WKE

SEPT 2015

PROJECT ID: 1350-09-70

WITH:

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.	5	Plan
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans

TOTAL SHEETS = 522

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STADIUM FREEWAY

STATE STREET - LISBON AVENUE

USH 41

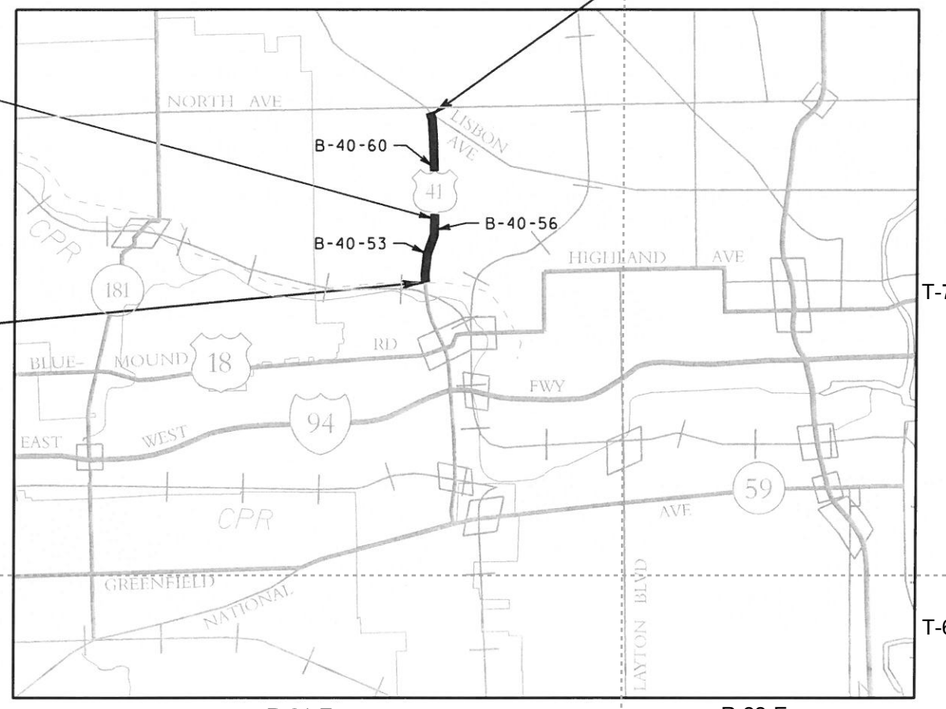
MILWAUKEE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1350-09-70	WISC 2015485	1

STATE PROJECT NUMBER
1350-09-70

END PROJECT 1350-09-70
STA. 147+57.00

EQUATION
STA. 110+74.21 AH=
STA. 109+35.52 BK



BEGIN PROJECT 1350-09-70
STA. 86+96.00
X = 301,455.81
Y = 588,914.64

DESIGN DESIGNATION

A.A.D.T. (2006)	=	29,000 - 61,000
A.A.D.T. (2032)	=	36,000 - 69,000
D.H.V.	=	3,492 - 6,693
D.D.	=	58/42
T.	=	5.2%
DESIGN SPEED	=	50 MPH
ESALS	=	3,847,100-4,431,100

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 ½ MI.

TOTAL NET LENGTH OF CENTERLINE = 1.148 MI.

ALIGNMENT DATA IS BASED ON AS-BUILT PLANS WITHOUT ANY FIELD SURVEY AND IS TO BE USED FOR REFERENCE ONLY.

"COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MILWAUKEE COUNTY.
HORIZONTAL DATUM-NAD 83 (91)
VERTICLE DATUM-NAVD 88 (91)

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES

DATE: 05/01/2015

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

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

APPROVED FOR THE DEPARTMENT
DATE: 5/1/15 (Signature)

E

COUNTY: MILWAUKEE

FILE NAME : V:\Trans-WK\MicroStation\45032900\dgn\North 1350-09-70\1350-09-70_010101_ti.dgn

PLOT DATE : 4/29/2015

PLOT BY : sanderfoj

PLOT NAME :

PLOT SCALE : 1:5280

UTILITY CONTACTS

WE ENERGIES (GAS)
MR. PAUL OSMANSKI
500 S. 116TH STREET
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eric.perea@dot.wi.gov

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MOBILE: (574) 904-6336

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CITY OF MILWAUKEE CABLE
DPW/COMMUNICATIONS DISPATCH AND
MR. BRIAN PAWLAK
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MILWAUKEE, WI 53233
OFFICE: (414) 286-3686

CITY OF MILWAUKEE SANITARY SEWER
MR. SAMIR AMIN
841 N. BROADWAY STREET
MILWAUKEE, WI 53202
OFFICE: (414) 286-2461

CITY OF MILWAUKEE TRAFFIC SIGNALS
MR. AL NICHOLS
1540 WEST CANAL STREET
MILWAUKEE, WI 53233
OFFICE: (414) 286-5941
MOBILE: (414) 286-5148

CITY OF MILWAUKEE STREET LIGHTING
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MOBILE: (414) 708-4251

CITY OF MILWAUKEE CONDUIT
MS. KAREN ROGNEY
841 N. BROADWAY STREET, ROOM 802
MILWAUKEE, WI 53202
OFFICE: (414) 286-3243

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. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE UTILITIES SHOWN ON THESE PLANS. CONTACT DIGGERS HOTLINE (BELOW) FOR FIELD LOCATION OF UTILITIES. NOTE, NOT ALL UTILITIES ARE AFFILIATED WITH DIGGERS HOTLINE.
2. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING LOCAL UTILITIES AND CONTACTING DIGGERS HOTLINE.
3. NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
4. CLEARING AND GRUBBING TO BE DONE WITHIN PROJECT LOCATION, OUT TO RIGHT OF WAY FENCE, OR AS DIRECTED BY ENGINEER.
5. TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND MULCH/EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.
6. STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.
7. EROSION CONTROL BMP'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.
8. ALL OPENINGS BELOW SUBGRADE RESULTING FROM REMOVALS OR ABANDONMENTS, SHALL BE BACKFILLED WITH GRANULAR BACKFILL AND SHALL BE INCIDENTAL TO THE PROJECT.
9. ALL CURB AND GUTTER RADII DIMENSIONS ON THE PLANS ARE MEASURED TO THE FLANGE LINE.
10. EXPANSION JOINTS SHALL BE CONSTRUCTED AT ALL RADIUS POINTS IN CURB AND GUTTER.
11. SIGNAL & LIGHTING PLANS PROVIDED BY WisDOT
12. HMA PAVEMENT TYPE E-10 SHALL BE PLACED IN THE FOLLOWING TWO LAYERS:

LAYER	LAYER THICKNESS	ASPHALT TYPE	ASPHALT MATERIAL
LOWER	2¼-INCHES (VARY TO ADJUST FOR CROWN CORRECTION	19.0 mm HMA TYPE E-10	PG 64-28
UPPER	1¾-INCHES	12.5 mm HMA TYPE E-10	PG 64-28

AGENCY CONTACTS

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WAUKESHA, WI 53187
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nguyen.ly@dot.wi.gov

MILWAUKEE, CITY OF
MR. JEFFREY POLENSKE, CITY ENGINEER
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MILWAUKEE DPW, CITY OF
MR. ROBERT BRYSON
CHIEF TRAFFIC & LIGHTING ENGINEER
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OFFICE: (414) 286-3244

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mmacarthur@mcts.org

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MILWAUKEE, WI 53208
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RAILROAD CONTACTS

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CANADIAN PACIFIC RAILWAY COMPANY
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501. MARQUETT AVE., SUITE 1510
MINNEAPOLIS, MN 55402
OFFICE: (612) 904-5994
jim_rieger@cpr.ca

DNR LIAISON

MS. KRISTINA BETZOLD
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
SOUTHEAST REGION - MILWAUKEE SERVICE CENTER
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MILWAUKEE, WI 53212
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kristina.betzold@wisconsin.gov

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

INDEX OF DETAIL SHEETS

PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
REMOVAL PLAN
EROSION CONTROL
STORM SEWER
PAVEMENT MARKING
PERMANENT SIGNING
FTMS
LIGHTING DETAILS
LIGHTING REMOVAL PLAN
LIGHTING PLAN
CONSTRUCTION STAGING
DETOUR PLAN
ADVANCED WARNING PLANS
ALIGNMENT PLAN
PLAN DETAILS

ABBREVIATIONS

AGG.	AGGREGATE	F.O.C.	FACE OF CURB	RCCP	REINFORCED CONCRETE CULVERT PIPE
ASPH.	ASPHALTIC	FT	FEET		
AVG.	AVERAGE	G	GAS	RT	RIGHT
ADT	AVERAGE DAILY TRAFFIC	IN	INCH	R/W	RIGHT OF WAY
BLDG.	BUILDING	INL	INLET	SAN.	SANITARY
B.M.	BENCH MARK	LT	LEFT	SDD	STANDARD DETAIL DRAWING
℄	CENTERLINE	M.H.	MANHOLE	STA	STATION
C.A.B.C.	CRUSHED AGGREGATE BASE COURSE	M.L.	MATCH LINE	S.V.	SEPTIC VENT
		N.B.	NORTHBOUND	S.W.	SIDEWALK
C.E.	COMMERCIAL ENTRANCE	MI.	MILE	S.S.	STORM SEWER
CGL	CONSTRUCTION GRADE LINE	P.C.	POINT OF CURVATURE	T	TELEPHONE OR TANGENT LENGTH
CONC.	CONCRETE	P.E.	PRIVATE ENTRANCE	T/B	TOP OF BANK
CONST.	CONSTRUCT	P.I.	POINT OF INTERSECTION	TEMP.	TEMPORARY
COR.	CORNER	P.G.L.	PROFILE GRADE LINE	T.L.E.	TEMPORARY LIMITED EASEMENT
CSCP	CORRUGATED STEEL CULVERT PIPE	P.L.	PROPERTY LINE	TYP.	TYPICAL
		P.L.E.	PERMANENT LIMITED EASEMENT	VAR.	VARIABLE
CTR	CENTER	P.T.	POINT OF TANGENCY	W	WATER
D.	DEGREE	PT	POINT	WL	WELL
E	ELECTRIC	PVI	POINT OF VERTICAL INTERCEPT	X	EAST COORDINATE
EL.	ELEVATION	R	RADIUS	Y	NORTH COORDINATE
F.E.	FIELD ENTRANCE	℞	REFERENCE LINE		

PROJECT NO:1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	GENERAL NOTES	SHEET 2	E

2

2

N

BEGIN PROJECT
STA. 86+96.00

W. BLUEMOUND RD.

W. WISCONSIN AVE.

W. WELLS ST.

MENOMONEE R.

W. STATE ST.

0+00

HMOD MONUMENT
(DO NOT DISTURB)

10+00

N. ALOIS ST.

W. VLIET ST.

B-40-53
(BRIDGE
REDECK)

W. WASHINGTON BLVD.

B-40-56
(CONCRETE
OVERLAY)

W. LLOYD ST.

STA. 137+48.38 AH=
STA. 137+48.38 BK

B-40-60
(CONCRETE
OVERLAY)

N. 51ST ST.

USH 41 SB

80+00

100+00

USH 41 NB

120+00

140+00

145+00

140+00

145+00

60+00

STA. 110+74.21 AH=
STA. 109+35.52 BK

END PROJECT
STA. 147+57

W. LISBON AVE.

N. SHERMAN BLVD.

W. MARTIN DR.

N. 40TH ST.

HIGHLAND BLVD.

W. NORTH AVE.

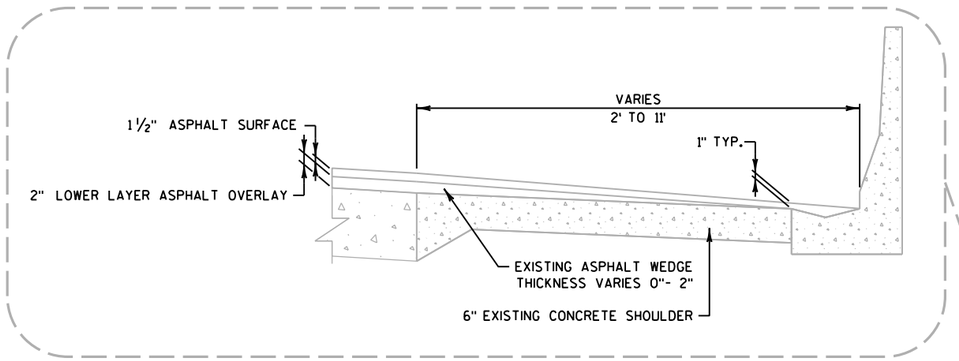
194 EB

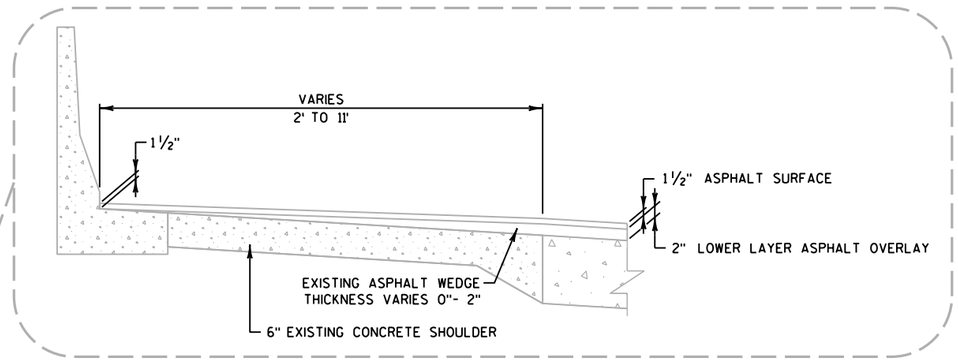
194 WB

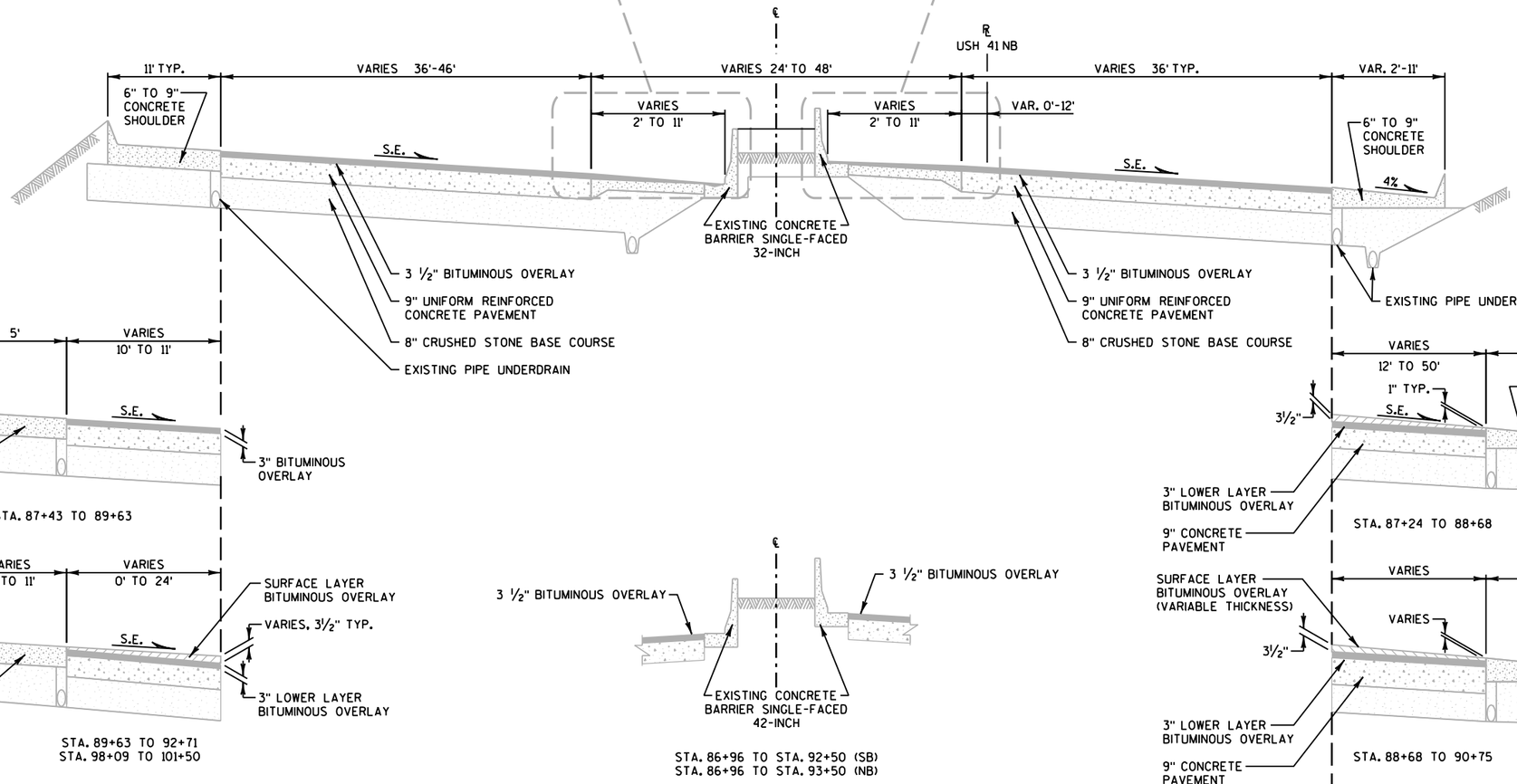
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_020201_po.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:750

WISDOT/CADDS SHEET 42





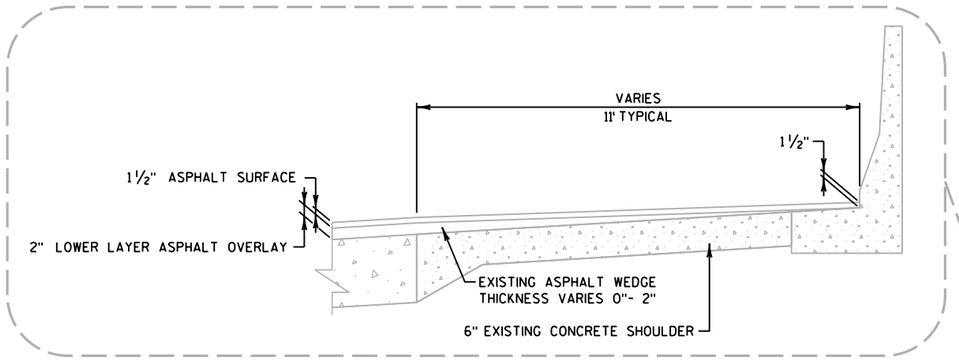


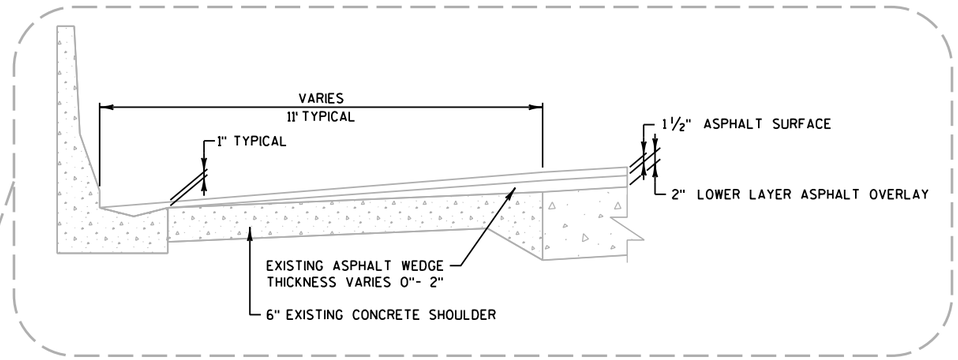
TYPICAL EXISTING SECTION

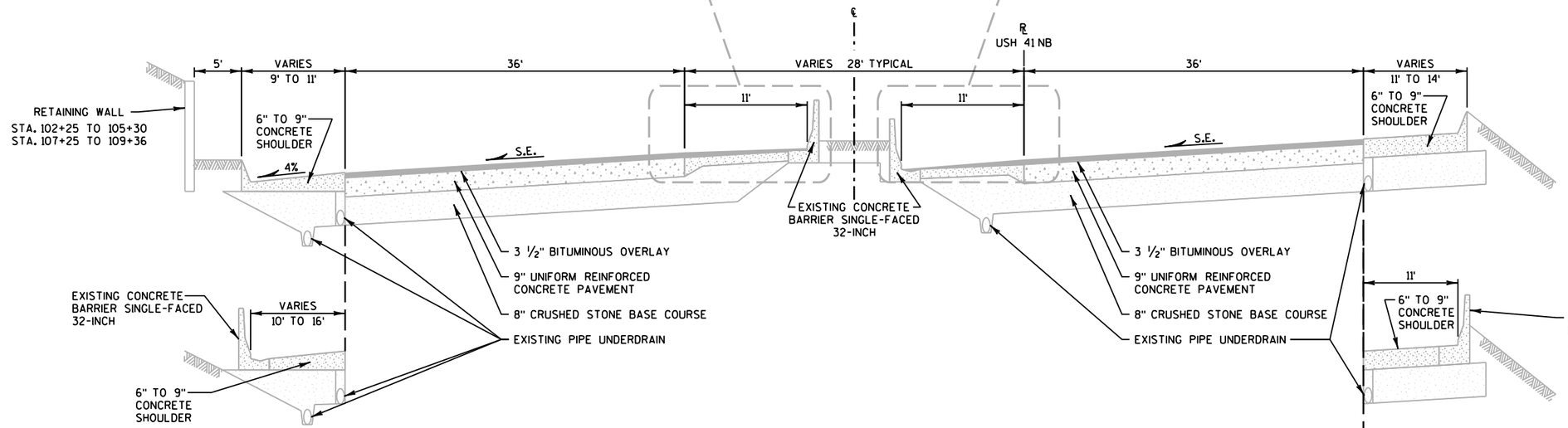
USH 41
STA. 86+96 TO 101+50

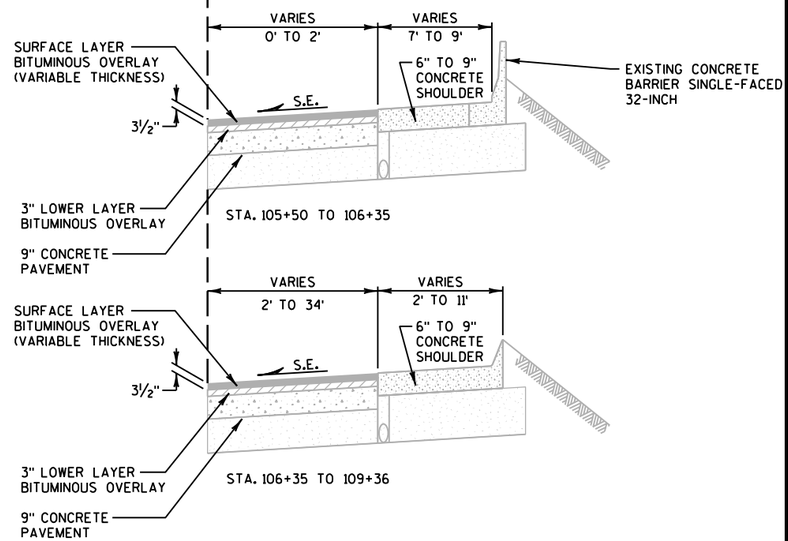
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 4	E

2









TYPICAL EXISTING SECTION

USH 41
STA. 101+50 TO 109+36
(SEE ALIGNMENT PLAN FOR STATION EQUATION)

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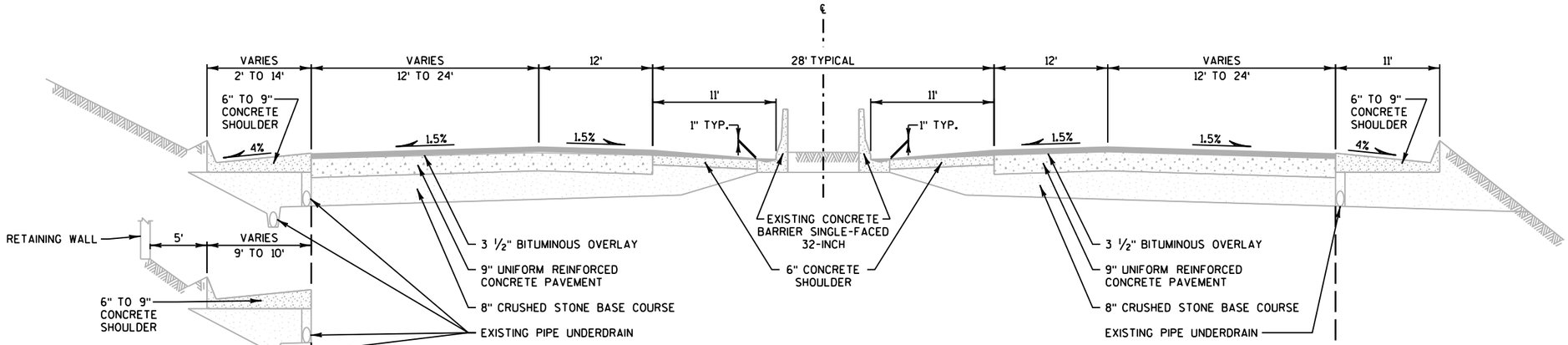
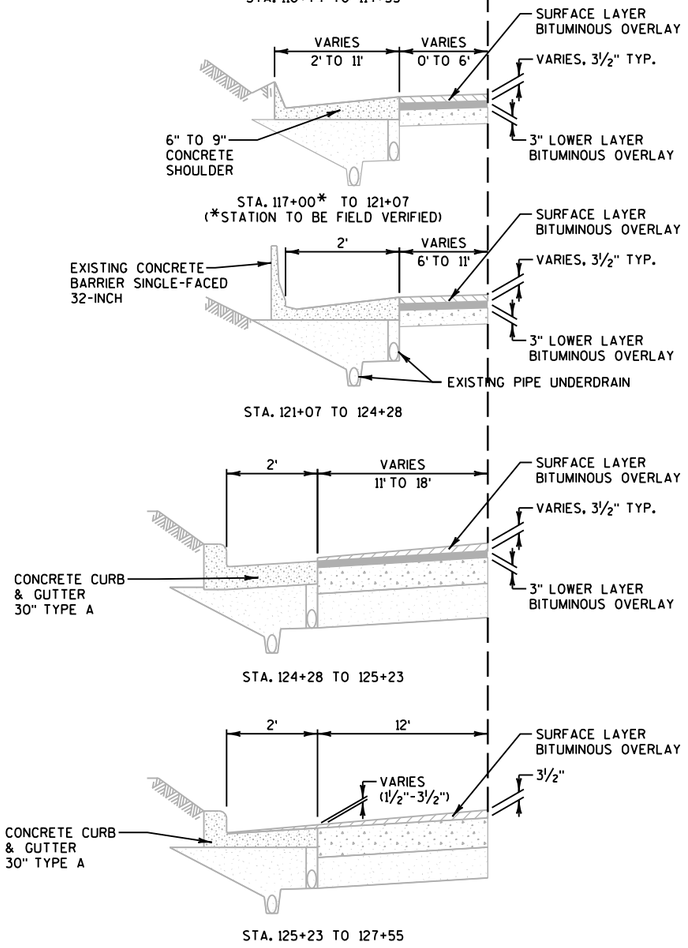
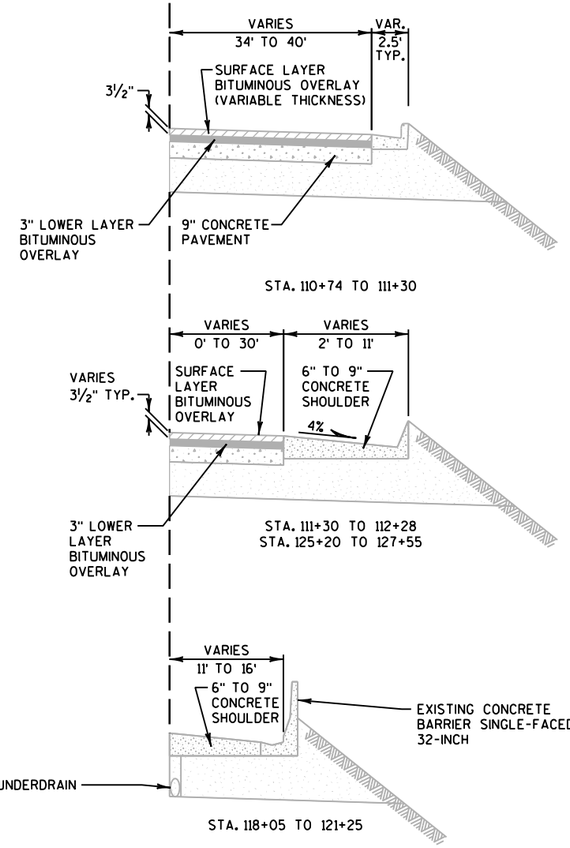


TYPICAL EXISTING SECTION

USH 41
STA. 110+74 TO 127+55
(SEE ALIGNMENT PLAN FOR STATION EQUATION)





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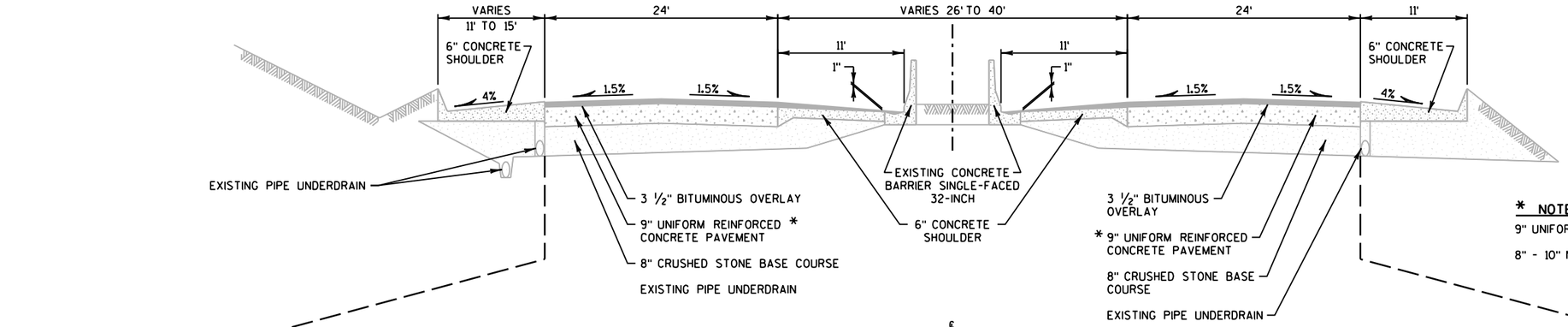
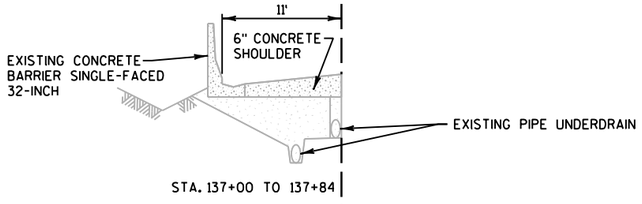


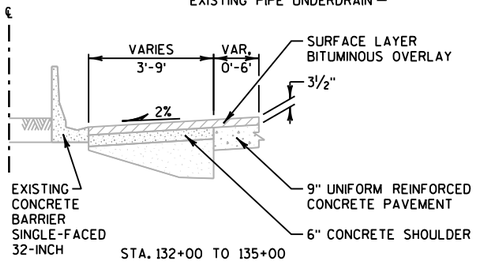
*** NOTE:**

9" UNIFORM REINFORCED CONCRETE PAVEMENT BEFORE STA. 135+00

8" - 10" NON-REINFORCED CONCRETE PAVEMENT AFTER STA. 135+00



STA. 137+00 TO 137+84



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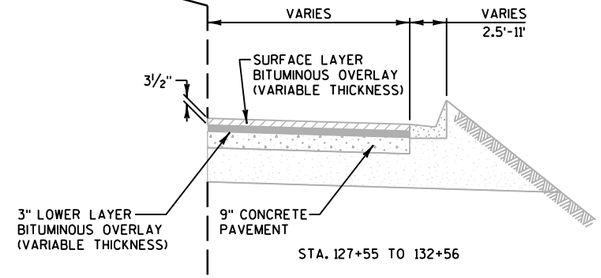
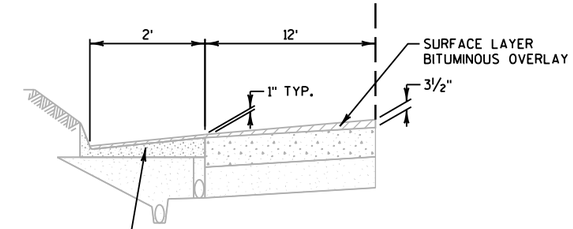


STA. 127+55 TO 132+56



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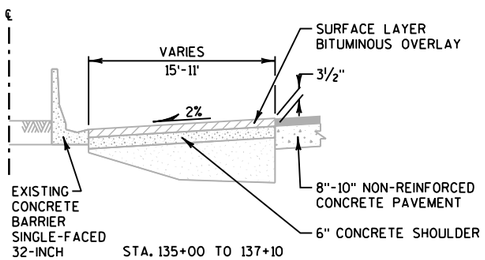
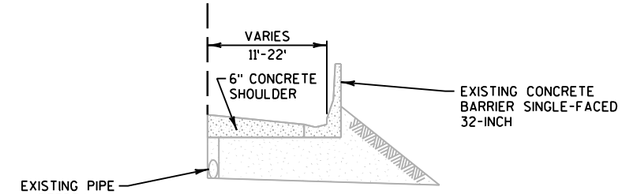
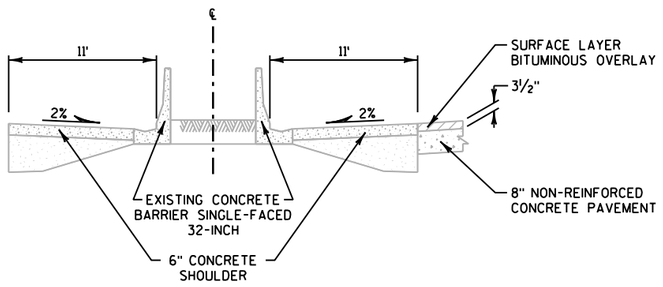


STA. 135+00 TO 137+10



STA. 134+68 TO 137+84

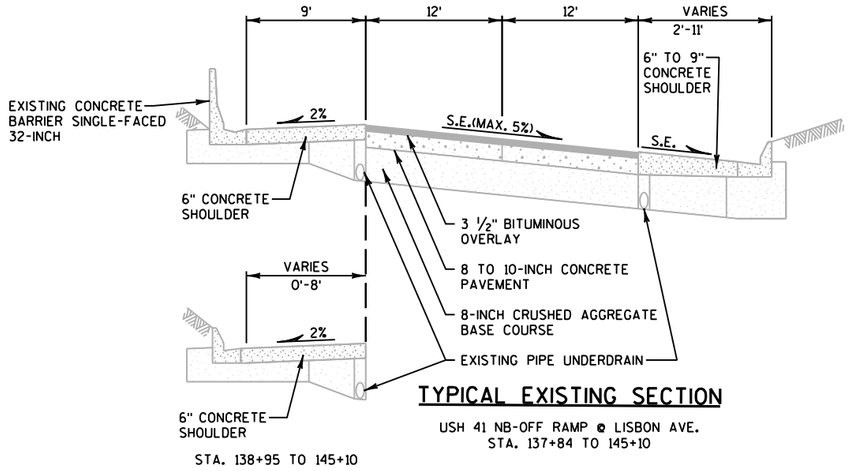


STA. 137+10 TO 137+84

TYPICAL EXISTING SECTION

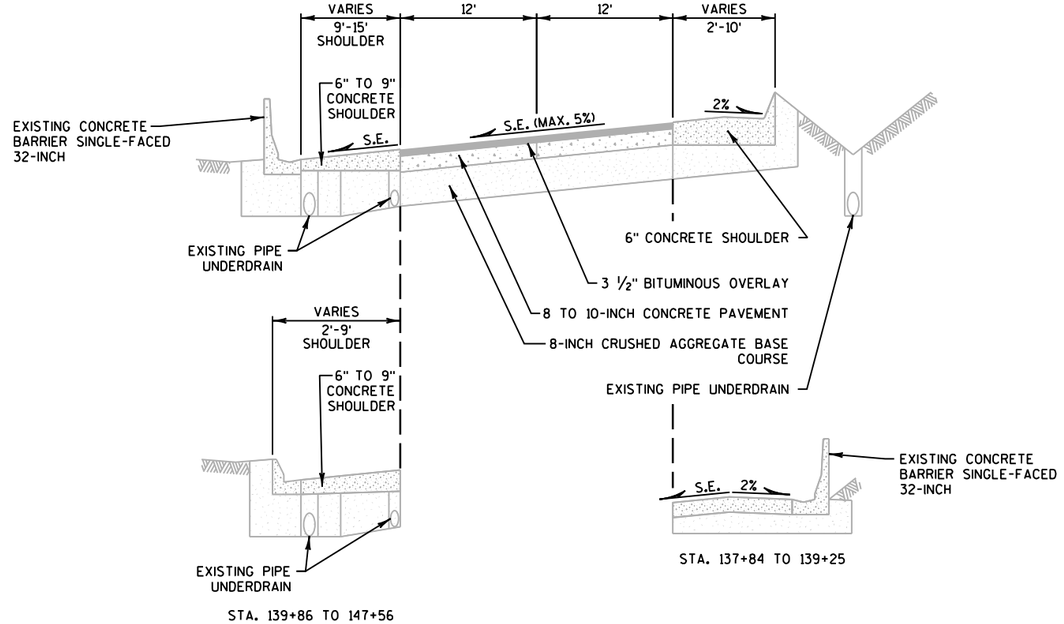
USH 41
STA. 127+55 TO 137+84

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 7	E



TYPICAL EXISTING SECTION

USH 41 NB-OFF RAMP ⊗ LISBON AVE.
STA. 137+84 TO 145+10



TYPICAL EXISTING SECTION

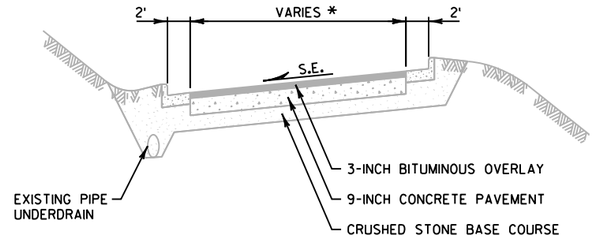
USH 41 SB-ON RAMP ⊗ LISBON AVE.
STA. 137+84 TO 147+56

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 8	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_020301_ts.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

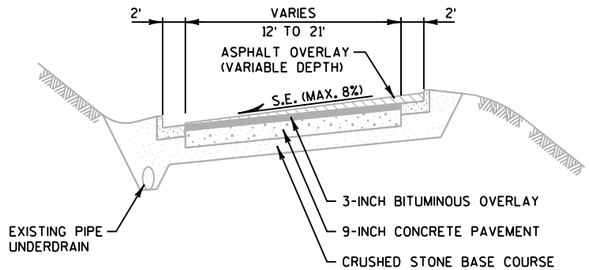
WISDOT/CADDS SHEET 42

2



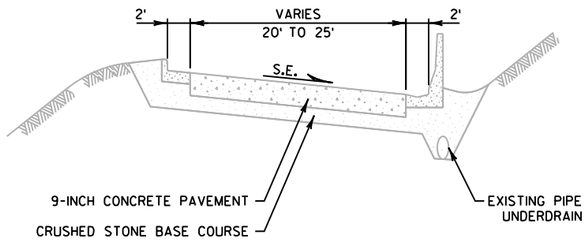
TYPICAL EXISTING SECTION

*NB ON-RAMP ℄ MARTIN DR. (13' TO 23')
*SB OFF RAMP ℄ ALOIS ST. (21' TO 23')
*NB OFF-RAMP ℄ WASHINGTON BLVD. (20' TO 23')
*NB OFF-RAMP ℄ LLOYD ST. (33' TO 41')
*SB ON-RAMP ℄ LLOYD ST. (13' TO 27')



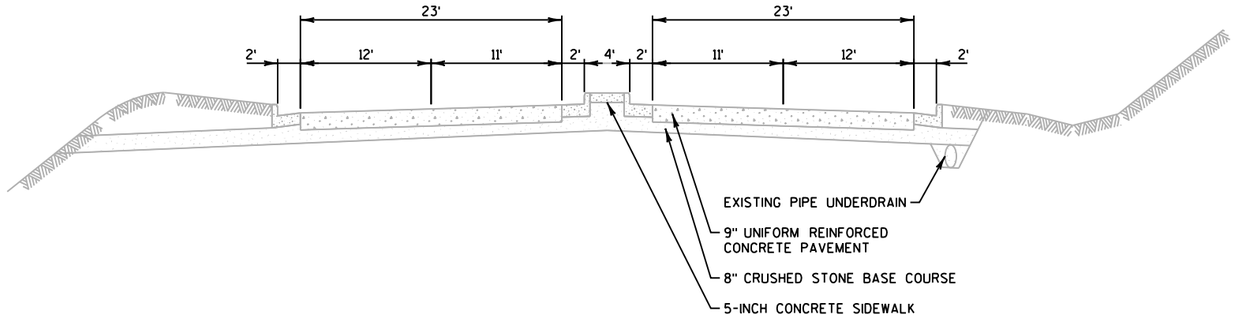
TYPICAL EXISTING SECTION

SB ON-RAMP ℄ ALOIS ST.



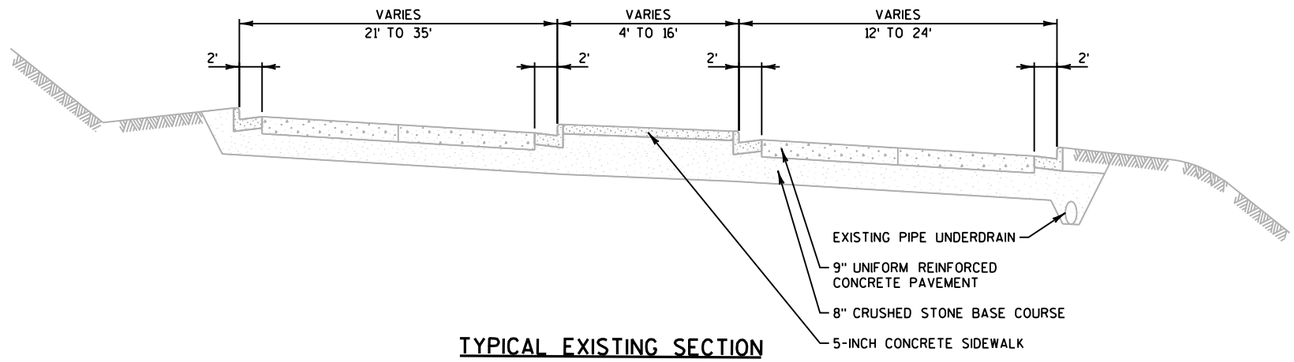
TYPICAL EXISTING SECTION

NB OFF-RAMP ℄ MARTIN DR.



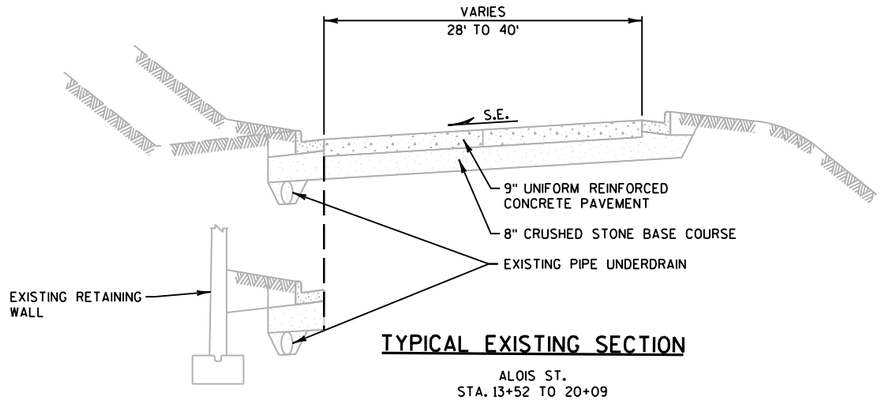
TYPICAL EXISTING SECTION

ALOIS ST.
STA. 1+00 TO 7+00



TYPICAL EXISTING SECTION

ALOIS ST.
STA. 7+00 TO 13+52

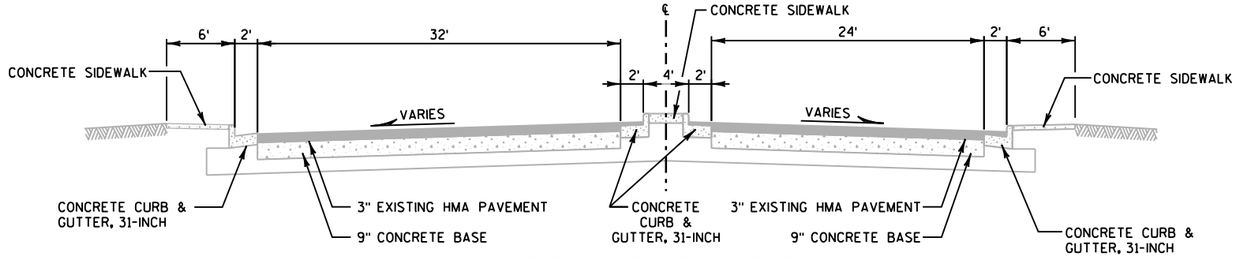


TYPICAL EXISTING SECTION

ALOIS ST.
STA. 13+52 TO 20+09

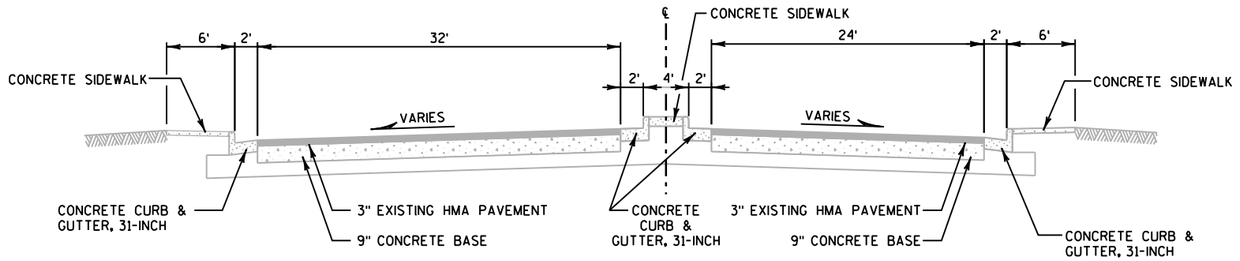
STA. 27+85 TO 28+67

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 10	E



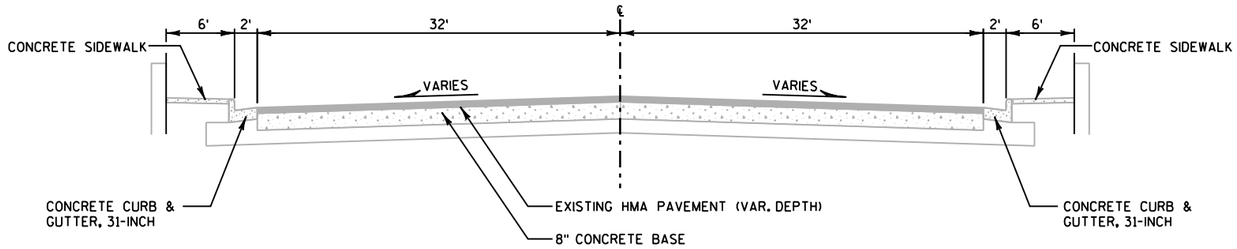
TYPICAL EXISTING SECTION

VLIET ST.
STA. 10+41 TO 10+69



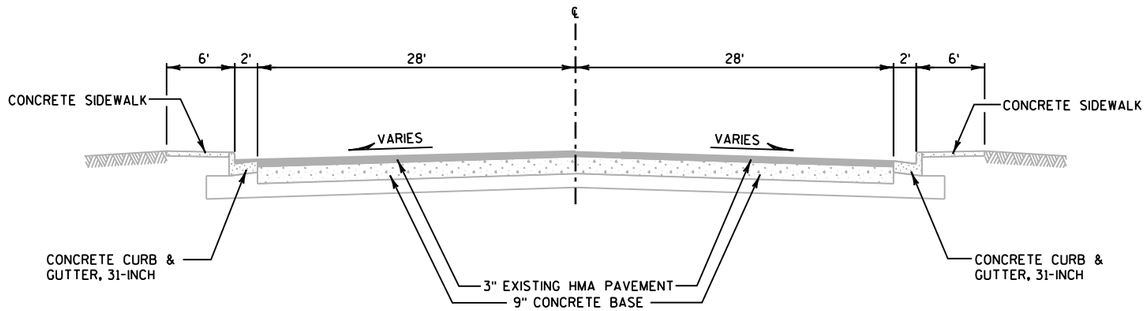
TYPICAL EXISTING SECTION

VLIET ST.
STA. 12+24 TO 12+52



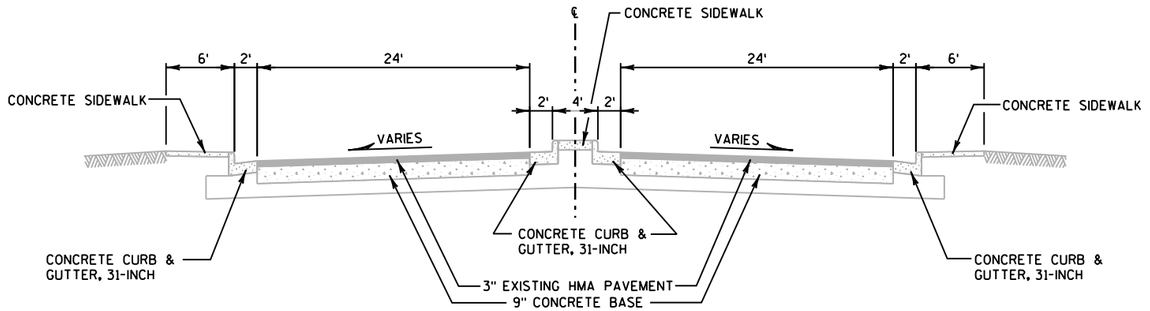
TYPICAL EXISTING SECTION

LLOYD ST.



TYPICAL EXISTING SECTION

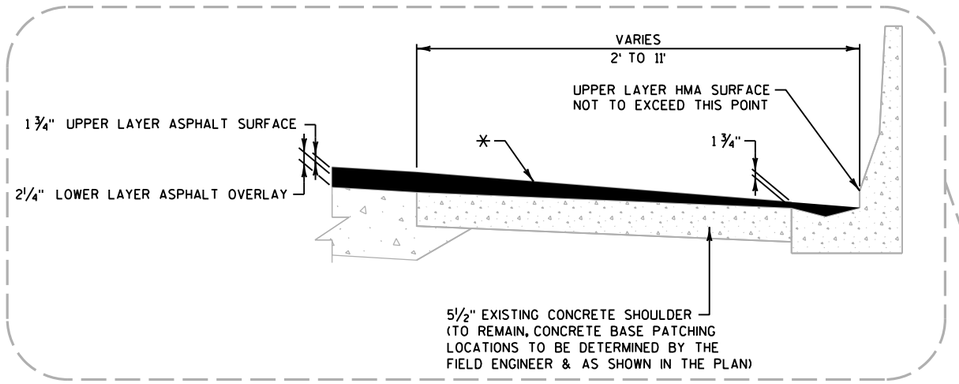
WASHINGTON BLVD.
(WEST OF STRUCTURE)



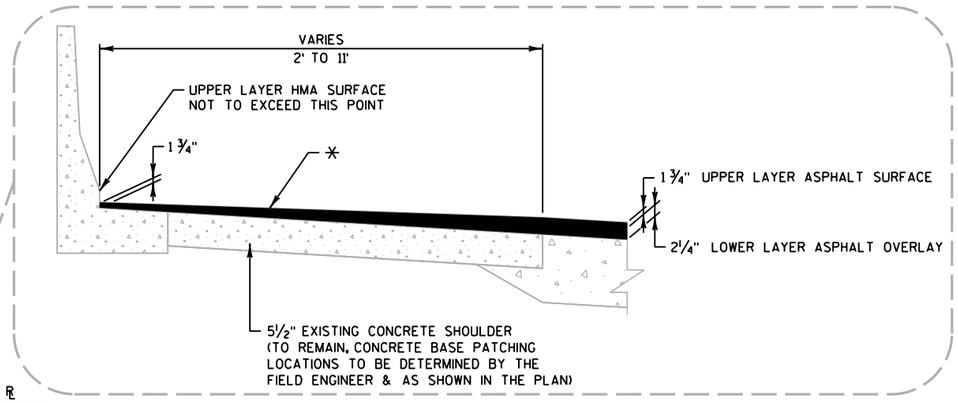
TYPICAL EXISTING SECTION

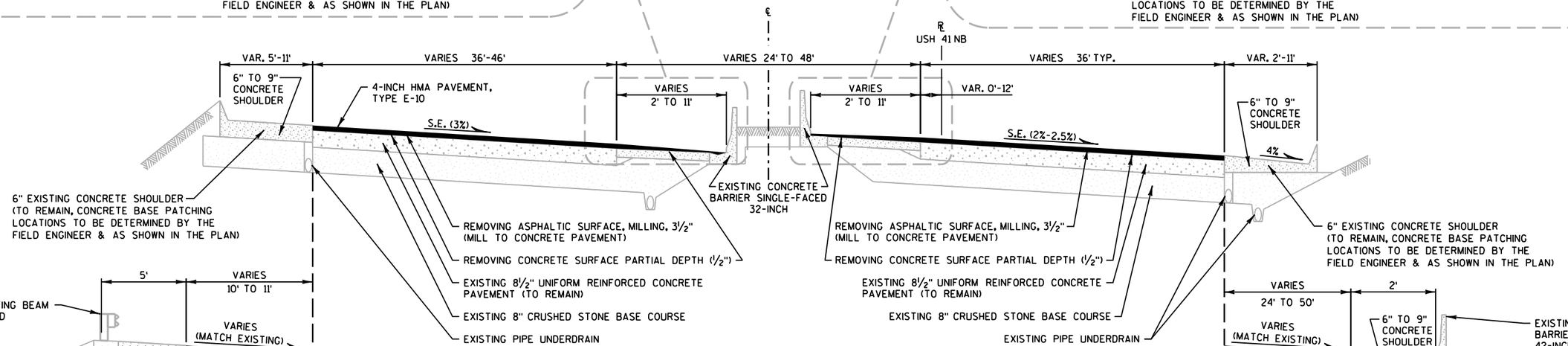
WASHINGTON BLVD.
(EAST OF STRUCTURE)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 11	E



* HMA PAVEMENT, TYPE E-10 TO BE PLACED IN ONE LIFT OVER MEDIAN SHOULDER. (USE 12.5 mm NOMINAL SIZE AGGREGATE)



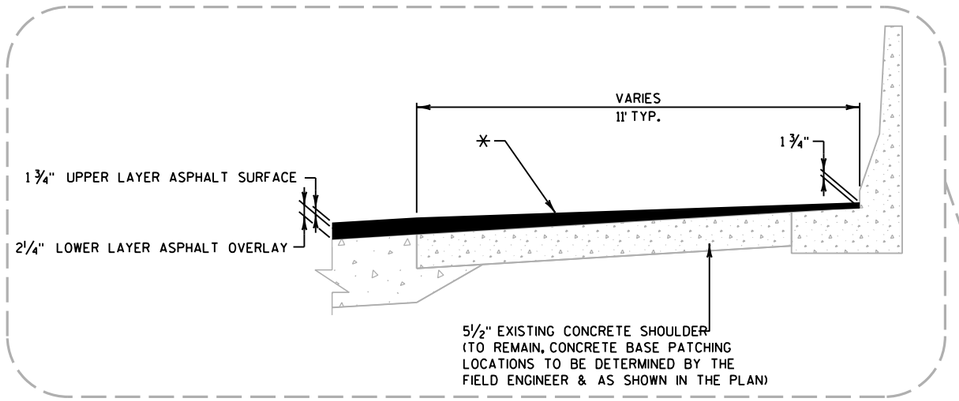


TYPICAL PROPOSED SECTION

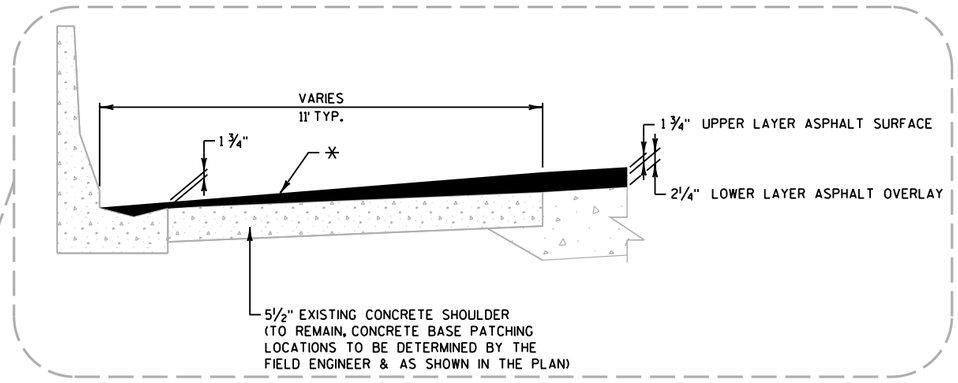
USH 41
STA. 86+96 TO 101+50

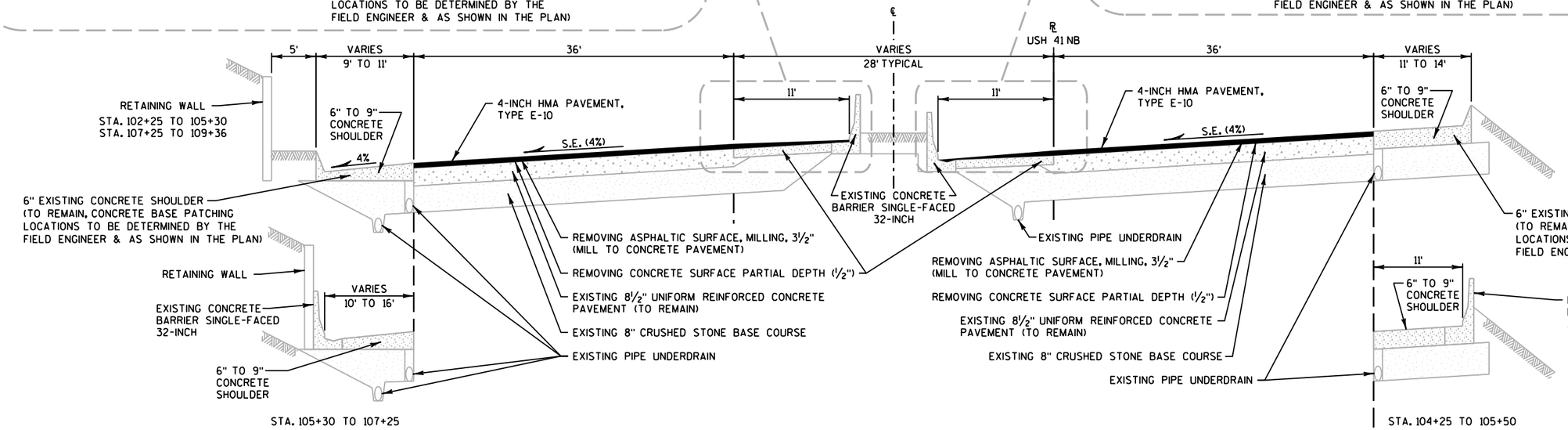
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 12	E

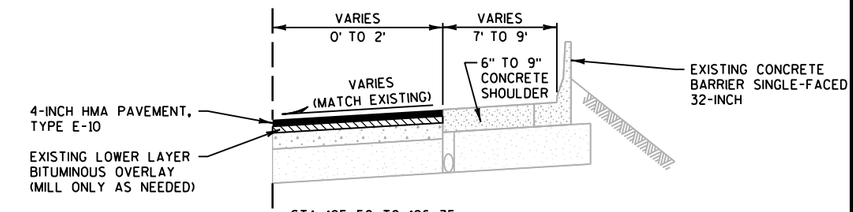
2

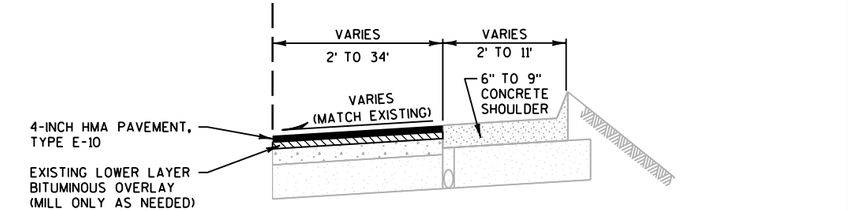


* HMA PAVEMENT, TYPE E-10 TO BE PLACED IN ONE LIFT OVER MEDIAN SHOULDER. (USE 12.5 mm NOMINAL SIZE AGGREGATE)





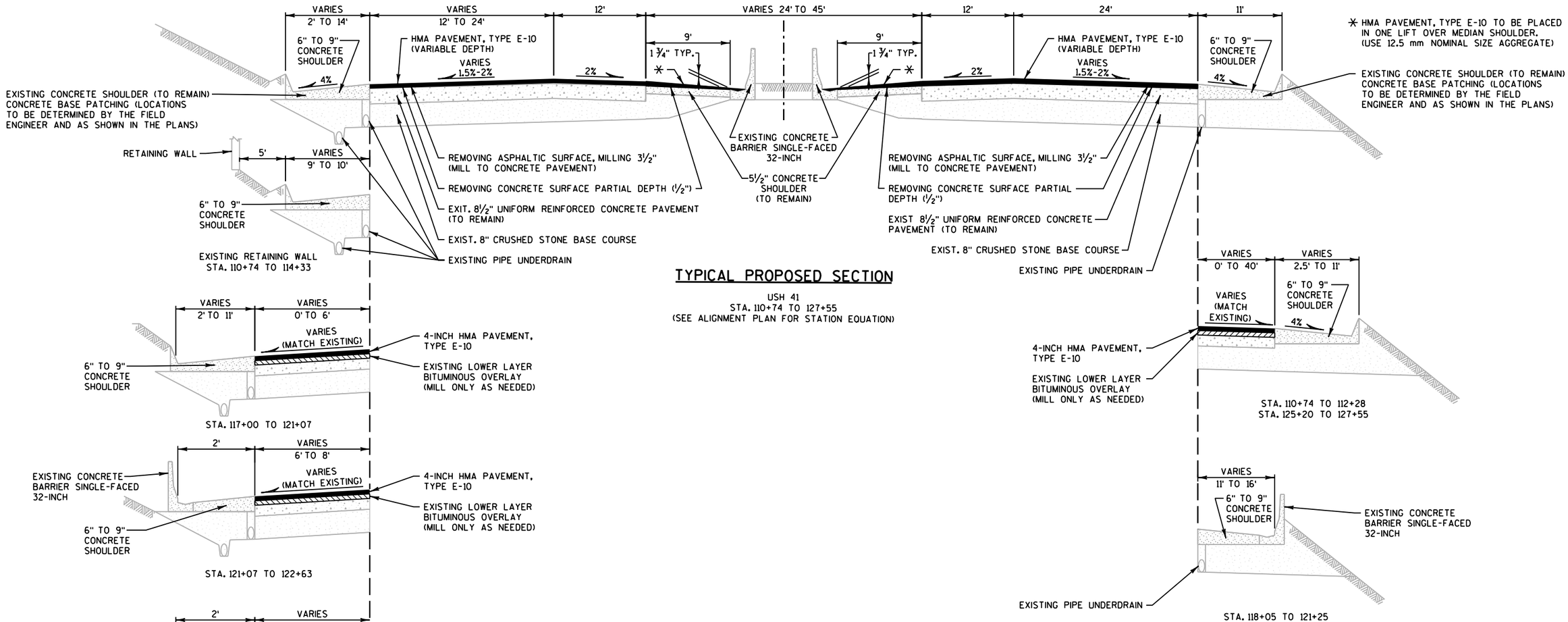




TYPICAL PROPOSED SECTION

USH 41
STA. 101+50 TO 109+36
(SEE ALIGNMENT PLAN FOR STATION EQUATION)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 13	E

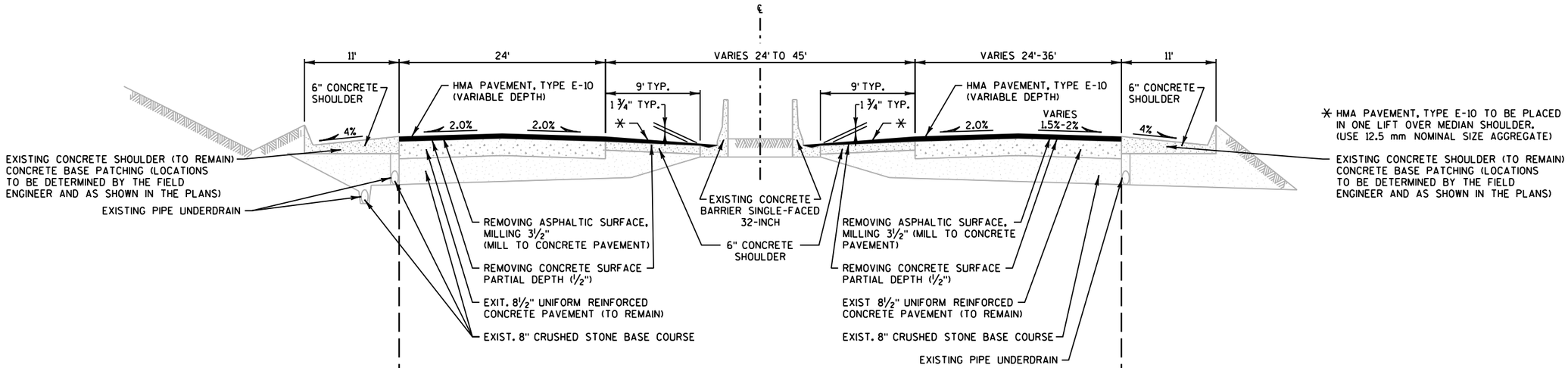


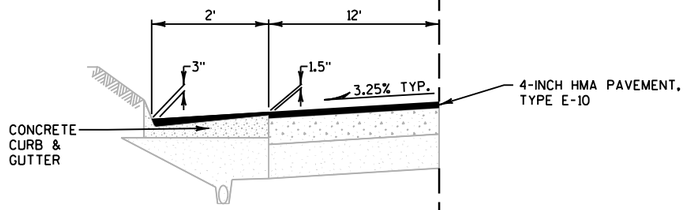
TYPICAL PROPOSED SECTION

USH 41
STA. 110+74 TO 127+55
(SEE ALIGNMENT PLAN FOR STATION EQUATION)

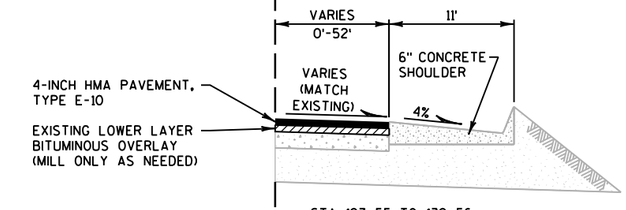
NOTE:
MAINTAIN AT LEAST THE EXISTING VERTICAL CLEARANCE UNDER BRIDGES (SEE CONSTRUCTION DETAIL).

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 14	E

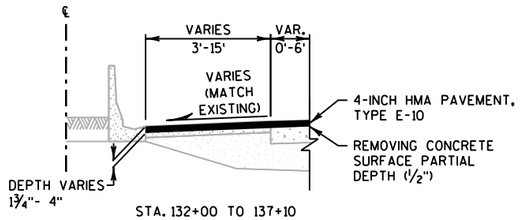




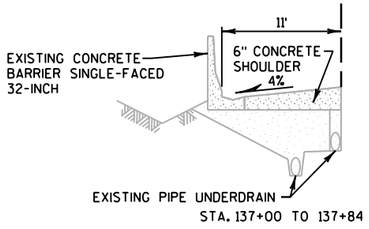
STA. 127+55 TO 135+00



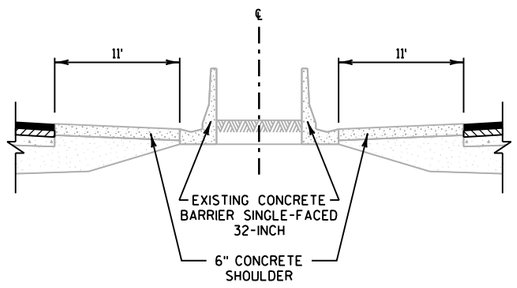
STA. 127+55 TO 132+56



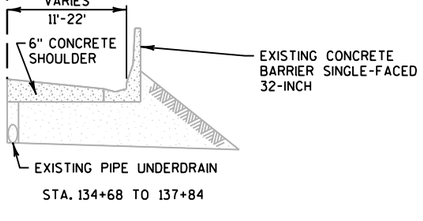
STA. 132+00 TO 137+10



STA. 137+00 TO 137+84



STA. 137+10 TO 137+84



STA. 134+68 TO 137+84

TYPICAL PROPOSED SECTION

USH 41
STA. 127+55 TO 137+84

NOTES:

8½" UNIFORM REINFORCED CONCRETE PAVEMENT BEFORE STA. 135+00

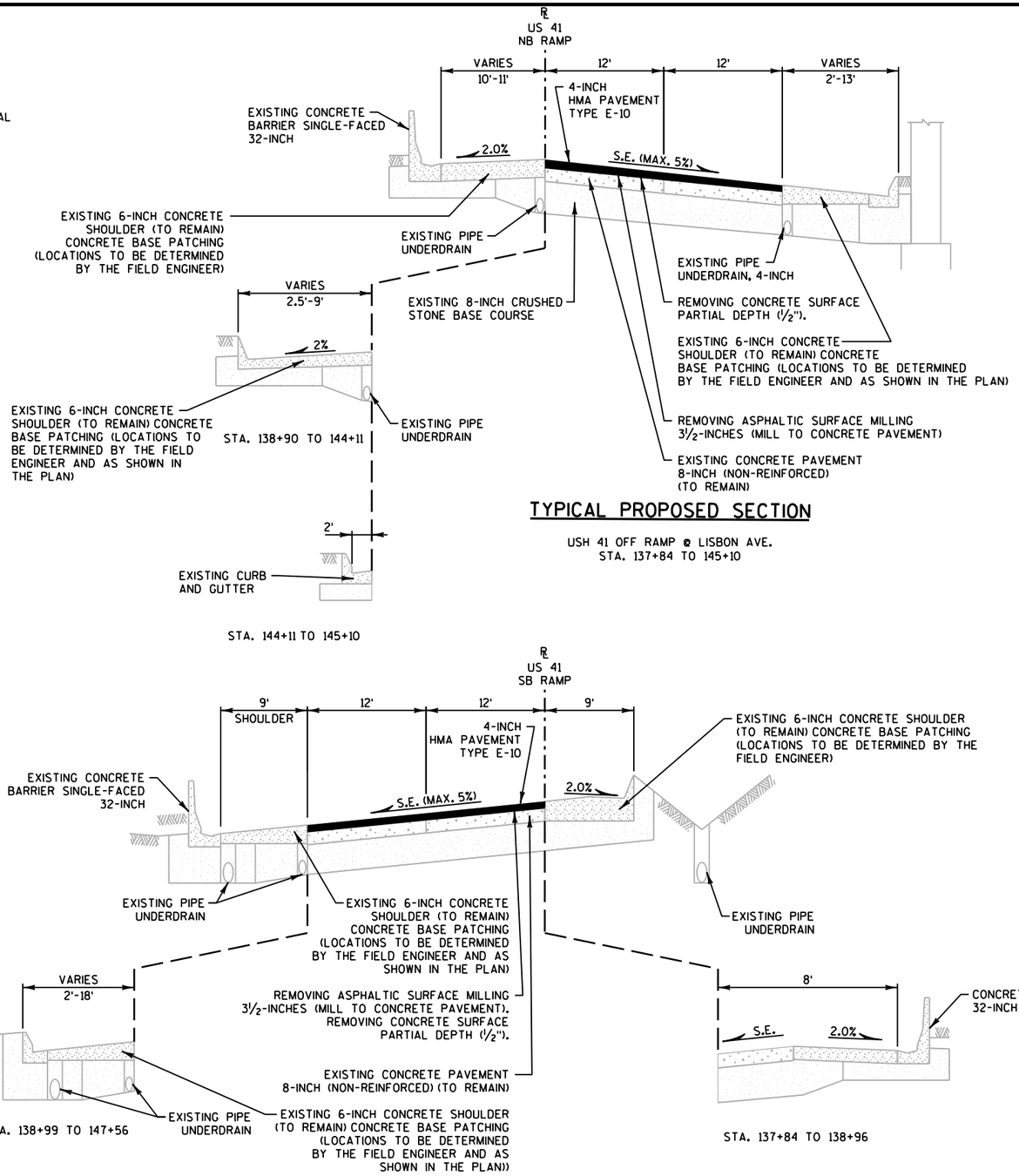
7½" - 9½" NON-REINFORCED CONCRETE PAVEMENT AFTER STA. 135+00

MAINTAIN AT LEAST THE EXISTING VERTICAL CLEARANCE UNDER BRIDGES (SEE CONSTRUCTION DETAIL).

2

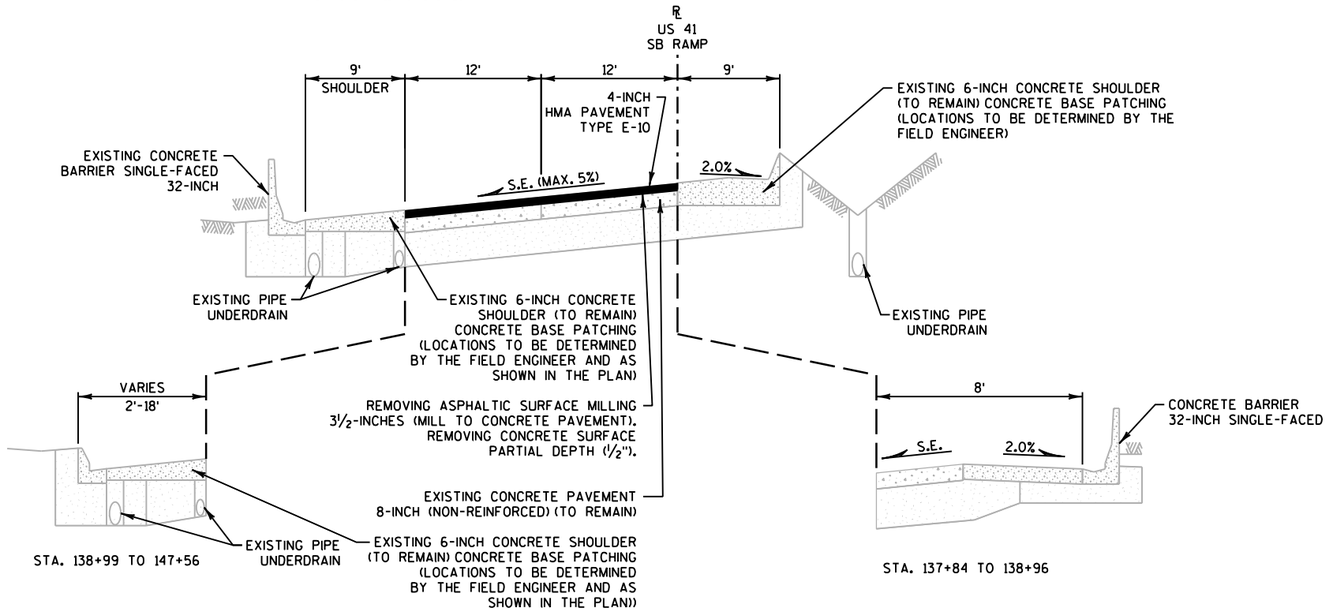
2

* TAPER THICKNESS OF LOWER LAYER OF HMA ASPHALT ON SHOULDER, SO FINAL PAVEMENT SURFACE IS NOT HIGHER THAN TOP OF VERTICAL FACE ON BARRIER WALL.



TYPICAL PROPOSED SECTION

USH 41 OFF RAMP @ LISBON AVE.
STA. 137+84 TO 145+10

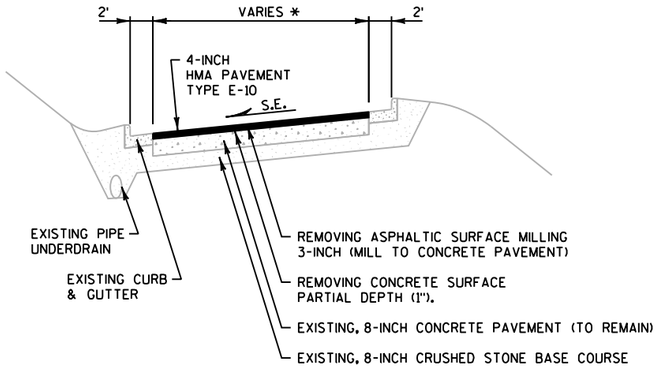


TYPICAL PROPOSED SECTION

USH 41 ON RAMP @ LISBON AVE.
STA. 137+84 TO 147+56

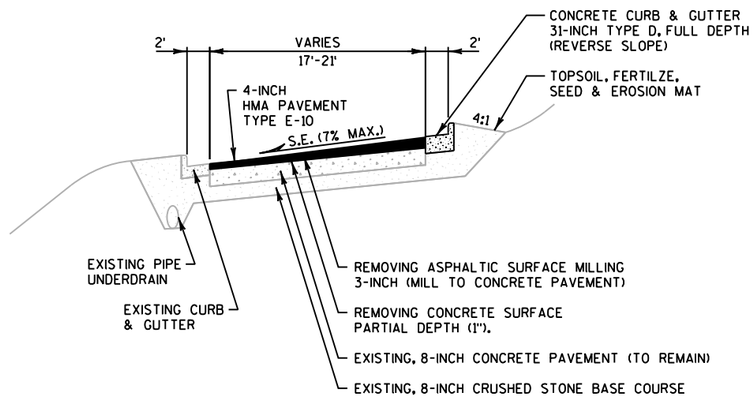
NOTE:
MAINTAIN AT LEAST THE EXISTING VERTICAL CLEARANCE UNDER BRIDGES (SEE CONSTRUCTION DETAIL).

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 16	E



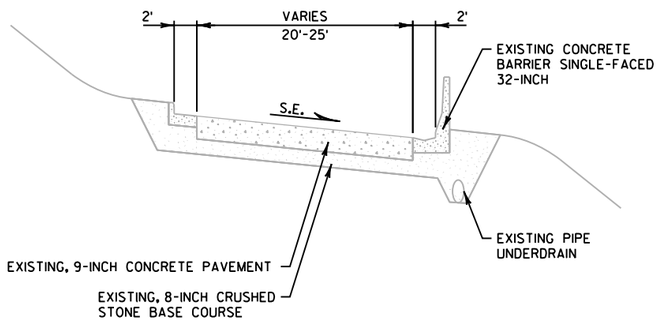
TYPICAL PROPOSED SECTION

*NB ON-RAMP @ MARTIN DR. (13' TO 23')
*SB OFF-RAMP @ ALOIS ST. (21' TO 23')
*NB OFF-RAMP @ WASHINGTON BLVD.. (20' TO 23')
*NB OFF-RAMP @ LLOYD ST. (33'-41')
*SB ON-RAMP @ LLOYD ST. (13'-27')



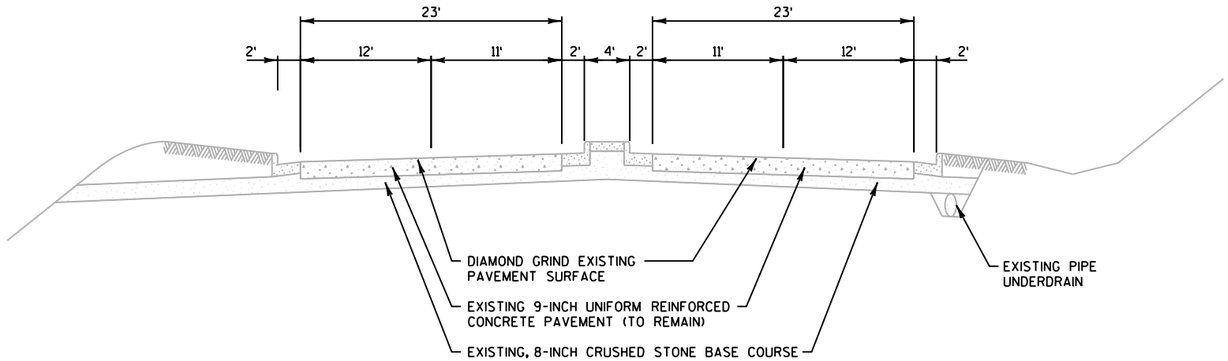
TYPICAL PROPOSED SECTION

SB ON-RAMP @ ALOIS ST.



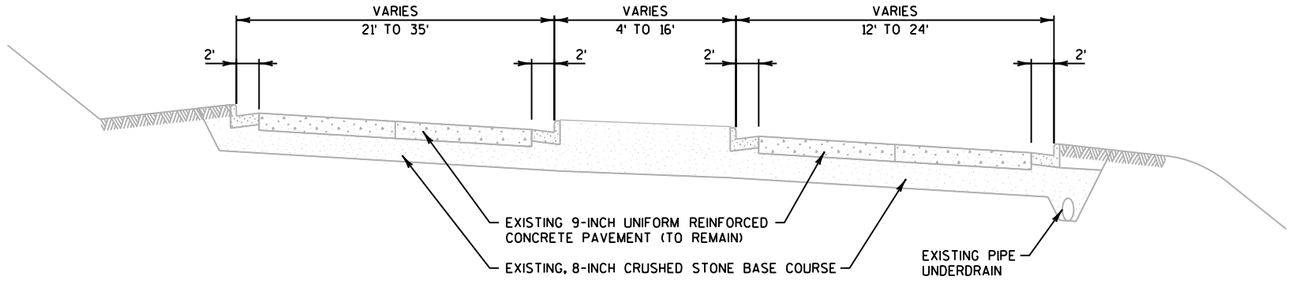
TYPICAL PROPOSED SECTION

NB OFF-RAMP @ MARTIN DR.



