, & PROFILE GRADE LINE
3. QUANTITIES AND NOTES
4. RETAINING WALL
5. RETAINING WALL DETAILS
6. BILL OF BARS
7. CONDUIT DETAILS
8. VERTICAL FACE PARAPET "A"
9. PARAPET LAYOUT
10. TUBULAR STEEL RAILING SCREENING

FOR DESIGN DATA AND PROFILE GRADE LINE, SEE SHEET 2

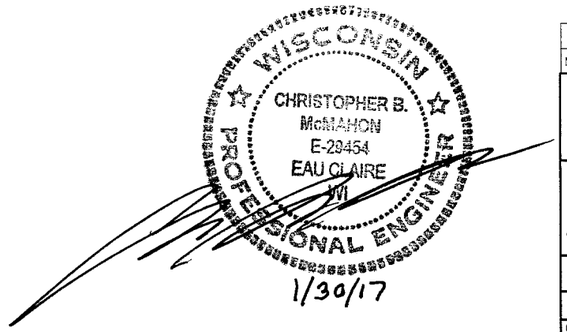
FOR GENERAL NOTES AND QUANTITIES, SEE SHEET 3



● DENOTES VERTICAL EXPANSION JOINT

⊗ DENOTES VERTICAL CONTRACTION JOINT

ELEVATION
(LOOKING AT FRONT FACE OF WALL)



BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
CHRIS MCMAHON
(715)-834-3161

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 02/14/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-40-691

WATERTOWN PLANK ROAD EB

COUNTY: MILWAUKEE
~~TOWN~~/CITY/~~VILLAGE~~: WAUWATOSA

DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
AEB	CKJ	CLS	CBM

GENERAL PLAN

SHEET 1 OF 10
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I.D. DATE:

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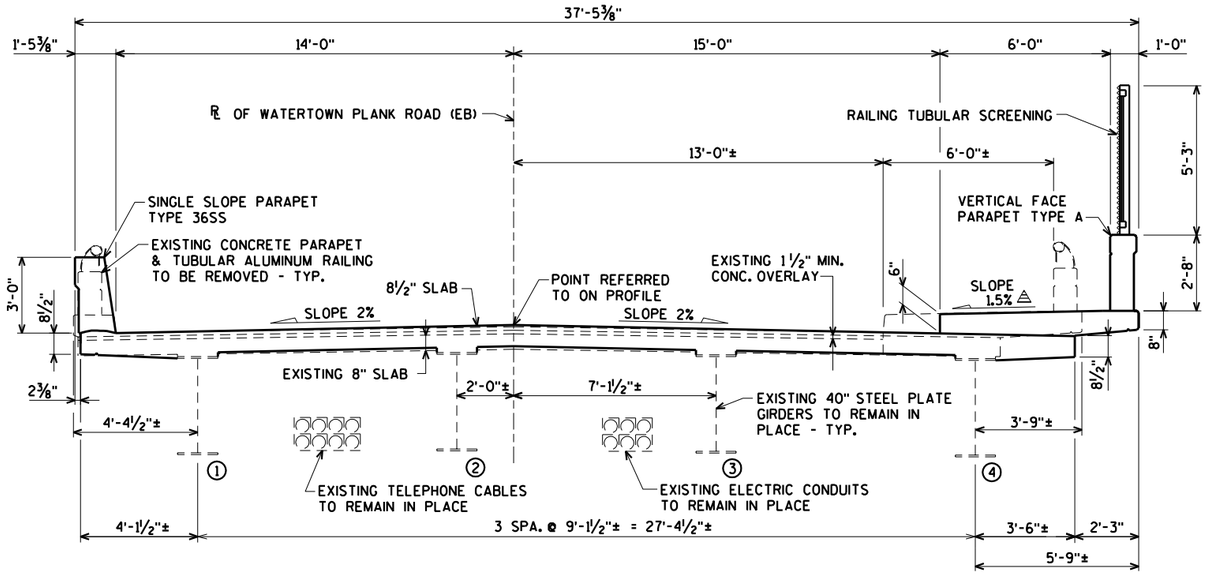


TYPICAL CROSS SECTION THRU DECK OF STRUCTURE B-40-470

(LOOKING EAST)

DESIGN DATA

MATERIAL PROPERTIES:

CONCRETE MASONRY	f'_c =	3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60)	f_y =	60,000 p.s.i.

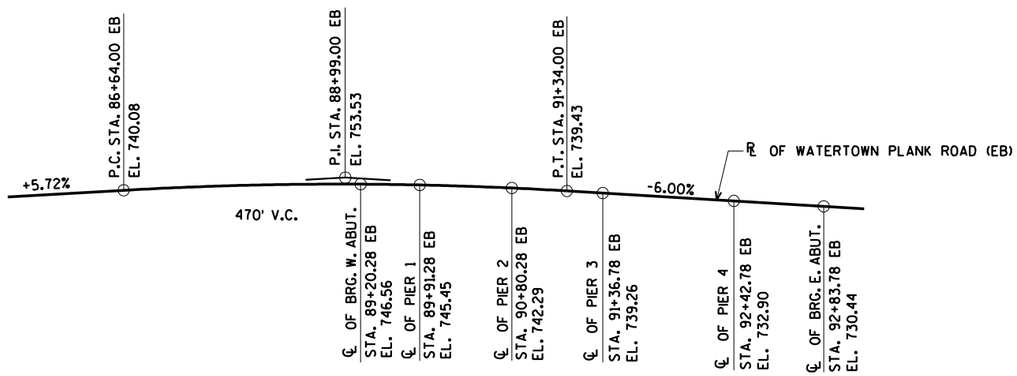
FOUNDATION DATA:

THE MAXIMUM DESIGN BEARING PRESSURE AT RETAINING WALL IS 1.0 TONS PER SQUARE FOOT.

TRAFFIC DATA:

A.D.T. = 14,700 (2017)
A.D.T. = 20,000 (2037)
R.D.S. = 40 M.P.H.

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



PROFILE GRADE LINE

WATERTOWN PLANK ROAD (EB)

BENCH MARK:
CHIS. SO. TOP OF WALL S. SIDE STRUCTURE B-40-470
STA. 89+19 EB, 19' RT.
EL. 748.87

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-691

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TYPICAL SECTION DESIGN DATA, & PROFILE GRADE LINE

SHEET 2 OF 10
355

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TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
206.3000.01	EXCAVATION FOR STRUCTURES RETAINING WALLS R-40-691	LS	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	170
502.3210	PIGMENTED SURFACE SEALER	SY	19
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	46
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1,730
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,770
513.4091.03	RAILING TUBULAR SCREENING R-40-691	LF	46
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	3
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	60
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	55
	NON-BID ITEMS		
	FILLER	SIZE	½"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

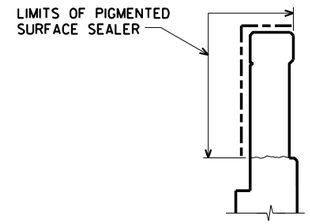
ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

PIGMENTED SURFACE SEALER IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.

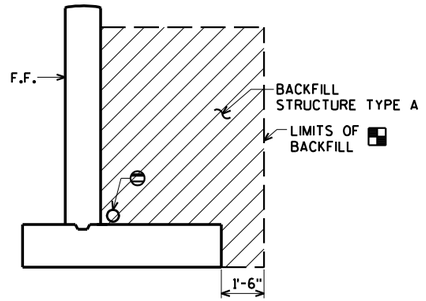
THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.



PIGMENTED SURFACE SEALER DETAIL



BACKFILL STRUCTURE LIMITS

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 5.

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

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-691

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QUANTITIES AND NOTES

SHEET 3 OF 10
356

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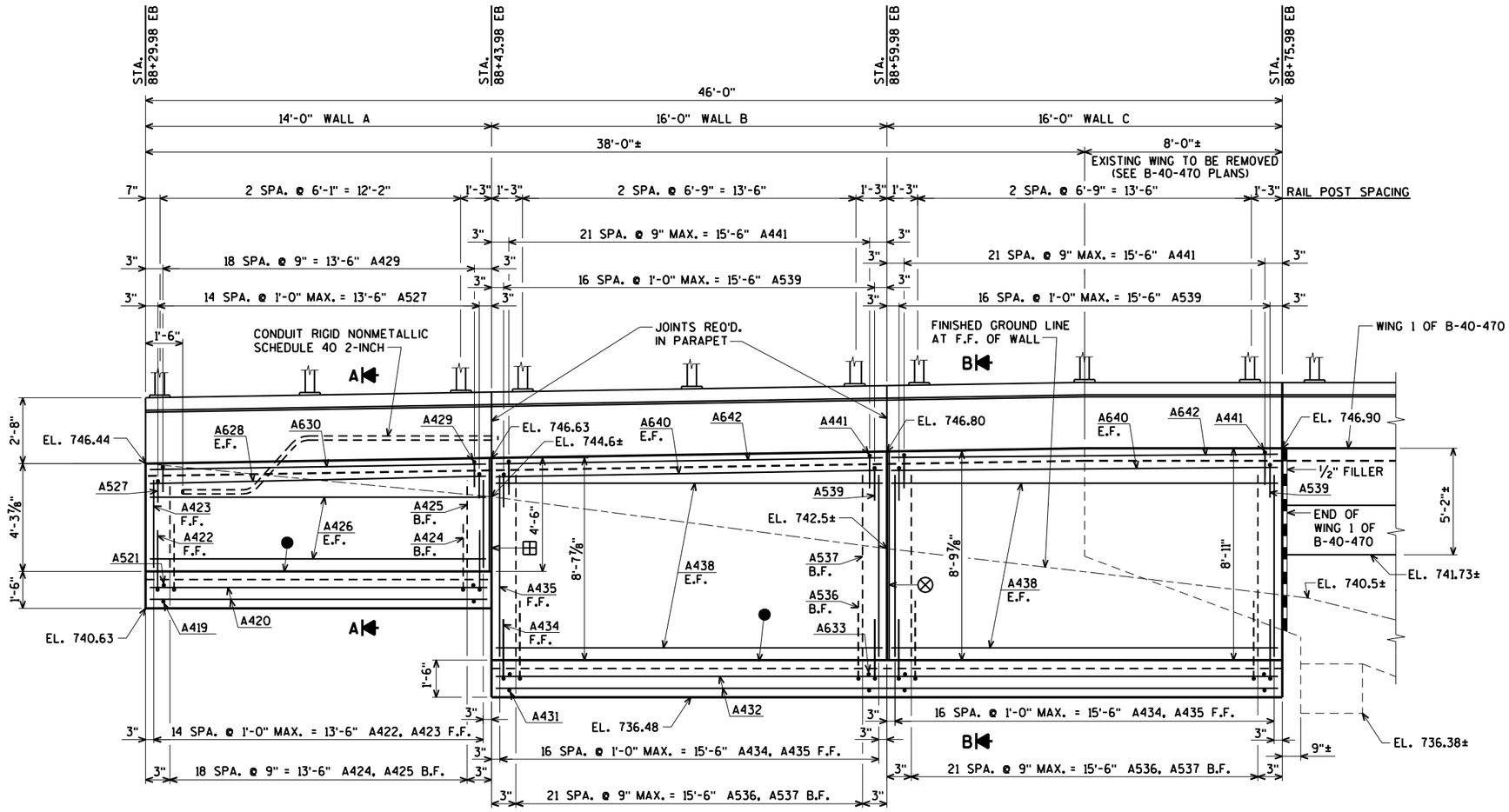
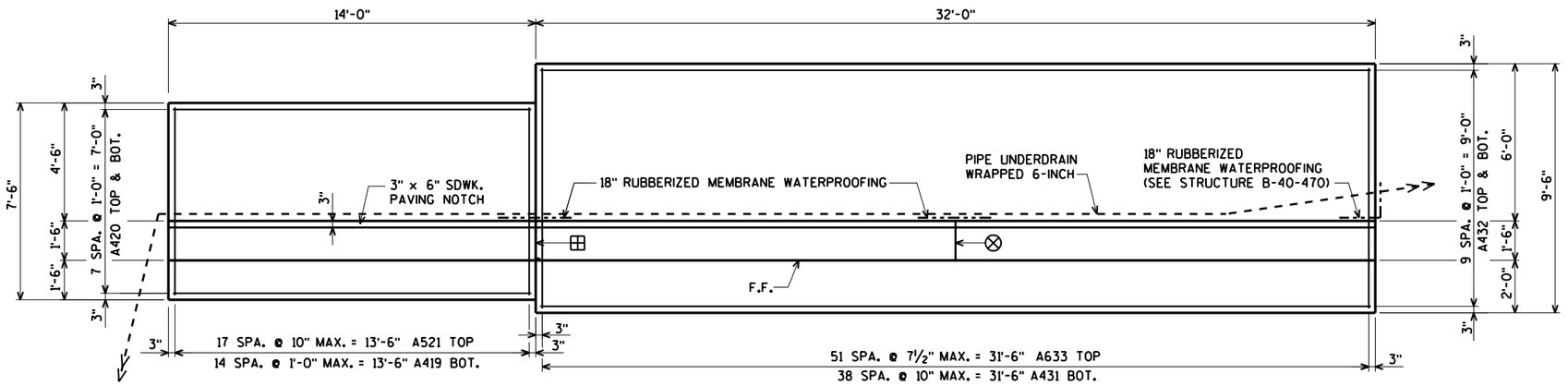


ELEVATION
WALLS A, B & C

FOR SECTIONS A & B
SEE SHEET 5



FOOTING PLAN
WALLS A, B & C

⊞ VERTICAL EXPANSION JOINT REQUIRED (SEE SHEET 5 FOR DETAILS)

⊗ VERTICAL CONTRACTION JOINT REQUIRED (SEE SHEET 5 FOR DETAILS)

● CONST. JOINT FORMED BY SURFACED BEVELED 2" x 6".

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

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STRUCTURE R-40-691

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RETAINING WALL

SHEET 4 OF 10
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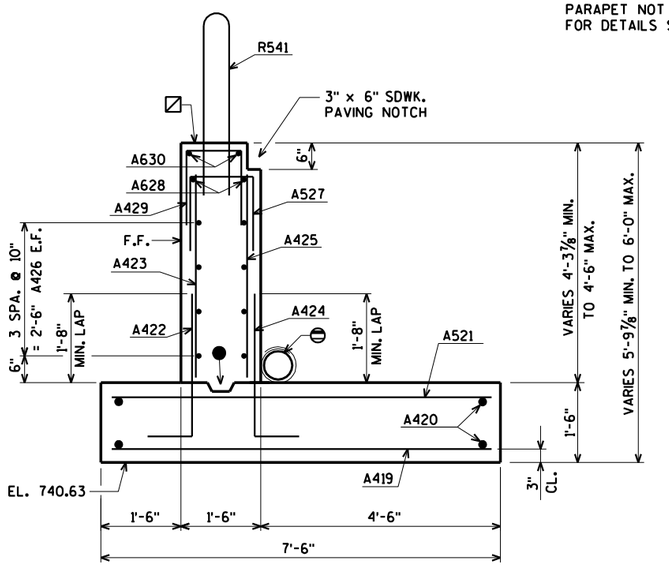
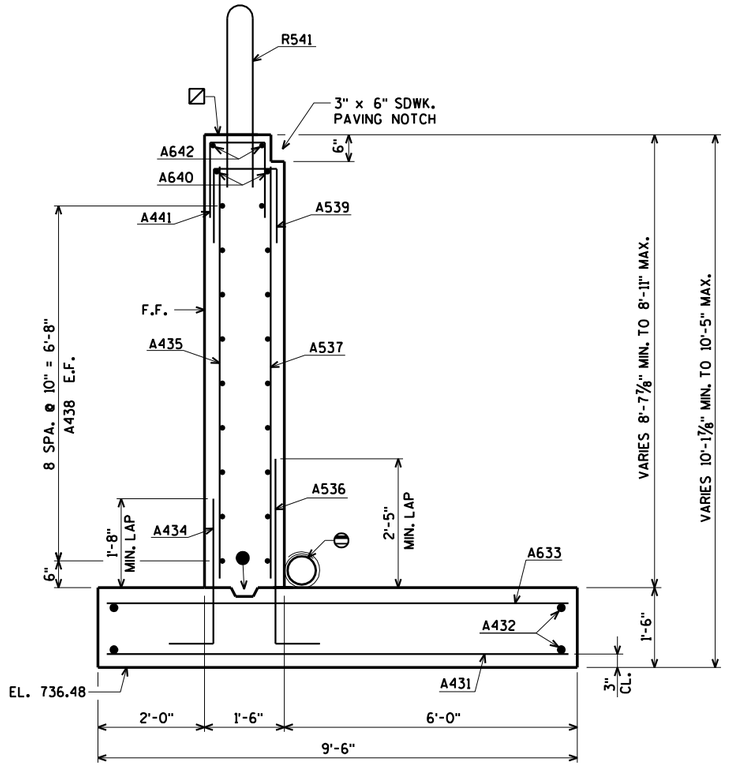


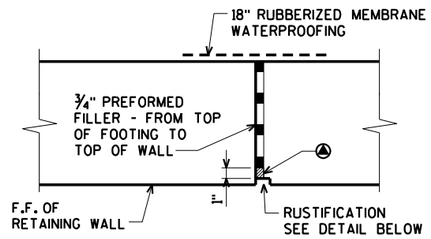
SECTION A

PARAPET NOT SHOWN.
FOR DETAILS SEE SHEETS 8 & 9

FOR LOCATION OF SECTIONS A & B
SEE SHEET 4



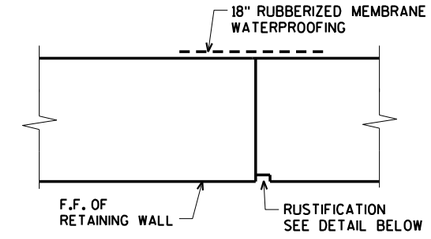
SECTION B



VERTICAL EXPANSION JOINT DETAIL

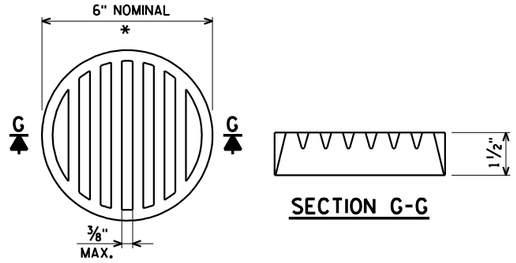
DO NOT RUN ANY BAR STEEL THRU JOINT

Ⓐ FILL WITH NON-STAINING GRAY SINGLE COMPONENT NON-BITUMINOUS JOINT SEALER, FROM 1'-0" BELOW GROUNDLINE TO TOP OF WALL.



VERTICAL CONTRACTION JOINT DETAIL

DO NOT RUN ANY BAR STEEL THRU JOINT



SECTION G-G

* 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.

RODENT SHIELD DETAIL

FOOTING TO BE PLACED ON SOUND MATERIAL. DESIGN BEARING PRESSURE IS 1.0 TONS PER SQUARE FOOT.

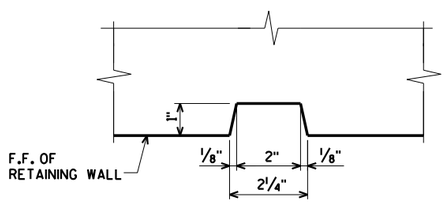
⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON THIS SHEET.

● CONST. JOINT FORMED BY SURFACED BEVELED 2" x 6".

☒ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

F.F. DENOTES FRONT FACE

E.F. DENOTES EACH FACE



RUSTIFICATION DETAIL

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DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-691

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RETAINING WALL DETAILS

SHEET 5 OF 10
358

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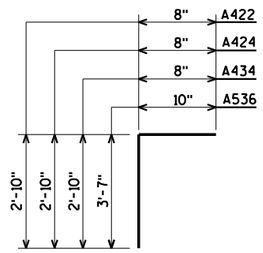
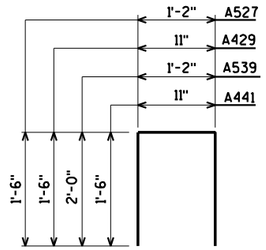
BILL OF BARS

WEIGHT INCLUDES PARAPET STEEL SHOWN ON SHEET 8

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	2,770# COATED 1,730# UNCOATED LOCATION
A419		15	7-2				FOOTING BOT. WALL A
A420		16	13-8				FOOTING TOP & BOT. WALL A
A521		18	7-2				FOOTING TOP WALL A
A422	X	15	3-5	X			DOWEL F.F. WALL A
A423	X	15	3-6				VERT. F.F. WALL A
A424	X	19	3-5	X			DOWEL B.F. WALL A
A425	X	19	3-6				VERT. B.F. WALL A
A426	X	8	13-8				HORIZ. E.F. WALL A
A527	X	15	3-11	X			VERT. TOP WALL A
A628	X	2	13-8				HORIZ. E.F. TOP WALL A
A429	X	19	3-9	X			VERT. TOP WALL A
A630	X	2	13-8				HORIZ. E.F. TOP WALL A
A431		39	9-2				FOOTING BOT. WALLS B & C
A432		20	31-8				FOOTING TOP & BOT. WALLS B & C
A633		52	9-2				FOOTING TOP WALLS B & C
A434	X	34	3-5	X			DOWEL F.F. WALLS B & C
A435	X	34	7-9				VERT. F.F. WALL B & C
A536	X	44	4-4	X			DOWEL B.F. WALLS B & C
A537	X	44	7-9				VERT. B.F. WALLS B & C
A438	X	36	15-8				HORIZ. E.F. WALLS B & C
A539	X	34	4-11	X			VERT. TOP WALLS B & C
A640	X	4	15-8				HORIZ. E.F. TOP WALLS B & C
A441	X	44	3-9	X			VERT. TOP WALLS B & C
A642	X	4	15-8				HORIZ. E.F. TOP WALLS B & C

BENDING DIMENSIONS ARE OUT TO OUT OF BARS





B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

E.F. DENOTES EACH FACE

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BILL OF BARS

SHEET 6 OF 10
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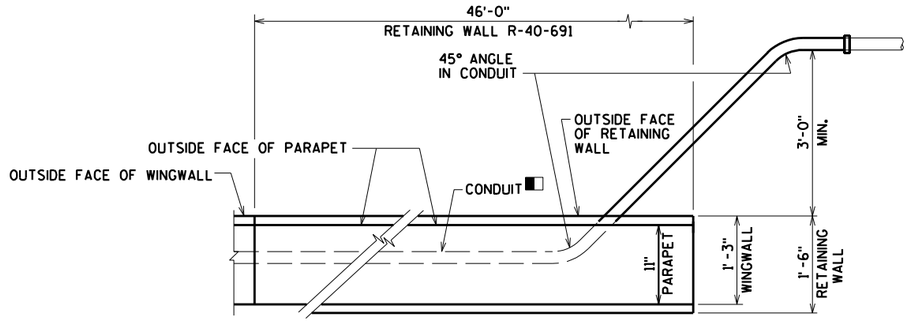
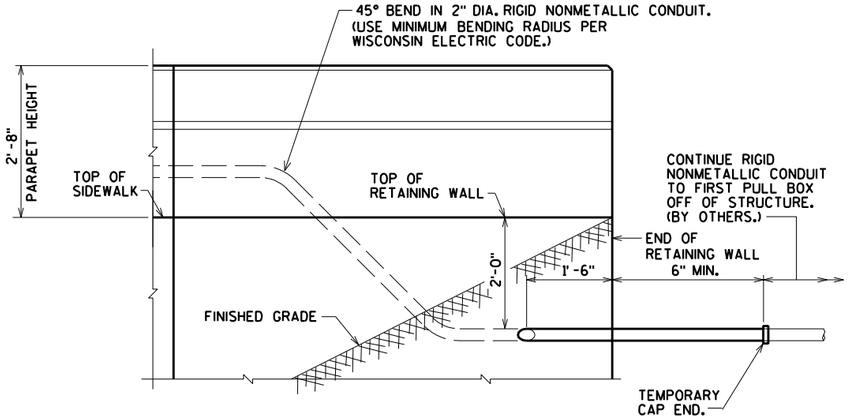


PLAN OF PARAPET



OUTSIDE ELEVATION OF PARAPET

(END OF WING 4 OF STRUCTURE B-40-470 SHOWN, END OF RETAINING WALL R-40-691 SIMILAR)

NOTES

BID ITEMS SHALL BE:

"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

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CONDUIT DETAILS

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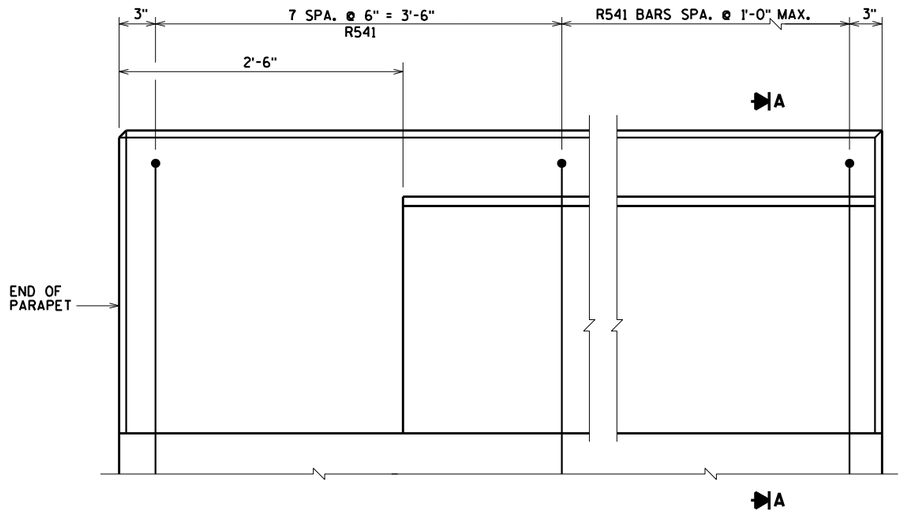
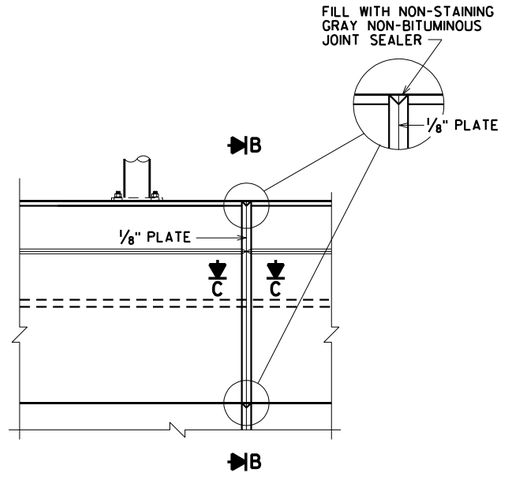
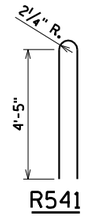


FRONT FACE OF PARAPET

(END OF WING 4 OF STRUCTURE B-40-470 SHOWN, END OF RETAINING WALL R-40-691 SIMILAR)



ELEVATION OF PARAPET AT DEFLECTION JOINT

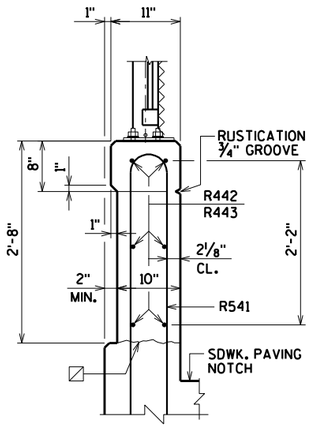


R541

BILL OF BARS

FOR RETAINING WALL PARAPET 690# COATED

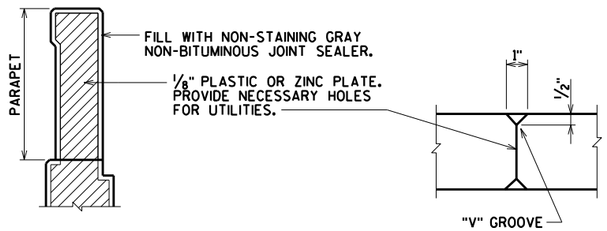
BAR MARK	COAT	RETAINING WALL	LENGTH	BENT	LOCATION
R541	X	52	9-5	X	PARAPET VERT.
R442	X	6	13-7		PARAPET HORIZ. WALL A
R443	X	12	15-7		PARAPET HORIZ. WALLS B & C



SECTION A-A

CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

FOR TUBULAR STEEL RAILING SCREENING SEE SHEET 10



SECTION B-B

(SHOWING DEFLECTION JOINT IN PARAPET)

SECTION C-C

WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF 1/8" ZINC OR PLASTIC PLATE CUT AS SHOWN IN SECTION B-B BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH AN APPROVED LIQUID BOND BREAKER AND PLATE SEPARATORS MAY BE OMITTED.