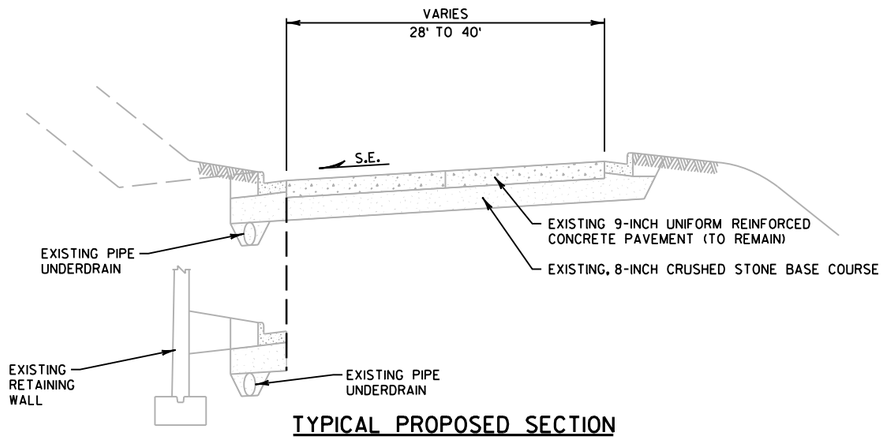
TYPICAL PROPOSED SECTION

ALOIS ST.
STA. 1+27 TO 7+00



TYPICAL PROPOSED SECTION

ALOIS ST.
STA. 7+00 TO 13+52

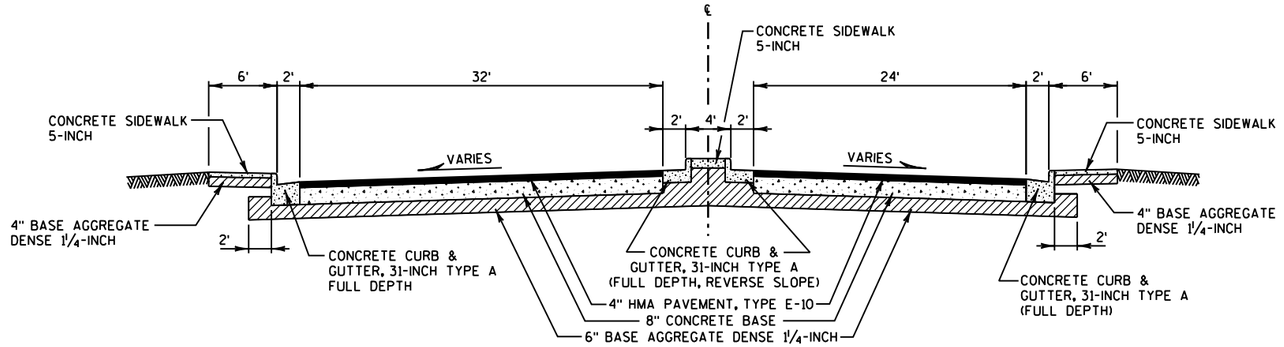


TYPICAL PROPOSED SECTION

STA. 27+85 TO 28+67

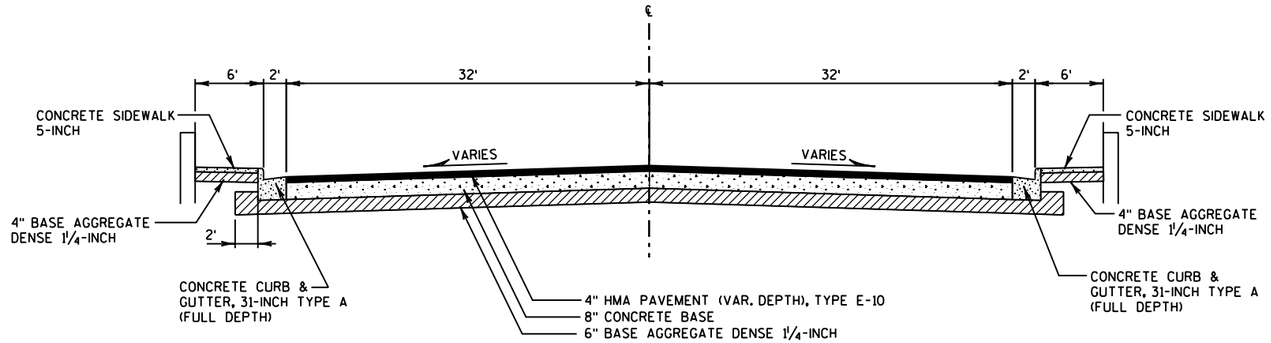
ALOIS ST.
STA. 13+52 TO 20+09

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 18	E



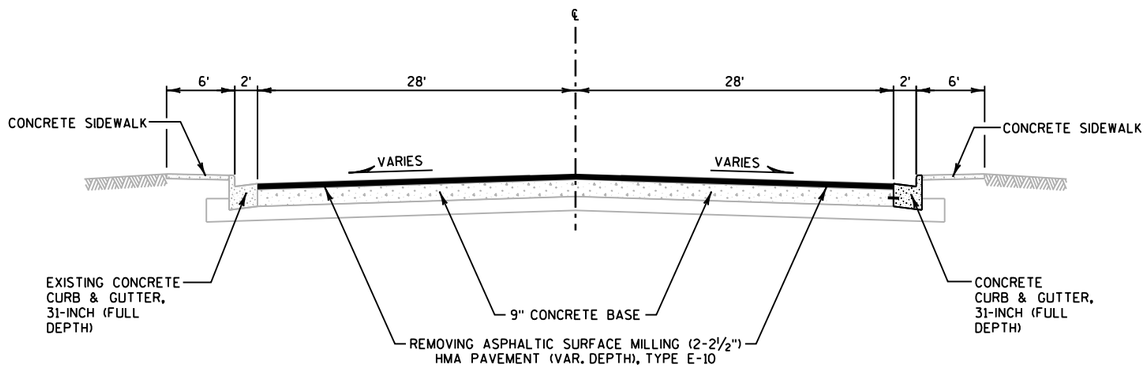
TYPICAL PROPOSED SECTION

VLIET ST.
STA. 10+41 TO 10+69
STA. 12+24 TO 12+52



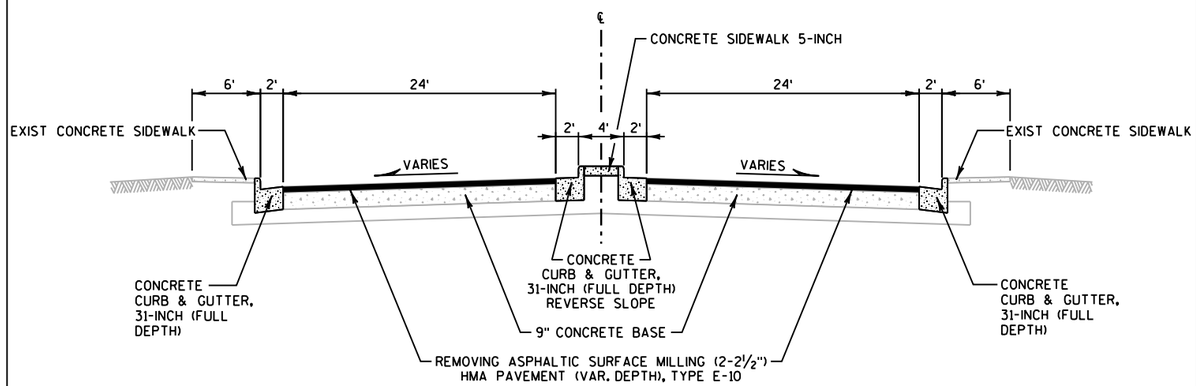
TYPICAL PROPOSED SECTION

LLOYD ST.



TYPICAL PROPOSED SECTION

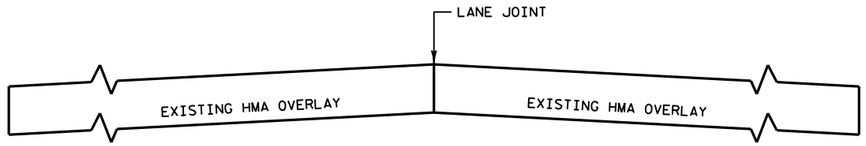
WASHINGTON BLVD.
(WEST OF STRUCTURE)



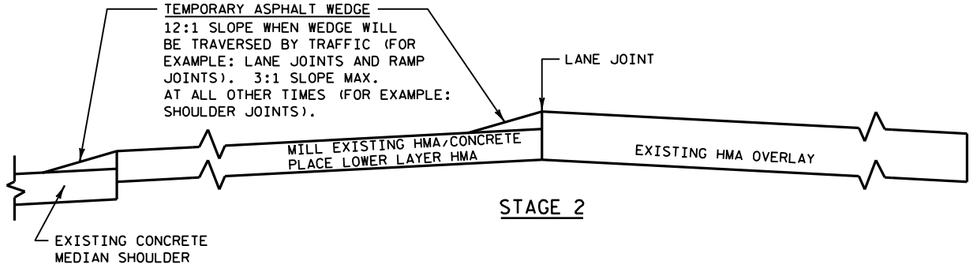
TYPICAL PROPOSED SECTION

WASHINGTON BLVD.
(EAST OF STRUCTURE)

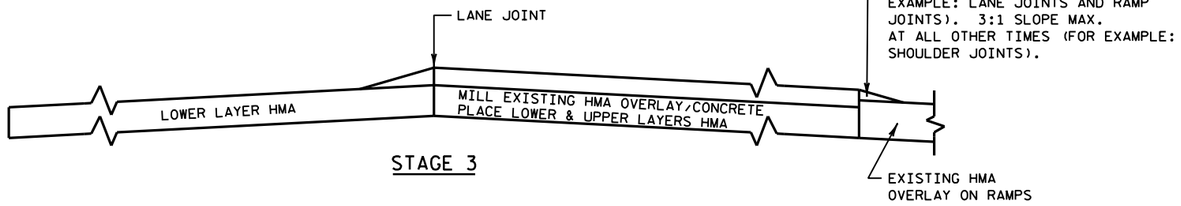
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 19	E



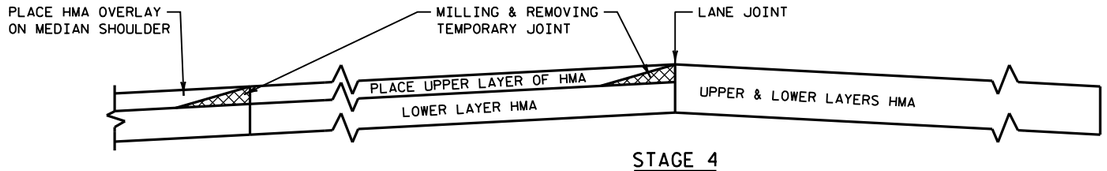
STAGE 1



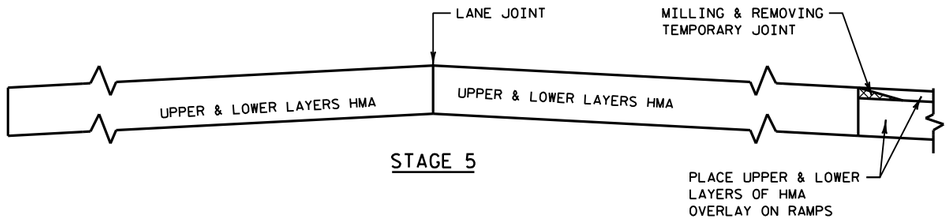
STAGE 2



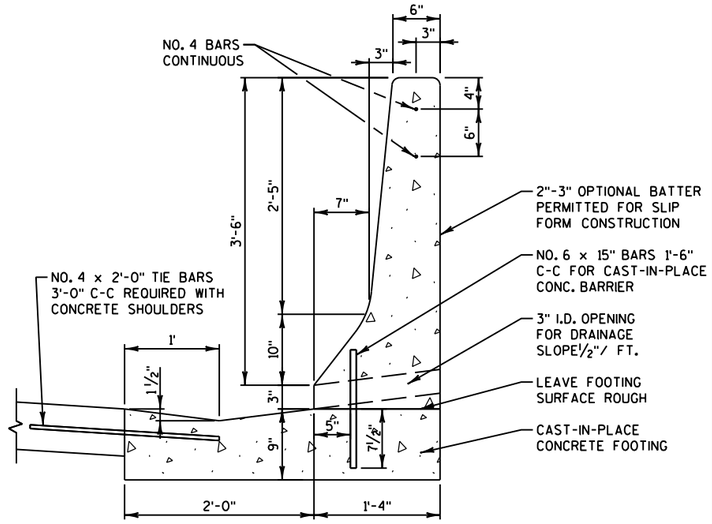
STAGE 3



STAGE 4



STAGE 5



NOTE:

SEE S.D.D. CONCRETE BARRIER, SINGLE-FACED FOR ADDITIONAL GUIDANCE.

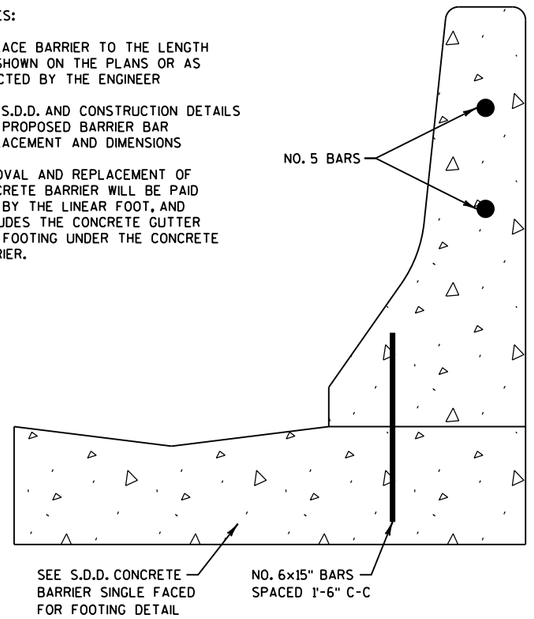
CONCRETE BARRIER SINGLE-FACED 42-INCH

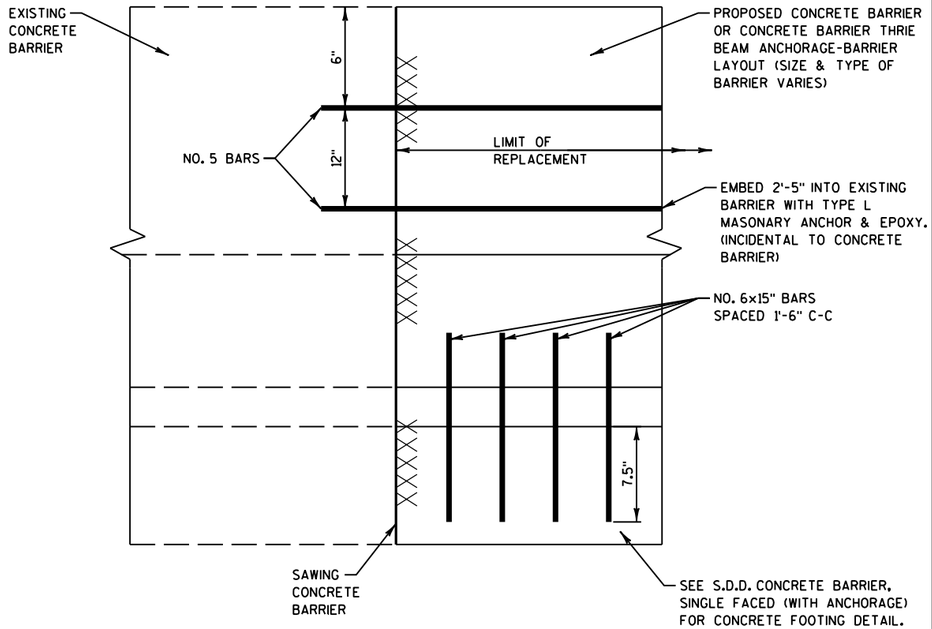
NOTES:

REPLACE BARRIER TO THE LENGTH AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER

SEE S.D.D. AND CONSTRUCTION DETAILS FOR PROPOSED BARRIER BAR REPLACEMENT AND DIMENSIONS

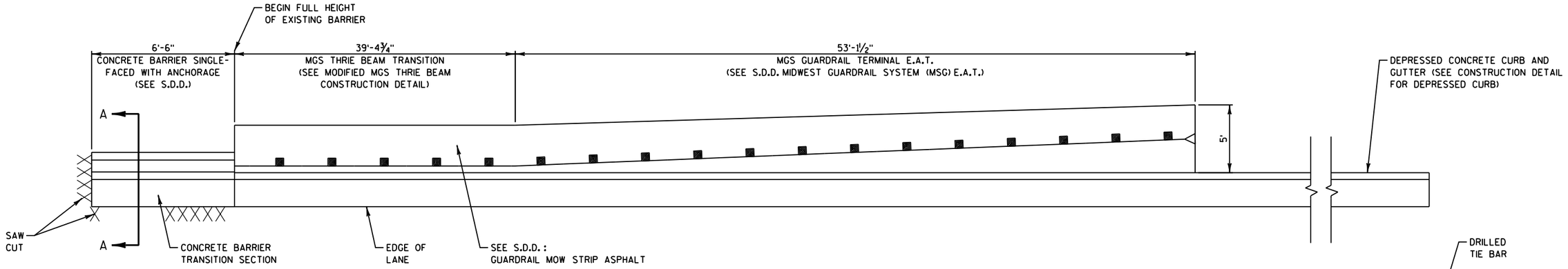
REMOVAL AND REPLACEMENT OF CONCRETE BARRIER WILL BE PAID FOR BY THE LINEAR FOOT, AND INCLUDES THE CONCRETE GUTTER AND FOOTING UNDER THE CONCRETE BARRIER.

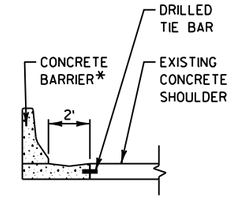




CONCRETE BARRIER REPAIR DETAIL

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 20	E





SECTION A-A

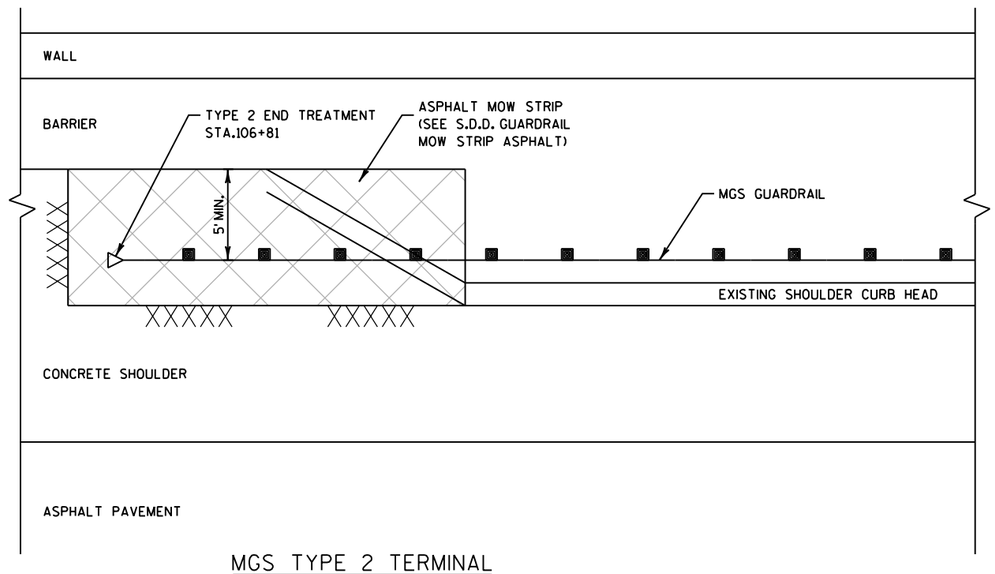
* CONCRETE BARRIER TYPE AND SIZE TO MATCH EXISTING

CONCRETE BARRIER END TREATMENT

NOTES:

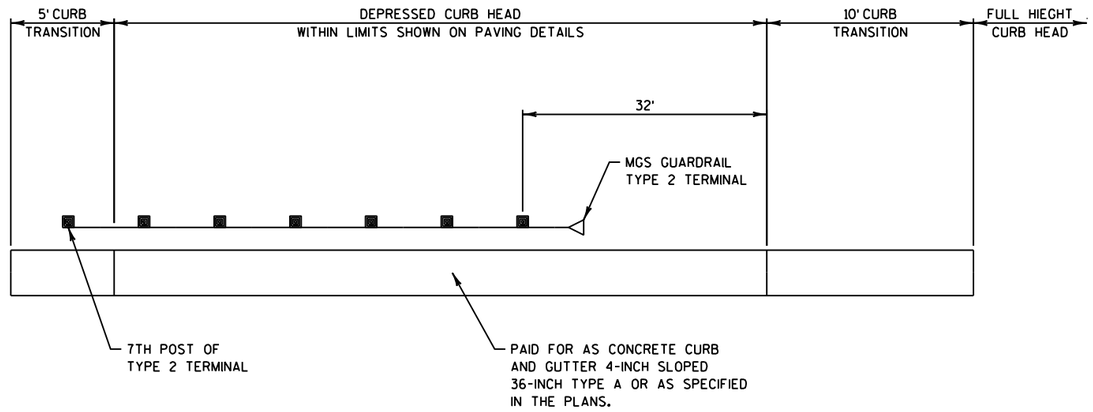
SEE S.D.D.'S FOR POST SPACINGS FOR MGS THRIE BEAM TRANSITION AND MGS GUARDRAIL TERMINAL ENERGY ABSORBING TERMINAL, AND CONSTRUCTION DETAIL FOR 'MODIFIED MGS THRIE BEAM TRANSITION'

REMOVE EXISTING CONCRETE BARRIER TURN DOWN TRANSITION 6'-6" BEYOND FULL HEIGHT OF BARRIER



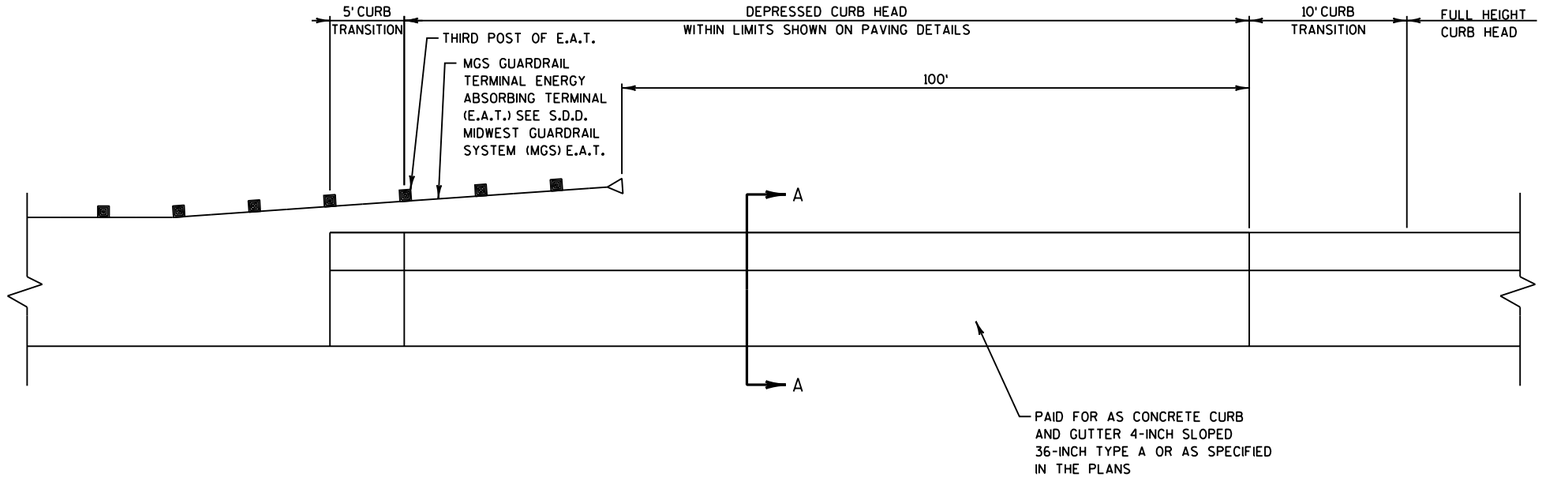
MGS TYPE 2 TERMINAL

STA. 106+81



DEPRESSED CURB HEAD AT BEAM GUARD TYPE 2 TERMINAL

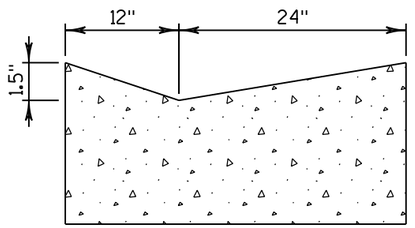
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 21	E



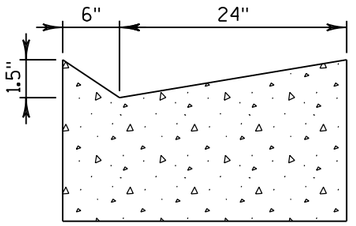
NOTE:

REPLACE ANY EXISTING INLET COVERS WITHIN THE LENGTH OF THE DEPRESSED CURB WITH AN INLET COVER TYPE "S" (SEE S.D.D. MANHOLES, MANHOLE & INLET COVERS)

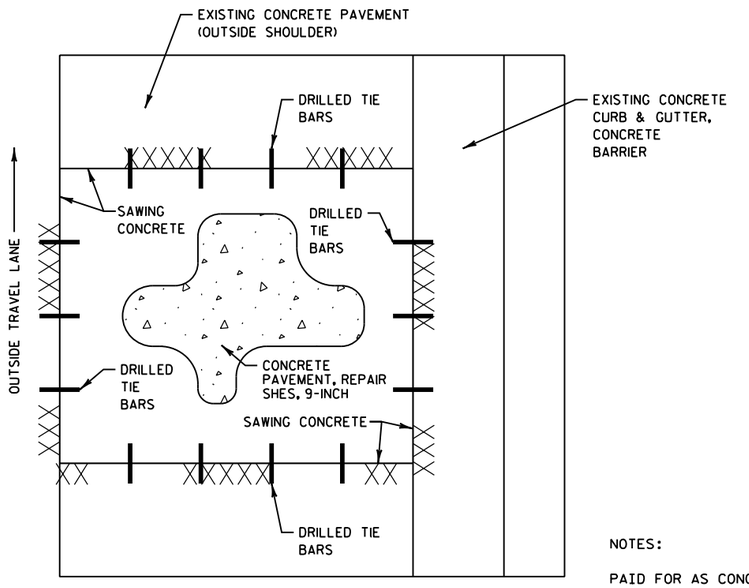
DEPRESSED CURB HEAD AT GUARDRAIL TERMINAL



SECTION A-A
DEPRESSED CURB FOR
36-INCH CURB & GUTTER



SECTION A-A
DEPRESSED CURB FOR
30-INCH CURB & GUTTER



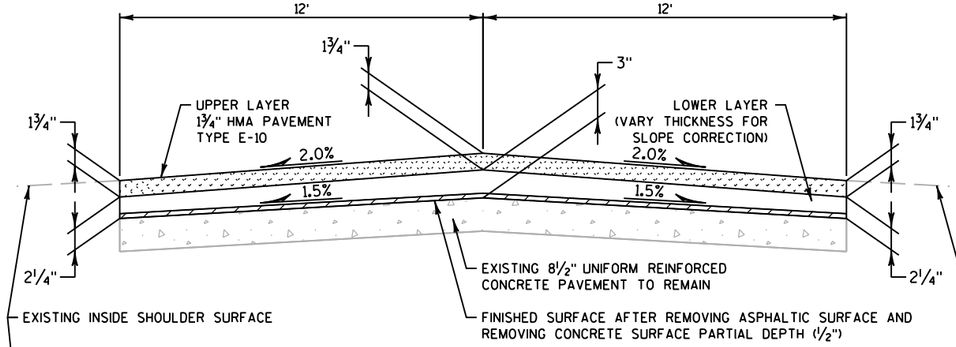
REMOVE CONCRETE RUMBLE STRIP DETAIL

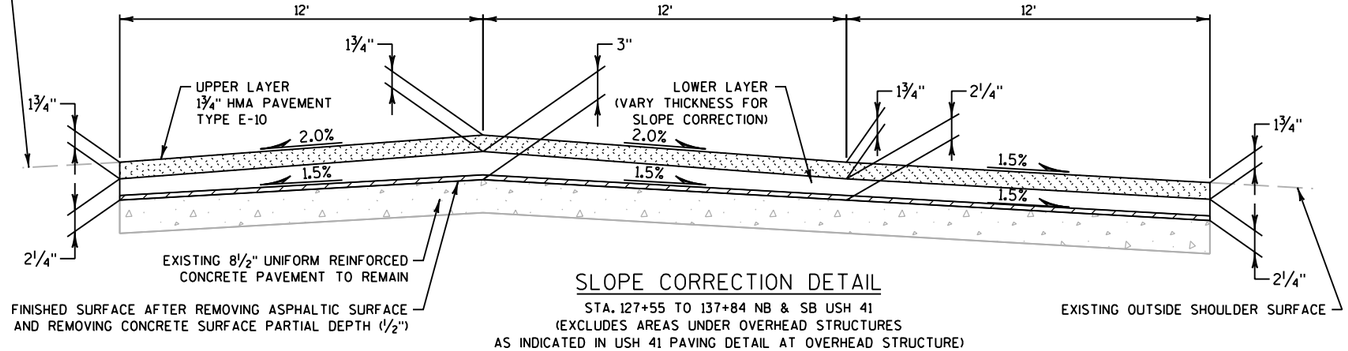
NOTES:

PAID FOR AS CONCRETE PAVEMENT REPAIR SHES AT CONTRACT UNIT PRICES.

DRILLED TIE BARS & SAWING PAID CONTRACT UNIT PRICES.

TO BE COMPLETED IN STAGE 1.

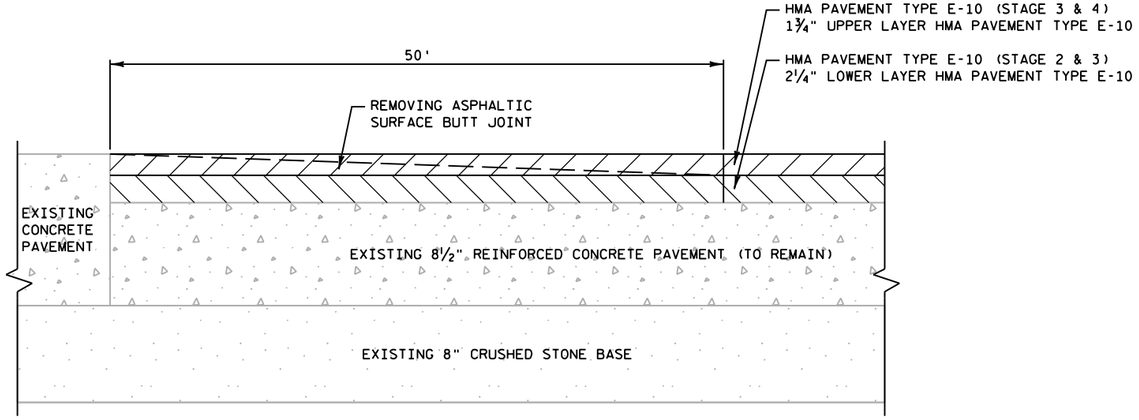




NOTES:
MATCH EXISTING SHOULDER SURFACE AT EDGE OF LANES.
1. IF EXISTING SHOULDER HAS AN ASPHALT OVERLAY, MILL OVERLAY AND PAVE HMA PAVEMENT TYPE E-10 TO EXISTING GRADE.
2. IF EXISTING SHOULDER IS CONCRETE, REPAIR AS NOTED IN PLANS.

SLOPE CORRECTION DETAIL

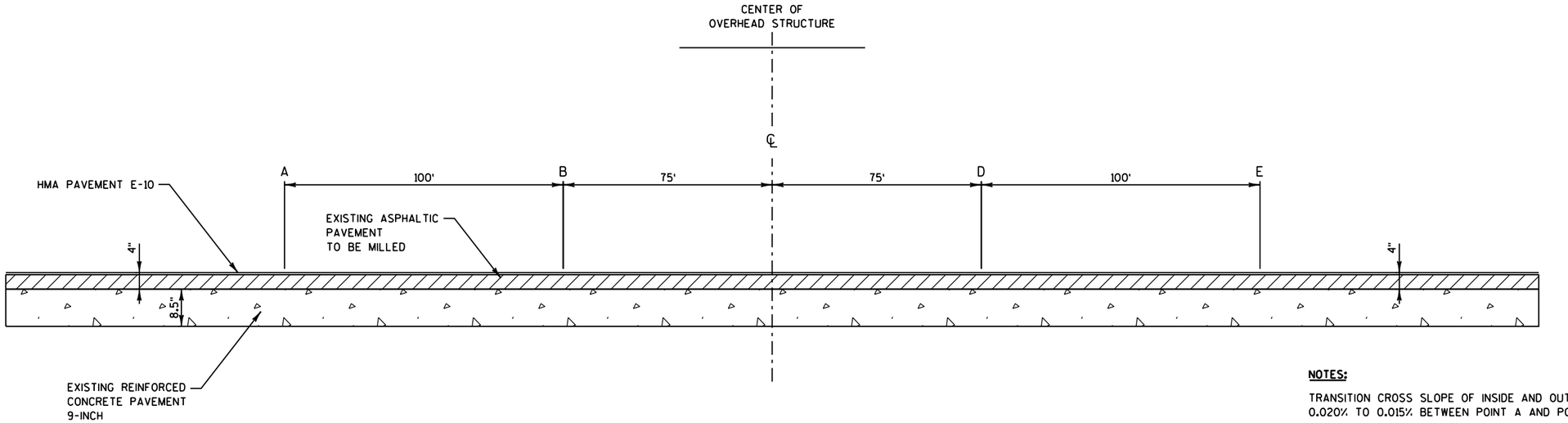
STA. 127+55 TO 137+84 NB & SB USH 41
(EXCLUDES AREAS UNDER OVERHEAD STRUCTURES AS INDICATED IN USH 41 PAVING DETAIL AT OVERHEAD STRUCTURE)



BUTT JOINT DETAIL

US 41 NB & SB @ STATE STREET STRUCTURE
MARTIN DRIVE OFF RAMP FROM US 41 NB
US 41 NB & SB RAMPS @ LISBON AVENUE

ROADWAY		DESCRIPTION	MINIMUM VERTICAL CLEARANCE	TRAVEL LANE CROSS SLOPE	NORTH EDGE OF STRUCTURE	SOUTH EDGE OF STRUCTURE
				EXISTING PROPOSED	EXISTING CLEARANCE	EXISTING CLEARANCE
USH 41 NB	VLIET ST	LEFT			17.0'	19.7'
		CENTER		4.0%-4.0%	16.4'	19.0'
		RIGHT	15.3'	S.E.	15.3'	18.2'
USH 41 SB		LEFT			16.8'	19.3'
		CENTER		4.0%-4.0%	17.7'	20.2'
		RIGHT	16.8'	S.E.	18.5'	21.3'
USH 41 NB	WASHINGTON BLVD.	LEFT			15.3'	15.5'
		CENTER			15.4'	15.4'
		RIGHT	15.3'	1.5%-1.5%	15.6'	15.4'
USH 41 SB		LEFT			15.0'	15.6'
		CENTER			14.7'	15.5'
		RIGHT	14.7'	1.5%-1.5%	14.7'	15.6'
USH 41 NB	LLOYD ST.	LEFT			14.8'	14.7'
		RIGHT	14.7'	1.5%-1.5%	15.1'	14.8'
USH 41 SB		LEFT			15.0'	15.0'
		RIGHT	15.0'	1.5%-1.5%	15.4'	15.2'
USH 41 SB	SIGN STRUCTURE STA 113+20	---	MAINTAIN CURRENT CLEARANCE	1.5%-1.5%	---	---
USH 41 NB	SIGN STRUCTURE STA 115+70	---	MAINTAIN CURRENT CLEARANCE	1.5%-1.5%	---	---



USH 41 DETAIL AT OVERHEAD STRUCTURE AND SIGN STRUCTURES

NOTES:

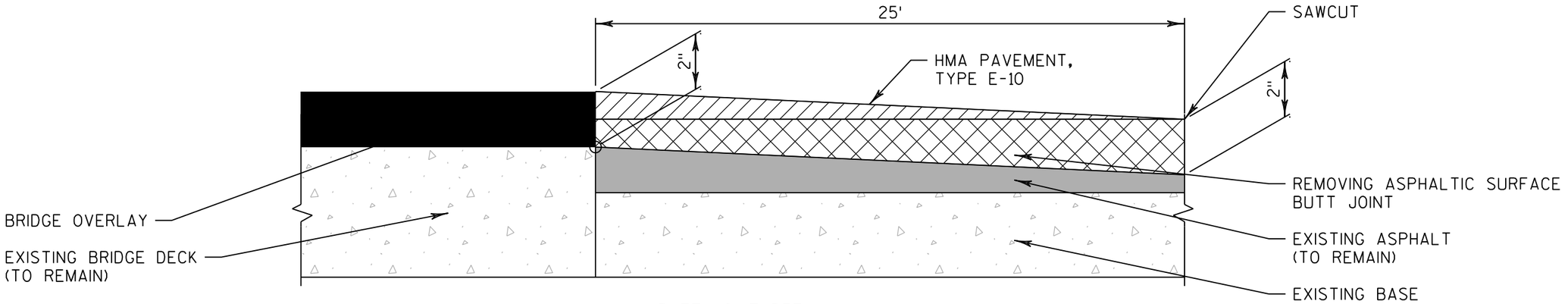
TRANSITION CROSS SLOPE OF INSIDE AND OUTSIDE LANES FROM 0.020% TO 0.015% BETWEEN POINT A AND POINT B.

TRANSITION CROSS SLOPE OF INSIDE AND OUTSIDE LANES FROM 0.015% TO 0.020% BETWEEN POINT D AND POINT E.

MAINTAIN EXISTING SUPERELEVATION RATE WITHIN SUPERELEVATED SECTION.

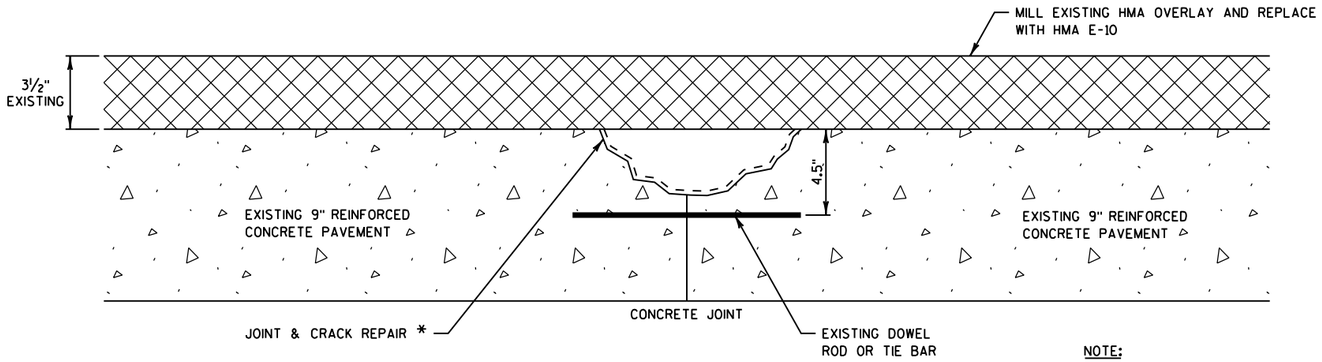
MAINTAIN AT LEAST EXISTING VERTICAL CLEARANCE UNDER STRUCTURES AND OVERHEAD SIGN STRUCTURES.

2



BUTT JOINT DETAIL

WASHINGTON BLVD.

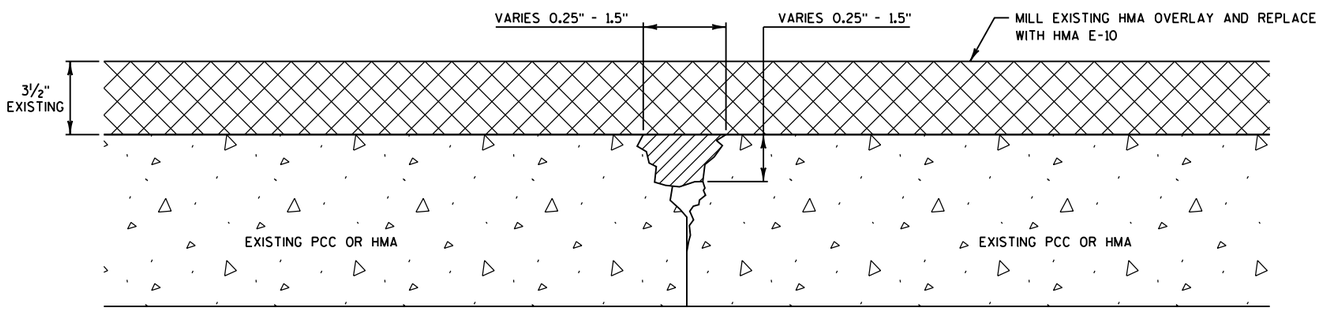


LONGITUDINAL AND TRANSVERSE
JOINT REPAIR DETAIL

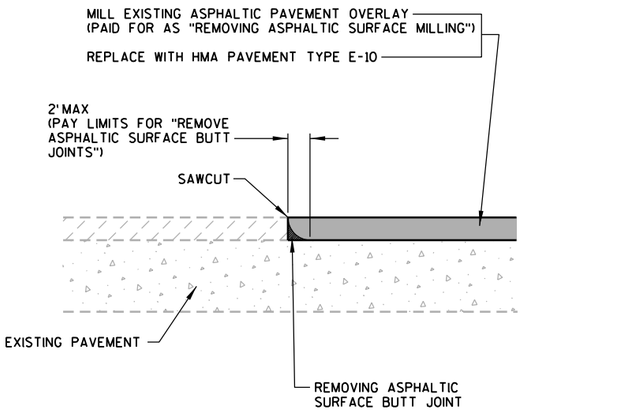
NOTE:

– – – TACK COAT

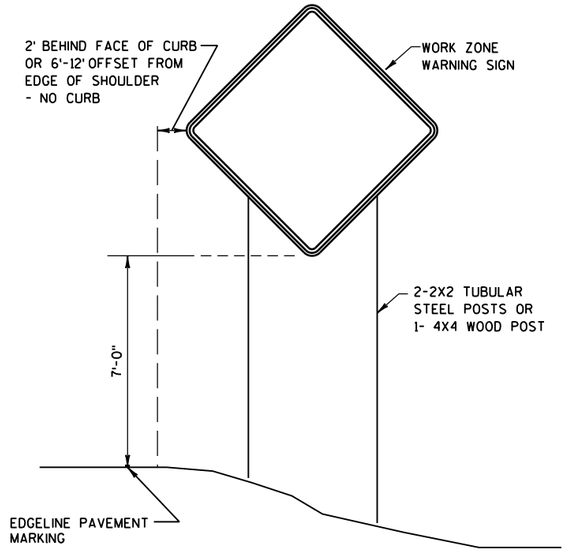
* EXACT LOCATIONS TO BE MARKED BY THE FIELD ENGINEER AFTER THE MILLING OPERATION.



CRACK SEALING
SPECIAL ITEM

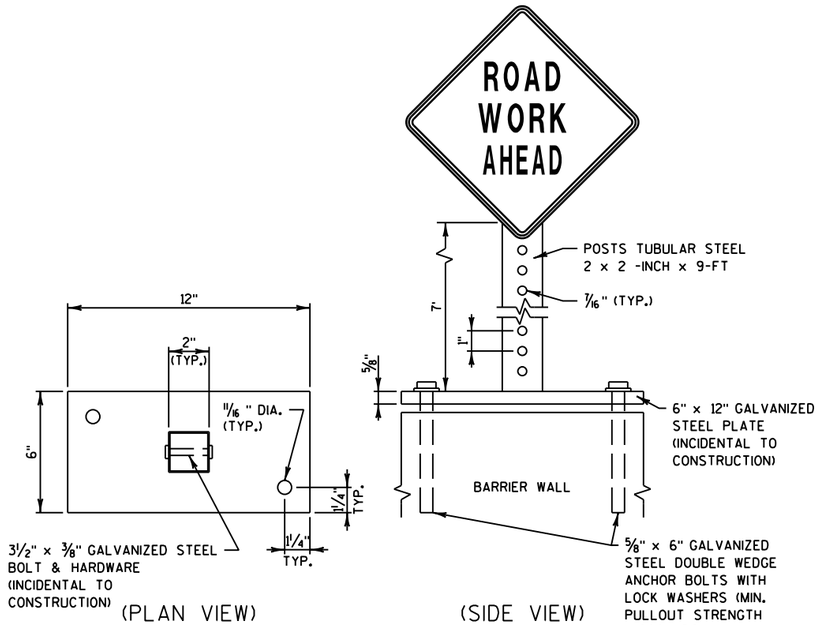


DETAIL FOR BUTT JOINTS FOR MILLING ASPHALTIC PAVEMENT



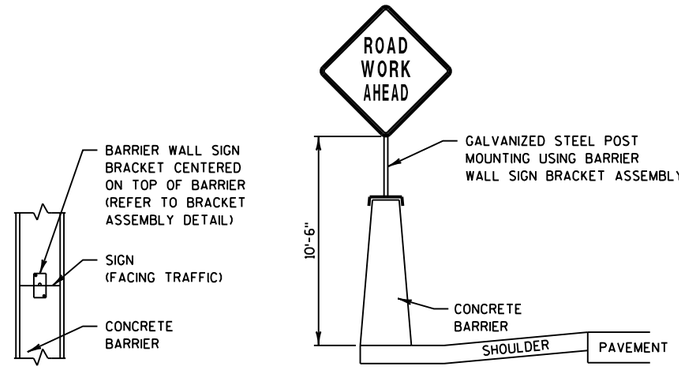
TYPICAL TEMPORARY TRAFFIC CONTROL DETAIL
MOUNTING ON FIXED SUPPORT

LONG TERM
7 DAYS OR MORE



(PLAN VIEW) (SIDE VIEW)

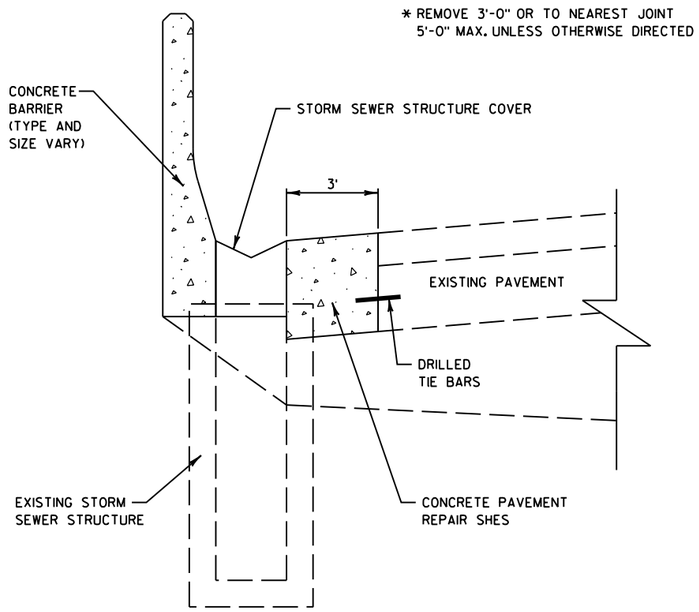
BRACKET ASSEMBLY DETAIL



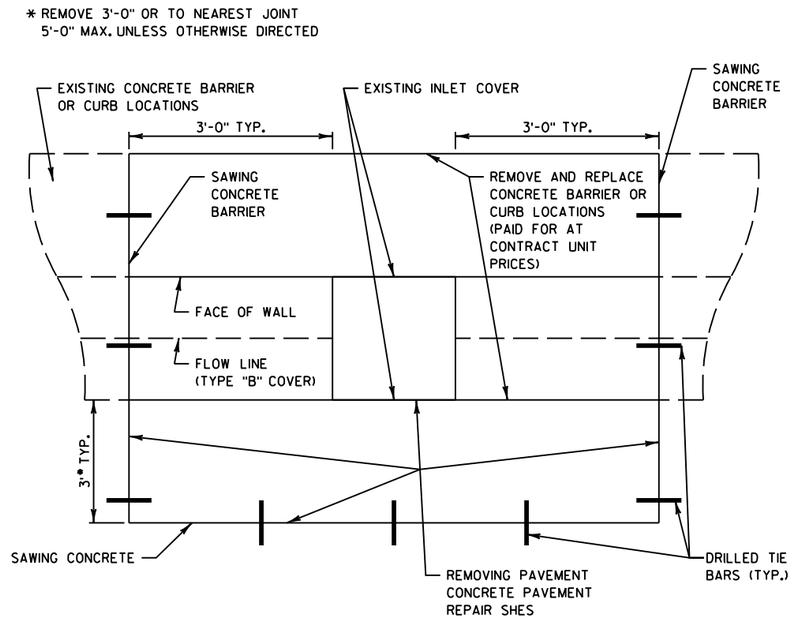
(PLAN VIEW) (SIDE VIEW)

MEDIAN BARRIER MOUNTING DETAIL

MOUNTING DETAILS FOR SIGNS MOUNTED TO MEDIAN BARRIER

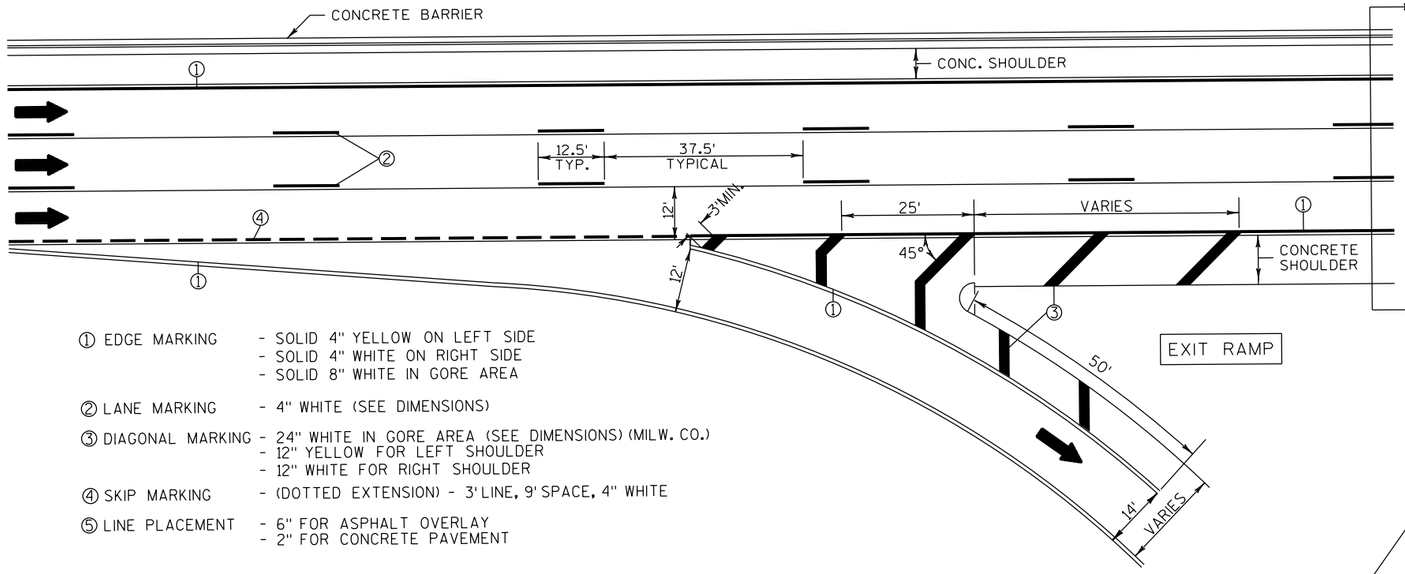


STORM SEWER STRUCTURE REHABILITATION OR
REPLACEMENT DETAIL BARRIER LOCATIONS
(ELEVATION VIEW)



REHABILITATE STORM SEWER STRUCTURE DETAIL
BARRIER AND CURB & GUTTER LOCATIONS
(PLAN VIEW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 25	E



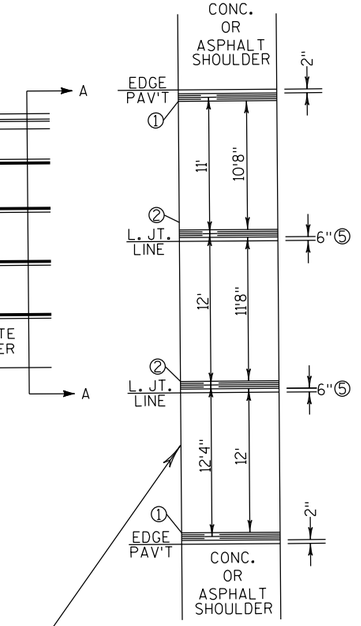
① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE
- SOLID 8" WHITE IN GORE AREA

② LANE MARKING - 4" WHITE (SEE DIMENSIONS)

③ DIAGONAL MARKING - 24" WHITE IN GORE AREA (SEE DIMENSIONS) (MILW. CO.)
- 12" YELLOW FOR LEFT SHOULDER
- 12" WHITE FOR RIGHT SHOULDER

④ SKIP MARKING - (DOTTED EXTENSION) - 3' LINE, 9' SPACE, 4" WHITE

⑤ LINE PLACEMENT - 6" FOR ASPHALT OVERLAY
- 2" FOR CONCRETE PAVEMENT

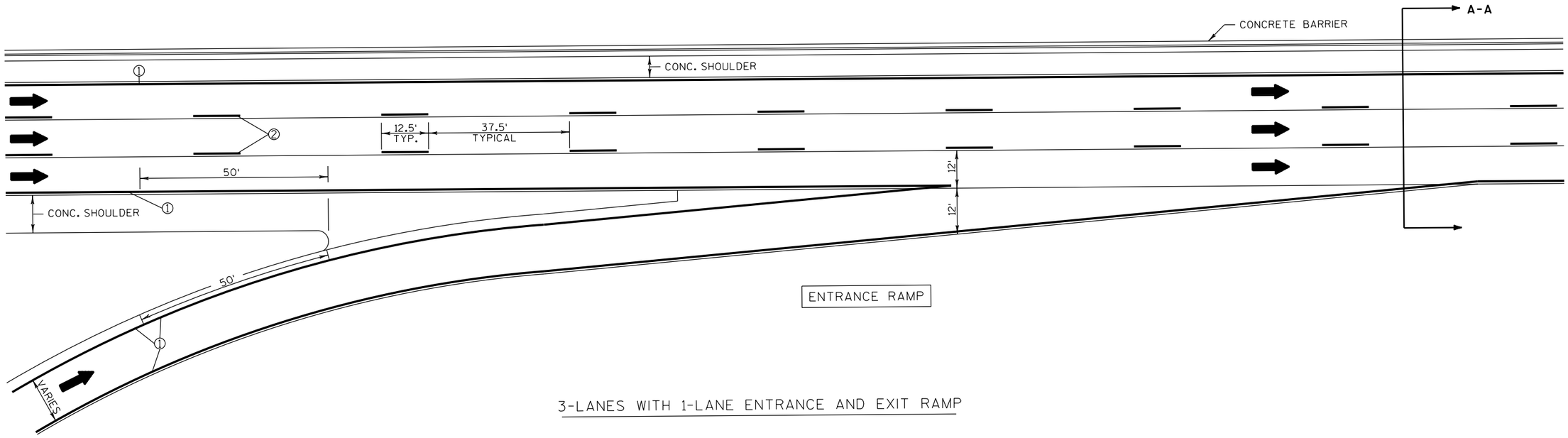


SECTION A-A

LINE PLACEMENT DETAILS

NOTES:

1. THE 12" WIDE DIAGONAL SHOULDER MARKING SHALL BE USED ONLY WHERE THE ASPHALTIC CONCRETE SHOULDER ABUTS ASPHALTIC CONC. PAV'T. IF THERE ARE CONTINUOUS RUMBLE STRIPS, DO NOT USE DIAGONAL SHOULDER MARKING.
2. WHERE THE DOTTED EXTENSION OF THE RIGHT EDGE LINE IS SHOWN ON THE PLAN, IT SHALL BE 4" WIDE, WITH A LINE SKIP PATTERN CONSISTING OF A 3' LONG LINE AND A 9' SKIP.
3. PAVEMENT LANE MARKINGS SHALL BE LOCATED 6" OFF THE LONGITUDINAL JOINT OF THE UNDERLYING CONC. PAVEMENT.
4. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
5. SPOTTING FOR PAVEMENT LANE MARKINGS AND EDGE LINES SHALL BE 4"x4" PIECES OF REFLECTORIZED PAV'T MARKING TAPE SPACED AT 50' INTERVALS, INCIDENTAL TO PAV'T MARKING.
6. SEE STANDARD DETAIL DRAWING FOR RAISED PAVEMENT MARKERS IN GORE AND LINE WIDTH TOLERANCES.

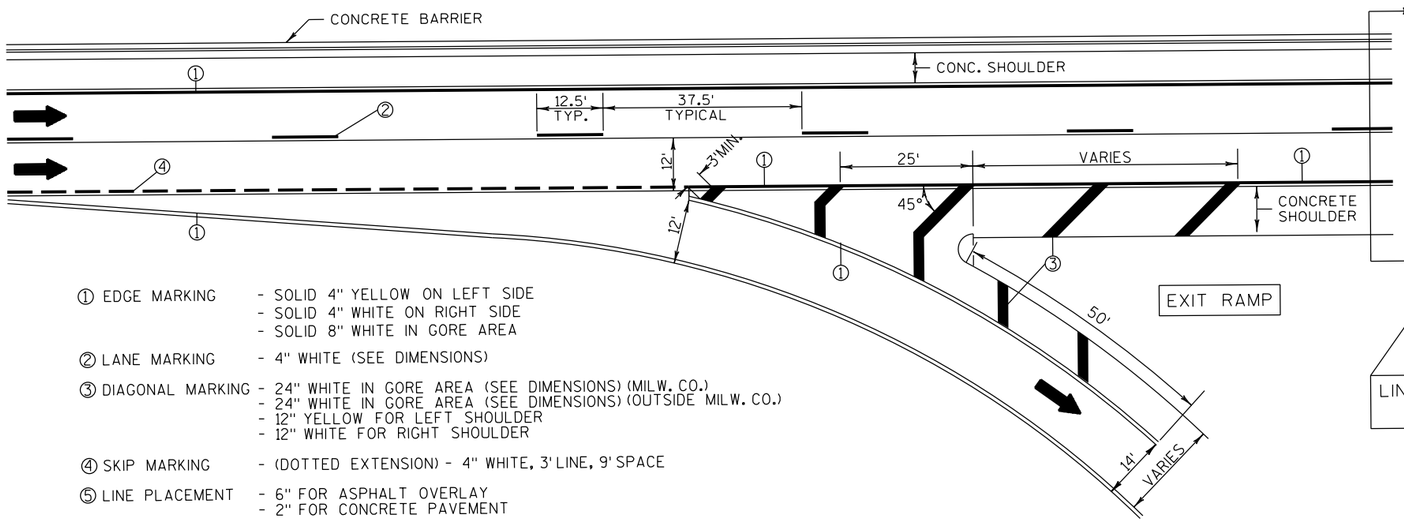


3-LANES WITH 1-LANE ENTRANCE AND EXIT RAMP

GORES, FREEWAYS, & EXPRESSWAYS (EPOXY)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 26	E

2



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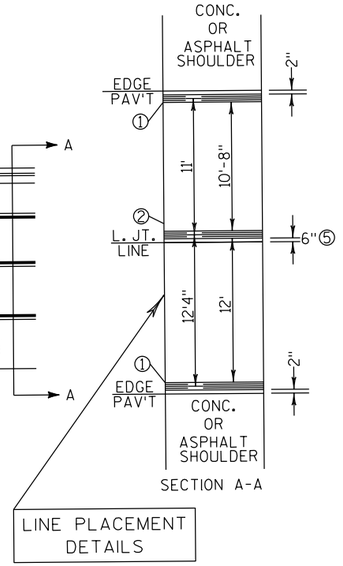
- SOLID 8" WHITE IN GORE AREA

② LANE MARKING - 4" WHITE (SEE DIMENSIONS)

③ DIAGONAL MARKING - 24" WHITE IN GORE AREA (SEE DIMENSIONS) (MILW. CO.)
- 24" WHITE IN GORE AREA (SEE DIMENSIONS) (OUTSIDE MILW. CO.)
- 12" YELLOW FOR LEFT SHOULDER
- 12" WHITE FOR RIGHT SHOULDER

④ SKIP MARKING - (DOTTED EXTENSION) - 4" WHITE, 3' LINE, 9' SPACE

⑤ LINE PLACEMENT - 6" FOR ASPHALT OVERLAY
- 2" FOR CONCRETE PAVEMENT



SECTION A-A

LINE PLACEMENT DETAILS

NOTES:

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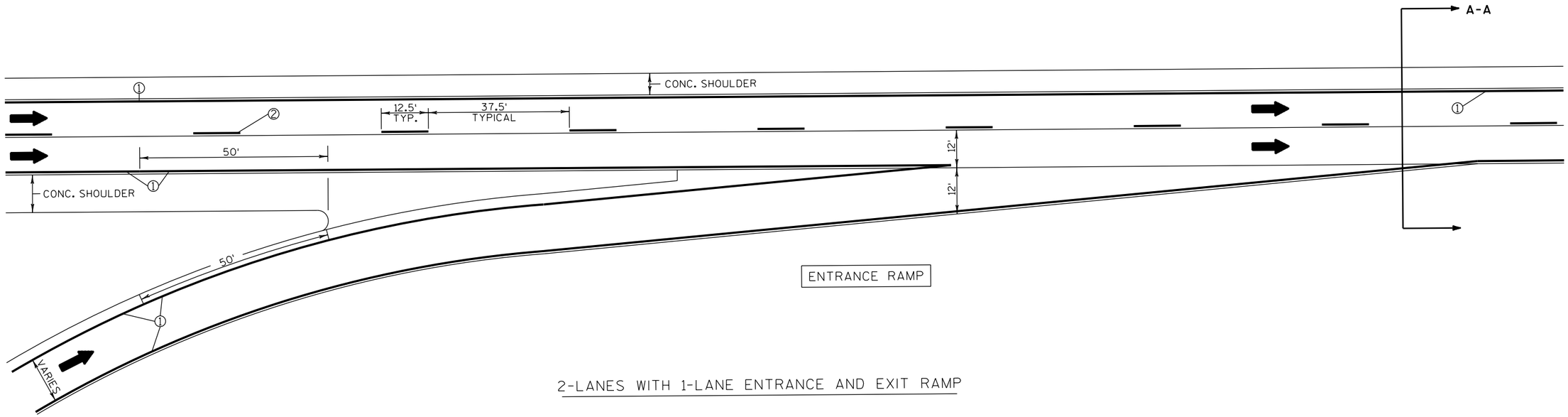


2-LANES WITH 1-LANE ENTRANCE AND EXIT RAMP

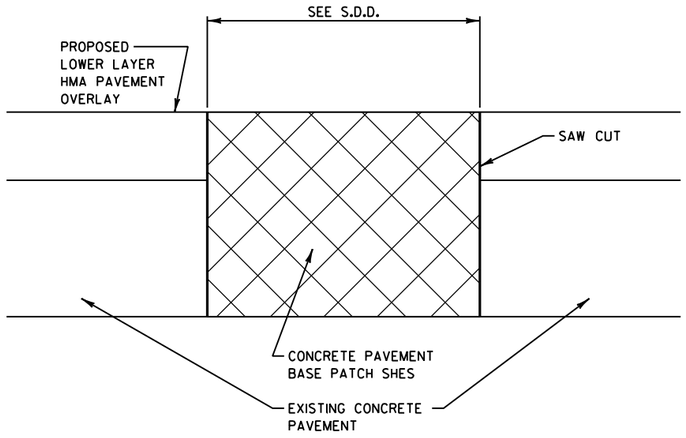
GORES, FREEWAYS, & EXPRESSWAYS (EPOXY)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 27	E

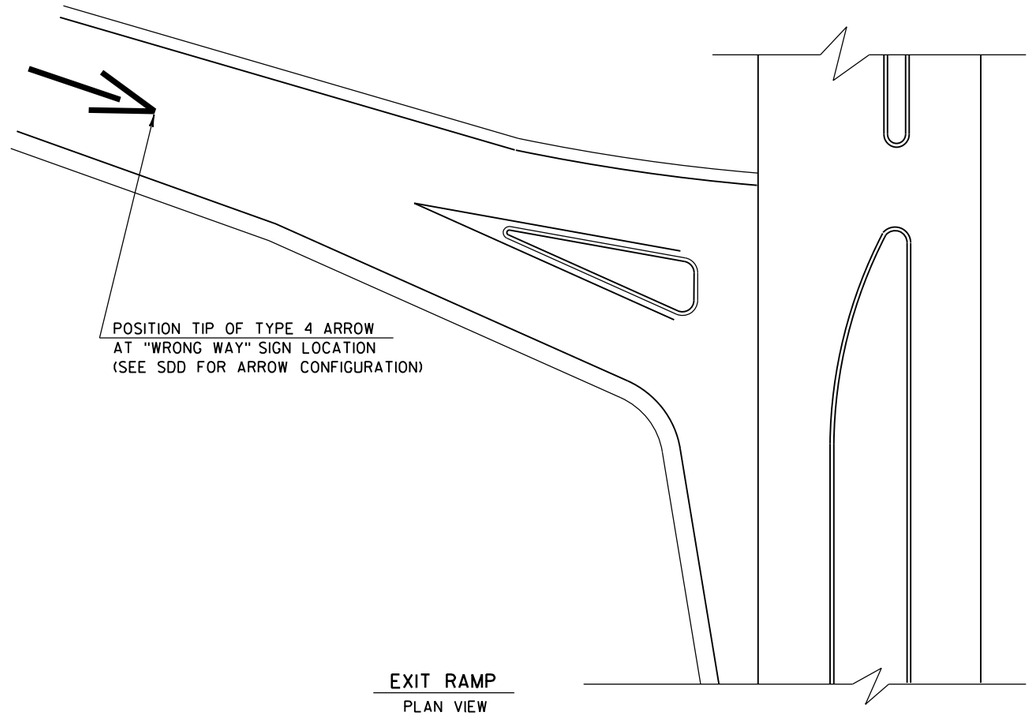
2

NOTES:
PLACE BASE PATCH AFTER MILLING EXISTING HMA OVERLAY, AND PLACEMENT OF LOWER LAYER OF HMA.

PAVEMENT WEDGING OF CONCRETE BASE PATCHING AREAS FOR CONSTRUCTION STAGING ARE INCIDENTAL TO WORK.

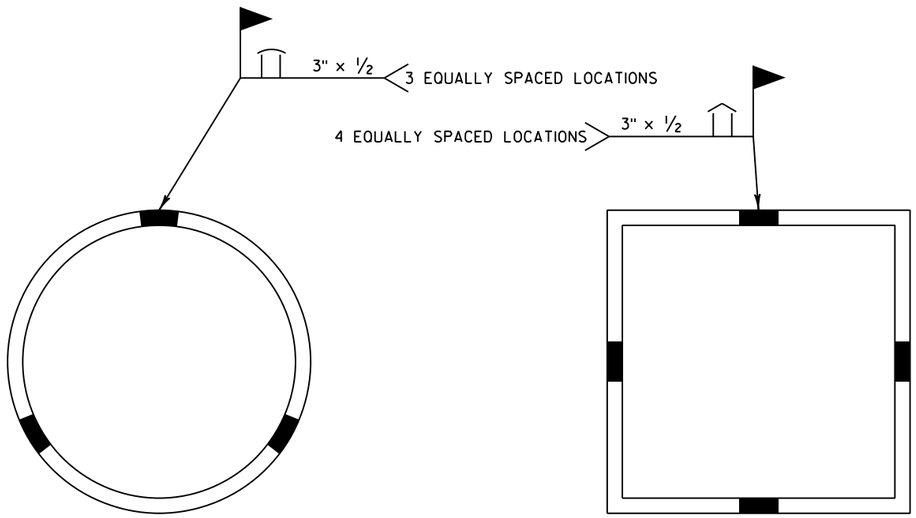


DETAIL OF BASE PATCH, CONCRETE
IN AREAS WITH HMA OVERLAY



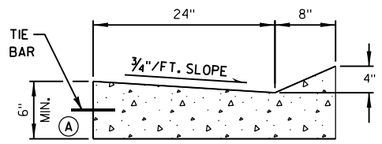
EXIT RAMP
PLAN VIEW

2

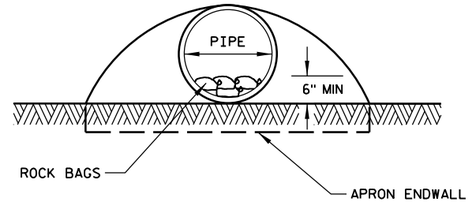


WELDING STORM SEWER COVERS
WELD EACH STORM SEWER COVER WITH A ½ WIDE WELD 3" LONG

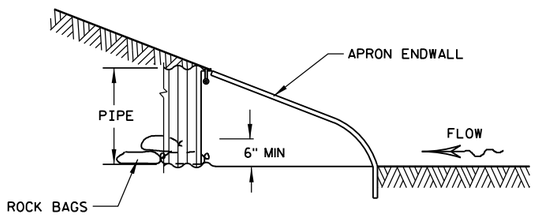
Ⓐ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.



CONCRETE CURB AND GUTTER 32-INCH TYPE A SPECIAL



END VIEW

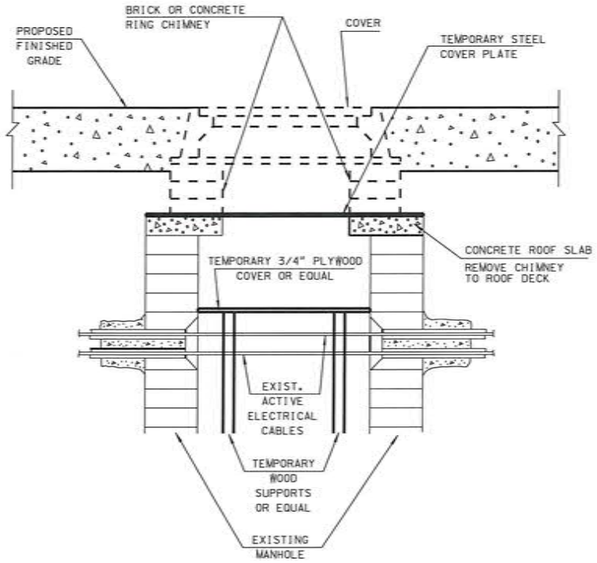


SIDE VIEW

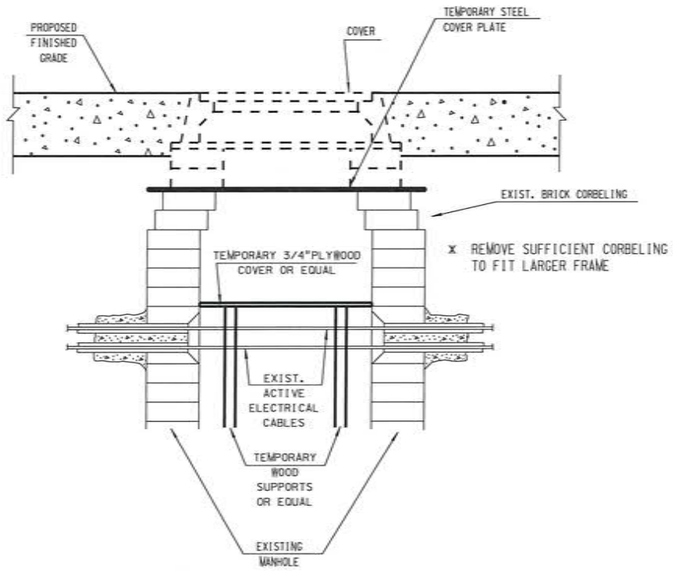
CULVERT PIPE CHECK
PLACE AT INLET END ONLY

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 28	E

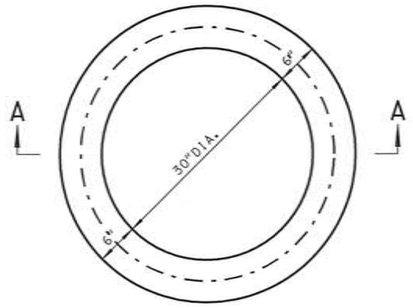
2



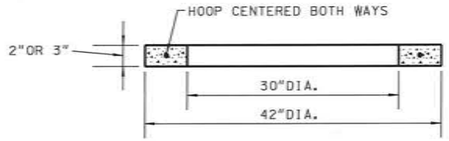
BLOCK OR PRECAST MANHOLE



BRICK ROUND MANHOLE



PLAN



SECTION A-A

THE ADJUSTING RING SHALL BE 2" OR 3" IN HEIGHT.

THE CIRCUMFERENTIAL STEEL SHALL BE CENTERED WITHIN THE RING.

AREA OF CIRCUMFERENTIAL STEEL = 0.07 SQ. INCH PER VERTICAL FOOT WITH A MINIMUM OF .024 SQ. INCH IN ANY ONE RING.

THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE CORE SHALL BE 4000 P.S.I.

CONCRETE ADJUSTING RING

Original Plans Prepared By

WISCONSIN
JEFFREY S. POLENSKE
E-33528
MILWAUKEE
WIS.
PROFESSIONAL ENGINEER

4/28/15
(Date) City Engineer

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORK

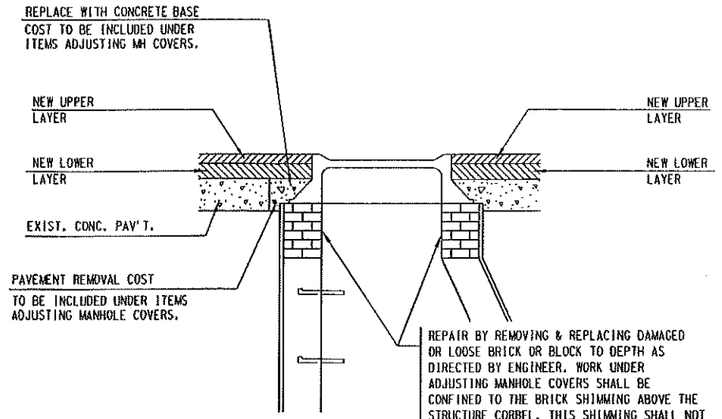
PREPARED BY

Division Infrastructure Services
Division Manager Marcia Cornnell
Services Transportation Operations
Operations Manager Rollin Bertran
Section Underground Conduit
Section Supervisor Robert Bryson
Section Project Manager Karen Rogney

ADJUSTING TES MANHOLES

PROJECT NO: 1350–09–70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHE...



CONSTRUCTION NOTES

1. MANHOLE ADJUSTMENTS IN ASPHALTIC PAVEMENT WILL BE MADE AFTER THE LOWER LAYER IS PLACED.
2. ONCE THE CONTRACTOR HAS SET THHE CASTING TO THE FINAL GRADE WITH SHIMS, THE CONTRACTOR MUST REMOVE SHIMS AND UNDERPIN WITH MORTAR, BRICK, OR BRICK SPLITS BEFORE THE JOB IS CONSIDERED COMPLETE.

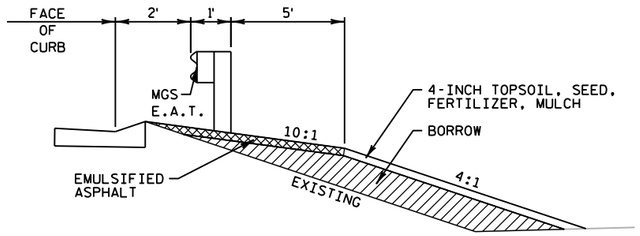
ADJUSTING MANHOLE COVERS

WISCONSIN
ZAFAR S. YOUSUF
E-30840
MILWAUKEE WIS.
PROFESSIONAL ENGINEER

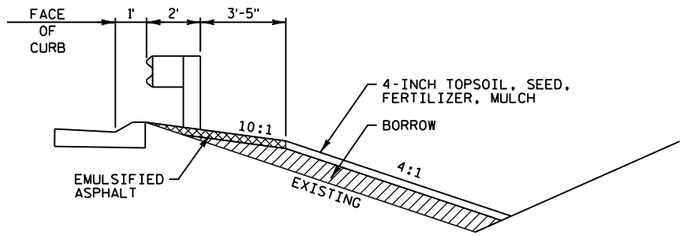
2/27/2015

STATE PROJECT NUMBER 1350-09-70 - -	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SCALE FEET	SHEET NO: 30

FILE NAME: W:\SPR\



GRADING AT POST #1



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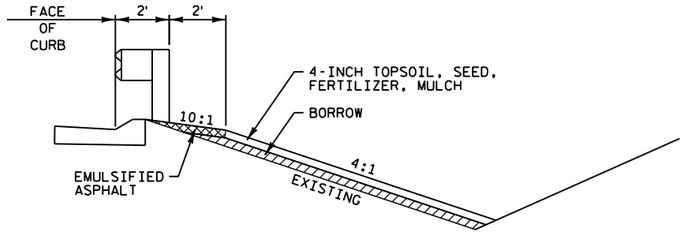
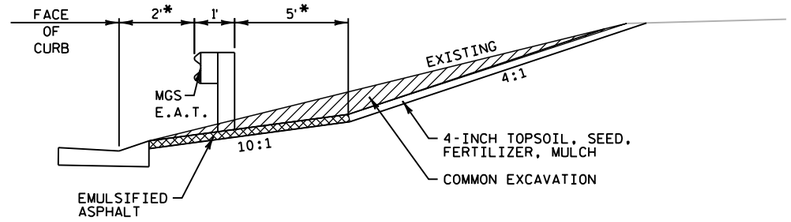
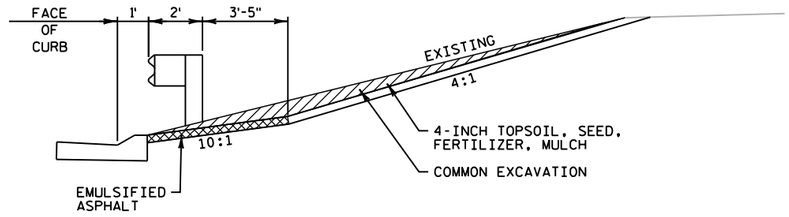
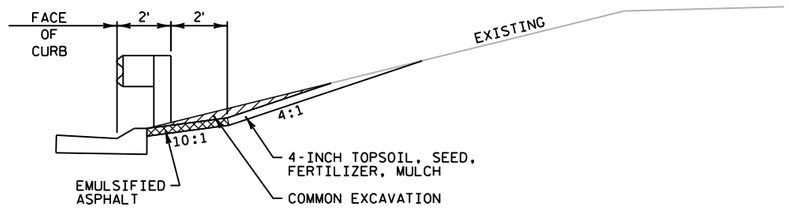


GRADING AT POST #9

IN FILL







IN CUT

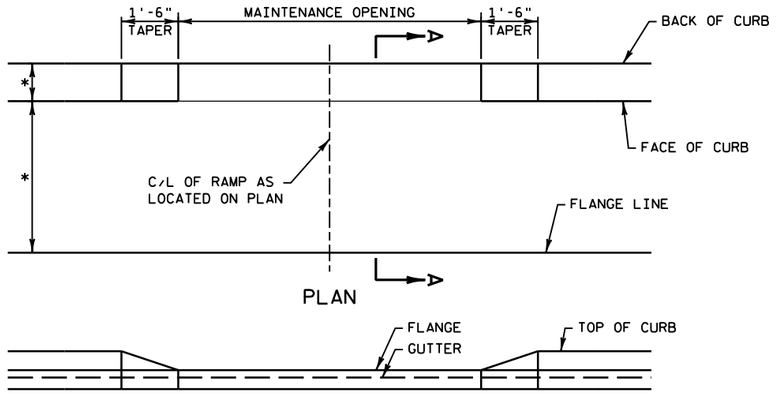
LOCATION	COMMON CY	BORROW CY	TOPSOIL SY	MULCHING SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE #70 LB
STA. 10+58 LT. (ALOIS ST.)	--	10	140	140	0.1	3
STA. 17+38 RT. (ALOIS ST.)	5	--	70	70	0.1	1
STA. 89+88 LT. (SB USH 41)	10	--	75	75	0.1	1
STA. 103+40 RT. (NB USH 41)	--	10	50	50	0.1	1
STA. 115+01 RT. (NB USH 41)	20	--	130	130	0.1	2
STA. 115+85 LT. (SB USH 41)	10	--	50	50	0.1	1
STA. 124+16 LT. (SB USH 41)	10	--	10	10	0.1	1
STA. 126+35 RT. (NB USH 41)	10	--	65	65	0.1	1
STA. 134+98 RT. (NB USH 41)	10	--	50	50	0.1	1
STA. 139+85 LT. (SB USH 41)	--	10	50	50	0.1	1
STA. 139+86 RT. (SB USH 41)	--	10	50	50	0.1	1

GRADING, SHAPING AND FINISHING FOR BARRIER SYSTEMS

NOTE:
GRADING AROUND EXISTING MANHOLES AND UTILITY VAULTS IS INCIDENTAL TO THIS WORK.

*WIDTH VARIES FOR THE FOLLOWING:
- STA. 124+16 SB, LT: E.A.T. O/S = 1'
HINGE O/S = 2'

-STA. 17+38 (ALOIS), RT: E.A.T. O/S = 1'
HINGE O/S = 2'

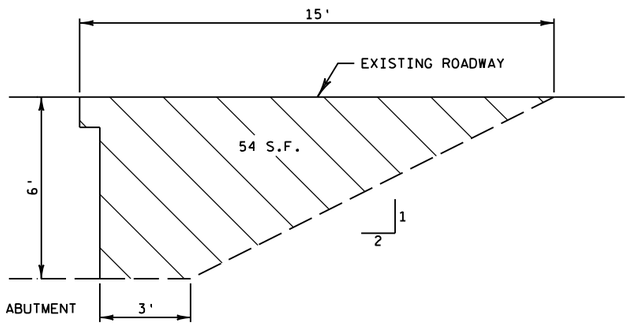


* TYPE AND DIMENSIONS TO MATCH ADJACENT CURB & GUTTER.

NOTE: PAID FOR AS CONCRETE CURB & GUTTER 30-INCH TYPE D OR CONCRETE CURB TYPE A AS MEASURED ALONG THE FACE OF CURB.

MAINTENANCE RAMP

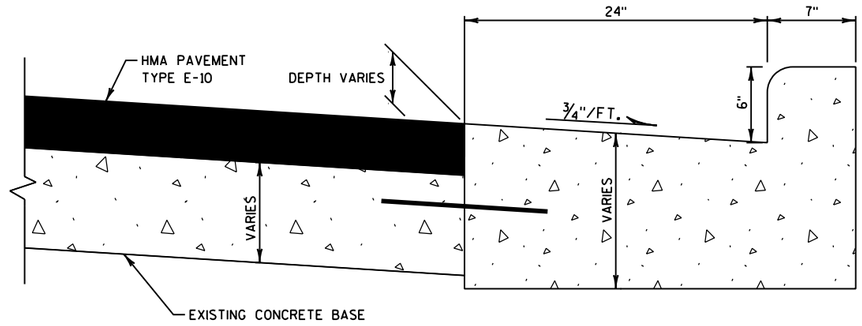
STA. 140+50 NB
STA. 140+50 SB



TEMPORARY SHORING LOCATIONS

PLACE AT REFERENCE LINE AT EAST AND WEST ABUTMENTS FOR VLIET STREET DECK REPLACEMENT. PLACEMENT TO REMAIN FOR BOTH STAGE 1 AND STAGE 2 CONSTRUCTION.

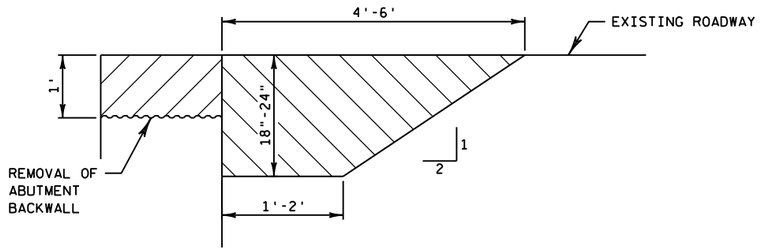
STRUCTURE EXCAVATION & TEMPORARY SHORING DETAIL AT VLIET STREET



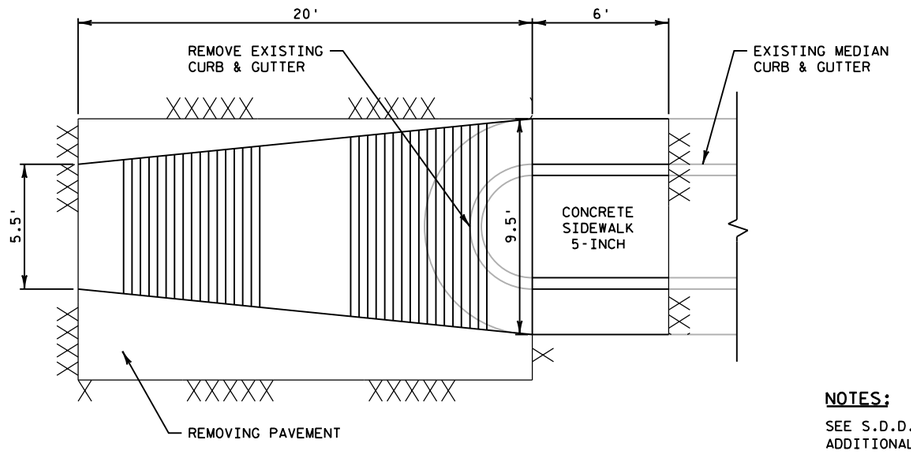
NOTE:
CONSTRUCT CURB & GUTTER TO MATCH FULL DEPTH PAVEMENT THICKNESSES.

CONCRETE CURB & GUTTER 31-INCH TYPE A FULL DEPTH

VLIET STREET
LLOYD STREET
ALOIS ST. ON-RAMP CURB & GUTTER REPLACEMENT



STRUCTURE EXCAVATION DETAIL AT LLOYD STREET BRIDGE

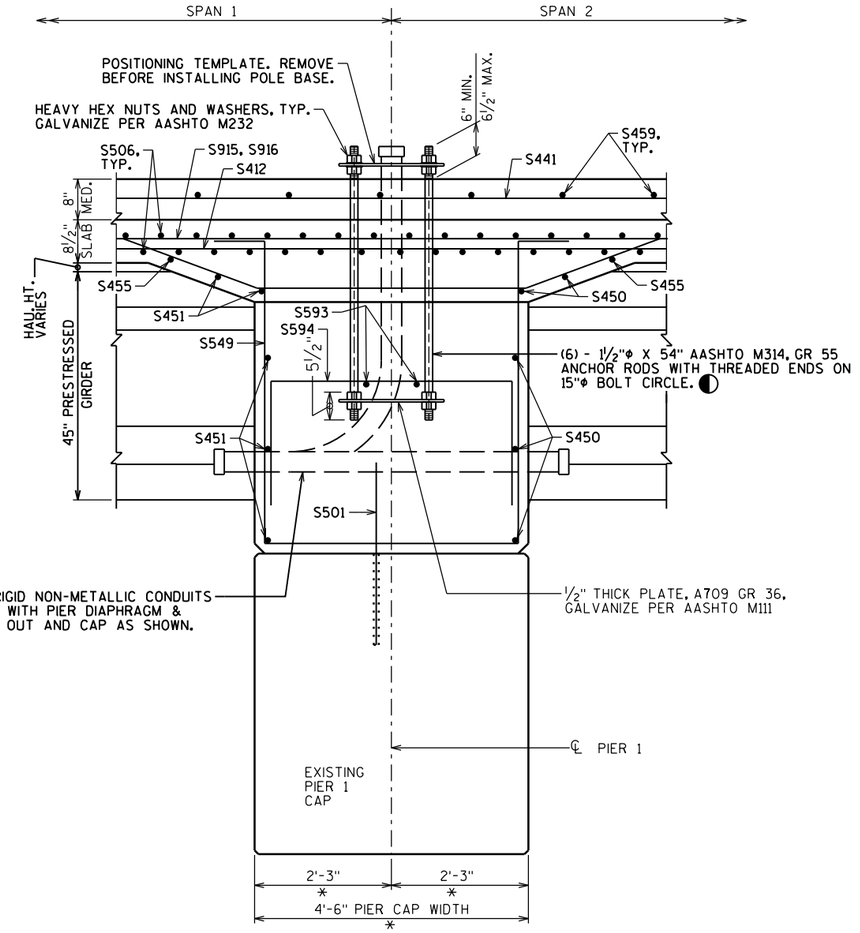


NOTES:

SEE S.D.D. FOR ADDITIONAL DETAILS.

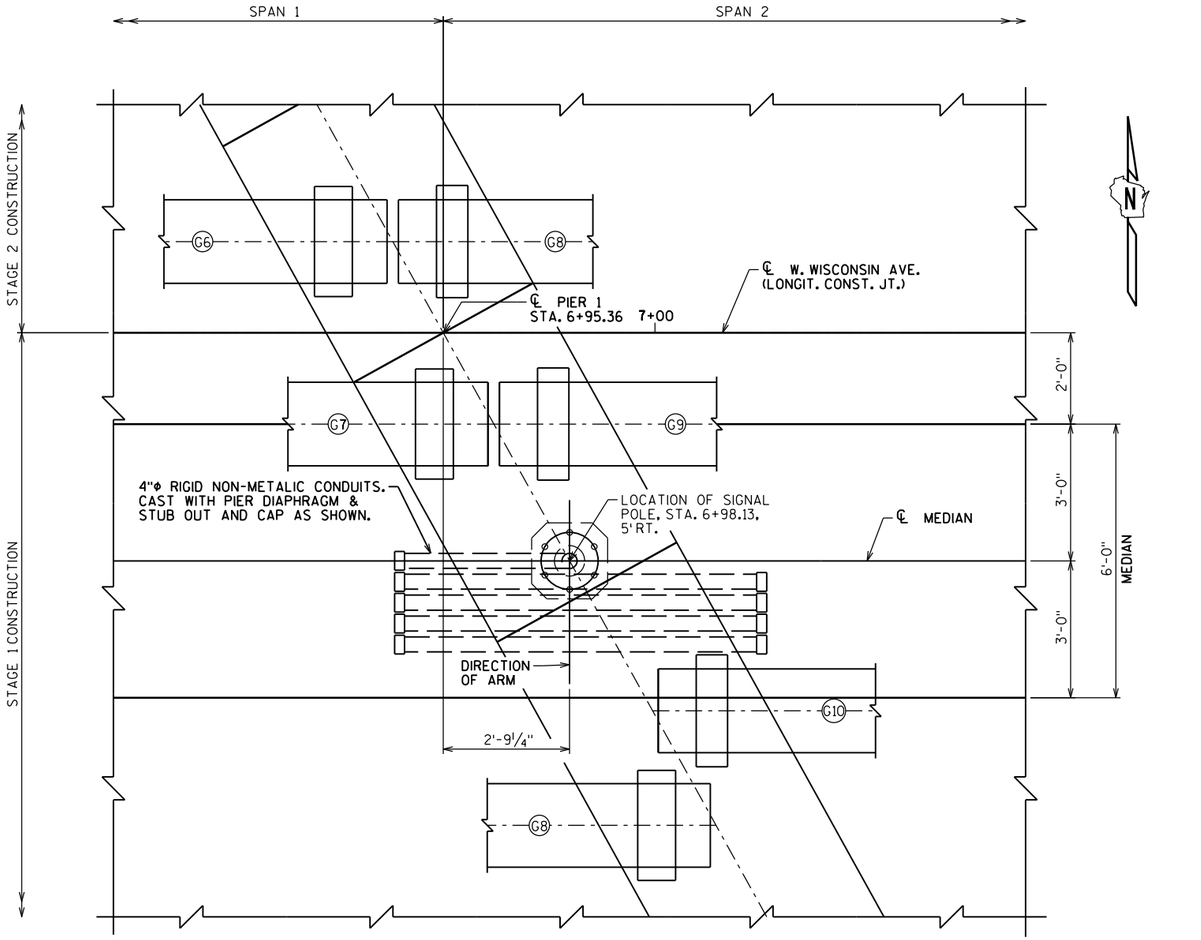
CONCRETE CORRIGATED MEDIAN

ALOIS STREET



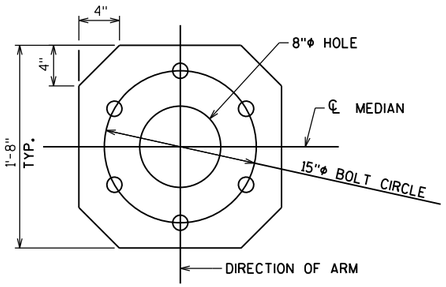
CROSS SECTION THRU PIER 1 DIAPHRAGM

BETWEEN GIRDERS 7 & 8 (SPAN 1),
BETWEEN GIRDERS 9 & 10 (SPAN 2)

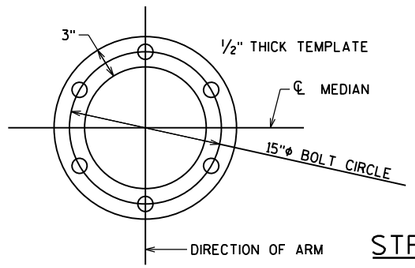


PARTIAL PLAN AT PIER 1

SHOWING LOCATION AND ORIENTATION OF MONOTUBE BASEANCHOR ASSEMBLY



½" THICK BOTTOM PLATE



TOP POSITIONING TEMPLATE

◐ THREAD TOP 6½" OF ANCHOR ROD FOR 2 NUTS AND 2 WASHERS AND BOTTOM 5½" FOR 2 NUTS PER ANCHOR ROD. HOT-DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR RODS (AASHTO M111) AND HOT-DIP NUTS AND WASHERS (AASHTO M232). USE ZINC COATED NUTS MANUFACTURED WITH SUFFICIENT ALLOWANCE TO ALLOW NUTS TO RUN FREELY ON THE THREADS.

STRUCTURE B-40-55: MONOTUBE BASE ANCHOR ASSEMBLY DETAIL

PROVIDED BY WisDOT
FOR INFORMATION ONLY

NO.	DATE	REVISION	BY
3	2/5	ANCHORAGE AND UTILITIES	NAR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

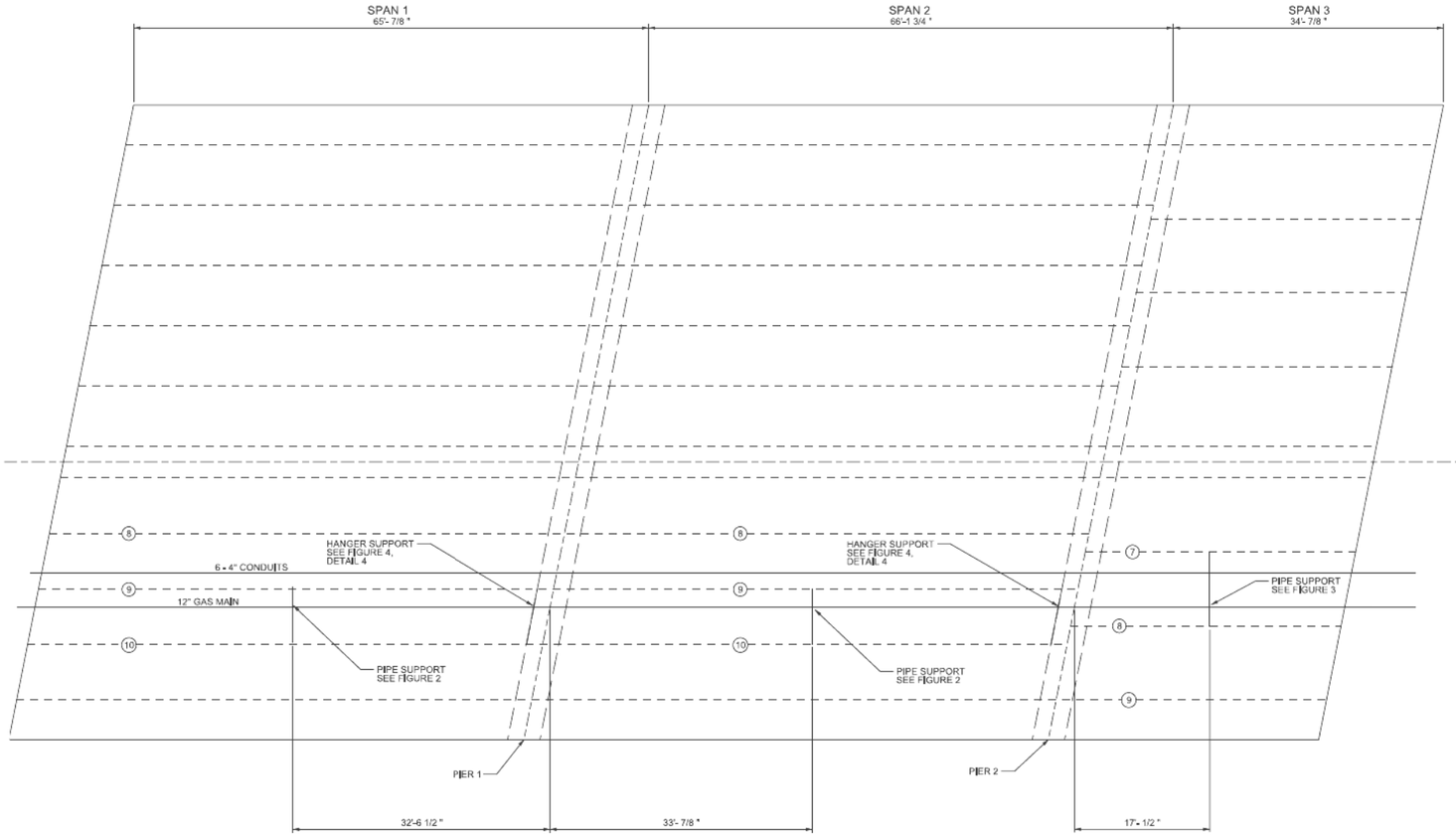
STRUCTURE B-40-55

DRAWN BY: NAR | PLANS CK'D.:

MONOTUBE BASE ANCHOR ASSEMBLY

SHEET 19

401 REV



STUCTURE B-40-53 FRAMING PLAN
1/4" = 1'-0"

N

WISCONSIN
LEE L. PALMER
E-13294
PROFESSIONAL ENGINEER
7/16/2014

FIGURE 1
STRUCTURE B-40-53
FRAMING PLAN

STRUCTURE B-40-53
MILWAUKEE, WI
MILWAUKEE COUNTY, WI

we energies

PROJECT NUMBER:	2012009.03
DATE:	07-16-14
PROJECT MGR:	LLP
DRAWN BY:	MP
FILE NAME:	WE-Figure01.dgn
SCALE:	1/4" = 1'-0"
REVISED:	____

OTIE
Oneida Total Integrated Enterprises

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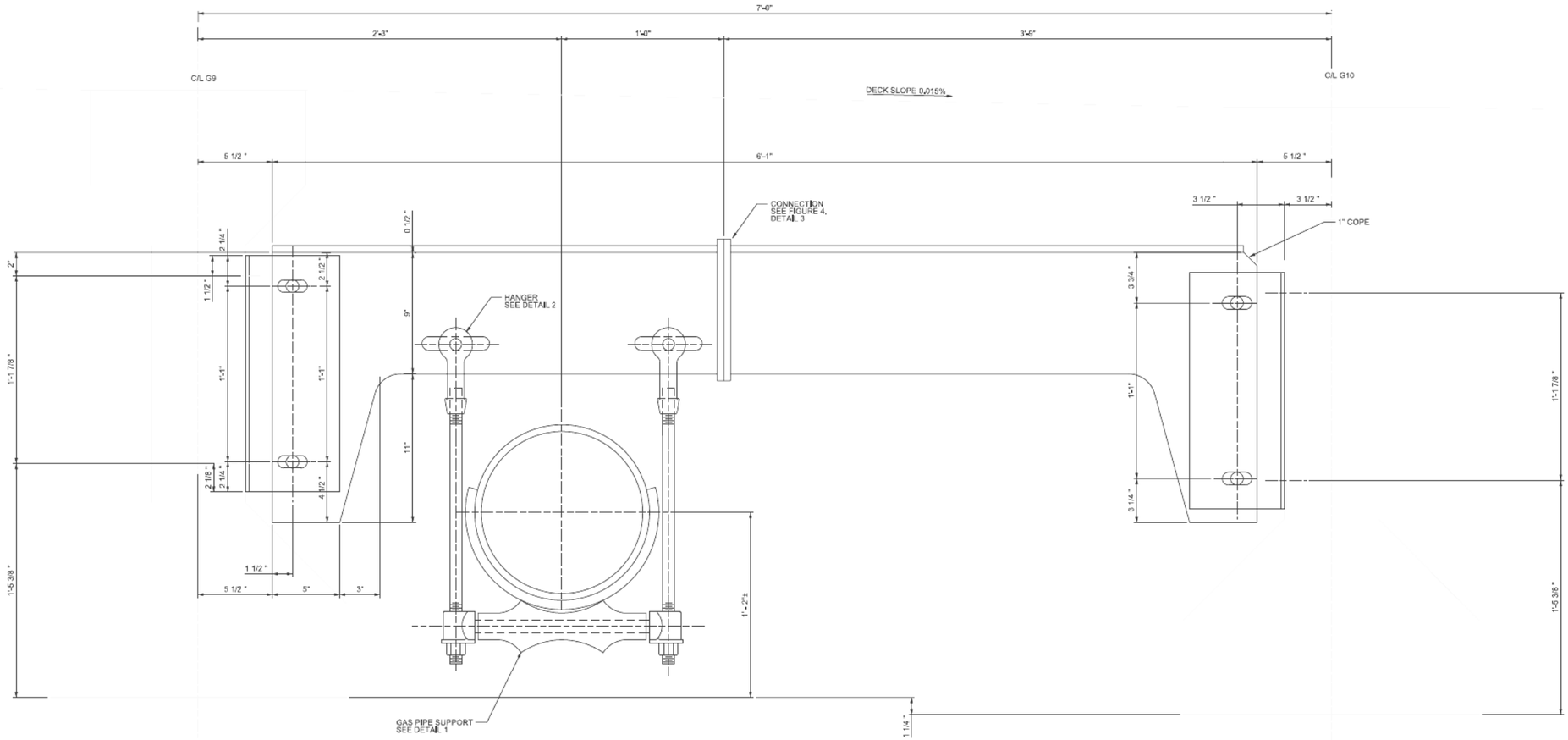
7/16/2014



DESIGN CRITERIA:

THE PIPE CENTERLINE IS DESIGNED TO BE PARALLEL TO THE ROADWAY SURFACE AND PARALLEL TO THE LONGITUDINAL AXIS OF THE PRECAST CONCRETE GIRDERS.

THE PIPE SUPPORT FRAMES "T"STEMS AND HANGERS ARE DESIGNED TO BE VERTICALLY PLUMB.

THE TWO CONNECTION BOLTS THROUGH THE PRECAST CONCRETE GIRDER WEBS SHALL HAVE THEIR COMMON VERTICAL CENTERLINE PERPENDICULAR TO THE LONGITUDINAL AXES OF THE GIRDERS.

MATERIAL AND CONNECTION HARDWARE NOTES:

1. ALL STEEL PLATES, RODS, ETC. SHALL BE ASTM A36 STEEL.
2. ALL BOLTS, NUTS, AND WASHERS SHALL BE ASTM A325 WITH THREADS EXCLUDED FROM SHEAR PLANE.
3. NUTS SHALL BE SELF-LOCKING OR A HEX NUT WITH JAM NUT.
4. ALL STEEL SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A153 CLASS C.
5. ALL CHEVIS, BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.
6. GALVANIZED CLEVIS AND NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENT ANY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

SPAN 1 and 2
LOOKING EAST

WISCONSIN LEE PAUL [illegible] PROFESSIONAL ENGINEER
7/16/2014

FIGURE 2
SUPPORT HANGER FOR
12" GAS MAIN - SPAN 1

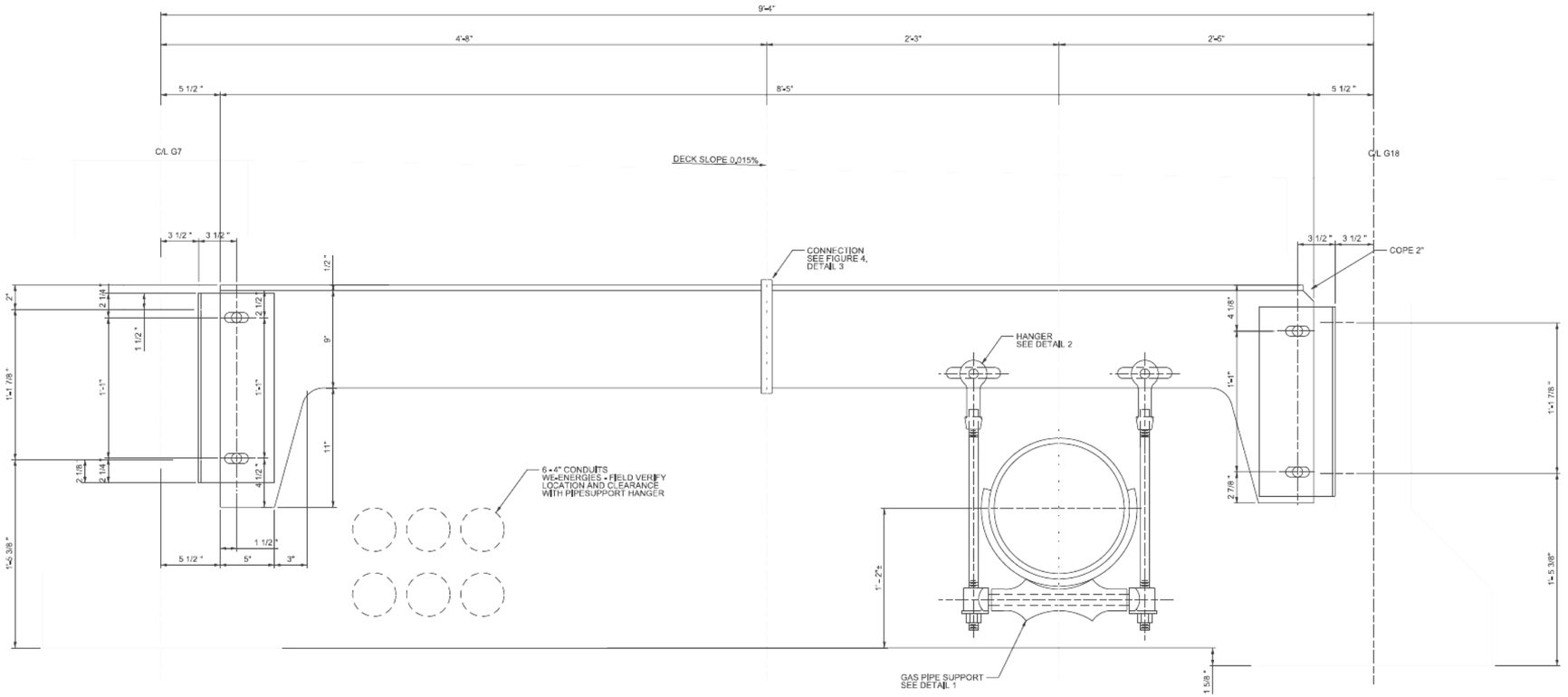
STRUCTURE B-40-53
MILWAUKEE, WI
MILWAUKEE COUNTY, WI

we energies

PROJECT NUMBER:	2012009.03
DATE:	07-16-14
PROJECT MGR:	LLP
DRAWN BY:	MP
FILE NAME:	WE-Figure02.dgn
SCALE:	1-1/2" = 1'-0"
REVISED:	____

OTIE
Oneida Total Integrated Enterprises

R:\ PROJECTS\2012\12-09\12-09-70\Design\Figure02.dgn 7/16/2014



SPANS 3
LOOKING EAST

DESIGN CRITERIA:

THE PIPE CENTERLINE IS DESIGNED TO BE PARALLEL TO THE ROADWAY SURFACE AND PARALLEL TO THE LONGITUDINAL AXIS OF THE PRECAST CONCRETE GIRDERS.

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MATERIAL AND CONNECTION HARDWARE NOTES:

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2. ALL BOLTS, NUTS, AND WASHERS SHALL BE ASTM A325 WITH THREADS EXCLUDED FROM SHEAR PLANE.
3. NUTS SHALL BE SELF-LOCKING OR A HEX NUT WITH JAM NUT.
4. ALL STEEL SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A153 CLASS C.
5. ALL CHEVIS, BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.
6. GALVANIZED CLEVIS AND NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENT ANY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

LEE L. PAINTER
E-17802
PROFESSIONAL ENGINEER
7/16/14

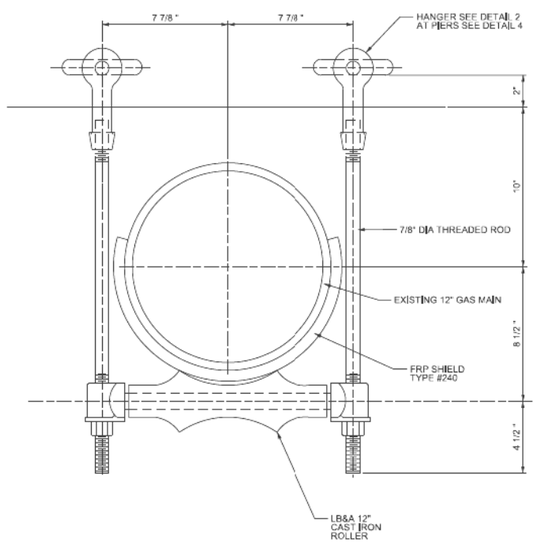
FIGURE 3
SUPPORT HANGER FOR
12" GAS MAIN - SPAN 3

STRUCTURE B-40-53
MILWAUKEE, WI
MILWAUKEE COUNTY, WI

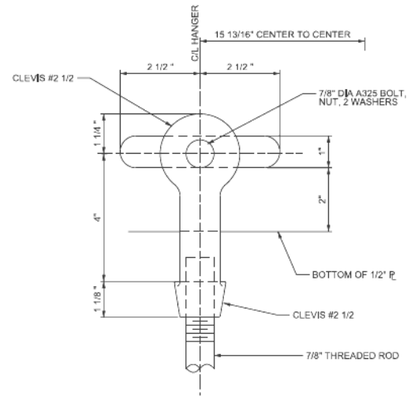
we energies

PROJECT NUMBER:	2012009.03
DATE:	07-16-14
PROJECT MGR:	LLP
DRAWN BY:	MP
FILE NAME:	WE-Figure03.dgn
SCALE:	2" = 1'-0"
REVISED:	____

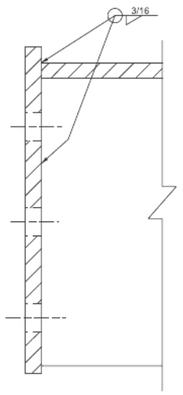
OTIE
Oneida Total Integrated Enterprises

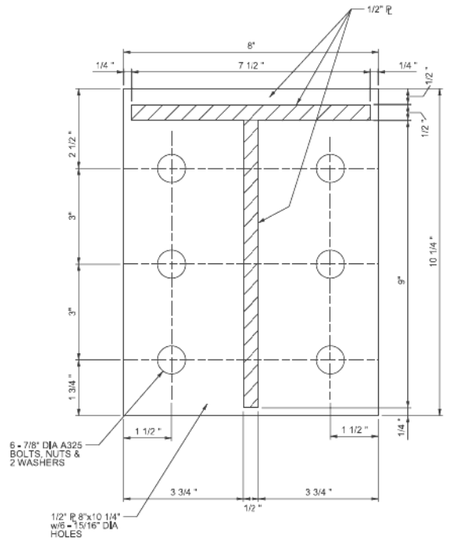


DETAIL 1
12" GAS MAIN SUPPORT DETAIL
3/4" = 1'-0"

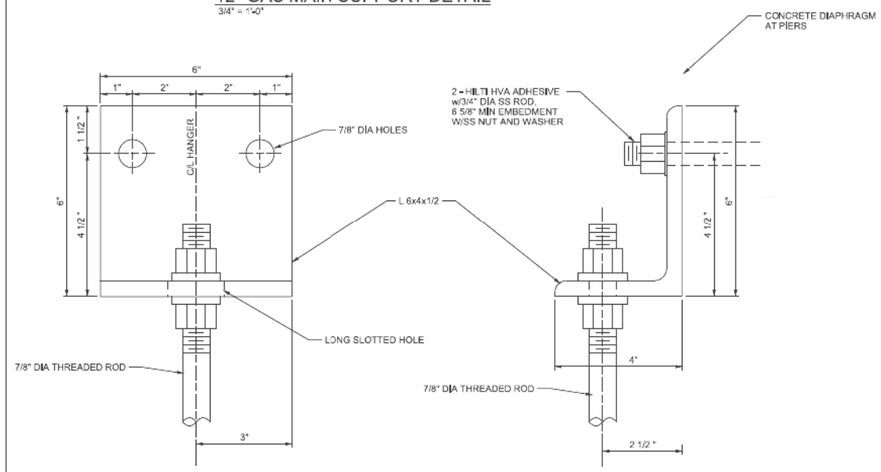


DETAIL 2
HANGER DETAIL
1 1/2" = 1'-0"





DETAIL 3
FIELD BOLT CONNECTION DETAIL
1 1/2" = 1'-0"



DETAIL 4
HANGER SUPPORT AT PIER DETAIL
1 1/2" = 1'-0"

DESIGN CRITERIA:

THE PIPE CENTERLINE IS DESIGNED TO BE PARALLEL TO THE ROADWAY SURFACE AND PARALLEL TO THE LONGITUDINAL AXIS OF THE PRECAST CONCRETE GIRDERS.

THE PIPE SUPPORT FRAMES "T"STEMS AND HANGERS ARE DESIGNED TO BE VERTICALLY PLUMB.

THE TWO CONNECTION BOLTS THROUGH THE PRECAST CONCRETE GIRDER WEBS SHALL HAVE THEIR COMMON VERTICAL CENTERLINE PERPENDICULAR TO THE LONGITUDINAL AXES OF THE GIRDERS.

MATERIAL AND CONNECTION HARDWARE NOTES:

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2. ALL BOLTS, NUTS, AND WASHERS SHALL BE ASTM A325 WITH THREADS EXCLUDED FROM SHEAR PLANE.
3. NUTS SHALL BE SELF-LOCKING OR A HEX NUT WITH JAM NUT.
4. ALL STEEL SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A153 CLASS C.
5. ALL CHEVIS, BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.
6. GALVANIZED CLEVIS AND NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENT ANY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

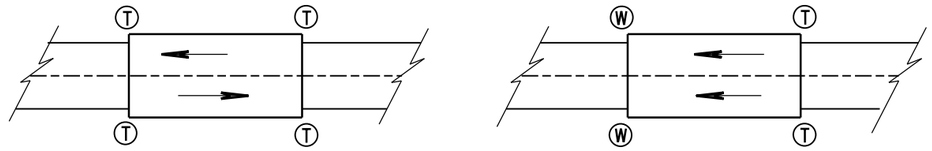
FIGURE 4
SUPPORT HANGER FOR
12" GAS MAIN - DETAILS

STRUCTURE B-40-53
MILWAUKEE, WI
MILWAUKEE COUNTY, WI

we energies

PROJECT NUMBER:	2012009.03
DATE:	07-16-14
PROJECT MGR:	LLP
DRAWN BY:	MP
FILE NAME:	WE-Figure04.dgn
SCALE:	1-1/2" = 1'-0"
REVISED:	____

OTIE
Oneida Total Integrated Enterprises



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

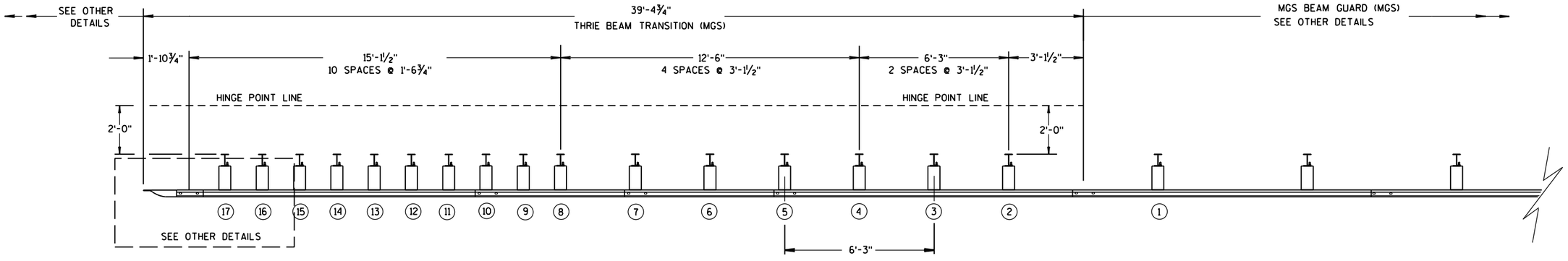
GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

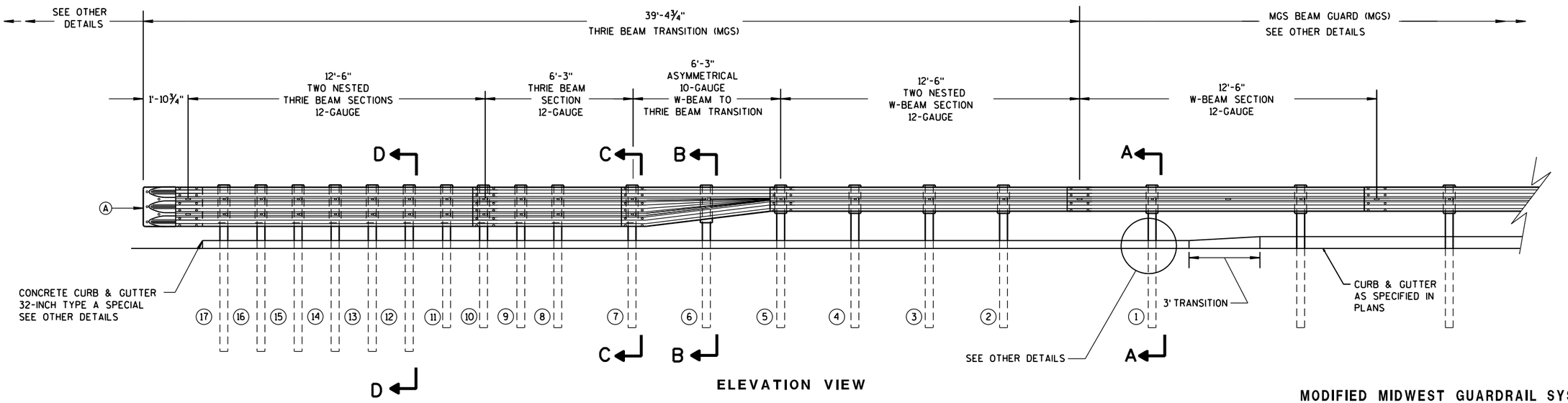
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

(A) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.



PLAN VIEW



ELEVATION VIEW

MODIFIED MIDWEST GUARDRAIL SYSTEM (MGS)
THRIE BEAM TRANSITION

MODIFIED MGS THRIE BEAM TRANSITION (WITH CONCRETE CURB AND GUTTER) PROVIDED BY WISDOT PAGE 1 OF 4

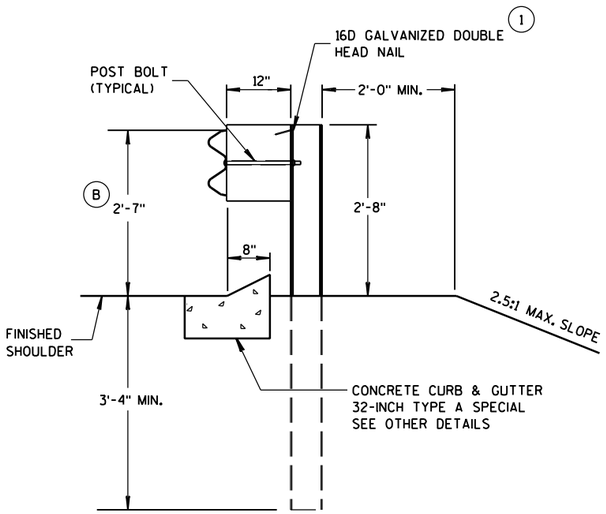
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 38	E

2

GENERAL NOTES

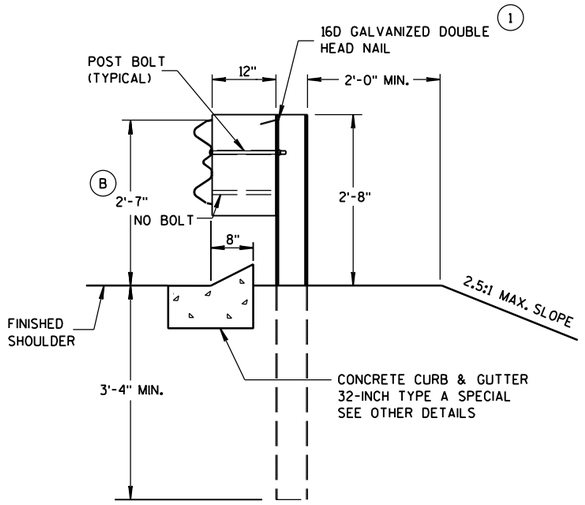
(1) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



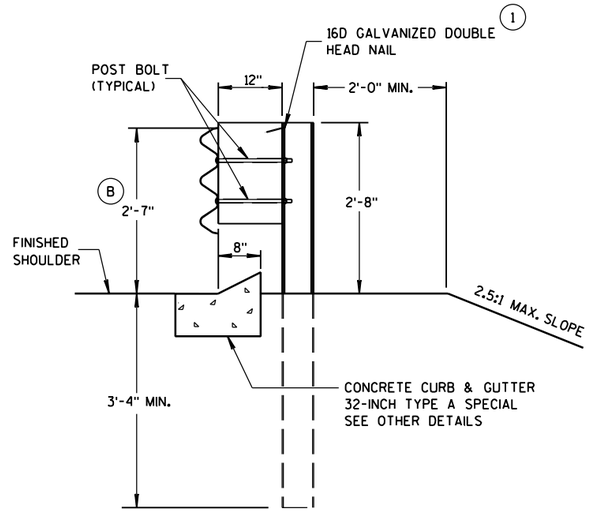
SECTION A-A

POSTS 1-5



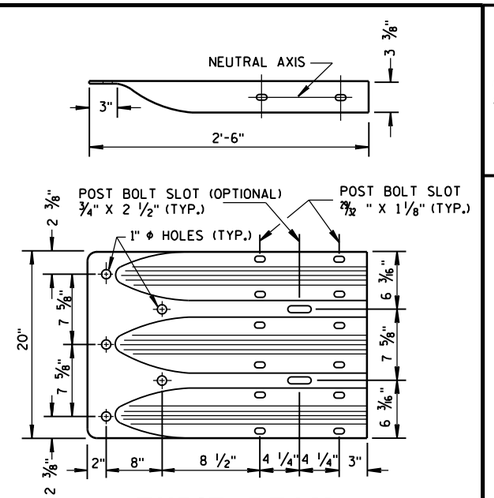
SECTION B-B

POST 6

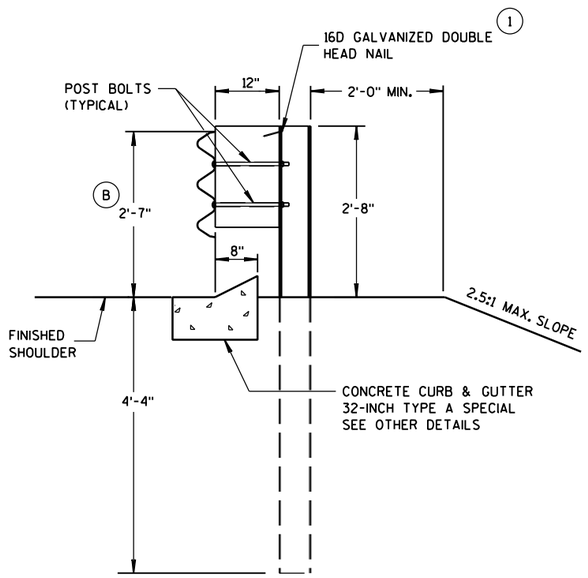


SECTION C-C

POSTS 7-11

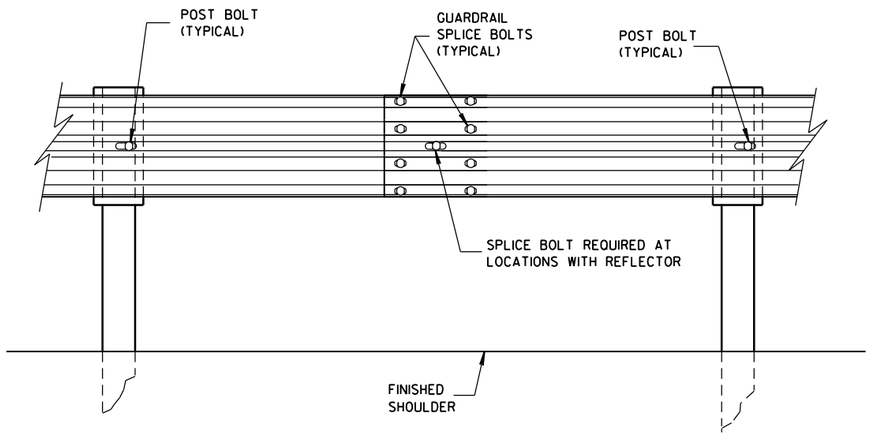


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

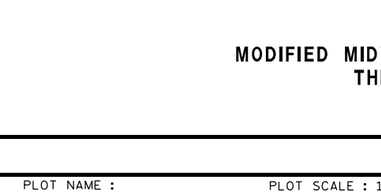
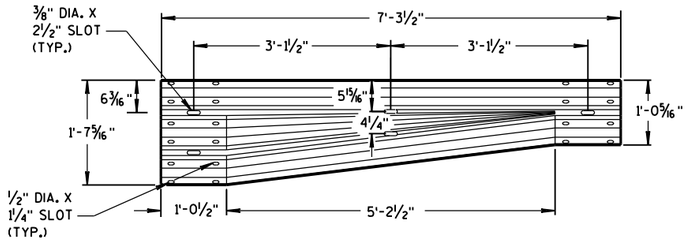


PLATE WASHER DETAIL

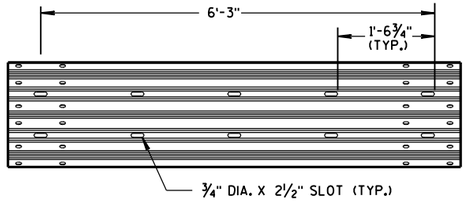
SECTION THRU THRIE BEAM RAIL ELEMENT

MODIFIED MGS THRIE BEAM TRANSITION (WITH CONCRETE CURB AND GUTTER) PROVIDED BY WISDOT PAGE 2 OF 4

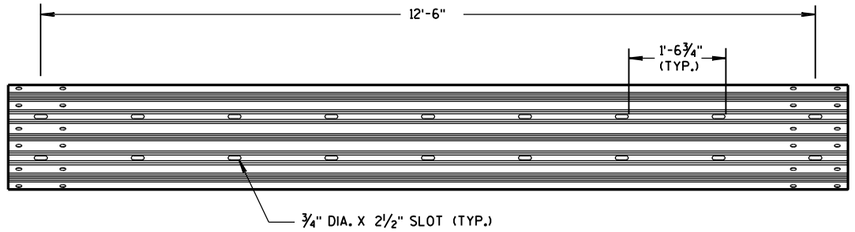
MODIFIED MIDWEST GUARDRAIL SYSTEM (MGS) THRIE BEAM TRANSITION



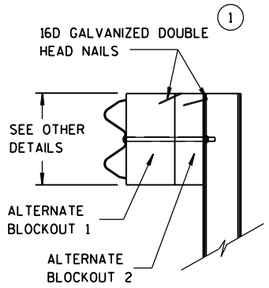
W-BEAM TO THRIE BEAM TRANSITION SECTION



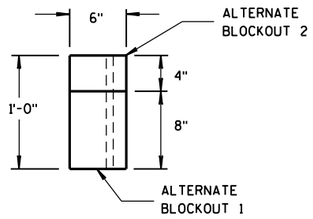
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

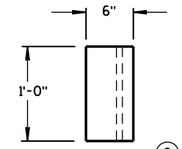


SIDE VIEW

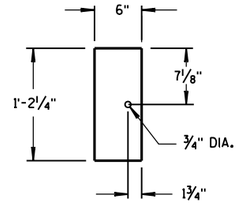


TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

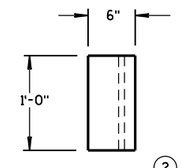


TOP VIEW (2)

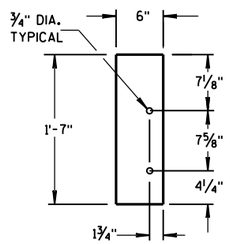


FRONT VIEW

BLOCKOUT POSTS 1-5

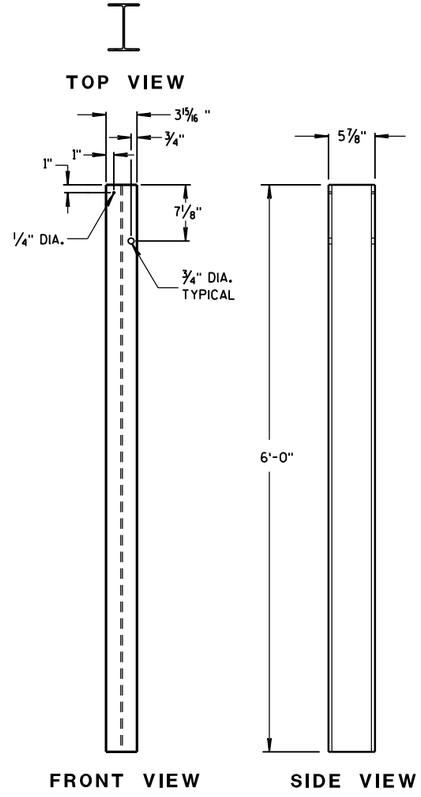


TOP VIEW (2)



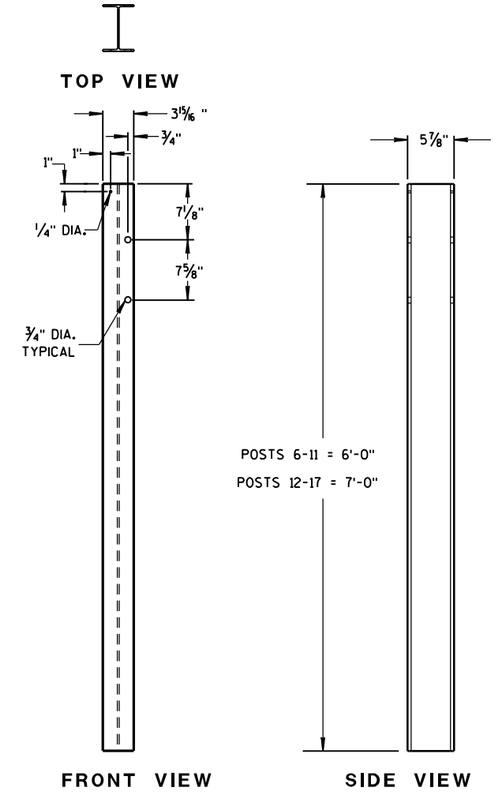
FRONT VIEW

BLOCKOUT POSTS 6-17



FRONT VIEW SIDE VIEW

STEEL POSTS 1-5



FRONT VIEW SIDE VIEW

STEEL POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

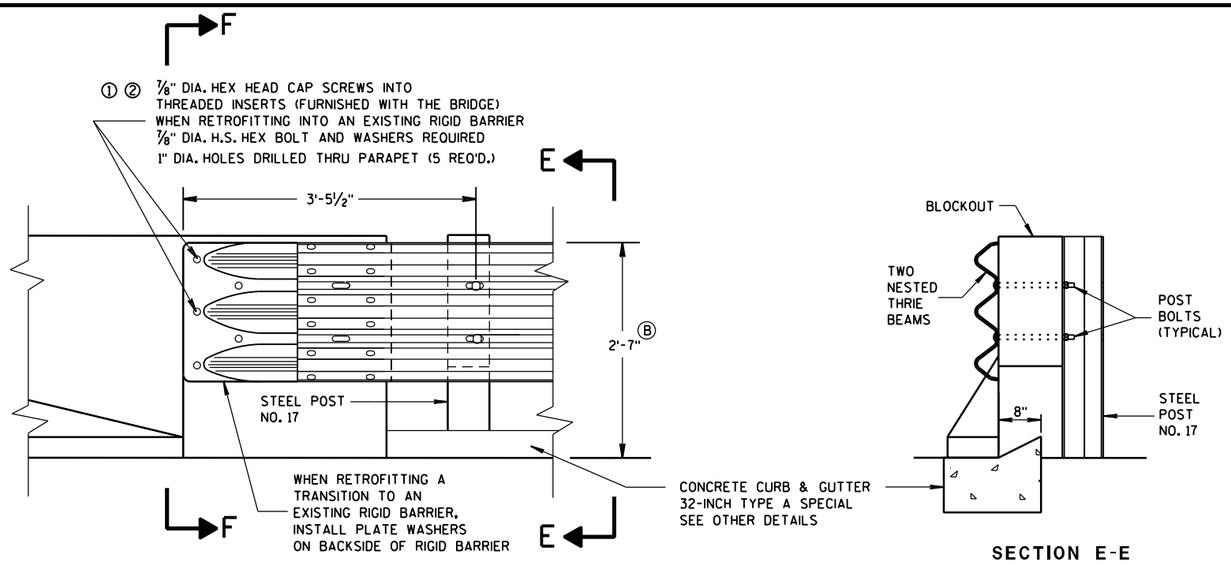
BOLT HOLES FOR POST ARE ON FRONT AND BACK OF SIDE OF POST.

(1) 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.

(2) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MODIFIED MGS THRIE BEAM TRANSITION (WITH CONCRETE CURB AND GUTTER) PROVIDED BY WISDOT PAGE 3 OF 4

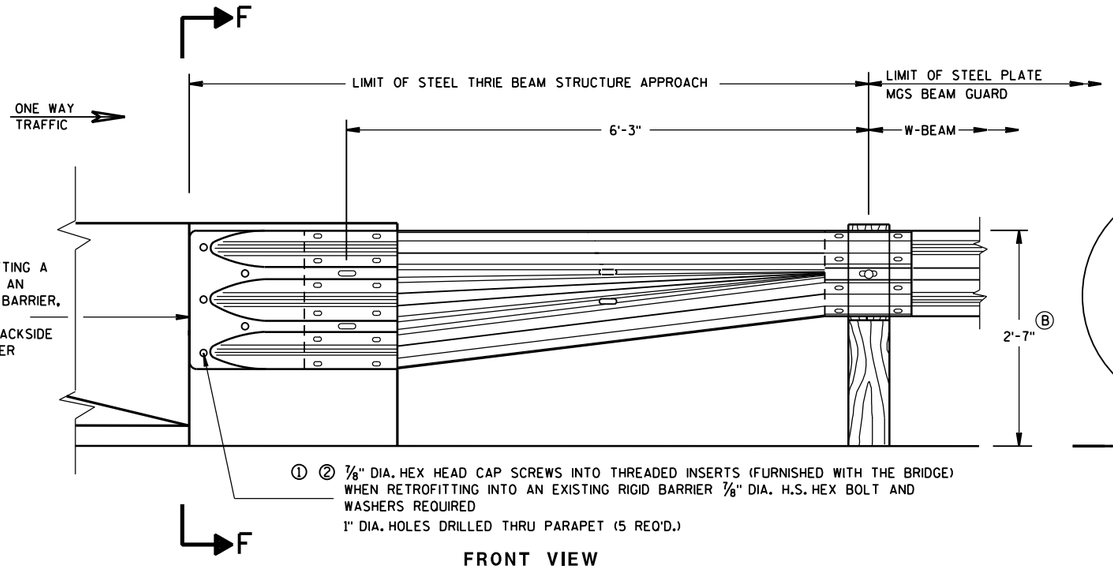
MODIFIED MIDWEST GUARDRAIL SYSTEM (MGS)
THRIE BEAM TRANSITION



FRONT VIEW

SECTION E-E

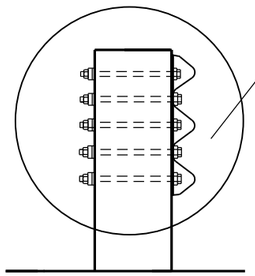
THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION F-F

GENERAL NOTES

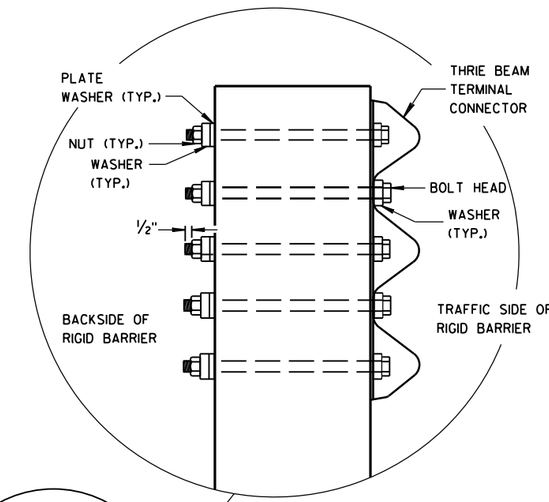
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

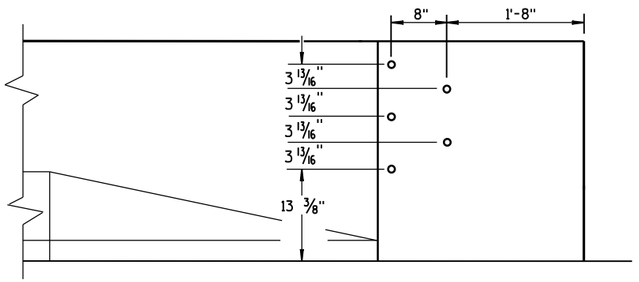
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② 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.

③ 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".

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



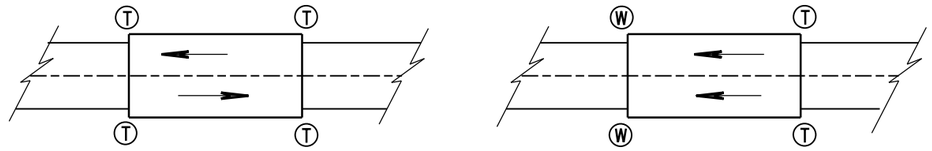


DRILL HOLE LOCATION

MODIFIED MGS THRIE BEAM TRANSITION (WITH CONCRETE CURB AND GUTTER) PROVIDED BY WISDOT PAGE 4 OF 4

MODIFIED MIDWEST GUARDRAIL SYSTEM (MGS)
THRIE BEAM TRANSITION

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 41	E



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

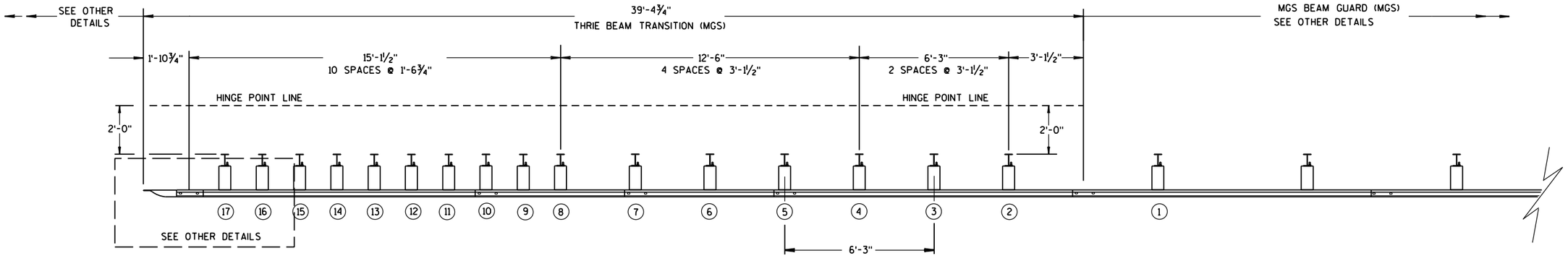
GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

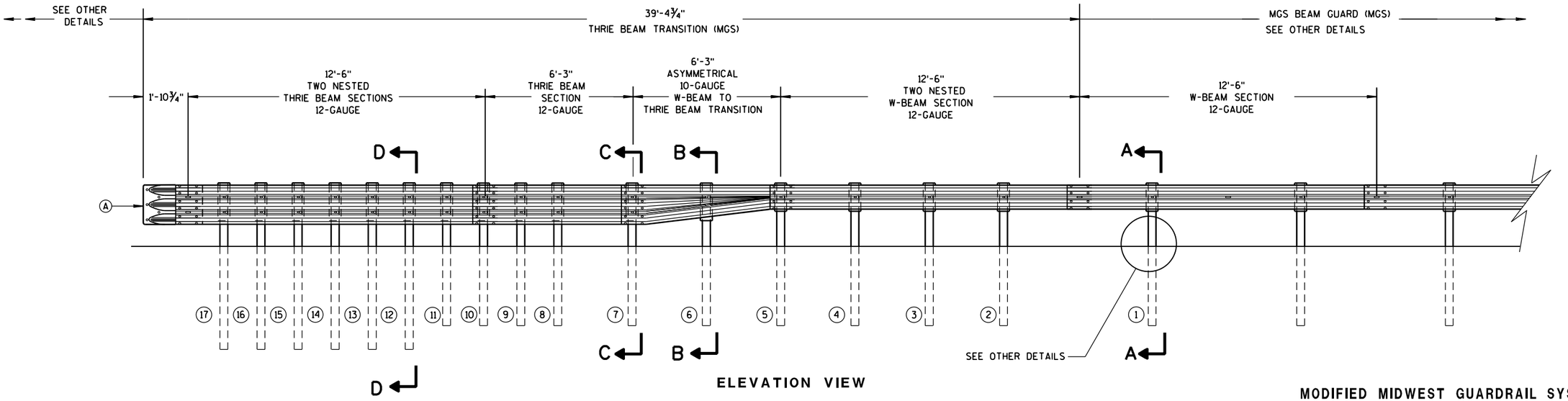
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

(A) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.



PLAN VIEW



ELEVATION VIEW

MODIFIED MIDWEST GUARDRAIL SYSTEM (MGS)
THRIE BEAM TRANSITION

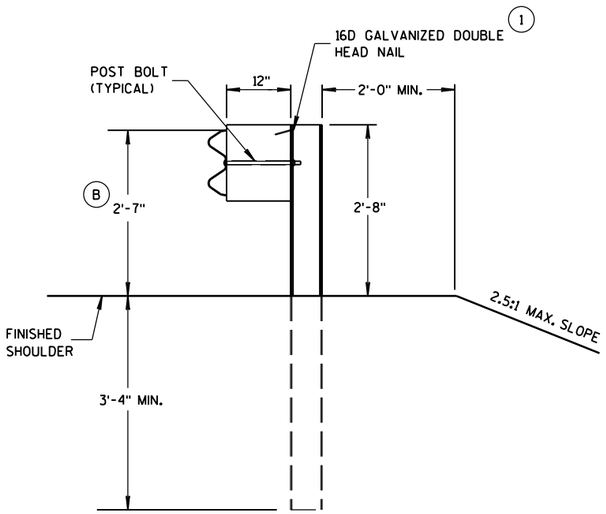
MODIFIED MGS THRIE BEAM TRANSITION (WITHOUT CONCRETE CURB AND GUTTER) PROVIDED BY WISDOT PAGE 1 OF 4

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 42	E

GENERAL NOTES

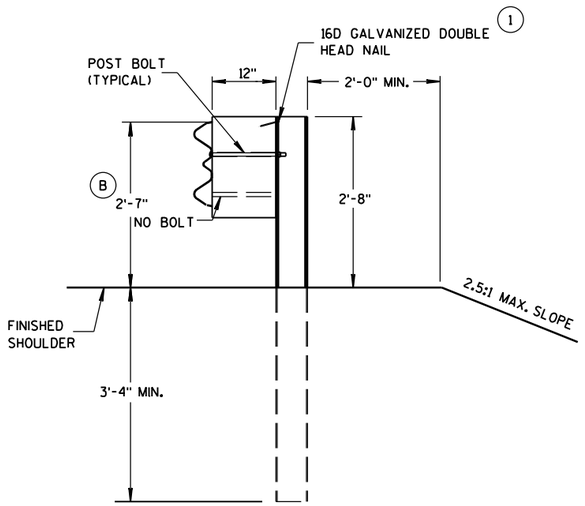
(1) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



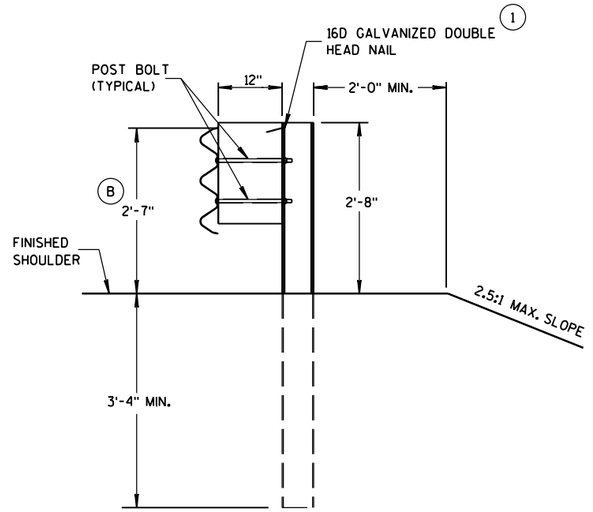
SECTION A-A

POSTS 1-5



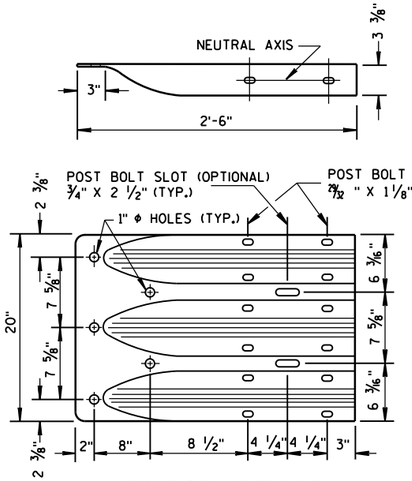
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

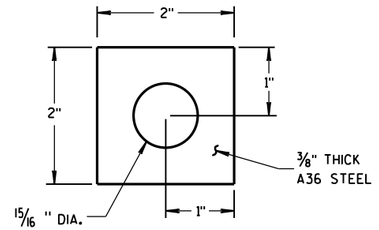
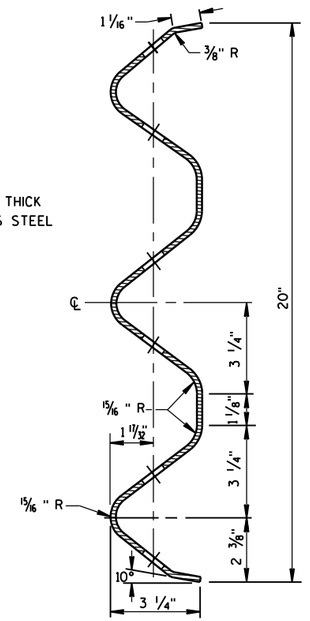
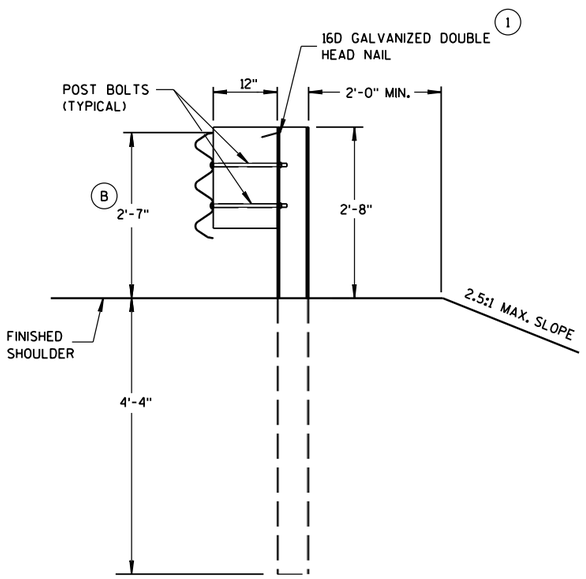


PLATE WASHER DETAIL

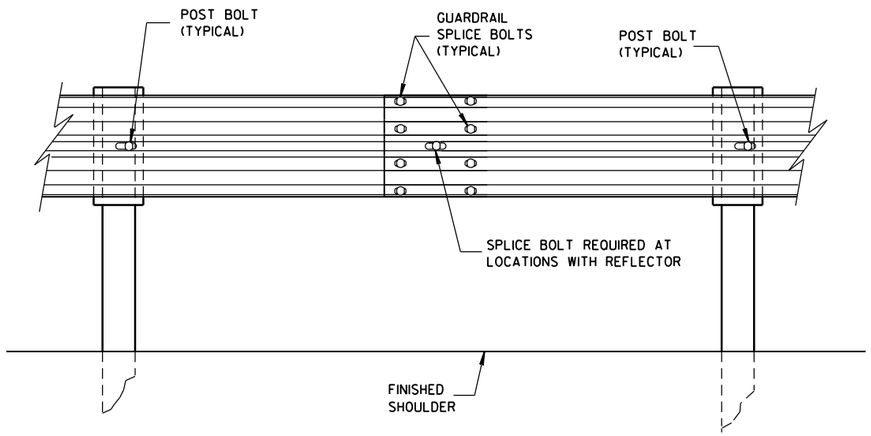


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

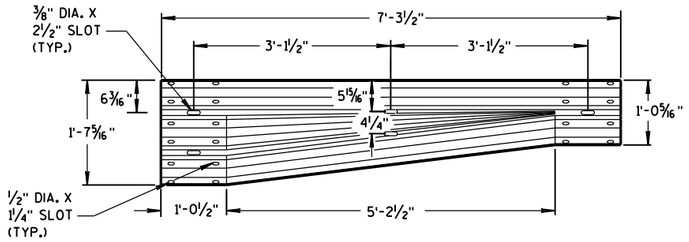
POSTS 12-17



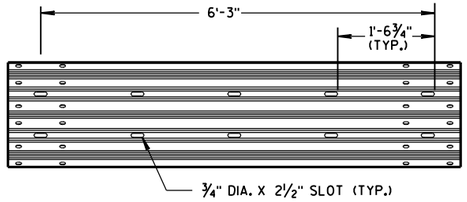
SPLICE DETAIL

MODIFIED MGS THRIE BEAM TRANSITION (WITHOUT CONCRETE CURB AND GUTTER) PROVIDED BY WISDOT PAGE 2 OF 4

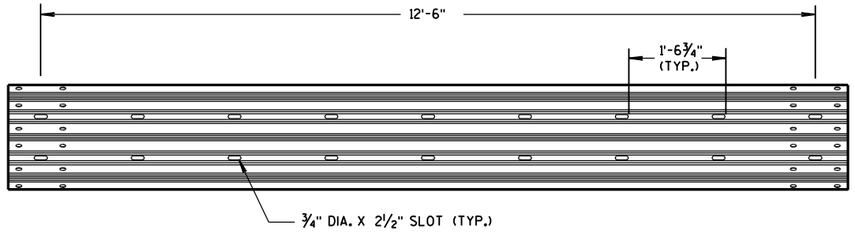
MODIFIED MIDWEST GUARDRAIL SYSTEM (MGS) THRIE BEAM TRANSITION



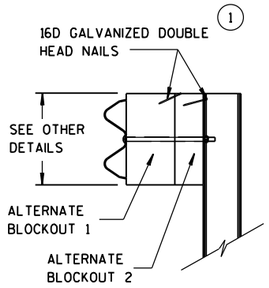
W-BEAM TO THRIE BEAM TRANSITION SECTION



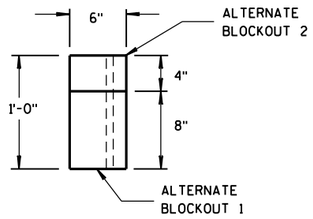
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

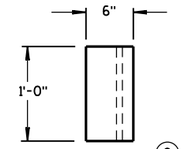


SIDE VIEW

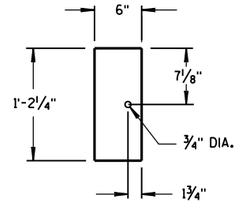


TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

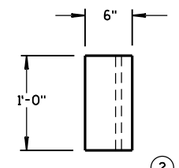


TOP VIEW

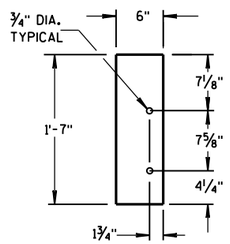


FRONT VIEW

BLOCKOUT POSTS 1-5

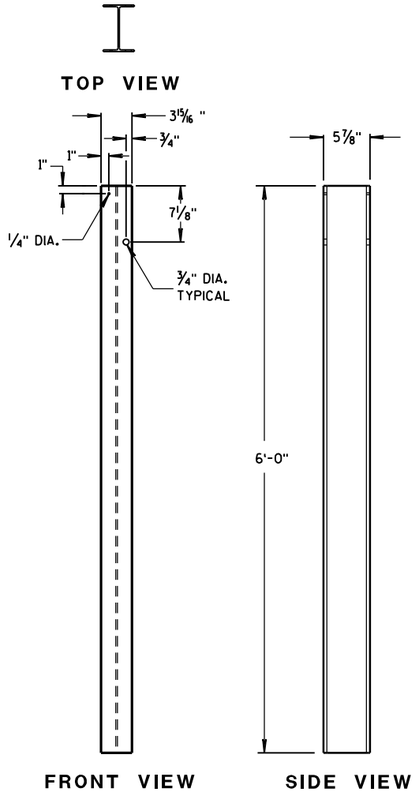


TOP VIEW



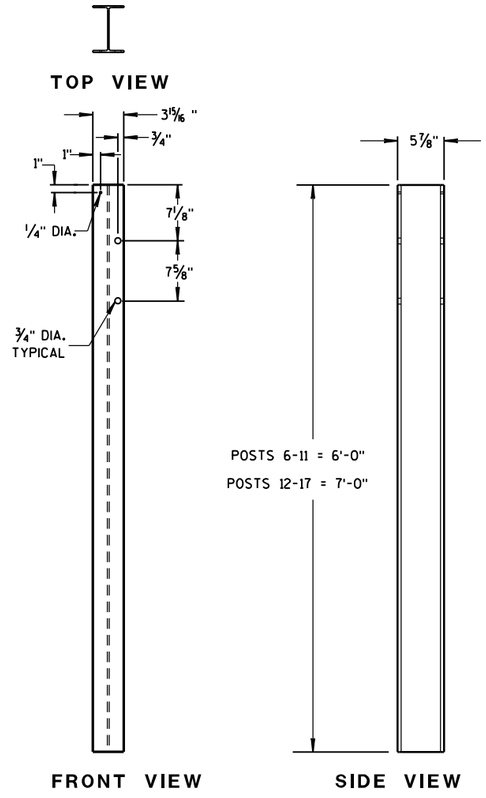
FRONT VIEW

BLOCKOUT POSTS 6-17



FRONT VIEW SIDE VIEW

STEEL POSTS 1-5



FRONT VIEW SIDE VIEW

STEEL POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

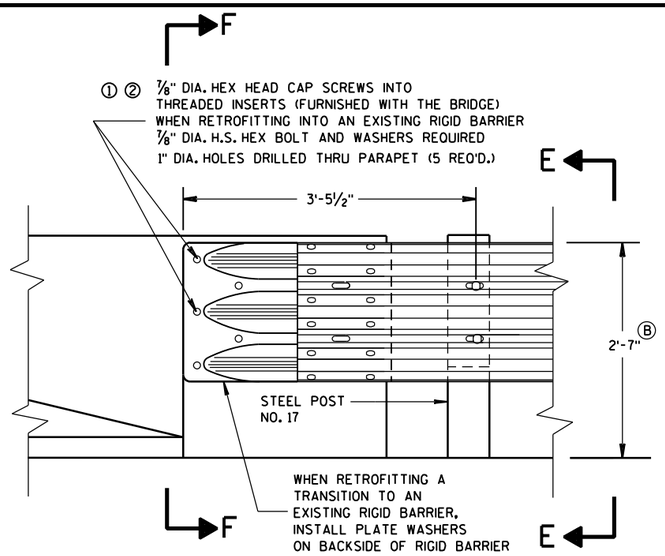
BOLT HOLES FOR POST ARE ON FRONT AND BACK OF SIDE OF POST.

(1) 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.

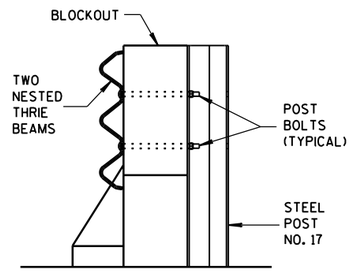
(2) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MODIFIED MGS THRIE BEAM TRANSITION (WITHOUT CONCRETE CURB AND GUTTER) PROVIDED BY WISDOT PAGE 3 OF 4

MODIFIED MIDWEST GUARDRAIL SYSTEM (MGS)
THRIE BEAM TRANSITION

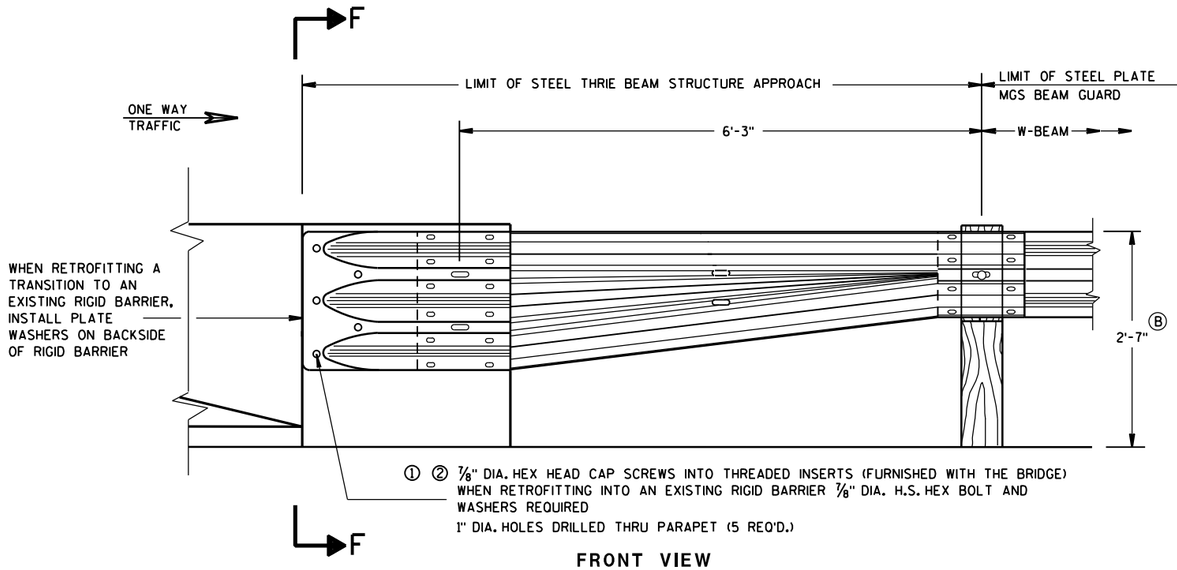


FRONT VIEW



SECTION E-E

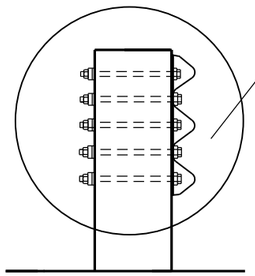
THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION F-F

GENERAL NOTES

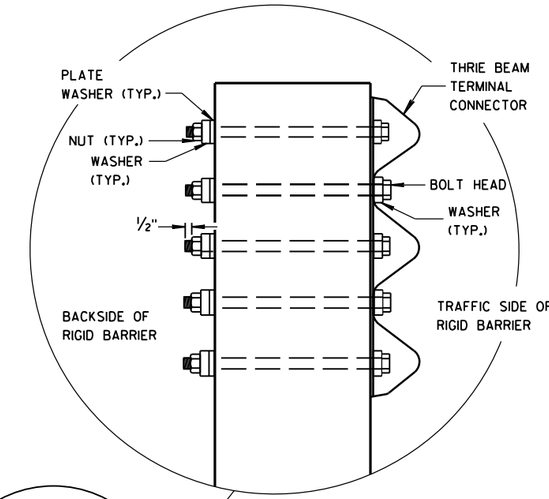
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

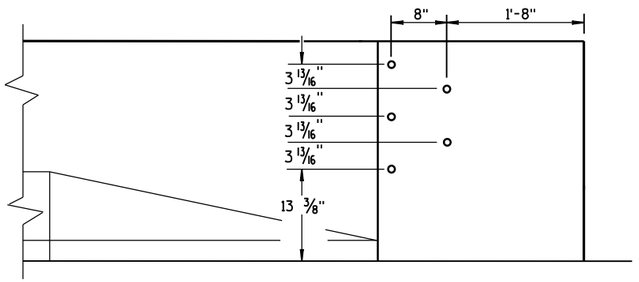
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② 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.

③ 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".

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



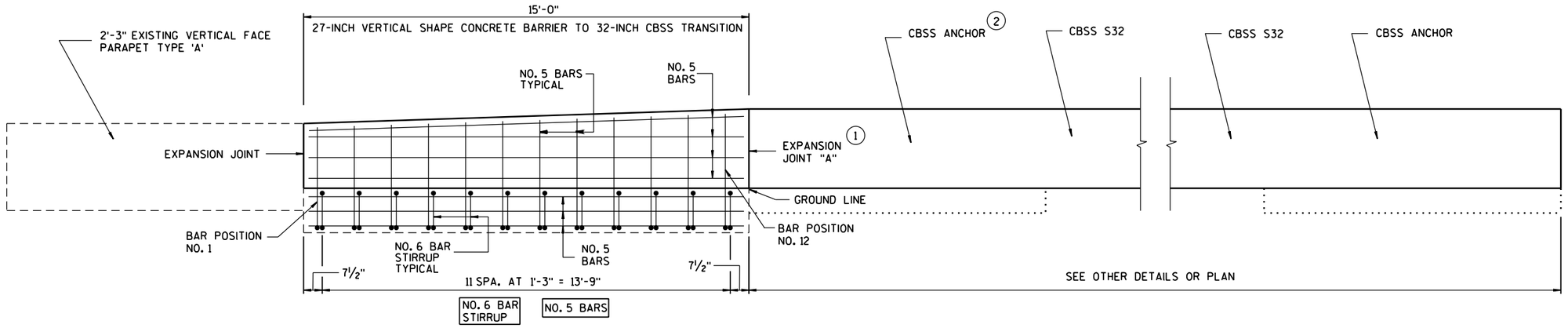


DRILL HOLE LOCATION

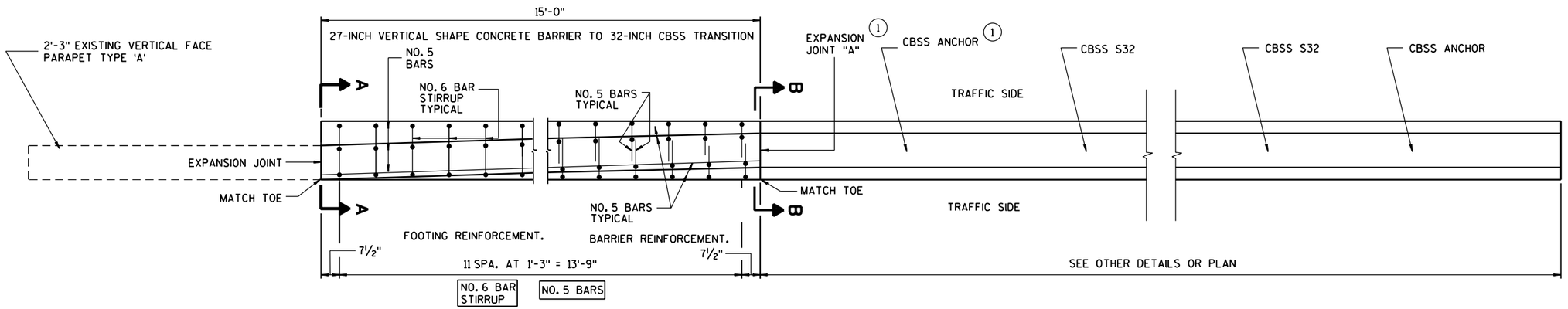
MODIFIED MGS THRIE BEAM TRANSITION (WITHOUT CONCRETE CURB AND GUTTER) PROVIDED BY WISDOT PAGE 4 OF 4

MODIFIED MIDWEST GUARDRAIL SYSTEM (MGS)
THRIE BEAM TRANSITION

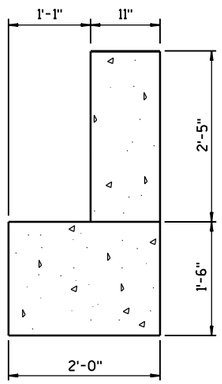
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 45	E



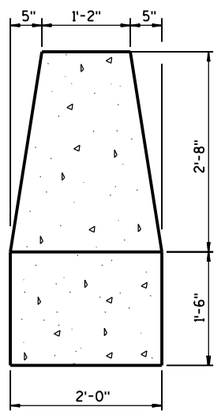
ELEVATION VIEW



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.