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STRUCTURES DESIGN SECTION

STRUCTURE R-40-691

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VERTICAL FACE PARAPET "A"

SHEET 8 OF 10
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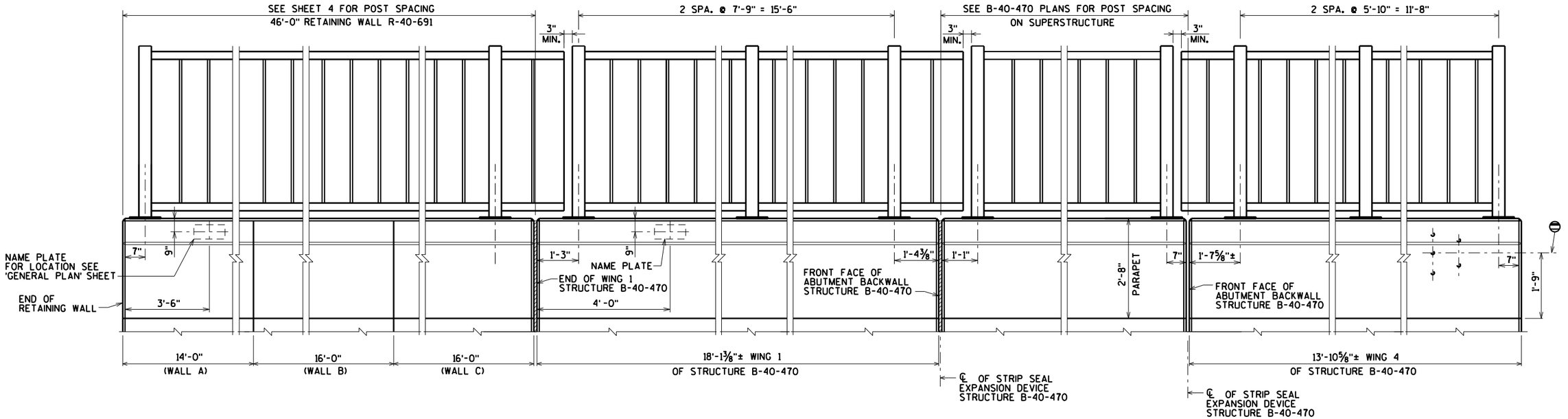

ELEVATION OF PARAPET

VERTICAL FACE PARAPET 'A'
(OUTSIDE FACE SHOWN - LOOKING NORTH)

⊖ ℄ OF ANCHOR ASSEMBLY FOR THRIE BEAM

8

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PARAPET LAYOUT

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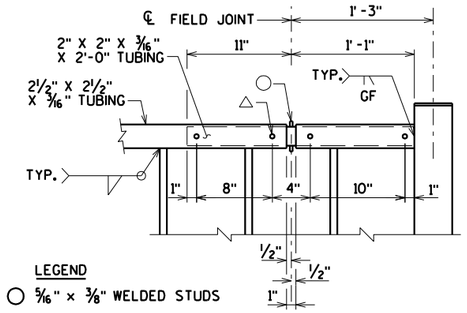
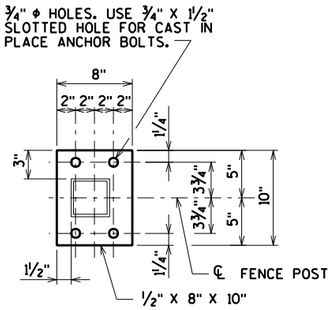


LEGEND

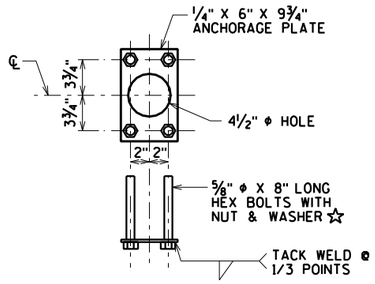
○ 5/16" × 3/8" WELDED STUDS

△ WELD BEAD ON EACH SIDE OF TUBE. GRIND BEADS SO THAT SLEEVE FITS FREELY INSIDE THE 2½" × 2½" TUBE.

RAILING EXPANSION JOINT DETAIL



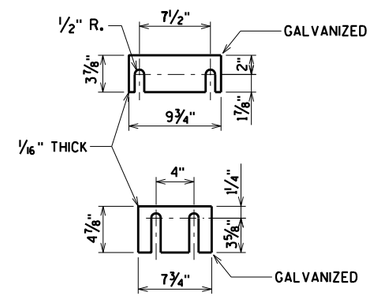
BASE PLATE



ANCHORAGE DETAIL

☆ ALTERNATIVE ANCHORAGE:
ADHESIVE ANCHORS ⅝-INCH.
EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.

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



SHIM PLATE DETAILS

TWO SHIMS OF EACH SIZE REQUIRED PER POST

NOTES

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

STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B. PLATES, ANGLES, BARS AND SHIMS SHALL CONFORM TO ASTM A709, GRADE 36. FENCE FABRIC SHALL CONFORM TO F668, CLASS 2B.

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

ALL POST SPACINGS ARE TAKEN HORIZONTAL ALONG CENTERLINE OF RAILING AT BASE OF POST.

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

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE VERTICAL IN TRANSVERSE DIRECTION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED. ☆

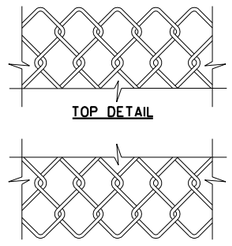
THE BID ITEM SHALL BE "RAILING TUBULAR SCREENING R-40-691" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE NOT MORE THAN 3 POSTS.

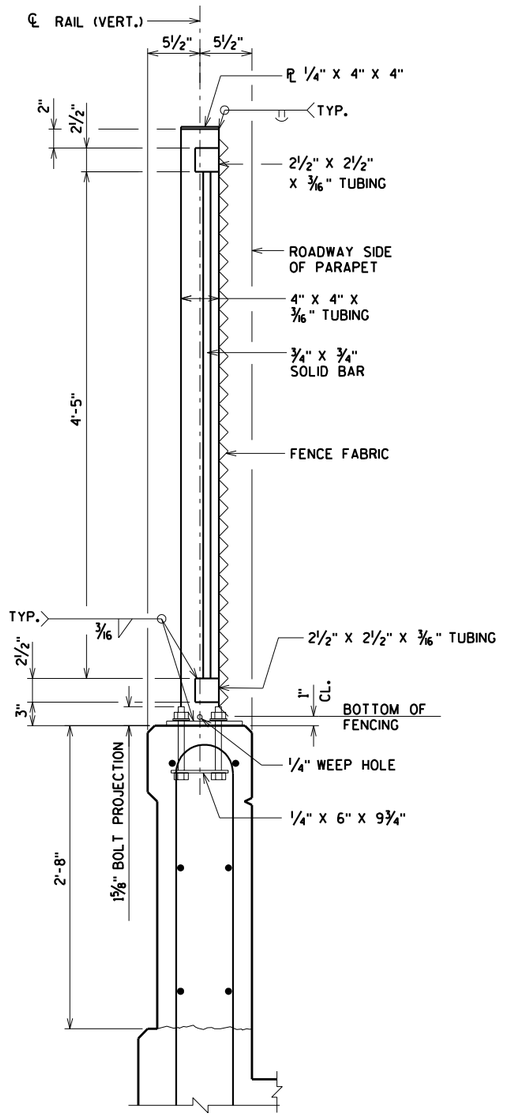
VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

ALL RAILING MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED FEDERAL COLOR NO. 27038, BLACK.
FENCE FABRIC AND TIES TO BE VINYL-COATED. COLOR SHALL BE BLACK IN ACCORDANCE WITH ASTM F934.

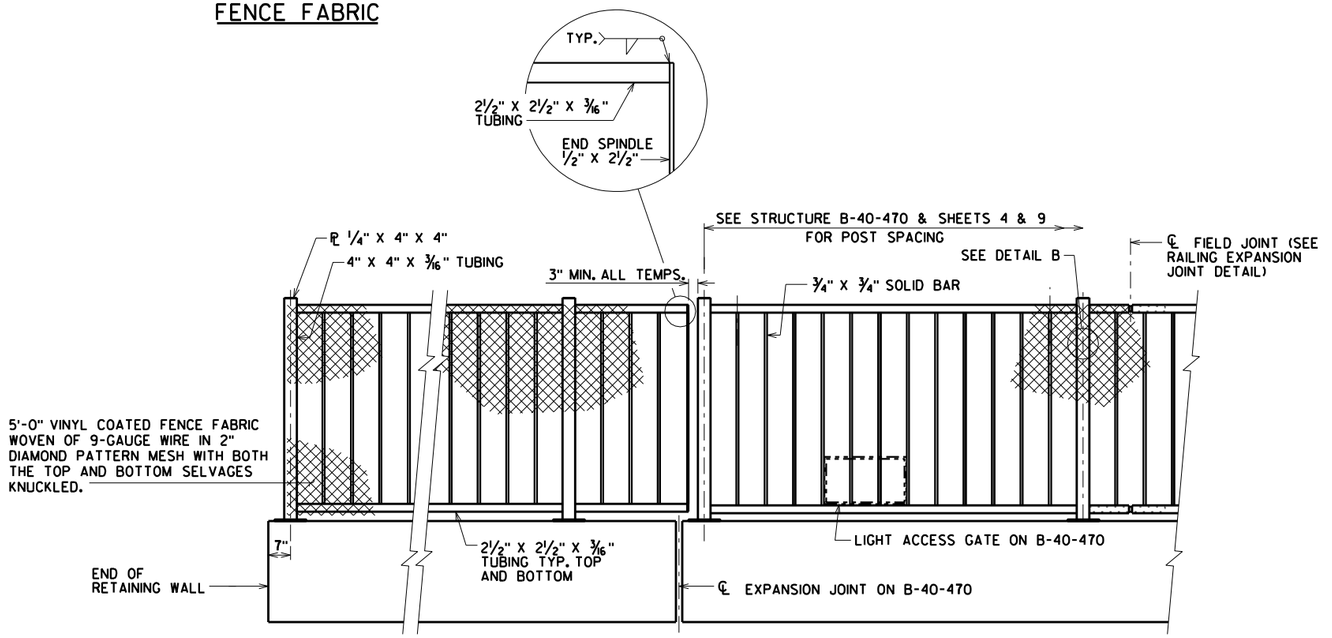
THE END OF THE FABRIC SHALL BE ATTACHED TO THE POST BY MEANS OF A TENSION BAR THREADED THROUGH THE END LOOPS OF THE FABRIC AND SECURED TO THE POST WITH CLAMPS & BOLT. THE FABRIC SHALL BE STRETCHED TO REMOVE ALL SLACK.



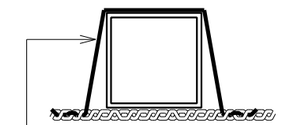
FENCE FABRIC



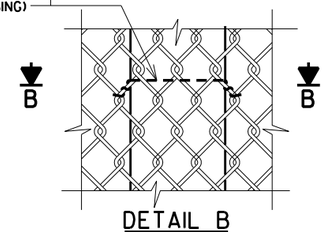
SECTION THRU RAILING



INSIDE ELEVATION OF RAILING



SECTION B-B



DETAIL B

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-691

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TUBULAR STEEL RAILING SCREENING

SHEET 10 OF 10
363

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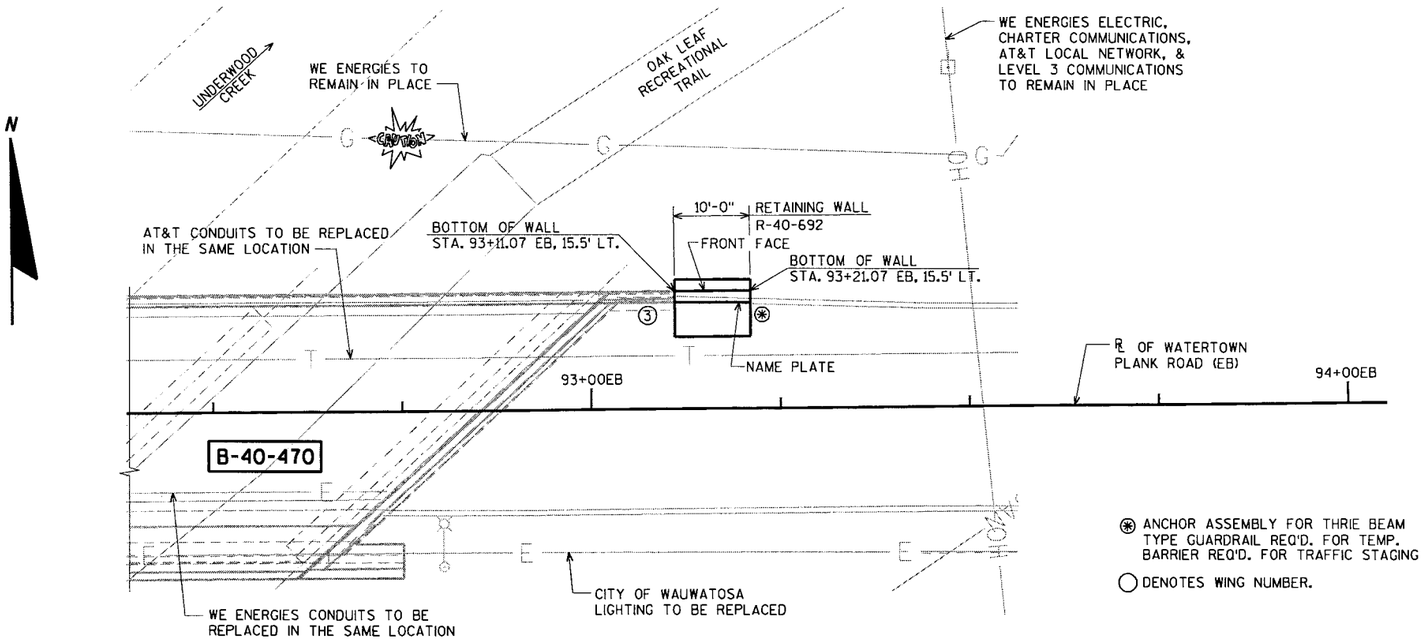
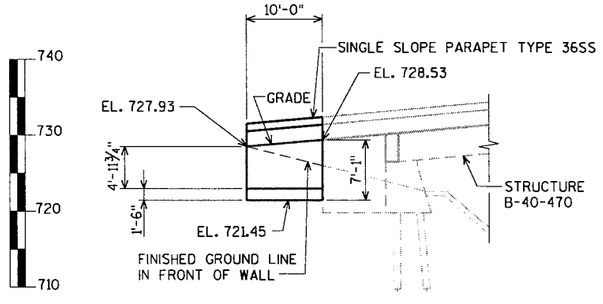
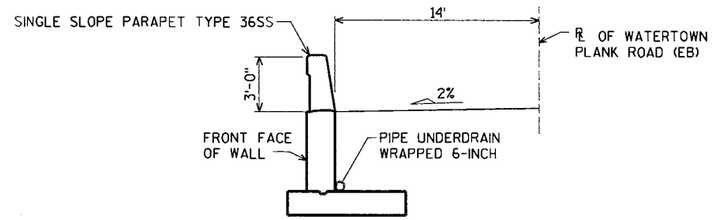


PLAN
(CAST-IN-PLACE RETAINING WALL)



ELEVATION
(LOOKING AT FRONT FACE OF WALL)



TYPICAL SECTION THRU RETAINING WALL R-40-692

LIST OF DRAWINGS

1. GENERAL PLAN
2. TYPICAL SECTION, DESIGN DATA, & PROFILE GRADE LINE
3. QUANTITIES AND NOTES
4. RETAINING WALL
5. BILL OF BARS
6. SINGLE SLOPE PARAPET 36SS
7. PARAPET LAYOUT

FOR DESIGN DATA AND PROFILE GRADE LINE, SEE SHEET 2

FOR GENERAL NOTES AND QUANTITIES, SEE SHEET 3

WISCONSIN
CHRISTOPHER B. McMAHON
E-20454
EAU CLAIRE
WI
PROFESSIONAL ENGINEER
1/30/17

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
CHRIS MCMAHON
(715)-834-3161

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ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 02/14/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-40-692

WATERTOWN PLANK ROAD EB

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
MILWAUKEE	WAUWATOSA

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
AEB	CKJ	CLS	CBM

GENERAL PLAN

SHEET 1 OF 7
364

8

1/30/2017 PENTABLE:BReau_shd_util.tbl

LD DATE:

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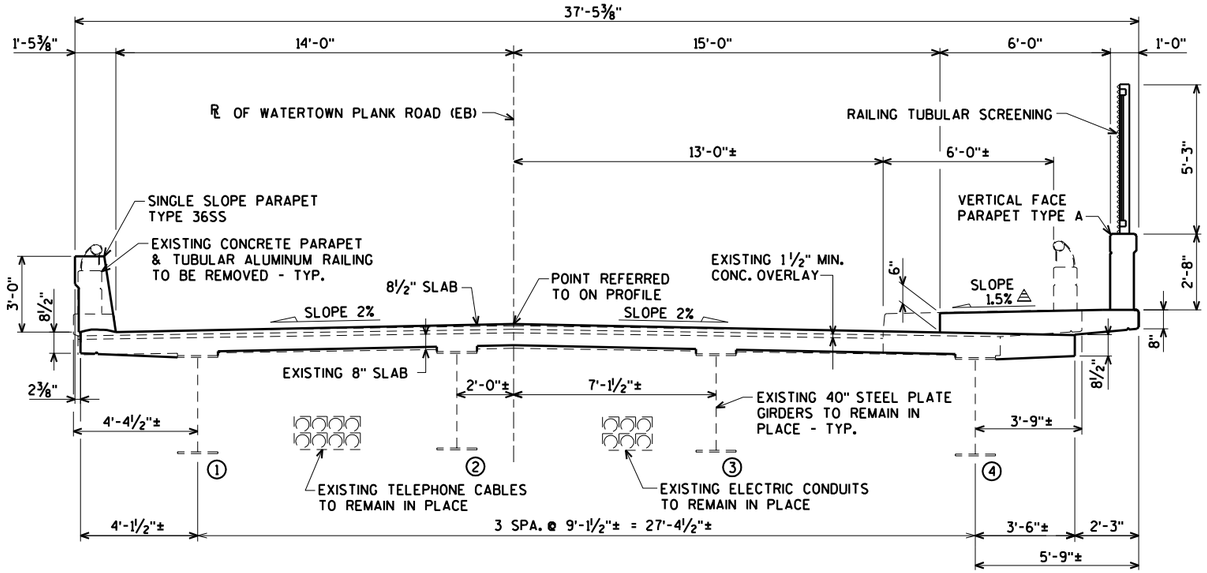


TYPICAL CROSS SECTION THRU DECK OF STRUCTURE B-40-470

(LOOKING EAST)

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

DESIGN DATA

MATERIAL PROPERTIES:

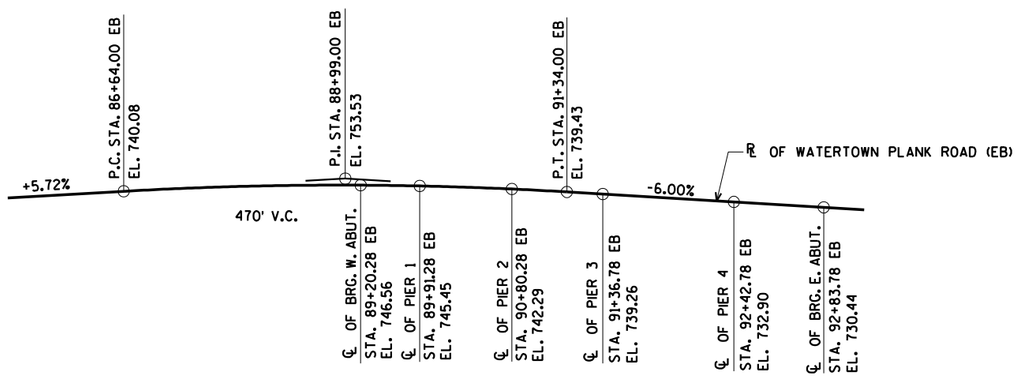
CONCRETE MASONRY ——— f'_c = 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) ——— f_y = 60,000 p.s.i.

FOUNDATION DATA:

THE MAXIMUM DESIGN BEARING PRESSURE AT RETAINING WALL IS 1.0 TONS PER SQUARE FOOT.

TRAFFIC DATA:

A.D.T. = 14,700 (2017)
A.D.T. = 20,000 (2037)
R.D.S. = 40 M.P.H.



PROFILE GRADE LINE

WATERTOWN PLANK ROAD (EB)

BENCH MARK:
CHIS. SO. TOP OF WALL S. SIDE STRUCTURE B-40-470
STA. 89+19 EB, 19'RT.
EL. 748.87

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DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-692

DRAWN BY CLS | PLANS CK'D. CBM

TYPICAL SECTION DESIGN DATA, & PROFILE GRADE LINE

SHEET 2 OF 7
365

ORIGINAL PLANS PREPARED BY
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Eau Claire, WI 54701
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TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
206.3000.02	EXCAVATION FOR STRUCTURES RETAINING WALLS R-40-692	LS	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	25
502.3210	PIGMENTED SURFACE SEALER	SY	5
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	9
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	250
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	550
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	20
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1
	NON-BID ITEMS		
	FILLER	SIZE	½"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

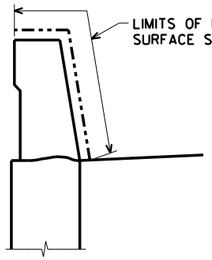
ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

PIGMENTED SURFACE SEALER IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.

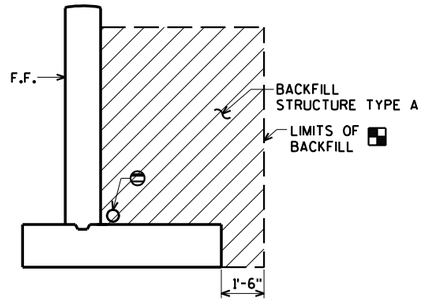
THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.



PIGMENTED SURFACE SEALER DETAIL



BACKFILL STRUCTURE LIMITS

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 5.

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

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-692

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QUANTITIES AND NOTES

SHEET 3 OF 7
366

ORIGINAL PLANS PREPARED BY
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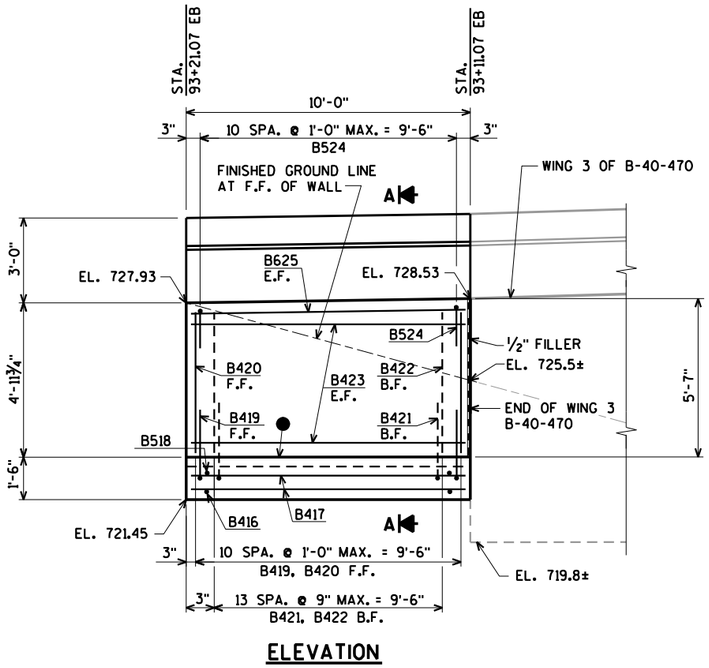
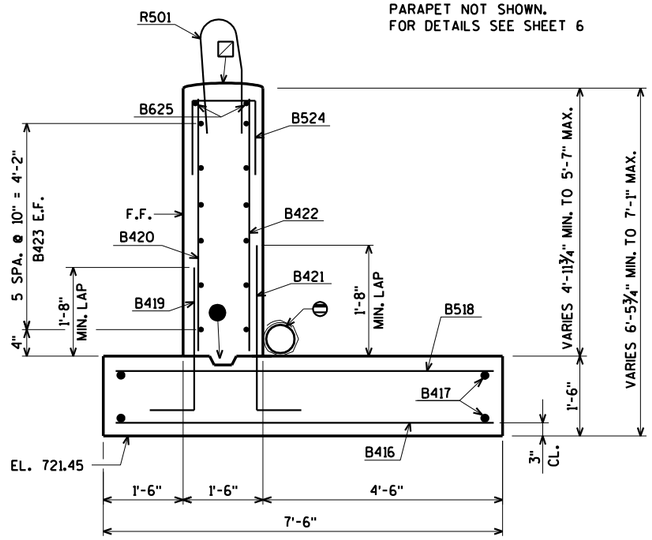
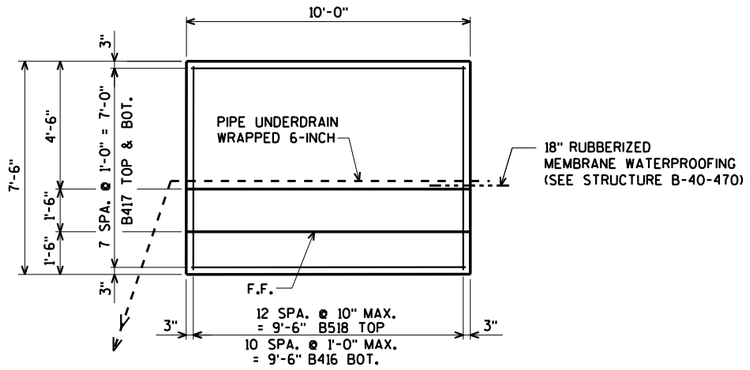


ELEVATION



SECTION A



FOOTING PLAN

FOOTING TO BE PLACED ON SOUND MATERIAL. DESIGN BEARING PRESSURE IS 1.0 TONS PER SQUARE FOOT.