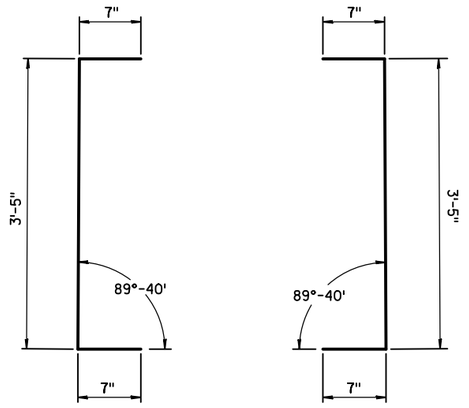
USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

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.

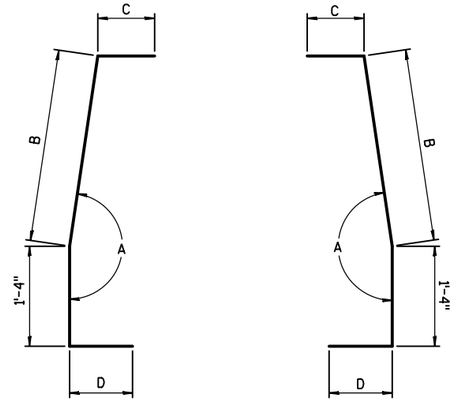
27-INCH VERTICAL SHAPE CONCRETE BARRIER TO 32-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION



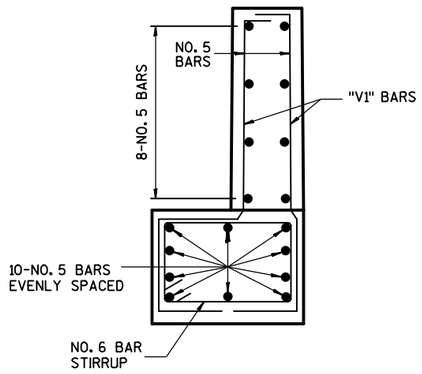
BAR NO. V1
BENDING DETAIL

BAR CHART
BAR POSITIONS V2 - V12

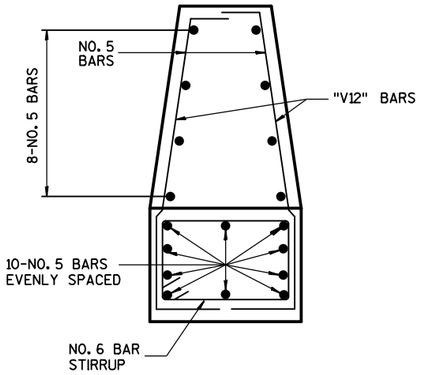
BAR	A	B	C	D
V2	178°-50'	2'-1"	7"	8"
V3	178°-15'	2'-1½"	7"	9"
V4	177°-20'	2'-2"	7"	10"
V5	176°-40'	2'-2½"	7"	10"
V6	176°	2'-3"	7"	10"
V7	175°-05'	2'-3½"	8"	10"
V8	174°-25'	2'-4"	8"	10"
V9	173°-30'	2'-4½"	8"	10"
V10	172°-50'	2'-5"	8"	10"
V11	172°-15'	2'-5½"	8"	10"
V12	171°-35'	2'-6½"	9"	10"



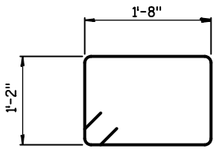
BAR NO. V2 - NO. V12
BENDING DETAIL



BAR DETAIL
BAR POSITION NO. 1



BAR DETAIL
BAR POSITION NO. 12



STIRRUP BAR
BENDING DETAIL

US 41 SB (CURVE #6 & #7) SUPERELEVATION TABLE				
RL US 41 NB				
SUPERELEVATION DESCRIPTION	STATION	LANE 3 SLOPE	LANE 2 SLOPE	LANE 1 SLOPE
BEGIN NORMAL CROWN	112+75	1.50%	2.00%	-2.00%
	112+35	1.53%	1.53%	-1.00%
ZERO SUPER	111+95	1.62%	1.62%	0.00%
	111+55	1.90%	1.90%	1.00%
REVERSE CROWN	111+25 (ahead) 109+86 (back)	2.00%	2.00%	2.00%
	109+26	3.00%	3.00%	3.00%
END FULL SUPER	108+11	4.00%	4.00%	4.00%
BEGIN FULL SUPER	103+86	4.00%	4.00%	4.00%
	102+71	3.00%	3.00%	3.00%
REVERSE CROWN	101+96	2.00%	2.00%	2.00%
	101+21	1.00%	1.00%	1.00%
ZERO SUPER	100+46	0.00%	0.00%	0.00%
	99+71	1.00%	1.00%	1.00%
REVERSE CROWN	98+96	-2.00%	-2.00%	-2.00%
END FULL SUPER	96+86	-3.00%	-3.00%	-3.00%
BEGIN FULL SUPER	87+86	-3.00%	-3.00%	-3.00%
BEGIN SUPER TRANSITION	87+36	-2.50%	-2.50%	-2.50%

NOTE:
SUPERELEVATION ROTATES ABOUT THE INSIDE EDGE OF LANE 1 FOR NB AND SB LANES

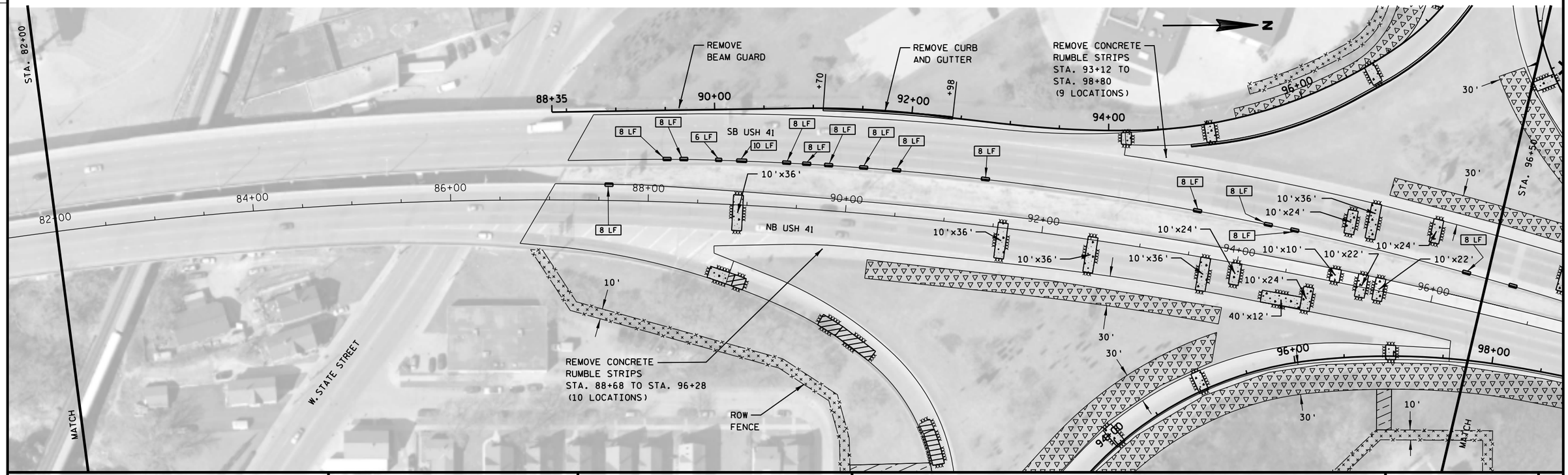
US 41 NB (CURVE #6 & #7) SUPERELEVATION TABLE				
RL US 41 NB				
SUPERELEVATION DESCRIPTION	STATION	LANE 1 SLOPE	LANE 2 SLOPE	LANE 3 SLOPE
BEGIN NORMAL CROWN	113+00	2.00%	-2.00%	-1.50%
	112+75	2.00%	-1.85%	-1.50%
	112+50	1.75%	-1.33%	-1.33%
	112+25	1.50%	-0.75%	-0.75%
	112+00	1.50%	-0.13%	-0.13%
ZERO SUPER	111+95	1.55%	0.00%	0.00%
	111+75	1.75%	0.50%	0.50%
	111+50	2.00%	1.13%	1.13%
	111+25	2.25%	1.75%	1.75%
REVERSE CROWN	111+00 (ahead) 109+61 (back)	2.36%	2.36%	2.36%
	109+28	3.00%	3.00%	3.00%
END FULL SUPER	108+28	4.00%	4.00%	4.00%
BEGIN FULL SUPER	104+77	4.00%	4.00%	4.00%
	103+12	3.00%	3.00%	3.00%
REVERSE CROWN	102+42	2.00%	2.00%	2.00%
	101+77	1.00%	1.00%	1.00%
ZERO SUPER	101+02	0.00%	0.00%	0.00%
	100+42	-1.00%	-1.00%	-1.00%
REVERSE CROWN	98+77	-2.00%	-2.00%	-2.00%
REVERSE CROWN	92+25	-2.00%	-2.00%	-2.00%
END FULL SUPER	91+75	-2.50%	-2.50%	-2.50%
BEGIN FULL SUPER	86+95	-2.50%	-2.50%	-2.50%

LEFT BLANK INTENTIONALLY

LEGEND:

- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE BASE PATCHING
- XX LF — LENGTH LABEL FOR CONCRETE BARRIER SINGLE-FACED REPLACEMENT
- CLEAR ZONE-BASED CLEARING & GRUBBING
- ROW FENCE-BASED CLEARING
- ACCESS PATH CLEARING AND GRUBBING

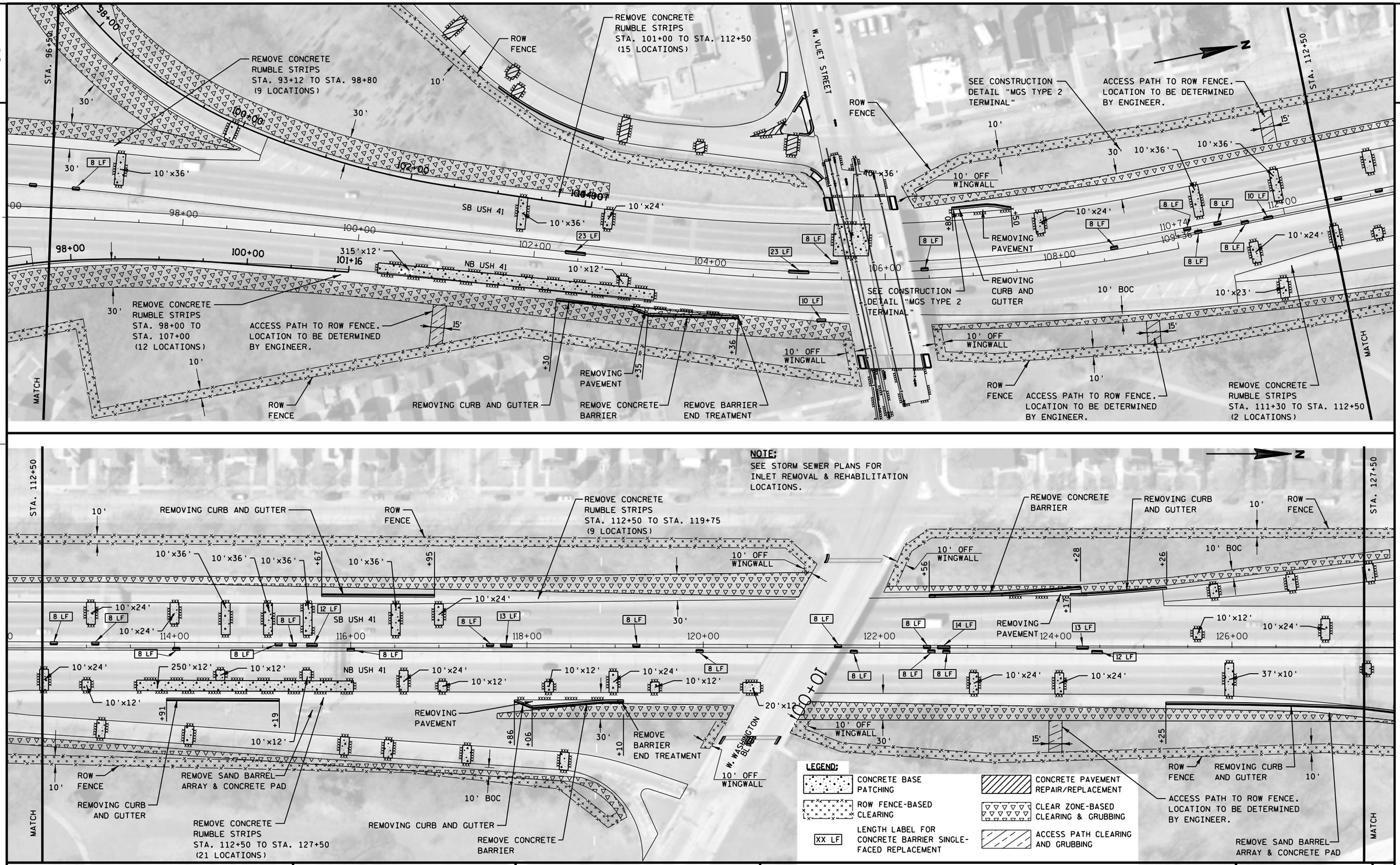
NOTE:
SEE STORM SEWER PLANS FOR INLET REMOVAL & REHABILITATION LOCATIONS.



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	REMOVAL PLAN-MAINLINE	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_021102_rp.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42



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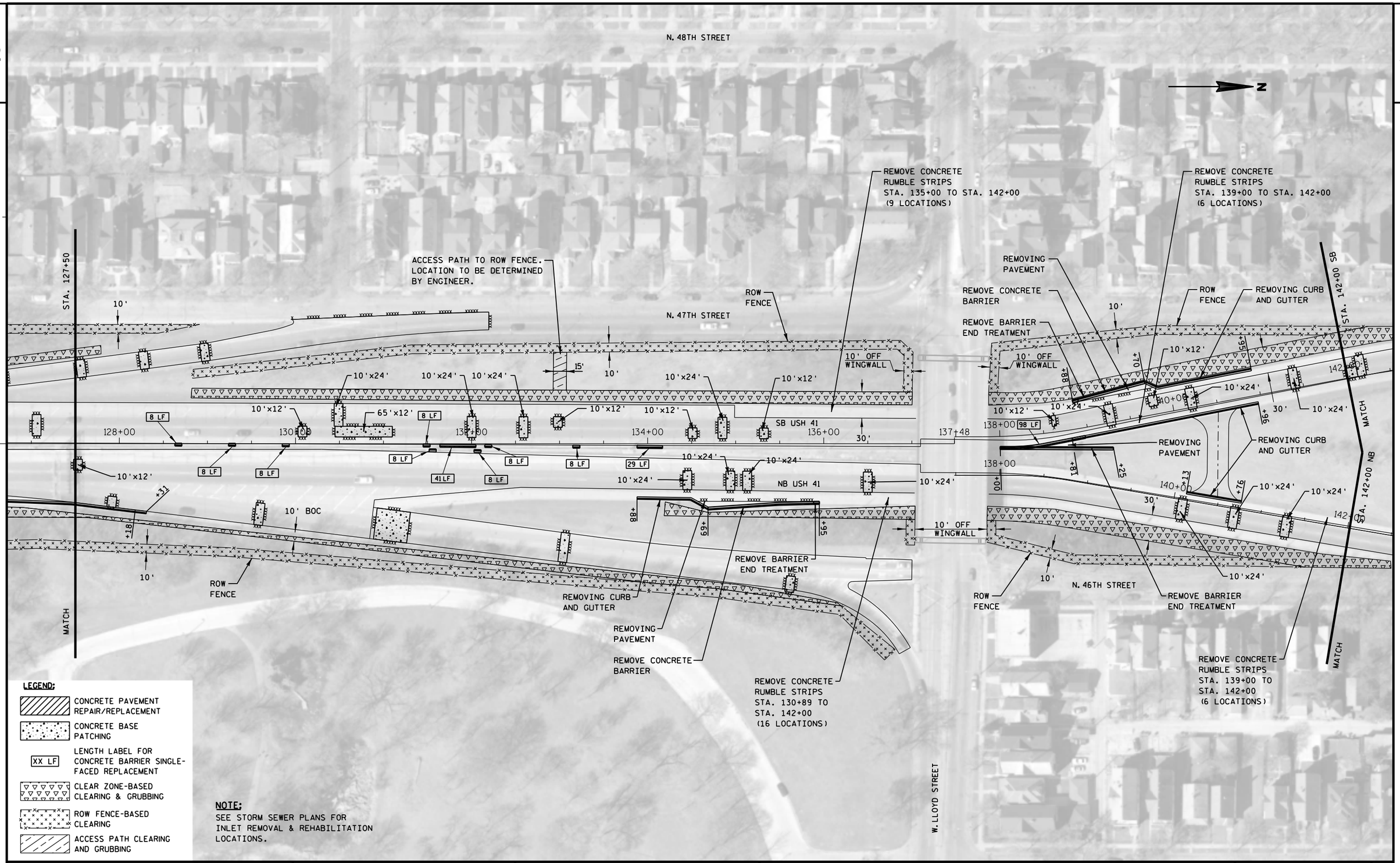
2



LEGEND:

- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE BASE PATCHING
- XX LF — LENGTH LABEL FOR CONCRETE BARRIER SINGLE-FACED REPLACEMENT
- CLEAR ZONE-BASED CLEARING & GRUBBING
- ROW FENCE-BASED CLEARING
- ACCESS PATH CLEARING AND GRUBBING

NOTE:
SEE STORM SEWER PLANS FOR INLET REMOVAL & REHABILITATION LOCATIONS.

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	REMOVAL PLAN-MAINLINE	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_021104_rp.dgn
PLOT DATE : 4/30/2015
PLOT BY : piojdae
PLOT NAME :
PLOT SCALE : 1:100
WISDOT/CADDS SHEET 42

2

N. 48TH STREET

N. 47TH STREET

W. LISBON AVENUE

W. GARFIELD AVENUE

W. NORTH AVENUE

N

CLEARING & GRUBBING

REMOVE CONCRETE RUMBLE STRIPS STA. 142+00 TO STA. 143+25 (1 LOCATION)

REMOVING ASPHALTIC SURFACE

10'x24'

10'x24'

10'x24'

10'x24'

10'x12'

13'x12'

30'

REMOVING CURB AND GUTTER

REMOVE CONCRETE RUMBLE STRIPS STA. 142+00 TO STA. 143+18 (2 LOCATIONS)

REMOVE CONCRETE RUMBLE STRIPS STA. 142+00 TO STA. 149+00 (2 LOCATIONS)

CLEAR AND GRUB AT SIGN

STA. 142+00 SB

SB USH 41

NB USH 41

142+00

144+00

146+00

MATCH

MATCH

STA. 142+00 NB

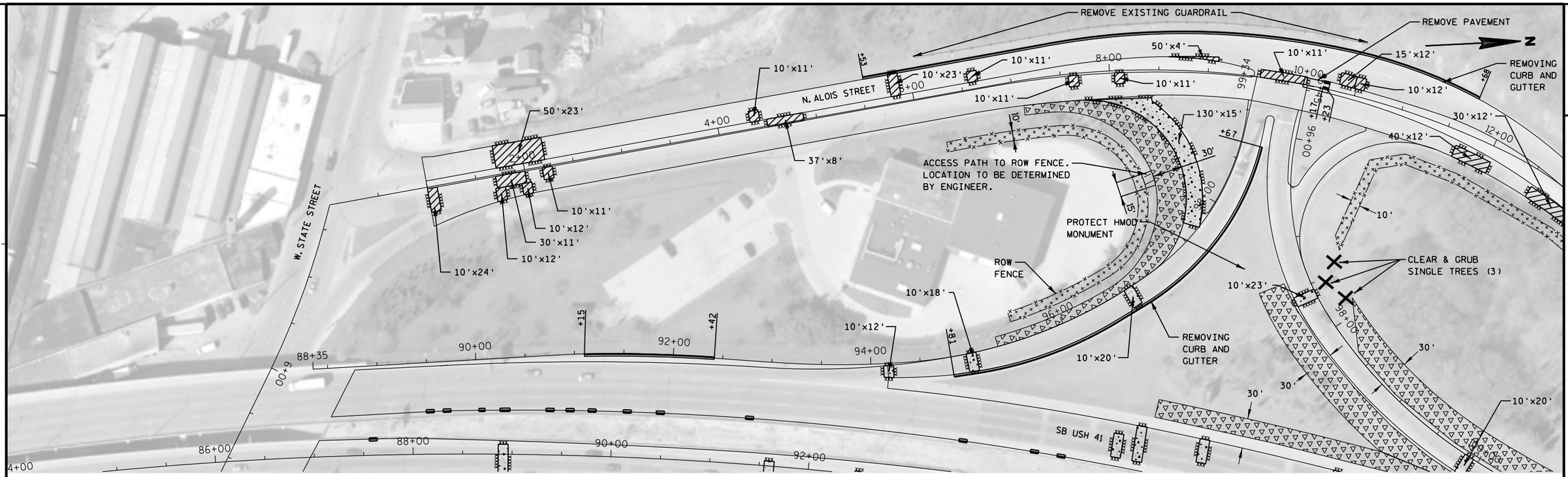
NOTE:
SEE STORM SEWER PLANS FOR INLET REMOVAL & REHABILITATION LOCATIONS.

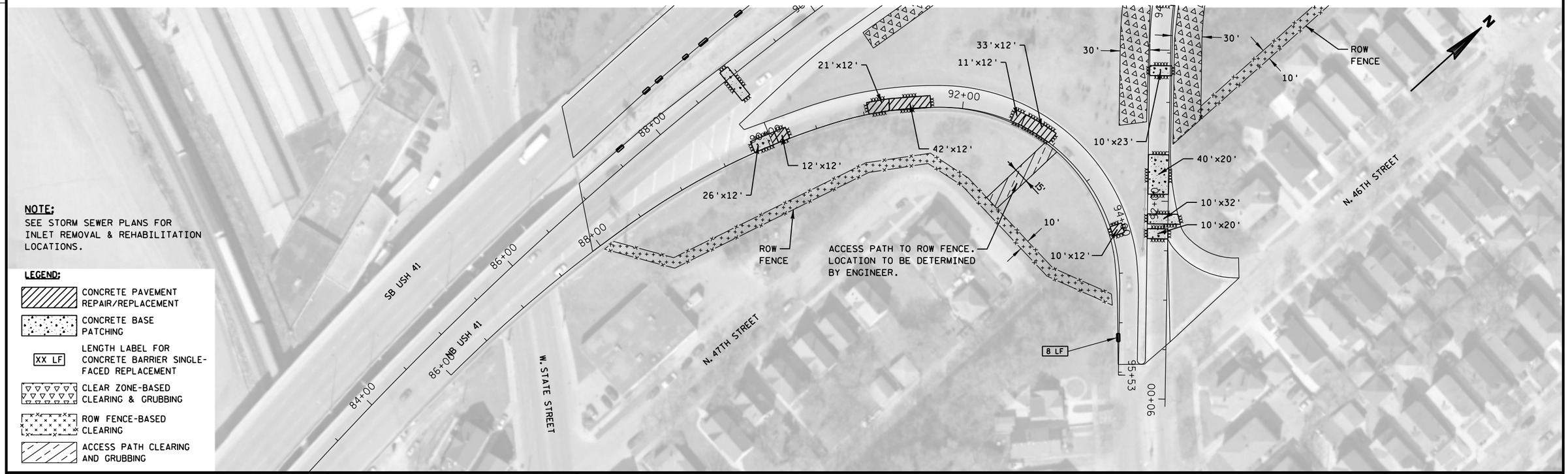
LEGEND:

- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE BASE PATCHING
- XX LF — LENGTH LABEL FOR CONCRETE BARRIER SINGLE-FACED REPLACEMENT
- CLEAR ZONE-BASED CLEARING & GRUBBING
- ROW FENCE-BASED CLEARING
- ACCESS PATH CLEARING AND GRUBBING

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	REMOVAL PLAN-MAINLINE	SHEET 52	E

2





NOTE:
SEE STORM SEWER PLANS FOR INLET REMOVAL & REHABILITATION LOCATIONS.

LEGEND:

- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE BASE PATCHING
- XX LF — LENGTH LABEL FOR CONCRETE BARRIER SINGLE-FACED REPLACEMENT
- CLEAR ZONE-BASED CLEARING & GRUBBING
- ROW FENCE-BASED CLEARING
- ACCESS PATH CLEARING AND GRUBBING

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	REMOVAL PLAN-RAMPS	SHEET 53	E

2

N. ALOIS STREET

8+00

10+00

12+00

14+00

16+00

40'x12'

30'x12'

ROW FENCE

10'x16'

10'x17'

10'x28'

10'x14'

10'x14'

10'x28'

10'x12'

10'

10'

+43

+59

+29

CLEAR AND GRUB SINGLE TREES (3)

10'x23'

30'

ROW FENCE

REMOVE CURB & GUTTER

REMOVE GUARDRAIL

REMOVING CURB & GUTTER AND CONCRETE SIDEWALK

8+00

20+00

12'x24'

10'x12'

10+00

ROW FENCE

10'x24'

SB USH 41

10'x36'

104+00

106+00

12+00

NB USH 41

102+00

100+00

W. VLIET STREET

10'x20'

ROW FENCE

98+00

N. 47TH STREET

ROW FENCE

SB USH 41

94+00

NB USH 41

96+00

30'

10'x23'

10'x23'

10'x15'

94+00

98+00

30'

15'

10'

10'

10'

10'

10'

40'x20'

10'x32'

10'x20'

ACCESS PATH TO ROW FENCE. LOCATION TO BE DETERMINED BY ENGINEER.

ROW FENCE

90+00

N. ALOIS STREET

ROW FENCE

100+00

101+16

102+00

NOTE:
SEE STORM SEWER PLANS FOR INLET REMOVAL & REHABILITATION LOCATIONS.

LEGEND:

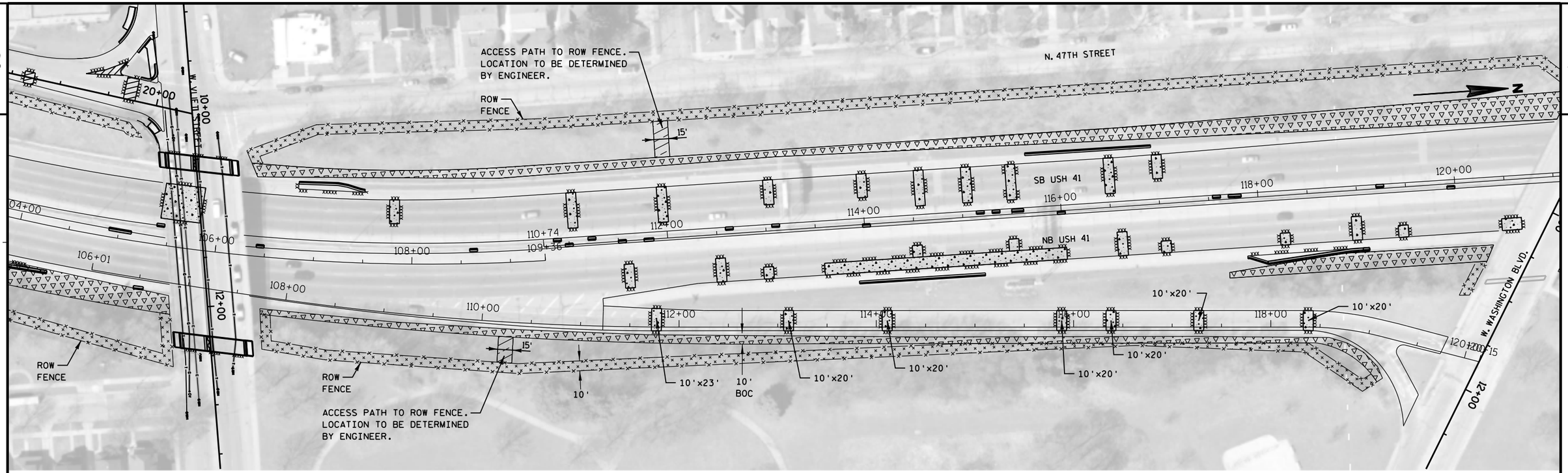
- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE BASE PATCHING
- XX LF — LENGTH LABEL FOR CONCRETE BARRIER SINGLE-FACED REPLACEMENT
- CLEAR ZONE-BASED CLEARING & GRUBBING
- ROW FENCE-BASED CLEARING
- ACCESS PATH CLEARING AND GRUBBING

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	REMOVAL PLAN-RAMPS	SHEET 54 E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_021115_rp.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

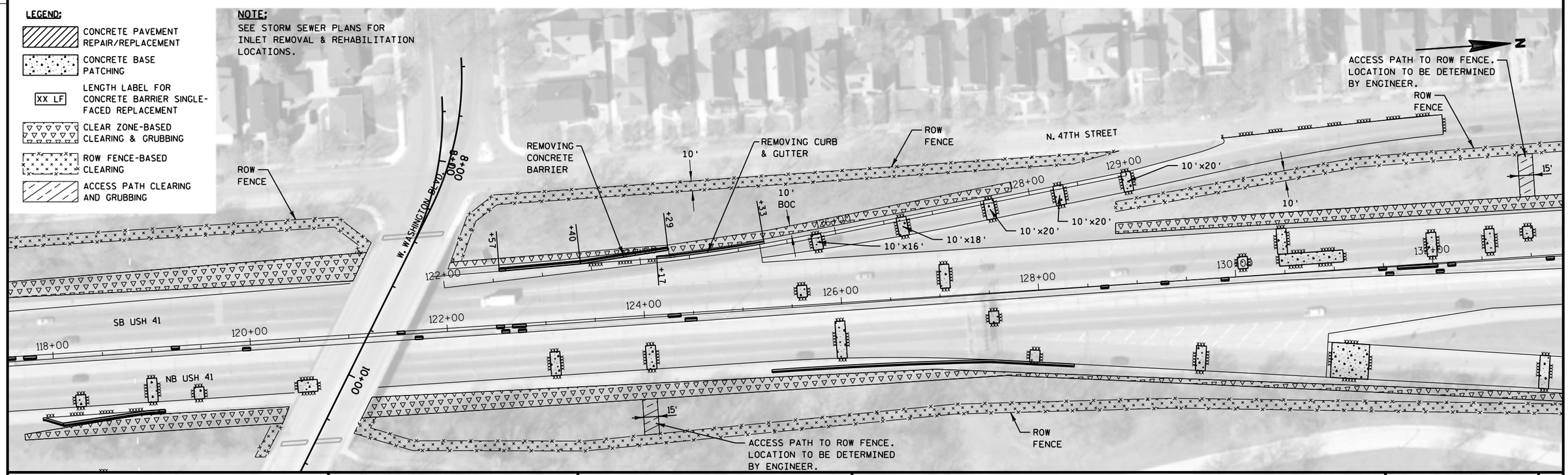
2



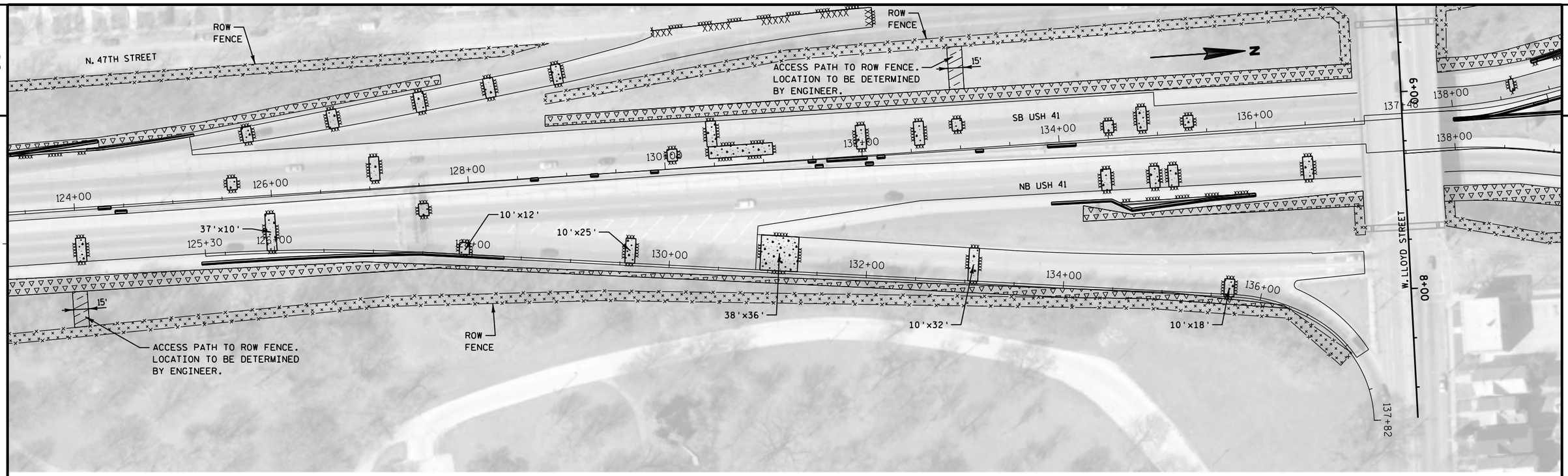
LEGEND:

- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE BASE PATCHING
- XX LF — LENGTH LABEL FOR CONCRETE BARRIER SINGLE-FACED REPLACEMENT
- CLEAR ZONE-BASED CLEARING & GRUBBING
- ROW FENCE-BASED CLEARING
- ACCESS PATH CLEARING AND GRUBBING

NOTE:
SEE STORM SEWER PLANS FOR INLET REMOVAL & REHABILITATION LOCATIONS.



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	REMOVAL PLAN-RAMPS	SHEET 55	E



LEGEND:

- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE BASE PATCHING
- XX LF — LENGTH LABEL FOR CONCRETE BARRIER SINGLE-FACED REPLACEMENT
- CLEAR ZONE-BASED CLEARING & GRUBBING
- ROW FENCE-BASED CLEARING
- ACCESS PATH CLEARING AND GRUBBING

NOTE:

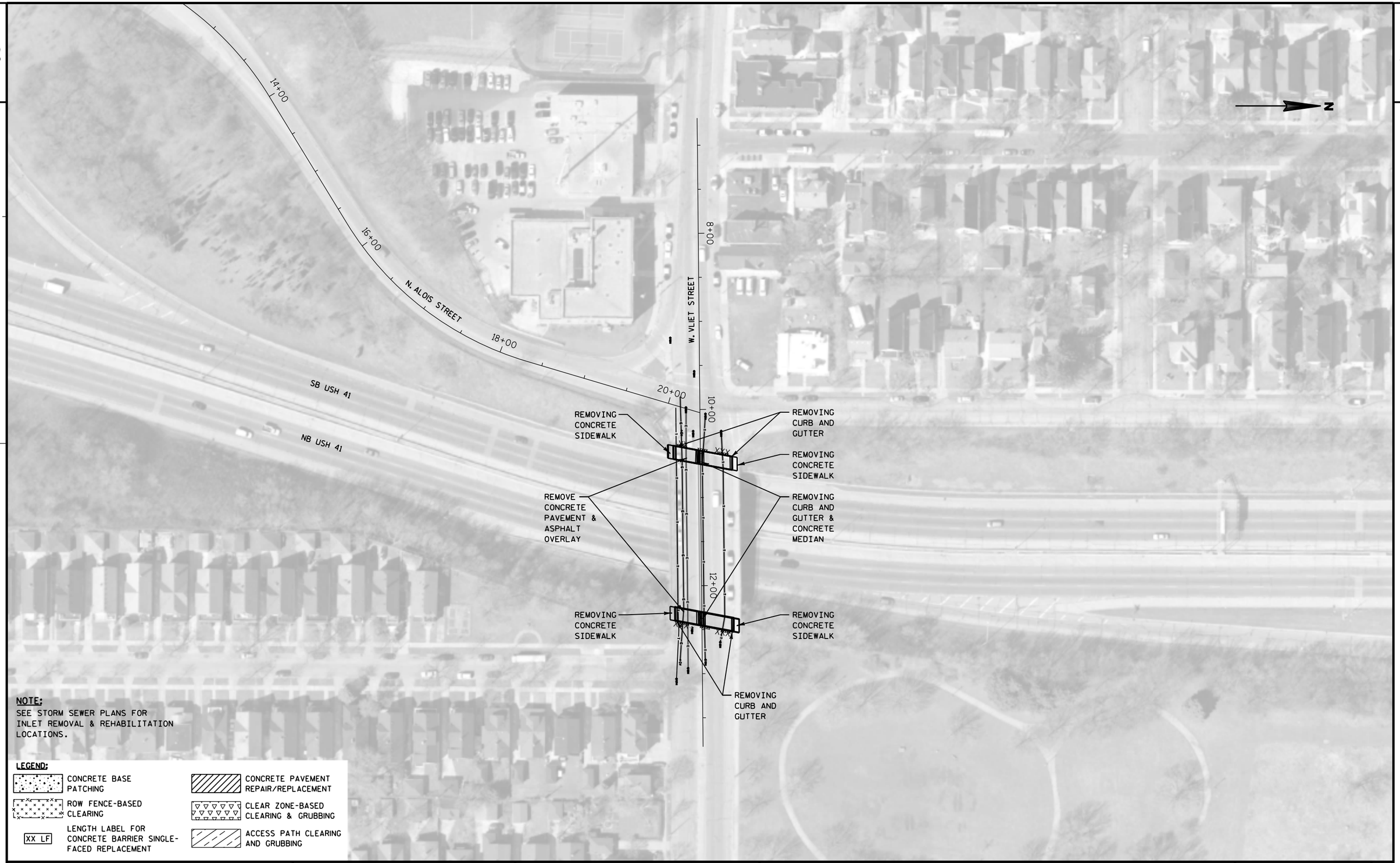
SEE STORM SEWER PLANS FOR INLET REMOVAL & REHABILITATION LOCATIONS.

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	REMOVAL PLAN-RAMPS	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_021117_rp.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2



NOTE;
SEE STORM SEWER PLANS FOR INLET REMOVAL & REHABILITATION LOCATIONS.

LEGEND:

- CONCRETE BASE PATCHING
- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- ROW FENCE-BASED CLEARING
- CLEAR ZONE-BASED CLEARING & GRUBBING
- XX LF — LENGTH LABEL FOR CONCRETE BARRIER SINGLE-FACED REPLACEMENT
- ACCESS PATH CLEARING AND GRUBBING

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	REMOVAL PLAN-SIDEROAD	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_021123_rp.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

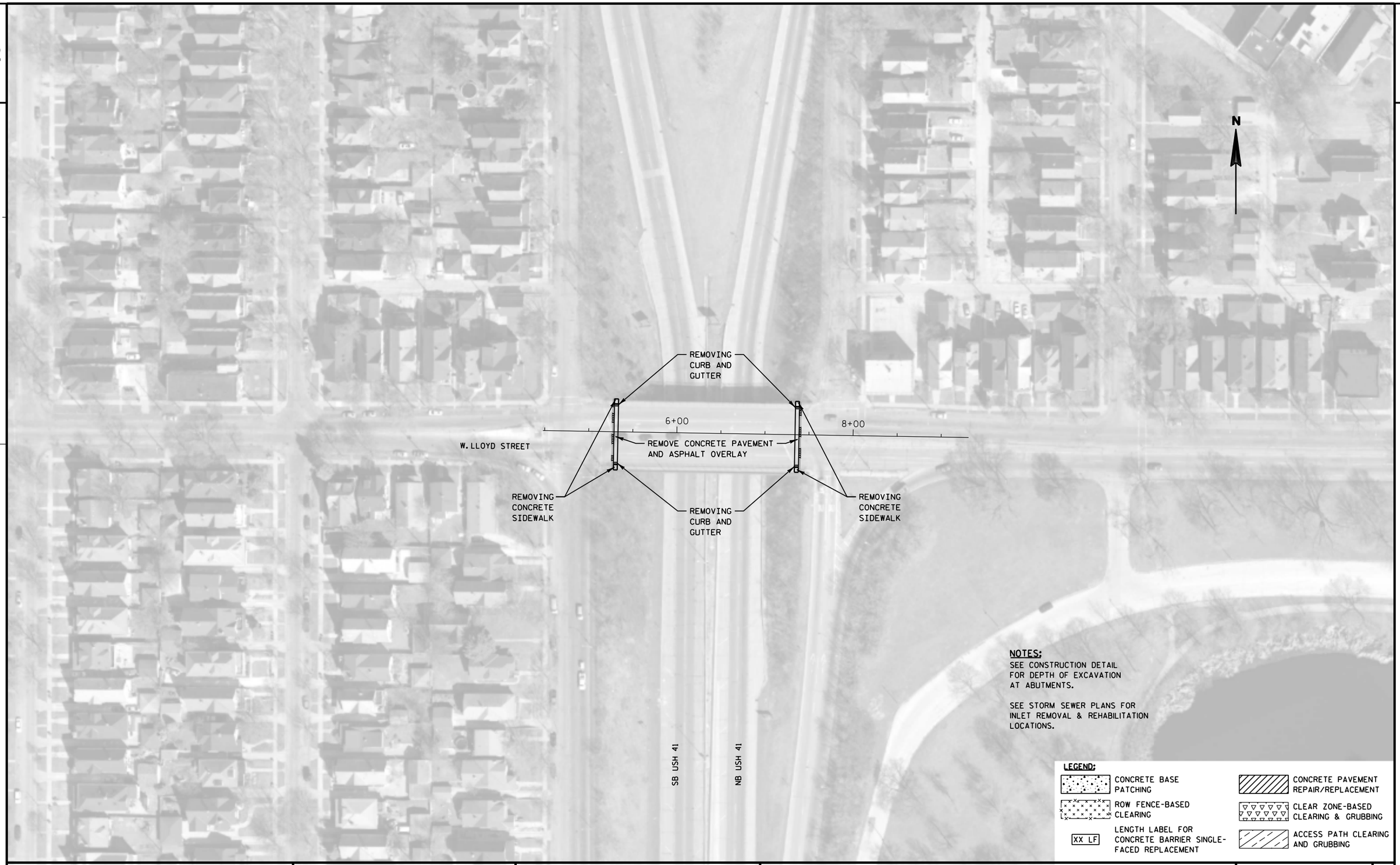
2

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	REMOVAL PLAN-SIDEROAD	SHEET 58	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_021124_rp.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2



NOTES:

SEE CONSTRUCTION DETAIL FOR DEPTH OF EXCAVATION AT ABUTMENTS.

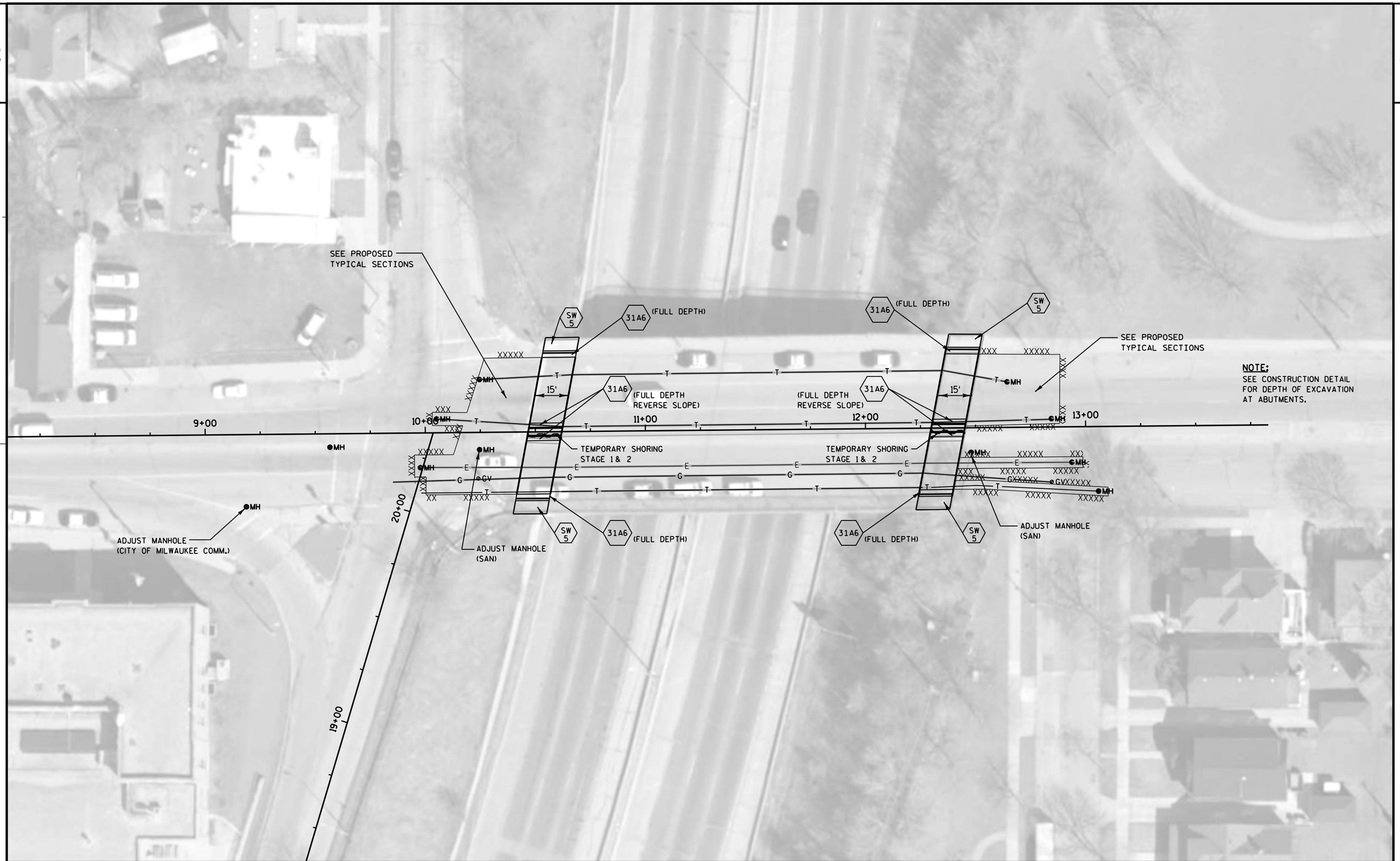
SEE STORM SEWER PLANS FOR INLET REMOVAL & REHABILITATION LOCATIONS.

LEGEND:

- CONCRETE BASE PATCHING
- ROW FENCE-BASED CLEARING
- XX LF — LENGTH LABEL FOR CONCRETE BARRIER SINGLE-FACED REPLACEMENT
- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CLEAR ZONE-BASED CLEARING & GRUBBING
- ACCESS PATH CLEARING AND GRUBBING

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	REMOVAL PLAN-SIDEROAD	SHEET 59	E

2



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN DETAIL - W. VLIET STREET	SHEET 60	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_021201_pd.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 44

2

N

7+00

8+00

8+00

9+00

10+00

12+00

13+00

31A6 (FULL DEPTH)

10'

MILL 2-INCHES BELOW NEW BRIDGE OVERLAY.
TAPER MILL DEPTH TO PROVIDE UNIFORM
2-INCH LAYER. (SEE CONSTRUCTION DETAIL)

B-40-56
BRIDGE DECK CONCRETE OVERLAY
SEE BRIDGE PLANS

31A6 (FULL DEPTH)

10'

MILL 2-INCHES BELOW NEW BRIDGE OVERLAY.
TAPER MILL DEPTH TO PROVIDE UNIFORM
2-INCH LAYER. (SEE CONSTRUCTION DETAIL)

SW5

31A6 (FULL DEPTH REVERSE SLOPE)

31A6 (FULL DEPTH)

W. WASHINGTON BLVD.

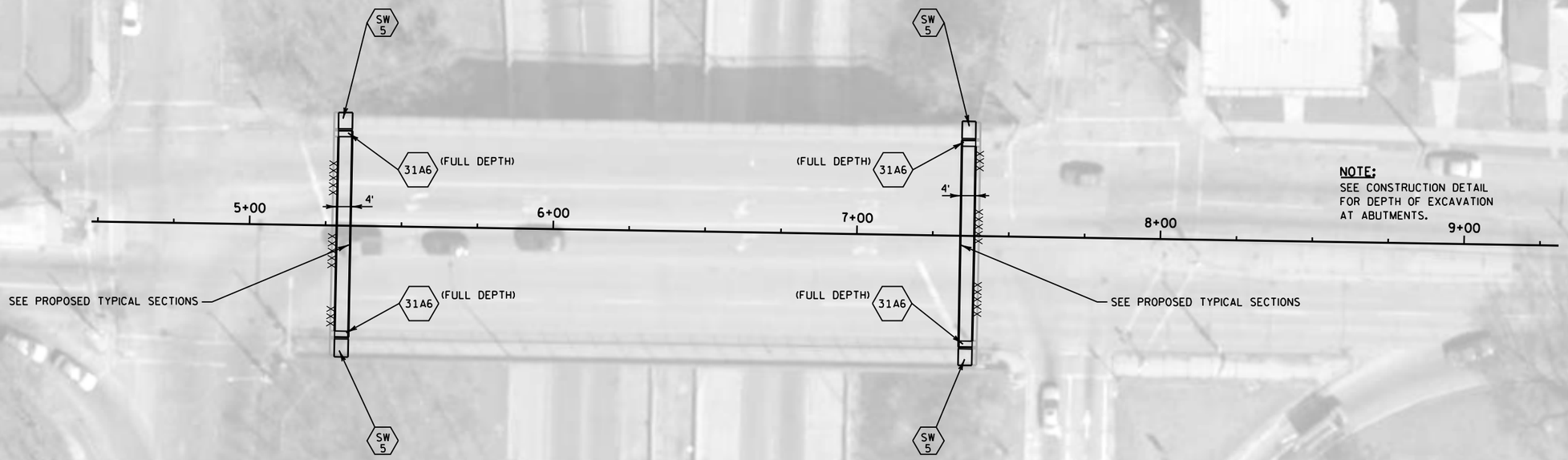
SB USH 41

NB USH 41

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN DETAIL - W. WASHINGTON BLVD.	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_021202_pd.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:40

2



NOTE:
SEE CONSTRUCTION DETAIL FOR DEPTH OF EXCAVATION AT ABUTMENTS.

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN DETAIL - W. LLOYD STREET	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_021203_pd.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:40

2

2

N

N. ALOIS STREET

4+00
5+00
6+00
7+00
8+00
9+00
95+33
10+00
95+45
99+00
96+00
98+00
97+00
96+00
95+00
94+00
93+00

668.90
668.59
668.07
667.62
667.15
666.35
665.41
664.55
663.78
663.06
662.31
661.55
660.78
659.93
659.09
658.20
657.54

+81

31A6 FULL DEPTH, REVERSE SLOPE
(SEE CONSTRUCTION DETAIL)

SB USH 41

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN DETAIL	SHEET 63	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_021208_pd.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 44

2

N

N. 47TH STREET

5+00

6+00

7+00

8+00

137+48

138+00

139+00

140+00

141+00

142+00

143+00

SB USH 41

NB USH 41

W. LLOYD STREET

N. 46TH STREET

STA. 10+00.00 MAINTENANCE CROSSOVER=
STA. 140+51.57 SB USH 41

STA. 11+17.42 MAINTENANCE CROSSOVER=
STA. 140+50.00 NB USH 41

10+00

11+00

S 89°28'45" E

712.25

711.45

710.28

709.6

SLOPE INTERCEPT

SLOPE INTERCEPT

R=25'

R=25'

R=25'

R=25'

STA. 10+44.2, 34.2' RT.
1-12" AEW, INV=708.9

STA. 10+75.7, 32.8' RT.
1-12" AEW, INV=707.2

709.1 (H.P.)

STA. 10+35.8, 33.4' LT.
1-12" AEW, INV=709.9

710.2 (H.P.)

56' - 12" CPRC
CLASS IV @ 1.5%

56' - 12" CPRC
CLASS IV @ 1.2%

STA. 10+79.8, 35.2' LT.
1-12" AEW, INV=708.0

3' 12' 12' 3'

2% 2%

SEE S.D.D. MAINTENANCE
CROSSOVER FOR FREEWAYS

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN DETAIL	SHEET 64	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_021209_pd.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 44

2

2

6+00

8+00

10+00

68+00

70+00

72+00

74+00

76+00

78+00

80+00

82+00

10

8+00

B

LEGEND

DISTURBED AREA TO BE RESTORED WITH EROSION MAT CLASS I TYPE B, SALVAGED TOPSOIL, SEED MIXTURE NO. 30 AND FERTILIZER TYPE B.

DISTURBED AREA TO BE RESTORED WITH MULCH, SEED MIXTURE NO. 30, SEEDING TEMPORARY AND FERTILIZER TYPE B.

INLET PROTECTION TYPE (A, B, C OR D)

CULVERT PIPE CHECK

TEMPORARY DITCH CHECK

SILT FENCE

STA. 82+00

82+00

84+00

86+00

88+00

88+35

90+00

92+00

94+00

96+00

98+00

STA. 96+55

N

SB USH 41

NB USH 41

W. STATE STREET

MATCH

MATCH

C

D

B

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_022002_ec.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

STA. 96+50

96+00

98+00

100+00

102+00

SB USH 41

NB USH 41

101+16

104+00

MATCH

W. VLIET STREET

106+00

108+00

110+74

109+50

112+00

STA. 112+50

MATCH

2

STA. 112+50

SB USH 41

114+00

116+00

118+00

120+00

NB USH 41

MATCH

W. WASHINGTON BLVD.

122+00

124+00

126+00

STA. 127+50

MATCH

N

LEGEND

- DISTURBED AREA TO BE RESTORED WITH EROSION MAT CLASS I TYPE B, SALVAGED TOPSOIL, SEED MIXTURE NO. 30 AND FERTILIZER TYPE B.
- DISTURBED AREA TO BE RESTORED WITH MULCH, SEED MIXTURE NO. 30, SEEDING TEMPORARY AND FERTILIZER TYPE B.
- INLET PROTECTION TYPE (A, B, C OR D)
- CULVERT PIPE CHECK
- TEMPORARY DITCH CHECK
- SILT FENCE

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_022003_ec.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

N. 48TH STREET

N

STA. 127+50

N. 47TH STREET

STA. 142+00 SB

128+00

130+00

132+00

134+00

136+00

137+48

138+00

140+00

142+00

SB USH 41

NB USH 41

MATCH

MATCH

STA. 142+00 NB

N. 46TH STREET

W. LLOYD STREET

LEGEND

DISTURBED AREA TO BE RESTORED WITH EROSION MAT CLASS ITYPE B, SALVAGED TOPSOIL, SEED MIXTURE NO. 30 AND FERTILIZER TYPE B.

DISTURBED AREA TO BE RESTORED WITH MULCH, SEED MIXTURE NO. 30, SEEDING TEMPORARY AND FERTILIZER TYPE B.

INLET PROTECTION TYPE (A, B, C OR D)

CULVERT PIPE CHECK

TEMPORARY DITCH CHECK

SILT FENCE

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_022004_ec.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

N. 48TH STREET

N. 47TH STREET

W. LISBON AVENUE

W. GARFIELD AVENUE

W. NORTH AVENUE

N

STA. 142+00 SB

MATCH

142+00

144+00

SB USH 41

146+00

S STA. 140+75 NB

MATCH

142+00

NB USH 41

144+00

146+00

MATCH

LEGEND

DISTURBED AREA TO BE RESTORED WITH EROSION MAT CLASS I TYPE B, SALVAGED TOPSOIL, SEED MIXTURE NO. 30 AND FERTILIZER TYPE B.

DISTURBED AREA TO BE RESTORED WITH MULCH, SEED MIXTURE NO. 30, SEEDING TEMPORARY AND FERTILIZER TYPE B.

INLET PROTECTION TYPE (A, B, C OR D)

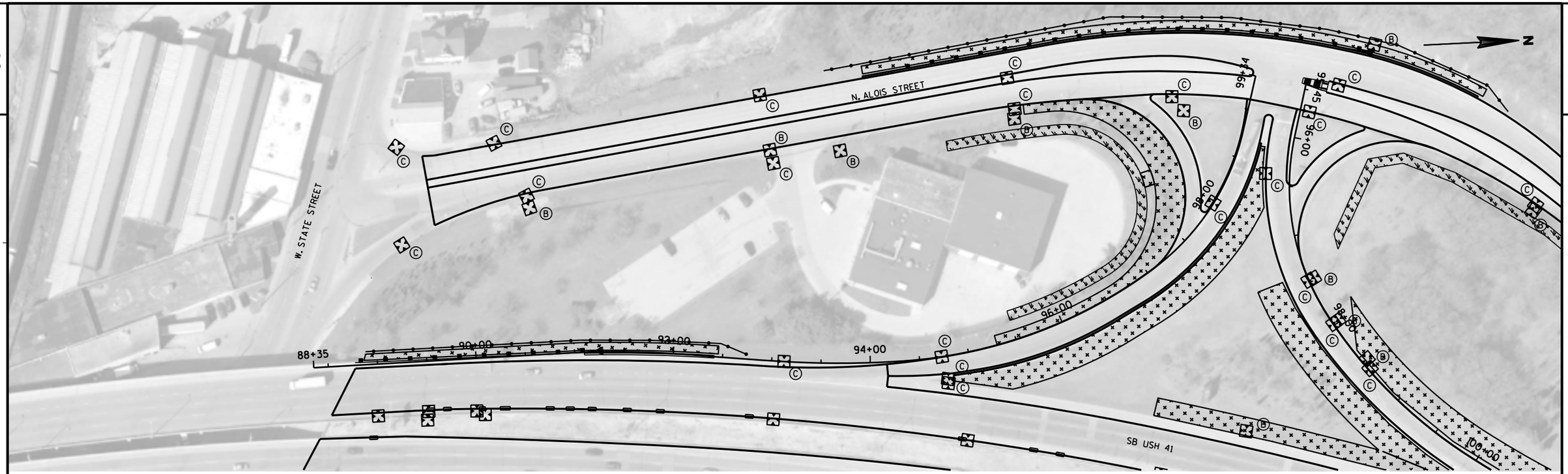
CULVERT PIPE CHECK

TEMPORARY DITCH CHECK

SILT FENCE

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 68	E

2



LEGEND

DISTURBED AREA TO BE RESTORED WITH EROSION MAT CLASS I TYPE B, SALVAGED TOPSOIL, SEED MIXTURE NO. 30 AND FERTILIZER TYPE B.

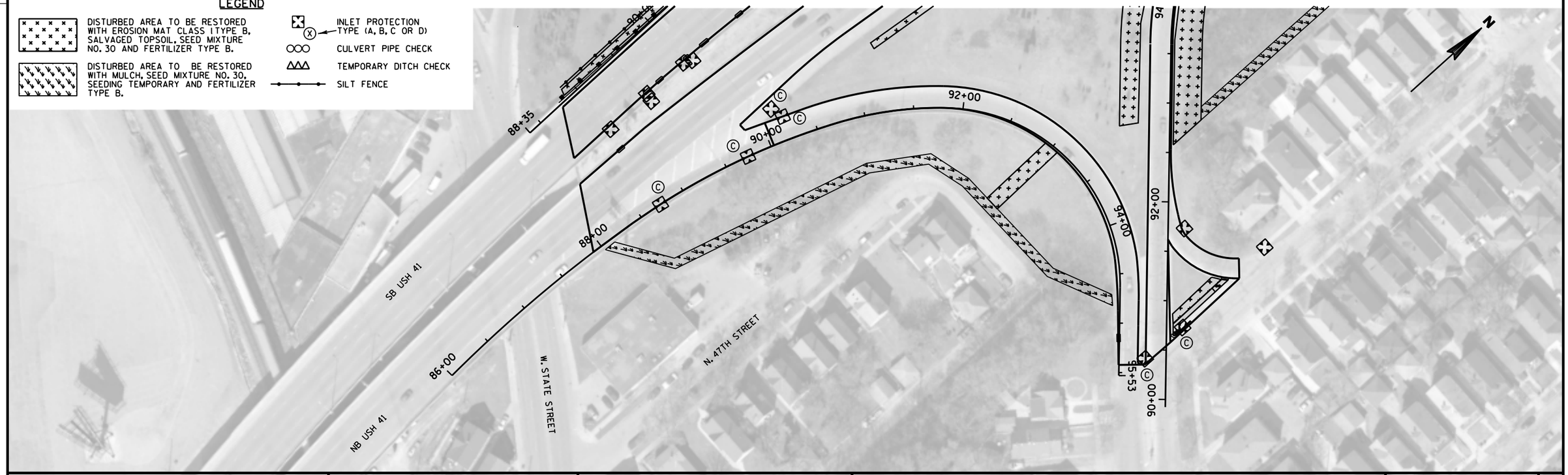
DISTURBED AREA TO BE RESTORED WITH MULCH, SEED MIXTURE NO. 30, SEEDING TEMPORARY AND FERTILIZER TYPE B.

INLET PROTECTION TYPE (A, B, C OR D)

CULVERT PIPE CHECK

TEMPORARY DITCH CHECK

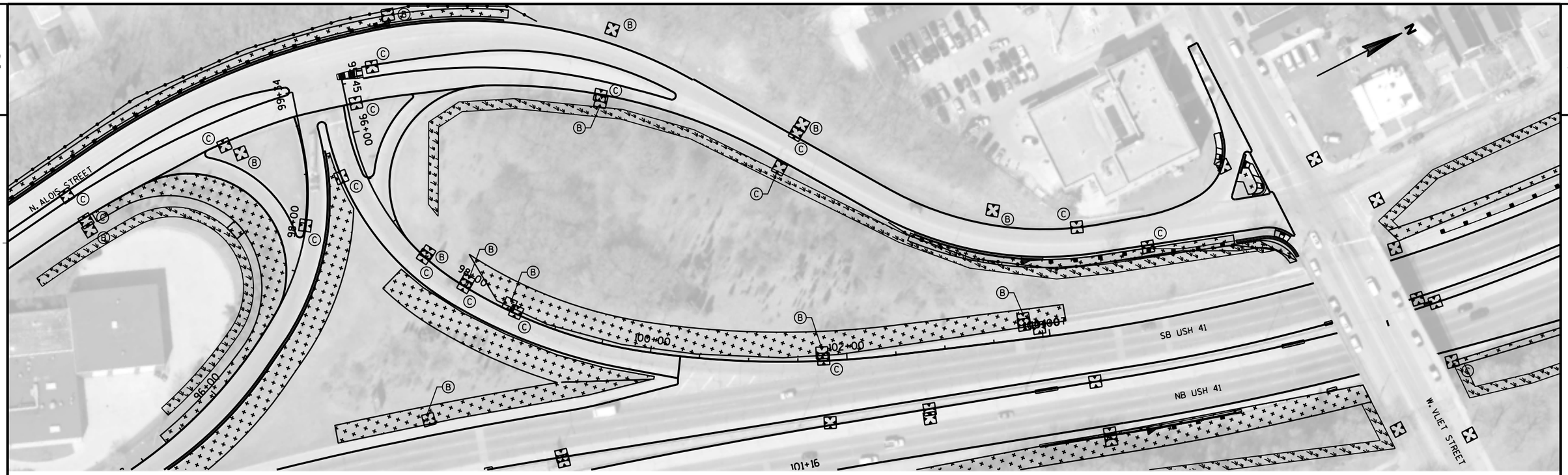
SILT FENCE



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 69 E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_022014_ec.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

2



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_022015_ec.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

2

N. 47TH STREET

SB USH 41

NB USH 41

W. VLIET STREET

W. WASHINGTON BLVD.

N

LEGEND

- DISTURBED AREA TO BE RESTORED WITH EROSION MAT CLASS I TYPE B, SALVAGED TOPSOIL, SEED MIXTURE NO. 30 AND FERTILIZER TYPE B.
- DISTURBED AREA TO BE RESTORED WITH MULCH, SEED MIXTURE NO. 30, SEEDING TEMPORARY AND FERTILIZER TYPE B.
- INLET PROTECTION TYPE (A, B, C OR D)
- CULVERT PIPE CHECK
- TEMPORARY DITCH CHECK
- SILT FENCE

N. 47TH STREET

W. WASHINGTON BLVD.

SB USH 41

NB USH 41

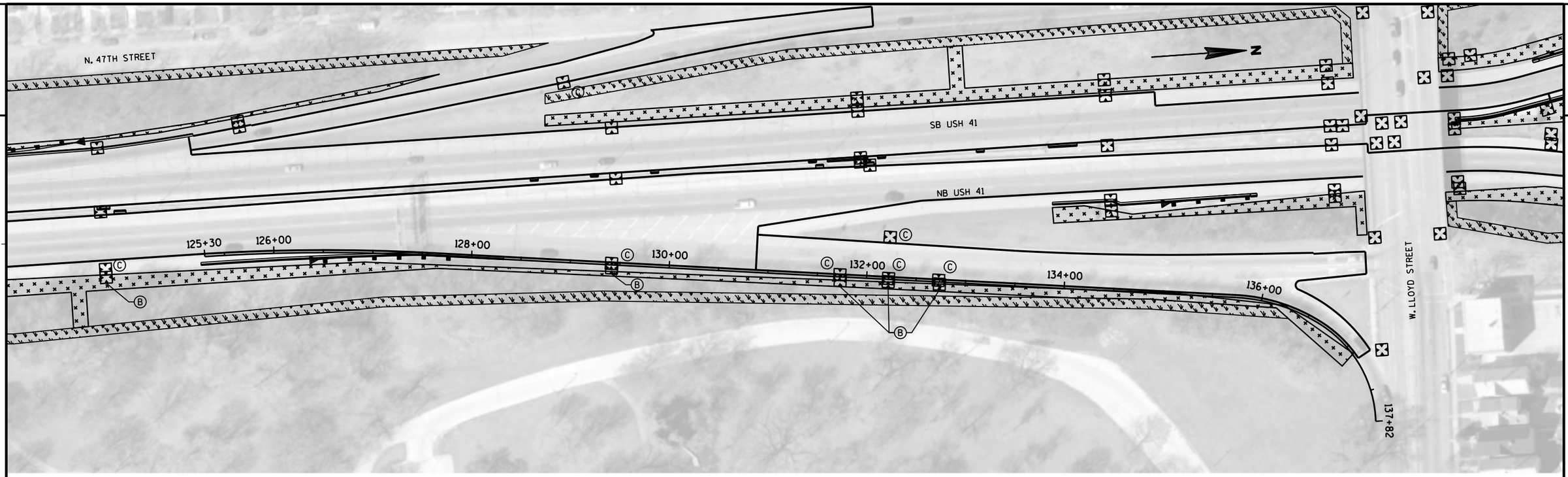
N

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_022016_ec.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

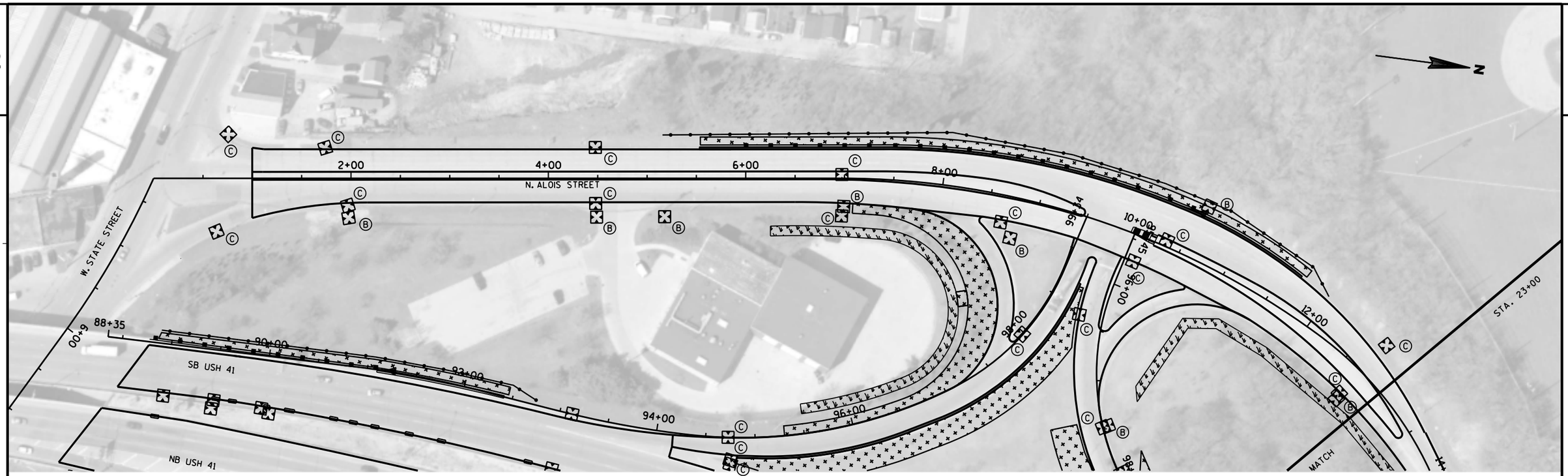


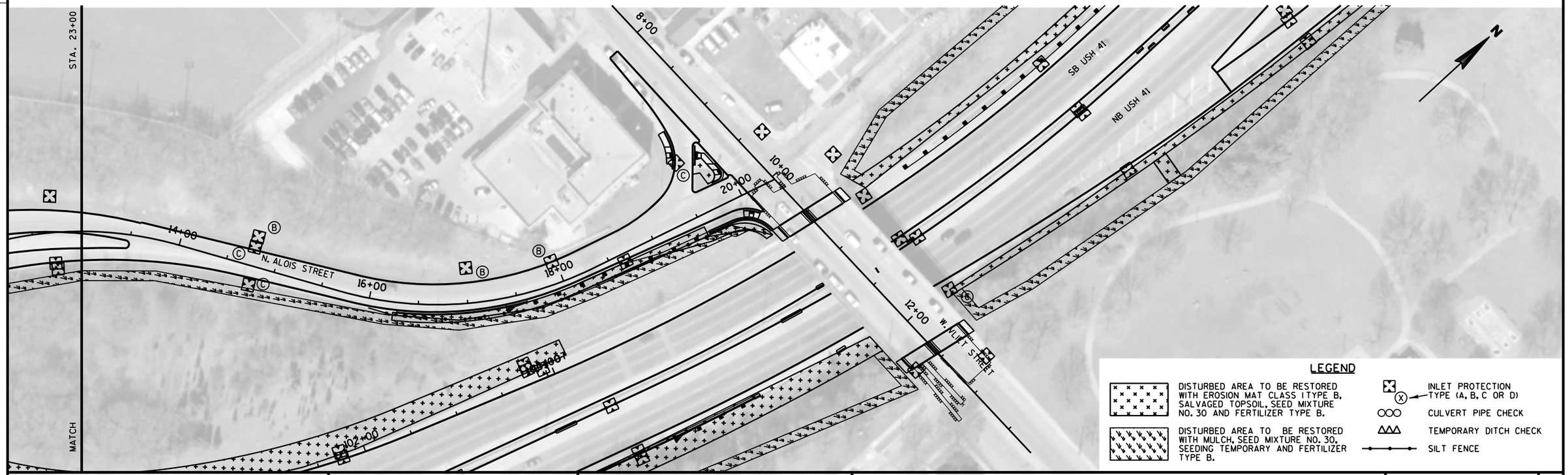
LEGEND

- DISTURBED AREA TO BE RESTORED WITH EROSION MAT CLASS I TYPE B, SALVAGED TOPSOIL, SEED MIXTURE NO. 30 AND FERTILIZER TYPE B.
- DISTURBED AREA TO BE RESTORED WITH MULCH, SEED MIXTURE NO. 30, SEEDING TEMPORARY AND FERTILIZER TYPE B.
- INLET PROTECTION TYPE (A, B, C OR D)
- CULVERT PIPE CHECK
- TEMPORARY DITCH CHECK
- SILT FENCE

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 72	E

2





PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 73	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_022022_ec.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

N

N. ALOIS STREET

W. VLIET STREET

14+00

15+00

16+00

18+00

20+00

8+00

10+00

12+00

100+00

101+00

101+16

SB USH 41

NB USH 41

LEGEND

DISTURBED AREA TO BE RESTORED WITH EROSION MAT CLASS I TYPE B, SALVAGED TOPSOIL, SEED MIXTURE NO. 30 AND FERTILIZER TYPE B.

DISTURBED AREA TO BE RESTORED WITH MULCH, SEED MIXTURE NO. 30, SEEDING TEMPORARY AND FERTILIZER TYPE B.

INLET PROTECTION TYPE (A, B, C OR D)

CULVERT PIPE CHECK

TEMPORARY DITCH CHECK

SILT FENCE

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 74	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_022023_ec.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

N

8+00

10+00

12+00

14+00

W. WASHINGTON BLVD.

SB USH 41

NB USH 41

LEGEND

DISTURBED AREA TO BE RESTORED WITH EROSION MAT CLASS I TYPE B, SALVAGED TOPSOIL, SEED MIXTURE NO. 30 AND FERTILIZER TYPE B.

DISTURBED AREA TO BE RESTORED WITH MULCH, SEED MIXTURE NO. 30, SEEDING TEMPORARY AND FERTILIZER TYPE B.

INLET PROTECTION TYPE (A, B, C OR D)

CULVERT PIPE CHECK

TEMPORARY DITCH CHECK

SILT FENCE

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 75	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_022024_ec.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

LEGEND

- DISTURBED AREA TO BE RESTORED WITH EROSION MAT CLASS ITYPE B, SALVAGED TOPSOIL, SEED MIXTURE NO. 30 AND FERTILIZER TYPE B.
- DISTURBED AREA TO BE RESTORED WITH MULCH, SEED MIXTURE NO. 30, SEEDING TEMPORARY AND FERTILIZER TYPE B.
- INLET PROTECTION TYPE (A, B, C OR D)
- CULVERT PIPE CHECK
- TEMPORARY DITCH CHECK
- SILT FENCE

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 76	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_022025_ec.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

W. NORTH AVE.

W. LISBON AVENUE

N. 46TH STREET

N. 47TH STREET

SB USH 41

NB USH 41

W. GARFIELD AVE.

N

LEGEND

DISTURBED AREA TO BE RESTORED WITH EROSION MAT CLASS I TYPE B, SALVAGED TOPSOIL, SEED MIXTURE NO. 30 AND FERTILIZER TYPE B.

DISTURBED AREA TO BE RESTORED WITH MULCH, SEED MIXTURE NO. 30, SEEDING TEMPORARY AND FERTILIZER TYPE B.

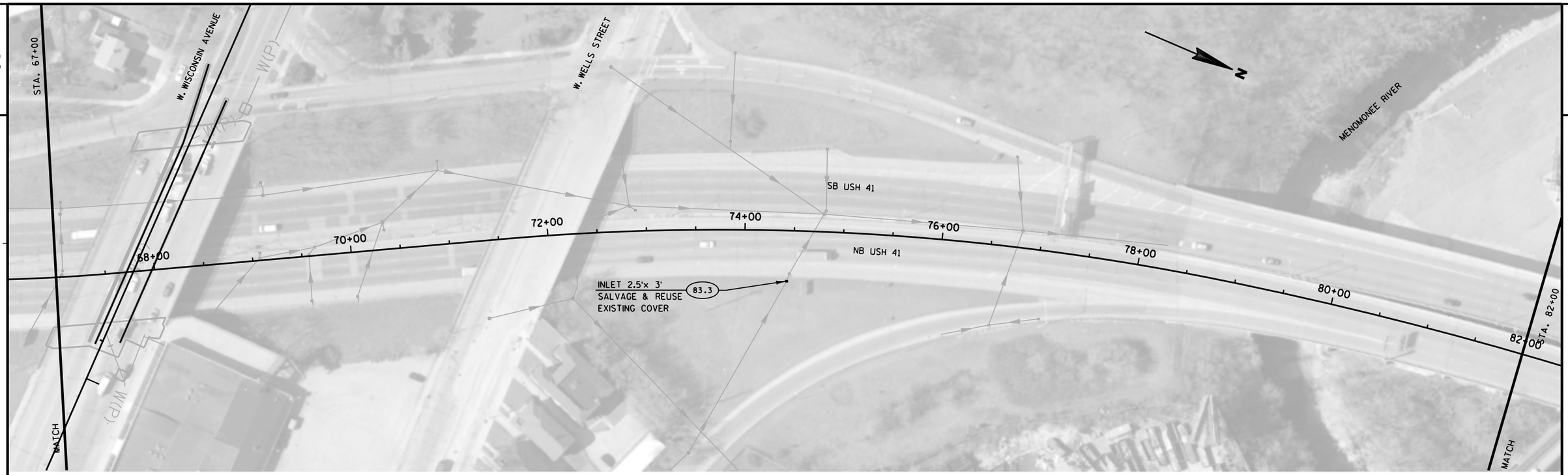
INLET PROTECTION TYPE (A, B, C OR D)

CULVERT PIPE CHECK

TEMPORARY DITCH CHECK

SILT FENCE

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 77	E



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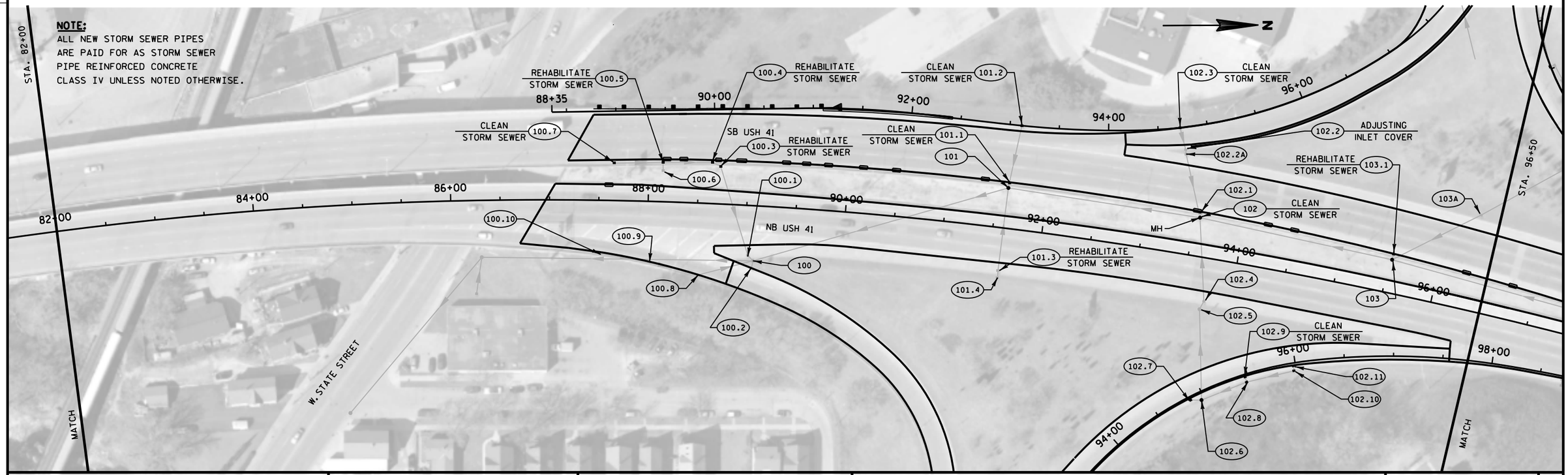
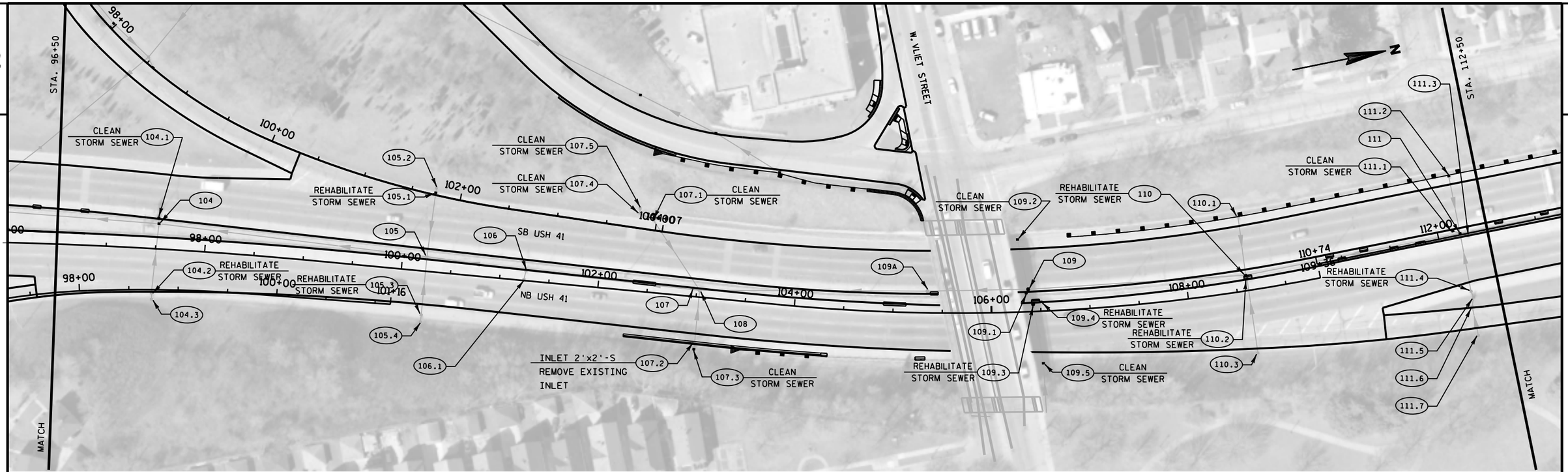
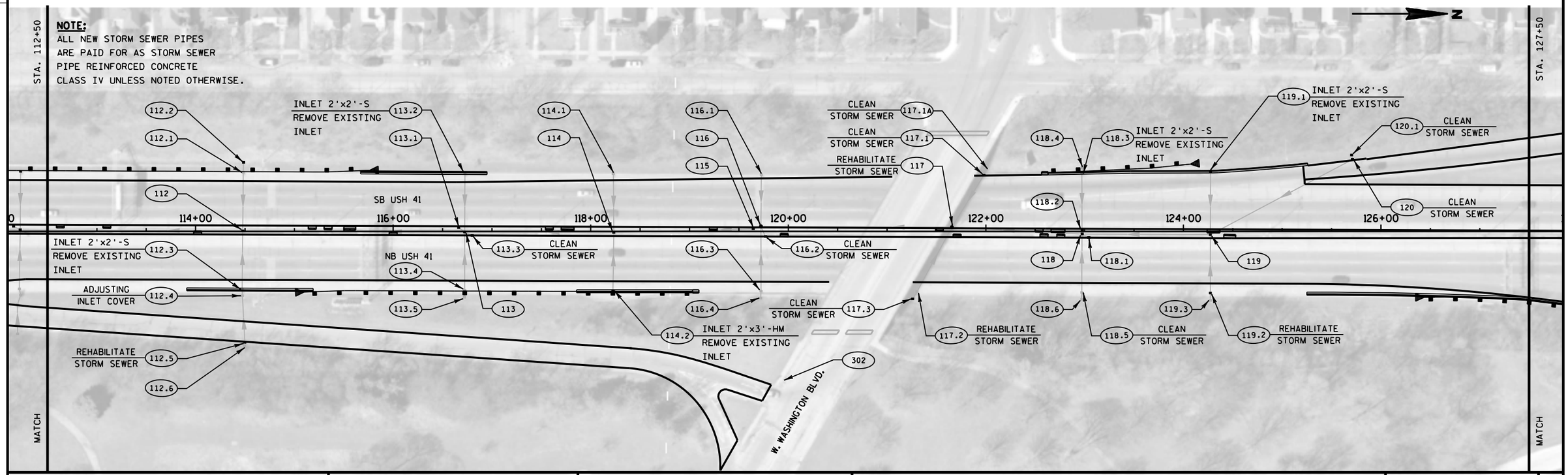


PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	STORM SEWER PLAN	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_022502_ss.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

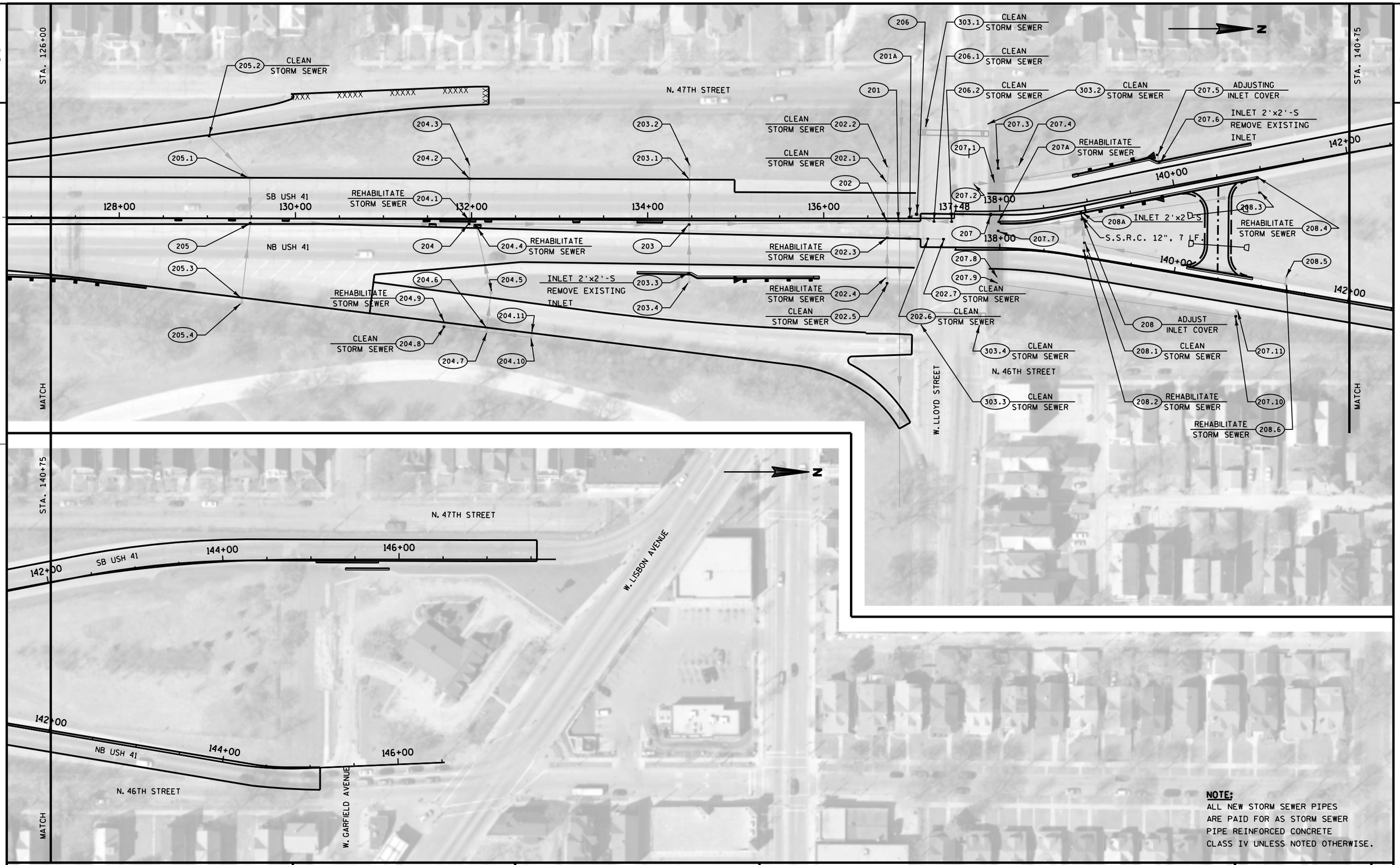




PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	STORM SEWER PLAN	SHEET 79	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_022503_ss.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42



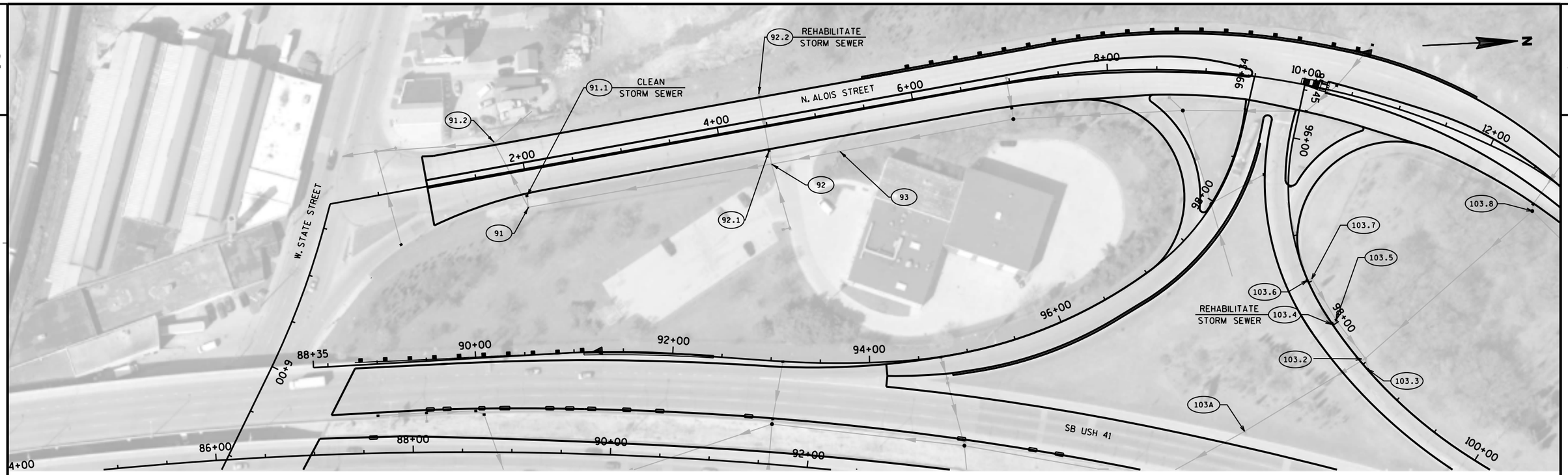
NOTE:
ALL NEW STORM SEWER PIPES ARE PAID FOR AS STORM SEWER PIPE REINFORCED CONCRETE CLASS IV UNLESS NOTED OTHERWISE.

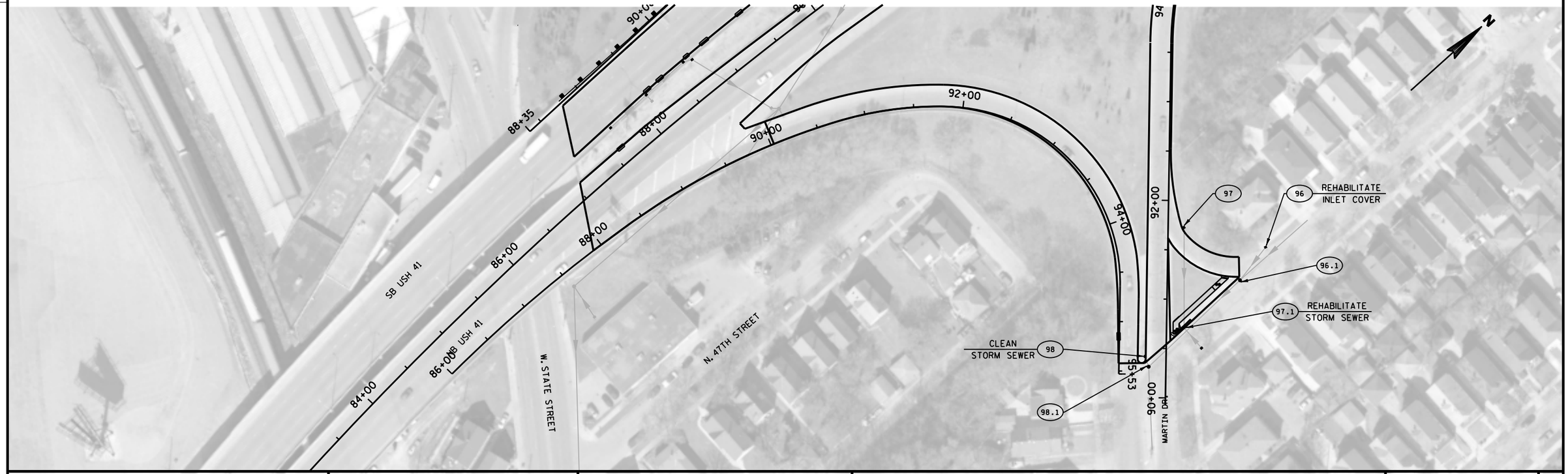
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	STORM SEWER PLAN	SHEET 80	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_022504_ss.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2





PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	STORM SEWER PLAN	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_022513_ss.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

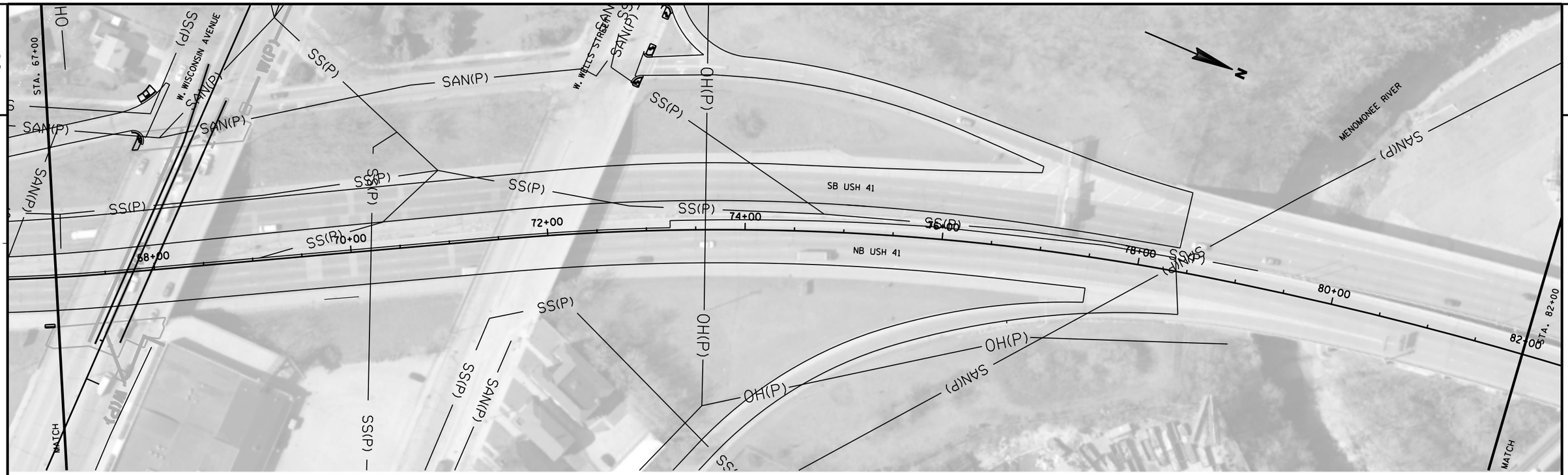
ADJUST INLET COVER 95.6
95.5
103.10
103.9
103.13
103.12
95.1
95.4 REHABILITATE STORM SEWER
94.2
N. ALOIS STREET
8+00
10+00
12+00
14+00
16+00
18+00
20+00
95
94 CLEAN STORM SEWER
REHABILITATE STORM SEWER 95.2
94.1 CLEAN STORM SEWER
95.3
103.11
103.15
REHABILITATE STORM SEWER 300
CLEAN STORM SEWER 103.14
REHABILITATE INLET COVER TYPE R STORM SEWER 103.16
SB USH 41
NB USH 41
W. KLEIN STREET
301.2 CLEAN STORM SEWER
CLEAN STORM SEWER 301.1
N
92+00
94+00
96+00
98+00
100+00
102+00
104+00
101+16
103+07

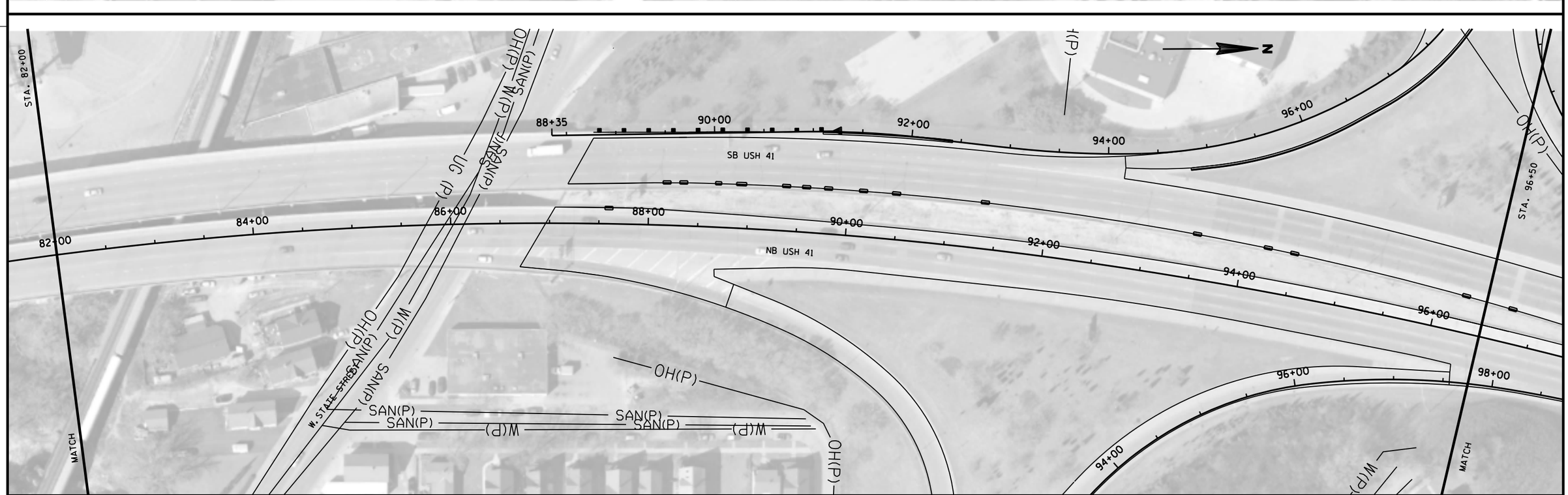
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	STORM SEWER PLAN	SHEET 82	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_022514_ss.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2





PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	UTILITY PLAN	SHEET E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_023002_up.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	UTILITY PLAN	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_023003_up.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

STA. 126+00

G(P) W(P) G(P) W(P) G(P) W(P) G(P) W(P)

SAN SAN SAN SAN

N. 47TH STREET

SB USH 41

NB USH 41

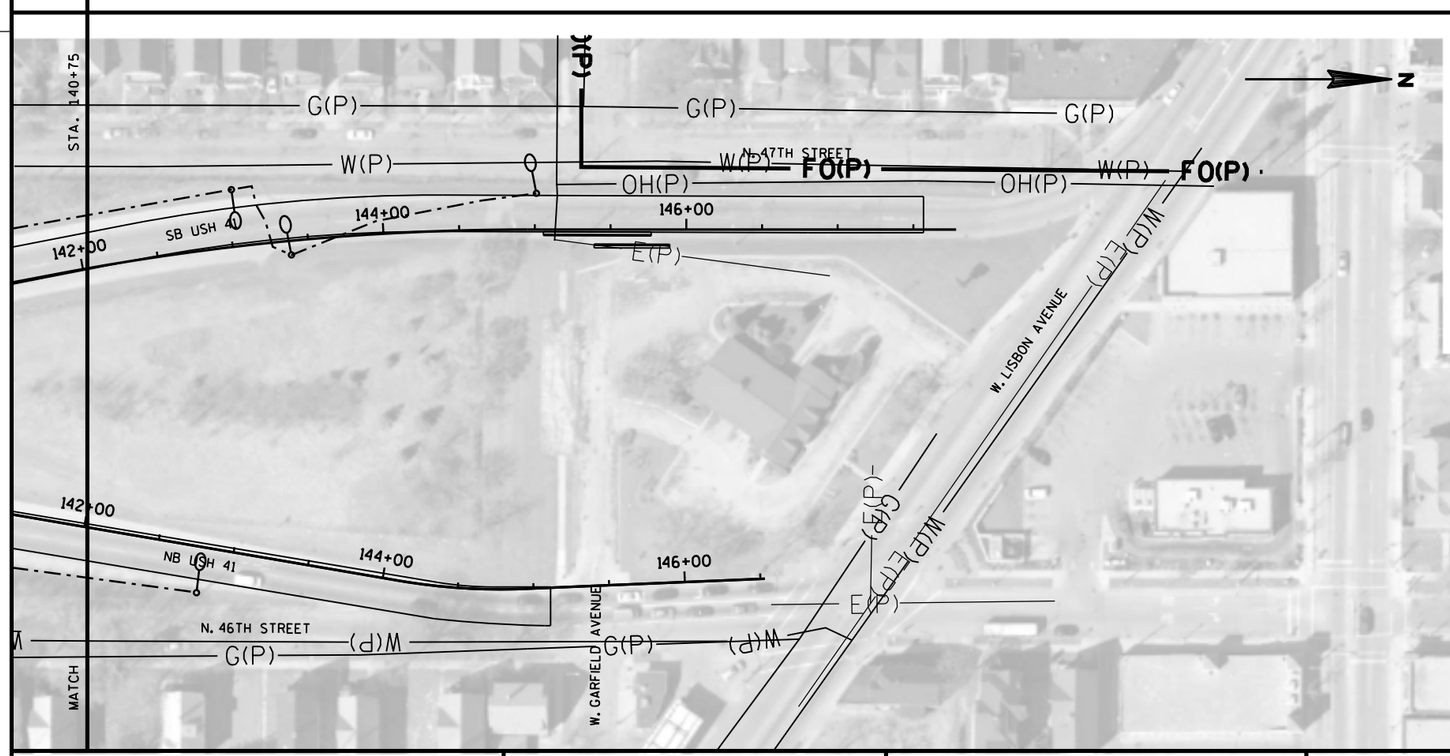
128+00 130+00 132+00 134+00 136+00 137+48 138+00 140+00 142+00

W(P) SAN(P) E T OH(P)

STA. 140+75

MATCH

N

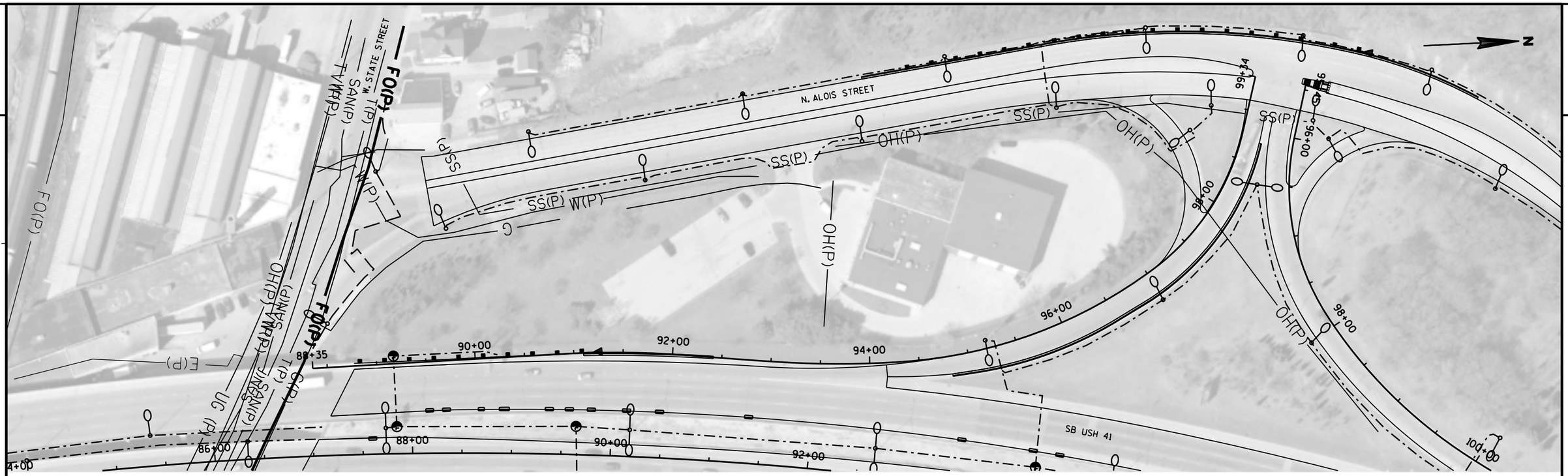


PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	UTILITY PLAN	SHEET 85	E

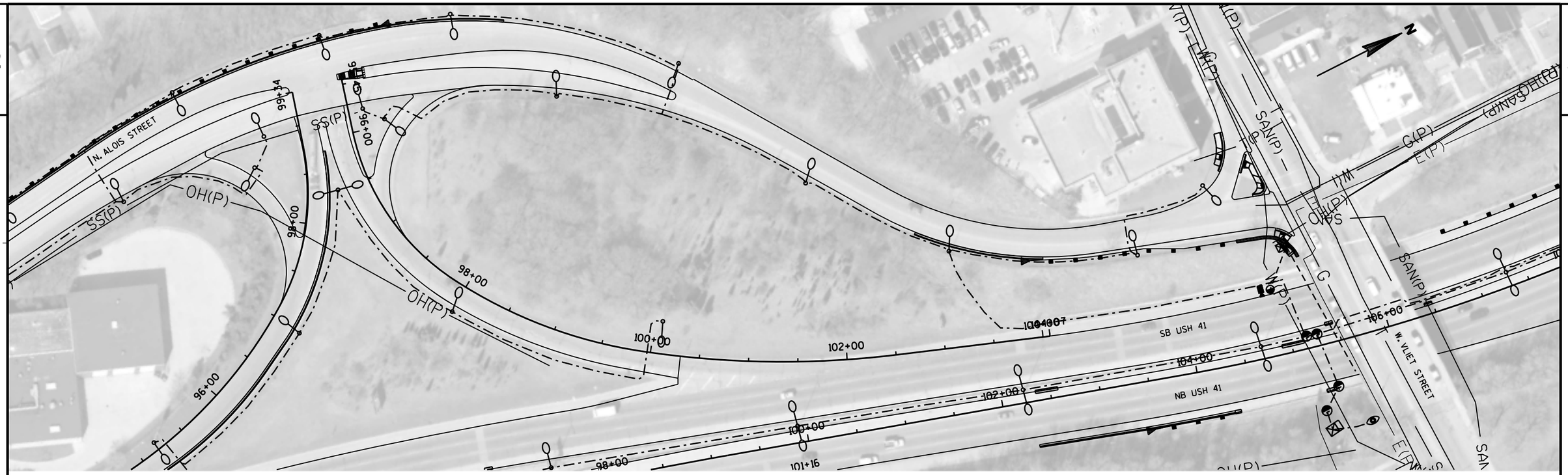
FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_023004_up.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2


N
N. ALOIS STREET
W. STATE STREET
SB USH 41
NB USH 41
N. 47TH STREET
FO(P)
SS(P)
SAN(P)
W(P)
OH(P)
G(P)
T(P)
E(P)
UG (P)
C(P)
W(T)
SS(P)
SAN(P)
G(P)
T(P)
W(P)
OH

2



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	UTILITY PLAN	SHEET E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_023014_up.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

2

2

CITY OF MILWAUKEE SIGNATURE SHEET

THE FOLLOWING UNDERGROUND CONDUIT PLANS AND DETAIL DRAWINGS HAVE BEEN PREPARED AND APPROVED.

CITY UNDERGROUND CONDUIT (TES)

4 SHEETS TOTAL

Original Plans Prepared By

WISCONSIN
JEFFREY S. POLENSKE
E-33528
MILWAUKEE
WIS.
PROFESSIONAL ENGINEER

4/17/15 (Date)

City Engineer

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORK

PREPARED BY

Division Infrastructure Services

Division Manager Marcia Cornnell

Services Transportation Operations

Operations Manager Rollin Bertran

Section Underground Conduit

Section Supervisor Robert Bryson

Section Project Manager Karen Rogney

2

N

W. VLIET ST.

N. 47TH ST.

N. ALOIS ST.

N. 46TH ST.

EXISTING ELEC MH #6432

EXISTING COMM MH #6427
ADJUST MANHOLE

EXISTING ELEC MH #6433
ADJUST TES MANHOLE
NEW FRAME & LID REQUIRED

38'-3-DUCT CONDUIT
CEMENT ENCASED, 4" PVC
SEE NOTES #5 & #6

181'
3-4"FIBERGLASS DUCTS
HUNG FROM BRIDGE DECK
AND INSTALLED 5' BEYOND
BACK FACE OF ABUTMENT.
SEE BRIDGE PLAN FOR
INSTALLATION DETAILS.

18'-3-DUCT CONDUIT
CEMENT ENCASED, 4"PVC
SEE NOTES #5 & #6

EXISTING ELEC MH #6434
ADJUST TES MANHOLE
NEW FRAME & LID REQUIRED

EXISTING CC

47'-6-DUCT CONDUIT
CEMENT ENCASED, 4"PVC
SEE NOTES #5 & #6

EXISTING COMM MH #6429
ADJUST TES MANHOLE
NEW FRAME & LID REQUIRED

181'
6-4"FIBERGLASS DUCTS
HUNG FROM BRIDGE DECK
AND INSTALLED 5' BEYOND
BACK FACE OF ABUTMENT.
SEE BRIDGE PLAN FOR
INSTALLATION DETAILS.

EXISTING COMM MH #6435

68'-6-DUCT CONDUIT
CEMENT ENCASED, 4"PVC
SEE NOTES #5 & #6

NOTES:

1) THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.
2) THE LOCATION OF THE EXISTING AND PROPOSED UTILITY INSTALLATIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
3) DIMENSIONS SHOWN ARE TO CENTER OF MANHOLE, DUCT PACKAGE OR UTILITY.
4) MAINTAIN A STANDARD DEPTH OF 39-INCHES BETWEEN FINISHED GRADE AND TOP OF CONDUIT.
5) REMOVE ABANDONED CONDUIT FROM THE MANHOLE WALL AND INSTALL THE PROPOSED CONDUIT INTO THE MANHOLE AT THE SAME LOCATION OF THE ABANDONED CONDUIT.
6) REMOVE ABANDONED CONDUIT AS NEEDED FOR THE PROPOSED INSTALLATION.

LEGEND

— CUC — PROPOSED 4-INCH CEMENT ENCASED NONMETALLIC CONDUIT, NUMBER OF RUNS AS NOTED.

PROPOSED TES MANHOLE

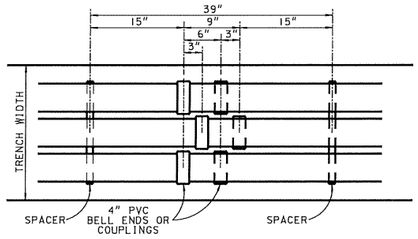
– – – – CONDUIT TO BE ABANDONED IN PLACE

STATE PROJECT NUMBER 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CITY UNDERGROUND CONDUIT (TES)	SCALE FEET 0' 40'	SHEET NO:	E

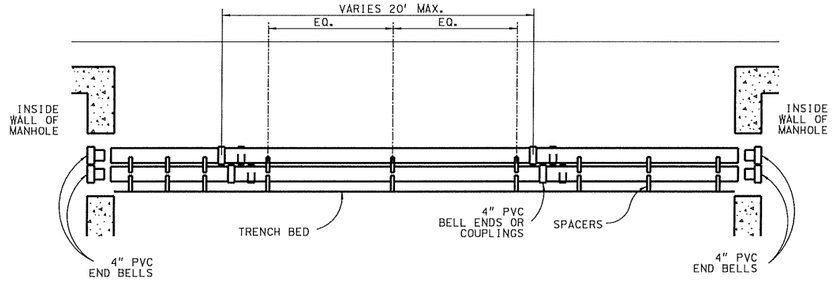
FILE NAME: W:\UGD\CONDUIT WORK FILES\UCONDUIT\2013\STADIUM FREEWAY\VLIET ST BRIDGE & ALOIS ST\TOTAL VLIET.DGN

SCALE: 40:1

PRINT DATE: 17-APR-2015



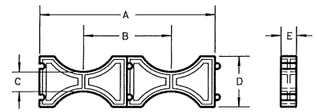
PLAN VIEW
N.T.S.



SECTION VIEW
N.T.S.

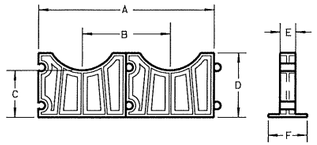
PVC PIPE INSTALLATION DETAIL

COND.	3"	4"
A	10"	11 ½"
B	5"	5 ⅝"
C	1 ½"	1 ¼"
D	3 ¼"	3 ¼"
E	1"	1"



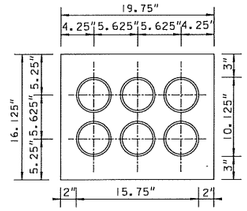
INTERMEDIATE SPACER

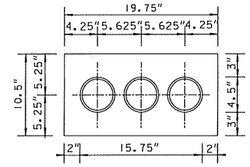
COND.	3"	4"
A	10"	11 ½"
B	5"	5 ⅝"
C	3"	3"
D	3 ⅞"	4 ⅛"
E	1"	1"
F	2 ½"	2 ½"



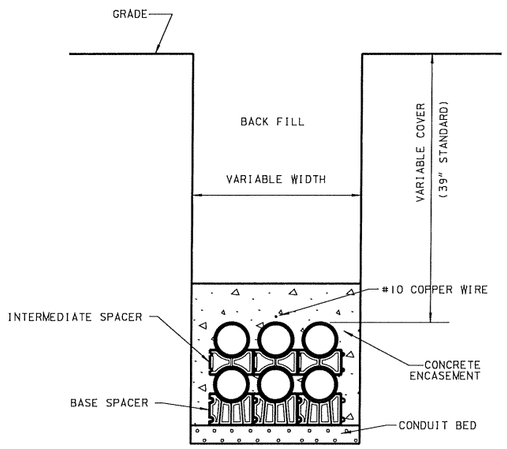
BASE SPACER

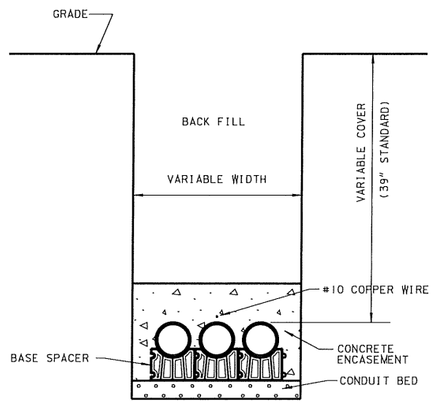
INTERMEDIATE AND BASE SPACER DETAIL





CONCTETE ENCASEMENT DETAIL





CROSS SECTION VIEW, TYP.
N.T.S.

CONCRETE TRENCH DETAIL

STATE PROJECT NUMBER 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CITY UNDERGROUND CONDUIT (TES)	SCALE FEET	SHEET NO: E

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

ALL STATIONS ARE IN FEET AND ARE ALONG THE R/L FOR W. VLIET ST.

ALL COMPONENTS SHALL HAVE A MINIMUM 75 YEAR DESIGN LIFE.

EACH 4" DIA. CONDUIT WEIGHES 9 PLF.

ALL HORIZONTAL SUPPORT MEMBERS TO BE MADE OF BLACK FIBERGLASS PULTRUDED MATERIAL.

FIBERGLASS MEMBERS SHALL COMPLY WITH THE REQUIREMENTS OF ASTM E-84, CLASS 1 FLAME RATING AND SELF-EXTINGUISHING REQUIREMENTS OF ASTM D-635, A SURFACE VEIL SHALL BE APPLIED DURING PULTRUSION TO INSURE A RESIN RICH SURFACE AND ULTRAVIOLET RESISTANCE.

ALL CUTS AND HOLES SHOULD BE PROPERLY SEALED PER MANUFACTURERS RECOMMENDATIONS TO PREVENT CORROSION.

ALL STEEL MEMBERS AND HARDWARE SHALL HAVE STAINLESS STEEL COATING.

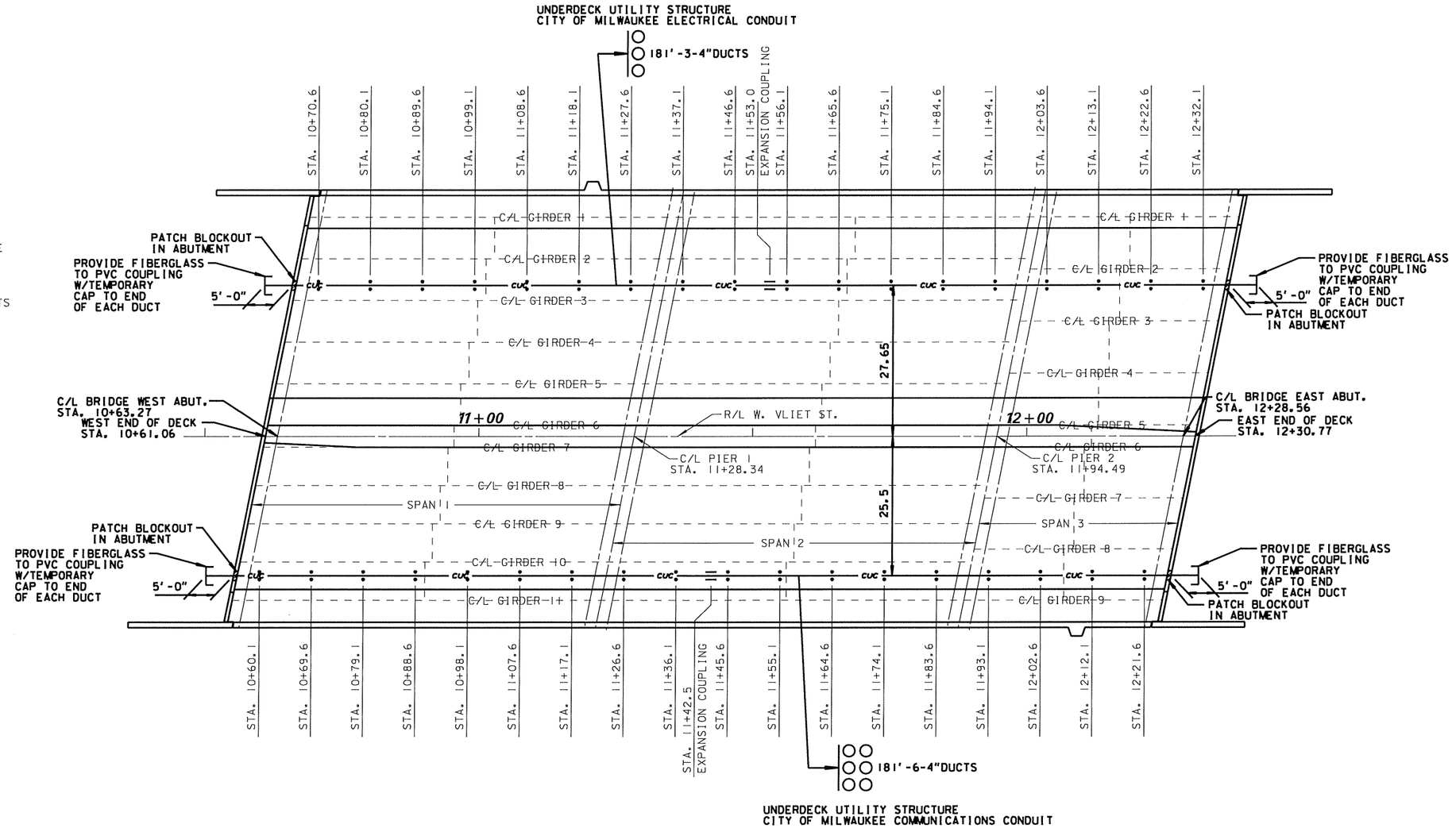
FURNISH CONCRETE FOR BRIDGES CONFORMING TO SECTION 501. GRADE E. CONTRACTOR MAY USE PREMIXED BAG CEMENT PER ENGINEER'S APPROVAL.

SPACE HANGERS A MAXIMUM 10'-0". LOCATE CONDUIT HANGERS BETWEEN GIRDERS. SEE BRIDGE PLANS.

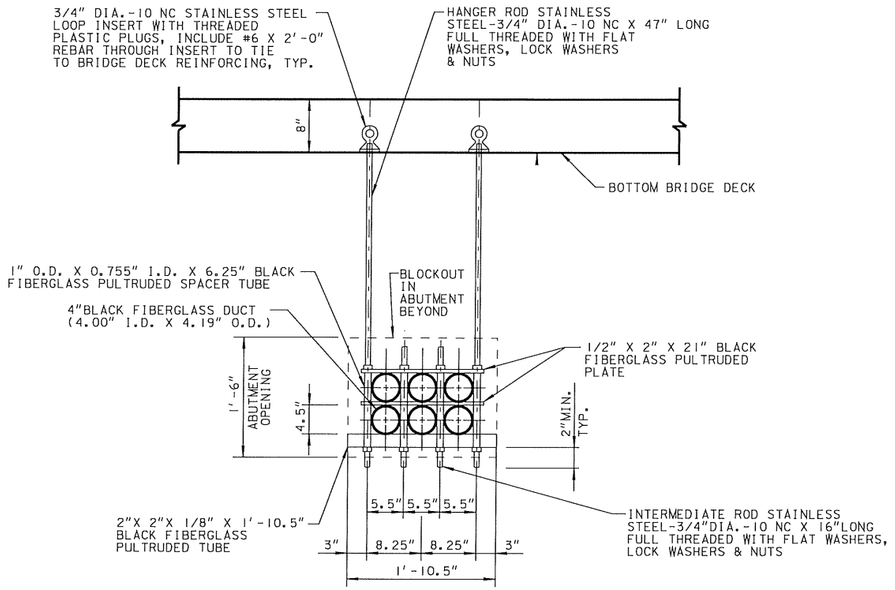
ALL FIBERGLASS JOINTS SHALL BE EPOXIED PER MANUFACTURER'S SPECIFICATIONS.

EXTEND CONDUIT 5'-0" FROM BACK FACE OF ABUTMENT. PROVIDE COUPLING AND TEMPORARY CAP ON THE END OF EACH DUCT.

INSTALL EXPANSION JOINT PER LOCATION ON THE PLAN. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.

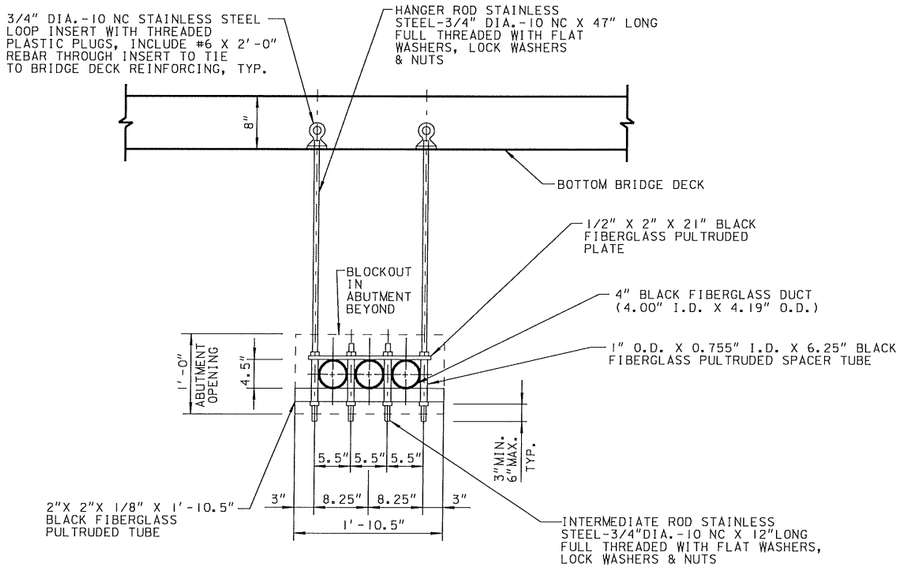


STATE PROJECT NUMBER 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CITY UNDERGROUND CONDUIT (TES)	SCALE FEET	SHEET NO: E



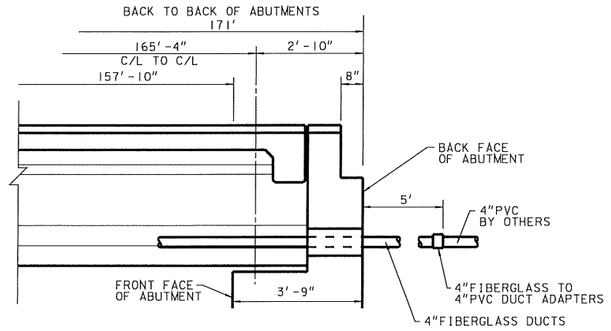
6 DUCT CITY COMMUNICATION HANGER PACKAGE DETAIL

THE CONTRACTOR SHALL FIELD VERIFY HANGER LENGTHS IN ORDER TO AVOID CONFLICTS WITH DIAPHRAM CROSSING.

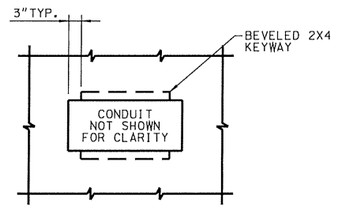


3 DUCT CITY ELECTRICAL HANGER PACKAGE DETAIL

THE CONTRACTOR SHALL FIELD VERIFY HANGER LENGTHS IN ORDER TO AVOID CONFLICTS WITH DIAPHRAM CROSSING.

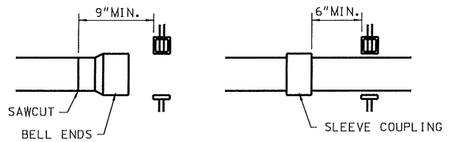


TYPICAL SECTION AT ABUTMENTS



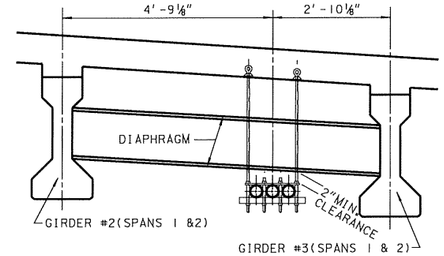
BLOCKOUT PATCH DETAIL

(1'-6" X 1'-10" BLOCKOUT)
(1'-0" X 1'-10.5" BLOCKOUT)

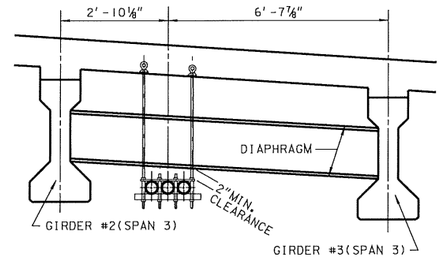


CLEARANCES FOR SLEEVE COUPLINGS AND BELL ENDS

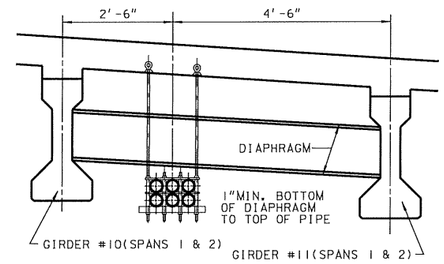
NOTES:
A BELLED END OR COUPLING SHOULD BE NO CLOSER THAN 6" ON EITHER SIDE OF A SUPPORT AS SHOWN ABOVE. A TAPE MEASURE CAN BE USED TO PREDETERMINE THESE LOCATIONS AND THE CONDUIT CAN BE SAW CUT TO THE PROPER LENGTH BEFORE IT IS THREADED THROUGH THE HANGERS AS SHOWN ABOVE.



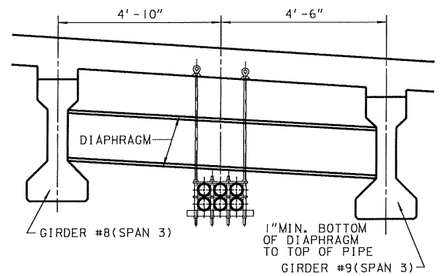
DIAPHRAGM DETAIL



DIAPHRAGM DETAIL



DIAPHRAGM DETAIL



DIAPHRAGM DETAIL

State St
1000 NORTH
REMOVE

State St
1000 NORTH
M1-94(MOD)
82 83

Wells-Wisconsin 1/4
94 1/2
Miller Park 3/4
103
INSTALL TYPE I SIGN ON SIGN BRIDGE

Wells-Wisconsin 1/4
94 1/2
Miller Park 3/4
REMOVE

SOUTH 41 REMOVE

SOUTH M3-3 41 M1-4
M5-1R J2-1(2S)
130

175 M1-6 PLAQUE OVER 41
130a

SOUTH 41 REMOVE

SOUTH M3-3 41 M1-4
M6-2 J3-1(2S)
127

128 FREEWAY ENTRANCE
TYPE II SIGN SEE DETAIL

REMOVE
R4-7(2S) 215

DO NOT ENTER R5-1(2S) 124

122 SOUTH M3-3 41 M1-4
123 M6-1 J3-1(2S)

SOUTH 41 REMOVE

175 M1-6 PLAQUE OVER 41
122a 123a

DO NOT ENTER REMOVE

DO NOT ENTER R5-1(3) 119

SOUTH 41 REMOVE

SOUTH M3-3 41 M1-4
M5-1L J2-1(2S)
120 121

175 M1-6 PLAQUE OVER 41
120a 121a

State St
Vliet St
EXIT ONLY
REMOVE

State St
Vliet St
EXIT ONLY
80
INSTALL TYPE I SIGN ON SIGN BRIDGE

STATE ST

S-40-340

18 Wells St
Wisconsin Ave
EXIT ONLY
102
INSTALL TYPE I SIGN ON SIGN BRIDGE

18 Wells St
Wisconsin Ave
EXIT ONLY
REMOVE

Washington Blvd
EXIT 1/2 MILE
NO TRUCKS
REMOVE

89 Washington Blvd
EXIT 1/2 MILE
89A NO TRUCKS
INSTALL TYPE I SIGN ON EXISTING STEEL POSTS REUSE STUBS

127a 175 M1-6 PLAQUE OVER 41

REMOVE

W1-13L(3) 129

REMOVE

YIELD R1-2(2S) 131 132

REMOVE

W4-3R(2S) 101

REMOVE

ALOIS ST

125 126
STOP R1-1(3)
STOP REMOVE

WRONG WAY R5-1A(3) 117

WRONG WAY REMOVE

118 State St / Vliet St D1-2
State St / Vliet St REMOVE

WRONG WAY R5-1A(3) 116

WRONG WAY REMOVE

PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED
REMOVE

PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED
R5-57(5) 98

Miller Visitor Center
ESTR

114 115 WRONG WAY R5-1A(3)
WRONG WAY REMOVE

113 State St / Vliet St D1-2
State St / Vliet St REMOVE

S-40-242

USH 41

86+00 88+00 90+00 92+00 94+00 96+00 98+00 100+00

S-40-241

S-40-339

EXIT 25 MPH W13-2 REMOVE

EXIT 25 MPH W13-2A(2M) ON UPRIGHT OF SIGN BRIDGE
79

EXIT E5-1(5) 84
25 MPH E13-1P(2S) 85
EXIT REMOVE

SPEED LIMIT 25 REMOVE

SPEED LIMIT 25 W3-5(2S) ON LIGHT POLE 86

81 W1-6(2S)

87 SPEED LIMIT 25 W3-5(2S)
SPEED LIMIT 25 REMOVE

110 W3-1(2S)
REMOVE

W3-1(2S) 109
REMOVE

W4-1 ESTR

88 W4-1(5)
REMOVE

100 W4-3R(5)
REMOVE

99 18 Wells St Wisconsin Ave EXIT 1/2 MILE
INSTALL TYPE I SIGN ON EXISTING STEEL POSTS REUSE STUBS

18 Wells St Wisconsin Ave EXIT 1/2 MILE
REMOVE

90 Washington Blvd 1/4
Lloyd St 1/2
FREEWAY ENDS 3/4
INSTALL TYPE I SIGN ON SIGN BRIDGE

Washington Blvd 1/4
Lloyd St 1/2
FREEWAY ENDS 3/4
REMOVE

94 W1-6(2S)

NORTH M3-1 41 M1-4 J4-1(5) 93
175 M1-6 PLAQUE OVER 41 93a

EXIT E5-1(5) 95
30 MPH E13-1P(2S) 96
EXIT REMOVE

W3-1(2S) 112
STOP AHEAD REMOVE

WRONG WAY R5-1A REMOVE

DO NOT ENTER R5-1(3) 107

DO NOT ENTER R5-1(3) 108

DO NOT ENTER R5-1(3) 104

R3-2(2S) ON LIGHT POLE 105
REMOVE

NORTH M3-1 41 M1-4 M6-2 J3-1(2S)
NORTH 41 REMOVE 106

175 M1-6 PLAQUE OVER 41 106a

PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED
R5-57(5) 111

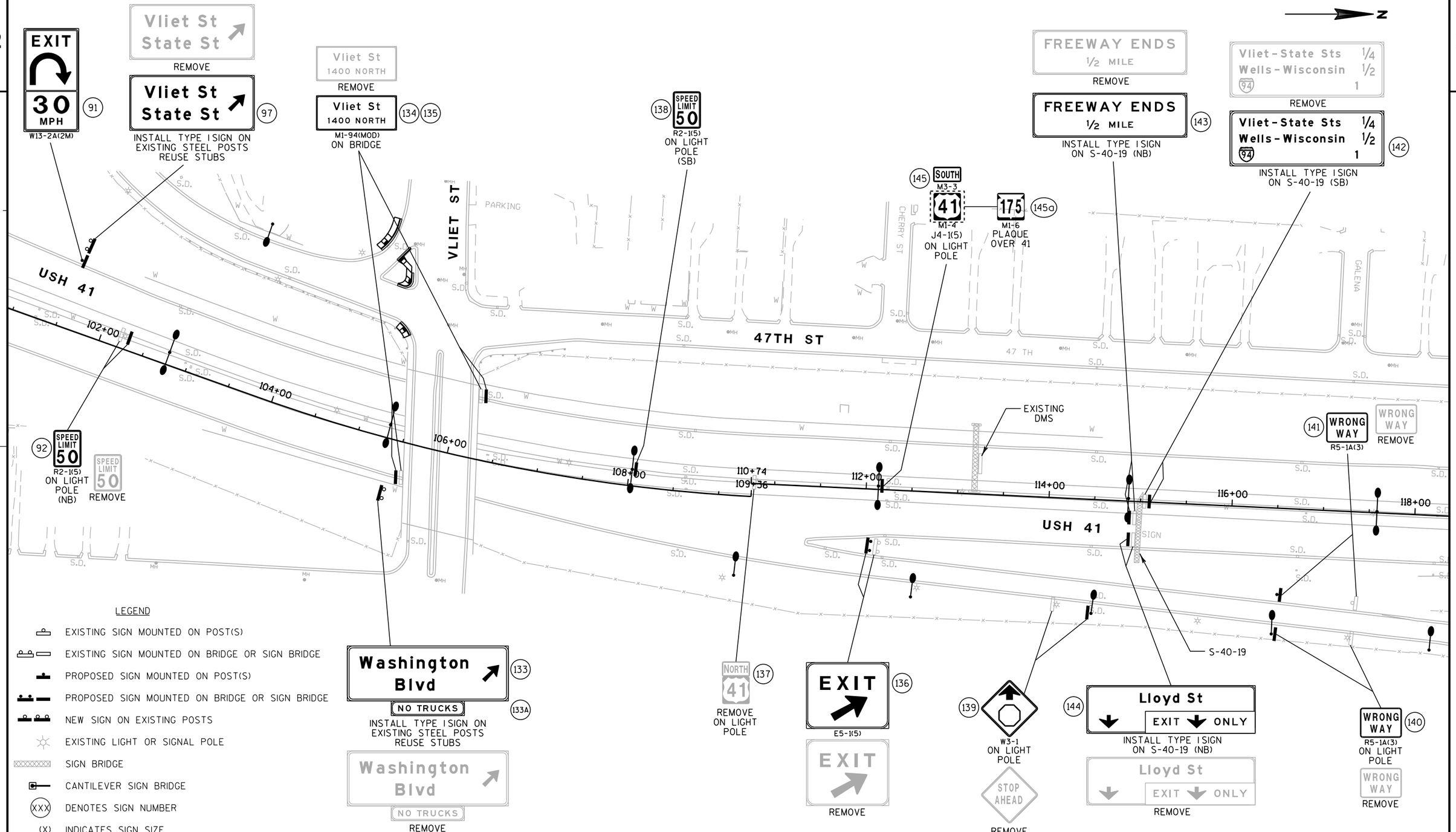
PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED
REMOVE

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- NEW SIGN ON EXISTING POSTS
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN
- [09] INDICATES YEAR OF SIGN

SHEET 1 OF 4

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 93	E

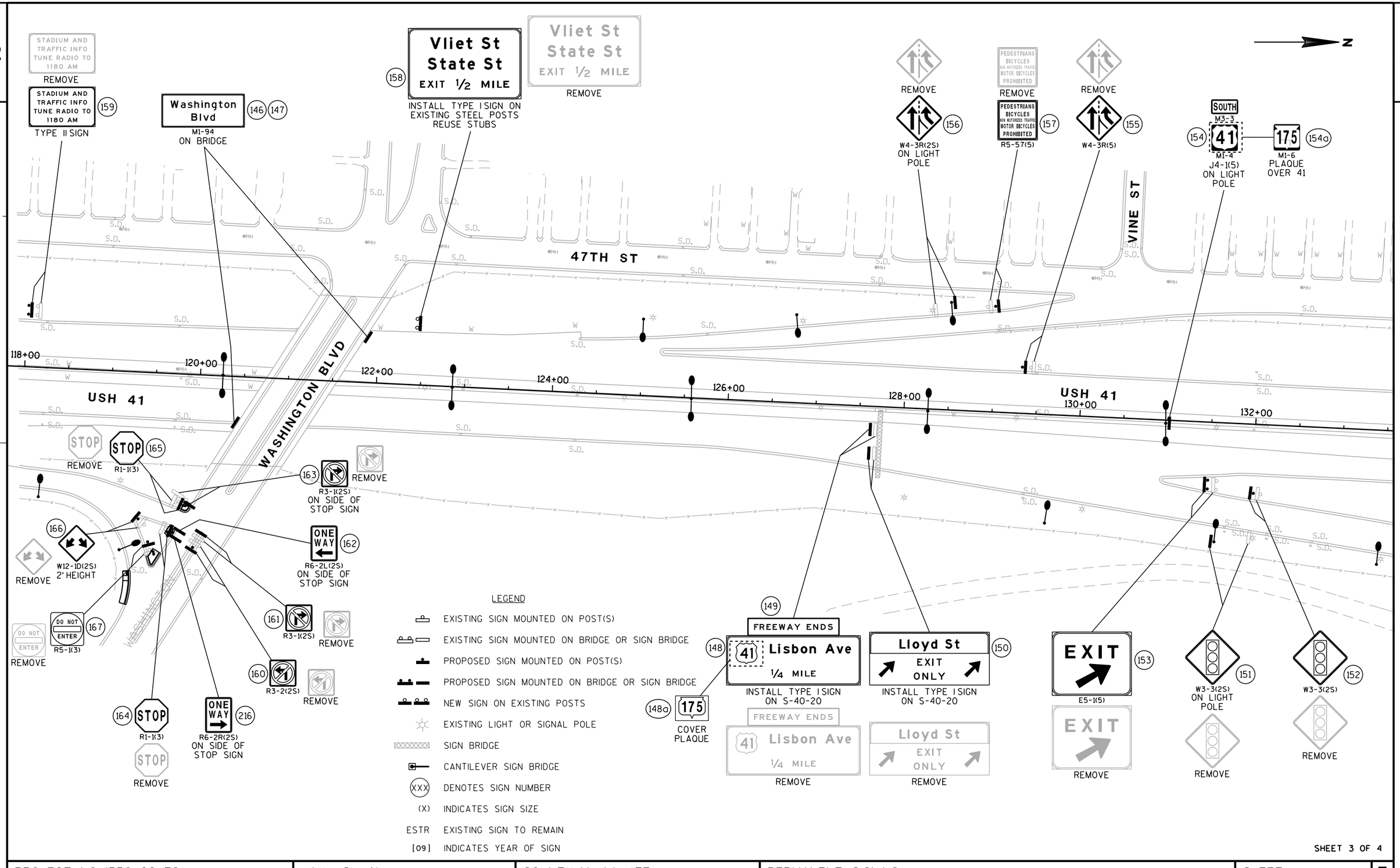


LEGEND

- 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
- NEW SIGN ON EXISTING POSTS
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN
- [09] INDICATES YEAR OF SIGN

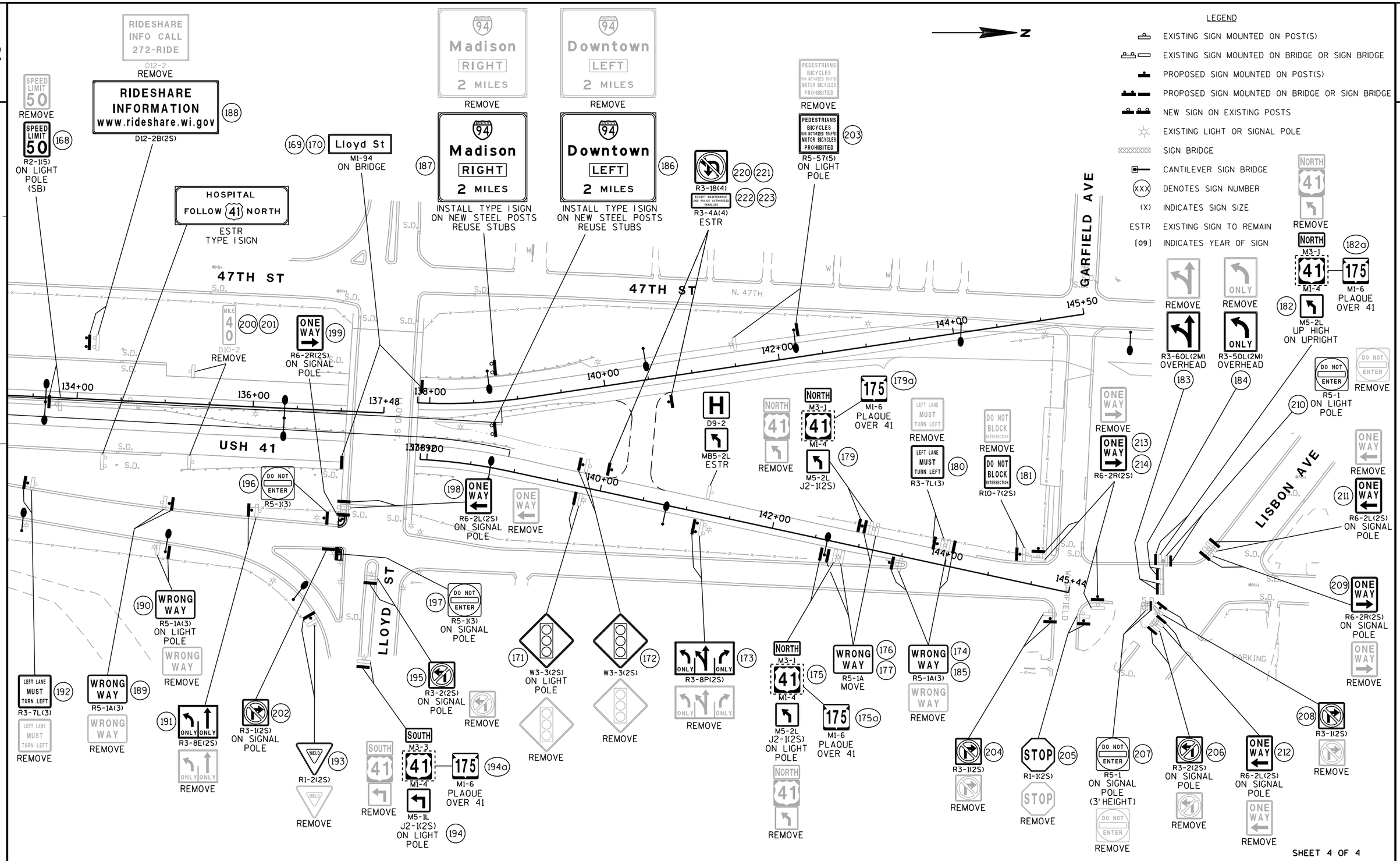
SHEET 2 OF 4

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 94	E



SHEET 3 OF 4

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 95	E



SHEET 4 OF 4

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 96	E

FILE NAME : \\Wkertovfilp101\cadds\projects\D2_13500941\70\Signs\023204_ps.dgn PLOT DATE : 28-APR-2015 13:06 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 100:1

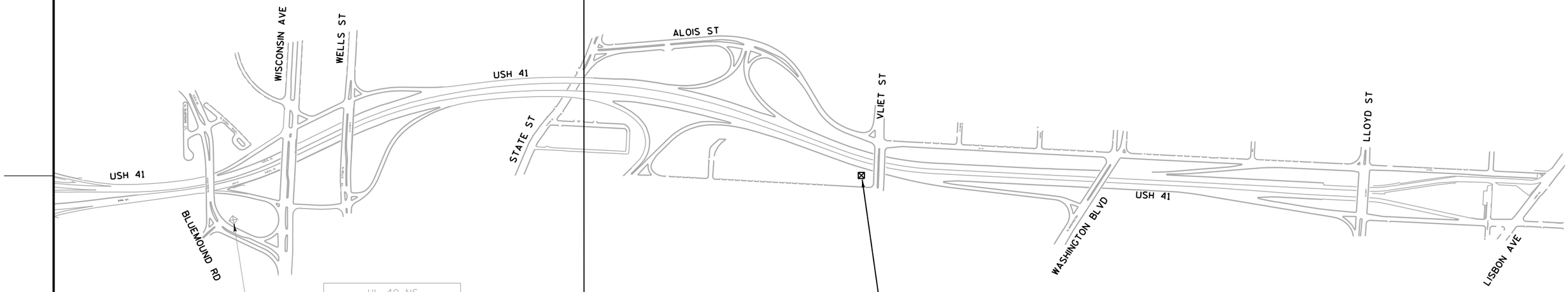
WISDOT/CADDS SHEET 42

2

PROJECT ID 1350-09-71

PROJECT ID 1350-09-70

N



HL-40-NS	
A,C,	RED
B,D,	BLACK
N	WHITE
GND	GREEN OR BARE
30 A	A,B,C,D
E,F	SPARE 30 A
240/480 VAC 3 WIRE ISOLATED NEUTRAL	

EXISTING LIGHT CONTROLLER TO BE REPLACED

HL-40-VL	
A,C,E,G	RED
B,D,H	BLACK
N	WHITE
GND	GREEN OR BARE
A,B,C,D	40 A
E,G,H	30 A
240/480VAC 3 WIRE GROUNDED NEUTRAL	

NOTES:

1. WIRE IN THE PULL BOX IS INCIDENTAL TO THE PULL BOX BID ITEM.

2. THE LOCATION OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. IN ADDITION, THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

PROJECT ID 1350-09-71

PROJECT ID 1350-09-70

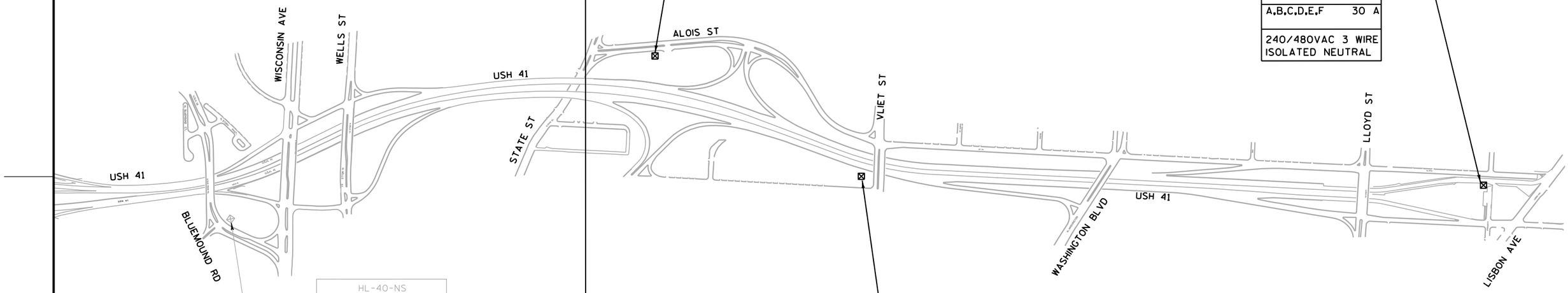
N

PROPOSED LIGHT CONTROLLER

HL-40-AZ	
A,C,E	RED
B,D,F	BLACK
N	WHITE
GND	GREEN OR BARE
A,B,C,D,E,F	30 A
240/480VAC 3 WIRE ISOLATED NEUTRAL	

PROPOSED LIGHT CONTROLLER

HL-40-LA	
A,C,E	RED
B,D,F	BLACK
N	WHITE
GND	GREEN OR BARE
A,B,C,D,E,F	30 A
240/480VAC 3 WIRE ISOLATED NEUTRAL	



HL-40-NS	
A,C,	RED
B,D,	BLACK
N	WHITE
GND	GREEN OR BARE
30 A	A,B,C,D
E,F	SPARE 30 A
240/480 VAC 3 WIRE ISOLATED NEUTRAL	

PROPOSED LIGHT CONTROLLER

HL-40-VL	
A,C	RED
B,D	BLACK
N	WHITE
GND	GREEN OR BARE
A,B,C,D	30 A
E,F	SPARE 30 A
240/480VAC 3 WIRE ISOLATED NEUTRAL	

NOTES:

1. WIRE IN THE PULL BOX IS INCIDENTAL TO THE PULL BOX BID ITEM.

2. THE LOCATION OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. IN ADDITION, THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

2

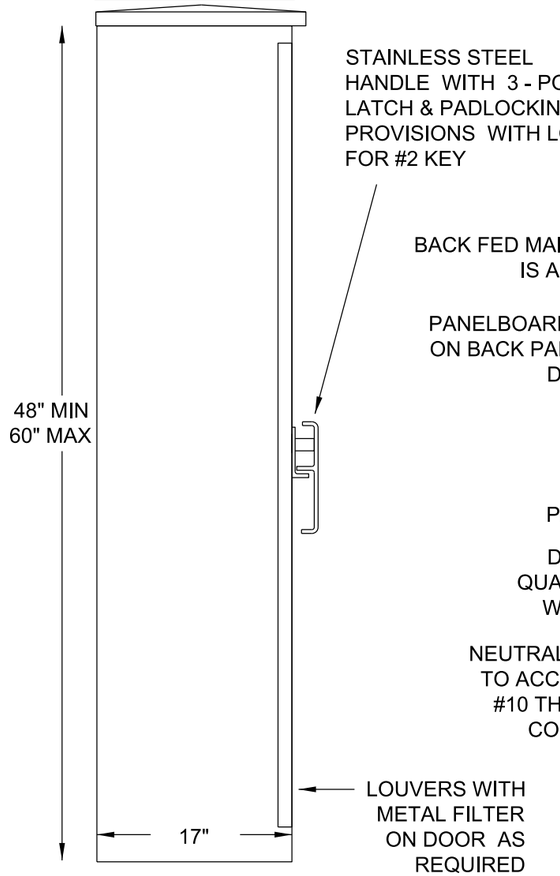
GENERAL NOTES:

FREEWAY LIGHTING SHALL BE INSTALLED IN COMPLIANCE WITH WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 652 TO 657 AND 659 EXCEPT:

1. DETAILS OF CONSTRUCTION MATERIALS AND WORKMANSHIP NOT SHOWN ON THESE DRAWINGS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
2. LOCATIONS OF THE PVC CONDUITS ARE INDENTIFIED IN THE PLANS WHERE THEY ARE REQUIRED. HOWEVER, INSTALLATION WILL REQUIRE INTEGRATION WITH EXISTING FIELD CONDITIONS. UNDER THE APPROVAL OF THE ENGINEER, APPROPRIATE ADJUSTMENT OF CONDUIT LOCATIONS MAY BE MADE IF THE FIELD CONDITIONS ARE SUCH THAT THE CONDUIT CANNOT BE INSTALLED AT THE SPECIFIED LOCATIONS. FIELD MARK EACH CONDUIT LOCATION IN RED TO ILLUSTRATE AS BUILT CONDITIONS.
3. THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.
4. ALL OPEN AND UNTERMINATED CONDUITS SHALL BE CAPPED OR PLUGGED WITH ENGINEER APPROVED FITTINGS IMMEDIATLY AFTER INSTALLATION.
5. BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR IMMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.
6. ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON ALL CONDUITS.
7. PRIOR TO CONDUIT ACCEPTANCE, ALL CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND BE CAPPED WITH THE APPROPRIATE CAST PLASTIC CAP WHICH FITS SNUGGLY ON THE CONDUIT THAT CAN BE EASILY REMOVED. DUCT TAPE OR ANY OTHER CAPPING METHOD IS NOT ACCEPTABLE.
8. CONDUIT RUNS SHALL BE THE SAME SIZE PIPE FROM ONE END TO THE OTHER (FROM PULL BOX-TO-PULL BOX, JUNCTION BOX OR BASE-TO-BASE, ETC.) UNLESS OTHERWISE NOTED ON PLANS.
9. PULL ROPE (⅜-INCH NYLON) SHALL BE INSTALLED IN ALL NEW CONDUITS.
10. CONTRACTOR SHALL SUPPLY AS-BUILT DRAWINGS (PDF FORMAT) FOR ALL THE WORK BEING DONE.
11. CONDUIT LATERALS SHALL BE TRENCHED UNDER PAVEMENT BEFORE PAVEMENT CONSTRUCTION.
12. PITCH ALL CONDUITS TOWARD PULL BOXES. INSTALL A 2" DRAIN DUCT TO STORM SEWER OR DRAIN SUMP AS REQUIRED FOR DRAINAGE. THE 2" DRAIN DUCT OR SUMP IS INCIDENTAL TO THE PULL BOX BID ITEM AND IS NOT SHOWN.
13. THE LOCATION OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE, IN ADDITION, THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.
14. HAND DIGGING MAY BE REQUIRED FOR LOCATIONS ADJACENT TO EXISTING GAS AND POWER LINES. HAND EXCAVATION SHOULD BE ANTICIPATED & WILL BE CONSIDERED INCIDENTAL TO THE CONCRETE BASES BID ITEM. COORDINATE ALL WORK NEAR GAS LINE WITH WE ENERGIES.
15. UNDERGROUND WIRE & CONDUIT SHOWN ON REMOVAL PLANS FOR REMOVAL SHALL BE ABANDONED IN PLACE UNLESS DIRECTED BY THE ENGINEER. CONTRACTOR MAY CHOOSE TO REMOVE CONDUCTOR AT THEIR OWN EXPENSE.
16. EXISTING CONDUIT AND CID NO LONGER BEING USED IS ABANDONED IN PLACE. THE CONTRACTOR MAY REMOVE ABANDONED WIRING A THE CONTRACTOR'S EXPENSE. ABANDONED PULL BOX REMOVAL IS INCIDENTAL TO THE ROAD CONSTRUCTION.
17. ALL UNDERGROUND WIRING AND CONDUIT FOR POLES BEING REMOVED IS ABANDONED IN PLACE UNLESS NOTED OTHERWISE. CONTRACTOR MAY SALVAGE ABANDONED WIRING AT HIS OWN EXPENSE.
18. PROVIDE REMOVABLE SEALANT SUCH AS DUCT SEAL IN THE CONDUITS AS THE CABINET, PULL BOXES, AND JUNCTION BOXES TO AVOID CONDENSATION CAUSED BY AIRFLOW THROUGH TEH CONDUIT DUE TO TEMPERATURE DIFFERENCE. THIS WORK SHALL BE INCIDENTAL TO THE ASSOCIATED CONDUIT PAY ITEM.
19. PROVIDE MINIMUM CABLE SLACK AS MENTIONED BELOW:

PULL BOXES:	10-FT
EMBEDDED JUCTION BOXES:	3-FT
DISTRIBUTION CENTER/LOAD CENTER:	10-FT
POLES:	5-FT IN AND 5-FT OUT

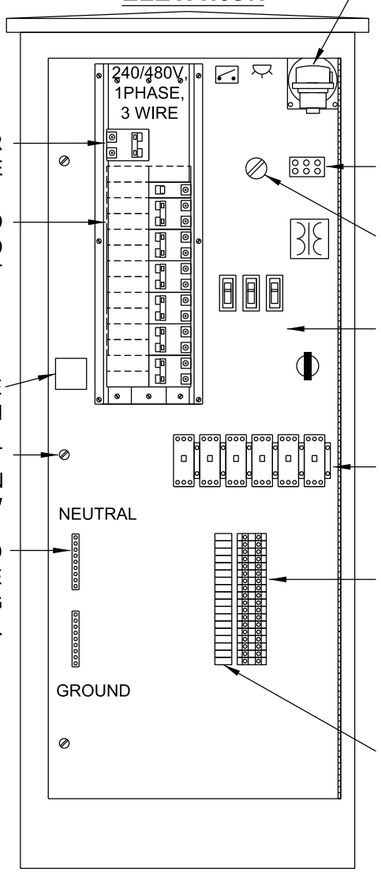
LEFT SIDE VIEW



STAINLESS STEEL HANDLE WITH 3 - POINT LATCH & PADLOCKING PROVISIONS WITH LOCK FOR #2 KEY

LOUVERS WITH METAL FILTER ON DOOR AS REQUIRED

FRONT INTERIOR ELEVATION



NEMA TWIST-LOCK WISDOT APPROVED PHOTOCELL, 240V MOUNTED BEHIND WINDOWS

BACK FED MAIN BREAKER IS ACCEPTABLE

PANELBOARD MOUNTED ON BACK PANEL BEHIND DEAD FRONT

SURGE PROTECTION

DEAD FRONT QUARTER-TURN WING SCREW

NEUTRAL BUS SIZED TO ACCOMMODATE #10 THRU # 2 AWG CONDUCTORS.

PHOTOCELL TERMINAL BLOCK

HAND-OFF-AUTO SWITCH MOUNTED ON HINGED DEAD FRONT

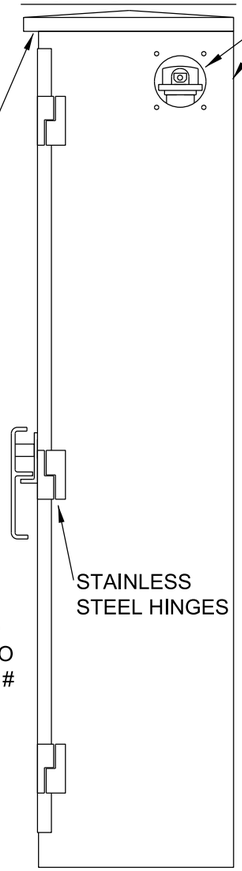
INTERIOR COMPONENTS MOUNTED ON BACK PANEL BEHIND HINGED DEAD FRONT

(6) 2P CONTACTORS, 240V COIL (CONTACTORS SIZED AS REQUIRED)

TERMINAL BLOCKS FOR LIGHTING CIRCUIT CONDUCTORS PRE-WIRED TO CONTACTORS. SIZED TO ACCOMMODATE #10 THRU # 2 AWG CONDUCTORS.