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON SHEET 5

● CONST. JOINT FORMED BY SURFACED BEVELED 2" x 6".

▨ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-692

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RETAINING WALL

SHEET 4 OF 7
367

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ecpdf.plt
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1/25/2017

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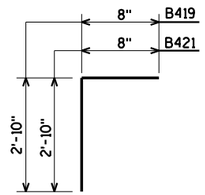
U:±42-0808.00 - Watertown Plank Road Bridge Rehabs - City of Wauwatosa, Milwaukee County±BRIDGE new Jan 2017±R-40-692±4

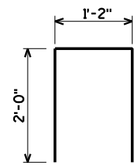
BILL OF BARS

WEIGHT INCLUDES PARAPET STEEL SHOWN ON SHEET 6

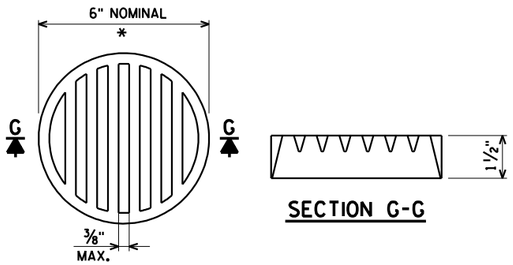
BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	550# COATED 250# UNCOATED LOCATION
B416		11	7-2				FOOTING BOT.
B417		16	9-8				FOOTING TOP & BOT.
B518		13	7-2				FOOTING TOP
B419	X	11	3-5	X			DOWEL F.F.
B420	X	11	4-7				VERT. F.F.
B421	X	14	3-5	X			DOWEL B.F.
B422	X	14	4-7				VERT. B.F.
B423	X	12	9-8				HORIZ. E.F.
B524	X	11	5-0	X			VERT. TOP
B625	X	2	9-8				HORIZ. E.F. TOP

BENDING DIMENSIONS ARE OUT TO OUT OF BARS





B524



SECTION G-G

* 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.

RODENT SHIELD DETAIL

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

E.F. DENOTES EACH FACE

ORIGINAL PLANS PREPARED BY
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3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-692

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BILL OF BARS

SHEET 5 OF 7
368

8

8

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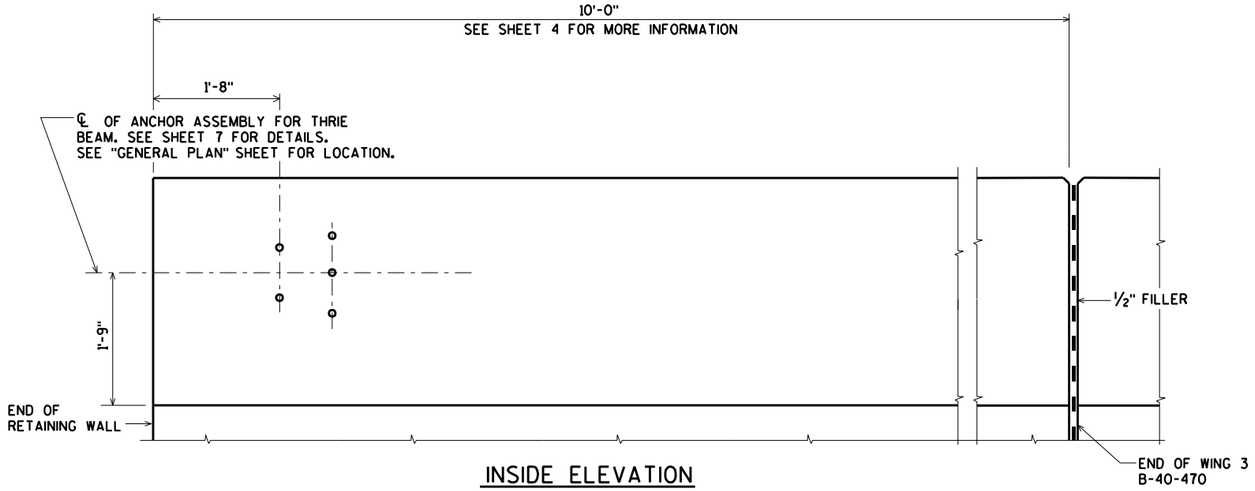
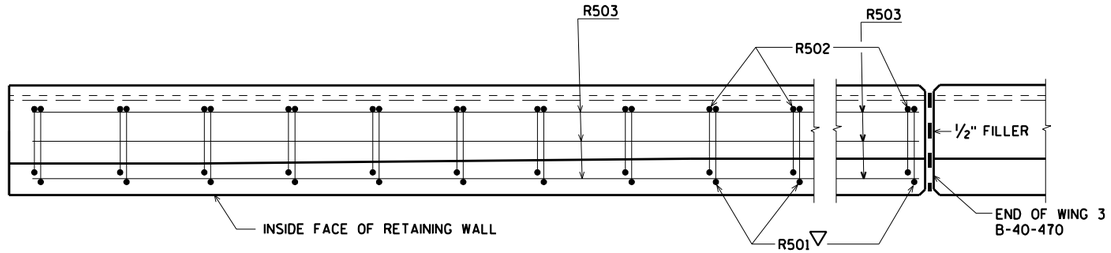
STATE PROJECT NUMBER

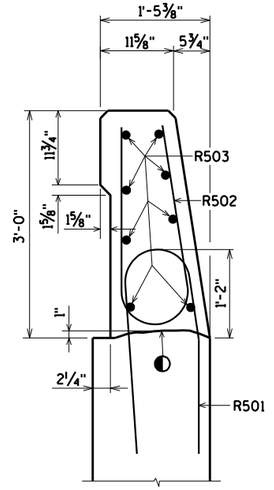
2035-06-70



INSIDE ELEVATION



PLAN



SECTION AT RETAINING WALL

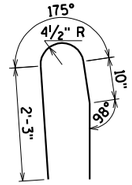
◐ CONST. JOINT - STRIKE OFF AS SHOWN.

▽ R501 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

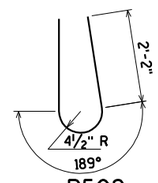
BILL OF BARS

FOR PARAPET 260# COATED

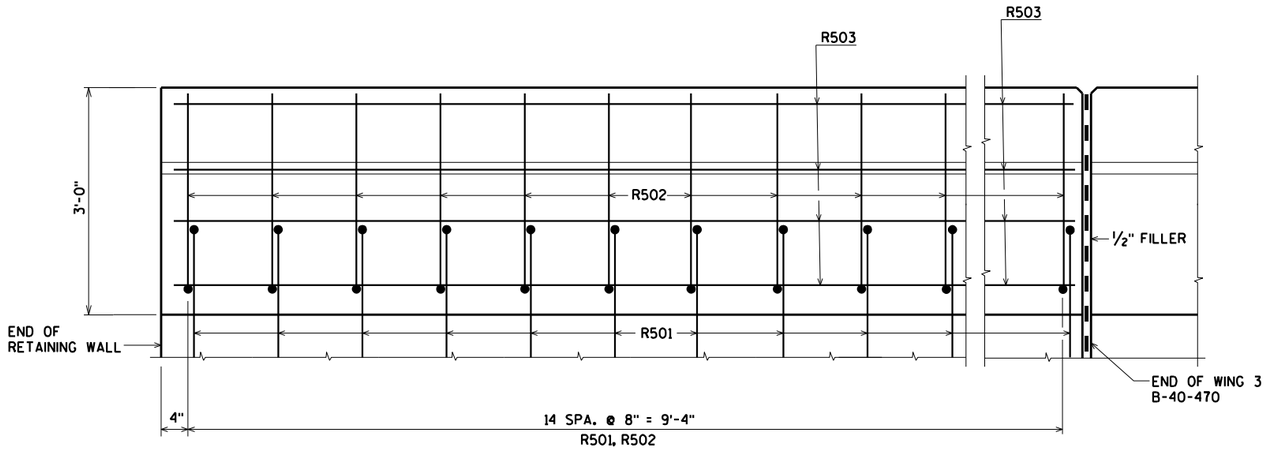
BAR MARK	COAT	RETAINING WALL	LENGTH	BENT	LOCATION
R501	X	15	5-10	X	PARAPET VERT.
R502	X	15	5-8	X	PARAPET VERT.
R503	X	8	9-7		PARAPET HORIZ.



R501



R502



OUTSIDE ELEVATION

8

8

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-692

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SINGLE SLOPE PARAPET 36SS

SHEET 6 OF 7
369

ORIGINAL PLANS PREPARED BY
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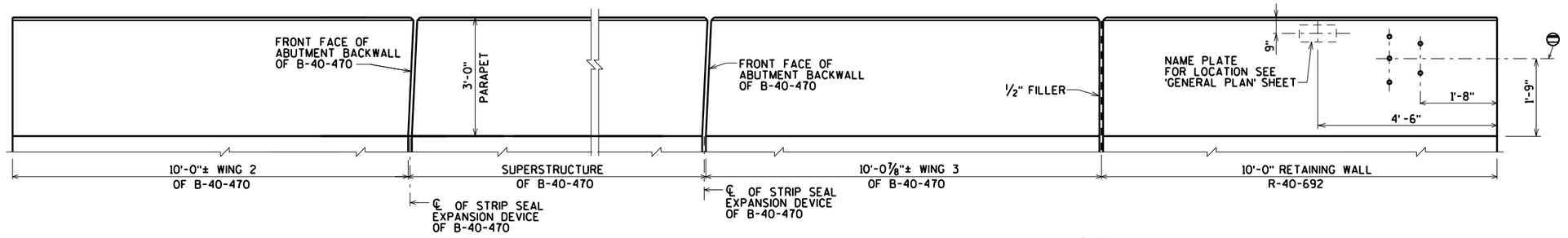
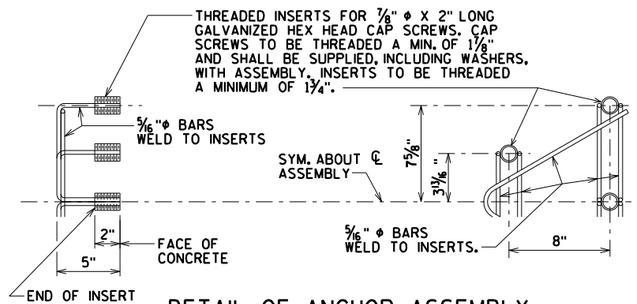


ELEVATION OF PARAPET

SINGLE SLOPE PARAPET 36SS
(INSIDE FACE SHOWN - LOOKING NORTH)

℄ OF ANCHOR ASSEMBLY FOR THRIE BEAM



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-692

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PARAPET LAYOUT

SHEET 7 OF 7
370

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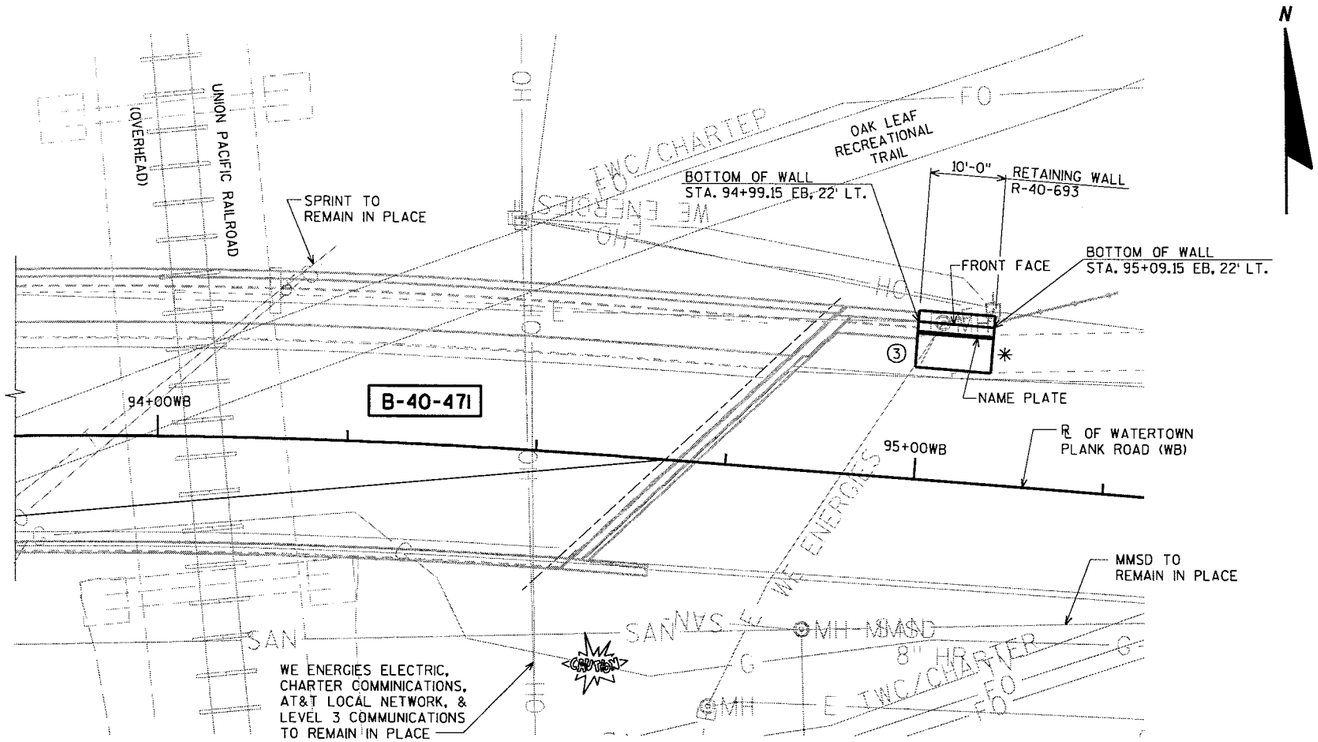
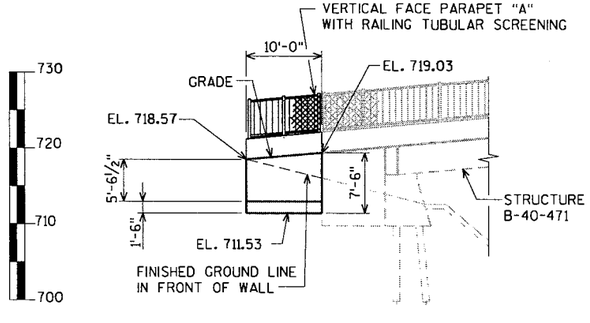


✳ ANCHOR ASSEMBLY FOR THRIE BEAM TYPE GUARDRAIL.

◯ DENOTES WING NUMBER.

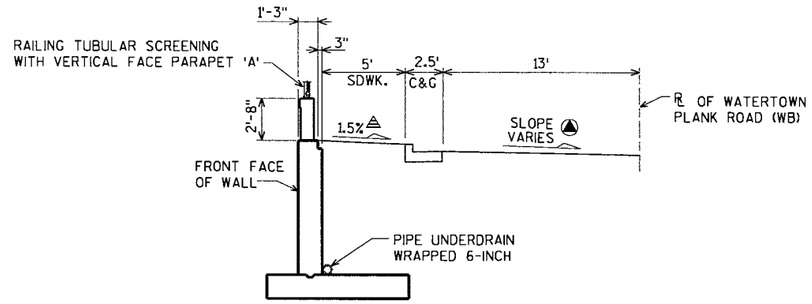
PLAN

(CAST-IN-PLACE RETAINING WALL)



ELEVATION

(LOOKING AT FRONT FACE OF WALL)



TYPICAL SECTION THRU RETAINING WALL R-40-693

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

▲ SEE SUPERELEVATION DIAGRAM ON SHEET 2.

LIST OF DRAWINGS

1. GENERAL PLAN
2. TYPICAL SECTION, DESIGN DATA, & PROFILE GRADE LINE
3. QUANTITIES AND NOTES
4. RETAINING WALL
5. BILL OF BARS
6. CONDUIT DETAILS
7. VERTICAL FACE PARAPET "A"
8. PARAPET LAYOUT
9. TUBULAR STEEL RAILING SCREENING

FOR DESIGN DATA AND PROFILE GRADE LINE, SEE SHEET 2

FOR GENERAL NOTES AND QUANTITIES, SEE SHEET 3

WISCONSIN
CHRISTOPHER B. McMAHON
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EAU CLAIRE
WI
PROFESSIONAL ENGINEER

1/30/17

BRIDGE OFFICE CONTACT:
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(608)-266-8489

CONSULTANT CONTACT:
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 02/14/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-40-693

WATERTOWN PLANK ROAD WB

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
MILWAUKEE	WAUWATOSA

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
AEB	CKJ	CLS	CBM

GENERAL PLAN

SHEET 1 OF 9
371

DATE:
DATE:
DATE:

CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

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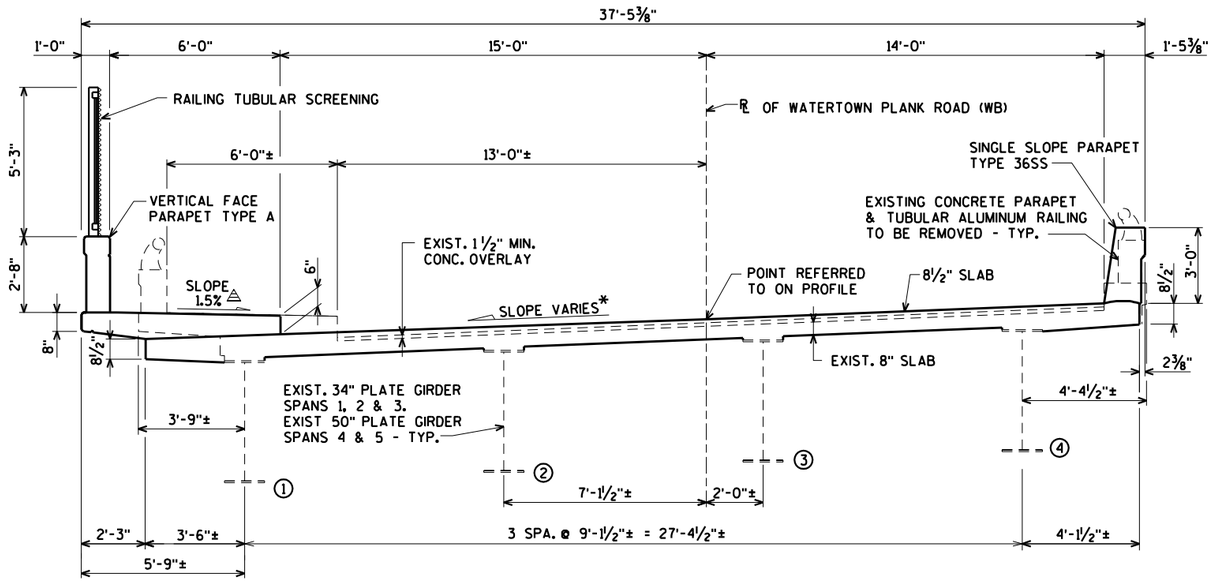


TYPICAL CROSS SECTION THRU DECK OF STRUCTURE B-40-471

(LOOKING EAST)

* SEE SUPERELEVATION DIAGRAM ON THIS SHEET. CROSS SECTION SHOWN IS TYPICAL OF SPANS 1 & 2. SLOPE IS OPPOSITE DIRECTION SPANS 4 & 5 WITH A TRANSITION OCCURING IN SPAN 3.

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

DESIGN DATA

MATERIAL PROPERTIES:

CONCRETE MASONRY ____ f'_c = 3,500 p.s.i.

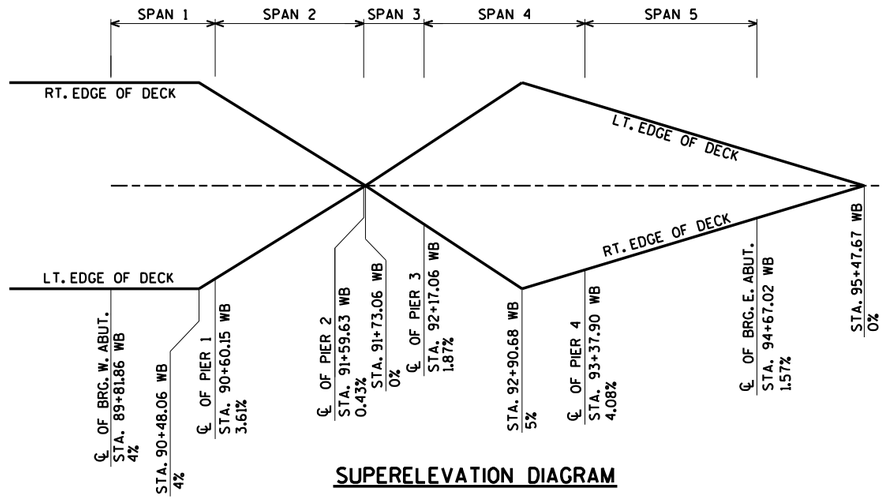
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) ____ f_y = 60,000 p.s.i.

FOUNDATION DATA:

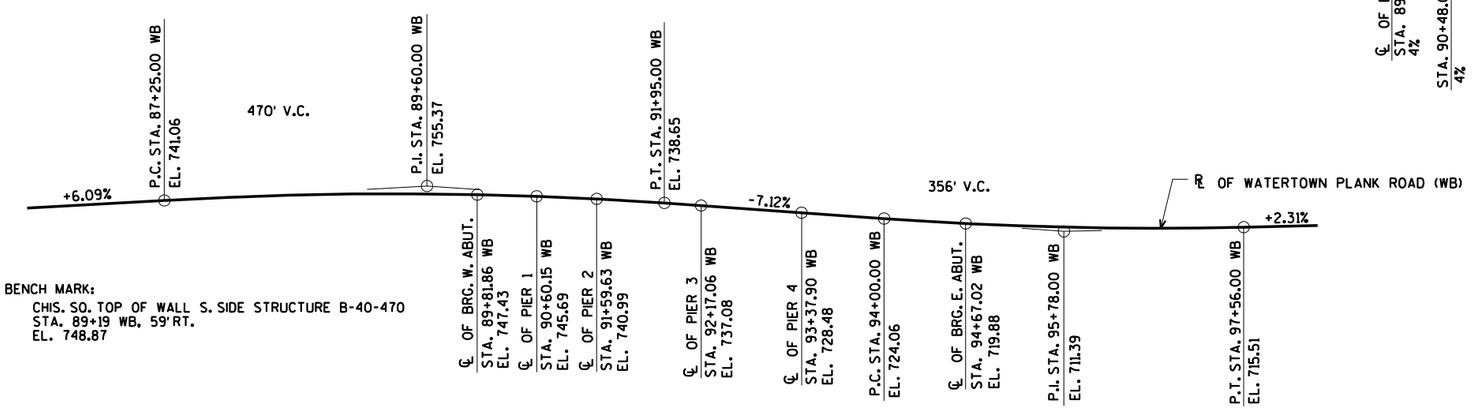
THE MAXIMUM DESIGN BEARING PRESSURE AT RETAINING WALL IS 1.0 TONS PER SQUARE FOOT.

TRAFFIC DATA:

A.D.T. = 14,700 (2017)
A.D.T. = 20,000 (2037)
R.D.S. = 40 M.P.H.



SUPERELEVATION DIAGRAM



BENCH MARK:
CHIS. SQ. TOP OF WALL S. SIDE STRUCTURE B-40-470
STA. 89+19 WB, 59' RT.
EL. 748.87

PROFILE GRADE LINE

WATERTOWN PLANK ROAD (WB)

8

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STRUCTURE R-40-693

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TYPICAL SECTION DESIGN DATA, & PROFILE GRADE LINE

SHEET 2 OF 9
372

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Eau Claire, WI 54701
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TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
206.3000.03	EXCAVATION FOR STRUCTURES RETAINING WALLS R-40-693	LS	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	25
502.3210	PIGMENTED SURFACE SEALER	SY	4
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	9
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	250
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	550
513.4091.04	RAILING TUBULAR SCREENING R-40-693	LF	10
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	20
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	19
	NON-BID ITEMS		
	FILLER	SIZE	1/2"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

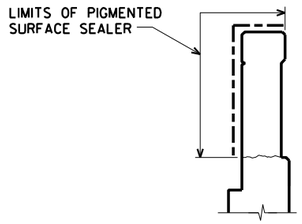
ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

PIGMENTED SURFACE SEALER IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.

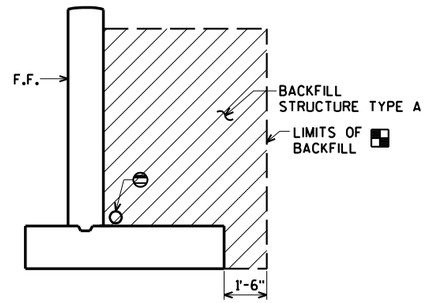
THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.



PIGMENTED SURFACE SEALER DETAIL



BACKFILL STRUCTURE LIMITS

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 5.