CIRCUIT LABELS

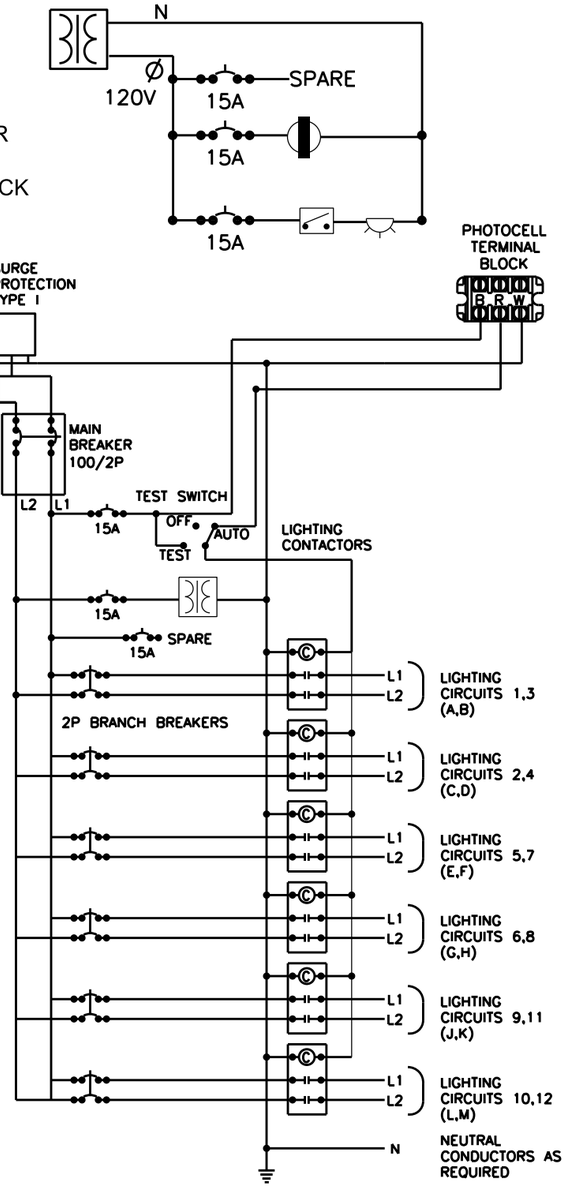
RIGHT SIDE VIEW



VENTILATION UNDER TOP

WINDOW FOR PHOTOCELL SIDE AND BACK OF CABINET

STAINLESS STEEL HINGES



LEGEND:

- 15AMP GFCI DUPLEX RECEPTACLE WITH COVER, 120V,
- 1.5KVA, SINGLE PHASE ENCAPSULATED TRANSFORMER 240//120V, 60HZ
- SPST, 20AMP SWITCH ON DOOR, TO TURN LIGHT ON WHEN DOOR IS OPEN.
- LED STRIP LIGHT
- 15AMP/1P CIRCUIT BREAKER, 120V

BASE FLANGE WITH GASKET 17" X 30"

PANELBOARD:

- 30 CIRCUIT MIN.
- 100AMP MAIN CIRCUIT BREAKER
- COPPER BUS
- BOLT- ON BREAKERS
- 22K AIC
- (2) 15A/1P CONTROL BREAKER, 240V
- (1) 15A/1P CONTROL BREAKER, 240V, SPARE
- (6) 30A/2P BRANCH BREAKERS

BOX CONSTRUCTION:

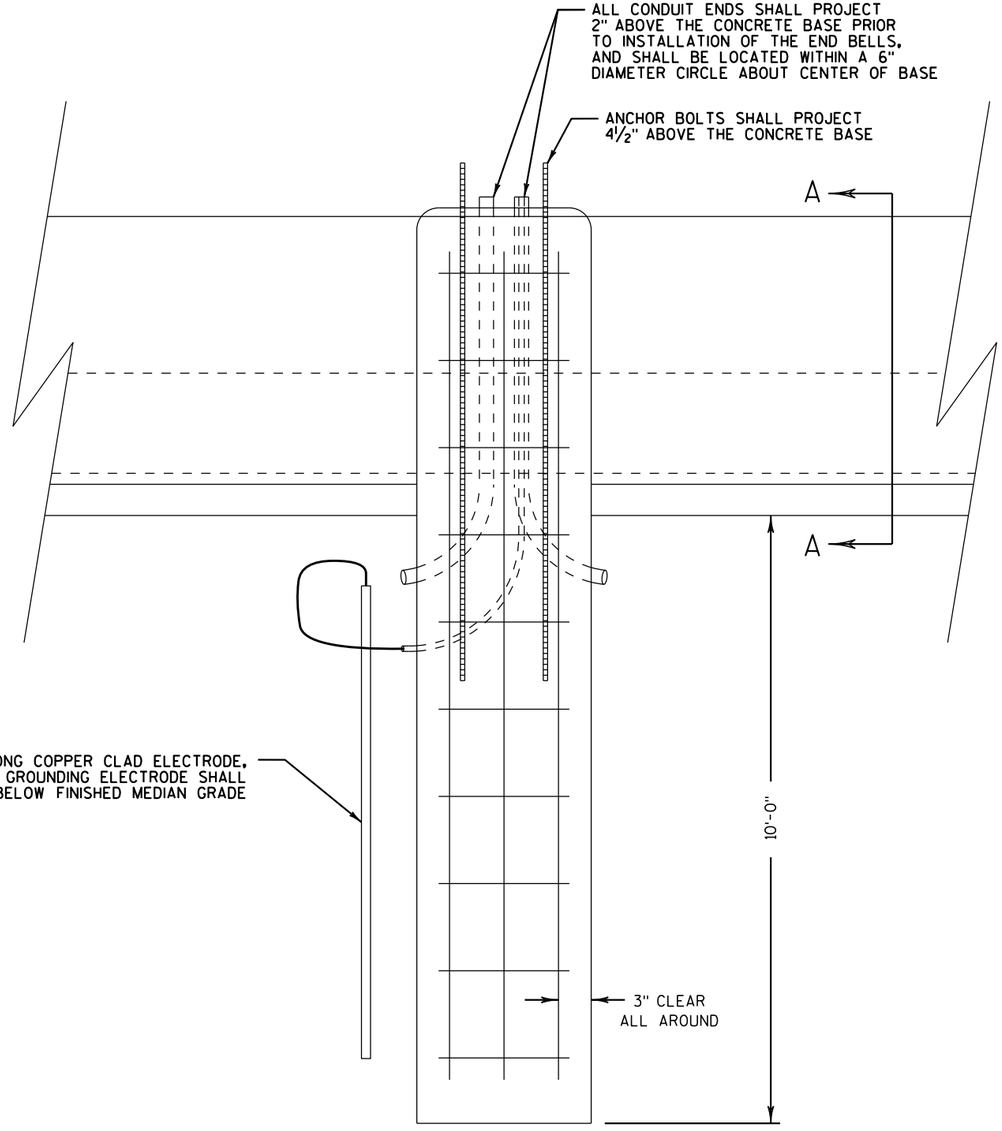
- NEMA3R
- UL LISTED
- -1/8" ALUMINUM 5052-H32 ANODIZED CLEAR
- BENT CONSTRUCTION - ONE PIECE SIDES AND BACK
- NEOPRENE GASKETED DOORS
- STAINLESS STEEL HARDWARE
- ETL LISTED IN ACCORDANCE W/ UL508A
- DOOR KEEP TO HOLD DOOR WHILE OPEN (180 DEGREES)

CONTROL CABINET SCHEMATIC

240/480 VOLT LIGHTING CONTROL CABINET WISDOT 240/480

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING PLAN - DETAIL	SHEET 100	E

2



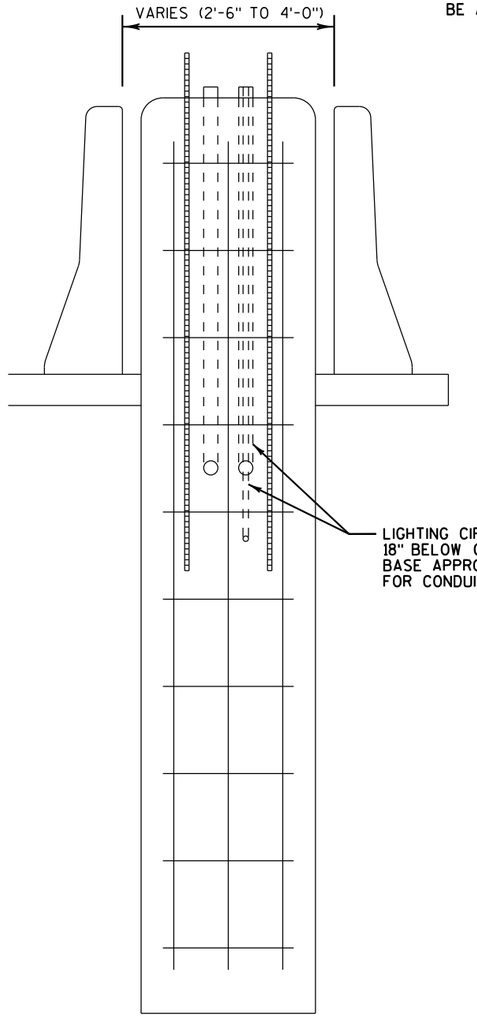
CONCRETE BASES, TYPE B

(1" ANCHOR RODS, 15" BOLT CIRCLE, 4½" PROJECTION)

NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF SECTION 654 OF THE STANDARD SPECIFICATIONS

2. DETAILS OF COSNTRUCTION WITH THE EXCEPTIONS OF HEIGHT ABOVE GRADE AND CONDUIT SIZE SHALL BE AS DEFINED IN STANDARD DETAIL FOR TYPE 8 BASE



DETAIL A

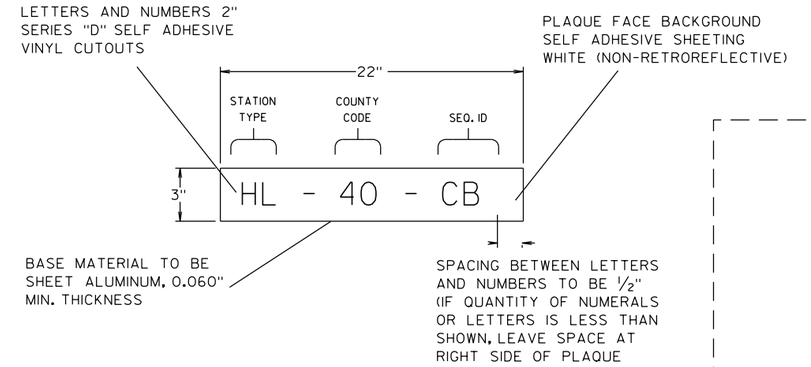
SHEET 1 OF 1

PROJECT NO: 1350-09-70	HWY: STH 41	COUNTY: MILWAUKEE	LIGHTING PLAN - DETAIL	SHEET 101	E

2

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 SPECIAL PROVISIONS.

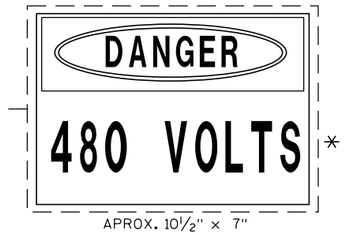


DISTRIBUTION CENTER IDENTIFICATION PLAQUE

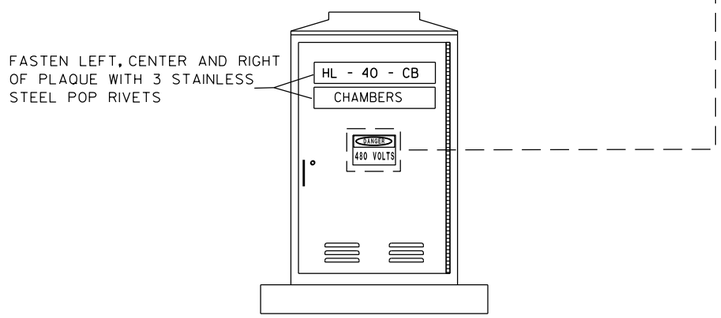
CHAMBERS

MNEMONIC
(SEE MISC. QTYS.)
(NO. OF CHARACTERS VARIES THIRD PLAQUE MAY BE NECESSARY)

TWO REQUIRED CABINET AND METER PEDESTALS (PAID AS PLAQUES SEQUENCE IDENTIFICATIONS)



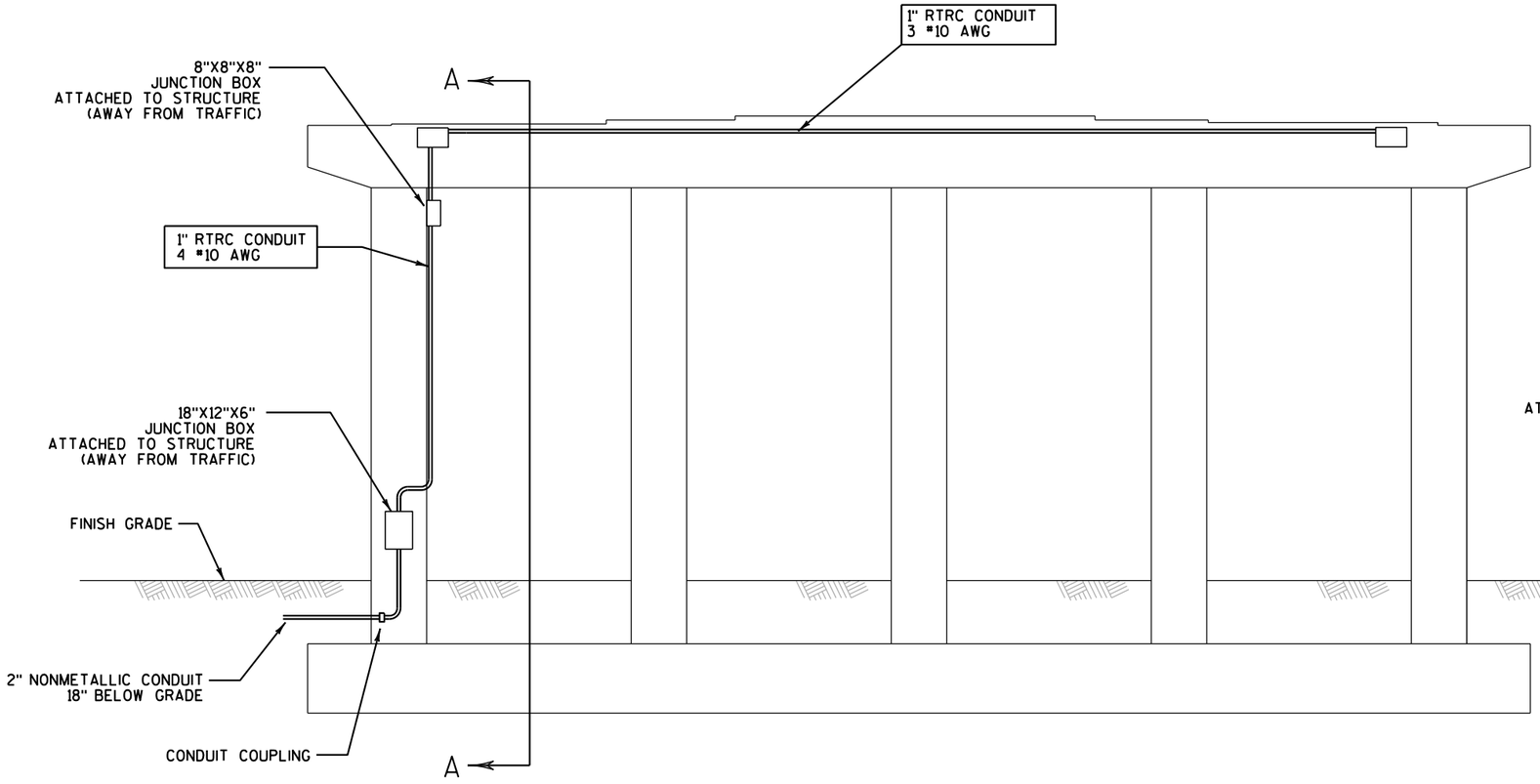
*SOME LOCATIONS WILL BE 240 VOLTS

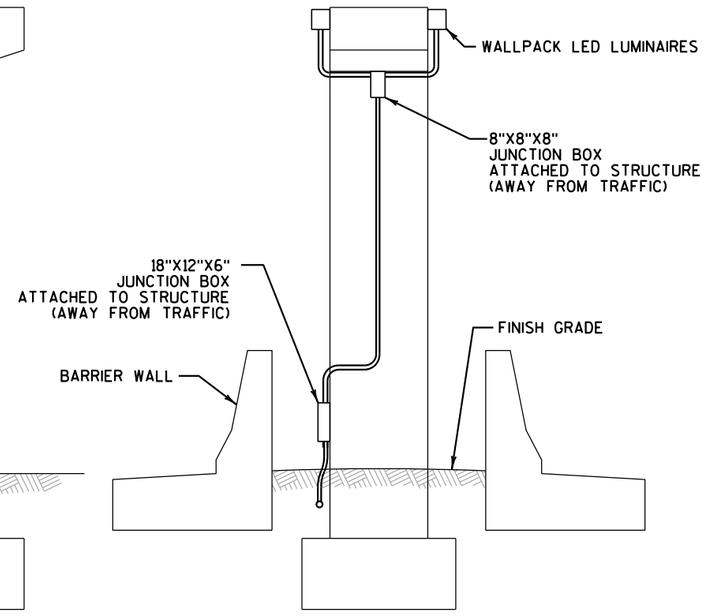


DISTRIBUTION CENTER IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS
(TYPICAL ALL CONTROL CABINETS)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING DETAIL - CABINET PLAQUES	SHEET 102	E

W. VLEIT STREET STRUCTURE (B-40-53)





SECTION A-A
N.T.S.

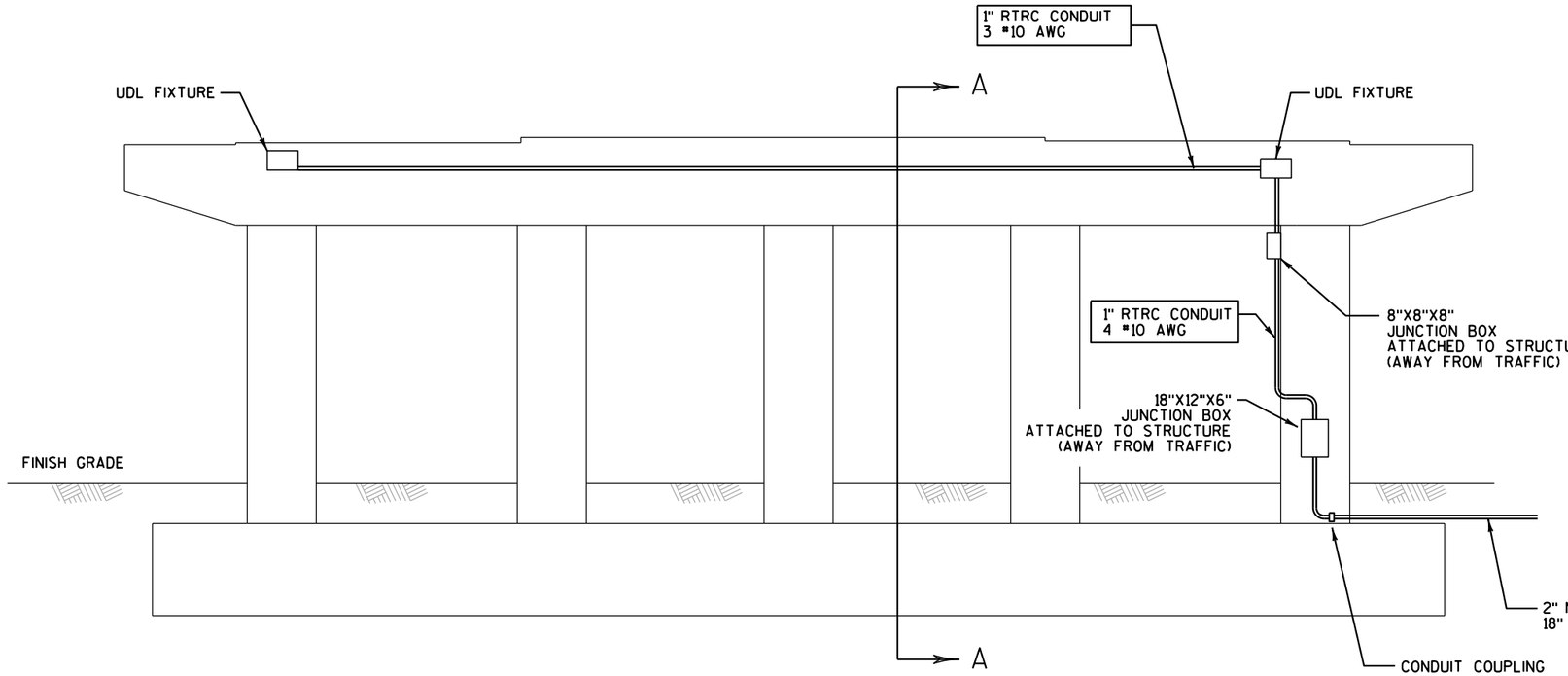
NOTES:

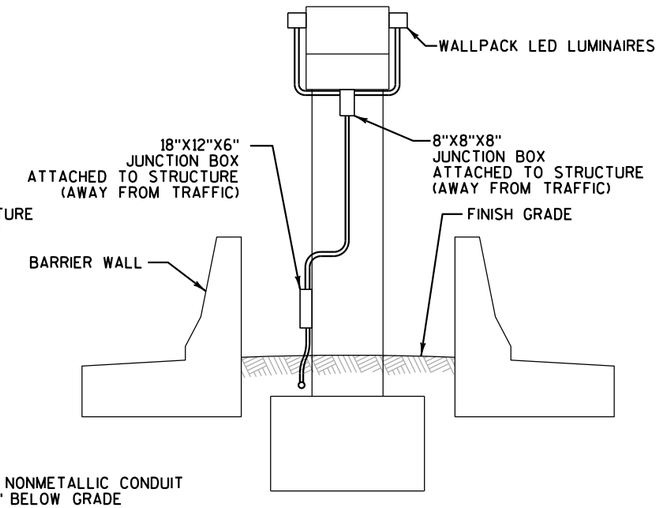
1. THE LED LUMINAIRES SHALL BE HORIZONTALLY MOUNTED ON THE PIER ACCORDING TO THE SPECIFICATIONS. LUMINAIRES SHALL BE LOCATED NO MORE THAN 1-FT FROM THE TOP OF THE PIER CAP. CENTER THE LUMINAIRES ON VERTICAL PER SUPPORT.
2. REVERSE SIDE OF BRIDGE IS IDENTICAL TO THE ABOVE DRAWING.

TYPICAL CONDUIT TRANSITION DETAIL FOR UNDERDECK LIGHTING ON EXISTING STRUCTURE

N.T.S

W. LLOYD STREET STRUCTURE (B-40-56)





SECTION A-A
N.T.S.

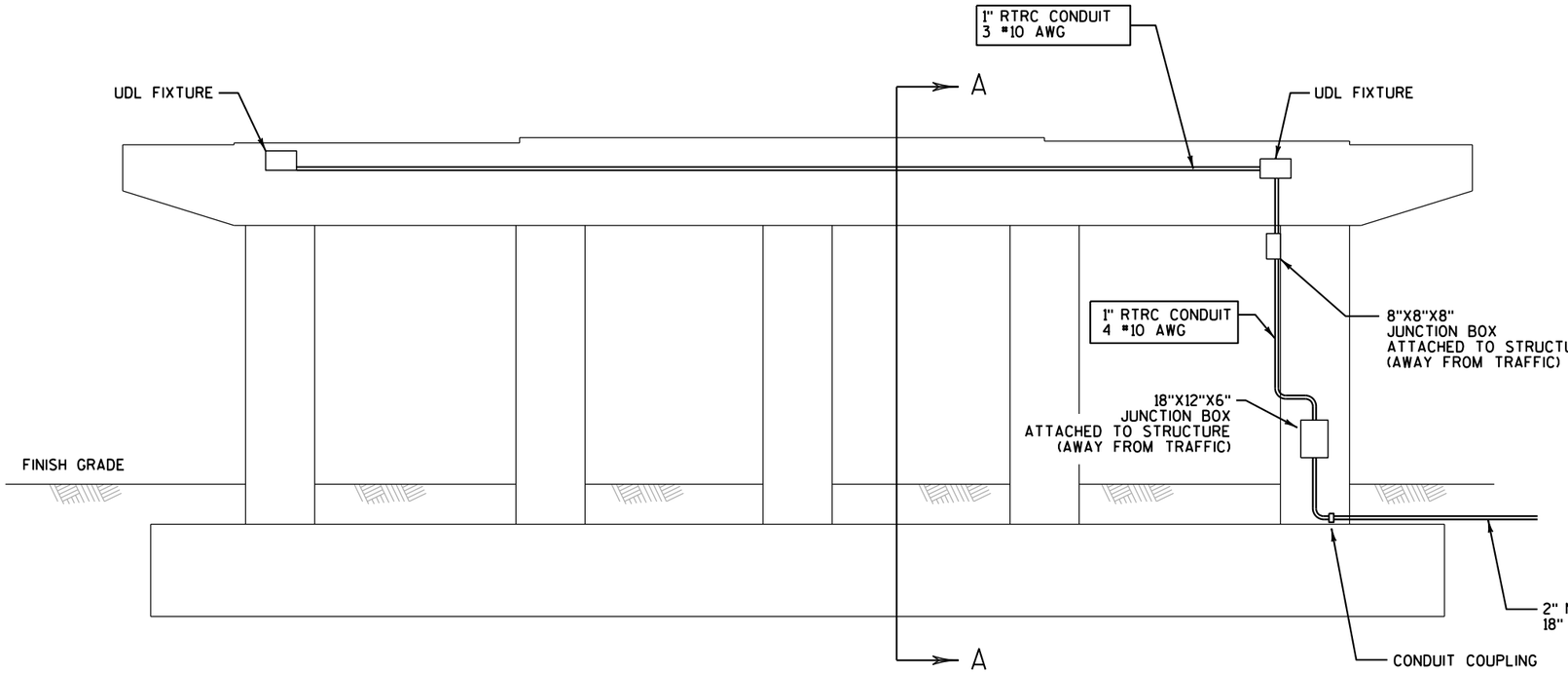
NOTES:

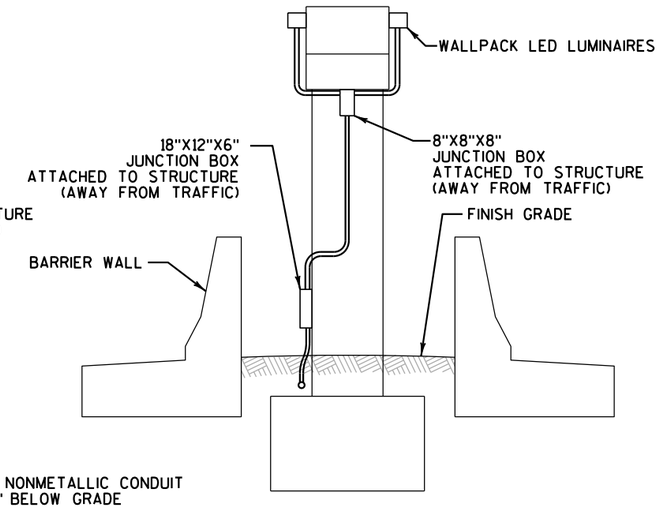
1. THE LED LUMINAIRES SHALL BE HORIZONTALLY MOUNTED ON THE PIER ACCORDING TO THE SPECIFICATIONS. LUMINAIRES SHALL BE LOCATED NO MORE THAN 1-FT FROM THE TOP OF THE PIER CAP. CENTER THE LUMINAIRES ON VERTICAL PER SUPPORT.
2. REVERSE SIDE OF BRIDGE IS IDENTICAL TO THE ABOVE DRAWING.

TYPICAL CONDUIT TRANSITION DETAIL FOR UNDERDECK LIGHTING ON EXISTING STRUCTURE

N.T.S

W. WASHINGTON BOULEVARD STRUCTURE (B-40-56)





SECTION A-A
N.T.S.

NOTES:

1. THE LED LUMINAIRES SHALL BE HORIZONTALLY MOUNTED ON THE PIER ACCORDING TO THE SPECIFICATIONS. LUMINAIRES SHALL BE LOCATED NO MORE THAN 1-FT FROM THE TOP OF THE PIER CAP. CENTER THE LUMINAIRES ON VERTICAL PER SUPPORT.
2. REVERSE SIDE OF BRIDGE IS IDENTICAL TO THE ABOVE DRAWING.

TYPICAL CONDUIT TRANSITION DETAIL FOR UNDERDECK LIGHTING ON EXISTING STRUCTURE

N.T.S

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING DETAIL - UNDERDECK LIGHTING	SHEET 105	E

2

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- EOP — EDGE OF PAVEMENT
- B.O.C. — BACK OF CURB
- C.I.M. — CENTER IN MEDIAN
- B.O.S. — BACK OF SIDEWALK
- MUNICIPAL LIGHT POLE
- UDL (UNDER DECK LUMINAIRE)

BOLDED REPRESENTS ITEMS TO BE REMOVED

FOR INFORMATION ONLY
NO WORK ON THIS PAGE

N

PROJECT ID 1350-09-71

PROJECT ID 1350-09-70

USH 41

74+00 76+00 78+00 80+00 82+00 84+00 86+00 88+00

DNS10 73+51, 226' LT LED(C)-5-15
CNS9 74+13, 189' LT LED(C)-5-15
DNS8 75+44, 163' LT LED(C)-5-15
CNS7 77+39, 119' LT LED(D)-E-20
DNS21 79+52, 24' LT LED(D)
DNS22 81+66, 28' LT LED(D)
DNS23 83+67, 32' LT LED(D)
DNS24 85+39, 35' LT LED(D)

PB113 PB112 PB108 PB107 PB111 PB109 PB110

DNS5 75+13, 18' LT LED(D)-A-4
CNS4 72+58, 16' LT LED(D)-A-4
#8 C,D,N
DNS6
CNS6 77+65, 19' LT LED(D)-A-4
CNS5
CNS11 76+90, 86' RT LED(D)-E-20
CNS21 79+67, 15' LT LED(D)
CNS22 81+87, 15' LT LED(D)
CNS23 84+13, 15' LT LED(D)
CNS24 86+36, 15' LT LED(D)

EMPTY CONDUIT
EMPTY CONDUIT

REMOVE SIGN LIGHTING

DNS4
2 NB LED UDL C/D/NS
DNS12 74+94, 149' RT LED(C)-5-15
CNS13 73+72, 242' RT LED(C)-5-15

W. MENOMONEE RIVER
W. STATE ST.
STATE ST
TOWER
SIGN
S.D.
MH

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 1/15 DATE

SHEET 1 OF 5

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING REMOVAL PLAN	SHEET 106	E

FILE NAME : J:\projects\D2_13500941\70\Lighting\rem_023501_lp.dgn PLOT DATE : 27-APR-2015 09:47 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 100:1

PROJECT ID 1350-09-71 | PROJECT ID 1350-09-70

N

ALOIS ST

STATE ST

USH 41

2+13 EVL14
4+33 EVL13
6+41 EVL12
8+39 EVL11
9+91 EVL10
11+18 EVL9
10+17 EVL7
9+09 EVL15
7+45 EVL17
5+43 EVL18
3+21 EVL19
1+13 EVL20
95+30 EVL16
96+57 EVL6
13+41 EVL8
12+25 EVL5
95+98 DVL18
95+98 DVL17
95+28 DVL16
96+77 DVL19
98+77 DVL20
95+10 DVL5
97+40 CVL4 REMOVE LUMINAIRE ONLY
99+93 DVL3
CVL3
93+62 DVL15
3"
92+69 CVL6
90+21 DVL7
CVL7
DVL6
CVL5
94+18 CVL19
96+17 CVL18
93+16 CVL20
92+30 CVL21
90+06 CVL15
90+96 CVL16
91+15 CVL17
88+25 CVL14
87+75 S-40-242 SB IMV-C/VL REMOVE SIGN LIGHTING AND LUMINAIRE ONLY
86+98 S-40-339 IMV-C/VL REMOVE SIGN LIGHTING
DVL8 REMOVE LUMINAIRE ONLY
87+75 S-40-241 SB IMV-D/VL
89+05 CVL8 REMOVE LUMINAIRE ONLY
88+72 S-40-340 IMV-D/VL REMOVE SIGN LIGHTING
#8 D,N
D60
#4 A,B,N
DVL4 REMOVE LUMINAIRE ONLY
REMOVE SIGN LIGHTING S-40-242
REMOVE SIGN STRUCTURE LUMINAIRE EXTENSION (TO BE REPLACED) NB
DNS24 85+39, 35' LT LED(D)
CNS24 86+36, 15' LT LED(D)
SIGN
S.D.
W
OH
00+9
00+8
86+00
88+00
90+00
92+00
94+00
96+00
98+00
100+00
2+00
4+00
6+00
8+00
10+00
12+00
14+00

NOTE: 89+05 REMOVE SIGN STRUCTURE LUMINAIRE EXTENSION.
DRIVE BOLTS BACK INTO INTO TAPPED HOLES @ TOP OF SIGN STRUCTURE STEM.
(NO REPLACEMENT SIGN STRUCTURE LUMINAIRE EXTENSION)

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- EOP — EDGE OF PAVEMENT
- B.O.C. — BACK OF CURB
- C.I.M. — CENTER IN MEDIAN
- B.O.S. — BACK OF SIDEWALK
- MUNICIPAL LIGHT POLE
- UDL (UNDER DECK LUMINAIRE)

BOLDED REPRESENTS ITEMS TO BE REMOVED

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 1/15 DATE

SHEET 2 OF 5

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING REMOVAL PLAN	SHEET 107	E

FILE NAME : J:\projects\D2_13500941\70\Lighting\rem_023502_lp.dgn | PLOT DATE : 27-APR-2015 09:47 | PLOT BY : mscppl | PLOT NAME : | PLOT SCALE : 100:1

WISDOT/CADDS SHEET 42

2

N

15+10
EVL4

16+00

18+00

16+68
EVL3

19+31
EVL1

18+53
EVL2

20+00

VLIET ST

8+00

10+00

USH 41

102+25
CVL2

102+00

DVL2

104+71
DVL1

104+00

#2 C.D.N

CVL1

2-3"

106+60

PB900

3-3"

2½"

#2 A.B.N
#2 C.D.N
#4 E.N
#2 G.H.N

12+00

3-#10 PBCVL

DISTRIBUTION CENTER
HL-40-VL

2 UDL
AVL

2 UDL
BVL

PARKING

CHERRY ST

47TH ST

47 TH

GALENA

S.D.

MH

W

107+33
BVL1

AVL1

108+00

110+74
109+16

110+81
AVL2

BVL2

112+00

113+05
BVL3

AVL3

114+00

115+32
AVL4

116+00

117+55
BVL5

AVL5

118+00

USH 41

BVL4

EXIST. CIRC. G/H TO PASS THRU FNDN.
BRING CIRC. A/B FROM SOUTH INTO BASE.
NEW CIRC. A/B (3-6 AWG.)
NORTH FROM SIGN TO LIGHT POLE.

CONCRETE BASE
TYPE C

109+10
AVL15

CONCRETE BASE
TYPE C

112+60
AVL16

CONCRETE BASE
TYPE C

114+13
AVL17

115+68
AVL18

117+33
AVL19

CONCRETE BASE
TYPE C

115+62±
S-40-6
2MV NB
1MV SB
CIRC A/B
REMOVE SIGN LIGHTING
NB & SB

LEGEND

⊠	DISTRIBUTION CENTER
- - · - -	CID (CABLE IN DUCT)
— — —	CONDUIT - 2" UNLESS OTHERWISE SHOWN
	LIGHT POLE, ARM MOUNTED LUMINAIRE
⇉	CONDUIT STUBOUT
⊗	PULLBOX 24" x 42"
◐	PULLBOX 24" x 36"
EOP	EDGE OF PAVEMENT
B.O.C.	BACK OF CURB
C.I.M.	CENTER IN MEDIAN
B.O.S.	BACK OF SIDEWALK
	MUNICIPAL LIGHT POLE
	UDL (UNDER DECK LUMINAIRE)

HL-40-VL	
A,C,E,G	RED
B,D,H	BLACK
N	WHITE
GND	GREEN OR BARE
A,B,C,D	40 A
E,G,H	30 A
240/480VAC 3 WIRE GROUNDED NEUTRAL	

BOLDED REPRESENTS ITEMS TO BE REMOVED

SHEET 3 OF 5

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 1/15 DATE

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING REMOVAL PLAN	SHEET 108	E

2

N

47TH ST

VINE ST

USH 41

USH 41

WASHINGTON BLVD

8+00

10+00

12+00

14+00

118+00

119+88
AVL6

120+00

BVL6

2 UDL
BVL

122+00

122+55
BVL7

AVL7

2 UDL
AVL

CONCRETE
TYPE C

124+00

124+82
AVL8

BVL8

125+10
BVL15

126+00

126+81
BVL16

128+27
BVL17

127+05
BVL9

AVL9

#8 C,N

EXIST. CIRC. G/H TO PASS THRU FNDN.
BRING CIRC. A/B FROM NORTH INTO BASE.
NEW CIRC. A/B (3-6 AWG.)
SOUTH FROM SIGN TO LIGHT POLE.

127+50±
S-40-5
2MV
CIRC A/B
REMOVE SIGN LIGHTING
NB

128+00

128+05
AVL22

129+28
AVL10

BVL10

130+00

130+07
AVL21

CONCRETE
TYPE C

131+55
BVL11

AVL11

132+00

132+02
BVL18

119+15
AVL20

LEGEND

⊠	DISTRIBUTION CENTER
- - - -	CID (CABLE IN DUCT)
— — —	CONDUIT - 2" UNLESS OTHERWISE SHOWN
○—○	LIGHT POLE, ARM MOUNTED LUMINAIRE
⇉	CONDUIT STUBOUT
⊗	PULLBOX 24" x 42"
◐	PULLBOX 24" x 36"
EOP	EDGE OF PAVEMENT
B.O.C.	BACK OF CURB
C.I.M.	CENTER IN MEDIAN
B.O.S.	BACK OF SIDEWALK
✱—•	MUNICIPAL LIGHT POLE
⏛	UDL (UNDER DECK LUMINAIRE)

BOLDED REPRESENTS ITEMS TO BE REMOVED

SHEET 4 OF 5

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 1/15 DATE

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING REMOVAL PLAN	SHEET 109	E

2

2

N

47TH ST

47TH ST

N. 47TH

GARFIELD AVE

W. GARFIELD

LISBON AVE

LISBON AVE.

USH 41

LLOYD ST

133+73
GVL1

134+00

136+00

136+05
HVL2

137+48

138+00

4 UDL
GVL & HVL

138+34
GVL3

139+96
HVL4

140+00

141+49
HVL5

142+00

143+04
HVL6

144+00

145+01
HVL7

146+00

147+26
HVL8

148+60
HVL9

HVL1

CONCRETE
TYPE C

GVL2

136+78
BVL22

HVL3

139+86
GVL4

141+32
GVL5

142+82
GVL6

133+49
BVL19

134+96
BVL20

136+32
BVL21

S.D.

SIGN

PARKING

LEGEND

⊠	DISTRIBUTION CENTER
- - - -	CID (CABLE IN DUCT)
— — —	CONDUIT - 2" UNLESS OTHERWISE SHOWN
⊸	LIGHT POLE, ARM MOUNTED LUMINAIRE
⇉	CONDUIT STUBOUT
ⓧ	PULLBOX 24" x 42"
◐	PULLBOX 24" x 36"
EOP	EDGE OF PAVEMENT
B.O.C.	BACK OF CURB
C.I.M.	CENTER IN MEDIAN
B.O.S.	BACK OF SIDEWALK
✳⊸	MUNICIPAL LIGHT POLE
⏛	UDL (UNDER DECK LUMINAIRE)

BOLDED REPRESENTS ITEMS TO BE REMOVED

SHEET 5 OF 5

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 1/15 DATE

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING REMOVAL PLAN	SHEET 110	E

FILE NAME : J:\projects\D2_13500941\70\Lighting\rem_023505_lp.dgn PLOT DATE : 27-APR-2015 09:47 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 100:1

WISDOT/CADDS SHEET 42

HL-40-AZ	
A,C,E	RED
B,D,F	BLACK
N	WHITE
GND	GREEN OR BARE
A,B,C,D,E,F	30 A
240/480VAC 3 WIRE ISOLATED NEUTRAL	

CAUTION OVERHEAD LINES

CAUTION OVERHEAD LINES

N

STATE ST

ALOIS ST

USH 41

1+84, 40' LT
LED(B)-5(T)-6-EAZ1

3+99, 40' LT
LED(B)-5(T)-6-FAZ1

6+20, 40' LT
LED(B)-5(T)-6-EAZ2

9+00, 45' LT
LED(B)-5(T)-6-FAZ2

10+50, 50' LT
LED(B)-5(T)-6-EAZ3

13+00, 30' LT
LED(B)-5(T)-6-FAZ3

11+72, 33' RT
LED(B)-5(T)-15-CVL7

96+21, 62' LT
LED(B)-5(T)-15-DVL6

97+44, 15' LT
LED(B)-5(T)-15-CVL6

97+46, 23' LT
LED(D)-A(T)-4-CVL3

99+04, 15' LT
LED(B)-5(T)-15-DVL5

100+71, 20' LT
LED(D)-E(T)-20-CVL5

PB304

PB303

PB305

DVL3

DVL2

CVL4

PB208

PB201

PB202

PB203

PB204

PB205

PB206

PB207

2-3"

3"

#8 E,F,N

#10 A,B,N

#4 A,B,N
#4 C,D,N

#8 C,D,N

5+40, 31' RT
LED(B)-5(T)-6-BAZ2

3+20, 34' RT
LED(B)-5(T)-6-AAZ1

1+09, 45' RT
LED(B)-5(T)-6-BAZ1

7+61, 30' RT
LED(B)-5(T)-6-AAZ2

98+14, 56' LT
LED(B)-5(T)-6-BAZ3

95+40, 6' LT
LED(D)-E(T)-10-BAZ4

97+00, 7' LT
LED(B)-5(T)-6-AAZ3

87+77, 29' LT
LED(D)-A(T)-4-AAZ7/BAZ7

REPLACE LUMINAIRE ONLY

90+17, 29' LT
LED(D)-E(T)-10-BAZ6/AAZ6

92+45, 29' LT
LED(D)-E(T)-10-AAZ5/BAZ5

94+89, 28' LT
LED(D)-E(T)-10-DVL4

EMPTY CONDUIT

89+02, 5' RT
LED(D)-E(T)-20-CAZ1

90+46, 5' RT
LED(B)-5(T)-6-DAZ1

91+84, 5' RT
LED(B)-5(T)-6-CAZ2

93+23, 5' RT
LED(B)-5(T)-6-DAZ2

94+65, 5' RT
LED(B)-5(T)-6-CAZ3

93+04, 5' RT
LED(B)-5(T)-6-DVL9

91+79, 25' RT
LED(B)-5(T)-6-CVL10

94+15, 5' RT
LED(B)-5(T)-6-CVL9

95+57, 5' RT
LED(B)-5(T)-6-DVL8

97+05, 15' RT
LED(D)-E(T)-20-CVL8

REPLACE LUMINAIRE ONLY

100+04, 18' LT
LED(D)-A(T)-4-CVL2

AAZ14
86+37, 15' LT

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, 4-#4AWG UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- C.I.M. CENTER IN MEDIAN
- MUNICIPAL LIGHT POLE
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

STATION — OFFSET

100+00.00, (100.00RT)

LED C A(T) 4 ANSI

- CIRCUIT, SOURCE, POLE #
- ARM LENGTH
- POLE TYPE ON T-BASE
- LUMINAIRE CATEGORY
- LUMINAIRE SOURCE

SHEET 1 OF 8

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 1/15 DATE

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING PLAN	SHEET 111	E

FILE NAME : J:\projects\D2_13500941\70\Lighting\023501_lp.dgn PLOT DATE : 27-APR-2015 14:34 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 100:1

HL-40-AZ	
A,C,E	RED
B,D,F	BLACK
N	WHITE
GND	GREEN OR BARE
A,B,C,D,E,F	30 A
240/480VAC 3 WIRE ISOLATED NEUTRAL	

N

STATE ST

ALOIS ST

USH 41

1+84, 40' LT
LED(B)-5(T)-6-EAZ1

3+99, 40' LT
LED(B)-5(T)-6-FAZ1

6+20, 40' LT
LED(B)-5(T)-6-EAZ2

9+00, 45' LT
LED(B)-5(T)-6-FAZ2

10+50, 50' LT
LED(B)-5(T)-6-EAZ3

13+00, 30' LT
LED(B)-5(T)-6-FAZ3

PB208

PB201

PB202

PB203

PB204

PB205

PB206

PB207

PB303

PB304

PB305

*8 E,F,N

*10 A,B,N

*4 A,B,N
*4 C,D,N

*8 C,D,N

3"

2-3"

3+20, 34' RT
LED(B)-5(T)-6-AAZ1

1+09, 45' RT
LED(B)-5(T)-6-BAZ1

5+40, 31' RT
LED(B)-5(T)-6-BAZ2

7+61, 30' RT
LED(B)-5(T)-6-AAZ2

98+14, 56' LT
LED(B)-5(T)-6-BAZ3

97+00, 7' LT
LED(B)-5(T)-6-AAZ3

95+40, 6' LT
LED(D)-E(T)-10-BAZ4

87+77, 29' LT
LED(D)-A(T)-4-AAZ7/BAZ7

REPLACE LUMINAIRE ONLY

90+17, 29' LT
LED(D)-E(T)-10-BAZ6/AAZ6

AAZ14
86+37, 15' LT

89+02, 5' RT
LED(D)-E(T)-20-CAZ1

90+46, 5' RT
LED(B)-5(T)-6-DAZ1

91+84, 5' RT
LED(B)-5(T)-6-CAZ2

93+23, 5' RT
LED(B)-5(T)-6-DAZ2

94+65, 5' RT
LED(B)-5(T)-6-CAZ3

92+45, 29' LT
LED(D)-E(T)-10-AAZ5/BAZ5

EMPTY CONDUIT

CVL4

94+15, 5' RT
LED(B)-5(T)-6-CVL9

93+04, 5' RT
LED(B)-5(T)-6-DVL9

91+79, 25' RT
LED(B)-5(T)-6-CVL10

95+57, 5' RT
LED(B)-5(T)-6- DVL8

97+05, 15' RT
LED(D)-E(T)-20-CVL8

97+46, 23' LT
LED(D)-A(T)-4-CVL3

94+89, 28' LT
LED(D)-E(T)-10-DVL4

DVL3

DVL2

REPLACE LUMINAIRE ONLY

96+21, 62' LT
LED(B)-5(T)-15-DVL6

11+72, 33' RT
LED(B)-5(T)-15-CVL7

97+44, 15' LT
LED(B)-5(T)-15-CVL6

99+04, 15' LT
LED(B)-5(T)-15-DVL5

100+71, 20' LT
LED(D)-E(T)-20-CVL5

100+04, 18' LT
LED(D)-A(T)-4-CVL2

STATION — OFFSET

100+00.00, (100.00RT)

LED C A(T) 4 ANS1

- CIRCUIT, SOURCE, POLE *
- ARM LENGTH
- POLE TYPE ON T-BASE
- LUMINAIRE CATEGORY
- LUMINAIRE SOURCE

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, 4-*4AWG UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- C.I.M. CENTER IN MEDIAN
- MUNICIPAL LIGHT POLE
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 1/15 DATE

SHEET 2 OF 8

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING PLAN - SCHEMATIC	SHEET 112	E

2

N

14+60, 25' LT
LED(B)-5(T)-6-EAZ4

16+20, 28' LT
LED(B)-5(T)-6-FAZ4

17+75, 31' LT
LED(B)-5(T)-6-EAZ5

19+25, 44' LT
LED(B)-5(T)-6-FAZ5

102+67, 14' LT
LED(D)-A(T)-4-CVL1

105+27, 14' LT
LED(D)-A(T)-4-AVL1

JB301
105+52, 15' LT (CIM)

DVL1

PB302

PB301

BVL1

AVL2

PB306

PB307

2 SB LED UDL
A/B/VL

2 NB LED UDL
A/B/VL

107+91, 17' LT
LED(D)-A(T)-4-BVL2

110+74

109+36

EMPTY CONDUIT

111+93, 03' LT
LED(D)-A(T)-4-CLA10

DLA10

117+18, CIM
LED(D)-A(T)-4-CLA8

114+56, 03' LT
LED(D)-A(T)-4-DLA9

CLA9

DLA8

110+46, 20' RT
LED(D)-E(T)-20-BVL3

112+01, 10' RT
LED(B)-5(T)-15-AVL3

113+27, 10' RT
LED(B)-5(T)-15-BVL4

114+60 10' RT
LED(B)-5(T)-15-AVL4

115+97 10' RT
LED(B)-5(T)-15-BVL5

117+35 10' RT
LED(B)-5(T)-15-AVL5

*4 A,B,N
*4 C,D,N
*8 E,F,N

*8 A,B,N

3"

2-3"

USH 41

47TH ST

47 TH

VLIET ST

CHERRY ST

GALENA

PARKING

OH

MH

S.D.

S.

HL-40-VL	
A,C,	RED
B,D,	BLACK
N	WHITE
GND	GREEN OR BARE
A,B,C,D	30 A
E,F SPARE	30 A
240/480VAC 3 WIRE ISOLATED NEUTRAL	

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, 4-#4AWG UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- C.I.M. — CENTER IN MEDIAN
- MUNICIPAL LIGHT POLE
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

STATION — OFFSET

100+00.00, (100.00RT)

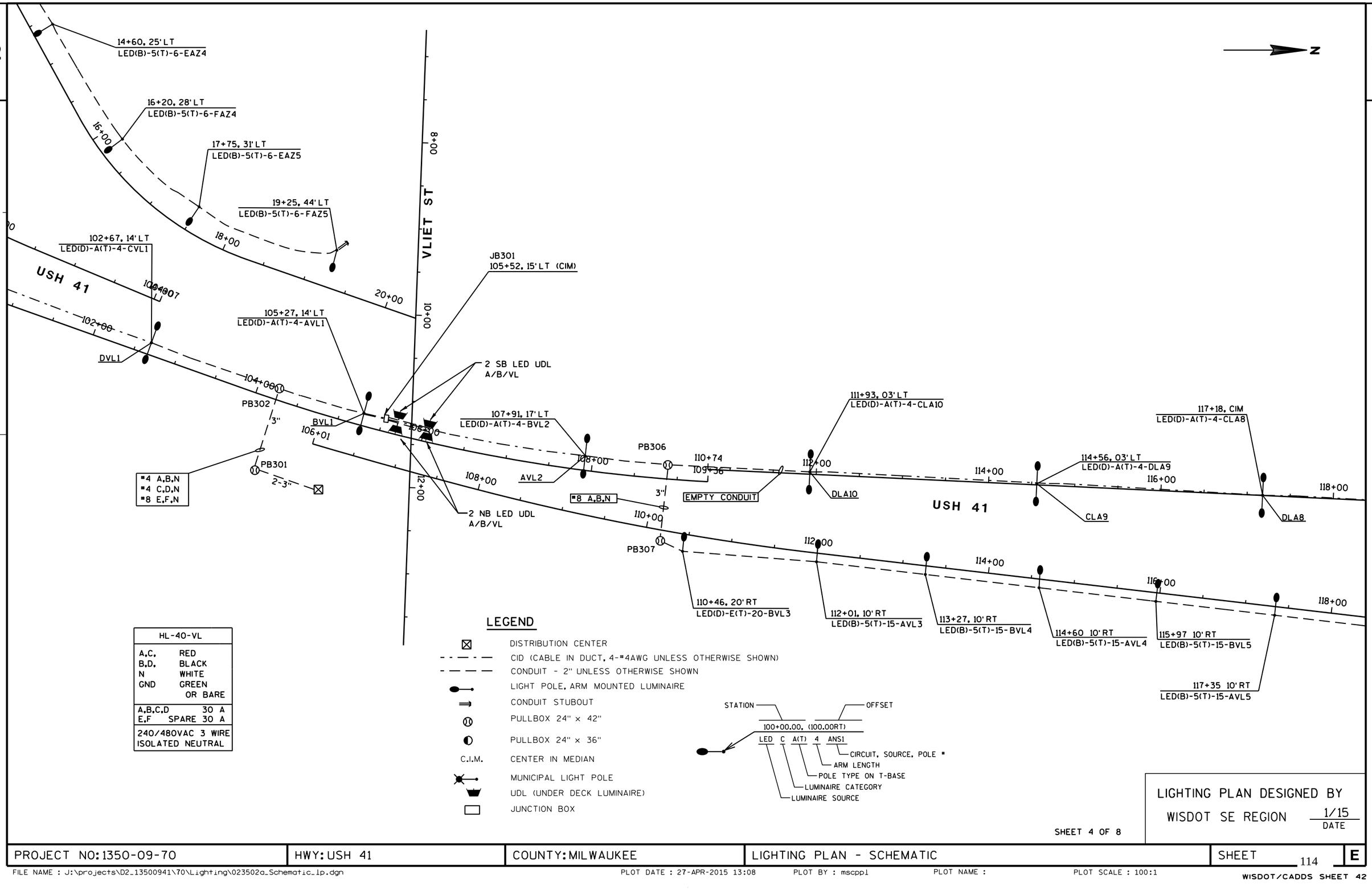
LED C A(T) 4 ANS1

- LUMINAIRE SOURCE
- LUMINAIRE CATEGORY
- POLE TYPE ON T-BASE
- ARM LENGTH
- CIRCUIT, SOURCE, POLE #

SHEET 3 OF 8

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 1/15 DATE

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING PLAN	SHEET 113	E



HL-40-VL	
A,C,	RED
B,D,	BLACK
N	WHITE
GND	GREEN OR BARE
A,B,C,D	30 A
E,F	SPARE 30 A
240/480VAC 3 WIRE ISOLATED NEUTRAL	

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, 4-#4AWG UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- C.I.M. — CENTER IN MEDIAN
- MUNICIPAL LIGHT POLE
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

STATION — OFFSET
100+00.00, (100.00RT)
LED C A(T) 4 ANS1
- CIRCUIT, SOURCE, POLE #
- ARM LENGTH
- POLE TYPE ON T-BASE
- LUMINAIRE CATEGORY
- LUMINAIRE SOURCE

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 1/15 DATE

SHEET 4 OF 8

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING PLAN - SCHEMATIC	SHEET 114	E

2

N

47TH ST

VINE ST

USH 41

USH 41

WASHINGTON BLVD

119+80, CIM
LED(D)-A(T)-4-DLA7

2 SB LED UDL
C/D/LA

2 NB LED UDL
C/D/LA

CLA7

DLA6

122+44, CIM
LED(D)-A(T)-4-CLA6

JB402
121+47, 04' RT (CIM)

125+07, CIM
LED(D)-A(T)-4-DLA5

CLA5

125+50, 20' LT
LED(D)-E(T)-20-ELA4

127+25, 10' LT
LED(B)-5(T)-15-FLA4

128+75, 10' LT
LED(B)-5(T)-15-ELA5

PB411

PB410

PB409

CLA4

127+72, CIM
LED(D)-A(T)-4-DLA4

130+33, CIM
LED(D)-A(T)-4-DLA3

132+98, CIM
LED(D)-A(T)-4-CLA2

PB407

CLA3

#8 E,F,N

PB408

DLA2

129+00, 20' RT
LED(D)-E(T)-20-ELA1

131+50, 5' RT
LED(C)-5(T)-15-FLA1

133+25, 5' RT
LED(C)-5(T)-15-ELA2

118+77, 15' RT
LED(B)-5(T)-15-BVL6

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, 4-#4AWG UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- C.I.M. CENTER IN MEDIAN
- MUNICIPAL LIGHT POLE
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

STATION — OFFSET

100+00.00, (100.00RT)

LED C A(T) 4 ANS1

- ANS1: CIRCUIT, SOURCE, POLE #
- 4: ARM LENGTH
- A(T): POLE TYPE ON T-BASE
- C: LUMINAIRE CATEGORY
- LED: LUMINAIRE SOURCE

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 1/15 DATE

SHEET 5 OF 8

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING PLAN	SHEET 115	E

2

N

USH 41

WASHINGTON BLVD

119+80, CIM
LED(D)-A(T)-4-DLA7

2 SB LED UDL
C/D/LA

2 NB LED UDL
C/D/LA

JB402
121+47, 04' RT (CIM)

122+44, CIM
LED(D)-A(T)-4-CLA6

125+07, CIM
LED(D)-A(T)-4-DLA5

125+50, 20' LT
LED(D)-E(T)-20-ELA4

127+25, 10' LT
LED(B)-5(T)-15-FLA4

128+75, 10' LT
LED(B)-5(T)-15-ELA5

PB411

PB410

PB409

PB407

PB408

CLA7

DLA6

CLA5

CLA4

CLA3

DLA2

118+77, 15' RT
LED(B)-5(T)-15-BVL6

127+72, CIM
LED(D)-A(T)-4-DLA4

129+00, 20' RT
LED(D)-E(T)-20-ELA1

130+33, CIM
LED(D)-A(T)-4-DLA3

132+98, CIM
LED(D)-A(T)-4-CLA2

131+50, 5' RT
LED(C)-5(T)-15-FLA1

133+25, 5' RT
LED(C)-5(T)-15-ELA2

#8 E,F,N

3"

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, 4-#4AWG UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- C.I.M. — CENTER IN MEDIAN
- MUNICIPAL LIGHT POLE
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

STATION — OFFSET

100+00.00, (100.00RT)

LED C A(T) 4 ANS1

- CIRCUIT, SOURCE, POLE #
- ARM LENGTH
- POLE TYPE ON T-BASE
- LUMINAIRE CATEGORY
- LUMINAIRE SOURCE

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 1/15 DATE

SHEET 6 OF 8

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING PLAN - SCHEMATIC	SHEET 116	E

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, 4-#4AWG UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- C.I.M. CENTER IN MEDIAN
- MUNICIPAL LIGHT POLE
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

STATION — OFFSET
100+00.00, (100.00RT)
LED C A(T) 4 ANS1
- CIRCUIT, SOURCE, POLE #
- ARM LENGTH
- POLE TYPE ON T-BASE
- LUMINAIRE CATEGORY
- LUMINAIRE SOURCE

N

47TH ST
N. 47TH
GARFIELD AVE
LLOYD ST
LISBON AVE.
PARKING
S.D.
OH
W

JB401
137+39, 16' RT (CIM)

135+59, 10' RT
LED(D)-A(T)-4-DLA1

2 SB LED UDL
C/D/LA

ALA4

142+32, 38' LT
LED(C)-5(T)-15-ALA2

144+25, 10' RT
LED(C)-5(T)-15-BLA2

146+00, 10' RT
LED(C)-5(T)-6-ALA1

147+75, 10' RT
LED(C)-5(T)-6-BLA1

OVERHEAD LINES
CAUTION

PB403
PB404
PB405
PB406
PB401
PB402

2-3"
3"

*10 A,B,N

140+50, 41' LT
LED(D)-E(T)-20-BLA3

*8 A,B,N
*8 E,F,N
*4 C,D,N

*10 A,B,N
*8 A,B,N
*8 E,F,N
*4 C,D,N

CLA1

2 NB LED UDL
C/D/LA

*8 A,B,N

HVI.3

134+80, 5' RT
LED(C)-5(T)-15-FLA2

136+50, 5' RT
LED(C)-5(T)-15-ELA3

139+50, 29' RT
LED(D)-5(T)-6-ALA5

138+53, 21' LT
LED(D)-A(T)-4-BLA4

141+00, 29' RT
LED(C)-5(T)-6-BLA5

142+50, 29' RT
LED(C)-5(T)-6-ALA6

HL-40-LA	
A,C,E	RED
B,D,F	BLACK
N	WHITE
GND	GREEN OR BARE
A,B,C,D,E,F	30 A
240/480VAC 3 WIRE ISOLATED NEUTRAL	

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 1/15
DATE

SHEET 7 OF 8

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING PLAN	SHEET 117 E

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, 4-#4AWG UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- C.I.M. — CENTER IN MEDIAN
- MUNICIPAL LIGHT POLE
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

STATION — OFFSET

100+00.00, (100.00RT)

LED C A(T) 4 ANS1

- ANS1 — CIRCUIT, SOURCE, POLE #
- 4 — ARM LENGTH
- A(T) — POLE TYPE ON T-BASE
- C — LUMINAIRE CATEGORY
- LED — LUMINAIRE SOURCE

N

OVERHEAD LINES CAUTION

JB401
137+39, 16' RT (CIM)

135+59, 10' RT
LED(D)-A(T)-4-DLA1

2 SB LED UDL
C/D/LA

ALA4

142+32, 38' LT
LED(C)-5(T)-15-ALA2

144+25, 10' RT
LED(C)-5(T)-15-BLA2

146+00, 10' RT
LED(C)-5(T)-6-ALA1

147+75, 10' RT
LED(C)-5(T)-6-BLA1

145+50

PB403

PB404

PB402

PB401

2-3"

3"

3"

PB405

PB406

USH 41

CLA1

2 NB LED UDL
C/D/LA

140+50, 41' LT
LED(D)-E(T)-20-BLA3

#8 A,B,N
#8 E,F,N
#4 C,D,N

#10 A,B,N
#8 A,B,N
#8 E,F,N
#4 C,D,N

#10 A,B,N

#8 A,B,N

134+80, 5' RT
LED(C)-5(T)-15-FLA2

136+50, 5' RT
LED(C)-5(T)-15-ELA3

LLOYD ST

138+53, 21' LT
LED(D)-A(T)-4-BLA4

139+50, 29' RT
LED(D)-5(T)-6-ALA5

141+00, 29' RT
LED(C)-5(T)-6-BLA5

142+50, 29' RT
LED(C)-5(T)-6-ALA6

HL-40-LA	
A,C,E	RED
B,D,F	BLACK
N	WHITE
GND	GREEN OR BARE
A,B,C,D,E,F	30 A
240/480VAC 3 WIRE ISOLATED NEUTRAL	

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 1/15 DATE

SHEET 8 OF 8

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	LIGHTING PLAN - SCHEMATIC	SHEET 118 E

2

CITY OF MILWAUKEE SIGNATURE SHEET

THE FOLLOWING TRAFFIC SIGNAL AND STREET LIGHTING PLANS AND DETAIL DRAWINGS HAVE BEEN PREPARED AND APPROVED.

TRAFFIC SIGNAL PLAN	2 SHEETS TOTAL
TRAFFIC SIGNAL /STREET LIGHTING DETAILS	1 SHEET TOTAL
TRAFFIC SIGNAL /STREET LIGHTING VAULT DETAILS	3 SHEETS TOTAL
TRAFFIC SIGNAL BASE DETAIL	1 SHEET TOTAL
TRAFFIC SIGNAL POLE AND MONOTUBE ARM DETAILS	2 SHEETS TOTAL

Original Plans Prepared By

WISCONSIN PROFESSIONAL ENGINEER
JEFFREY S. POLENSKE
E-33528
MILWAUKEE
WIS.

4/17/15
(Date)

City Engineer

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORK

PREPARED BY

Division Infrastructure Services
Division Manager Marcia Cornnell
Services Transportation Operations
Operations Manager Rollin Bertran
Section Traffic and Street Lighting
Section Supervisor Robert Bryson
Section Project Manager Joseph Blakeman

FILE NAME : W:\bte\signals\PAVING AND DESIGN\State Projects-LFA\Preliminary Engineering\1350-09-70 Stadium Freeway-North Leg\1350-09-70 Traffic Signal Plans.dgn PLOT DATE : 17-APR-2015 12:42 PLOT BY : dkozel PLOT NAME : PLOT SCALE : 20.000000 \ 1.000000 WISDOT/CADDS SHEET 42

2

LEGEND

- ⊕ MONOTUBE MAST ARM BASE TO BE INSTALLED
- XX' ARM — MAST ARM
- ⊟ VAULT TO BE INSTALLED
- PVC CONDUIT
- STREET LIGHT INSTALLED BY CITY

indicates wing number (existing wings shall remain in place)

N

NORTH 46TH STREET

121
5+34; 44.5' LT
13"X24"X18"
VAULT

TE&ES CUC

3"

TYPE 10 SPECIAL BASE
TYPE 12 SPECIAL POLE
5+42; 44.5' LT

35' ARM

WEST WISCONSIN AVENUE

51'-0"

3'-4" | 49'-3" SPAN 1

℄ LIGHT STD. BASE #1
STA 6+75.61

℄ pier 1
sta. 6+95.36

6+00

7+00

END OF MEDIAN
sta. 6+72.84

END OF DECK
STA. 6+43.46

℄ BRG. WEST ABUT.
STA. 6+46.05

6+98; 5.0' RT

25' ARM

EXISTING FOUNDATION
INSTALLED ON
PROJECT 1350-09-71

REFER TO CONSTRUCTION
DETAIL STRUCTURE B-40-55:
MONOTUBE BASE ANCHOR ASSEMBLY DETAIL

℄ LIGHT STD. BASE #3
STA 6+82.80

USH 41 ON-RAMP

NOTE:
ALL WORK TO BE PERFORMED BY
THE HIGHWAY CONTRACTOR UNLESS OTHERWISE NOTED

GENERAL NOTES:

1. DISTURBED AREAS SHALL BE RESTORED AS DIRECTED BY ENGINEER.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY FACILITIES AS SHOWN ON PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITIES LOCATED WITHIN THE PROJECT LIMITS THAT ARE NOT SHOWN.
3. PROPOSED LOCATIONS OF INSTALLED ITEMS ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED IN THE FIELD BY ENGINEER AND ADJUSTED FOR UNDERGROUND UTILITIES OR OTHER OBJECTS.

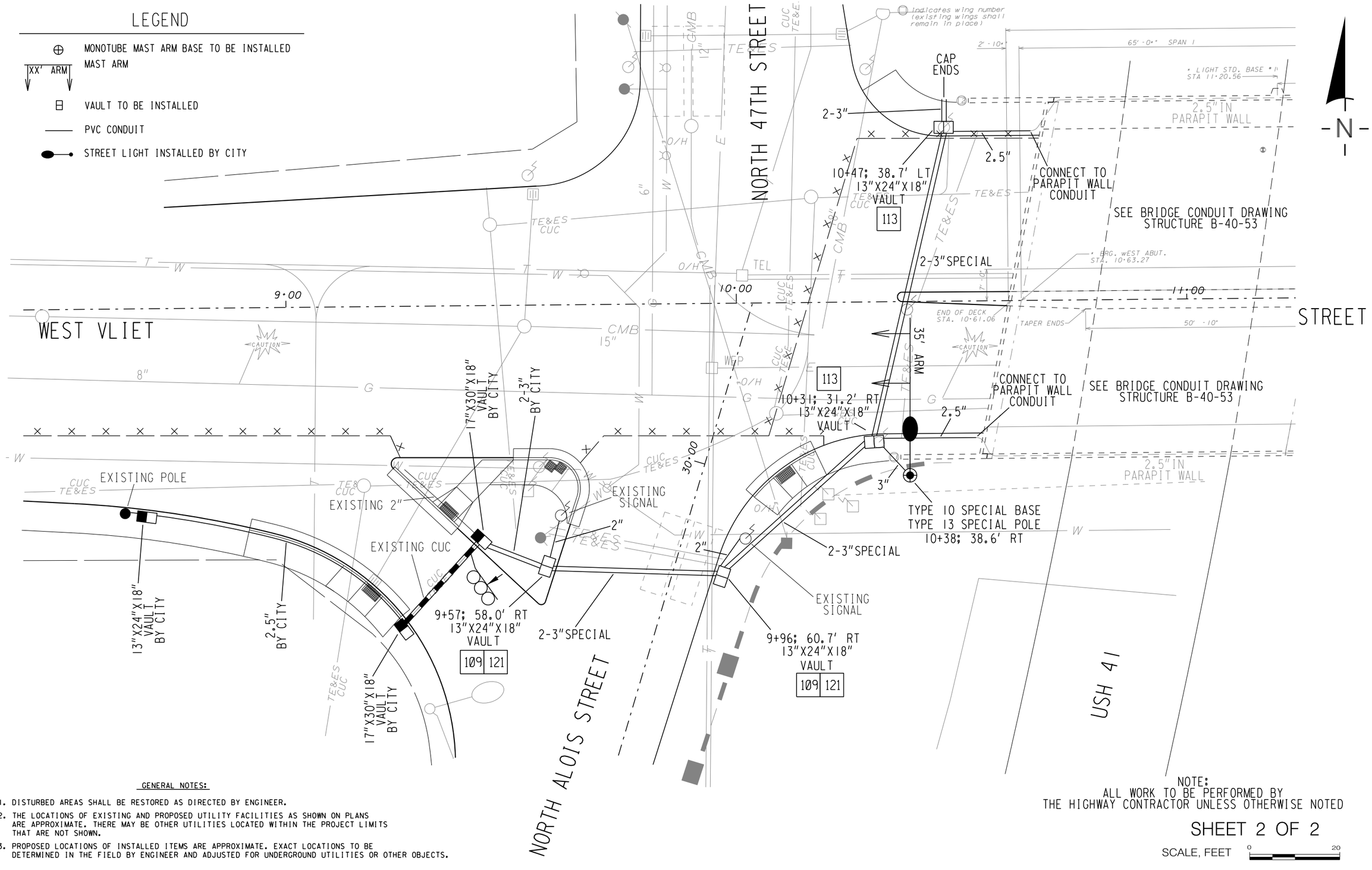
SHEET 1 OF 2

SCALE, FEET 0 20

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET 120	E

LEGEND

- MONOTUBE MAST ARM BASE TO BE INSTALLED
- XX' ARM — MAST ARM
- VAULT TO BE INSTALLED
- PVC CONDUIT
- STREET LIGHT INSTALLED BY CITY



GENERAL NOTES:

1. DISTURBED AREAS SHALL BE RESTORED AS DIRECTED BY ENGINEER.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY FACILITIES AS SHOWN ON PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITIES LOCATED WITHIN THE PROJECT LIMITS THAT ARE NOT SHOWN.
3. PROPOSED LOCATIONS OF INSTALLED ITEMS ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED IN THE FIELD BY ENGINEER AND ADJUSTED FOR UNDERGROUND UTILITIES OR OTHER OBJECTS.

NOTE:
ALL WORK TO BE PERFORMED BY
THE HIGHWAY CONTRACTOR UNLESS OTHERWISE NOTED

SHEET 2 OF 2

SCALE, FEET 0 20

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET 121	E

FILE NAME : W:\bte\signals\PAVING AND DESIGN\State Projects-LFA\Preliminary Engineering\1350-09-70 Stadium Freeway-North Leg\1350-09-70 Traffic Signal Plans.dgn PLOT DATE : 20-APR-2015 11:36 PLOT BY : jbondo PLOT NAME : PLOT SCALE : 20.000000:1.000000
WISDOT/CADDS SHEET 42

TRAFFIC & STREET LIGHTING GENERAL NOTES:

PRIOR TO CONSTRUCTION, THE LOCATION OF UNDERGROUND UTILITIES SHALL BE DETERMINED IN THE FIELD BY CONTACTING "DIGGERS HOTLINE."

STREET LIGHTING & TRAFFIC SIGNALS SHALL BE INSTALLED IN COMPLIANCE WITH WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 652 EXCEPT:

THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS INCLUDING REPAIRS, REPLACEMENT OR RELOCATION ETC. OF STREET LIGHTING OR TRAFFIC SIGNAL FACILITIES IF THE CONTRACTOR DOES ANY DEVIATION FROM THE STREET LIGHTING OR TRAFFIC SIGNAL DESIGN WITHOUT THE STREET LIGHTING ENGINEERS SIGNED PERMISSION.

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

2 LOCATIONS OF THE PVC CONDUITS WHERE THEY ARE REQUIRED ARE IDENTIFIED IN THE PRINTS. HOWEVER, INSTALLATION MAY REQUIRE INTEGRATION WITH EXISTING FIELD CONDITIONS. APPROPRIATE ADJUSTMENT ON CONDUIT LOCATIONS MAY BE MADE IF THE FIELD CONDITIONS ARE SUCH THAT THE CONDUIT CANNOT BE INSTALLED AT THE SPECIFIED LOCATIONS. ANY RELOCATIONS MUST BE APPROVED BY THE ENGINEER. FIELD MARK EACH CONDUIT LOCATION BY STAMPING AND PAINTING WITH RED PAINT ON TOP AND BACKSIDE OF CURB.

3 TYPICAL CONDUIT INSTALLED UP TO DIRECT BURIED STREET LIGHT POLES IS AS FOLLOWS 3-INCH OR 2.5-INCH (AS NOTED) SCHEDULE 40 RIGID PVC TO STREET LIGHTING METAL HOUSING (PEDESTAL), THE 1.5-INCH SCHEDULE 40 RIGID PVC TO STREET LIGHT POLE CABLE SLOT, AND THE 2-INCH SCHEDULE 40 RIGID PVC TO SIGNAL STANDARD BASE AND RISER FOR TRAFFIC SIGNAL ON STREET LIGHT POLE.

4 DEPTH OF CONDUIT INSTALLED BELOW THE STREETS, HIGHWAYS, ROADS, AND ALLEYS SHALL BE 24-INCHES MINIMUM AND 36-INCHES MAXIMUM. (MEASURED FROM FINISHED FLANGE LINE)

5 CONDUIT INSTALLED BEHIND CURB, AND UNDER DRIVEWAYS SHALL BE INSTALLED AT THE BASE OF THE BACKSIDE OF THE CURB/GUTTER SECTION.

6 WHEN THERE IS MORE THAN ONE CONDUIT TO BE LAID BEHIND THE CURB, PLACE ALL CONDUITS IN THE SAME TRENCH.

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

8 THE CONTRACTOR OR HIS SUBCONTRACTOR MUST MAKE SURE THE AREA BEHIND CURB AND/OR WITHIN TRENCH SHALL BE FREE OF DEBRIS AND OVERPOUR AND SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

9 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.

10 ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON ALL CONDUITS. (SEE NEC 352.28 2008 CODE)

11 PRIOR TO CONDUIT ACCEPTANCE, ALL CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND BE CAPPED IMMEDIATELY AFTER INSTALLATION WITH THE APPROPRIATE CAST PLASTIC CAP WHICH FITS SNUGGLY ON THE CONDUIT, BUT EASILY REMOVED IN THE FUTURE. DUCT TAPE OR ANY OTHER CAPPING METHOD IS NOT ACCEPTABLE.

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

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

14 PULL ROPE (3/8-INCH NYLON) SHALL BE INSTALLED IN ALL NEW CONDUIT.

15 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 UNLESS OTHERWISE APPROVED BY THE STREET LIGHTING ENGINEER.

16 WHEN ENDS OF CONDUIT DO NOT CONNECT TO A VAULT AND WILL END UP UNDER CONCRETE WALK. THE CONTRACTOR IS REQUIRED TO LEAVE A 24" X 24" BOX FORM CENTERED OVER THE END OF CONDUIT AND FILL THE BOXFORM WITH CRUSHED GRAVEL. (PER WISDOT SPEC 209.2.1(1) GRANULAR BACKFILL)

17 ALL PIPE CROSSINGS AND VAULTS SHALL BE AT LEAST SIX (6) FEET AWAY FROM FIRE HYDRANTS, UNLESS NOTED OTHERWISE, OR APPROVED BY THE STREET LIGHTING ENGINEER.

18 ALL POLES AND TRAFFIC STANDARDS IN CONCRETE ARE REQUIRED TO HAVE A 30"X30" BOX SHAPED JOINT PLACED AROUND THEM USING AN EXPANSION JOINT FILLER. UNLESS NOTED OTHERWISE (SEE DETAIL 122)

19 TYPICAL RECTANGULAR VAULTS SHOULD BE INSTALLED AS SHOWN ON PLANS, BUT WHEN IT IS NOT POSSIBLE, A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES, SIGNAL STANDARDS AND FIRE HYDRANTS SHOULD BE USED, OTHERWISE APPROVED BY THE STREET LIGHTING ENGINEER.

TRAFFIC & STREET LIGHTING GENERAL NOTES:

2

20 COORDINATE NEW CONDUIT CONNECTIONS WITH EXISTING CONDUIT, DUCT PACKAGES, AND VAULTS/ MANHOLES WITH CITY OF MILWAUKEE STREET LIGHTING. THE CITY REQUIRES THREE WORKING DAYS ADVANCED NOTICE. CONTACT ELECTRICAL SUPERVISOR
STREET LIGHTING - DENNIS MILLER (OFFICE) 414-286-5942 (CELL) 414-708-4251 OR DISPATCHER @ 414-286-5944
TRAFFIC SIGNALS - AL NICHOLS (OFFICE) 414-286-3687 (CELL) 414-708-5148 OR DISPATCHER @ 414-286-3687

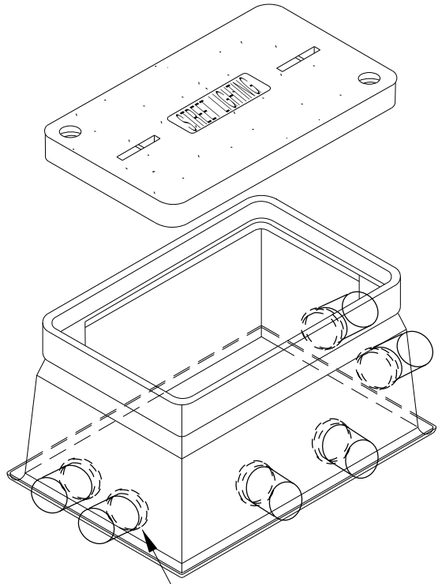
21 IMMEDIATELY AFTER THE CONTRACTOR HAS COMPLETED ALL THE ELECTRICAL VAULT, CONDUIT AND CONDUIT CONNECTIONS, AND JUST BEFORE ELECTRICAL WORK IS COVERED UP WITH CONRETE, SOIL, OR ETC. THE CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SHOP SUPERVISORS FOR FINAL INSPECTION AND APPROVAL OF ALL WORK.
STREET LIGHTING - DENNIS MILLER (OFFICE) 414-286-5942 (CELL) 414-708-4251
STREET LIGHTING - GEORGE BERDINE (OFFICE) 414-286-5943 (CELL) 414-708-4245
STREET LIGHTING - THOMAS HUGHES (OFFICE) 414-286-3457 (CELL) 414-708-3175
STREET LIGHTING - DISPATCHER @ 414-286-5944
TRAFFIC SIGNALS - AL NICHOLS (OFFICE) 414-286-3687 (CELL) 414-708-5148
TRAFFIC SIGNALS - DISPATCHER @ 414-286-3687

22 CONDUIT WILL ONLY BE INSTALLED AFTER THE CURB IS POURED, UNLESS APPROVED BY BOTH THE ENGINEER & STREET LIGHTING SHOP SUPERVISOR.

UTILITY LINE CODE

SAN	SANITARY SEWER
STO	STORM SEWER
W	WATER
G	GAS
E	ELECTRIC
TE&ES	CITY TRAFFIC, LIGHTING, COMM. & UNDERGROUND CONDUIT
. . .	OVERHEAD LINE
T	TELEPHONE
TV	CABLE

OTHER UTILITIES AS NOTED

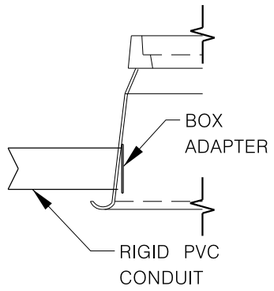


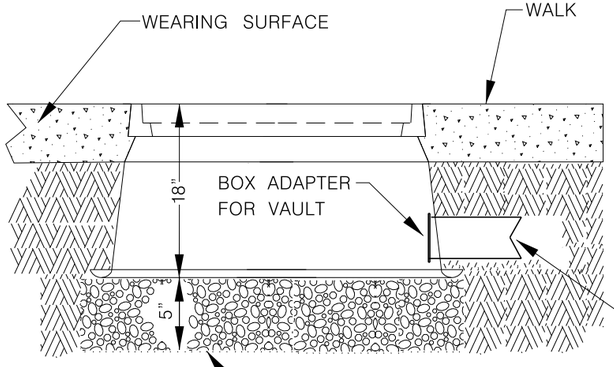
HEAVY DUTY COVER
W/ STREET LIGHTING LOGO
& W /2 BOLTS
COLOR: GRAY

ELECTRICAL VAULT
FLARED WALL
BOX W /NO BASE
COLOR: GRAY
(VARIOUS SIZES)

PLUG OR CAP FITTINGS ON ALL
UNUSED CONDUITS IN THE ENCLOSURE

BOX ADAPTERS, COUPLINGS
TO ALL PVC CONDUITS



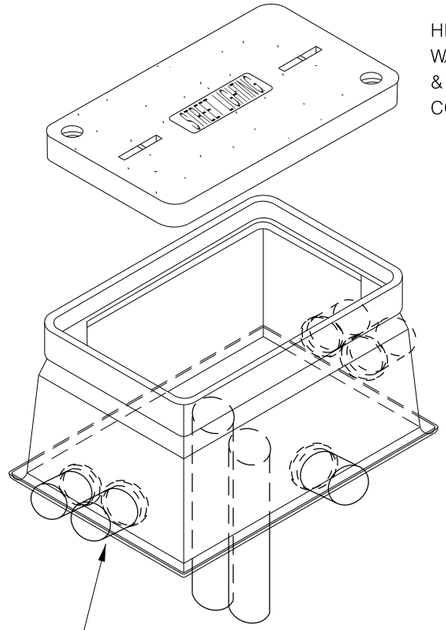


113 DETAIL

TYPICAL VAULT INSTALLATION
IN SIDEWALK

NOT TO SCALE

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286-5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

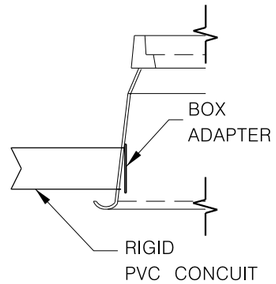


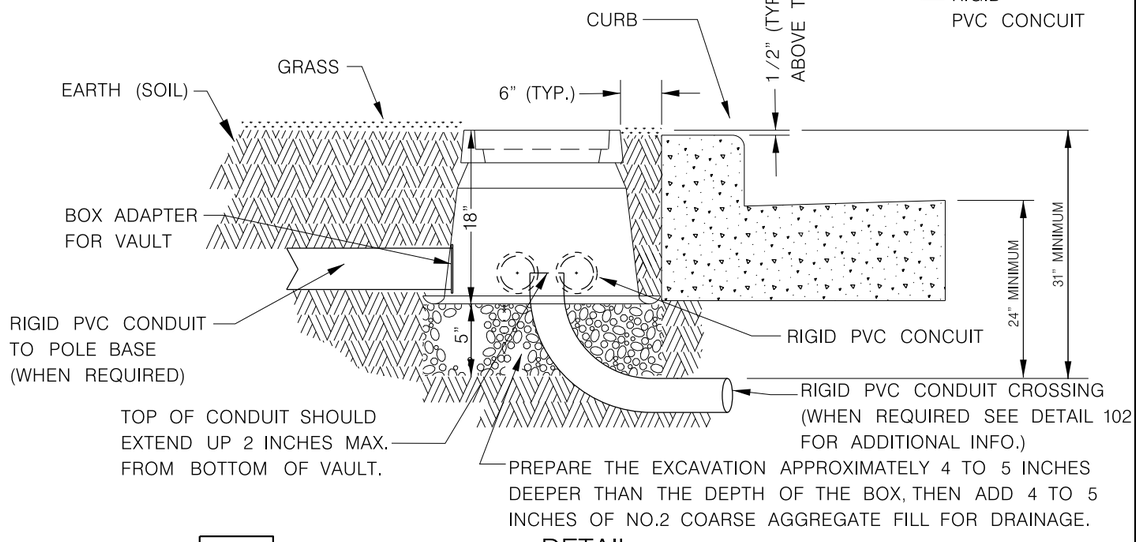
HEAVY DUTY COVER
W/ STREET LIGHTING LOGO
& W /2 BOLTS
COLOR: GRAY

ELECTRICAL VAULT
FLARED WALL
BOX W /NO BASE
COLOR: GRAY
(VARIOUS SIZES)

PLUG OR CAP FITTINGS ON ALL
UNUSED CONDUITS IN THE ENCLOSURE

BOX ADAPTERS, COUPLINGS
TO ALL P.V.C. CONDUITS



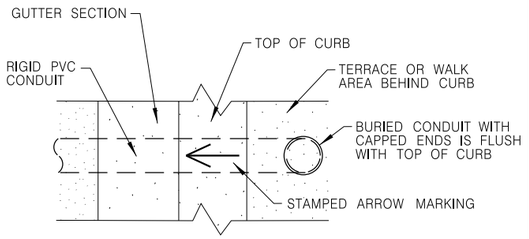


121 DETAIL

TYPICAL VAULT INSTALLATION IN GRASS AREA

NOT TO SCALE

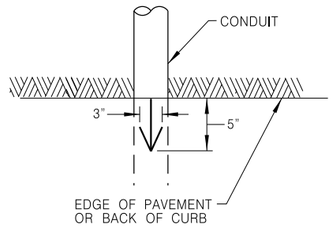
ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286-5944 FOR THE APPROPRIATE SHOP SUPERVISOR.



TOP VIEW OF CURB STAMPING

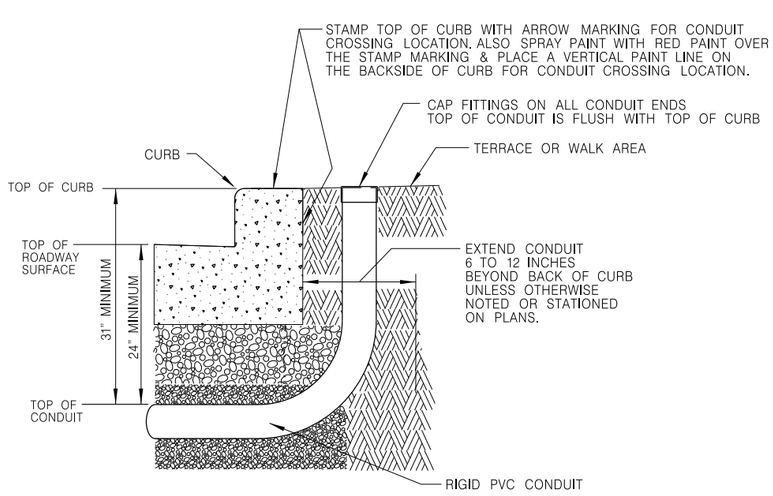
NOT TO SCALE

NOTE:
ARROW MARK SHALL BE INSCRIBED IN PAVEMENT SURFACE 1/4–INCH TO 3/8–INCH DEEP AT EACH LOCATION WHERE CONDUITS ARE PLACED UNDER THE PAVEMENT.



ARROW MARK

NOT TO SCALE

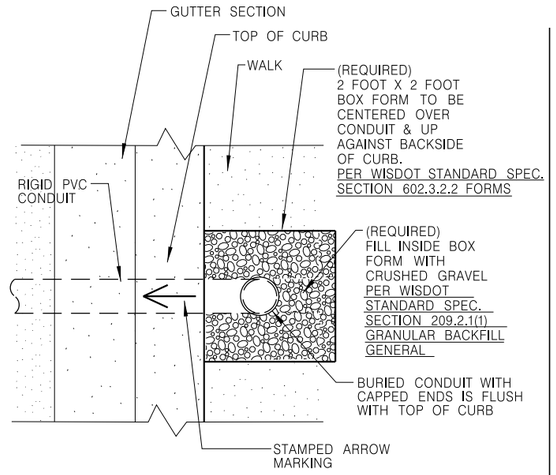


102 DETAIL VERSION #2

TYPICAL CONDUIT INSTALLATION FOR CROSSING ROADWAYS

NOT TO SCALE

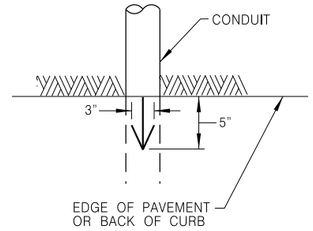
ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286–5944 FOR THE APPROPRIATE SHOP SUPERVISOR.



TOP VIEW OF CURB STAMPING

NOT TO SCALE

NOTE:
ARROW MARK SHALL BE INSCRIBED IN PAVEMENT SURFACE 1/4–INCH TO 3/8–INCH DEEP AT EACH LOCATION WHERE CONDUITS ARE PLACED UNDER THE PAVEMENT.

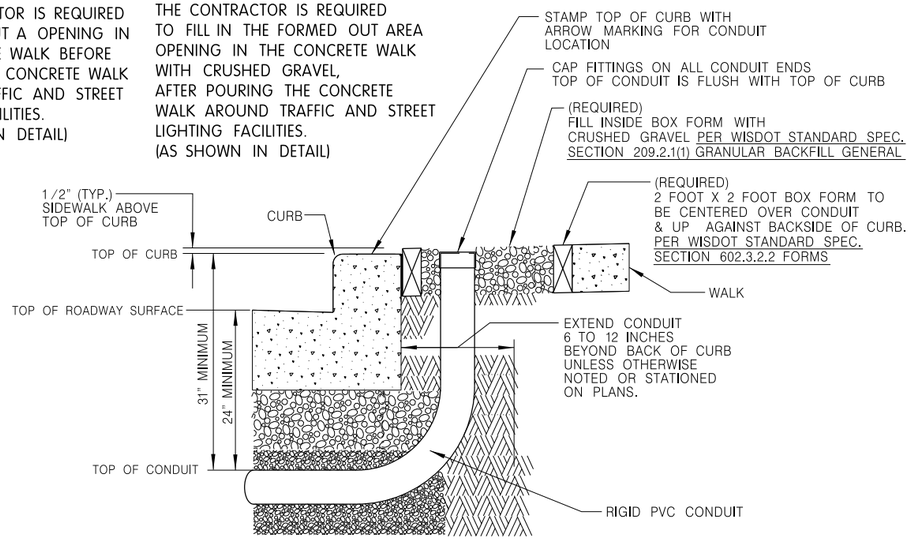


ARROW MARK

NOT TO SCALE

THE CONTRACTOR IS REQUIRED TO FORM OUT A OPENING IN THE CONCRETE WALK BEFORE POURING THE CONCRETE WALK AROUND TRAFFIC AND STREET LIGHTING FACILITIES. (AS SHOWN IN DETAIL)

THE CONTRACTOR IS REQUIRED TO FILL IN THE FORMED OUT AREA OPENING IN THE CONCRETE WALK WITH CRUSHED GRAVEL, AFTER POURING THE CONCRETE WALK AROUND TRAFFIC AND STREET LIGHTING FACILITIES. (AS SHOWN IN DETAIL)

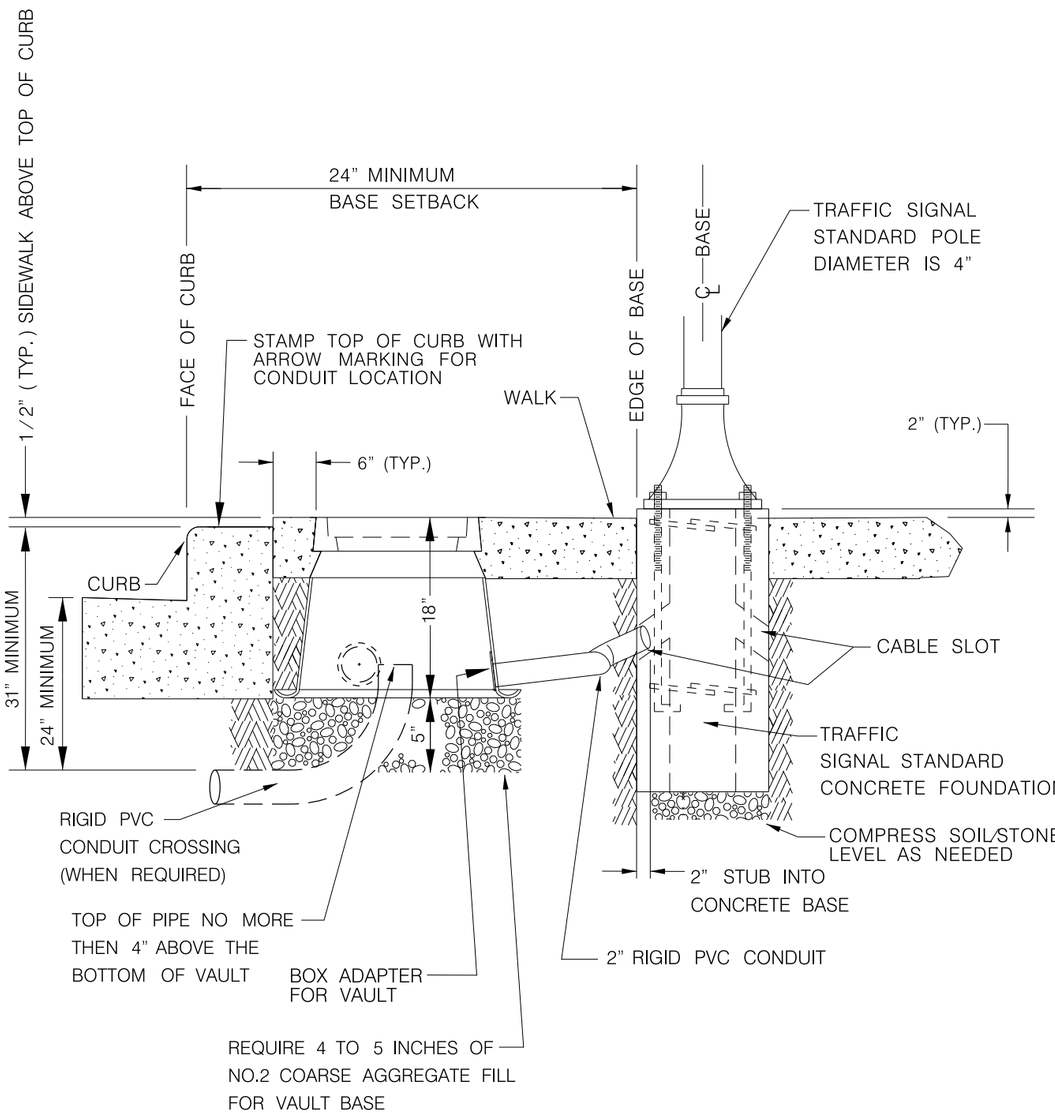


103 DETAIL VERSION #2

TYPICAL CONDUIT INSTALLATION FOR CROSSING ROADWAYS FROM FULL WALK AREAS

NOT TO SCALE

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286–5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

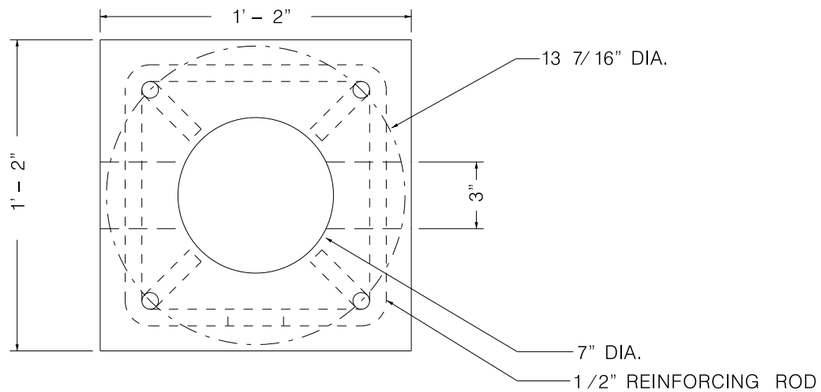


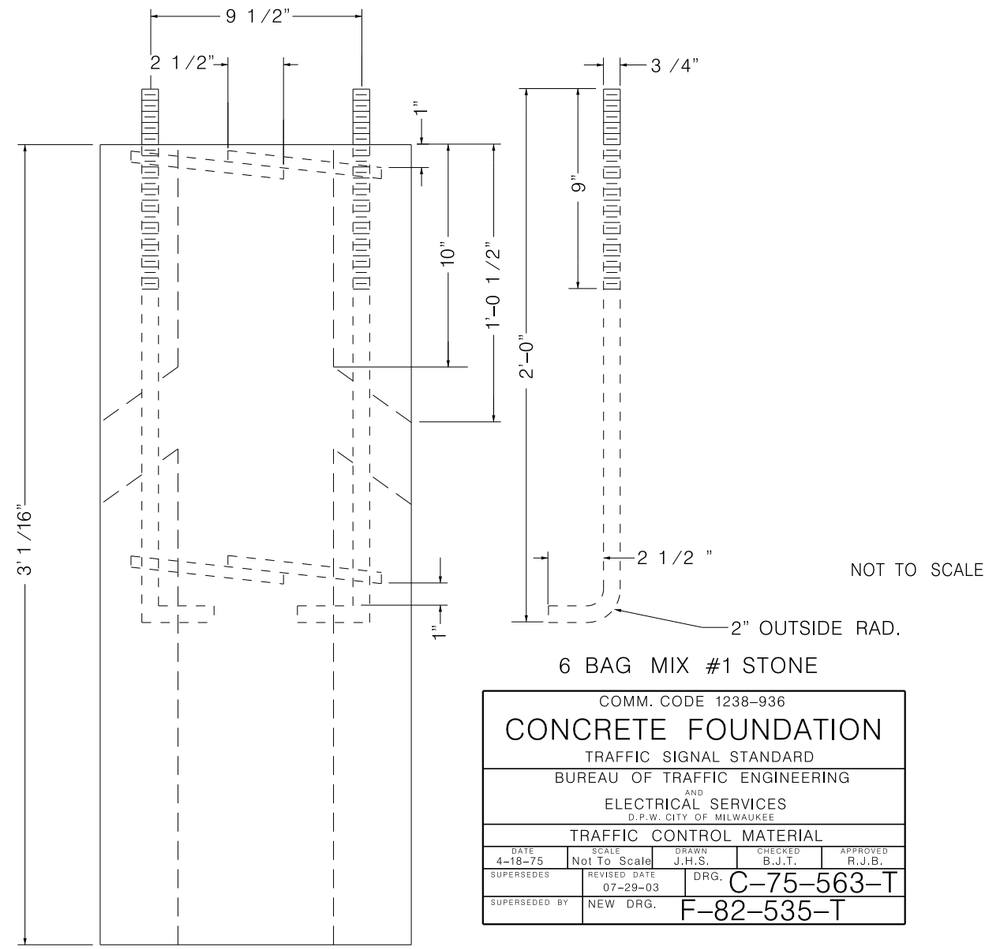
109 DETAIL

NOT TO SCALE

TYPICAL CONDUIT INSTALLATION FROM VAULT TO SIGNAL STANDARD AND TYPICAL BASE INSTALLATION

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM TRAFFIC & LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286-5944 FOR THE APPROPRIATE SHOP SUPERVISOR.





NOT TO SCALE

6 BAG MIX #1 STONE

COMM. CODE 1238-936				
CONCRETE FOUNDATION				
TRAFFIC SIGNAL STANDARD				
BUREAU OF TRAFFIC ENGINEERING AND ELECTRICAL SERVICES D.P.W. CITY OF MILWAUKEE				
TRAFFIC CONTROL MATERIAL				
DATE 4-18-75	SCALE Not To Scale	DRAWN J.H.S.	CHECKED B.J.T.	APPROVED R.J.B.
SUPERSEDES	REVISED DATE 07-29-03	DRG. C-75-563-T		
SUPERSEDED BY	NEW DRG. F-82-535-T			

SHEET 3 OF 3

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 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 4 INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL END INSTALLED. ALL CONDUIT SHALL BE SLOPED TO PULL BOX.

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. CONDUIT IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

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

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).

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

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

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

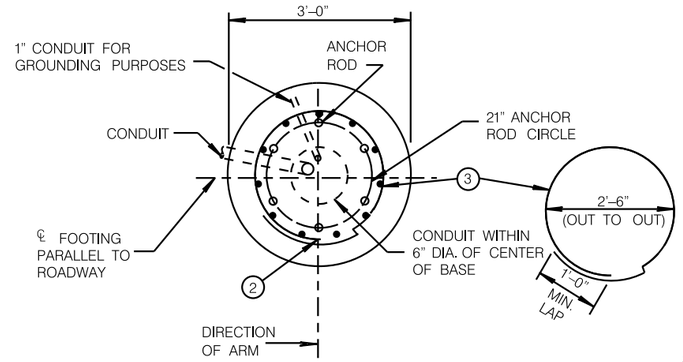
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

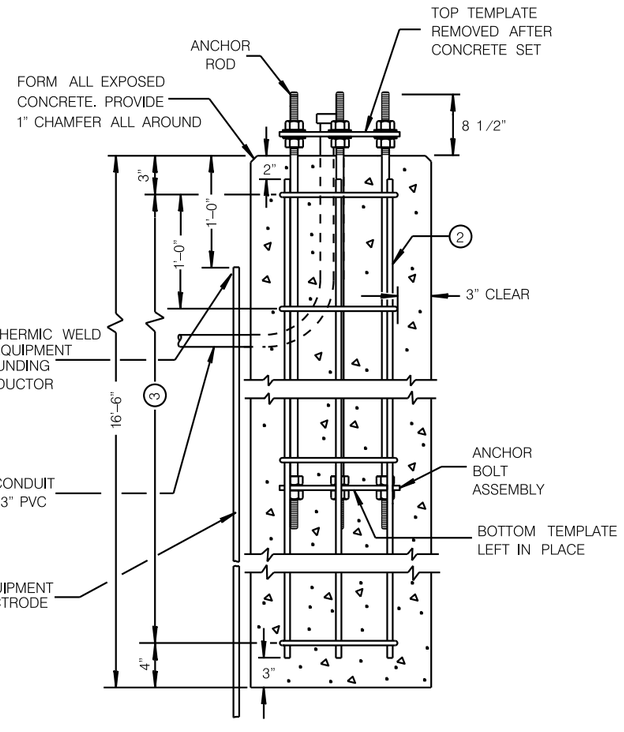
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES, (GREATER THAN 36 INCHES IF INSTALLED IN BREAKER–RUN), EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (11) NO. 8 X 16'–1" BAR STEEL REINFORCEMENT.

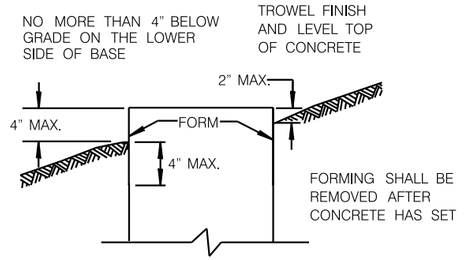
(3) (17) NO. 4 X 9'–0" BAR STEEL REINFORCEMENT @ 1'–0" C–C.

CONCRETE MASONRY	fc = 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy = 55,000 p.s.i.
TEMPLATES, ASTM, A709 GRADE 36	fy = 36,000 p.s.i.

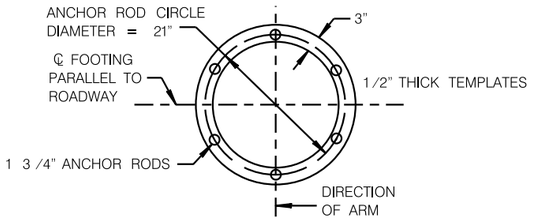




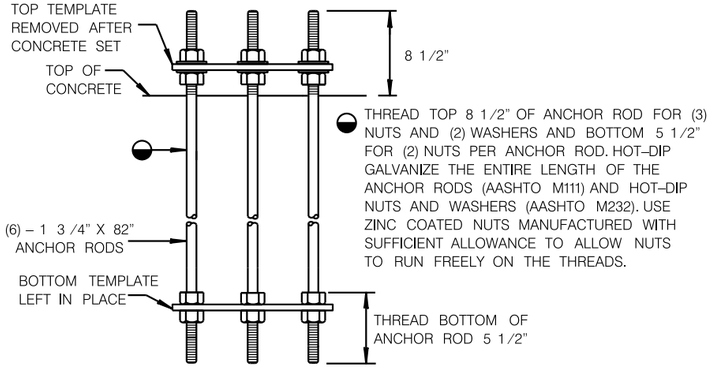
CONCRETE BASE TYPE 10 SPECIAL



FORMING DETAIL



TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 10 SPECIAL

ANCHOR ASSEMBLY

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	4.32
LBS. OF HOOP BAR STEEL	103
LBS. OF VERTICAL BAR STEEL	473

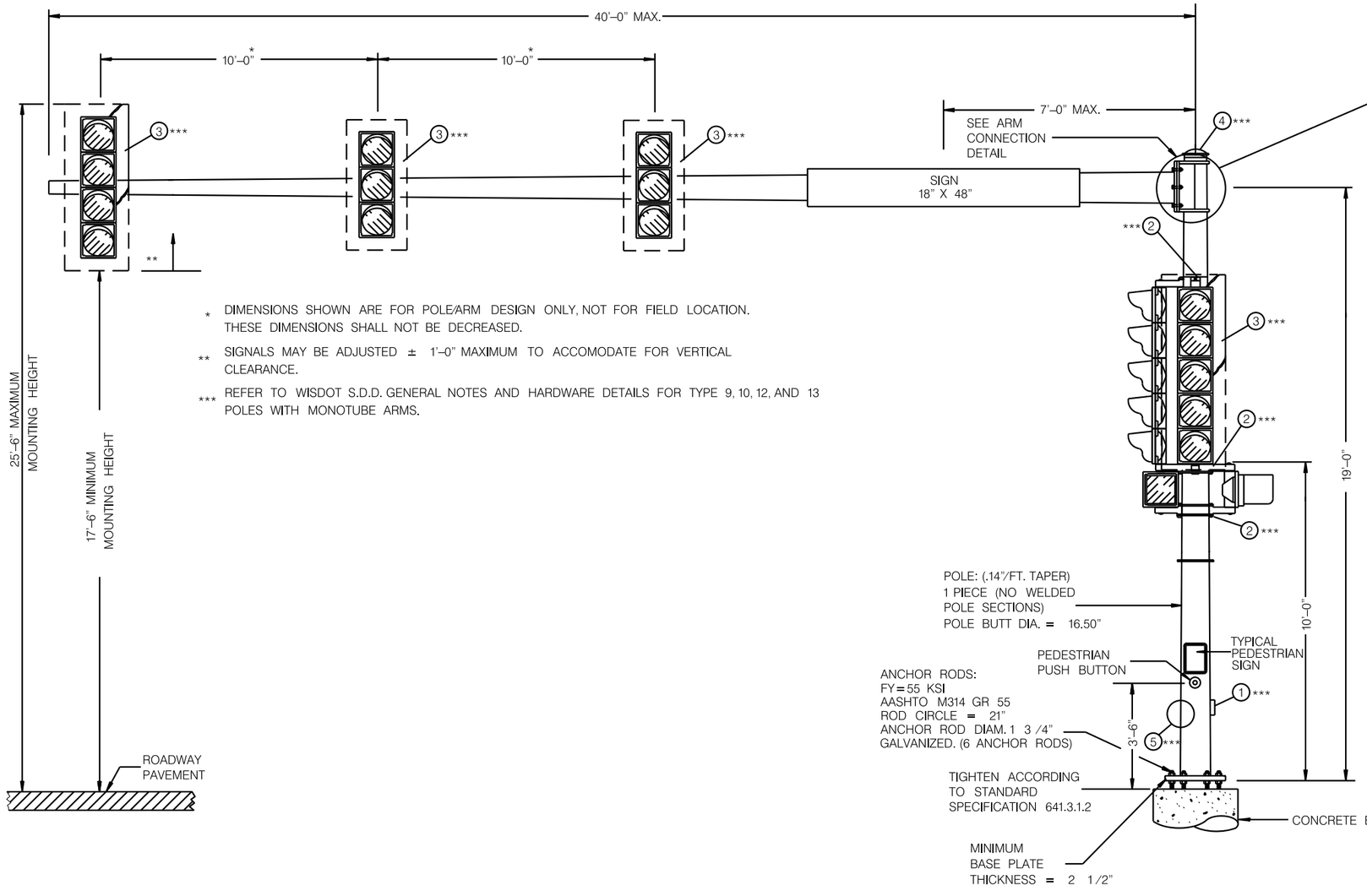
CONCRETE BASE TYPE 10 SPECIAL

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORKS

REVISED: DECEMBER 2014 (DATE) 2013 AASHTO (REVISION)

PROJECT NO: 1350–09–70	HWY: USH 41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL BASE DETAIL	SHEET 126	E

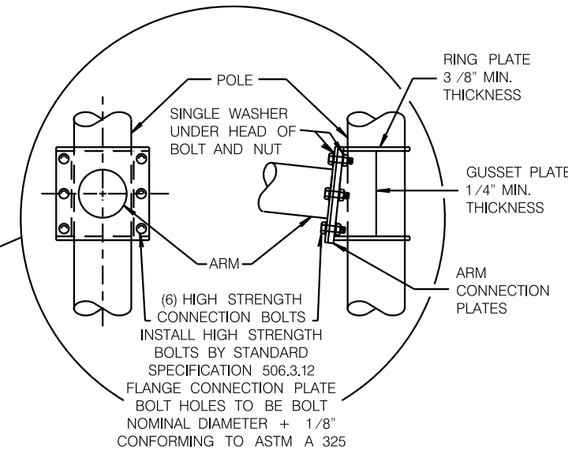
2



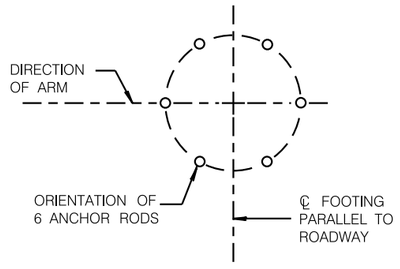
* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'–0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.

*** REFER TO WISDOT S.D.D. GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12, AND 13 POLES WITH MONOTUBE ARMS.



6 BOLT ARM CONNECTION DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 12 POLE SPECIAL
35'– 40' MONOTUBE ARM

SHEET: 1 OF 2

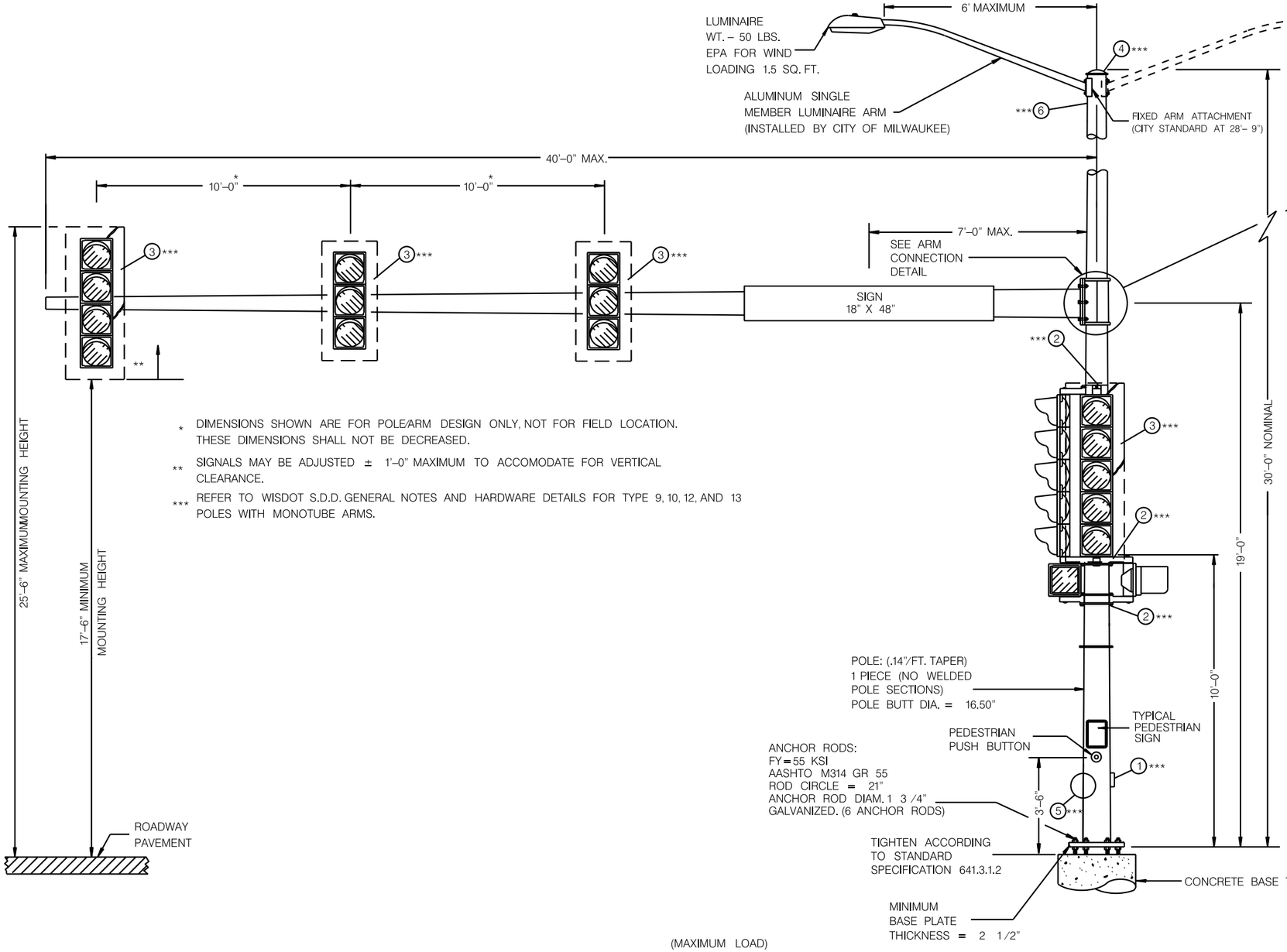
TYPE 12 POLE SPECIAL
35'– 40' MONOTUBE ARM

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORKS

REVISED: DECEMBER 2014 (DATE) 2013 AASHTO (REVISION)

PROJECT NO: 1350–09–70	HWY: USH 41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL POLE AND MONOTUBE ARM DETAILS	SHEET 127	E

2



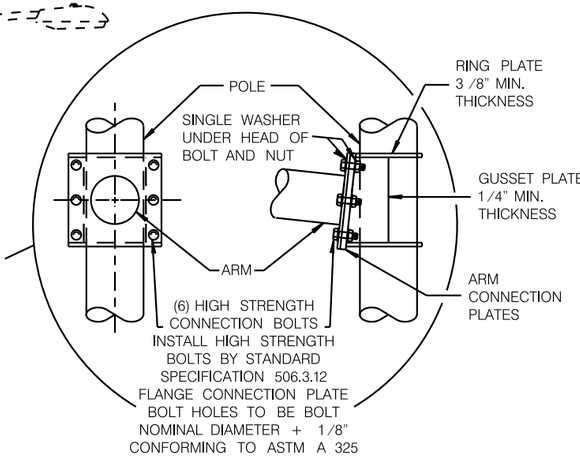
* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'–0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.

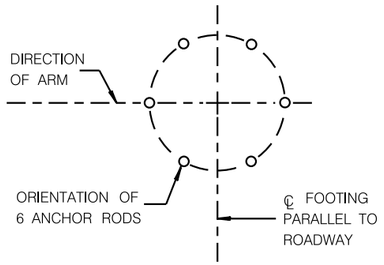
*** REFER TO WISDOT S.D.D. GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12, AND 13 POLES WITH MONOTUBE ARMS.

(MAXIMUM LOAD)

TYPE 13 POLE SPECIAL
35'– 40' MONOTUBE ARM



6 BOLT ARM CONNECTION DETAIL



ANCHOR ROD LOCATION

TYPE 13 POLE SPECIAL
35'– 40' MONOTUBE ARM

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORKS

REVISED: DECEMBER 2014 (DATE) 2013 AASHTO (REVISION)

SHEET: 2 OF 2

PROJECT NO: 1350–09–70	HWY: USH 41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL POLE AND MONOTUBE ARM DETAILS	SHEET 128	E

2

2

(A) PAVEMENT MARKING EPOXY, 4-INCH (WHITE)

(B) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 12½' SEG., 37½' GAP)

(C) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(D) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(E) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE)

(F) PAVEMENT MARKING DIAGONAL EPOXY, 24-INCH (WHITE)

(G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE, 18-INCH (WHITE)

(H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE, 18-INCH (WHITE)

(I) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (WHITE)

(J) PAVEMENT MARKING EPOXY, 4-INCH (YELLOW)

PAVEMENT MARKING GROOVED ARROWS PREFORMED THERMOPLASTIC:

(K) TYPE 1 (M) TYPE 3

(L) TYPE 2 (O) TYPE 4

(N) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH

(P) PAVEMENT MARKING EPOXY, 8-INCH (WHITE)

(S) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (YELLOW)

(T) PAVEMENT MARKING EPOXY, 4-INCH (WHITE, SKIP, 10' SEG., 30' GAP)

(U) PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE, 4-INCH (YELLOW, SKIP, 2' SEG., 6' GAP)

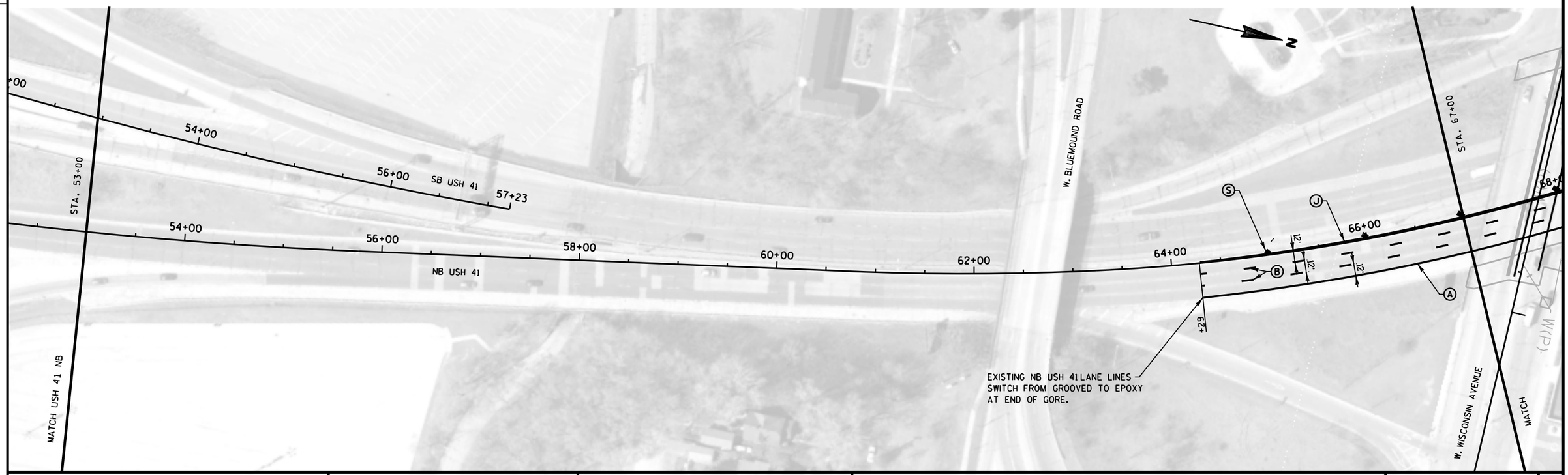
(V) PAVEMENT MARKING EPOXY, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(W) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (ONLY)

(X) PAVEMENT MARKING CROSSWALK EPOXY, 12-INCH

(Y) PAVEMENT MARKING ISLAND NOSE EPOXY

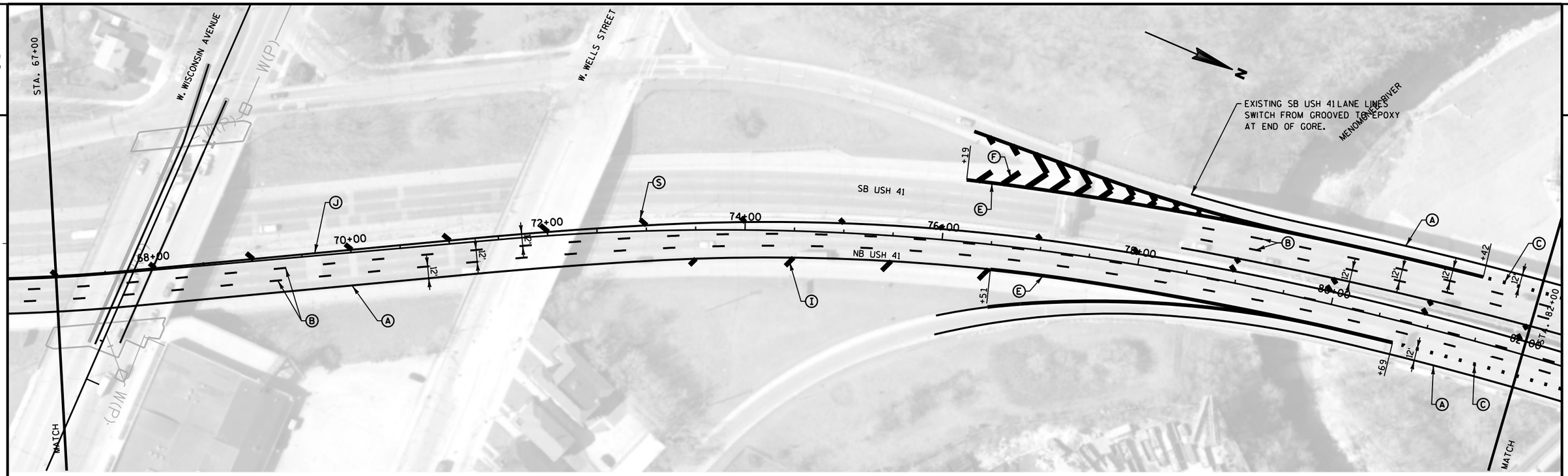
(Z) PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY

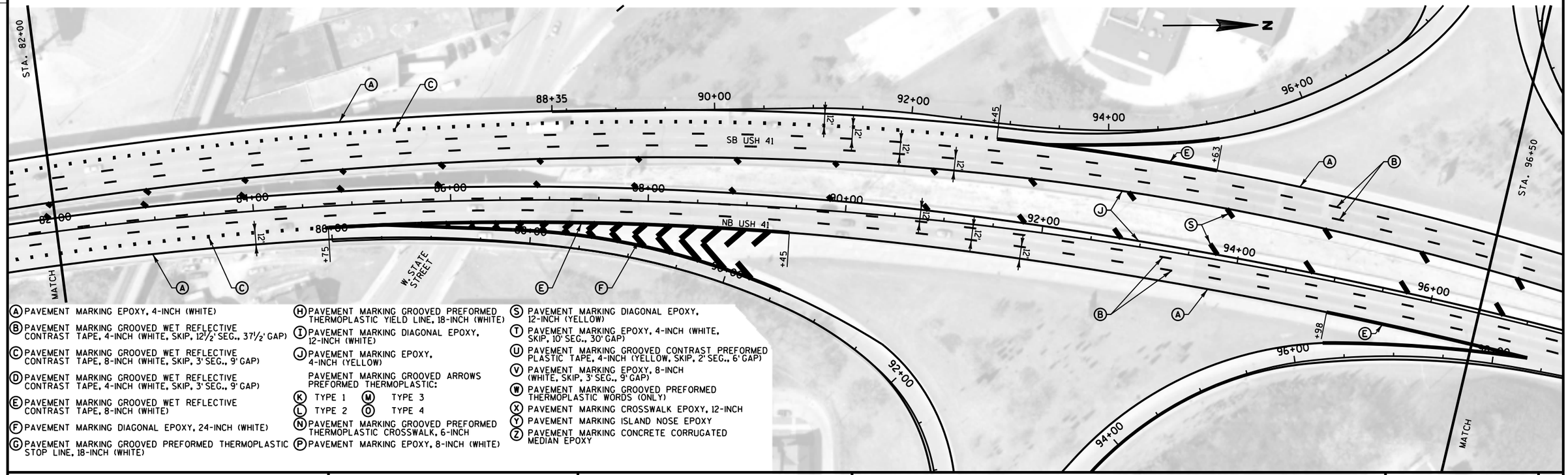


PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_024501_pm.dgn PLOT DATE : 6/23/2015 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42





(A) PAVEMENT MARKING EPOXY, 4-INCH (WHITE)

(B) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 12½' SEG., 37½' GAP)

(C) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(D) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(E) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE)

(F) PAVEMENT MARKING DIAGONAL EPOXY, 24-INCH (WHITE)

(G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE, 18-INCH (WHITE)

(H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE, 18-INCH (WHITE)

(I) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (WHITE)

(J) PAVEMENT MARKING EPOXY, 4-INCH (YELLOW)

PAVEMENT MARKING GROOVED ARROWS PREFORMED THERMOPLASTIC:

(K) TYPE 1 (M) TYPE 3

(L) TYPE 2 (O) TYPE 4

(N) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH

(P) PAVEMENT MARKING EPOXY, 8-INCH (WHITE)

(S) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (YELLOW)

(T) PAVEMENT MARKING EPOXY, 4-INCH (WHITE, SKIP, 10' SEG., 30' GAP)

(U) PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE, 4-INCH (YELLOW, SKIP, 2' SEG., 6' GAP)

(V) PAVEMENT MARKING EPOXY, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

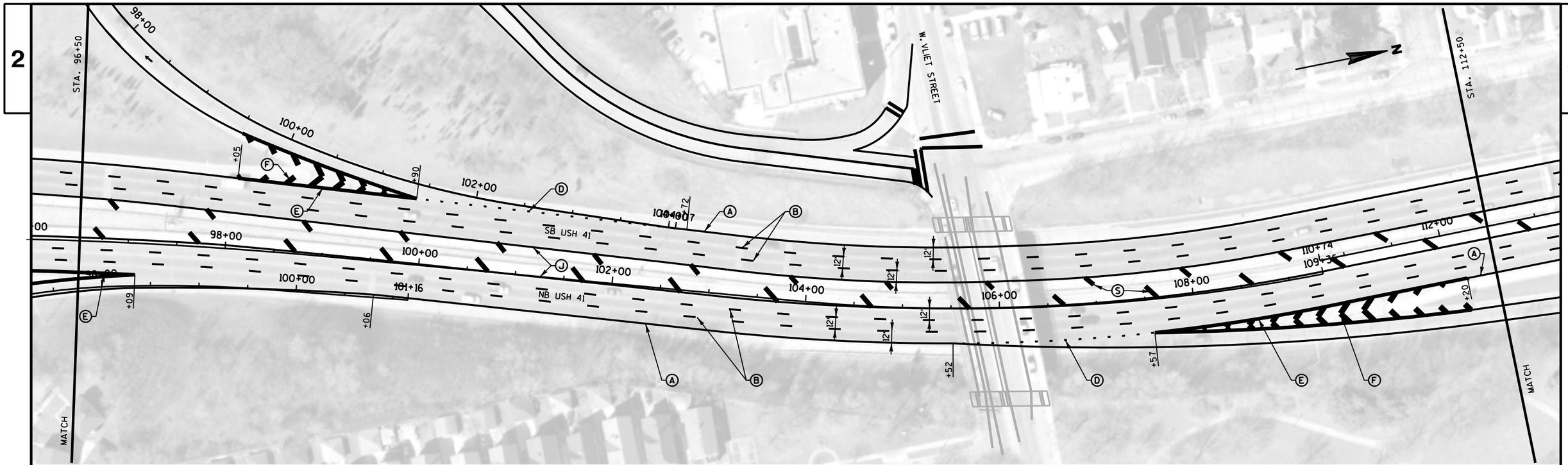
(W) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (ONLY)

(X) PAVEMENT MARKING CROSSWALK EPOXY, 12-INCH

(Y) PAVEMENT MARKING ISLAND NOSE EPOXY

(Z) PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 130	E

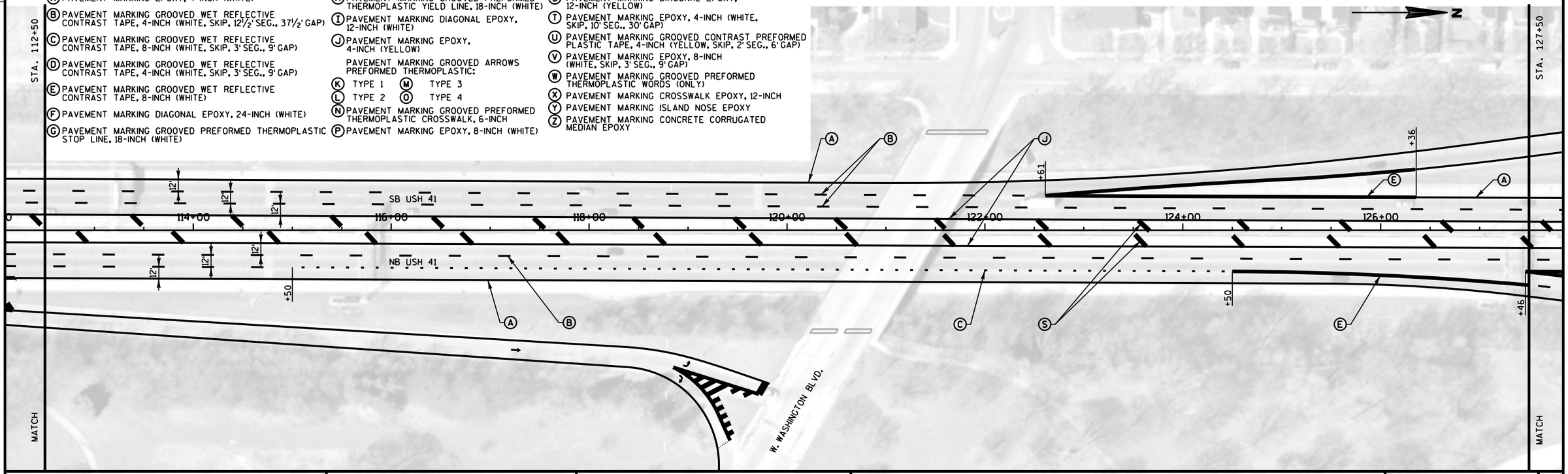


- (A) PAVEMENT MARKING EPOXY, 4-INCH (WHITE)
- (B) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 12½' SEG., 37½' GAP)
- (C) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)
- (D) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 3' SEG., 9' GAP)
- (E) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE)
- (F) PAVEMENT MARKING DIAGONAL EPOXY, 24-INCH (WHITE)
- (G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE, 18-INCH (WHITE)
- (H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE, 18-INCH (WHITE)
- (I) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (WHITE)
- (J) PAVEMENT MARKING EPOXY, 4-INCH (YELLOW)

PAVEMENT MARKING GROOVED ARROWS PREFORMED THERMOPLASTIC:

- (K) TYPE 1
- (L) TYPE 2
- (M) TYPE 3
- (O) TYPE 4

- (N) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH
- (P) PAVEMENT MARKING EPOXY, 8-INCH (WHITE)
- (S) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (YELLOW)
- (T) PAVEMENT MARKING EPOXY, 4-INCH (WHITE, SKIP, 10' SEG., 30' GAP)
- (U) PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE, 4-INCH (YELLOW, SKIP, 2' SEG., 6' GAP)
- (V) PAVEMENT MARKING EPOXY, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)
- (W) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (ONLY)
- (X) PAVEMENT MARKING CROSSWALK EPOXY, 12-INCH
- (Y) PAVEMENT MARKING ISLAND NOSE EPOXY
- (Z) PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_024503_pm.dgn PLOT DATE : 6/23/2015 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

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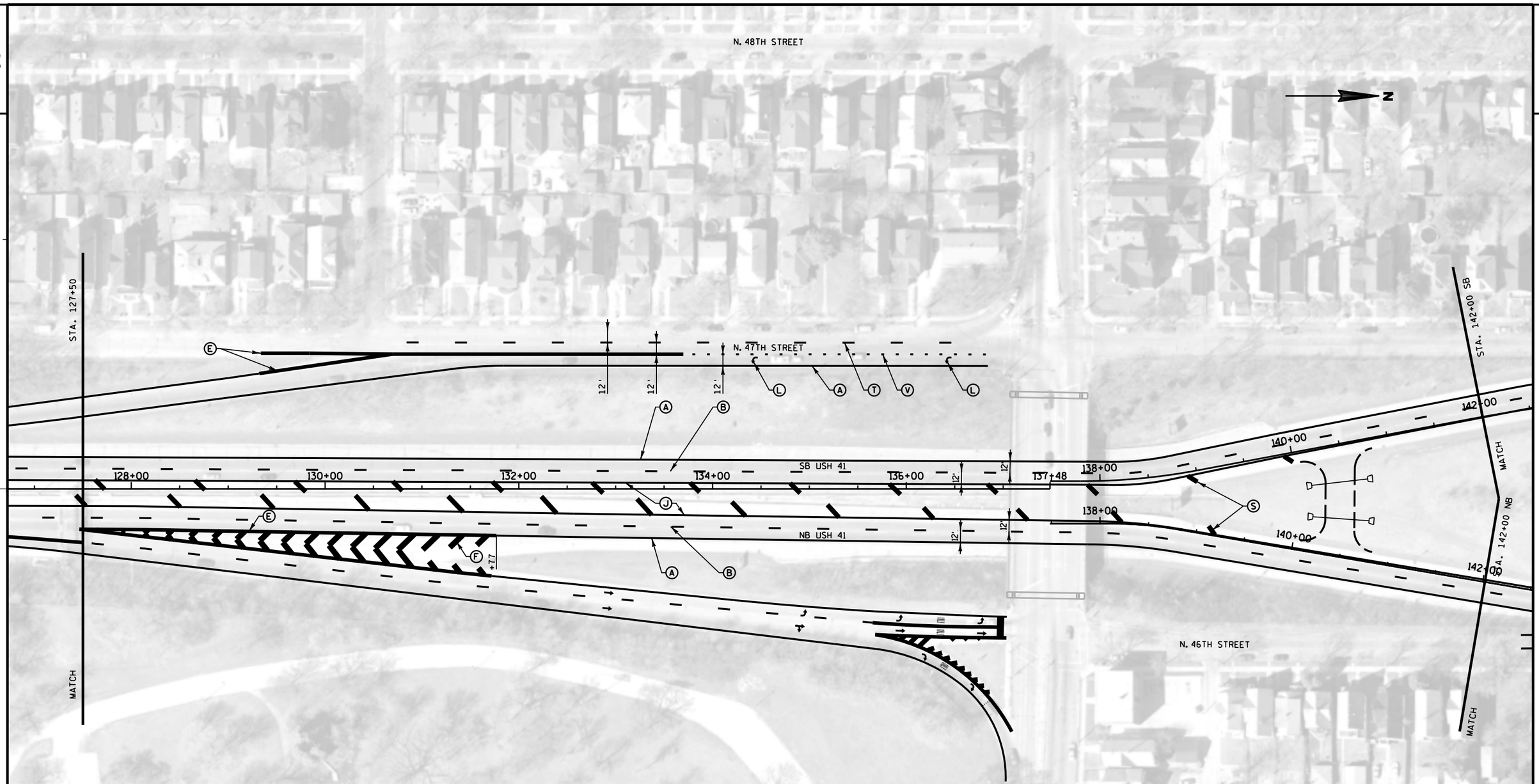

(A) PAVEMENT MARKING EPOXY, 4-INCH (WHITE)

(B) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 12½' SEG., 37½' GAP)

(C) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(D) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(E) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE)

(F) PAVEMENT MARKING DIAGONAL EPOXY, 24-INCH (WHITE)

(G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE, 18-INCH (WHITE)

(H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE, 18-INCH (WHITE)

(I) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (WHITE)

(J) PAVEMENT MARKING EPOXY, 4-INCH (YELLOW)

PAVEMENT MARKING GROOVED ARROWS PREFORMED THERMOPLASTIC:

(K) TYPE 1 (M) TYPE 3

(L) TYPE 2 (O) TYPE 4

(N) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH

(P) PAVEMENT MARKING EPOXY, 8-INCH (WHITE)

(S) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (YELLOW)

(T) PAVEMENT MARKING EPOXY, 4-INCH (WHITE, SKIP, 10' SEG., 30' GAP)

(U) PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE, 4-INCH (YELLOW, SKIP, 2' SEG., 6' GAP)

(V) PAVEMENT MARKING EPOXY, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(W) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (ONLY)

(X) PAVEMENT MARKING CROSSWALK EPOXY, 12-INCH

(Y) PAVEMENT MARKING ISLAND NOSE EPOXY

(Z) PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_024504_pm.dgn PLOT DATE : 6/23/2015 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

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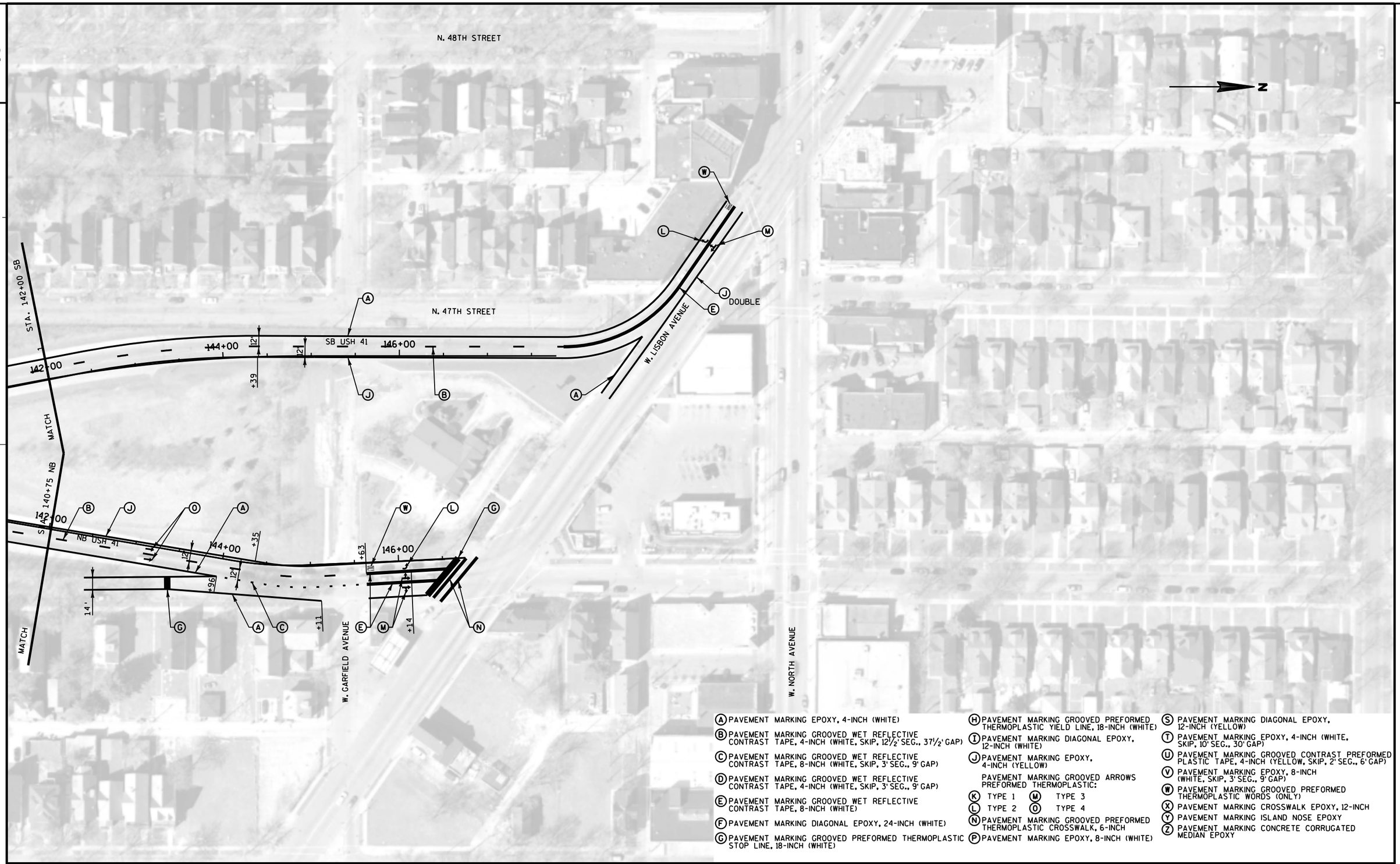


(A) PAVEMENT MARKING EPOXY, 4-INCH (WHITE)

(B) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 12½' SEG., 37½' GAP)

(C) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(D) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(E) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE)

(F) PAVEMENT MARKING DIAGONAL EPOXY, 24-INCH (WHITE)

(G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE, 18-INCH (WHITE)

(H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE, 18-INCH (WHITE)

(I) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (WHITE)

(J) PAVEMENT MARKING EPOXY, 4-INCH (YELLOW)

PAVEMENT MARKING GROOVED ARROWS PREFORMED THERMOPLASTIC:

(K) TYPE 1 (M) TYPE 3

(L) TYPE 2 (O) TYPE 4

(N) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH

(P) PAVEMENT MARKING EPOXY, 8-INCH (WHITE)

(S) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (YELLOW)

(T) PAVEMENT MARKING EPOXY, 4-INCH (WHITE, SKIP, 10' SEG., 30' GAP)

(U) PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE, 4-INCH (YELLOW, SKIP, 2' SEG., 6' GAP)

(V) PAVEMENT MARKING EPOXY, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(W) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (ONLY)

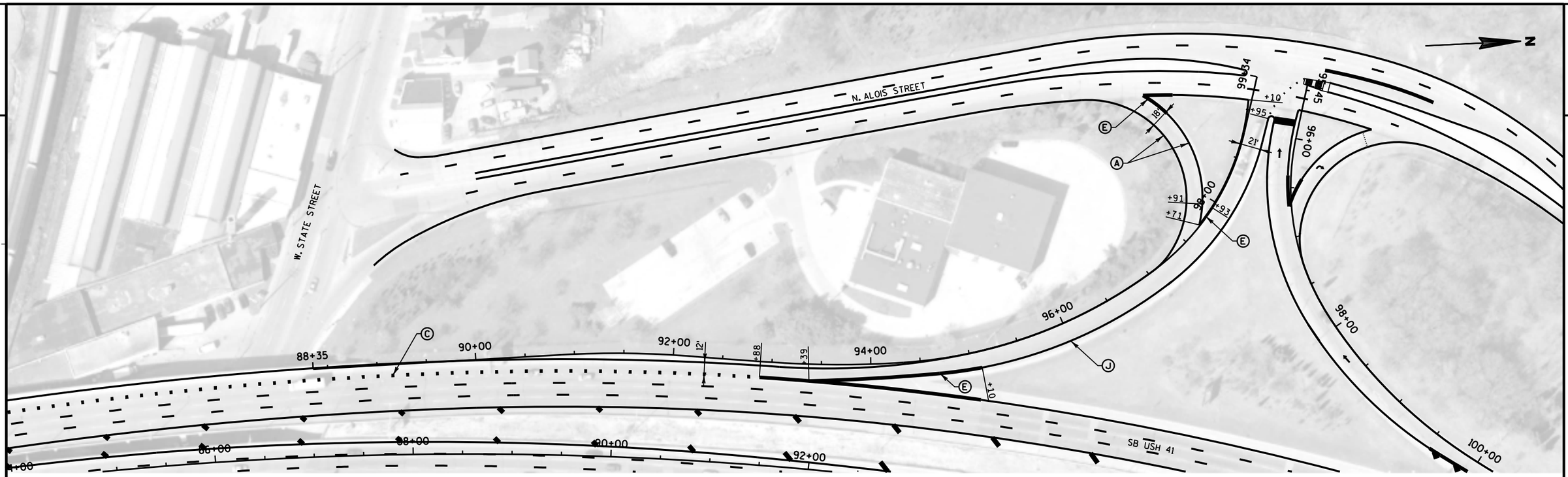
(X) PAVEMENT MARKING CROSSWALK EPOXY, 12-INCH

(Y) PAVEMENT MARKING ISLAND NOSE EPOXY

(Z) PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 133	E

2



(A) PAVEMENT MARKING EPOXY, 4-INCH (WHITE)

(B) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 12½' SEG., 37½' GAP)

(C) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(D) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(E) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE)

(F) PAVEMENT MARKING DIAGONAL EPOXY, 24-INCH (WHITE)

(G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE, 18-INCH (WHITE)

(H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE, 18-INCH (WHITE)

(I) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (WHITE)

(J) PAVEMENT MARKING EPOXY, 4-INCH (YELLOW)

PAVEMENT MARKING GROOVED ARROWS PREFORMED THERMOPLASTIC:

(K) TYPE 1 (M) TYPE 3

(L) TYPE 2 (O) TYPE 4

(N) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH

(P) PAVEMENT MARKING EPOXY, 8-INCH (WHITE)

(S) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (YELLOW)

(T) PAVEMENT MARKING EPOXY, 4-INCH (WHITE, SKIP, 10' SEG., 30' GAP)

(U) PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE, 4-INCH (YELLOW, SKIP, 2' SEG., 6' GAP)

(V) PAVEMENT MARKING EPOXY, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

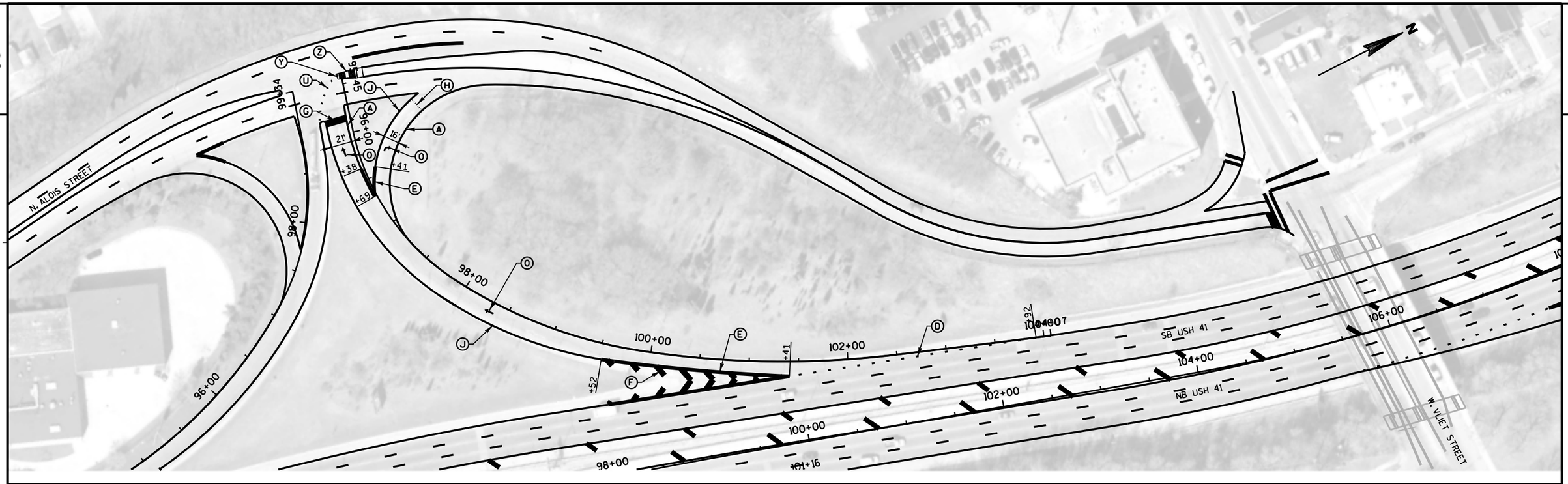
(W) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (ONLY)

(X) PAVEMENT MARKING CROSSWALK EPOXY, 12-INCH

(Y) PAVEMENT MARKING ISLAND NOSE EPOXY

(Z) PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 134	E



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- (A) PAVEMENT MARKING EPOXY, 4-INCH (WHITE)
- (B) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 12½' SEG., 37½' GAP)
- (C) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)
- (D) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 3' SEG., 9' GAP)
- (E) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE)
- (F) PAVEMENT MARKING DIAGONAL EPOXY, 24-INCH (WHITE)
- (G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE, 18-INCH (WHITE)
- (H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE, 18-INCH (WHITE)
- (I) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (WHITE)
- (J) PAVEMENT MARKING EPOXY, 4-INCH (YELLOW)

PAVEMENT MARKING GROOVED ARROWS PREFORMED THERMOPLASTIC:

- (K) TYPE 1
- (L) TYPE 2
- (M) TYPE 3
- (O) TYPE 4

- (N) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH
- (P) PAVEMENT MARKING EPOXY, 8-INCH (WHITE)
- (S) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (YELLOW)
- (T) PAVEMENT MARKING EPOXY, 4-INCH (WHITE, SKIP, 10' SEG., 30' GAP)
- (U) PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE, 4-INCH (YELLOW, SKIP, 2' SEG., 6' GAP)
- (V) PAVEMENT MARKING EPOXY, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)
- (W) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (ONLY)
- (X) PAVEMENT MARKING CROSSWALK EPOXY, 12-INCH
- (Y) PAVEMENT MARKING ISLAND NOSE EPOXY
- (Z) PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 135	E

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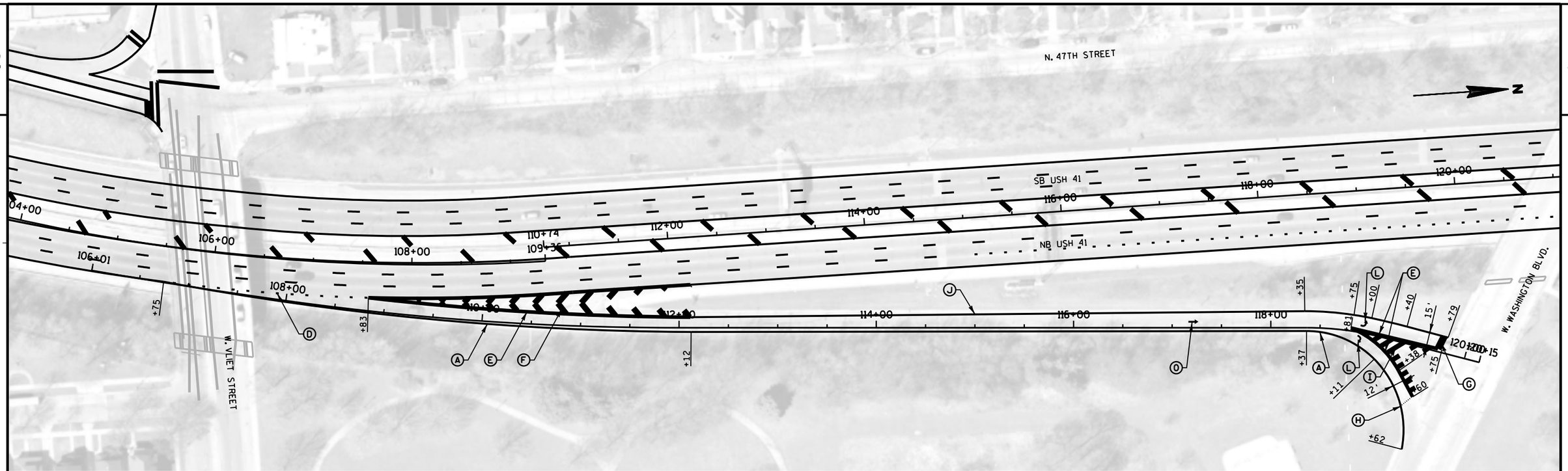
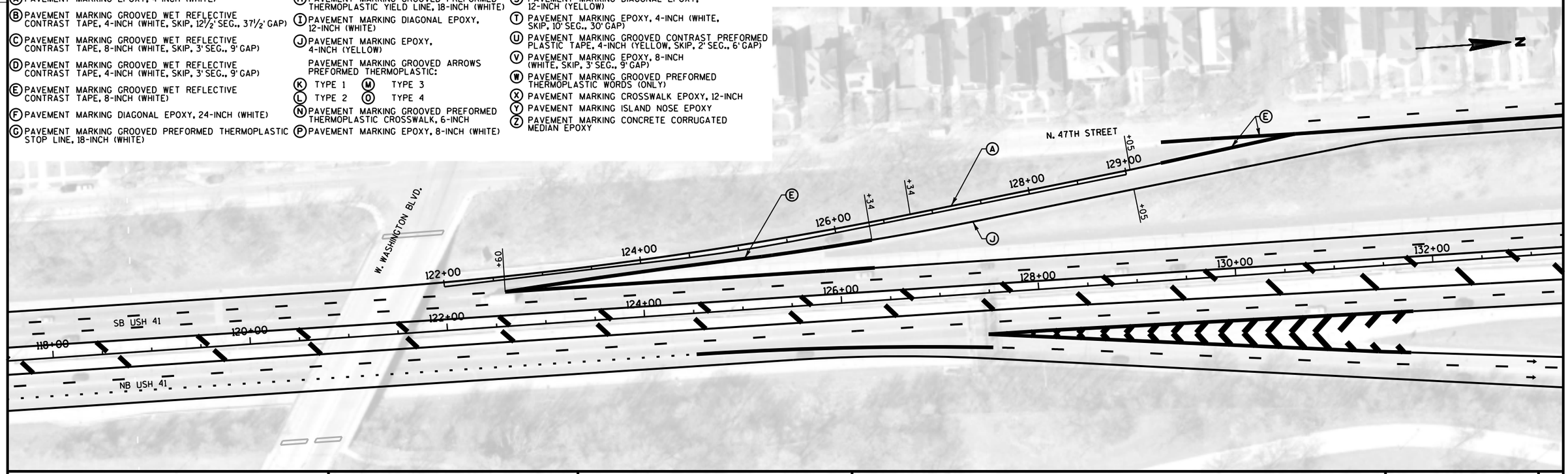


- (A) PAVEMENT MARKING EPOXY, 4-INCH (WHITE)
- (B) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 12½' SEG., 37½' GAP)
- (C) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)
- (D) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 3' SEG., 9' GAP)
- (E) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE)
- (F) PAVEMENT MARKING DIAGONAL EPOXY, 24-INCH (WHITE)
- (G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE, 18-INCH (WHITE)
- (H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE, 18-INCH (WHITE)
- (I) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (WHITE)
- (J) PAVEMENT MARKING EPOXY, 4-INCH (YELLOW)

PAVEMENT MARKING GROOVED ARROWS PREFORMED THERMOPLASTIC:

- (K) TYPE 1
- (L) TYPE 2
- (M) TYPE 3
- (O) TYPE 4

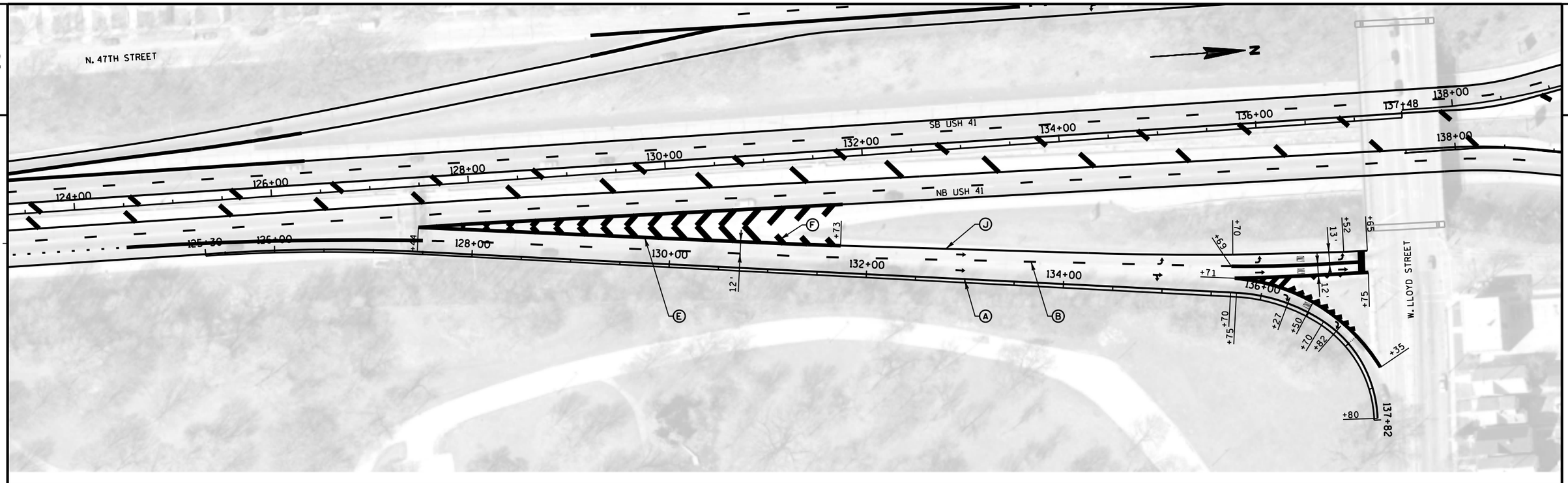
- (N) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH
- (P) PAVEMENT MARKING EPOXY, 8-INCH (WHITE)
- (S) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (YELLOW)
- (T) PAVEMENT MARKING EPOXY, 4-INCH (WHITE, SKIP, 10' SEG., 30' GAP)
- (U) PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE, 4-INCH (YELLOW, SKIP, 2' SEG., 6' GAP)
- (V) PAVEMENT MARKING EPOXY, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)
- (W) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (ONLY)
- (X) PAVEMENT MARKING CROSSWALK EPOXY, 12-INCH
- (Y) PAVEMENT MARKING ISLAND NOSE EPOXY
- (Z) PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_024516_pm.dgn PLOT DATE : 6/23/2015 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42



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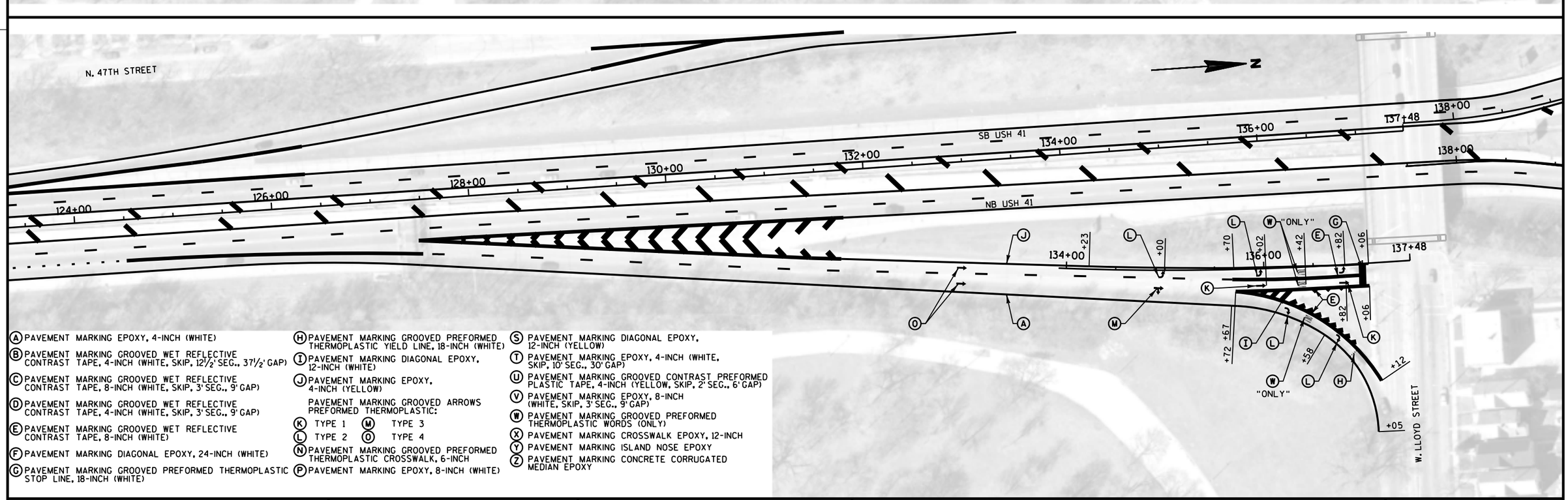


(A) PAVEMENT MARKING EPOXY, 4-INCH (WHITE)

(B) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 12½' SEG., 37½' GAP)

(C) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(D) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(E) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE)

(F) PAVEMENT MARKING DIAGONAL EPOXY, 24-INCH (WHITE)

(G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE, 18-INCH (WHITE)

(H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE, 18-INCH (WHITE)

(I) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (WHITE)

(J) PAVEMENT MARKING EPOXY, 4-INCH (YELLOW)

PAVEMENT MARKING GROOVED ARROWS PREFORMED THERMOPLASTIC:

(K) TYPE 1 (M) TYPE 3

(L) TYPE 2 (O) TYPE 4

(N) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH

(P) PAVEMENT MARKING EPOXY, 8-INCH (WHITE)

(S) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (YELLOW)

(T) PAVEMENT MARKING EPOXY, 4-INCH (WHITE, SKIP, 10' SEG., 30' GAP)

(U) PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE, 4-INCH (YELLOW, SKIP, 2' SEG., 6' GAP)

(V) PAVEMENT MARKING EPOXY, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(W) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (ONLY)

(X) PAVEMENT MARKING CROSSWALK EPOXY, 12-INCH

(Y) PAVEMENT MARKING ISLAND NOSE EPOXY

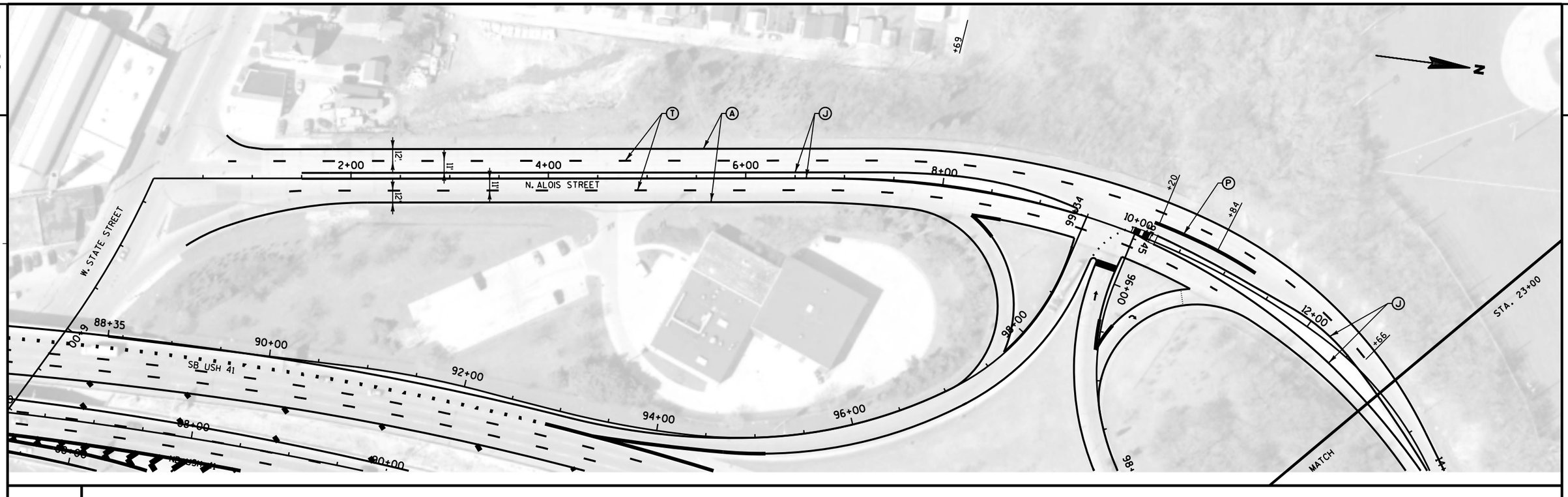
(Z) PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY

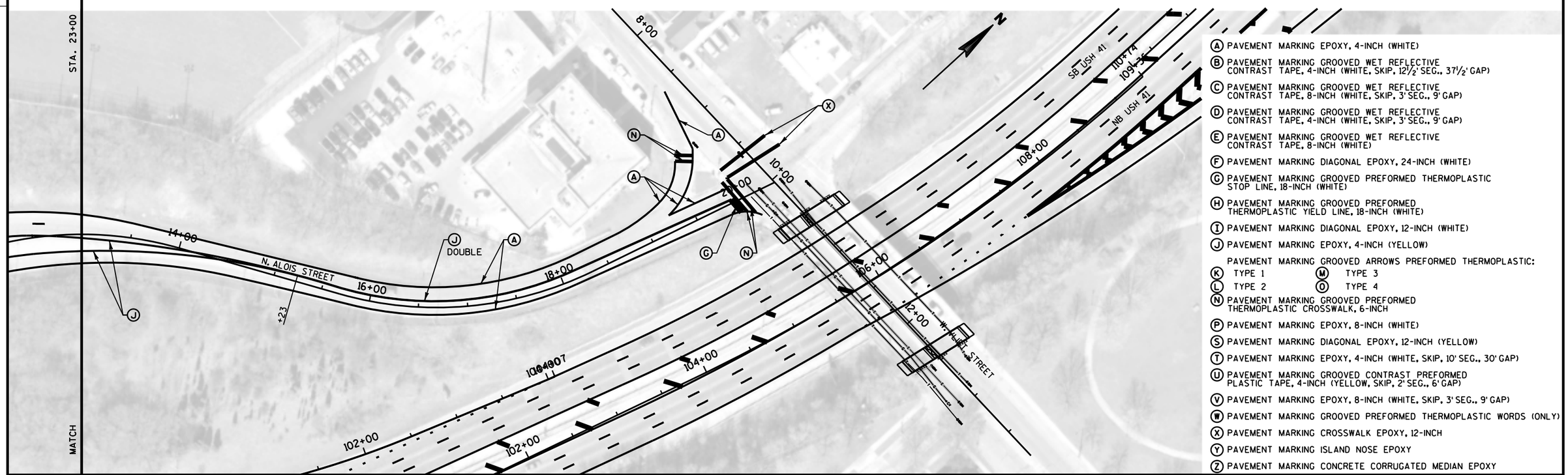
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_024517_pm.dgn PLOT DATE : 6/23/2015 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

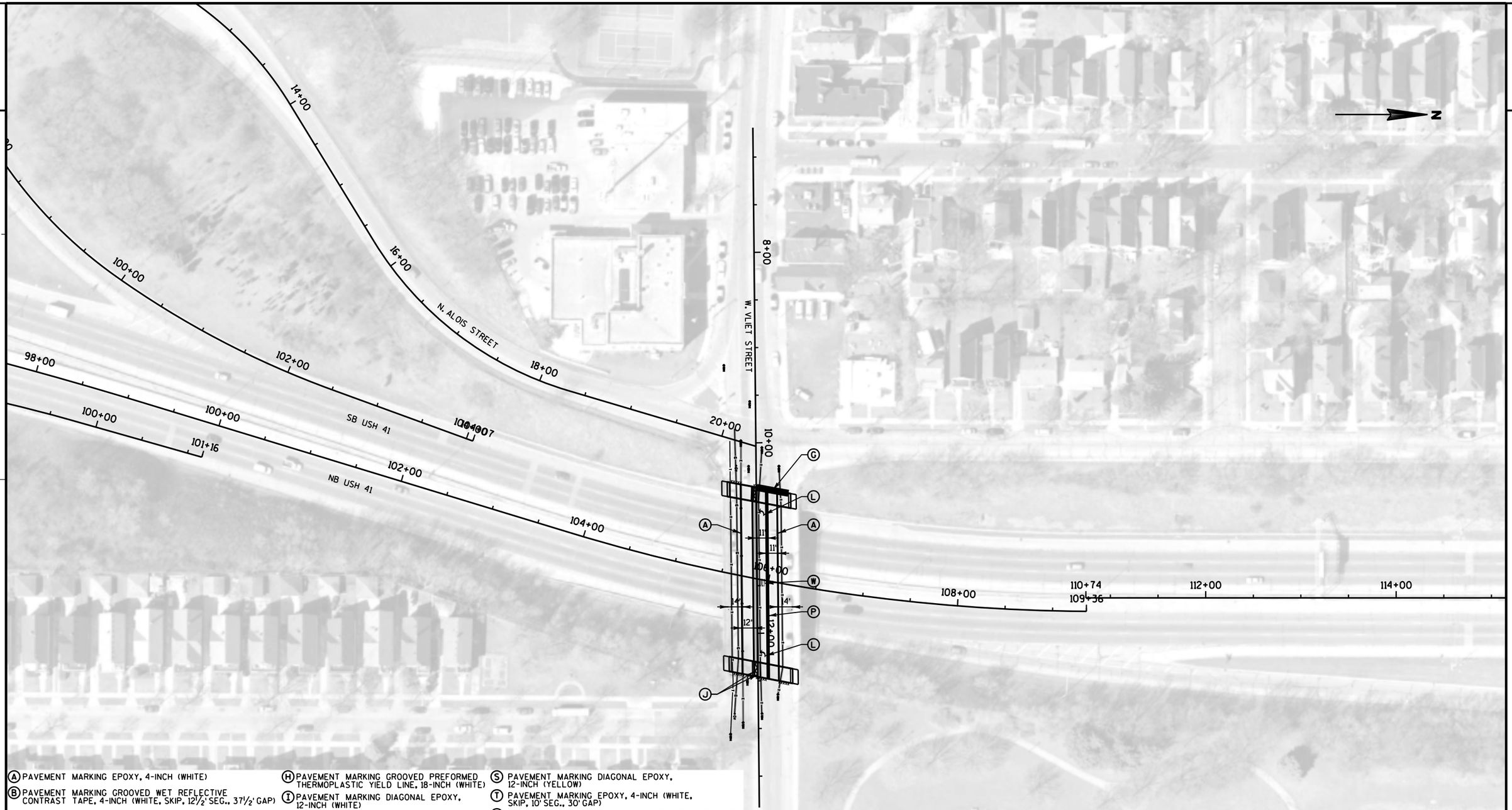




- (A) PAVEMENT MARKING EPOXY, 4-INCH (WHITE)
- (B) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 12½' SEG., 37½' GAP)
- (C) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)
- (D) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 3' SEG., 9' GAP)
- (E) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE)
- (F) PAVEMENT MARKING DIAGONAL EPOXY, 24-INCH (WHITE)
- (G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE, 18-INCH (WHITE)
- (H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE, 18-INCH (WHITE)
- (I) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (WHITE)
- (J) PAVEMENT MARKING EPOXY, 4-INCH (YELLOW)
- PAVEMENT MARKING GROOVED ARROWS PREFORMED THERMOPLASTIC:
  - (K) TYPE 1
  - (L) TYPE 2
  - (M) TYPE 3
  - (O) TYPE 4
- (N) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH
- (P) PAVEMENT MARKING EPOXY, 8-INCH (WHITE)
- (S) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (YELLOW)
- (T) PAVEMENT MARKING EPOXY, 4-INCH (WHITE, SKIP, 10' SEG., 30' GAP)
- (U) PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE, 4-INCH (YELLOW, SKIP, 2' SEG., 6' GAP)
- (V) PAVEMENT MARKING EPOXY, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)
- (W) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (ONLY)
- (X) PAVEMENT MARKING CROSSWALK EPOXY, 12-INCH
- (Y) PAVEMENT MARKING ISLAND NOSE EPOXY
- (Z) PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 138	E