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

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QUANTITIES AND NOTES

SHEET 3 OF 9
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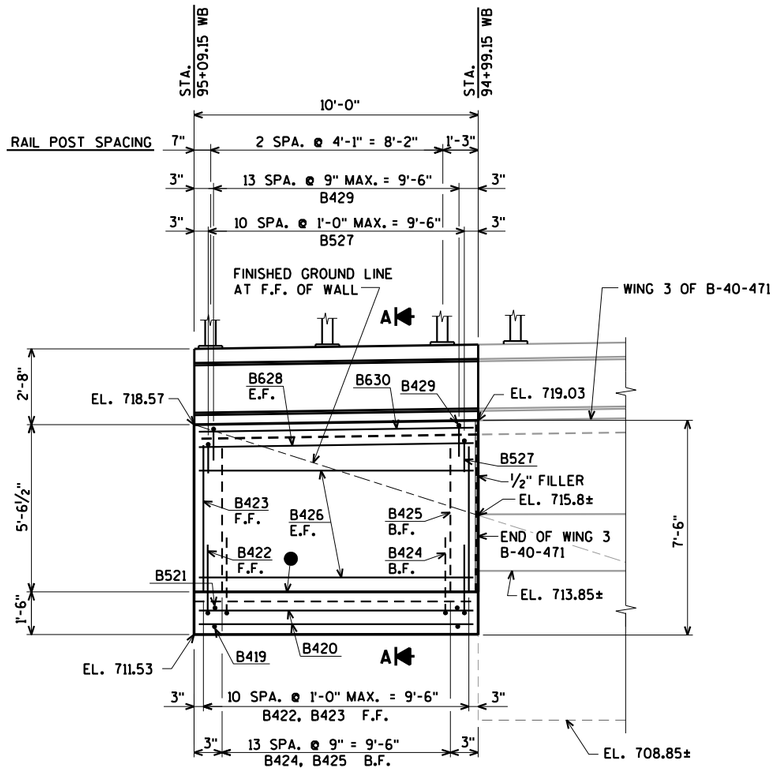
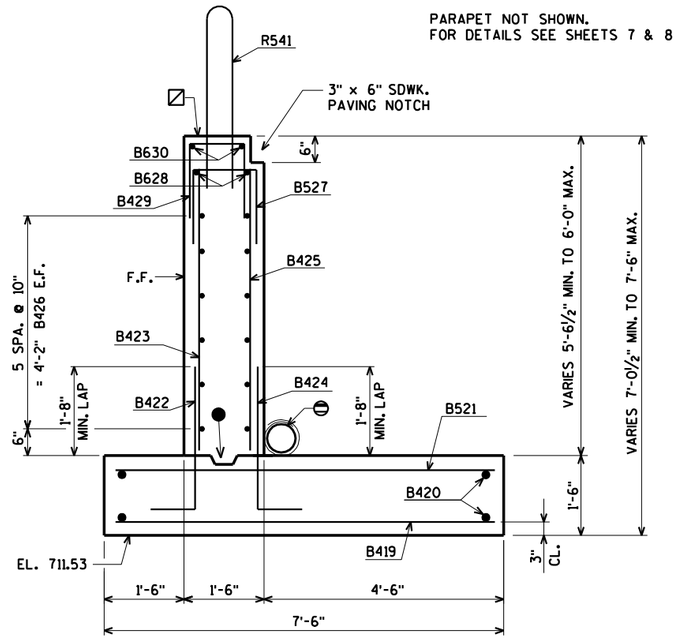
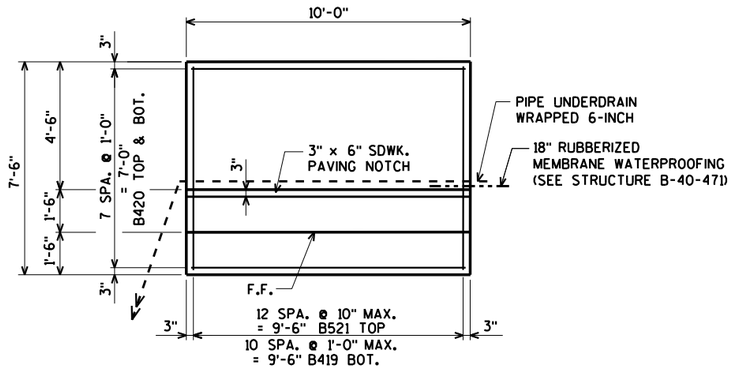


ELEVATION



SECTION A



FOOTING PLAN

FOOTING TO BE PLACED ON SOUND MATERIAL. DESIGN BEARING PRESSURE IS 1.0 TONS PER SQUARE FOOT.

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON SHEET 5

● CONST. JOINT FORMED BY SURFACED BEVELED 2" x 6".

☒ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

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RETAINING WALL

SHEET 4 OF 9
374

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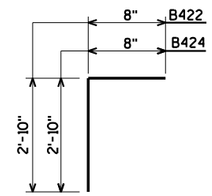
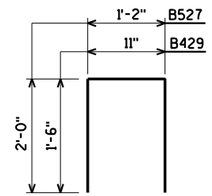
BILL OF BARS

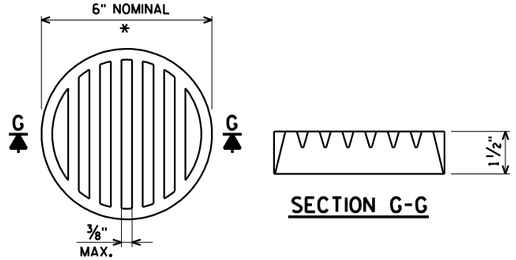
WEIGHT INCLUDES PARAPET STEEL SHOWN ON SHEET 7

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	550" COATED 250" UNCOATED LOCATION
B419		11	7-2			FOOTING BOT.
B420		16	9-8			FOOTING TOP & BOT.
B521		13	7-2			FOOTING TOP
B422	X	11	3-5	X		DOWEL F.F.
B423	X	11	5-2			VERT. F.F.
B424	X	14	3-5	X		DOWEL B.F.
B425	X	14	4-8			VERT. B.F.
B426	X	12	9-8			HORIZ. E.F.
B527	X	11	4-11	X		VERT. TOP
B628	X	2	9-8			HORIZ. E.F. TOP
B429	X	14	3-9	X		VERT. TOP
B630	X	2	9-8			HORIZ. E.F. TOP

BENDING DIMENSIONS ARE OUT TO OUT OF BARS







SECTION G-G

* 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.

RODENT SHIELD DETAIL

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

E.F. DENOTES EACH FACE

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STRUCTURE R-40-693

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BILL OF BARS

SHEET 5 OF 9

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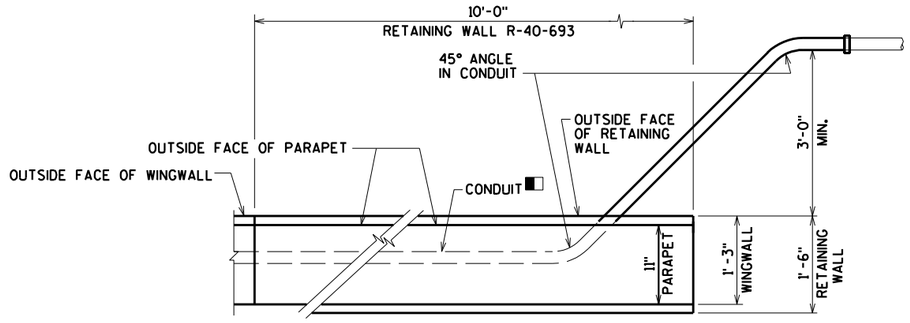
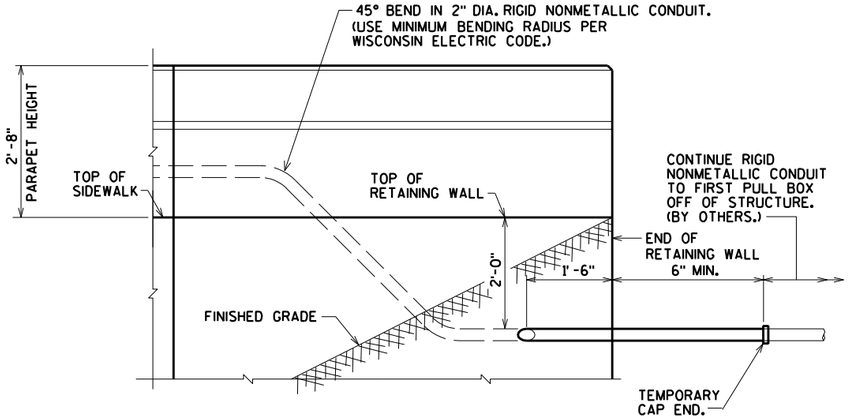


PLAN OF PARAPET



OUTSIDE ELEVATION OF PARAPET

(END OF WING 2 OF STRUCTURE B-40-471 SHOWN, END OF RETAINING WALL R-40-693 SIMILAR)

NOTES

BID ITEMS SHALL BE:

"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

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CONDUIT DETAILS

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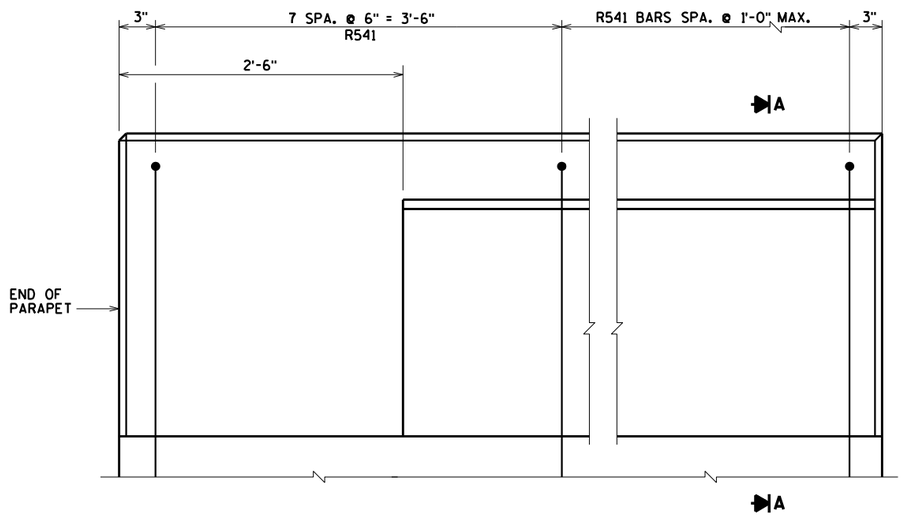
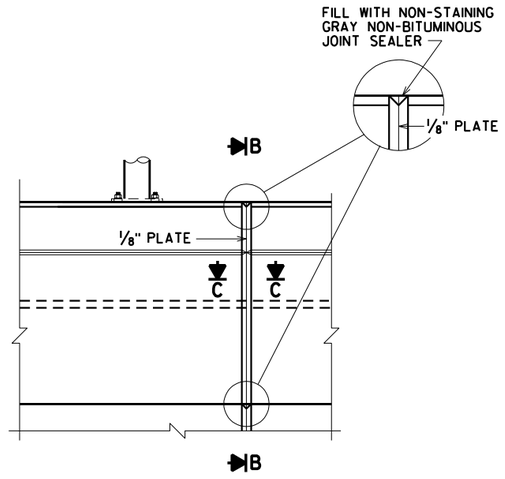
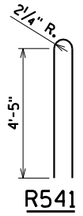


FRONT FACE OF PARAPET

(END OF WING 2 OF STRUCTURE B-40-471 SHOWN, END OF RETAINING WALL R-40-693 SIMILAR)



ELEVATION OF PARAPET AT DEFLECTION JOINT

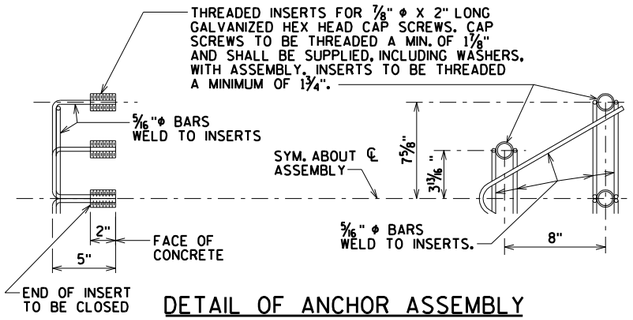


R541

BILL OF BARS

FOR RETAINING WALL PARAPET 180° COATED

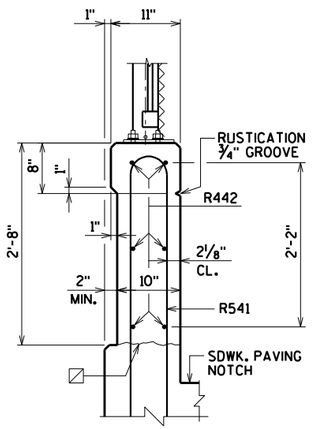
BAR MARK	COAT	RETAINING WALL	LENGTH	BENT	LOCATION
R541	X	14	9-5	X	PARAPET VERT.
R442	X	6	9-7		PARAPET HORIZ.



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

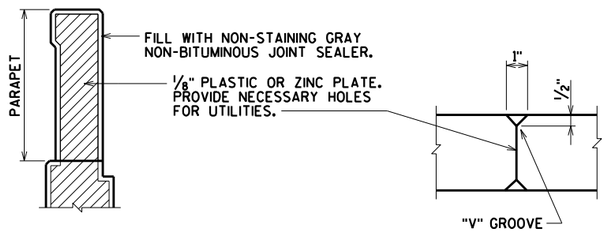
ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.



SECTION A-A

☒ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

FOR TUBULAR STEEL RAILING SCREENING SEE SHEET 9



SECTION B-B

(SHOWING DEFLECTION JOINT IN PARAPET)

SECTION C-C

WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF 1/8" ZINC OR PLASTIC PLATE CUT AS SHOWN IN SECTION B-B BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH AN APPROVED LIQUID BOND BREAKER AND PLATE SEPARATORS MAY BE OMITTED.

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STRUCTURES DESIGN SECTION

STRUCTURE R-40-693

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VERTICAL FACE PARAPET "A"

SHEET 7 OF 9
377

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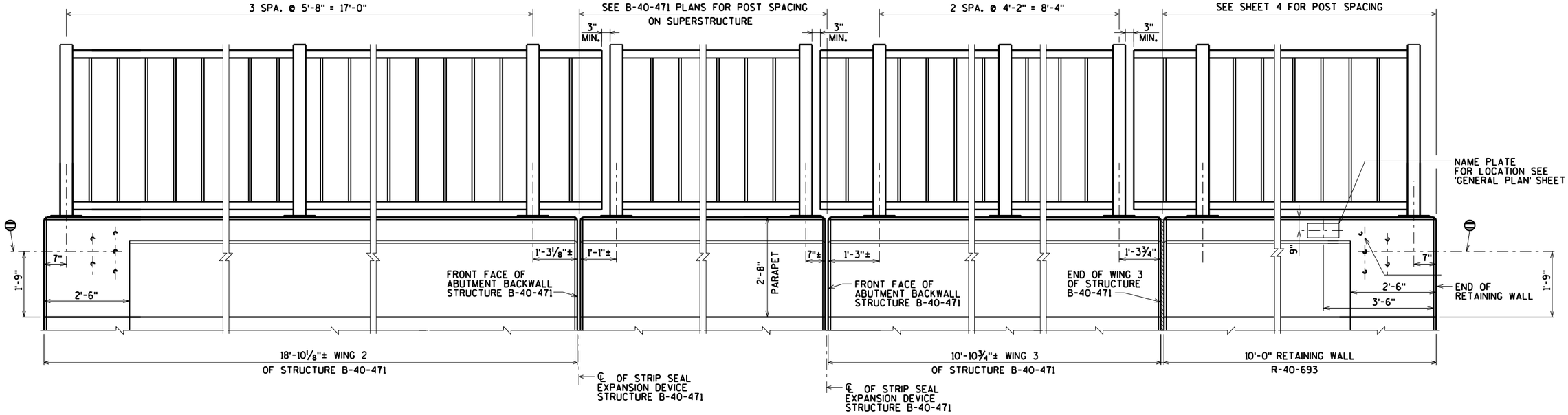

ELEVATION OF PARAPET

VERTICAL FACE PARAPET 'A'
(INSIDE FACE SHOWN - LOOKING NORTH)

⊖ ℄ OF ANCHOR ASSEMBLY FOR THRIE BEAM
SEE SHEET 7 FOR DETAILS.

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STRUCTURE R-40-693

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PARAPET LAYOUT

SHEET 8 OF 9
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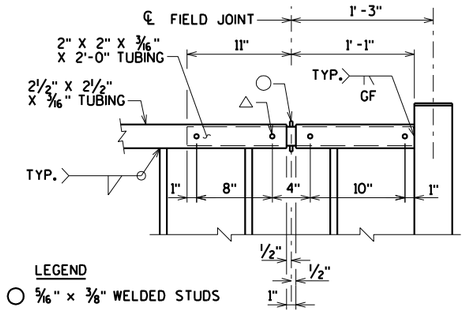
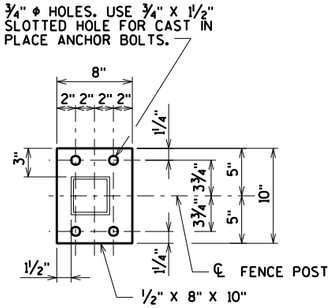


LEGEND

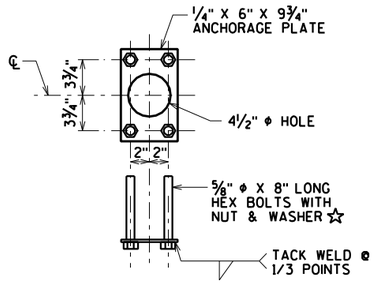
○ 5/16" × 3/8" WELDED STUDS

△ WELD BEAD ON EACH SIDE OF TUBE. GRIND BEADS SO THAT SLEEVE FITS FREELY INSIDE THE 2½" × 2½" TUBE.

RAILING EXPANSION JOINT DETAIL



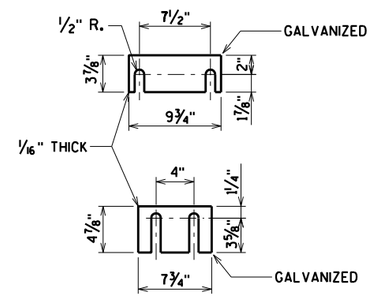
BASE PLATE



ANCHORAGE DETAIL

☆ ALTERNATIVE ANCHORAGE:
ADHESIVE ANCHORS ⅝-INCH.
EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.

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



SHIM PLATE DETAILS

TWO SHIMS OF EACH SIZE REQUIRED PER POST

NOTES

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

STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B. PLATES, ANGLES, BARS AND SHIMS SHALL CONFORM TO ASTM A709, GRADE 36. FENCE FABRIC SHALL CONFORM TO F668, CLASS 2B.

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

ALL POST SPACINGS ARE TAKEN HORIZONTAL ALONG CENTERLINE OF RAILING AT BASE OF POST.

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

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE VERTICAL IN TRANSVERSE DIRECTION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED. ☆

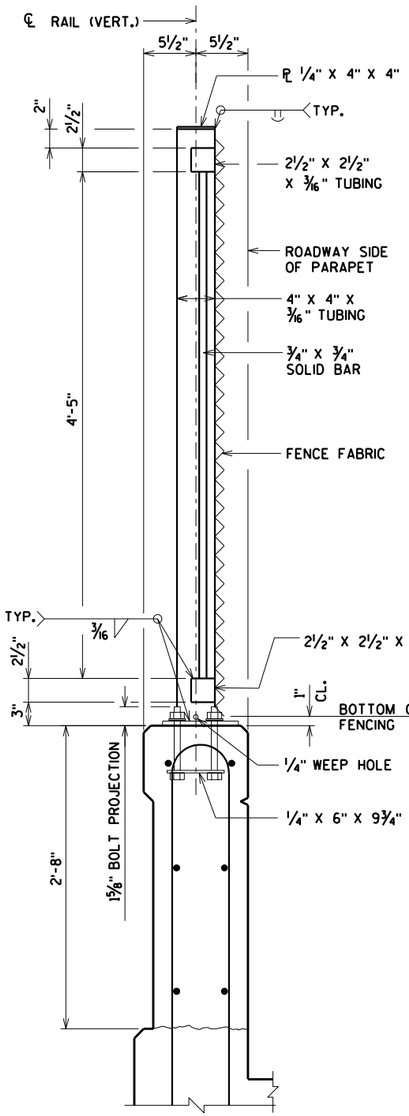
THE BID ITEM SHALL BE "RAILING TUBULAR SCREENING R-40-693" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE NOT MORE THAN 3 POSTS.

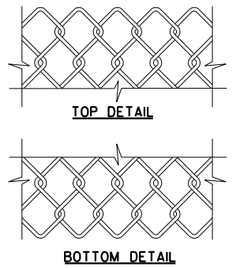
VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

ALL RAILING MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED FEDERAL COLOR NO. 27038, BLACK.
FENCE FABRIC AND TIES TO BE VINYL-COATED. COLOR SHALL BE BLACK IN ACCORDANCE WITH ASTM F934.

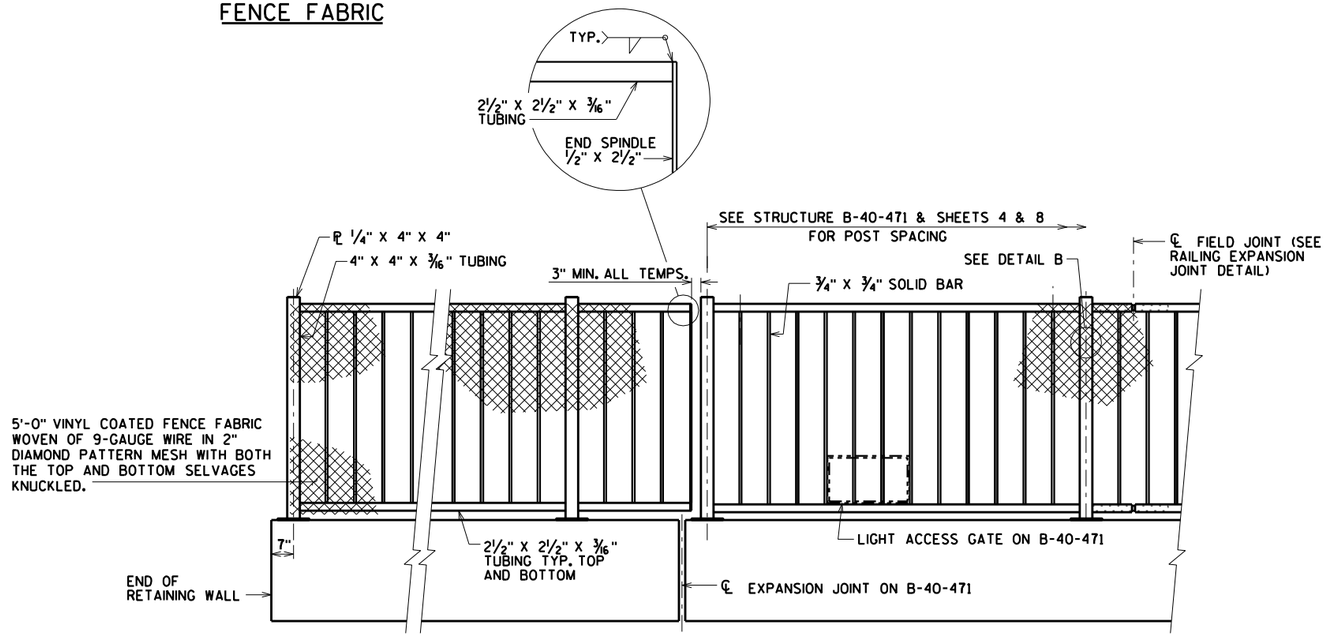
THE END OF THE FABRIC SHALL BE ATTACHED TO THE POST BY MEANS OF A TENSION BAR THREADED THROUGH THE END LOOPS OF THE FABRIC AND SECURED TO THE POST WITH CLAMPS & BOLT. THE FABRIC SHALL BE STRETCHED TO REMOVE ALL SLACK.



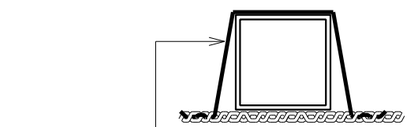
SECTION THRU RAILING



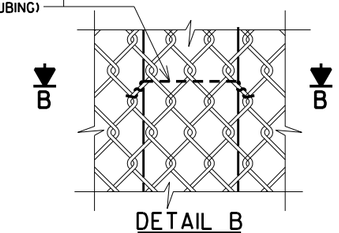
FENCE FABRIC



INSIDE ELEVATION OF RAILING



SECTION B-B



DETAIL B

NO.	DATE	REVISION	BY

STATE PROJECT NUMBER

2035-06-70

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-40-693

DRAWN BY CLS | PLANS CK'D. CBM

TUBULAR STEEL RAILING SCREENING

SHEET 9 OF 9

379

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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PENTABLE:BReau_shd_util.tbl

EARTHWORK STATION-BY-STATION

Station	Real Station	Distance	Area (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)	
			Cut	Salvaged/ Unusable Pavement Material	Fill	Cut (Note 1)	Salvaged/ Unusable Pavement Material (Note 2)	Fill (Note 3)	Cut 1.00 (Note 1)	Expanded Fill 1.25
Crossover East										
94+93	9493	0	62.35	4.00	5.77	0.00	0.00	0.00	0.00	0.00
95+00	9500	7	64.36	4.00	2.72	16.43	1.04	1.10	16.43	1.38
95+25	9525	25	64.81	4.00	0.00	59.80	3.70	1.26	76.23	2.95
95+50	9550	25	69.01	4.00	0.00	61.95	3.70	0.00	138.18	2.95
95+75	9575	25	73.1	4.00	0.00	65.79	3.70	0.00	203.97	2.95
96+00	9600	25	71.58	4.00	0.00	66.98	3.70	0.00	270.95	2.95
96+25	9625	25	62.47	4.00	0.00	62.06	3.70	0.00	333.01	2.95
96+35	9635	10	47.44	4.00	0.00	20.35	1.48	0.00	353.37	2.95
			Category 0010			353.37	21.04	2.36		

NOTES:

1 Cut includes Salvaged/Unusable Pavement material
2 This does not show up in cross sections
3 Does not include Unusable Pavement Exc volume

9

9

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

EARTHWORK STATION-BY-STATION

Station	Real Station	Distance	Area (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)	
			Cut	Salvaged/ Unusable Pavement Material	Fill	Cut (Note 1)	Salvaged/ Unusable Pavement Material (Note 2)	Fill (Note 3)	Cut 1.00 (Note 1)	Expanded Fill 1.25
Southwest Corner										
86+50	8650	0	4.08	2.00	0.45	0.00	0.00	0.00	0.00	0.00
86+75	8675	25	4.61	2.00	0.09	4.02	1.85	0.25	4.02	0.31
87+00	8700	25	19.97	9.00	0.00	11.38	5.09	0.04	15.40	0.36
87+25	8725	25	18.80	9.00	0.04	17.95	8.33	0.02	33.35	0.39
87+50	8750	25	18.02	9.00	0.09	17.05	8.33	0.06	50.40	0.46
87+75	8775	25	15.57	8.00	0.27	15.55	7.87	0.17	65.95	0.67
88+00	8800	25	14.89	7.00	0.35	14.10	6.94	0.29	80.05	1.03
88+25	8825	25	42.39	23.00	1.18	26.52	13.89	0.71	106.57	1.92
88+50	8850	25	48.89	22.00	0.00	42.26	20.83	0.55	148.83	2.60
88+75	8875	25	40.32	22.00	3.96	41.30	20.37	1.83	190.13	4.89
89+00	8900	25	33.44	20.00	0.00	34.15	19.44	1.83	224.28	7.18
			Category 0010			224.28	112.96	5.75		

NOTES:

1 Cut includes Salvaged/Unusable Pavement material

2 This does not show up in cross sections

3 Does not include Unusable Pavement Exc volume

9

9

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

EARTHWORK STATION-BY-STATION

Station	Real Station	Distance	Area (SF) Cut	Area (SF) Salvaged/ Unusable Pavement Material	Area (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Incremental Vol (CY) (Unadjusted) Salvaged/ Unusable Pavement Material (Note 2)	Incremental Vol (CY) (Unadjusted) Fill (Note 3)	Cumulative Vol (CY) Cut 1.00 (Note 1)	Cumulative Vol (CY) Expanded Fill 1.25
Southeast Corner										
92+84	9284	0	77.48	13.00	6.97	0.00	0.00	0.00	0.00	0.00
93+00	9300	16	79.63	21.00	1.22	46.55	10.07	2.43	46.55	3.03
93+25	9325	25	77.54	21.00	0.41	72.76	19.44	0.75	119.32	3.98
93+50	9350	25	76.89	21.00	0.00	71.50	19.44	0.19	190.81	4.21
93+75	9375	25	76.73	21.00	0.00	71.12	19.44	0.00	261.93	4.21
94+00	9400	25	82.60	23.00	0.00	73.76	20.37	0.00	335.69	4.21
94+25	9425	25	87.53	23.00	0.00	78.76	21.30	0.00	414.46	4.21
94+50	9450	25	101.78	28.00	0.08	87.64	23.61	0.04	502.10	4.26
94+75	9475	25	101.62	27.00	0.00	94.17	25.46	0.04	596.27	4.31
			Category 0010			596.27	159.15	3.45		

NOTES:

1 Cut includes Salvaged/Unusable Pavement material

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3 Does not include Unusable Pavement Exc volume

9

9

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

EARTHWORK STATION-BY-STATION

Station	Real Station	Distance	Area (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)	
			Cut	Salvaged/ Unusable Pavement Material	Fill	Cut (Note 1)	Salvaged/ Unusable Pavement Material (Note 2)	Fill (Note 3)	Cut 1.00 (Note 1)	Expanded Fill 1.25
Northwest Corner										
88+70	8870	0	47.96	25.00	0.13	0.00	0.00	0.00	0.00	0.00
88+75	8875	5	46.99	25.00	0.13	8.79	4.63	0.02	8.79	0.03
89+00	8900	25	42.59	24.00	0.25	41.47	22.69	0.18	50.26	0.25
89+25	8925	25	40.37	23.00	0.83	38.41	21.76	0.50	88.67	0.88
89+50	8950	25	41.71	23.00	0.90	38.00	21.30	0.80	126.67	1.88
89+75	8975	25	24.36	14.00	3.37	30.59	17.13	1.98	157.26	4.35
89+82	8982	7	24.96	14.00	8.17	6.39	3.63	1.50	163.65	6.22
			Category 0010			163.65	91.13	4.97		

NOTES:

1 Cut includes Salvaged/Unusable Pavement material

2 This does not show up in cross sections

3 Does not include Unusable Pavement Exc volume

9

9

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

EARTHWORK STATION-BY-STATION

Station	Real Station	Distance	Area (SF) Cut	Area (SF) Salvaged/ Unusable Pavement Material	Area (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Incremental Vol (CY) (Unadjusted) Salvaged/ Unusable Pavement Material (Note 2)	Incremental Vol (CY) (Unadjusted) Fill (Note 3)	Cumulative Vol (CY) Cut 1.00 (Note 1)	Cumulative Vol (CY) Expanded Fill 1.25
Northeast Corner										
95+00	9500	0	79.26	20.00	0.00	0.00	0.00	0.00	0.00	0.00
95+25	9525	25	84.55	23.00	0.00	75.84	19.91	0.00	75.84	0.00
				Category 0010		75.84	19.91	0.00		

NOTES:

1 Cut includes Salvaged/Unusable Pavement material

2 This does not show up in cross sections

3 Does not include Unusable Pavement Exc volume

9

9

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

EARTHWORK STATION-BY-STATION

Station	Real Station	Distance	Area (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)	
			Cut	Salvaged/ Unusable Pavement Material	Fill	Cut (Note 1)	Salvaged/ Unusable Pavement Material (Note 2)	Fill (Note 3)	Cut 1.00 (Note 1)	Expanded Fill 1.25
Median West										
86+25	8625	0	9.44	3.00	0.00	0.00	0.00	0.00	0.00	0.00
86+50	8650	25	16.49	3.00	0.00	12.00	2.78	0.00	12.00	0.00
86+75	8675	25	16.35	3.00	0.00	15.20	2.78	0.00	27.21	0.00
87+00	8700	25	15.67	3.00	0.00	14.82	2.78	0.00	42.03	0.00
87+25	8725	25	16.64	3.00	0.00	14.96	2.78	0.00	56.99	0.00
87+50	8750	25	16.99	3.00	0.00	15.57	2.78	0.00	72.56	0.00
87+75	8775	25	16.20	3.00	0.00	15.37	2.78	0.00	87.93	0.00
88+00	8800	25	17.96	3.00	0.00	15.81	2.78	0.00	103.74	0.00
88+25	8825	25	19.60	3.00	0.00	17.39	2.78	0.00	121.13	0.00
88+50	8850	25	20.37	3.00	0.54	18.50	2.78	0.25	139.63	0.31
88+75	8875	25	18.47	3.00	2.28	17.98	2.78	1.31	157.62	1.94
89+00	8900	25	18.45	3.00	4.29	17.09	2.78	3.04	174.71	5.75
89+24	8924	24	18.36	3.00	6.48	16.36	2.67	4.79	191.07	11.73
			Category 0010			191.07	33.22	9.38		

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ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

EARTHWORK STATION-BY-STATION

Station	Real Station	Distance	Area (SF) Cut	Area (SF) Salvaged/ Unusable Pavement Material	Area (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Incremental Vol (CY) (Unadjusted) Salvaged/ Unusable Pavement Material (Note 2)	Incremental Vol (CY) (Unadjusted) Fill (Note 3)	Cumulative Vol (CY) Cut 1.00 (Note 1)	Cumulative Vol (CY) Expanded Fill 1.25
Median East										
93+12	9312	0	15.36	2.00	0.00	0.00	0.00	0.00	0.00	0.00
93+25	9325	13	17.90	3.00	0.23	8.01	1.20	0.06	8.01	0.07
93+50	9350	25	19.2	3.00	0.04	17.18	2.78	0.13	25.18	0.23
93+75	9375	25	18.92	3.00	0.11	17.65	2.78	0.07	42.83	0.31
94+00	9400	25	17.75	3.00	0.01	16.98	2.78	0.06	59.81	0.38
94+25	9425	25	15.05	3.00	0.67	15.19	2.78	0.31	74.99	0.78
94+50	9450	25	14.61	3.00	8.58	13.73	2.78	4.28	88.72	6.13
94+75	9475	25	37.61	6.00	4.74	24.18	4.17	6.17	112.90	13.84
95+00	9500	25	74.09	74.09	0.42	51.71	37.08	2.39	164.61	16.82
95+25	9525	25	59.06	59.06	0.45	61.64	61.64	0.40	226.26	17.33
95+50	9550	25	47.27	47.27	0.53	49.23	49.23	0.45	275.48	17.89
95+75	9575	25	38.63	38.63	0.67	39.77	39.77	0.56	315.25	18.59
96+00	9600	25	34.82	34.82	1.23	34.00	34.00	0.88	349.26	19.69
96+25	9625	25	23.75	23.75	4.56	27.12	27.12	2.68	376.37	23.04
			Category 0010			376.37	268.10	18.43		

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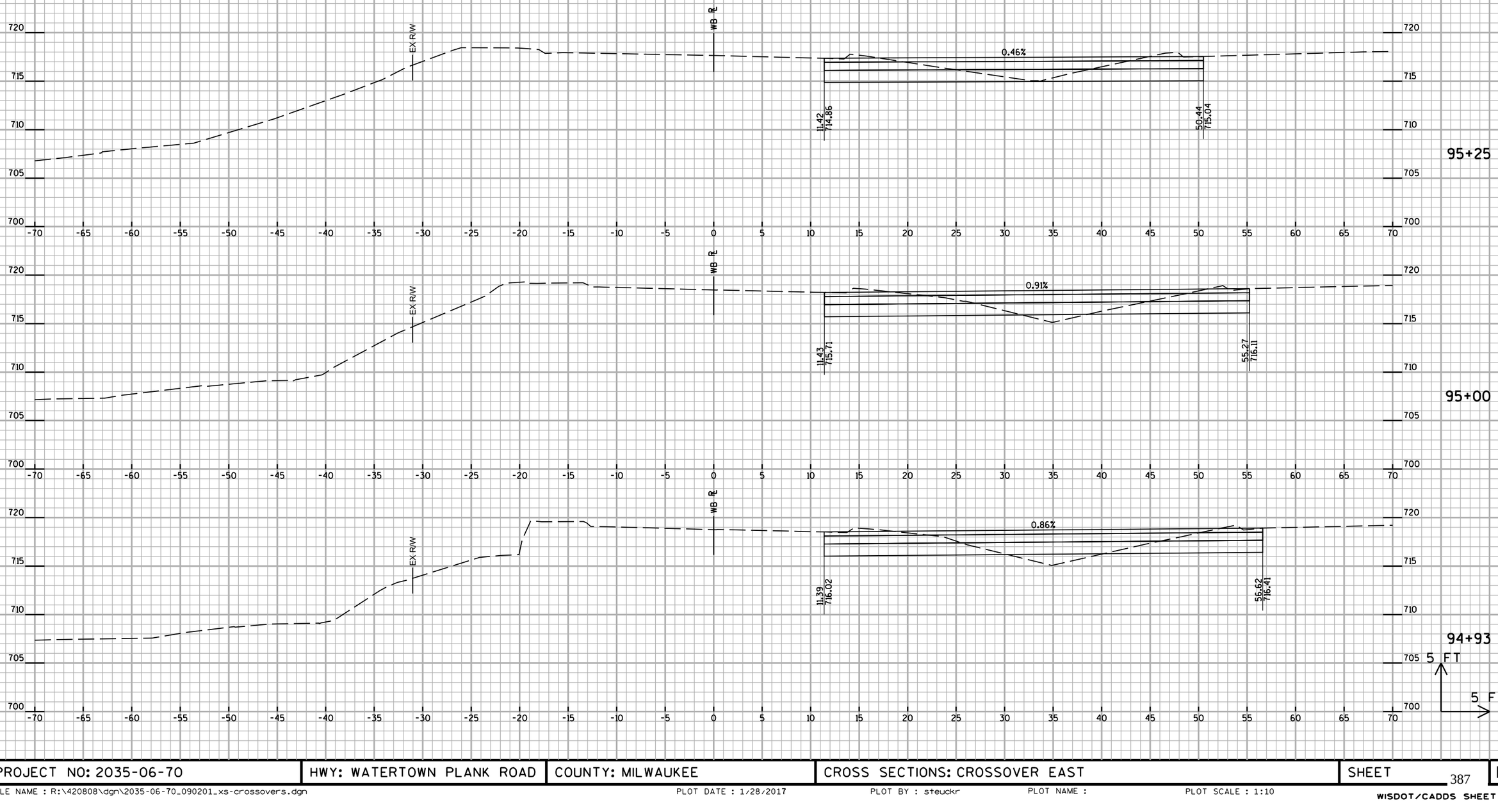
ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

STA. 94+93 TO 95+25

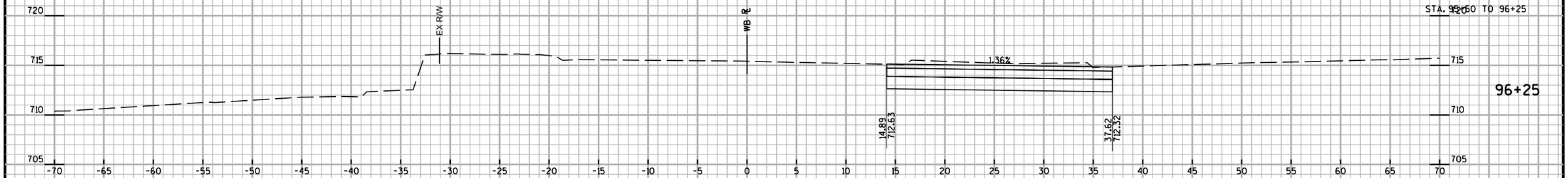


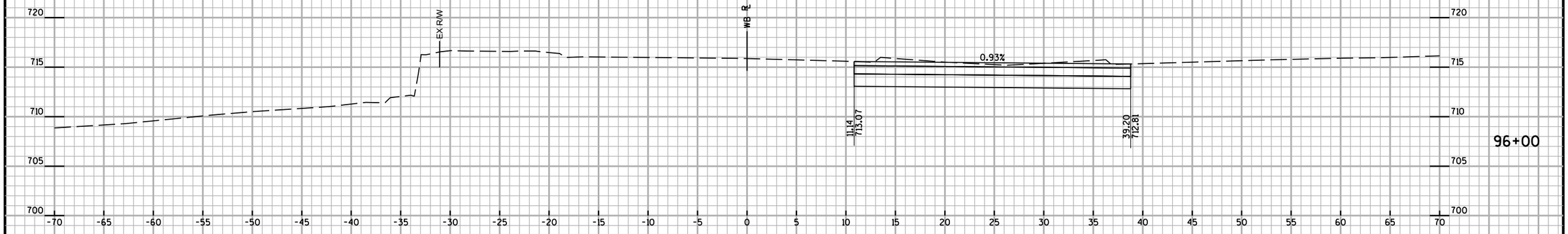
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: CROSSOVER EAST	SHEET 387 E

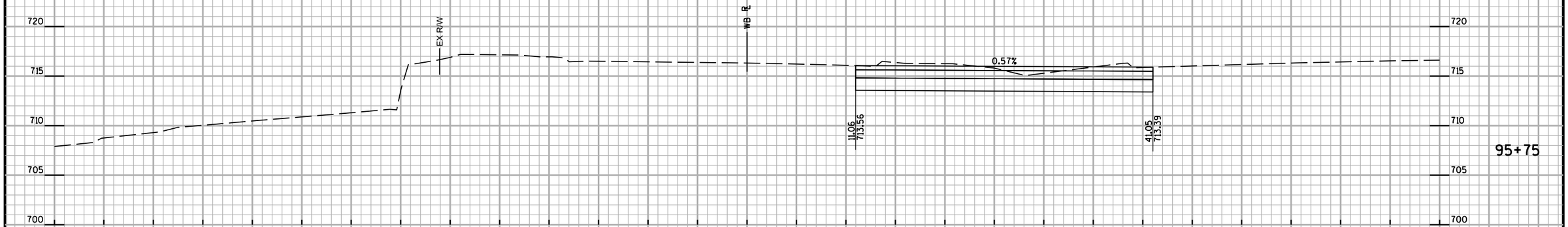
FILE NAME : R:\420808\dgn\2035-06-70_090201_xs-crossovers.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

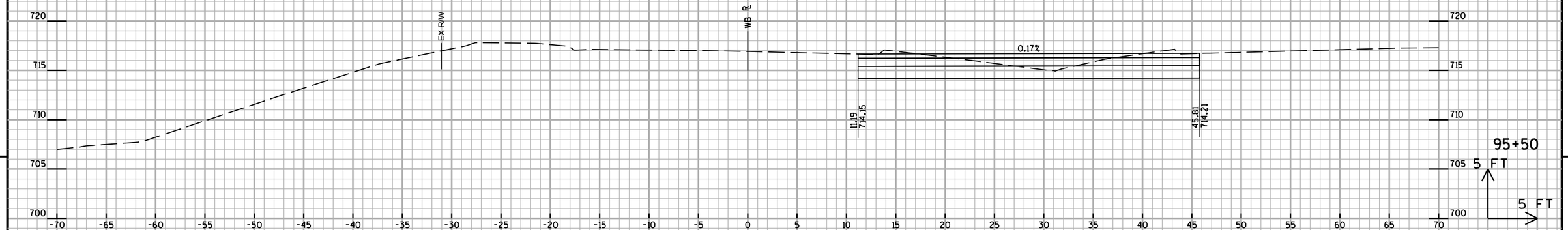
WISDOT/CADDS SHEET 21

STA. 95+50 TO 96+25









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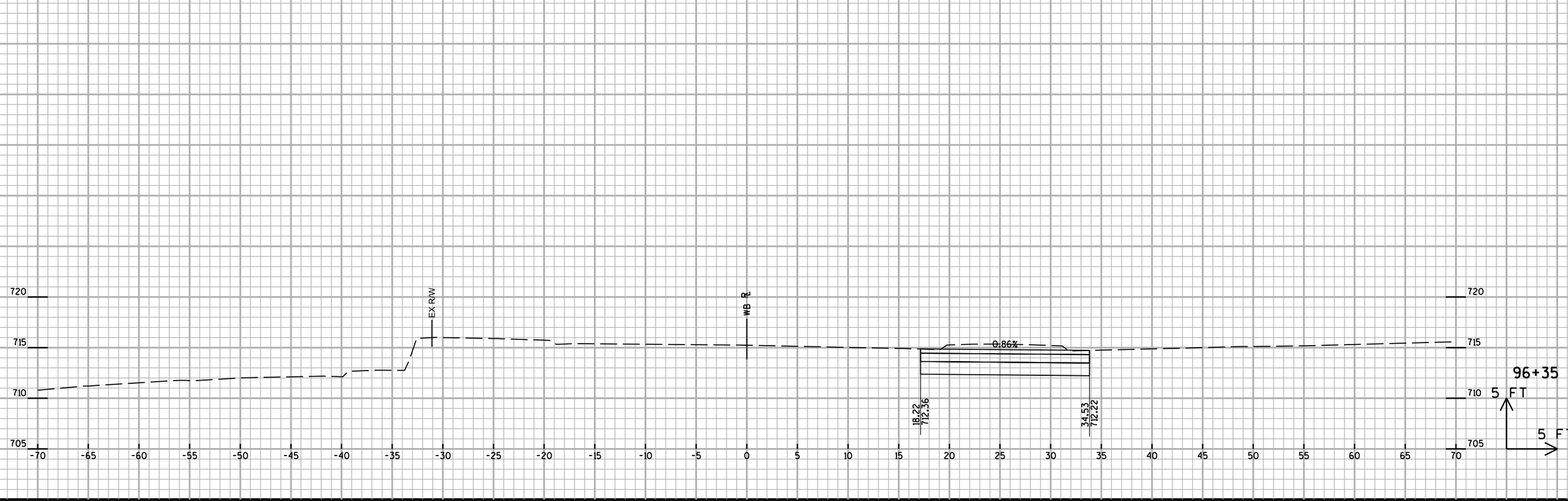
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: CROSSOVER EAST	SHEET 388	E

9

FILE NAME : R:\420808\dgn\2035-06-70_090201_xs-crossovers.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 96+35 TO 96+35



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PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: CROSSOVER EAST	SHEET 389	E

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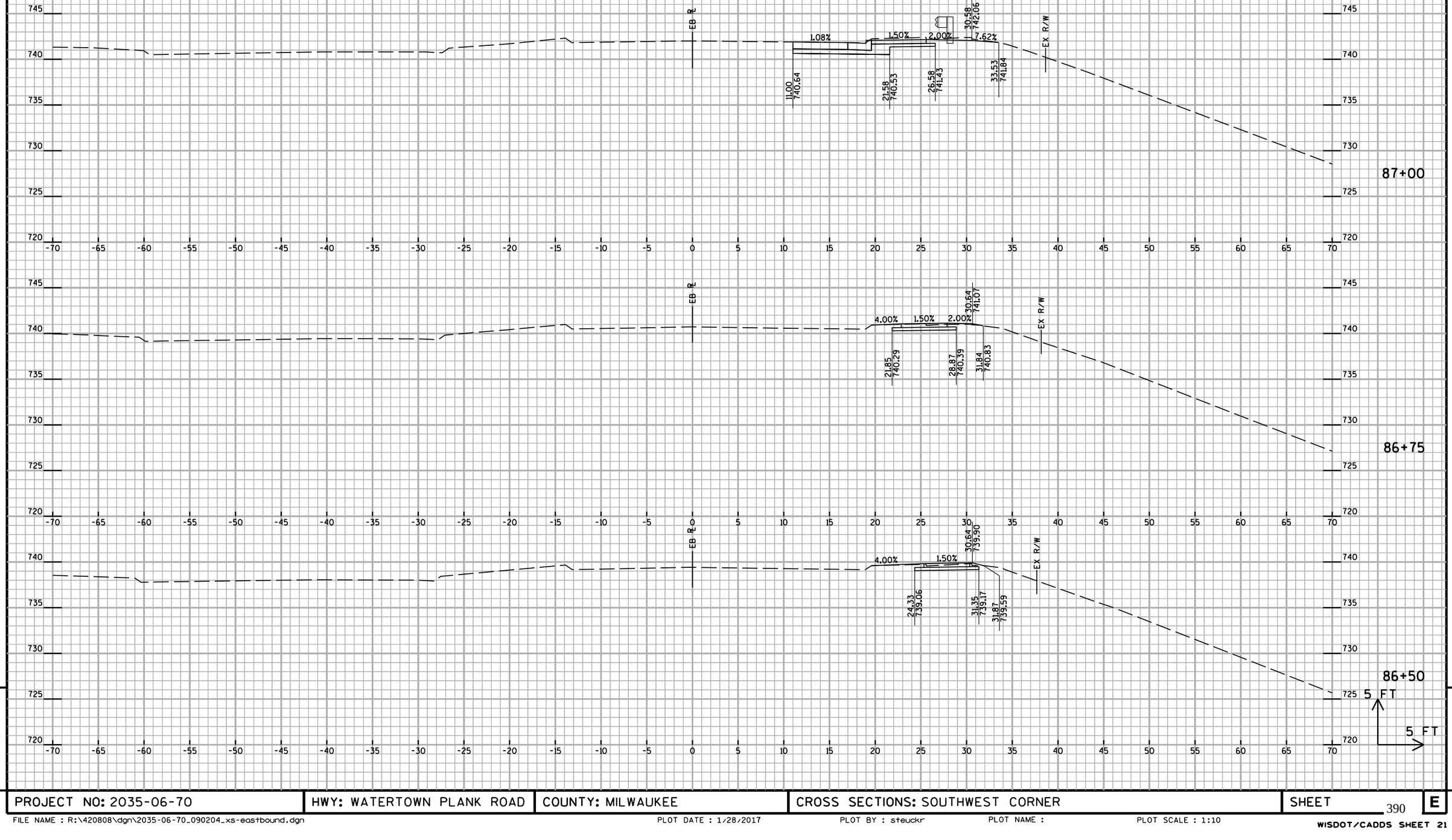
WISDOT/CADDS SHEET 21

STA. 86+50 TO 87+00



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PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTHWEST CORNER	SHEET 390	E

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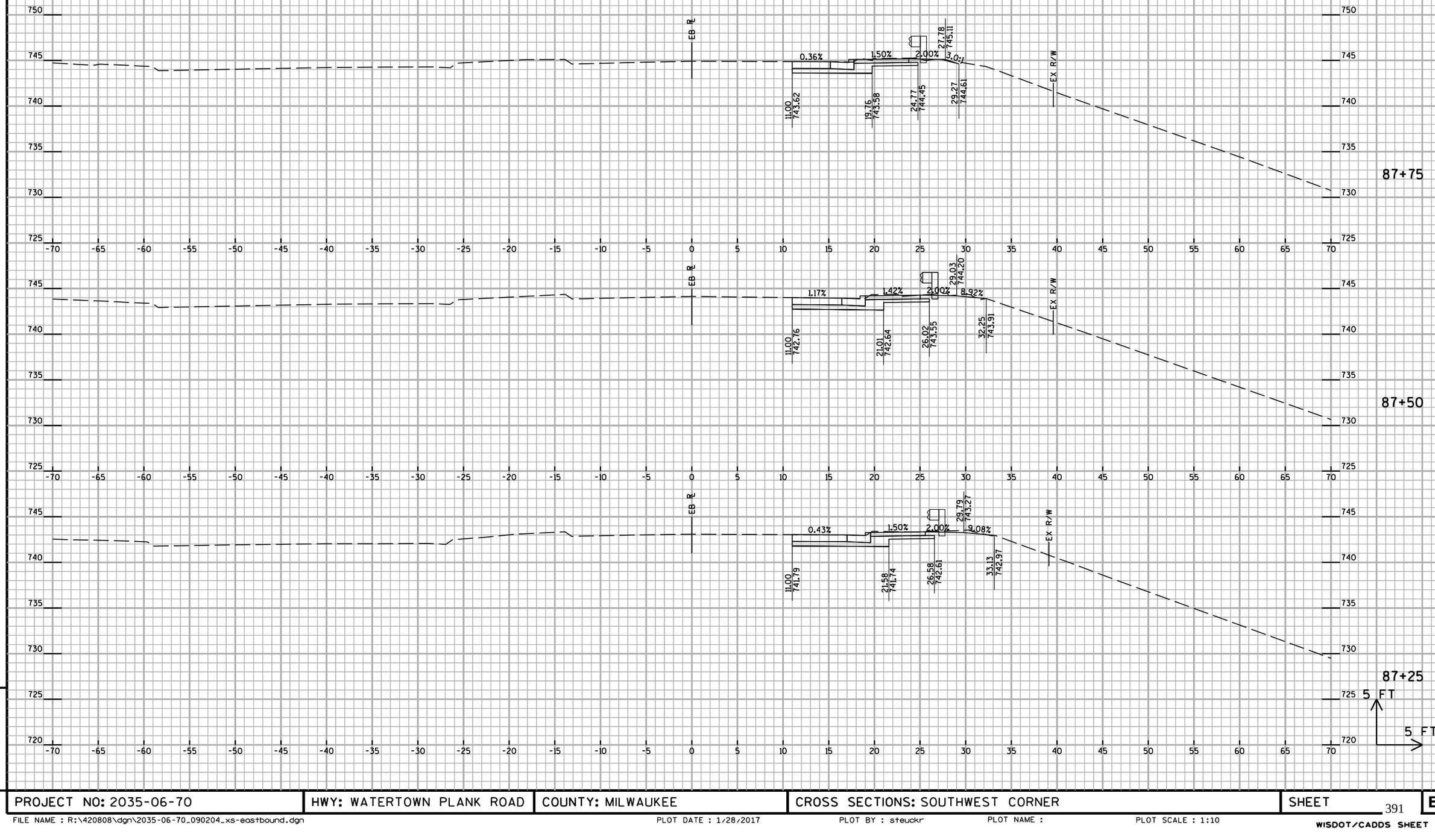
WISDOT/CADDS SHEET 21

STA. 87+25 TO 87+75



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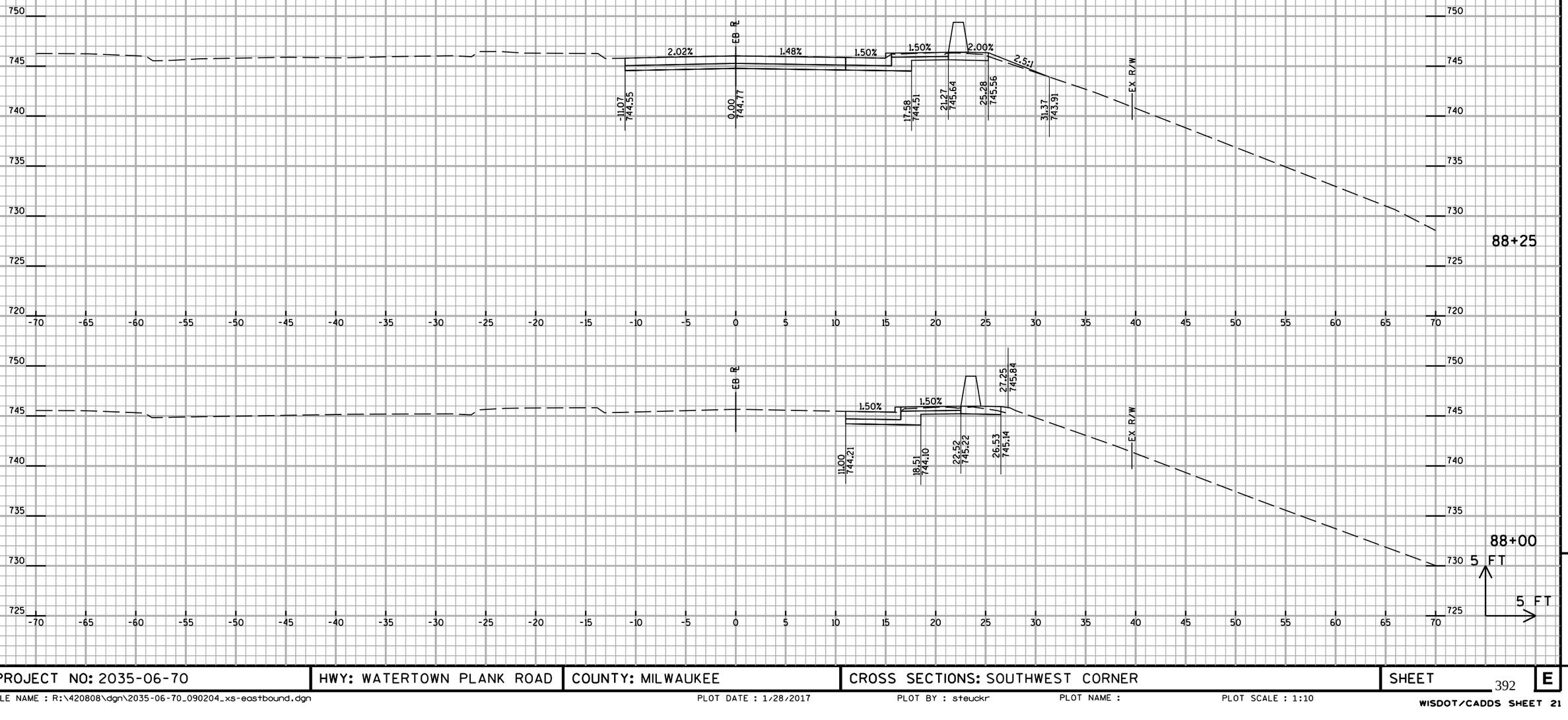
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTHWEST CORNER	SHEET	E

FILE NAME : R:\420808\dgn\2035-06-70_090204_xs-eastbound.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 88+00 TO 88+25



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PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTHWEST CORNER	SHEET E

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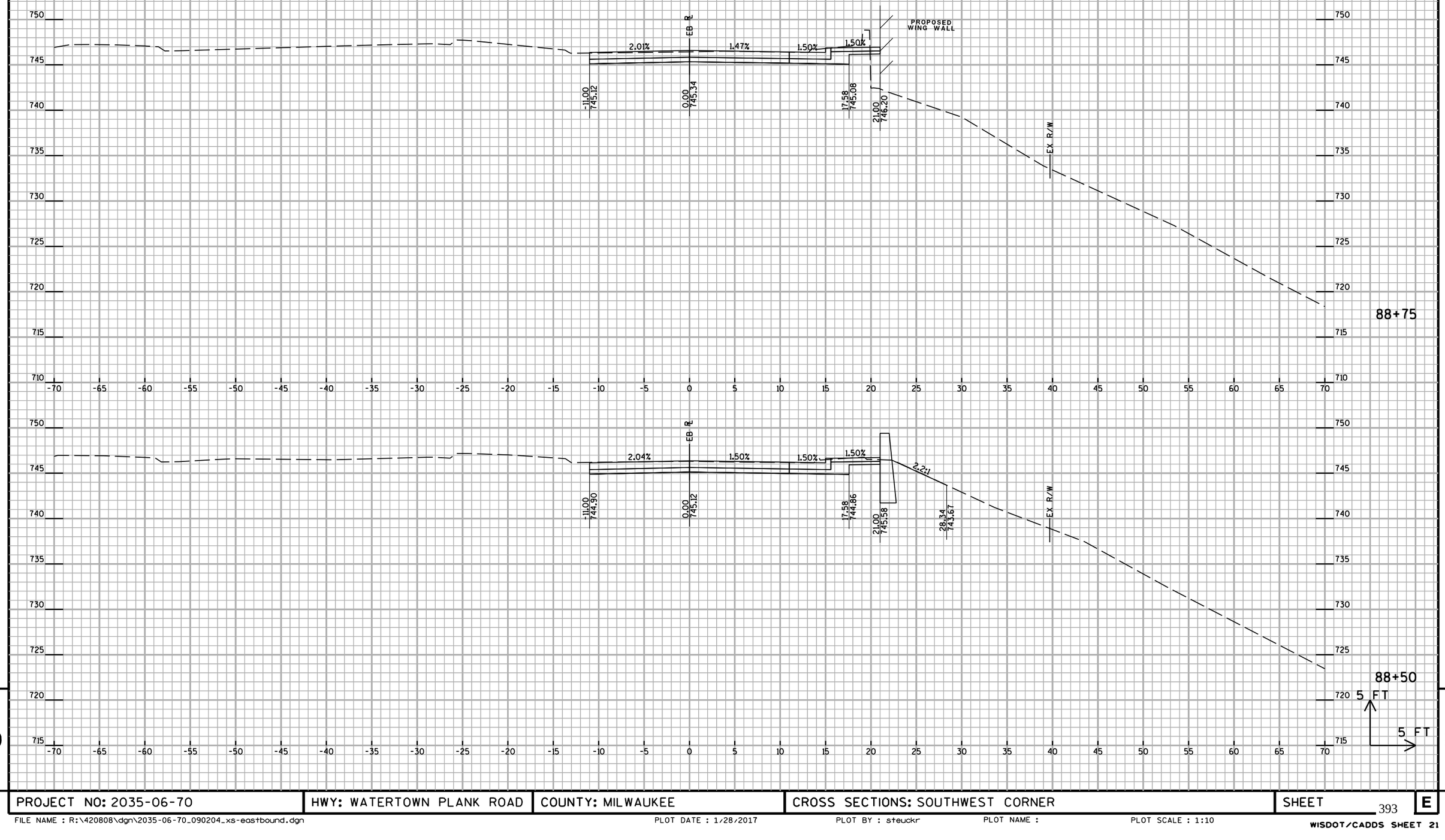
WISDOT/CADDS SHEET 21

STA. 88+50 TO 88+75



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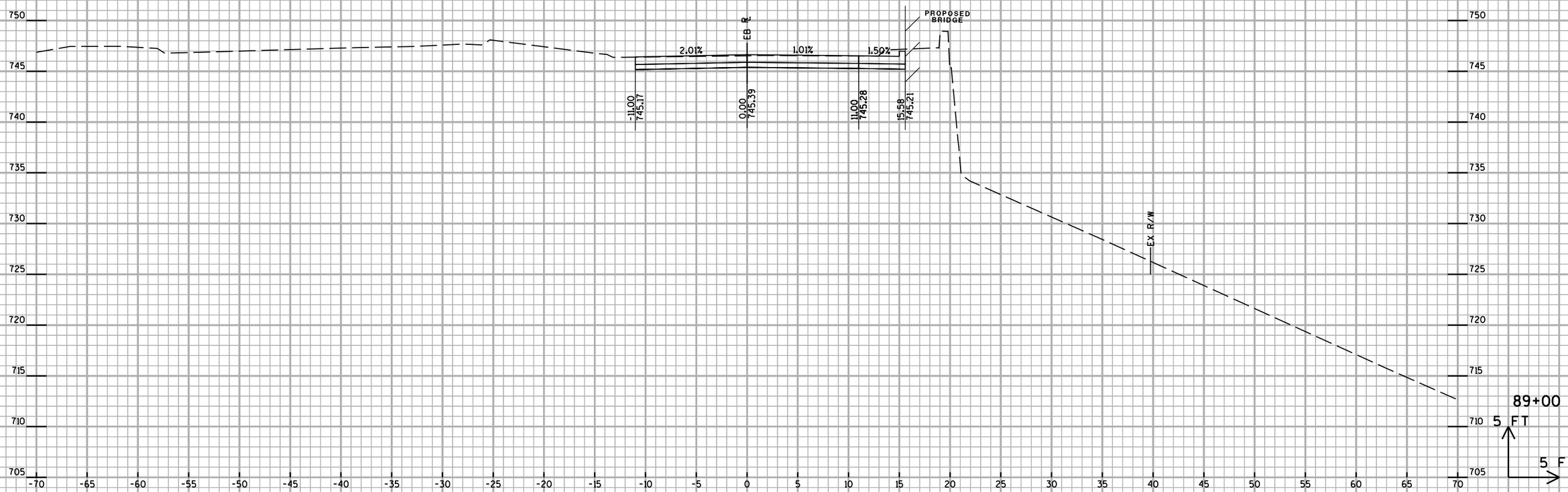
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTHWEST CORNER	SHEET E

FILE NAME : R:\420808\dgn\2035-06-70_090204_xs-eastbound.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 89+00 TO 89+00



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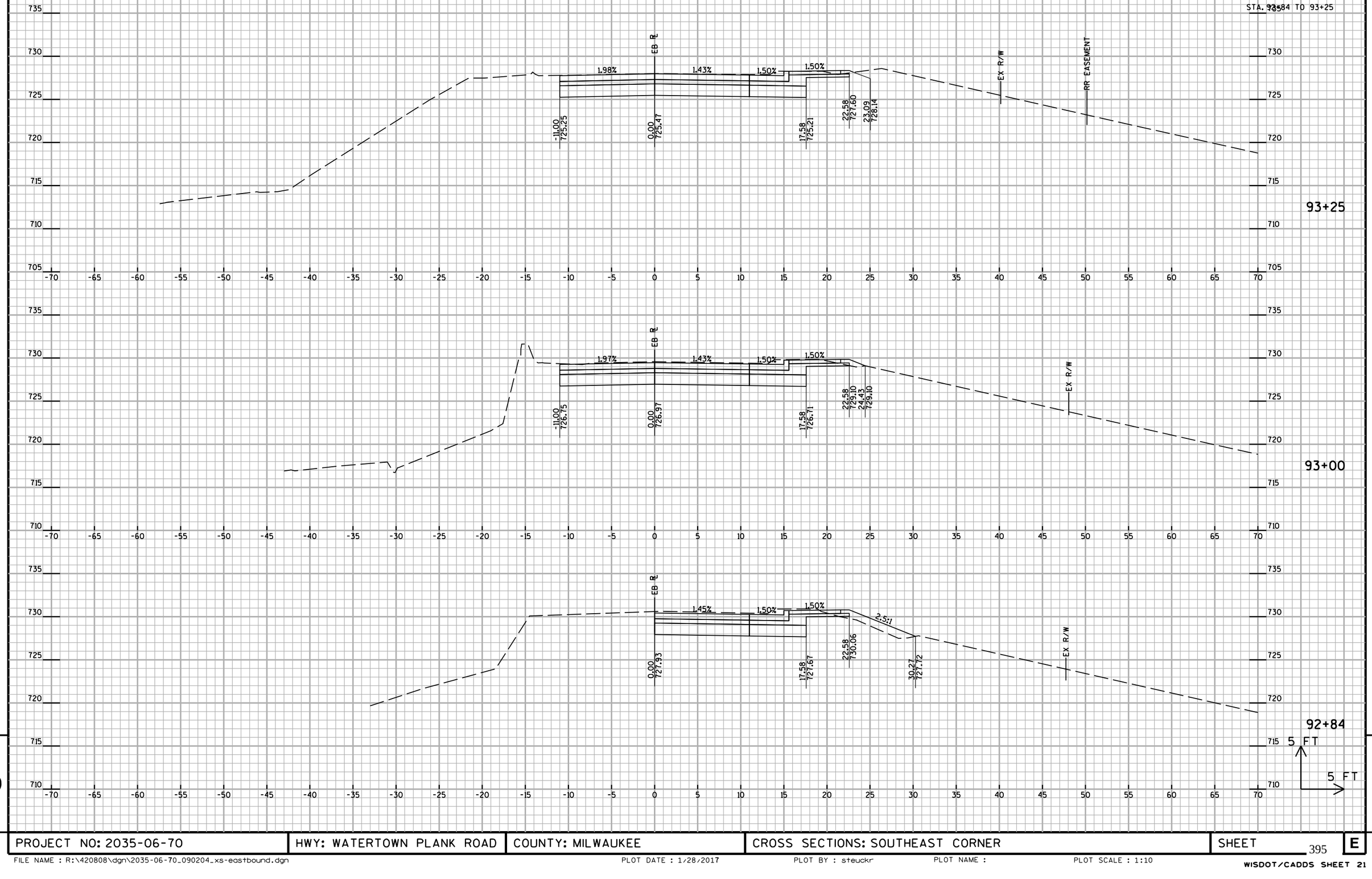
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTHWEST CORNER	SHEET 394	E

FILE NAME : R:\420808\dgn\2035-06-70_090204_xs-eastbound.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 92+84 TO 93+25

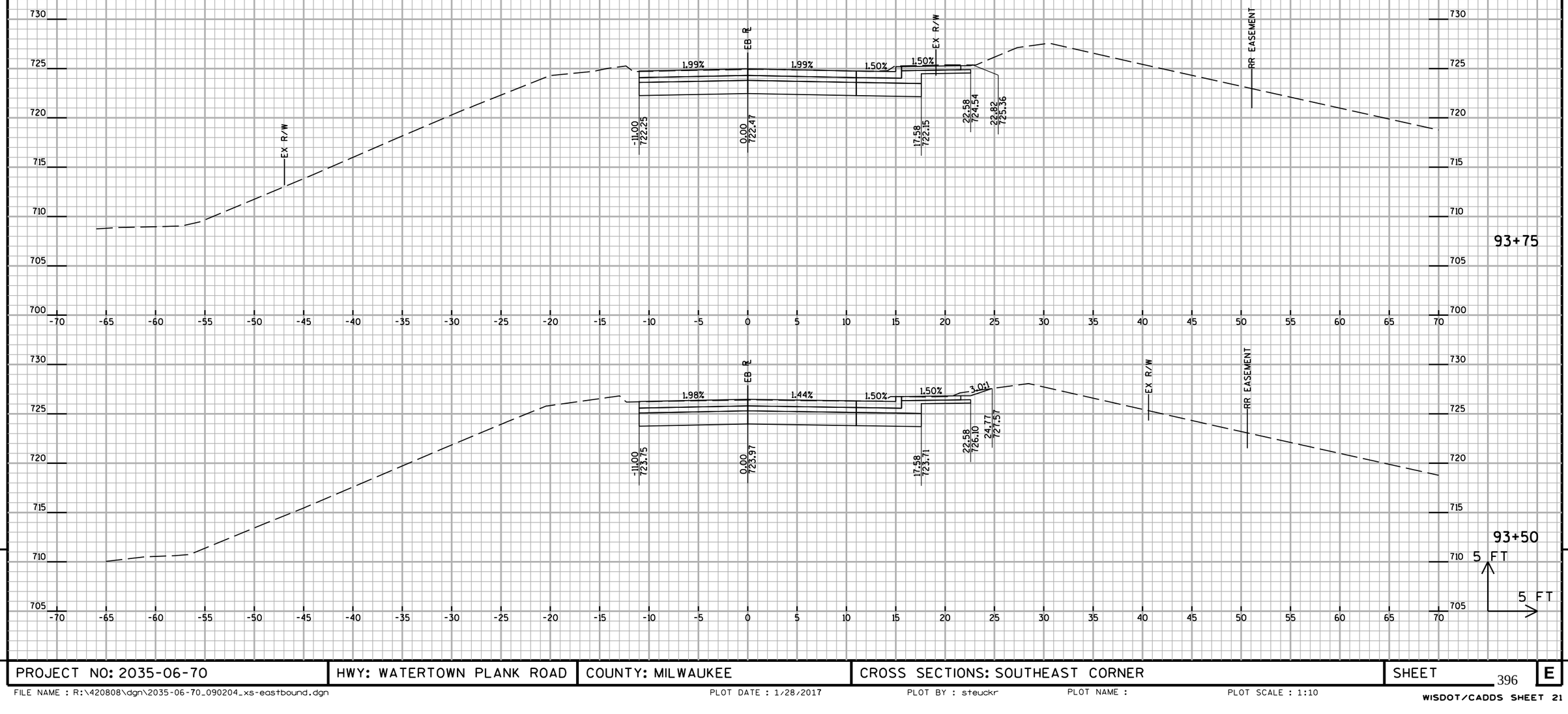


PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTHEAST CORNER	SHEET 395	E

FILE NAME : R:\420808\dgn\2035-06-70_090204_xs-eastbound.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 93+50 TO 93+75

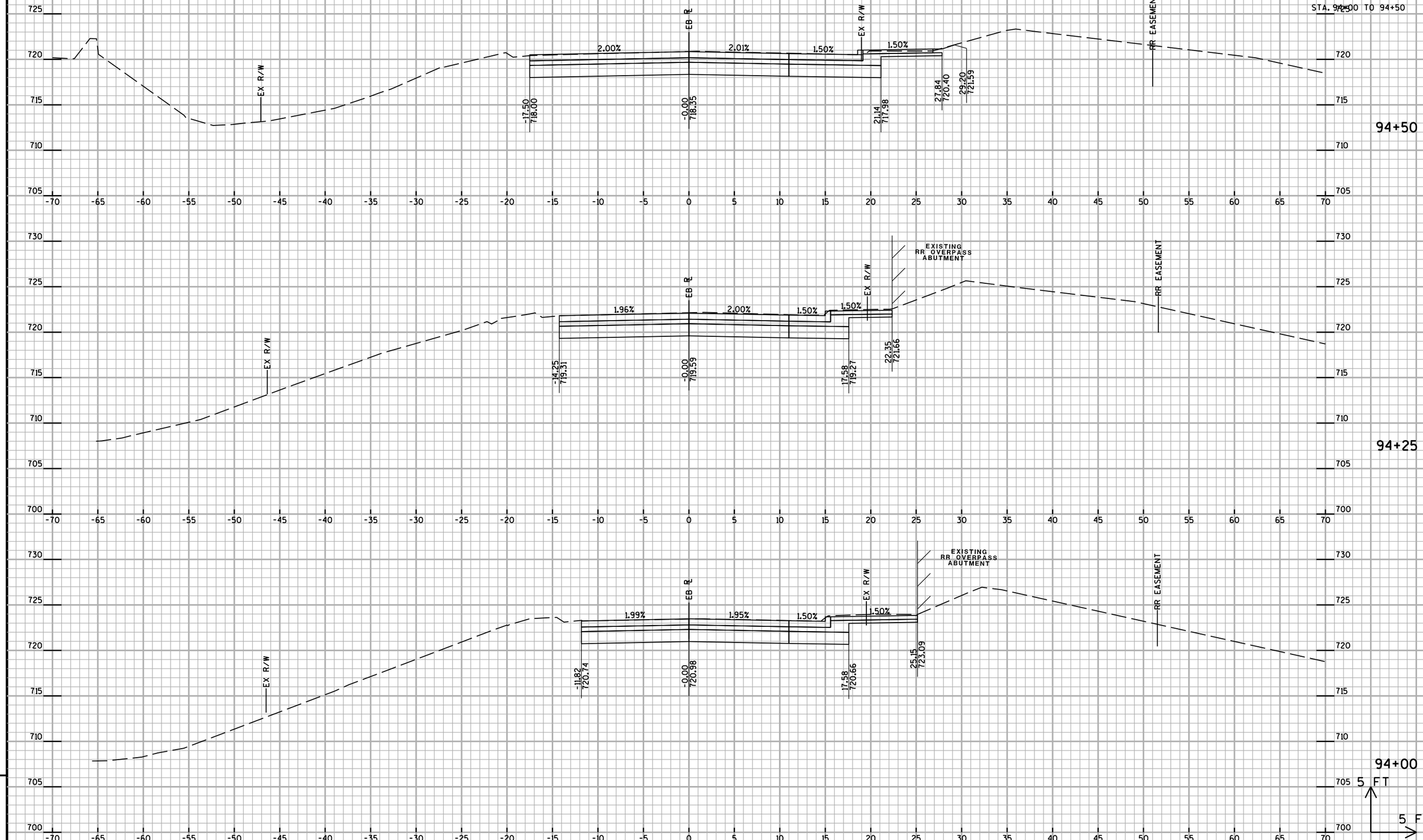


PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTHEAST CORNER	SHEET 396	E

FILE NAME : R:\420808\dgn\2035-06-70_090204_xs-eastbound.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

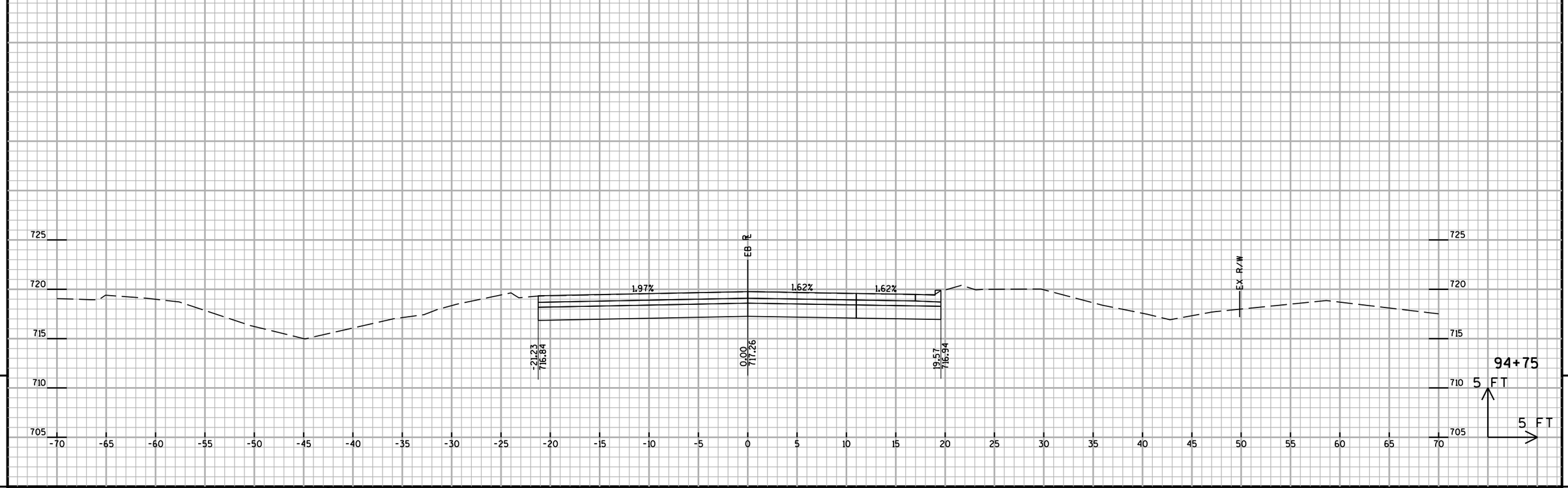
WISDOT/CADDS SHEET 21

STA. 94+00 TO 94+50



PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTHEAST CORNER	SHEET 397	E

STA. 94+75 TO 94+75



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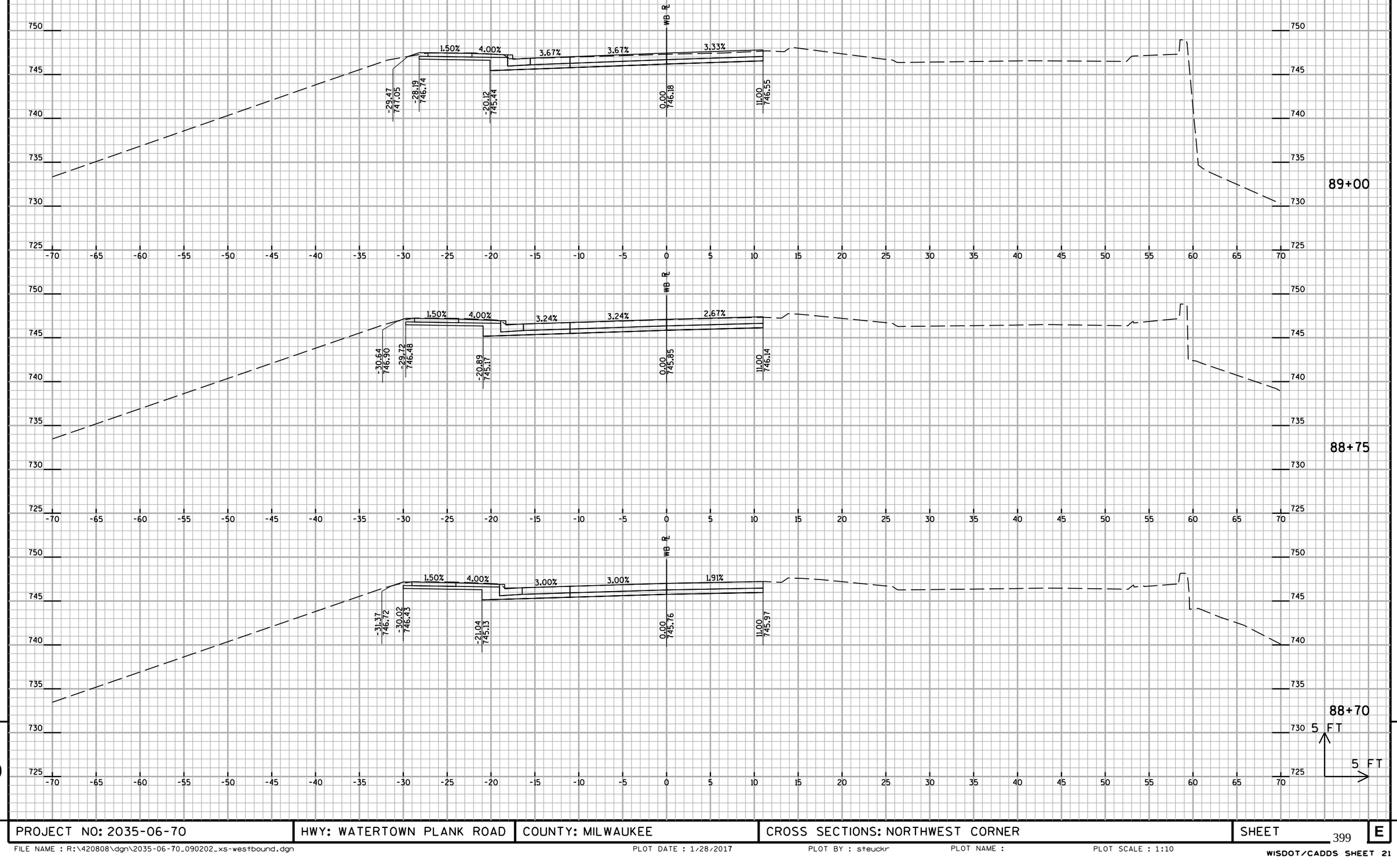
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTHEAST CORNER	SHEET 398	E

FILE NAME : R:\420808\dgn\2035-06-70_090204_xs-eastbound.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 88+70 TO 89+00



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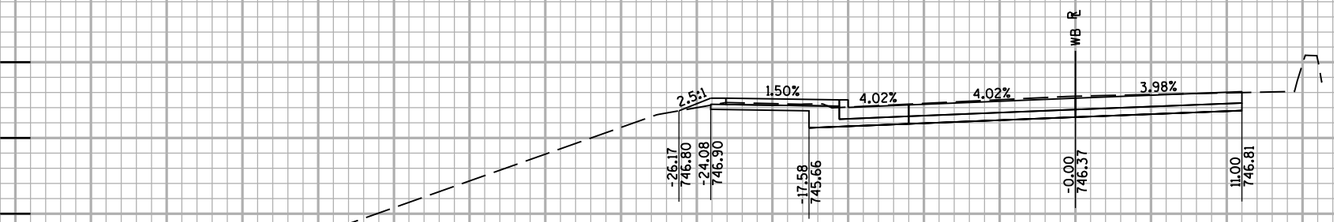
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: NORTHWEST CORNER	SHEET 399	E

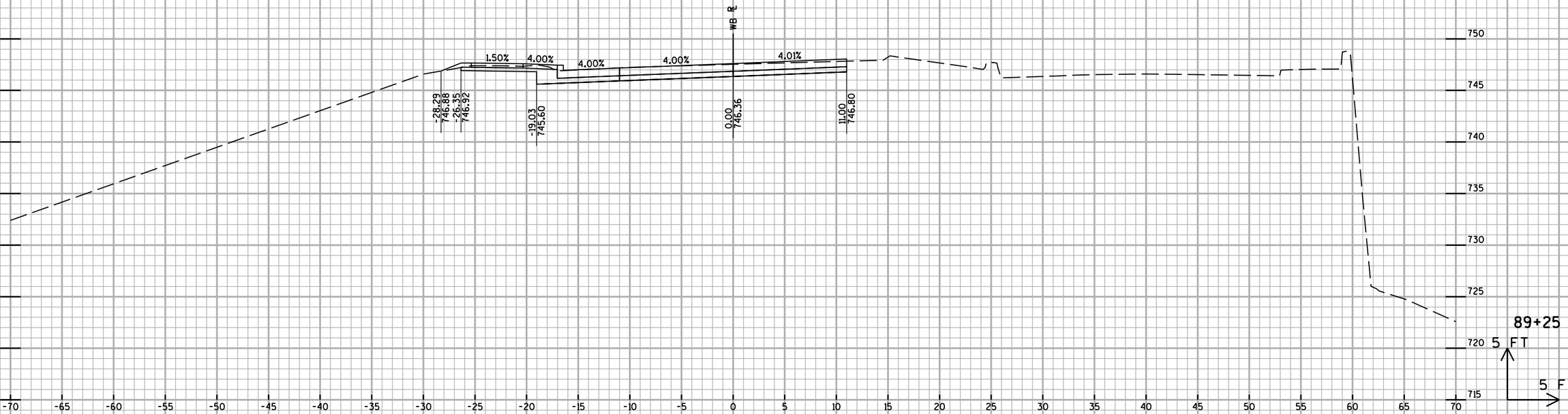
FILE NAME : R:\420808\dgn\2035-06-70_090202_xs-westbound.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 89+25 TO 89+50



89+50



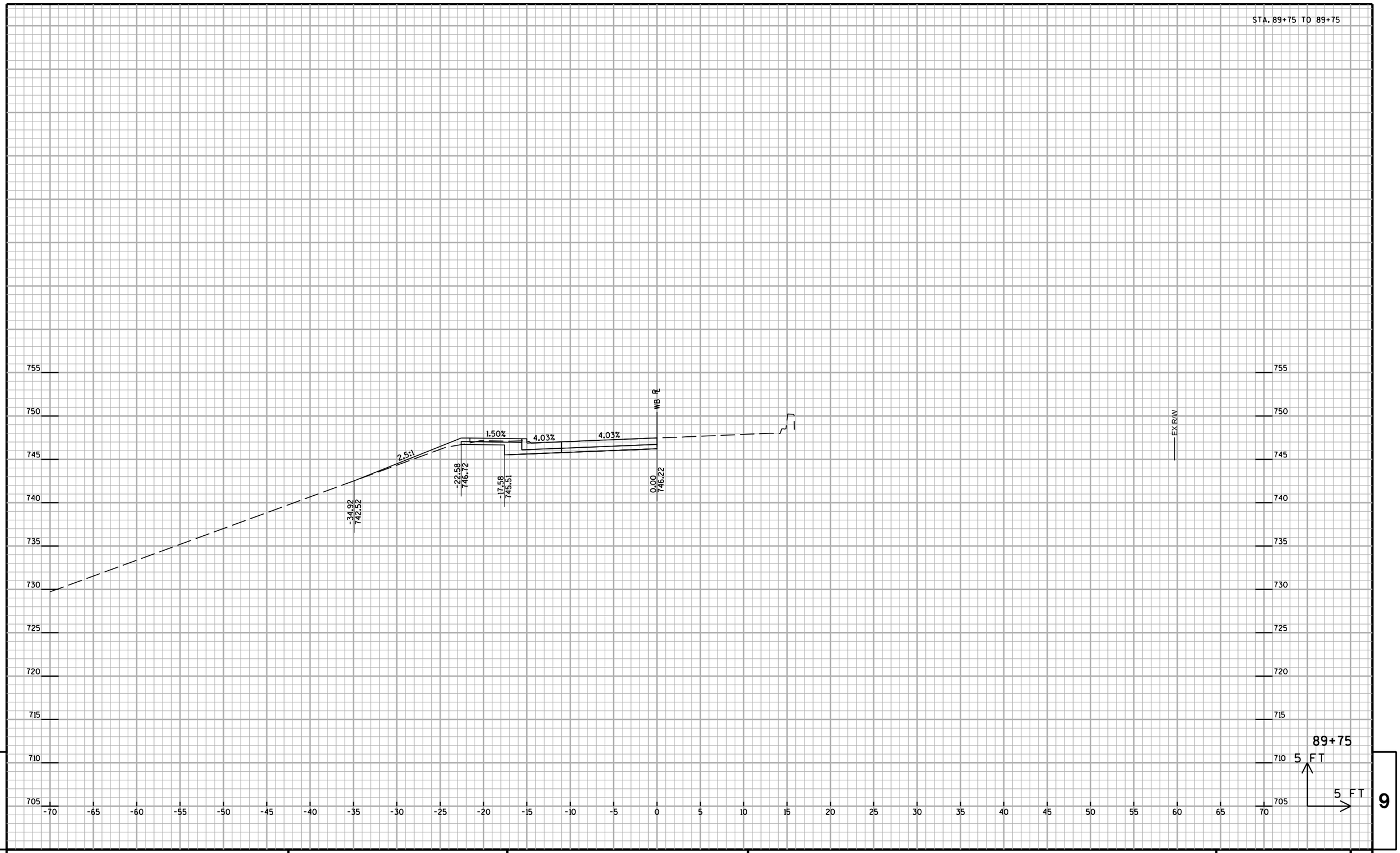
9 9

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: NORTHWEST CORNER	SHEET 400	E

FILE NAME : R:\420808\dgn\2035-06-70_090202_xs-westbound.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 89+75 TO 89+75



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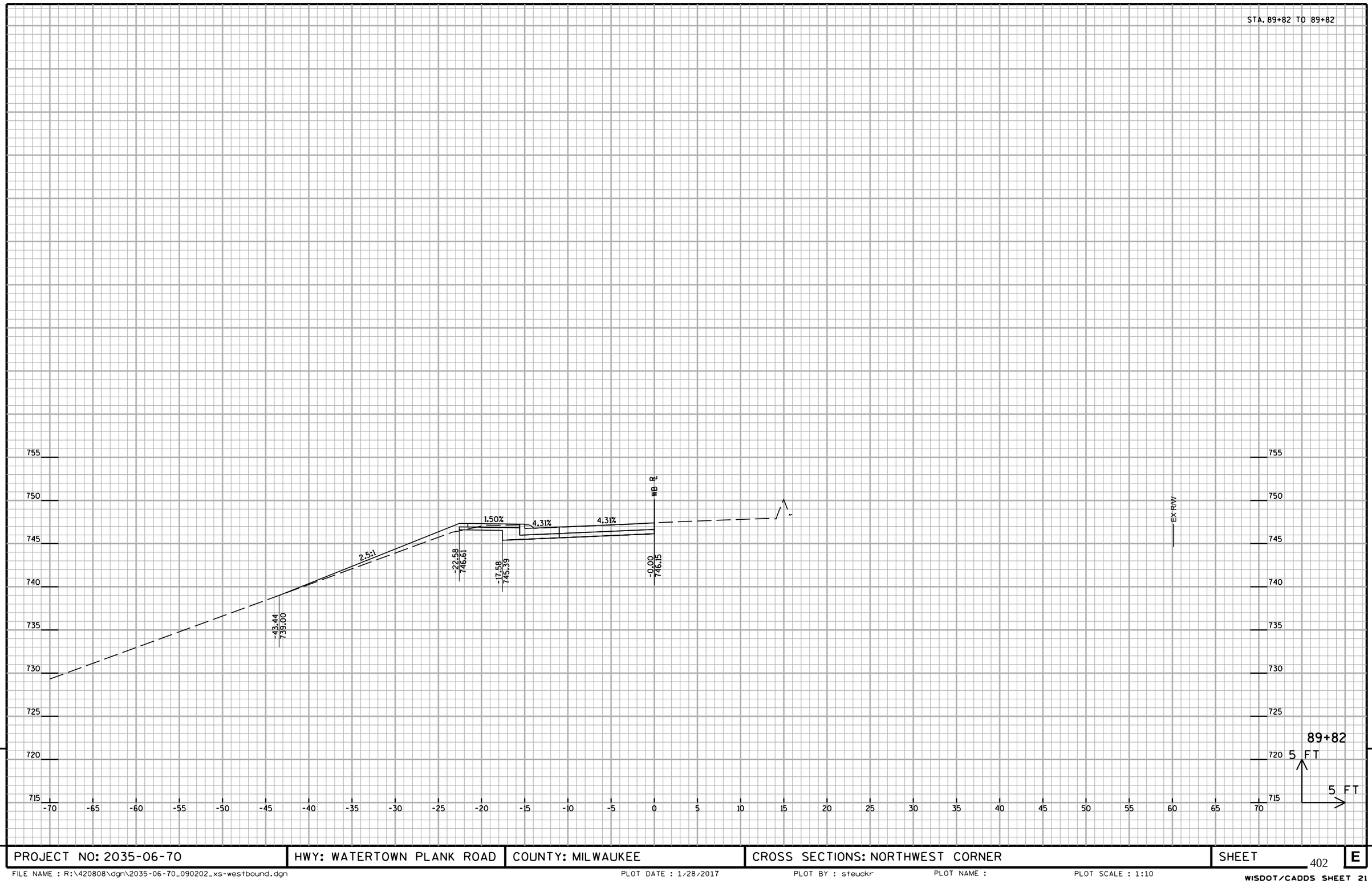
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: NORTHWEST CORNER	SHEET 401	E

FILE NAME : R:\420808\dgn\2035-06-70_090202_xs-westbound.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

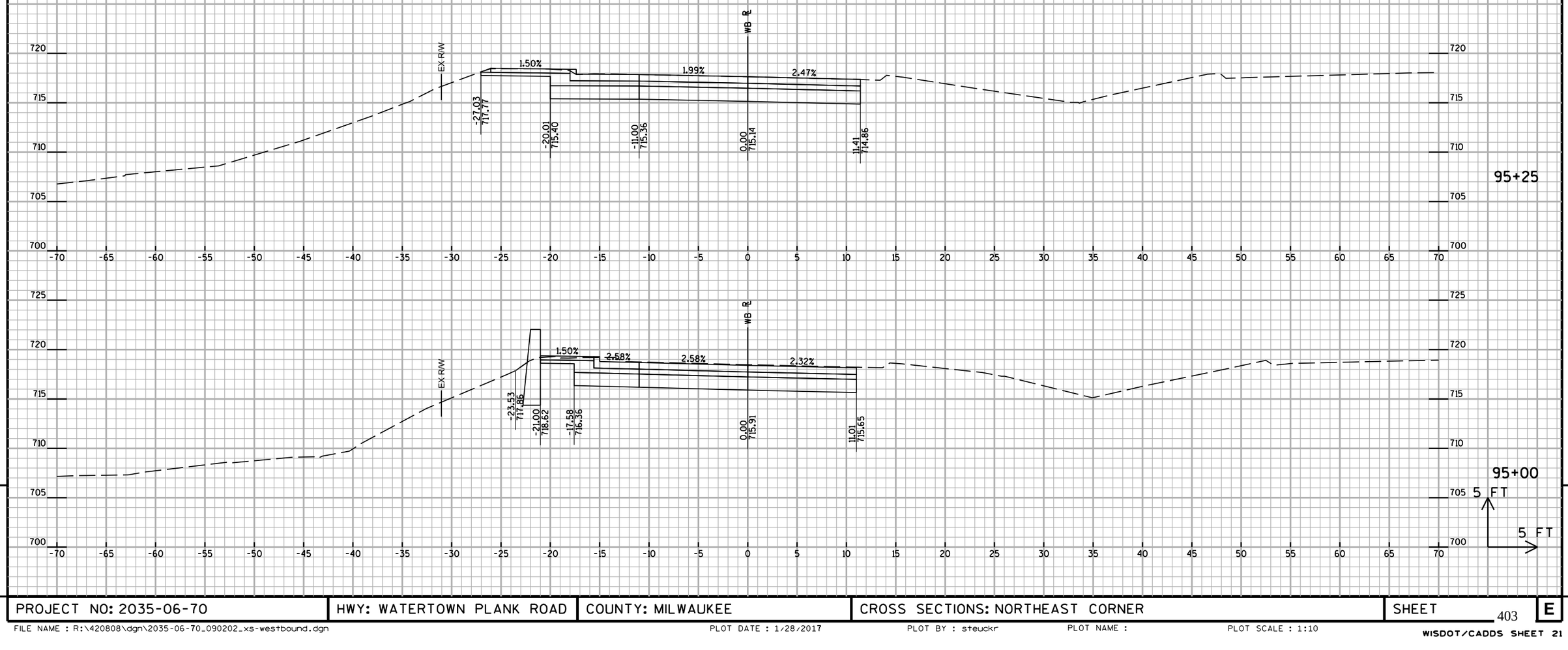
STA. 89+82 TO 89+82



9 9

PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: NORTHWEST CORNER	SHEET 402	E

STA. 95+00 TO 95+25

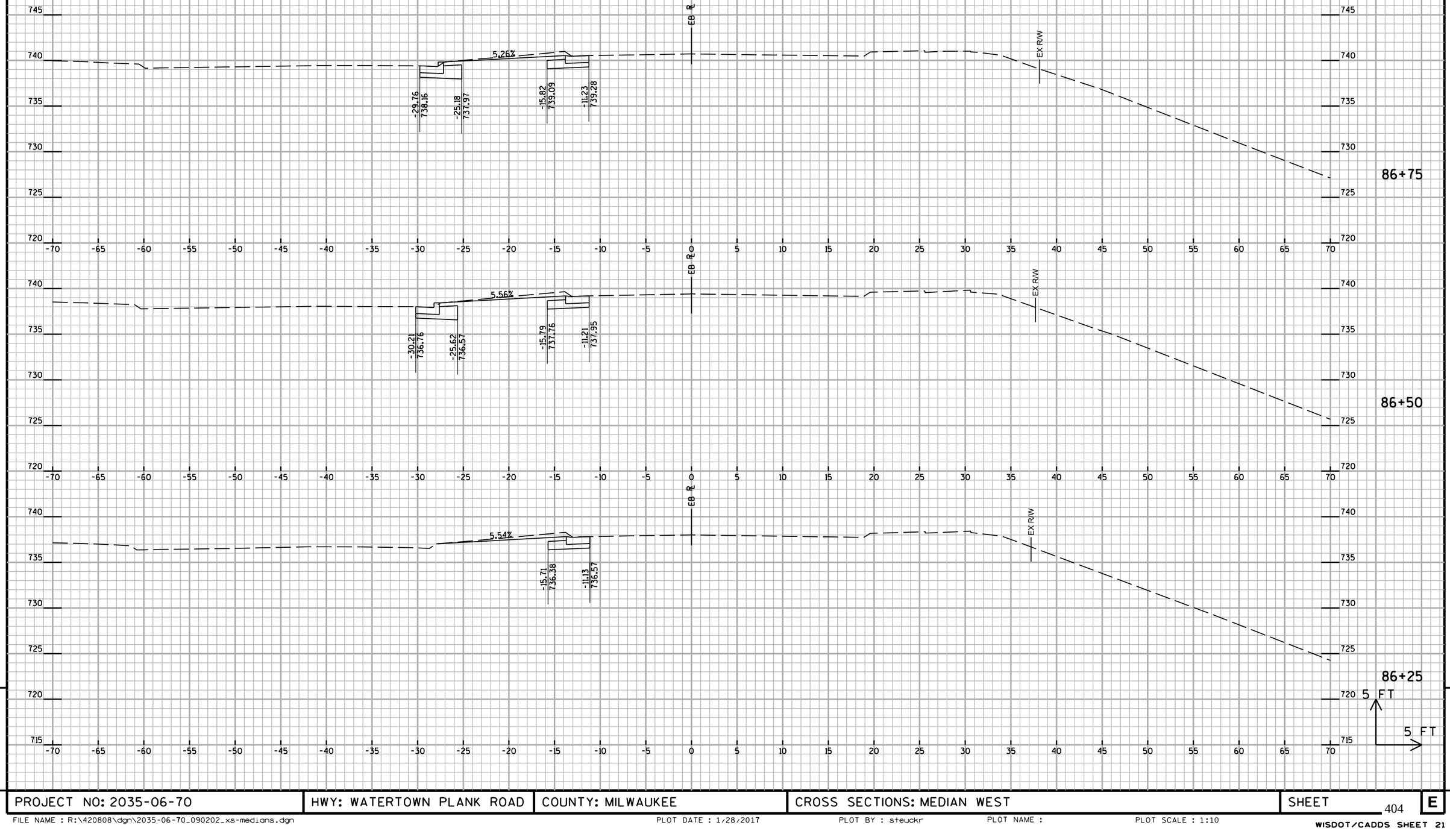


PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: NORTHEAST CORNER	SHEET 403	E

FILE NAME : R:\420808\dgn\2035-06-70_090202_xs-westbound.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 86+25 TO 86+75



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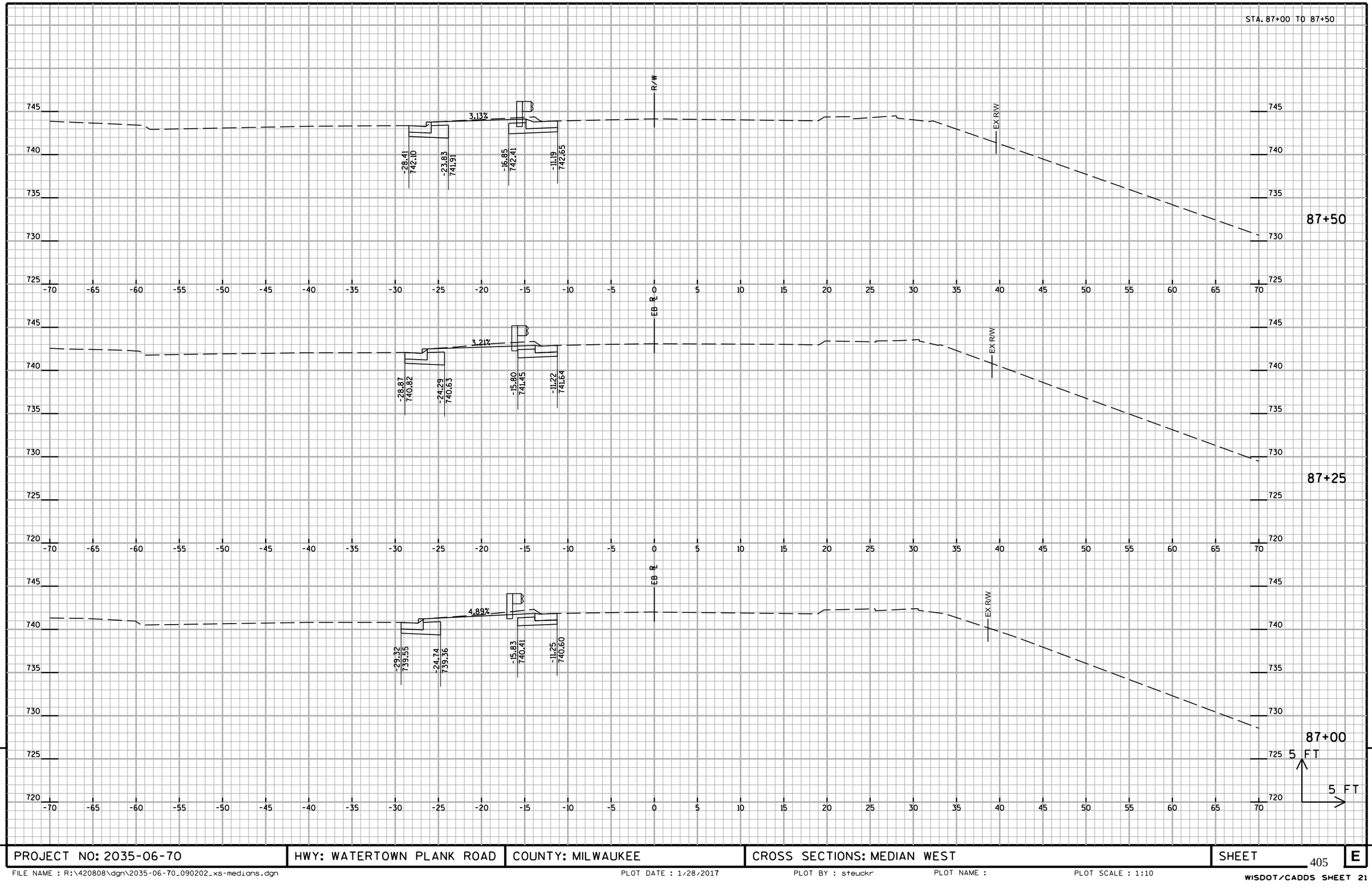
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: MEDIAN WEST	SHEET 404	E

STA. 87+00 TO 87+50



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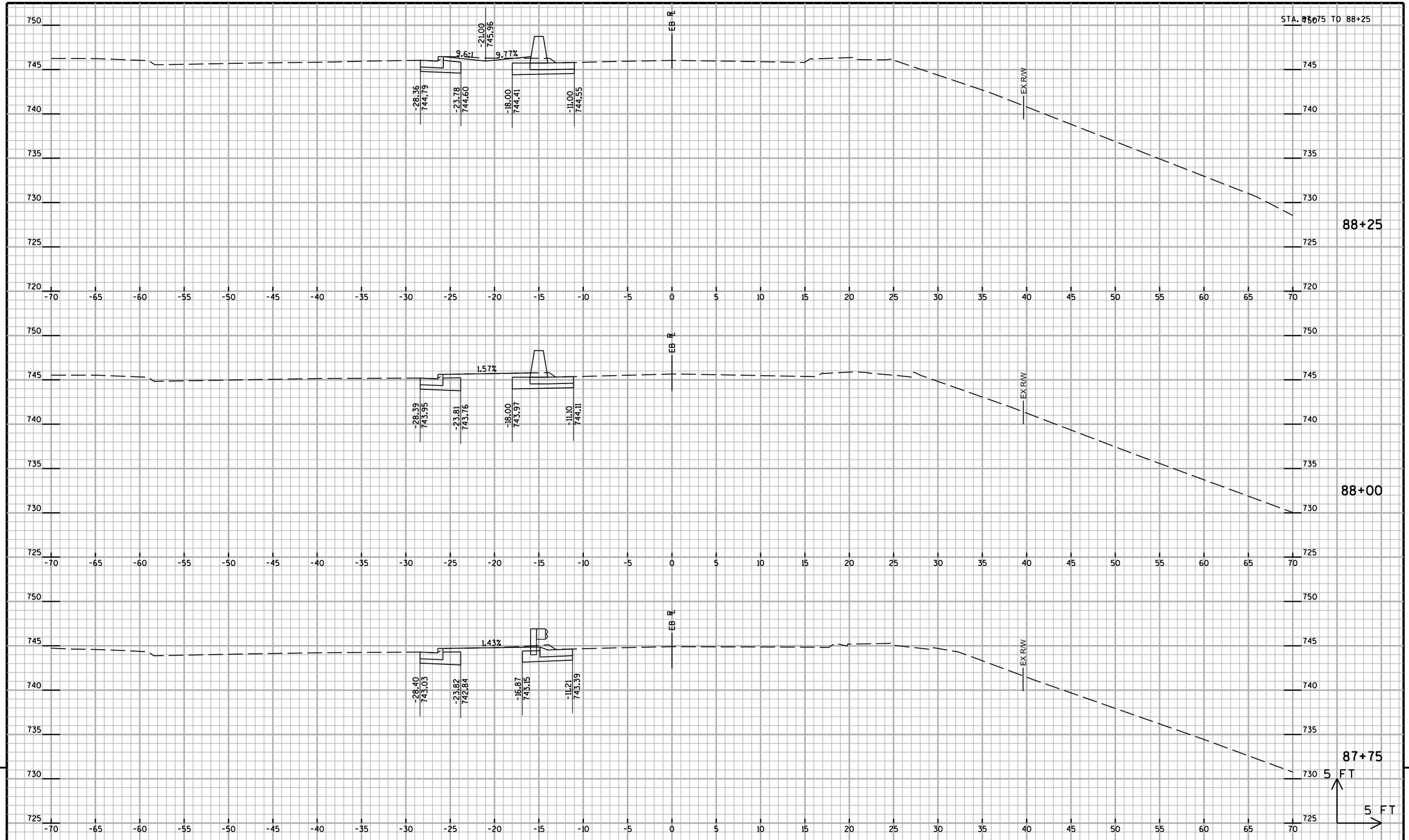
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: MEDIAN WEST	SHEET 405	E

FILE NAME : R:\420808\dgn\2035-06-70_090202_xs-medians.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 87+75 TO 88+25



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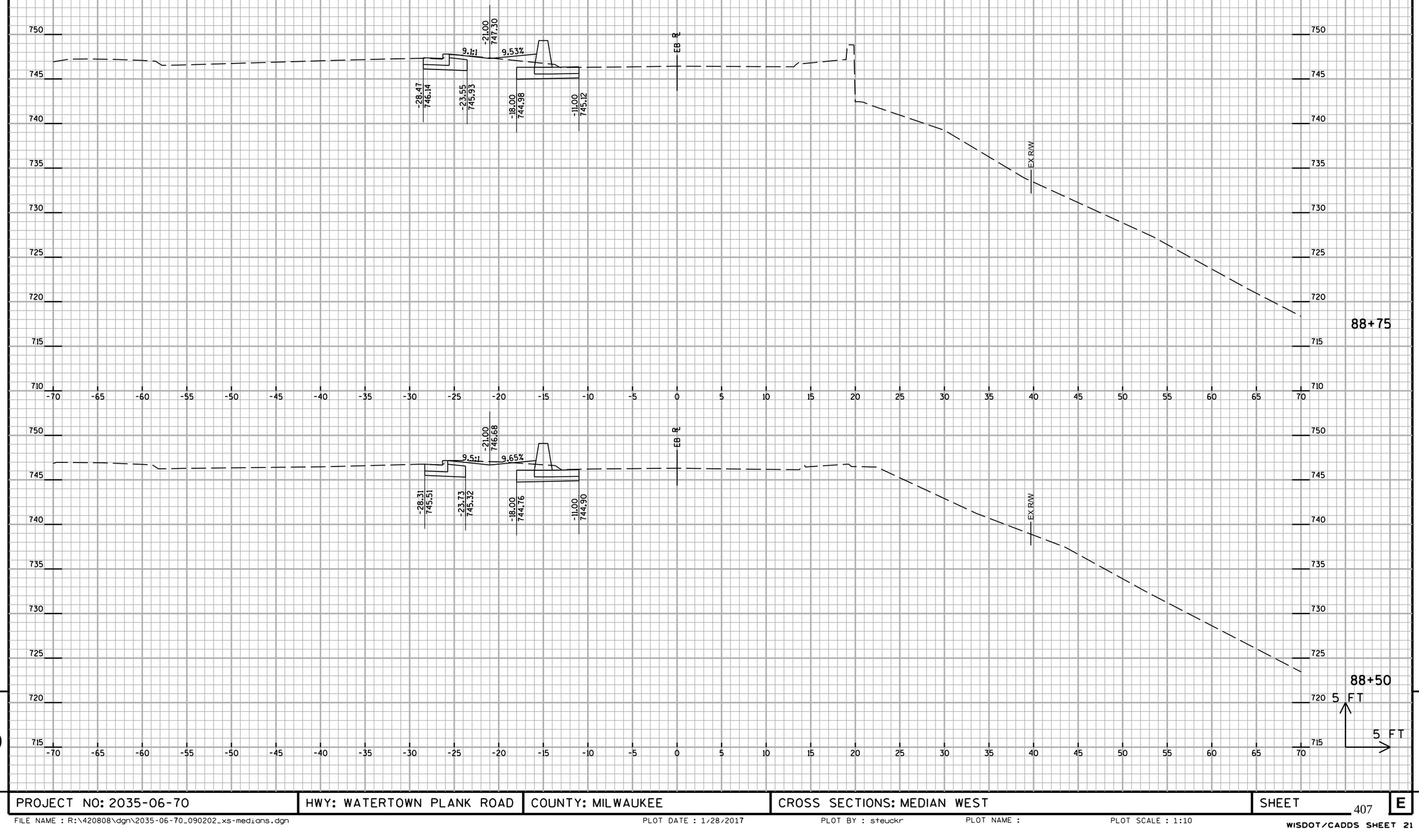
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: MEDIAN WEST	SHEET 406	E

STA. 88+50 TO 88+75



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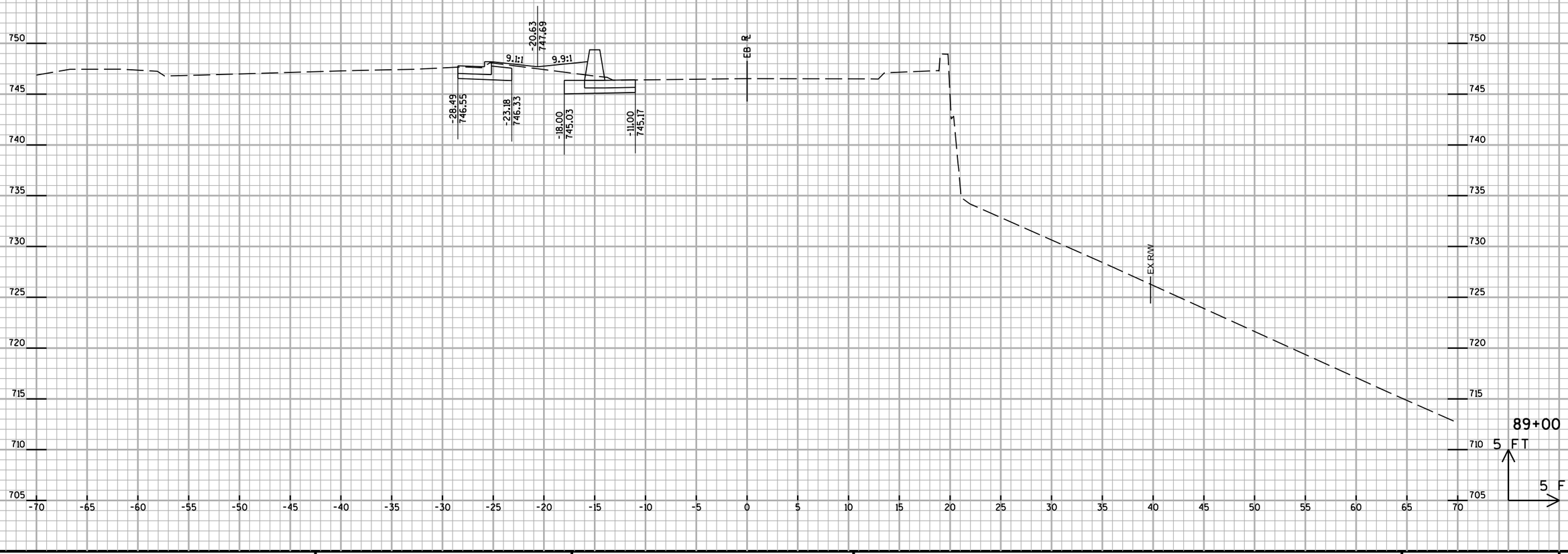
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: MEDIAN WEST	SHEET 407	E

FILE NAME : R:\420808\dgn\2035-06-70_090202_xs-medians.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 89+00 TO 89+00



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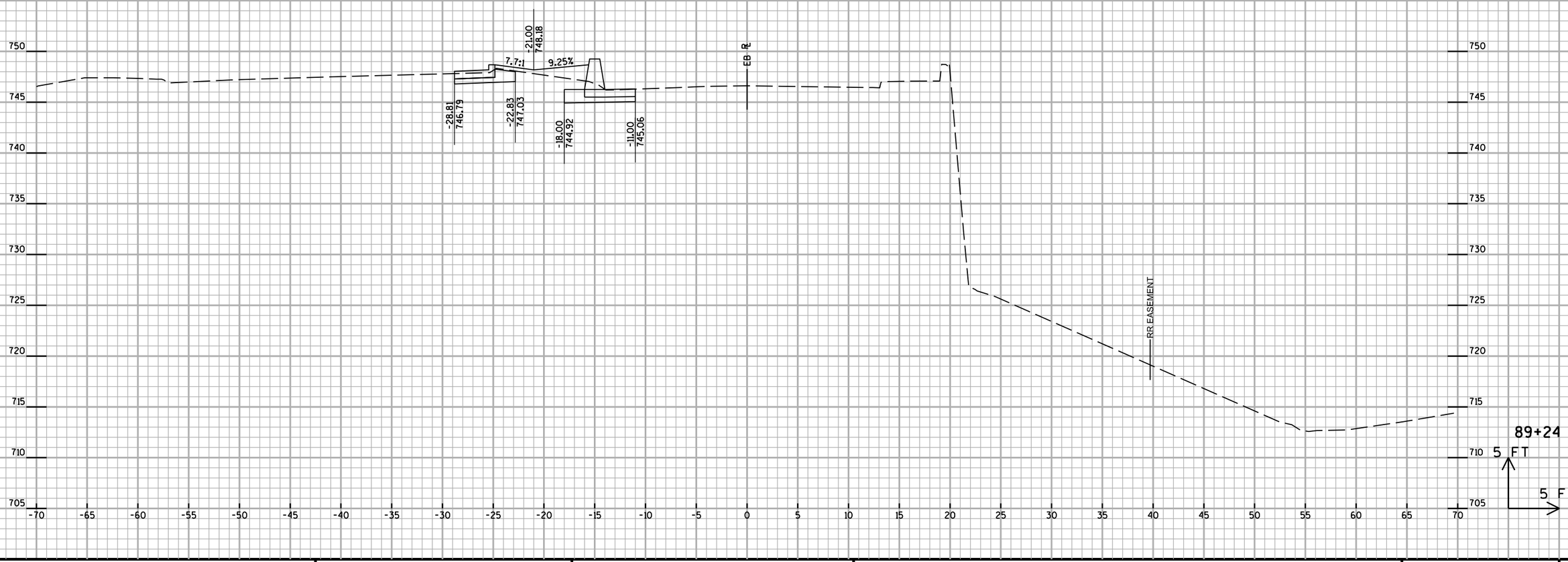
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: MEDIAN WEST	SHEET 408	E

FILE NAME : R:\420808\dgn\2035-06-70_090202_xs-medians.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 89+24 TO 89+24



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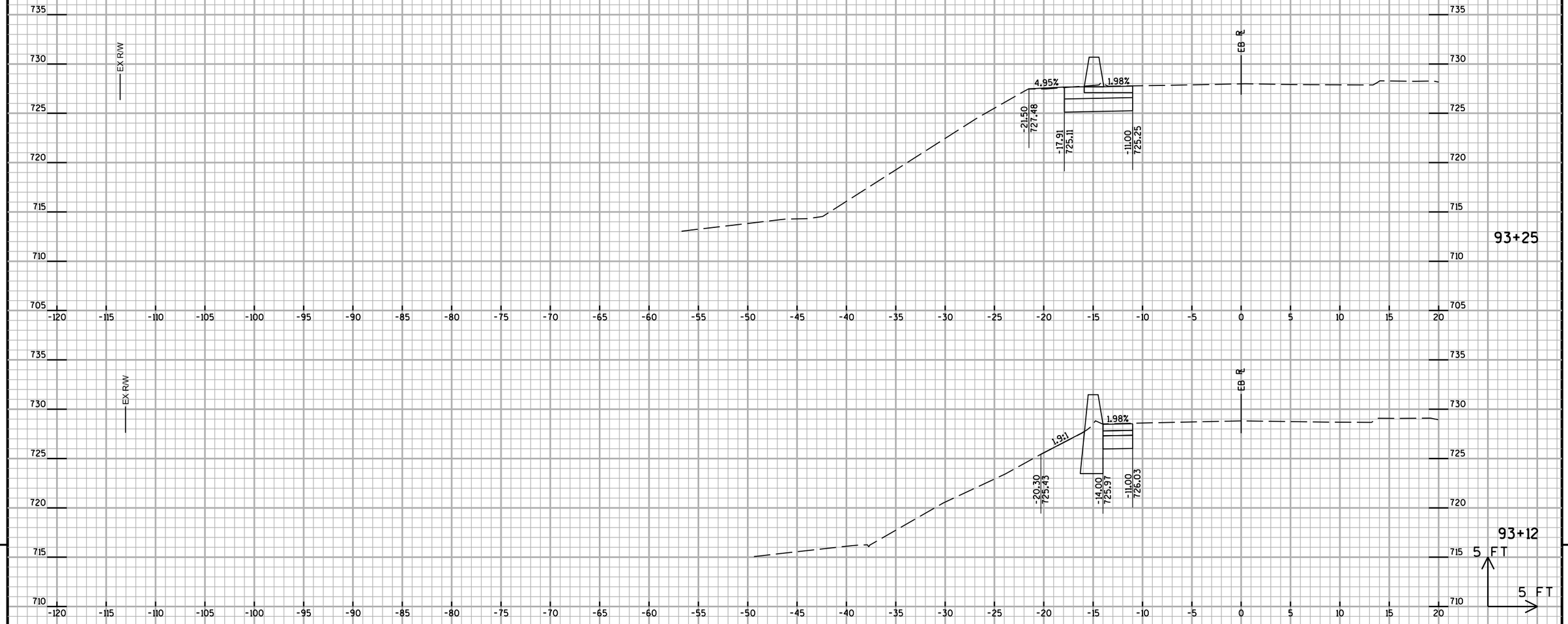
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: MEDIAN WEST	SHEET 409	E

FILE NAME : R:\420808\dgn\2035-06-70_090202_xs-medians.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 93+12 TO 93+25



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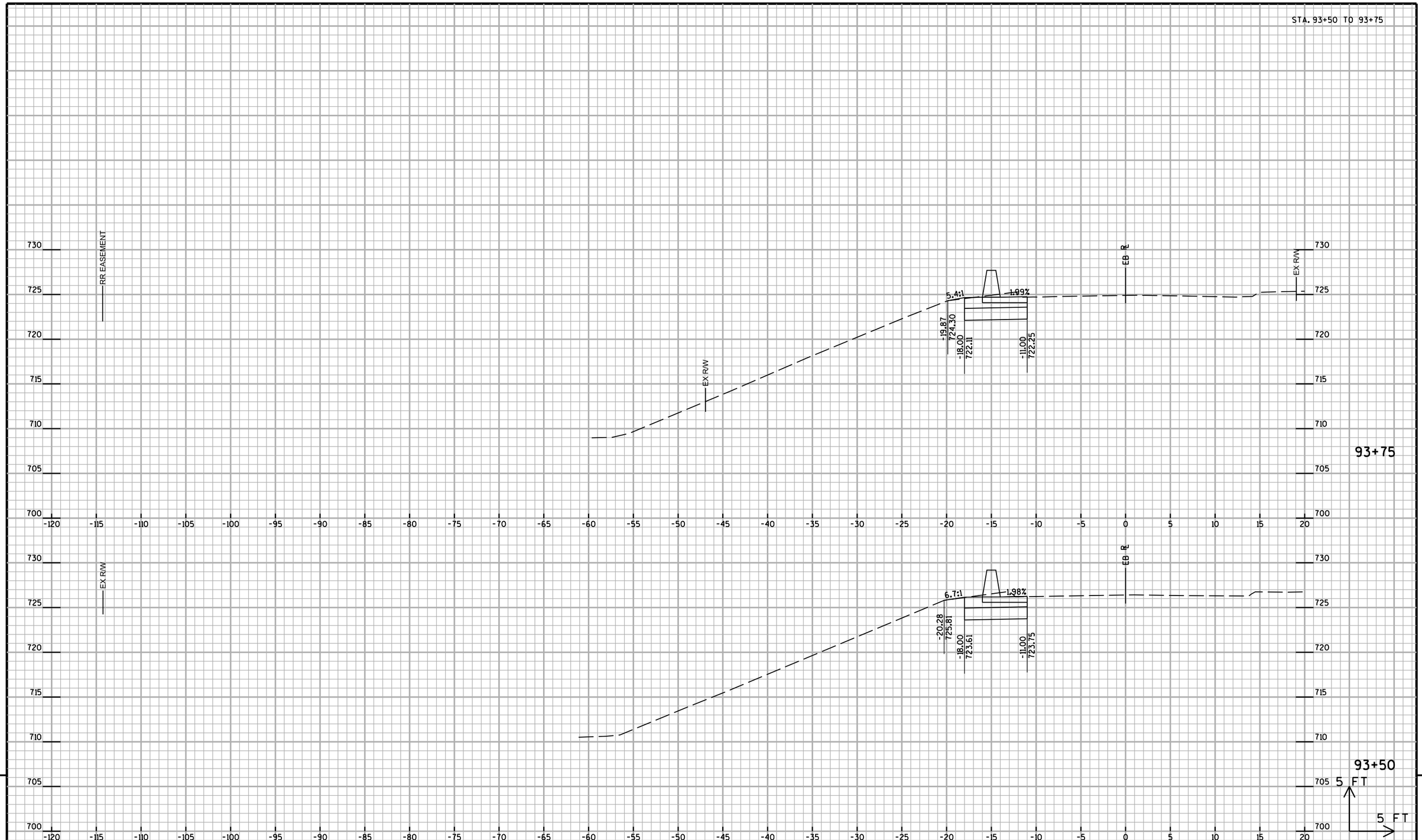
PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: MEDIAN EAST	SHEET 410	E

FILE NAME : R:\420808\dgn\2035-06-70_090202_xs-medians.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 93+50 TO 93+75

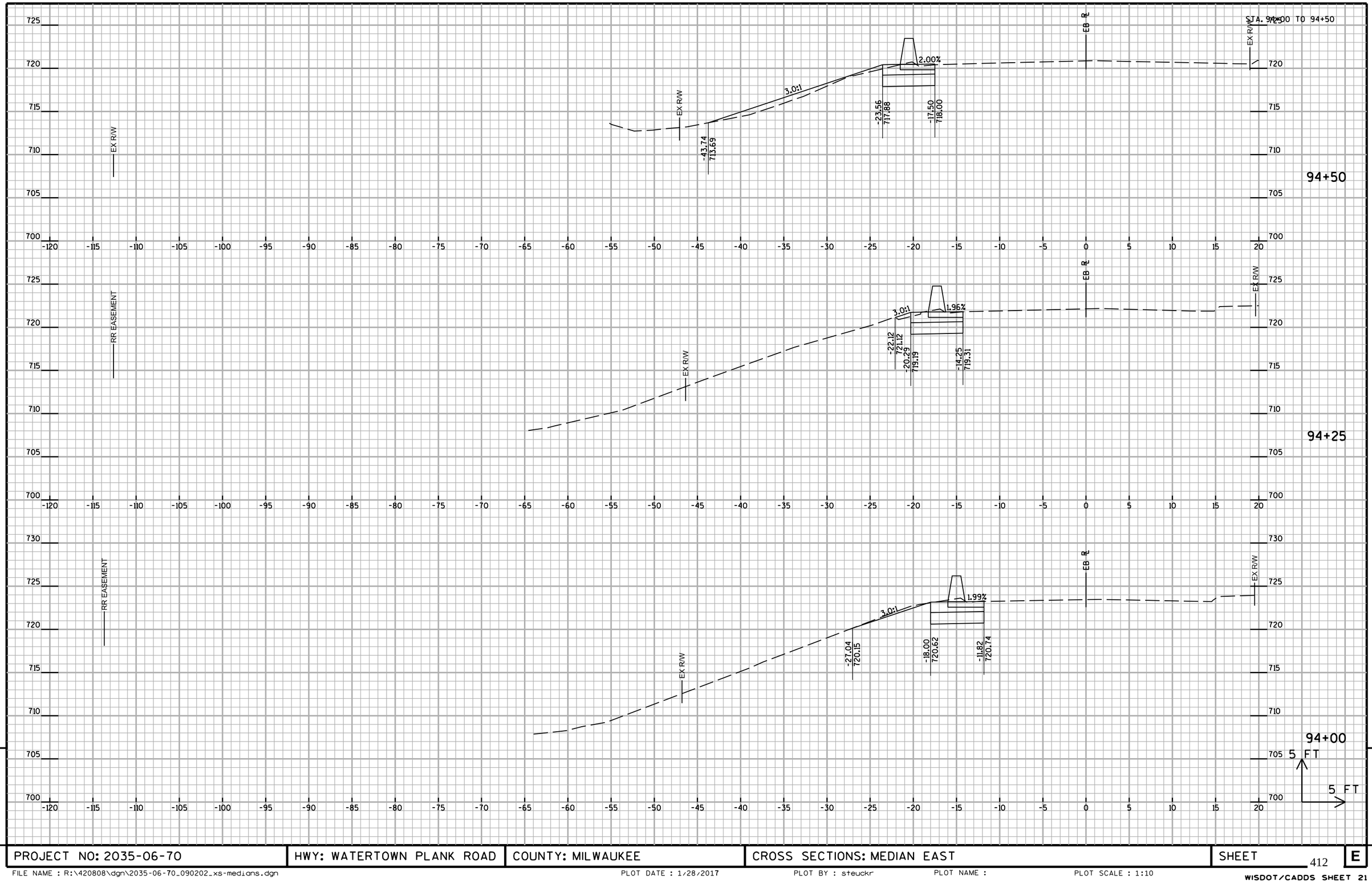


PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: MEDIAN EAST	SHEET 411	E

FILE NAME : R:\420808\dgn\2035-06-70_090202_xs-medians.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

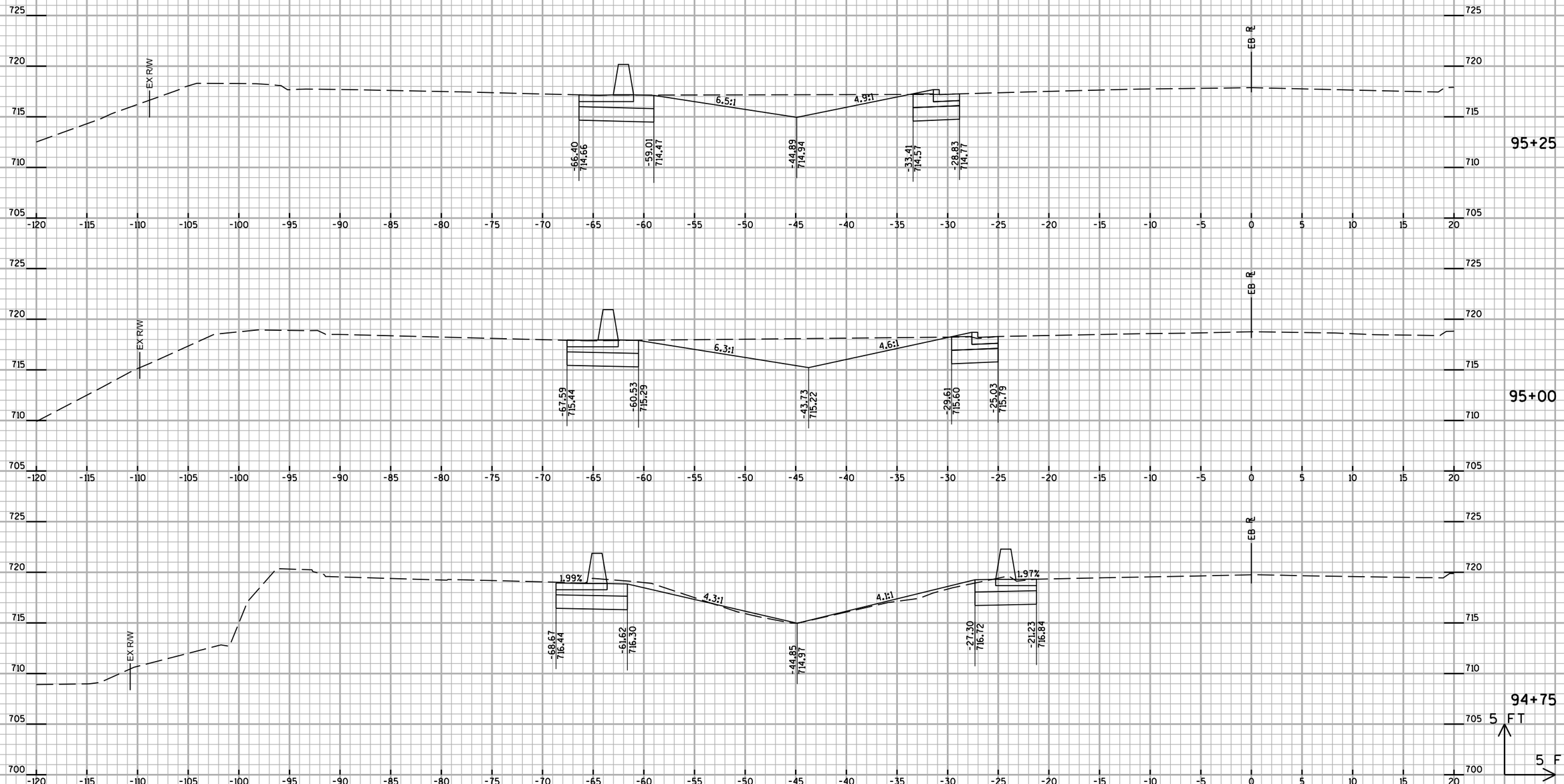
WISDOT/CADDS SHEET 21

STA. 94+00 TO 94+50



PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: MEDIAN EAST	SHEET 412	E

STA. 94+75 TO 95+25

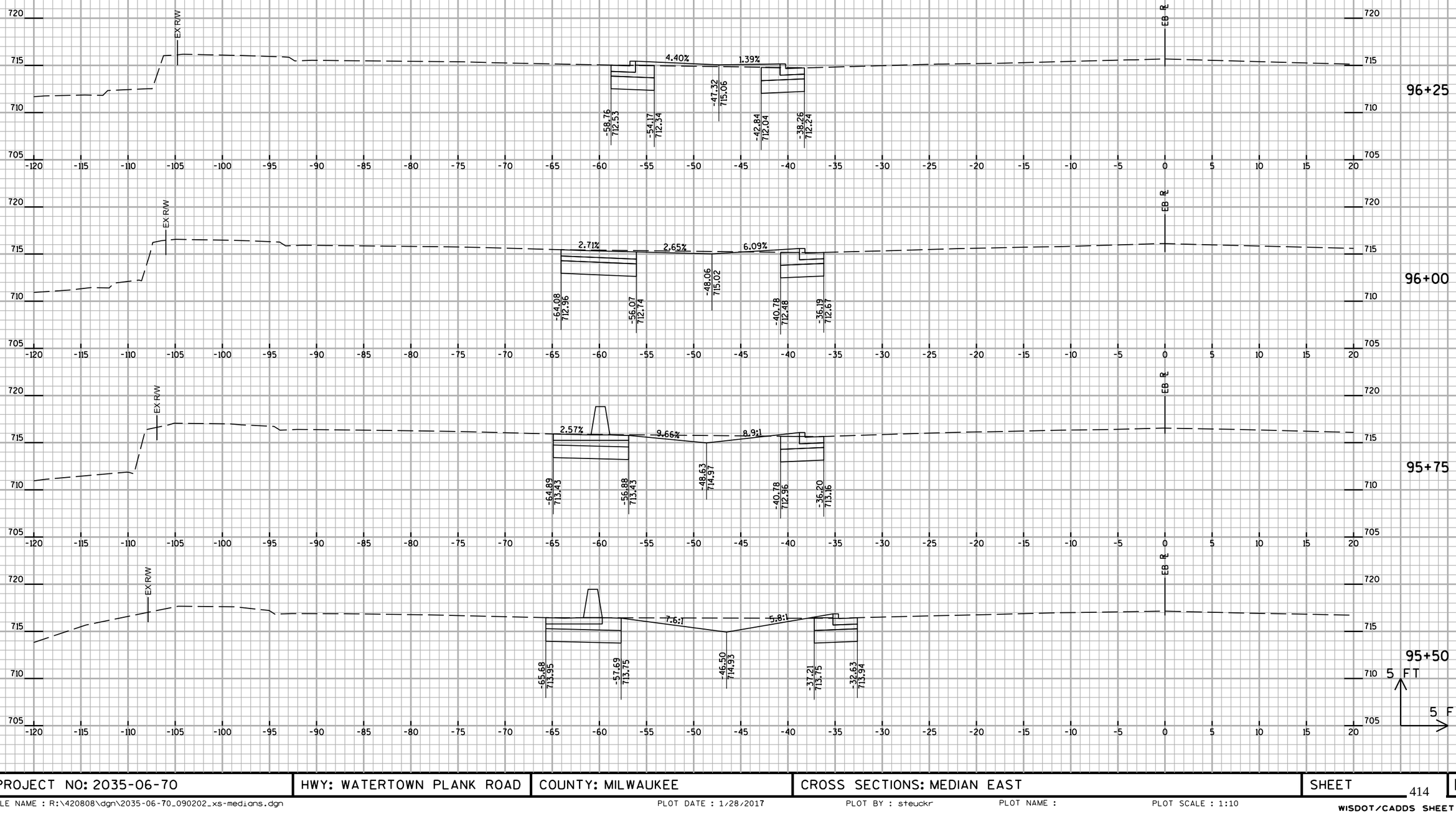


PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: MEDIAN EAST	SHEET 413	E

FILE NAME : R:\420808\dgn\2035-06-70_090202_xs-medians.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 95+50 TO 96+25



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PROJECT NO: 2035-06-70	HWY: WATERTOWN PLANK ROAD	COUNTY: MILWAUKEE	CROSS SECTIONS: MEDIAN EAST	SHEET 414	E

9

FILE NAME : R:\420808\dgn\2035-06-70_090202_xs-medians.dgn PLOT DATE : 1/28/2017 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

Notes

Wisconsin Department of Transportation

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