2



(A) PAVEMENT MARKING EPOXY, 4-INCH (WHITE)

(B) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 12½' SEG., 37½' GAP)

(C) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(D) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(E) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE)

(F) PAVEMENT MARKING DIAGONAL EPOXY, 24-INCH (WHITE)

(G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE, 18-INCH (WHITE)

(H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE, 18-INCH (WHITE)

(I) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (WHITE)

(J) PAVEMENT MARKING EPOXY, 4-INCH (YELLOW)

PAVEMENT MARKING GROOVED ARROWS PREFORMED THERMOPLASTIC:

(K) TYPE 1 (M) TYPE 3

(L) TYPE 2 (O) TYPE 4

(N) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH

(P) PAVEMENT MARKING EPOXY, 8-INCH (WHITE)

(S) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (YELLOW)

(T) PAVEMENT MARKING EPOXY, 4-INCH (WHITE, SKIP, 10' SEG., 30' GAP)

(U) PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE, 4-INCH (YELLOW, SKIP, 2' SEG., 6' GAP)

(V) PAVEMENT MARKING EPOXY, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(W) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (ONLY)

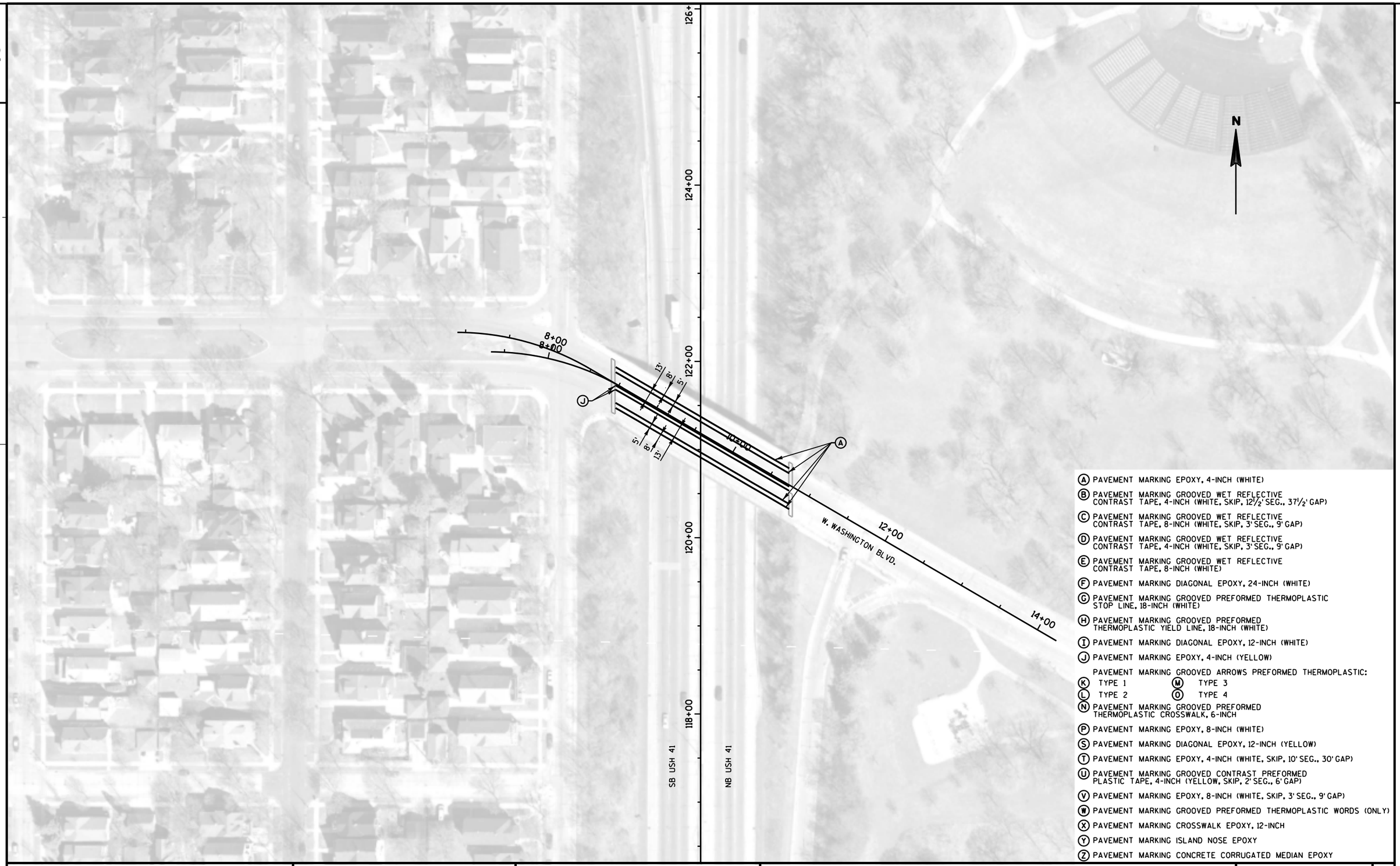
(X) PAVEMENT MARKING CROSSWALK EPOXY, 12-INCH

(Y) PAVEMENT MARKING ISLAND NOSE EPOXY

(Z) PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 139	E

2



(A) PAVEMENT MARKING EPOXY, 4-INCH (WHITE)

(B) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 12½' SEG., 37½' GAP)

(C) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(D) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(E) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE)

(F) PAVEMENT MARKING DIAGONAL EPOXY, 24-INCH (WHITE)

(G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE, 18-INCH (WHITE)

(H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE, 18-INCH (WHITE)

(I) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (WHITE)

(J) PAVEMENT MARKING EPOXY, 4-INCH (YELLOW)

PAVEMENT MARKING GROOVED ARROWS PREFORMED THERMOPLASTIC:

(K) TYPE 1 (M) TYPE 3

(L) TYPE 2 (O) TYPE 4

(N) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH

(P) PAVEMENT MARKING EPOXY, 8-INCH (WHITE)

(S) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (YELLOW)

(T) PAVEMENT MARKING EPOXY, 4-INCH (WHITE, SKIP, 10' SEG., 30' GAP)

(U) PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE, 4-INCH (YELLOW, SKIP, 2' SEG., 6' GAP)

(V) PAVEMENT MARKING EPOXY, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(W) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (ONLY)

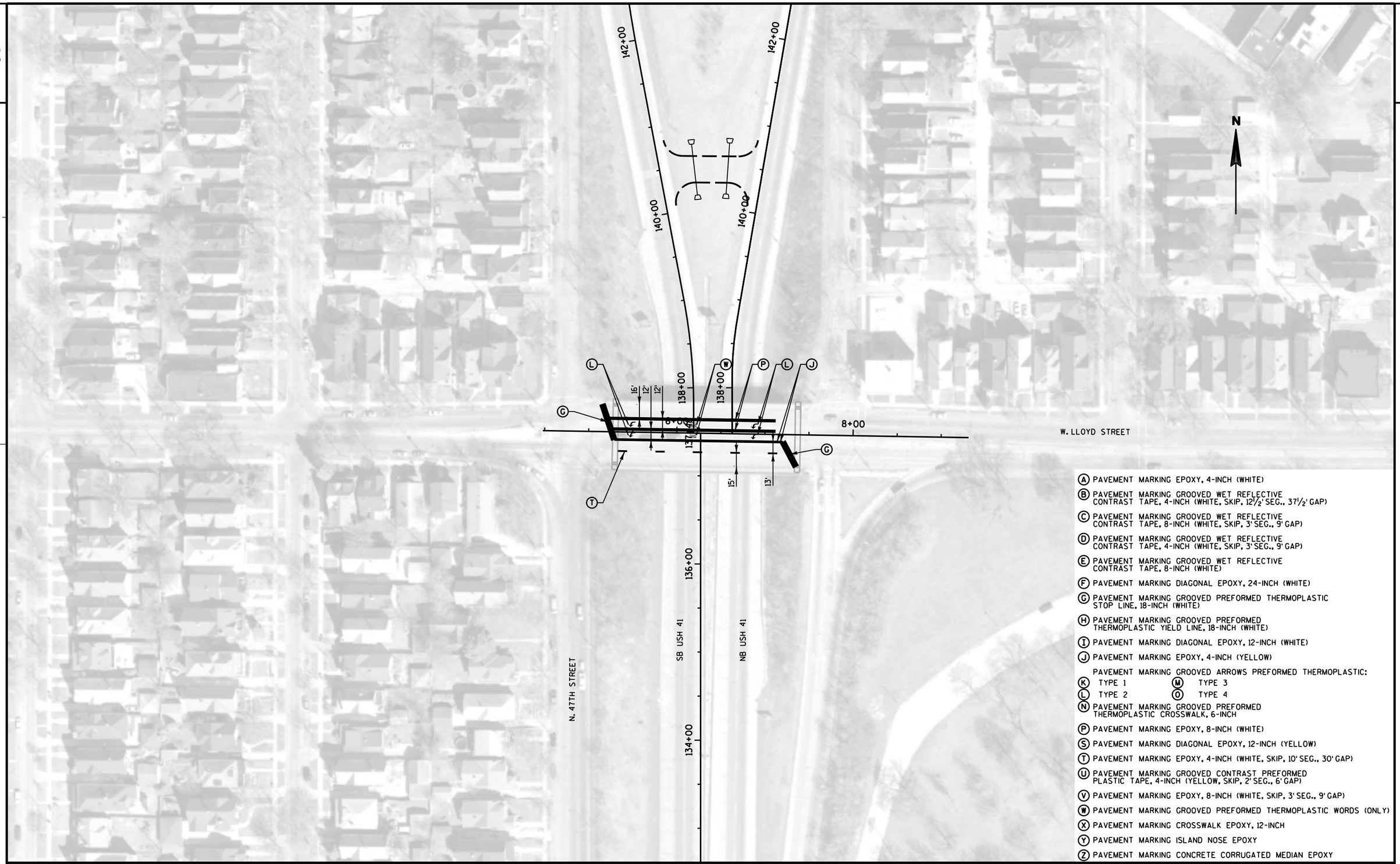
(X) PAVEMENT MARKING CROSSWALK EPOXY, 12-INCH

(Y) PAVEMENT MARKING ISLAND NOSE EPOXY

(Z) PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 140	E

2



(A) PAVEMENT MARKING EPOXY, 4-INCH (WHITE)

(B) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 12½' SEG., 37½' GAP)

(C) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(D) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(E) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 8-INCH (WHITE)

(F) PAVEMENT MARKING DIAGONAL EPOXY, 24-INCH (WHITE)

(G) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE, 18-INCH (WHITE)

(H) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC YIELD LINE, 18-INCH (WHITE)

(I) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (WHITE)

(J) PAVEMENT MARKING EPOXY, 4-INCH (YELLOW)

PAVEMENT MARKING GROOVED ARROWS PREFORMED THERMOPLASTIC:

(K) TYPE 1 (M) TYPE 3

(L) TYPE 2 (O) TYPE 4

(N) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK, 6-INCH

(P) PAVEMENT MARKING EPOXY, 8-INCH (WHITE)

(S) PAVEMENT MARKING DIAGONAL EPOXY, 12-INCH (YELLOW)

(T) PAVEMENT MARKING EPOXY, 4-INCH (WHITE, SKIP, 10' SEG., 30' GAP)

(U) PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE, 4-INCH (YELLOW, SKIP, 2' SEG., 6' GAP)

(V) PAVEMENT MARKING EPOXY, 8-INCH (WHITE, SKIP, 3' SEG., 9' GAP)

(W) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (ONLY)

(X) PAVEMENT MARKING CROSSWALK EPOXY, 12-INCH

(Y) PAVEMENT MARKING ISLAND NOSE EPOXY

(Z) PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY

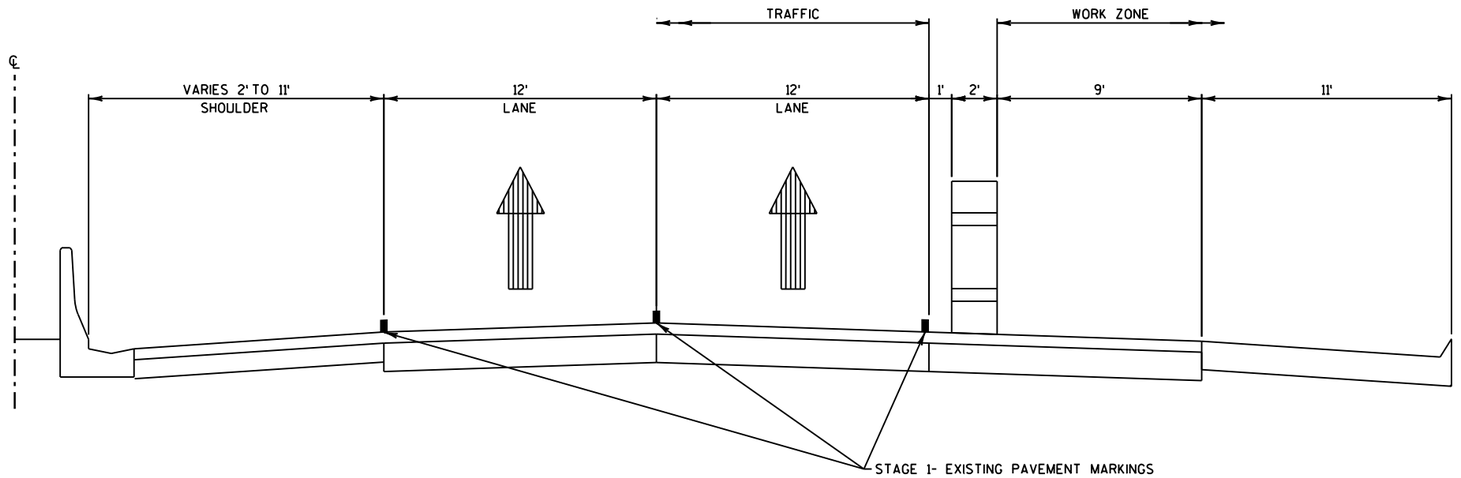
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 141	E

2

2

STAGE 1 - PEAK HOURS (3-LANE SECTION)

SB LANES
ARE SIMILAR



GENERAL NOTES;

TEMPORARY PAVEMENT MARKINGS WILL BE REFLECTIVE PAINT EXCEPT ON EXISTING US 41 CONCRETE PAVEMENT/SHOULDERS, BRIDGE DECKS, OR FINAL ASPHALT SURFACE LAYER. USE REMOVABLE TAPE FOR THESE APPLICATIONS.

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 DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", UNLESS OTHERWISE SHOWN.

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

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

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

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

TRAFFIC-STAGE 1;

CLOSE OUTSIDE LANE AND SHOULDER.

MAINTAIN 2-12' LANES IN EACH DIRECTION

CONSTRUCTION-STAGE 1;

REPAIR CONCRETE SHOULDER AND CONCRETE BARRIER WALL.

REMOVE EXISTING CONCRETE RUMBLE STRIPS.
(TO BE PAID FOR AS CONCRETE PAVEMENT REPAIR SHES)

STORM SEWER STRUCTURE REHABILITATION.

REMOVE OUTSIDE EDGE LANE LINE.

REMOVE CONFLICTING PAVEMENT MARKINGS.

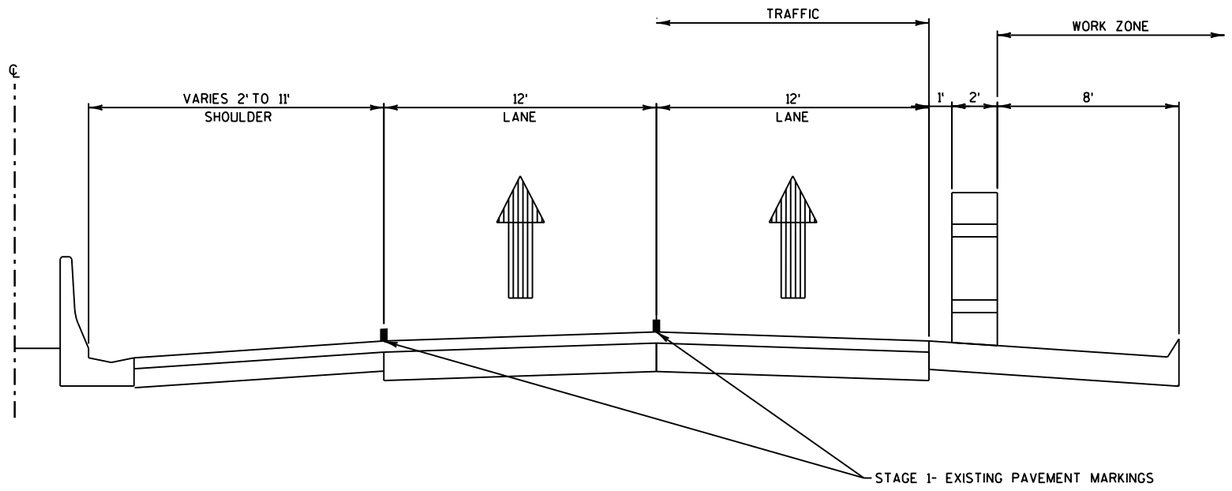
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 1 PEAK HOURS TYPICALS	SHEET 142	E

2

2

STAGE 1 - PEAK HOURS (2-LANE SECTION)

SB LANES
ARE SIMILAR



GENERAL NOTES;

TEMPORARY PAVEMENT MARKINGS WILL BE REFLECTIVE PAINT EXCEPT ON EXISTING US 41 CONCRETE PAVEMENT/SHOULDERS, BRIDGE DECKS, OR FINAL ASPHALT SURFACE LAYER. USE REMOVABLE TAPE FOR THESE APPLICATIONS.

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 DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", UNLESS OTHERWISE SHOWN.

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

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

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

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

TRAFFIC-STAGE 1;

CLOSE OUTSIDE SHOULDER.

MAINTAIN 2-12' LANES IN EACH DIRECTION

CONSTRUCTION-STAGE 1;

REPAIR CONCRETE BARRIER WALL.

STORM SEWER STRUCTURE REHABILITATION.

REMOVE CONFLICTING PAVEMENT MARKINGS.

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 1 PEAK HOURS TYPICALS	SHEET 143	E

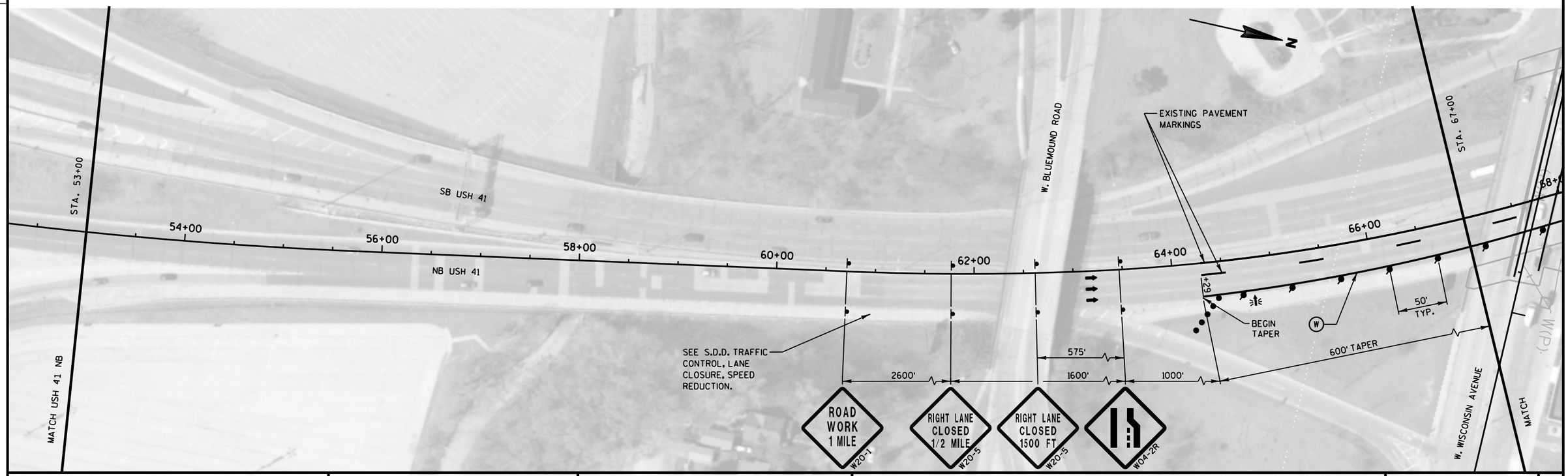
2

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

LEFT BLANK INTENTIONALLY



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 1 PEAK HOURS (MAINLINE)	SHEET 144	E

2

STA. 67+00

W. WISCONSIN AVENUE

W. WELLS STREET

MENOMONEE RIVER

SB USH 41

NB USH 41

68+00 70+00 72+00 74+00 76+00 78+00 80+00 81+92 82+00

50' TYP.

EXISTING PAVEMENT MARKINGS

600' TAPER

MATCH

76+00 78+00 80+00

+46

WO4-3R
30" X 30"

RIGHT LANE
MUST EXIT
R3-22R
78" X 36"

STA. 82+00

STA. 82+00

82+00 84+00 86+00 88+00 90+00 92+00 94+00 96+00

88+35

SB USH 41

NB USH 41

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

+17 +36 +65 +80 +52 +33 +83 +20

WO4-3R
30" X 30"

STA. 96+50

W. STATE STREET

EXIT
E5-1
60" X 48"

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

EXISTING PAVEMENT MARKINGS

50' TYP.

WO3-2

WO4-1R

MATCH

MATCH

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION (CC)
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 1 PEAK HOURS (MAINLINE)	SHEET E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026003_s1p.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

2

STA. 96+50

98+00

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

SEE S.D.D. TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

+27

+80

100+00

EXIT
E5-1
60" X 48"

W. VLIET STREET

N

STA. 112+50

EXISTING PAVEMENT MARKINGS

50' TYP.

102+00

104+00

+27

+34

SB USH 41

98+00

100+00

101+16

NB USH 41

102+00

104+00

106+00

108+00

110+74

109+36

112+00

+81

+10

106+01

108+00

112+00

+79

+50

YIELD
R1-2
36" X 31"

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

SEE S.D.D. TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

EXIT
E5-1
60" X 48"

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

MATCH

MATCH

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

STA. 112+50

EXISTING PAVEMENT MARKINGS

50' TYP.

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

YIELD
R1-2
36" X 31"

SEE S.D.D. TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STA. 127+50

N

114+00

116+00

118+00

120+00

122+00

124+00

126+00

SB USH 41

NB USH 41

+52

+80

+00

+34

125+30

W. WASHINGTON BLVD.

EXIT
E5-1
60" X 48"

MATCH

MATCH

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 1 PEAK HOURS (MAINLINE)	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026004_s1p.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

2

N. 48TH STREET

N

W04-1R

W03-2

STA. 127+50

EXISTING PAVEMENT MARKINGS

50' TYP.

N. 47TH STREET

STA. 142+00 SB

128+00

130+00

132+00

134+00

SB USH 41

136+00

137+48

138+00

140+00

142+00

MATCH

NB

NB USH 41

+42

+37

LANE CLOSED

R11-2(MOD) 48" X 30"

8

Y

50' TYP.

SEE S.D.D. TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

REMOVE PAVEMENT MARKING ARROW AND "ONLY" FROM RIGHT LANE

137+82

N. 46TH STREET

W. LLOYD STREET

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 1 PEAK HOURS (MAINLINE)	SHEET 147	E

2

N. 48TH STREET

N. 47TH STREET

W. LISBON AVENUE

W. GARFIELD AVENUE

W. NORTH AVENUE

N

W01-6
48" X 24"

RIGHT
SHOULDER
CLOSED
W21-5A

50'
TYP.

STA. 142+00 SB

SB USH 41

142+00

144+00

146+00

MATCH

EXISTING PAVEMENT MARKINGS

STA. 140+75 NB

142+00

NB USH 41

144+00

146+00

MATCH

LEGEND

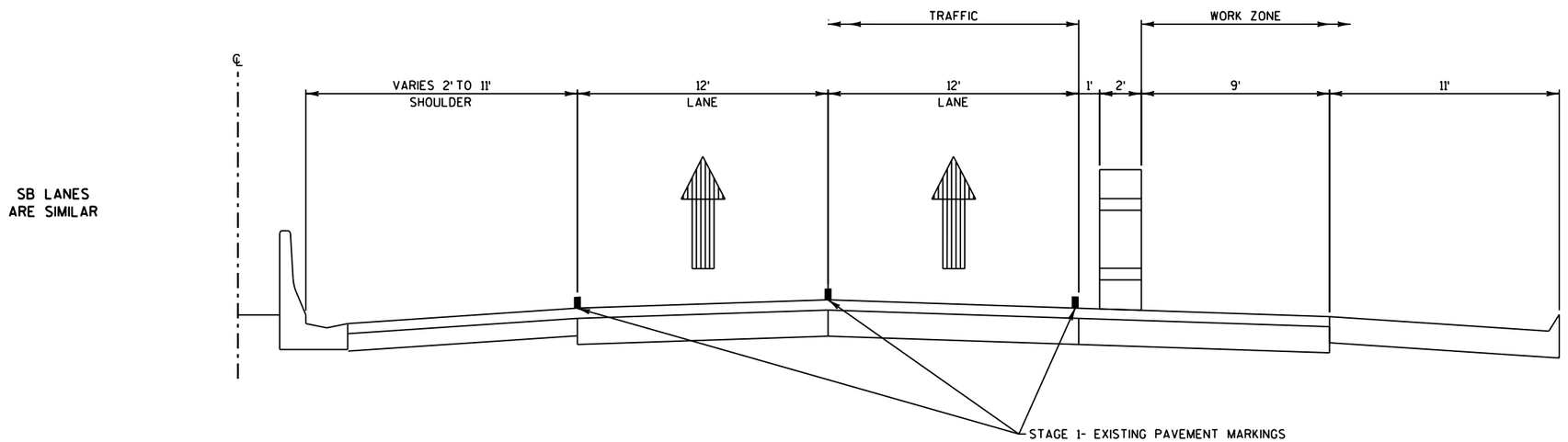
- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC — TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 1 PEAK HOURS (MAINLINE)	SHEET 148	E

2

2

STAGE 1 - OFF PEAK HOURS (3-LANE SECTION)



GENERAL NOTES:

TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", UNLESS OTHERWISE SHOWN.

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

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

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

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

TRAFFIC-STAGE 1:

CLOSE OUTSIDE LANE AND SHOULDER.

MAINTAIN 2-12'LANES IN EACH DIRECTION

CONSTRUCTION-STAGE 1:

REPAIR CONCRETE BARRIER WALL.

REMOVE EXISTING CONCRETE RUMBLE STRIPS AND REPLACE WITH CONCRETE BASE PATCHING.

STORM SEWER STRUCTURE REHABILITATION.

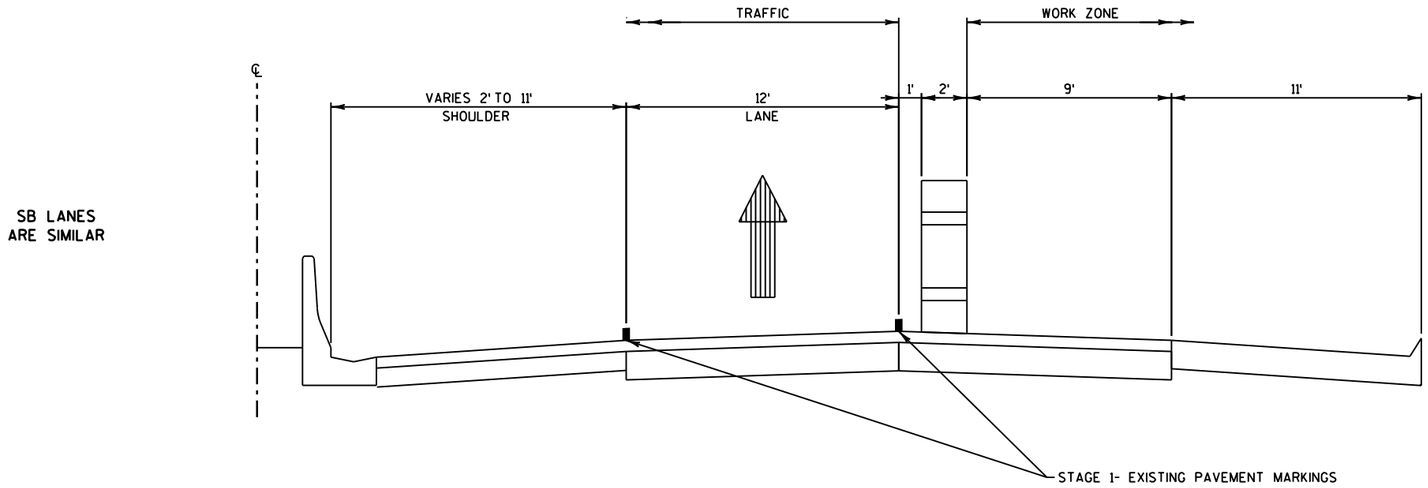
REMOVE OUTSIDE EDGE OF LANE LINE.

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 1 OFF PEAK HOURS TYPICALS	SHEET 149	E

2

2

STAGE 1 - OFF PEAK HOURS (2-LANE SECTION)



GENERAL NOTES:

TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", UNLESS OTHERWISE SHOWN.

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

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

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

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

TRAFFIC-STAGE 1:

CLOSE OUTSIDE LANE AND SHOULDER.

MAINTAIN 1-12' LANE IN EACH DIRECTION

CONSTRUCTION-STAGE 1:

REPAIR CONCRETE BARRIER WALL.

REMOVE EXISTING CONCRETE RUMBLE STRIPS AND REPLACE WITH CONCRETE BASE PATCHING

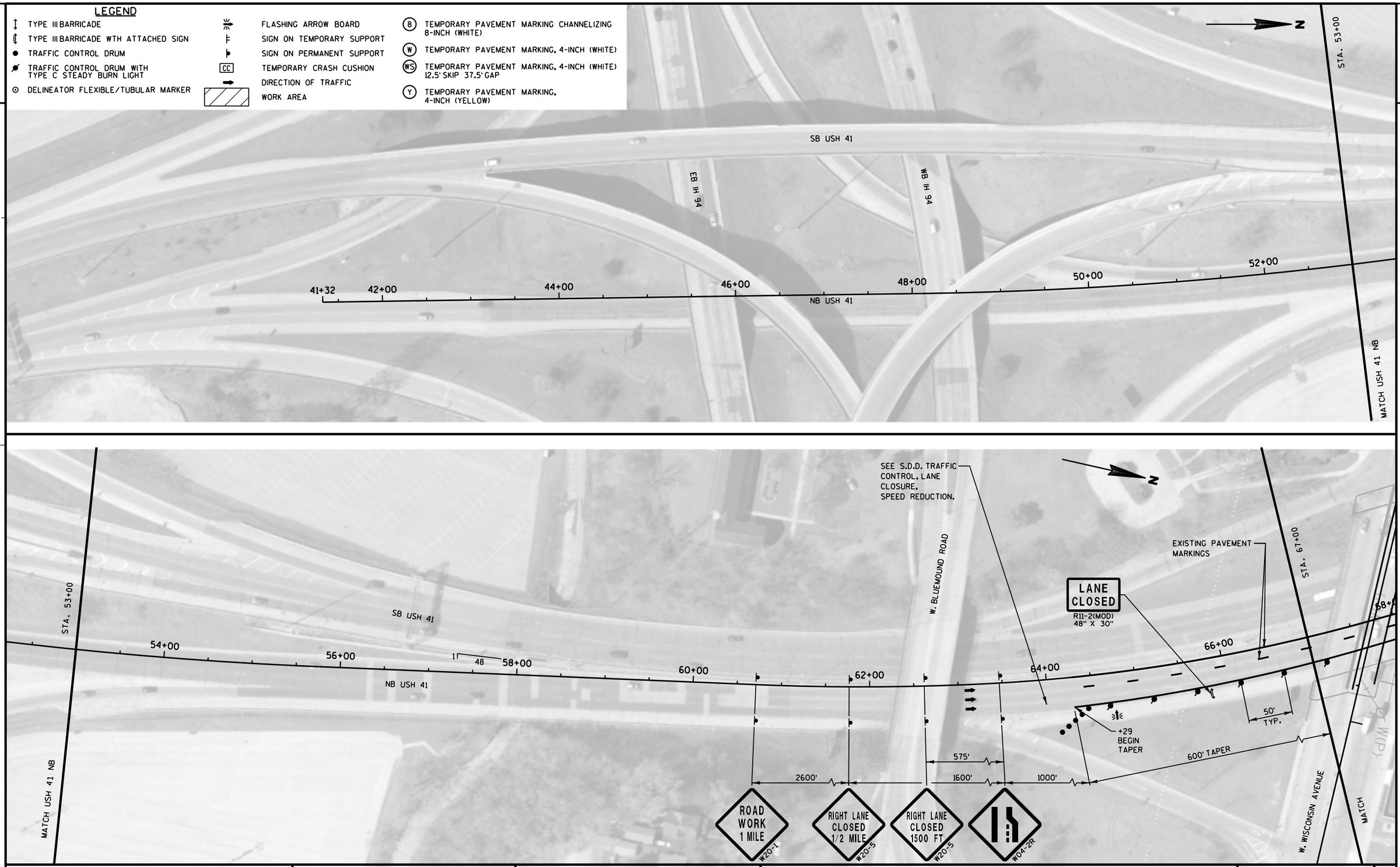
STORM SEWER STRUCTURE REHABILITATION.

REMOVE OUTSIDE EDGE OF LANE LINE.

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION (CC)
- DIRECTION OF TRAFFIC
- WORK AREA
- (B) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 1 OFF PEAK HOURS (MAINLINE)	SHEET 151	E

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 1 OFF PEAK HOURS (MAINLINE)	SHEET E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026103_stop.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

STA. 96+50

98+00

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

SEE S.D.D. TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

EXIT
E5-1
60" X 48"

+27
+80
100+00
+27
+34
102+00
SB USH 41
101+07
50' TYP.
EXISTING PAVEMENT MARKINGS
98+00
+03
100+00
NB USH 41
101+16
+37
+37
50' TYP.
102+00
104+00
106+00
106+01
+02
108+00
+10
110+74
109+36
112+00
+81
+79
+50

YIELD
R1-2
36" X 31"

SEE S.D.D. TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

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

SEE S.D.D. TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

EXIT
E5-1
60" X 48"

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

W. VLIET STREET

STA. 112+50

MATCH

N

2

STA. 112+50

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

EXISTING PAVEMENT MARKINGS

50' TYP.

+11
+28
SB USH 41
114+00
116+00
118+00
120+00
122+00
NB USH 41

W4-3R
30" X 30"

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

SEE S.D.D. TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

+80
124+00
+00
126+00
+00
+52
+33
125+30
126+00

RIGHT LANE MUST EXIT
R3-22R
78" X 36"

50' TYP.

W. WASHINGTON BLVD.

SEE S.D.D. TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

EXIT
E5-1
60" X 48"

STA. 127+50

MATCH

N

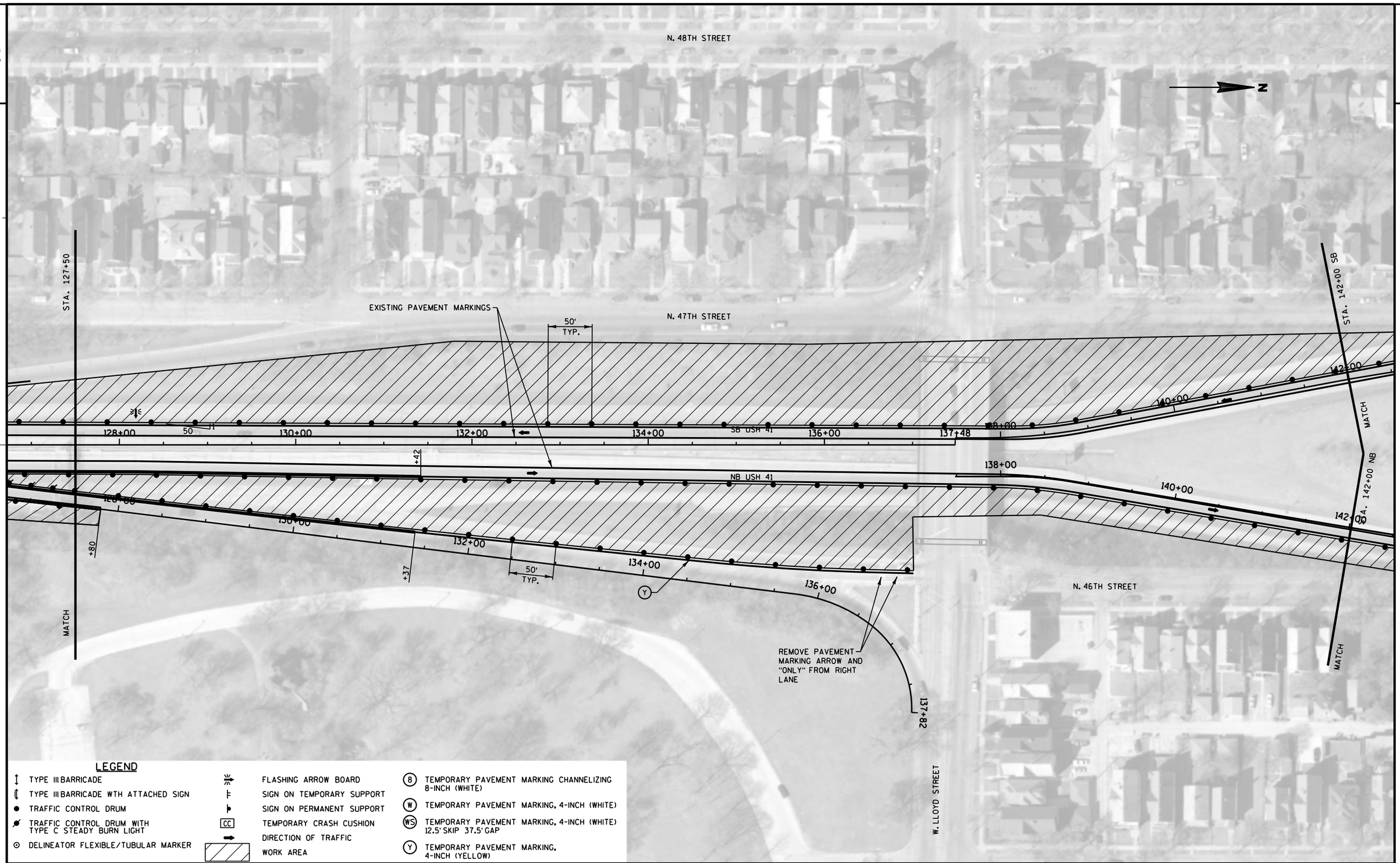
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 1 OFF PEAK HOURS (MAINLINE)	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026104_siop.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION (CC)
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 1 OFF PEAK HOURS (MAINLINE)	SHEET 154	E

2

N. 48TH STREET

N. 47TH STREET

W. LISBON AVENUE

W. GARFIELD AVENUE

W. NORTH AVENUE

N

W01-6
48" X 24"

W04-2R

200' TAPER

50'
TYP.

STA. 142+00 SB

SB USH 41

142+00

144+00

146±00

BEGIN TAPER
STA. 145+00

EXISTING PAVEMENT MARKINGS

MATCH

STA. 140+75 NB

142+00

NB USH 41

144+00

146+00

MATCH

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 1 OFF PEAK HOURS (MAINLINE)	SHEET 155	E

2

2

N

N. 50TH STREET

N. 49TH STREET

N. 48TH STREET

N. 47TH STREET

N. 51ST STREET

W. LISBON AVENUE

W. MEINECKE AVENUE

W. NORTH AVENUE

HWY 41
UNDER CONSTR
XXX XX-XXX XX

G20-57
96" X 48"

LEGEND

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

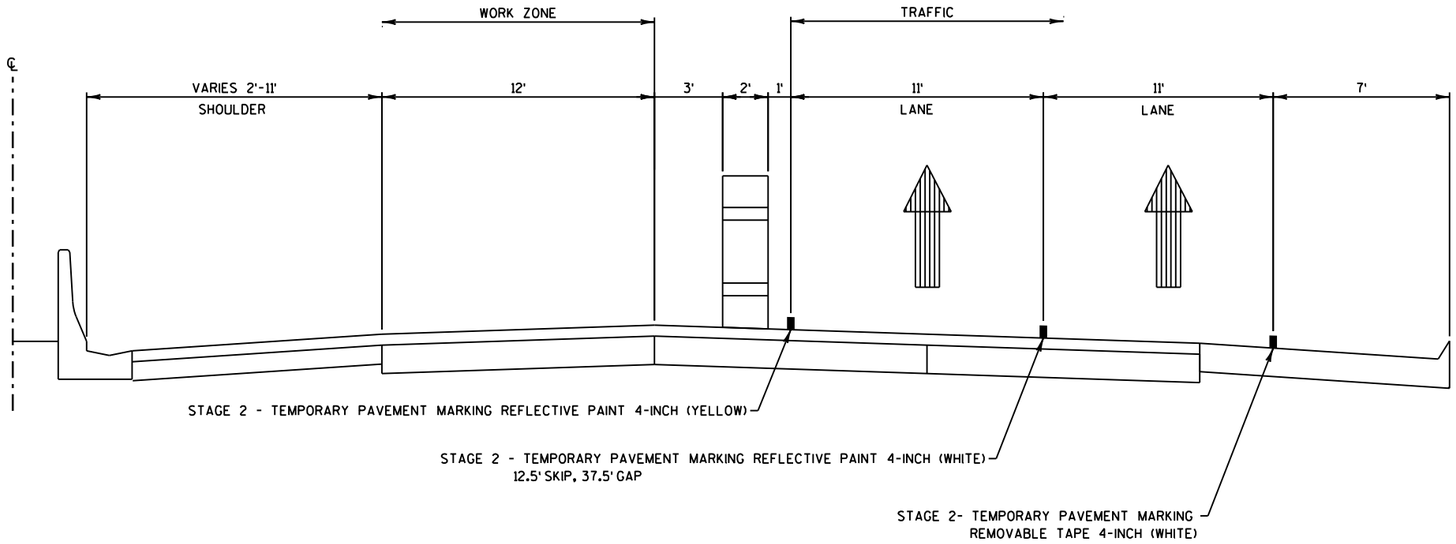
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 1 OFF PEAK HOURS (MAINLINE)	SHEET 156	E

2

STAGE 2 & 4 - PEAK HOURS (3-LANE SECTION)

SB LANES
ARE SIMILAR



GENERAL NOTES:

TEMPORARY PAVEMENT MARKINGS WILL BE REFLECTIVE PAINT EXCEPT ON EXISTING US 41 CONCRETE PAVEMENT/SHOULDERS, BRIDGE DECKS, OR FINAL ASPHALT SURFACE LAYER. USE REMOVABLE TAPE FOR THESE APPLICATIONS.

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 DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", UNLESS OTHERWISE SHOWN.

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

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

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

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

TRAFFIC-STAGE 2:

CLOSE MEDIAN LANE AND SHOULDER.

SHIFT TRAFFIC PARTIALLY ONTO OUTSIDE SHOULDER.

MAINTAIN 2-11' LANES IN EACH DIRECTION.

CONSTRUCTION-STAGE 2:

REPAIR CONCRETE SHOULDER AND CONCRETE BARRIER WALL.

MILL EXISTING ASPHALT, PLACE LOWER LAYER OF HMA, CONCRETE BASE PATCH AS INDICATED IN THE PLAN OR AS DIRECTED BY ENGINEER.

PLACE TEMPORARY ASPHALT WEDGE WHERE DIFFERENCE IN PAVEMENT ELEVATIONS BETWEEN LANES IS GREATER THAN ¾-INCH.

STORM SEWER STRUCTURE REHABILITATION.

REPAIR ANY JOINTS AND CRACKS AS INDICATED IN THE PLAN OR AS DIRECTED BY ENGINEER.

REMOVE CONFLICTING PAVEMENT MARKINGS.

TRAFFIC-STAGE 4:

CLOSE MEDIAN LANE AND SHOULDER.

SHIFT TRAFFIC PARTIALLY ONTO OUTSIDE SHOULDER.

MAINTAIN 2-11' LANES IN EACH DIRECTION.

CONSTRUCTION-STAGE 4:

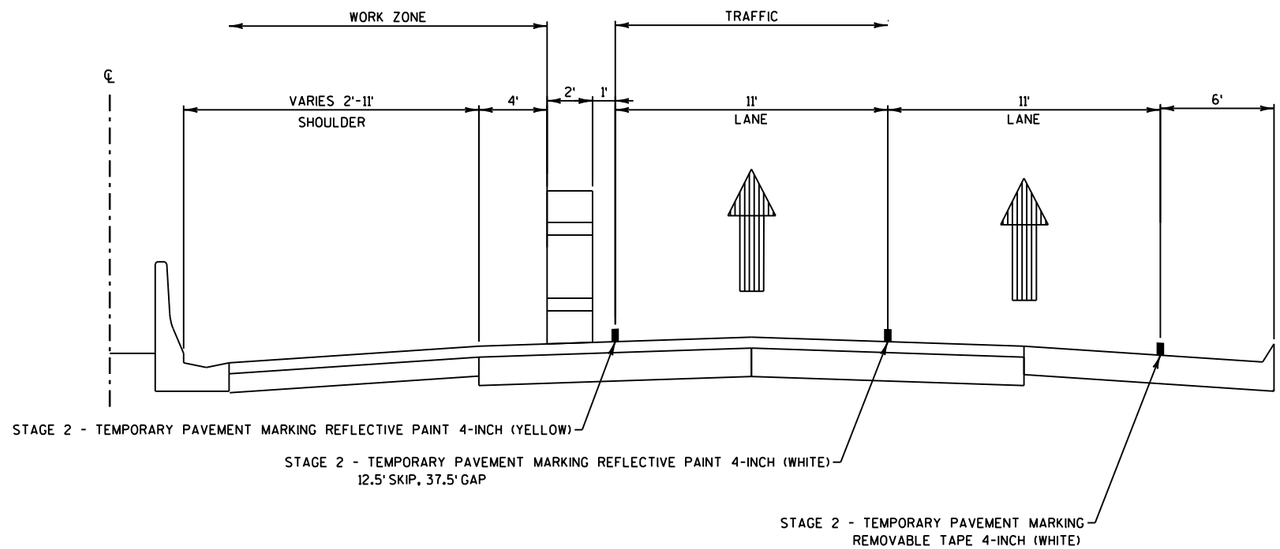
PLACE UPPER LAYER OF HMA PAVEMENT

PLACE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH ON FINISHED SURFACE.

2

STAGE 2 & 4 - PEAK HOURS (2-LANE SECTION)

SB LANES
ARE SIMILAR



GENERAL NOTES:

TEMPORARY PAVEMENT MARKINGS WILL BE REFLECTIVE PAINT EXCEPT ON EXISTING US 41 CONCRETE PAVEMENT/SHOULDERS, BRIDGE DECKS, OR FINAL ASPHALT SURFACE LAYER. USE REMOVABLE TAPE FOR THESE APPLICATIONS.

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 DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", UNLESS OTHERWISE SHOWN.

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

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

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

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

TRAFFIC-STAGE 2:

CLOSE MEDIAN SHOULDER.

SHIFT TRAFFIC PARTIALLY ONTO OUTSIDE SHOULDER.

MAINTAIN 2-11' LANES IN EACH DIRECTION.

CONSTRUCTION-STAGE 2:

REPAIR CONCRETE BARRIER WALL AND CONCRETE SHOULDER.

STORM SEWER STRUCTURE REHABILITATION.

REMOVE CONFLICTING PAVEMENT MARKINGS.

BEGIN CONSTRUCTION OF MAINTENANCE CROSSOVER.

TRAFFIC-STAGE 4:

CLOSE MEDIAN SHOULDER.

SHIFT TRAFFIC PARTIALLY ONTO OUTSIDE SHOULDER.

MAINTAIN 2-11' LANES IN EACH DIRECTION.

CONSTRUCTION-STAGE 4:

PLACE UPPER LAYER OF HMA PAVEMENT ON SHOULDER.

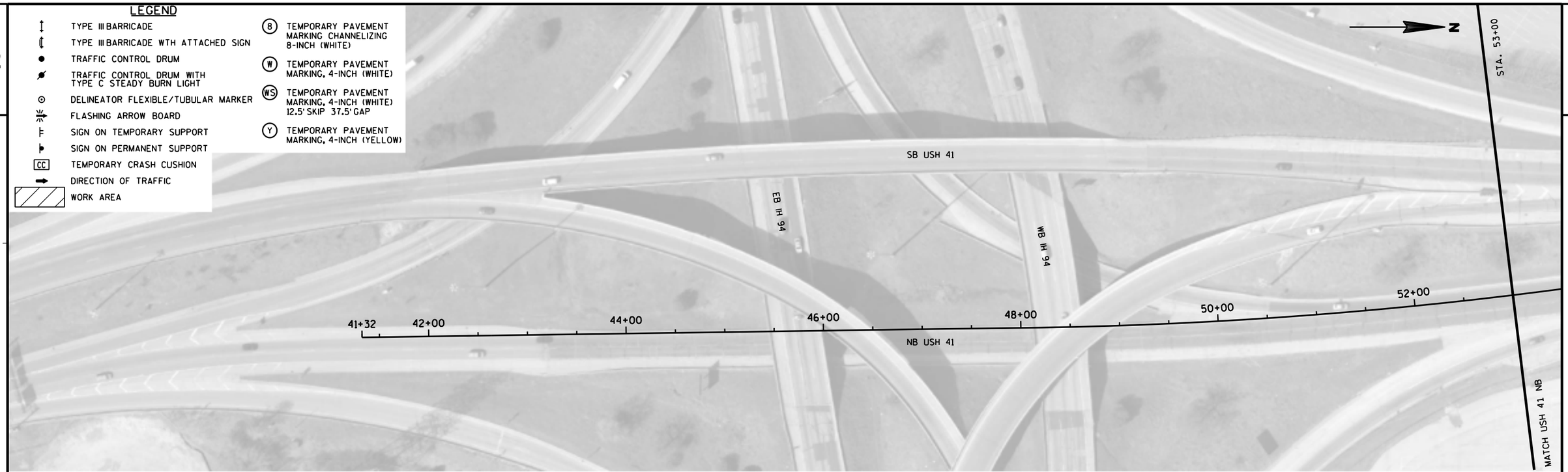
PLACE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH ON FINISHED SURFACE.

COMPLETE CONSTRUCTION OF MAINTENANCE CROSSOVER.

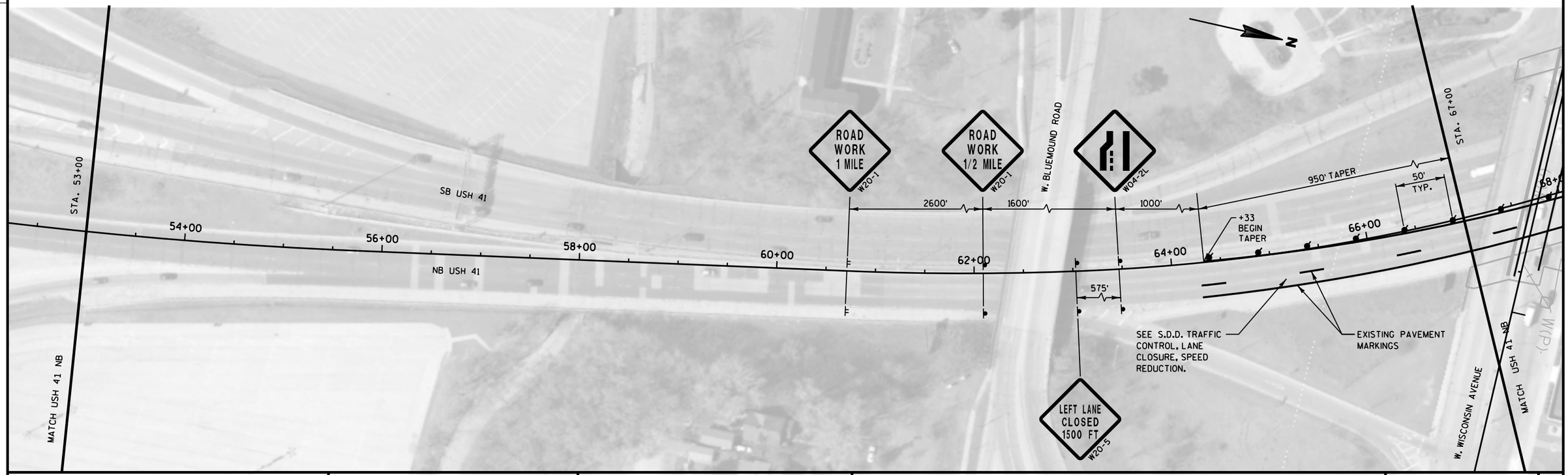
2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)



2



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 2 & 4 PEAK HOURS (MAINLINE)	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026202_s2_4p.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

STA. 67+00

W. WISCONSIN AVENUE

W. WELLS STREET

MENOMONEE RIVER

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

END TAPER

SB USH 41

NB USH 41

950' TAPER

50' TYP.

68+00 70+00 72+00 74+00 76+00 78+00 80+00 81+92 82+00

+51 +25 +94 +65

W04-1

W03-2

R1-2
36" X 31"

500'

MATCH

STA. 82+00

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (B) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

STA. 82+00

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

R1-2
36" X 31"

88+35 90+00 92+00 94+00 96+00 98+00

+32 +22 +86 +14 +41

SB USH 41

NB USH 41

82+00 84+00 86+00 88+00 90+00 92+00 94+00 96+00

+59 +19 +30 +83 +32 +25

50' TYP.

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

W04-1

W03-2

EXIT
E5-1
60" X 48"

W. STATE STREET

MATCH

STA. 96+50

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 2 & 4 PEAK HOURS (MAINLINE)	SHEET E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026203_s2_4p.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

STA. 96+50

98+00

+27

+41

EXIT
E5-1
60" X 48"

100+00

+92

+14

102+00

SB USH 41

98+00

100+00

101+16

NB USH 41

+95

MATCH

W

WS

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

50' TYP.

104+00

106+01

+90

W. VLIET STREET

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

106+00

108+00

110+74

109+36

112+00

50' TYP.

+36

EXIT
E5-1
60" X 48"

+35

+96

+79

STA. 112+50

MATCH

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

STA. 112+50

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

YIELD
R1-2
36" X 31"

W01-4B

350'

END LANE SHIFT +97

BEGIN LANE SHIFT +22

+98

124+00

+72

+85

126+00

+73

122+00

120+00

118+00

116+00

114+00

SB USH 41

NB USH 41

50' TYP.

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

125+39

126+00

BEGIN LANE SHIFT +41

+55

EXIT
E5-1
60" X 48"

W. WASHINGTON BLVD.

MATCH

STA. 127+50

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 2 & 4 PEAK HOURS (MAINLINE)	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026204_s2_4p.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

2

2

N. 48TH STREET

N. 47TH STREET

N. 46TH STREET

W. LLOYD STREET

N

STA. 127+50

128+00

129+00

130+00

132+00

134+00

136+00

137+48

138+00

140+00

142+00

SB USH 41

NB USH 41

STA. 142+00 SB

STA. 142+00 NB

MATCH

MATCH

MATCH

W04-1

W03-2

W01-6
48" X 24"

Y

W

WS

8

100' TAPER

50'
TYP.

+55

+86

+86

+72

END LANE
SHIFT +27

TEMPORARY PAVEMENT
MARKING WORDS
"ONLY"

TEMPORARY PAVEMENT
MARKING ARROWS
TYPE 1

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION (CC)
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 2 & 4 PEAK HOURS (MAINLINE)	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026205_s2_4p.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

N. 48TH STREET

N. 47TH STREET

W. LISBON AVENUE

W. GARFIELD AVENUE

W. NORTH AVENUE

STA. 142+00 SB

SB USH 41

142+00

144+00

146+00

LEFT SHOULDER CLOSED

W21-5AL

MATCH STA. 140+75 NB

NB USH 41

142+00

144+00

146+00

50' TYP.

MATCH

W

WS

Y

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 2 & 4 PEAK HOURS (MAINLINE)	SHEET 163	E

2

2

N

N. 50TH STREET

N. 49TH STREET

N. 48TH STREET

N. 47TH STREET

N. 51ST STREET

W. LISBON AVENUE

W. MEINECKE AVENUE

W. NORTH AVENUE

HWY 41
UNDER CONSTR
XXX XX-XXX XX

G20-57
96" X 48"

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 2 & 4 PEAK HOURS (MAINLINE)	SHEET	E

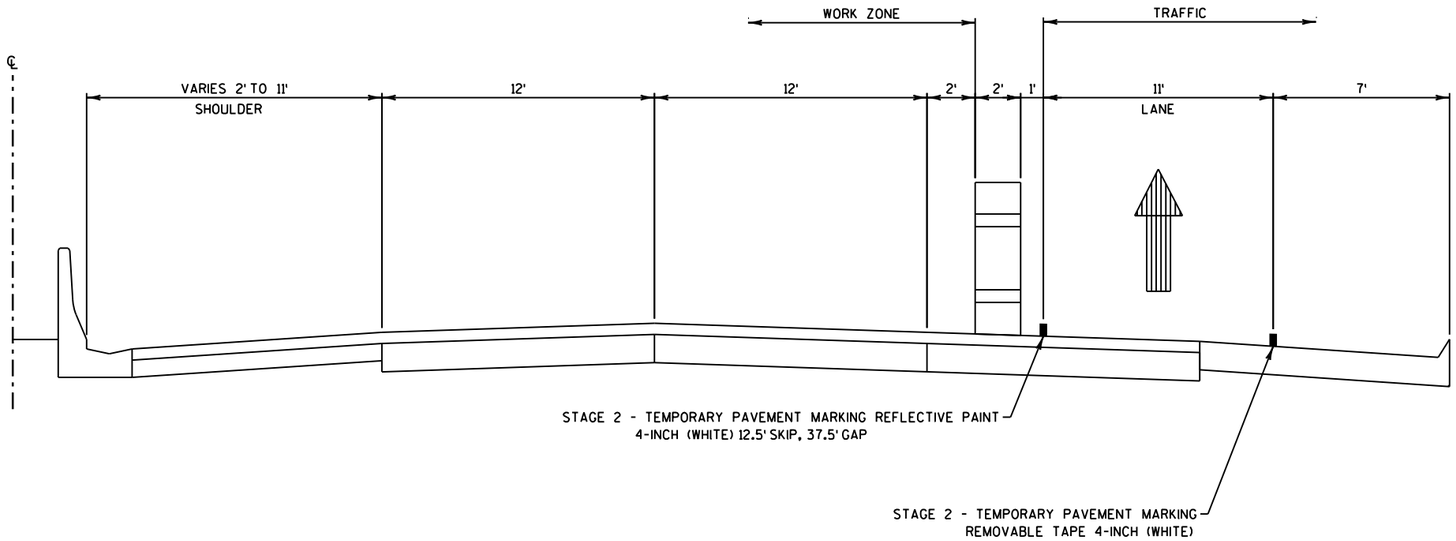
FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026207_s2_4p.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

STAGE 2 & 4 - OFF PEAK HOURS (3-LANE SECTION)

SB LANES
ARE SIMILAR



GENERAL NOTES:

TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", UNLESS OTHERWISE SHOWN.

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

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

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

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

TRAFFIC-STAGE 2:

CLOSE MEDIAN LANE, MIDDLE LANE AND MEDIAN SHOULDER.

TRAFFIC STAYS PARTIALLY ON OUTSIDE SHOULDER.

MAINTAIN 1-11' LANE IN EACH DIRECTION.

CONSTRUCTION-STAGE 2:

REPAIR CONCRETE SHOULDER AND CONCRETE BARRIER WALL.

MILL, PLACE LOWER LAYER OF HMA, CONCRETE BASE PATCH AS INDICATED IN PLAN OR AS DIRECTED BY ENGINEER ON MIDDLE AND MEDIAN LANES.

PLACE TEMPORARY ASPHALT WEDGE WHERE DIFFERENCES IN PAVEMENT SURFACE ELEVATIONS BETWEEN LANES IS GREATER THAN ¾-INCH.

STORM SEWER STRUCTURE REHABILITATION.

REPAIR ANY JOINTS AND CRACKS AS REQUIRED.

TRAFFIC-STAGE 4:

CLOSE MEDIAN LANE, MIDDLE LANE AND MEDIAN SHOULDER.

TRAFFIC STAYS PARTIALLY ON OUTSIDE SHOULDER.

MAINTAIN 1-11' LANE IN EACH DIRECTION.

CONSTRUCTION-STAGE 4:

REMOVE TEMPORARY ASPHALT SURFACE AND ASPHALT WEDGES.

PLACE UPPER LAYER OF HMA PAVEMENT AND PAVE MEDIAN SHOULDER.

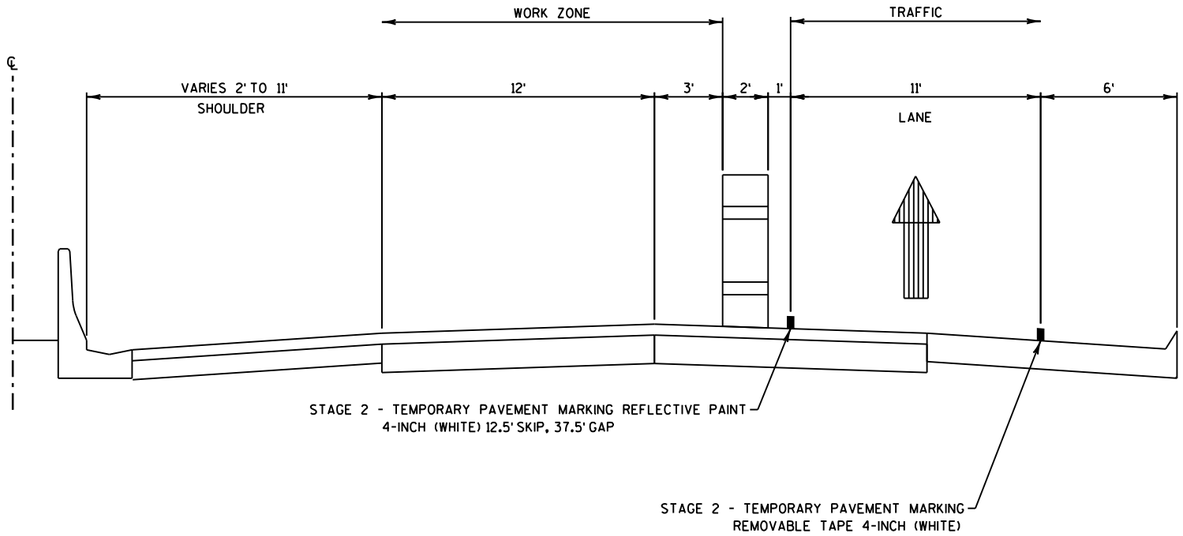
PLACE PERMANENT PAVEMENT MARKING
(SEE PAVEMENT MARKING PLANS).

2

2

STAGE 2 & 4 - OFF PEAK HOURS (2-LANE SECTION)

SB LANES
ARE SIMILAR



GENERAL NOTES;

TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", UNLESS OTHERWISE SHOWN.

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

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

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

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

USE EPOXY FOR TEMPORARY LANE LINES EXCEPT ON FINAL ASPHALT SURFACE LAYER UNTIL PERMANENT PAVEMENT MARKINGS ARE PLACED.

TRAFFIC-STAGE 2;

CLOSE MEDIAN LANE AND MEDIAN SHOULDER.

TRAFFIC STAYS PARTIALLY ON OUTSIDE SHOULDER.

MAINTAIN 1-11' LANE IN EACH DIRECTION.

CONSTRUCTION-STAGE 2;

REPAIR CONCRETE SHOULDER AND CONCRETE BARRIER WALL.

MILL, PLACE LOWER LAYER OF HMA, CONCRETE BASE PATCH AS INDICATED IN PLAN OR AS DIRECTED BY ENGINEER ON MEDIAN LANE.

PLACE TEMPORARY ASPHALT WEDGE WHERE DIFFERENCE IN PAVEMENT SURFACE ELEVATIONS BETWEEN LAYERS IS GREATER THAN ¾-INCH.

STORM SEWER STRUCTURE REHABILITATION.

REPAIR ANY JOINTS AND CRACKS AS INDICATED IN PLANS OR AS DIRECTED BY ENGINEER.

BEGIN CONSTRUCTION OF MAINTENANCE CROSSOVER.

TRAFFIC-STAGE 4;

CLOSE MEDIAN LANE AND MEDIAN SHOULDER.

MAINTAIN 1-11' LANE IN EACH DIRECTION.

CONSTRUCTION-STAGE 4;

PLACE UPPER LAYER OF HMA PAVEMENT.

PLACE PERMANENT PAVEMENT MARKING (SEE PAVEMENT MARKING PLANS).

COMPLETE CONSTRUCTION OF MAINTENANCE CROSSOVER.

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 2 & 4 OFF PEAK HOURS TYPICALS	SHEET 166	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC — TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (B) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

2

N

STA. 53+00

39+80 42+00 44+00 46+00 SB USH 41 48+00 50+00 52+00

EB I 94

WB I 94

41+32 42+00 44+00 46+00 48+00 50+00 52+00

NB USH 41

MATCH USH 41 NB

2

N

STA. 53+00

54+00 56+00 SB USH 41 57+23

54+00 56+00 58+00 60+00 62+00 64+00

NB USH 41

MATCH USH 41 NB

ROAD WORK 1 MILE W20-1

LEFT TWO LANES CLOSED 1500 FT W20-5A

W. BLUEMOUND ROAD

W04-2L

3700' 500' 1000'

1100'

LEFT TWO LANES CLOSED 1/2 MILE W20-5A

600' TAPER

50' TYP.

BEGIN TAPER +33

66+00

STA. 67+00

SEE S.D.D. 15D14 TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)

EXISTING PAVEMENT MARKINGS

W. WISCONSIN AVENUE

MATCH

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 2 & 4 OFF PEAK HOURS (MAINLINE)	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026302_s2_4op.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

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
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

STA. 67+00
W. WISCONSIN AVENUE
MATCH
600' TAPER
END TAPER +00
50' TYP.
68+00
70+00
72+00
74+00
76+00
78+00
80+00
SB USH 41
NB USH 41
LANE CLOSED
R11-2(MOD)
48" X 30"
W04-2L
W. WELLS STREET
RAMP CLOSED
MENOMONEE RIVER
600' TAPER
BEGIN TAPER +82
82+00
STA. 82+00
MATCH

STA. 82+00
MATCH
W. STATE STREET
600' TAPER
82+00
84+00
86+00
88+00
88+35
90+00
92+00
94+00
96+00
98+00
END TAPER +48
EXIT
E5-1
60" X 48"
LANE CLOSED
R11-2(MOD)
48" X 30"
50' TYP.
R1-2
36" X 31"
500'
W03-2
W04-1
STA. 96+50
MATCH

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 2 & 4 OFF PEAK HOURS (MAINLINE)	SHEET E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026303_s2_4op.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

STA. 96+50

98+00

+27

100+00

+41

+92

+14

102+00

104+07

98+00

100+00

98+00

100+00

101+16

102+00

104+00

106+00

106+01

108+00

110+74

109+36

112+00

+95

+85

+96

+79

+36

MATCH

EXIT
E5-1
60" X 48"

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

SB USH 41

NB USH 41

50' TYP.

50' TYP.

W

8

N

STA. 112+50

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

EXIT
E5-1
60" X 48"

MATCH

2

STA. 112+50

114+00

116+00

118+00

120+00

122+00

124+00

126+00

125+30

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

50' TYP.

50' TYP.

END LANE
SHIFT +97

YIELD
R1-2
36" X 31"

350'

W01-4L

W01-4R

+98

+72

+85

+73

+55

BEGIN LANE
SHIFT +22

350'

BEGIN LANE
SHIFT +41

W. WASHINGTON BLVD.

MATCH

STA. 127+50

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 2 & 4 OFF PEAK HOURS (MAINLINE)	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026304_s2_4op.dgn
PLOT DATE : 4/30/2015
PLOT BY : piojdae
PLOT NAME :
PLOT SCALE : 1:100
WISDOT/CADDS SHEET 42

2

2

N. 48TH STREET

N. 47TH STREET

N. 46TH STREET

W. LLOYD STREET

N

STA. 127+50

MATCH

END LANE
SHIFT +27

W04-1

W

50'
TYP.

128+00

130+00

132+00

134+00

SB USH 41

136+00

137+48

138+00

140+00

142+00

STA. 142+00 SB

MATCH

NB USH 41

STA. 142+00 NB

MATCH

128+00

+55

+55

100' TAPER

Y

W

50'
TYP.

130+00

132+00

+72

134+00

136+00

137+48

134+00

136+00

EXIT

E5-1
60" X 48"

MATCH

TEMPORARY PAVEMENT
MARKING WORDS
"ONLY"

TEMPORARY PAVEMENT
MARKING ARROWS
TYPE 1

137+82

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 2 & 4 OFF PEAK HOURS (MAINLINE)	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026305_s2_4op.dgn
PLOT DATE : 4/30/2015
PLOT BY : piojdae
PLOT NAME :
PLOT SCALE : 1:100
WISDOT/CADDS SHEET 42

2

N. 48TH STREET

N. 47TH STREET

W. LISBON AVENUE

W. GARFIELD AVENUE

W. NORTH AVENUE

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

STA. 142+00 SB

SB USH 41

142+00

144+00

146+00

50'
TYP.

MATCH

STA. 140+75 NB

NB USH 41

142+00

144+00

146+00

50'
TYP.

MATCH

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC — TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (B) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 2 & 4 OFF PEAK HOURS (MAINLINE)	SHEET 171	E

2

N

W. LISBON AVENUE

N. 50TH STREET

N. 49TH STREET

N. 48TH STREET

N. 47TH STREET

N. 51ST STREET

W. MEINECKE AVENUE

W. NORTH AVENUE

HWY 41
UNDER CONSTR
XXX XX-XXX XX

G20-57
96" X 48"

W16-9P
30" X 12"

AHEAD

ONLY ONLY

R3-8D
36" X 30"

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 2 & 4 OFF PEAK HOURS (MAINLINE)	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026307_s2_4op.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

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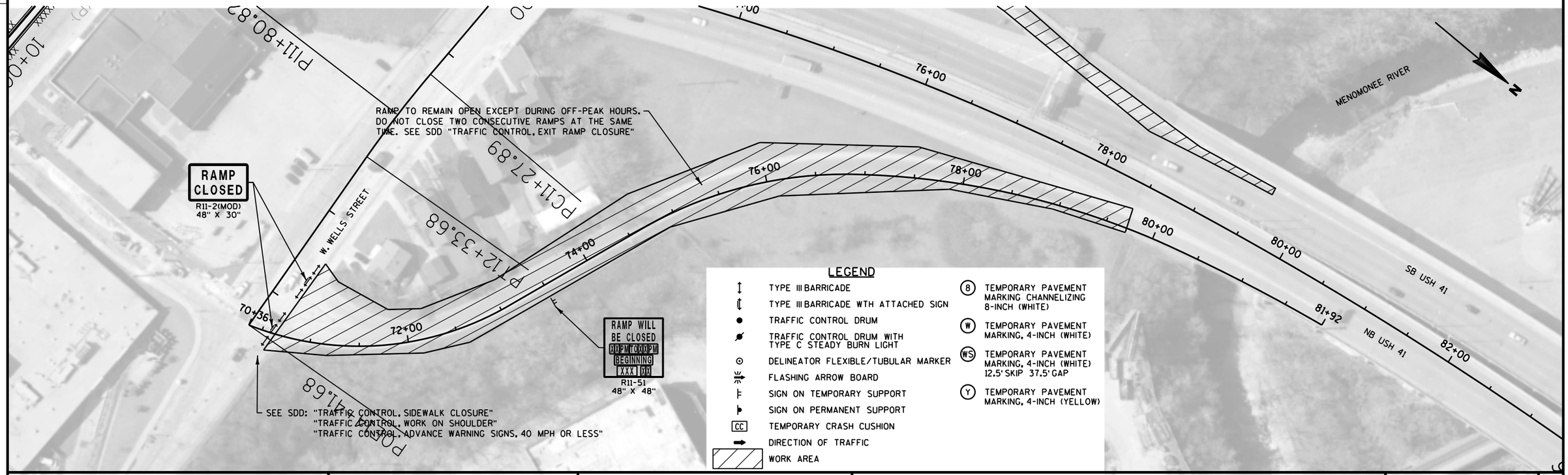
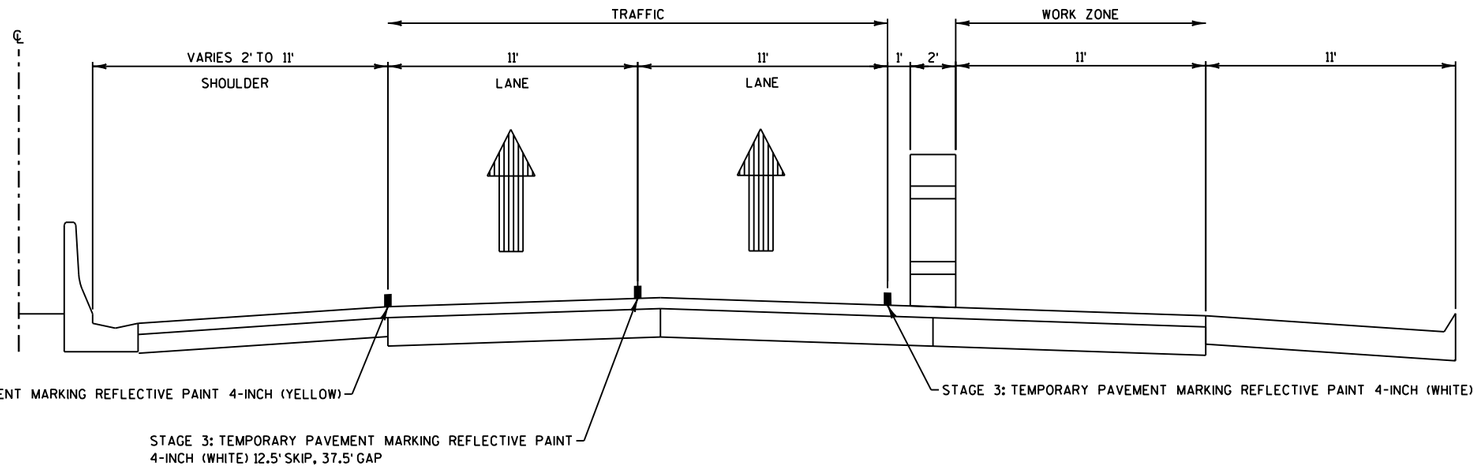


PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 2 & 4 OFF PEAK HOURS (RAMPS)	SHEET 173 E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026313_s2_4op.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

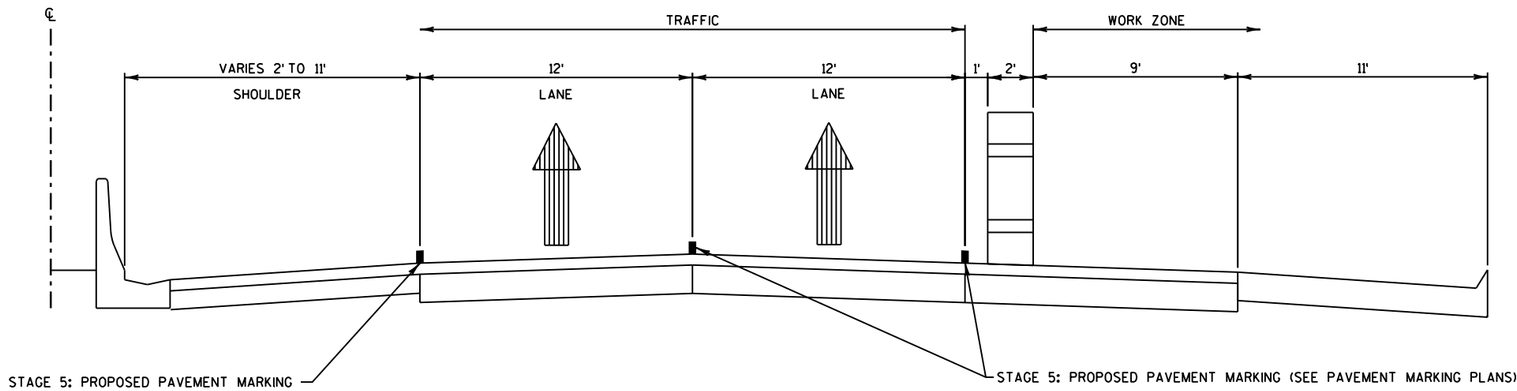
WISDOT/CADDS SHEET 42

SB LANES
ARE SIMILAR



STAGE 3 - PEAK HOURS (3-LANE SECTION)

SB LANES
ARE SIMILAR



STAGE 5 - PEAK HOURS (3-LANE SECTION)

GENERAL NOTES:

TEMPORARY PAVEMENT MARKINGS WILL BE REFLECTIVE PAINT EXCEPT ON EXISTING US 41 CONCRETE PAVEMENT/SHOULDERS, BRIDGE DECKS, OR FINAL ASPHALT SURFACE LAYER. USE REMOVABLE TAPE FOR THESE APPLICATIONS.

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 DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", UNLESS OTHERWISE SHOWN.

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

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

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

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

TRAFFIC-STAGE 3:

CLOSE OUTSIDE LANE AND OUTSIDE SHOULDER.

TRAFFIC ON TWO INSIDE LANES.

MAINTAIN 2-11' LANES IN EACH DIRECTION.

CONSTRUCTION-STAGE 3:

REPAIR OUTSIDE CONCRETE SHOULDER AND CONCRETE BARRIER WALL AS REQUIRED.

MILL, IDENTIFY BASE PATCH LOCATIONS, PLACE LOWER AND UPPER LAYER OF HMA. CONCRETE BASE PATCH SHES AS INDICATED IN PLANS OR AS DIRECTED BY ENGINEER ON OUTSIDE LANE.

PLACE TEMPORARY ASPHALT WEDGE WHERE DIFFERENCES IN PAVEMENT SURFACE ELEVATIONS BETWEEN LANES IS GREATER THAN 3/4-INCH.

REPAIR JOINTS AND CRACKS AS INDICATED IN PLANS OR AS DIRECTED BY ENGINEER.

REMOVE CONFLICTING PAVEMENT MARKINGS.

TRAFFIC-STAGE 5:

CLOSE OUTSIDE LANE AND OUTSIDE SHOULDER.

TRAFFIC ON TWO INSIDE LANES.

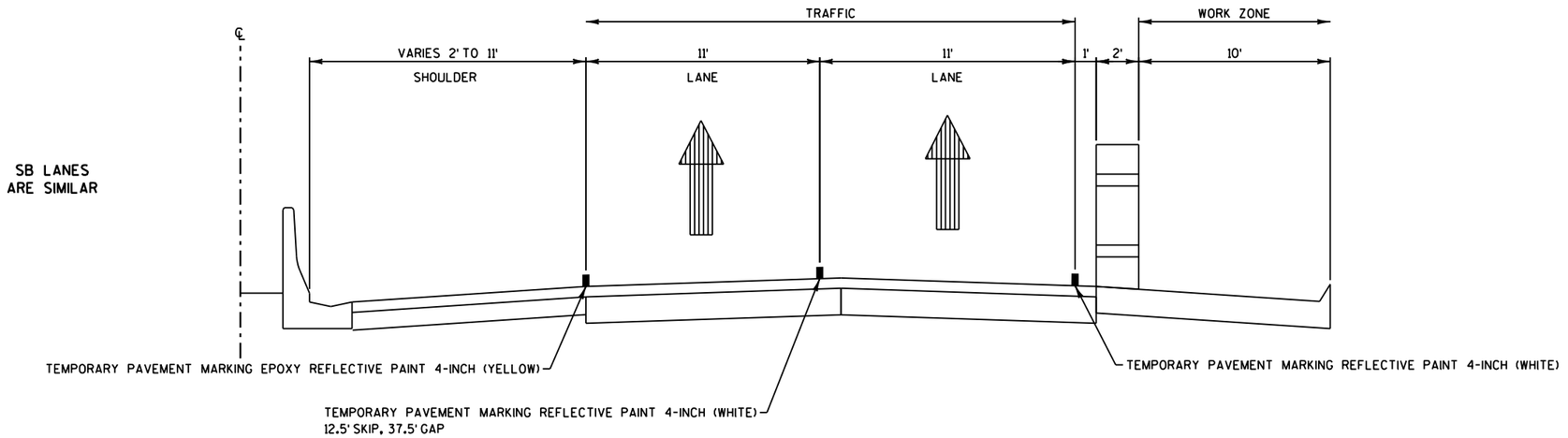
MAINTAIN 2-11' LANES IN EACH DIRECTION.

CONSTRUCTION-STAGE 5:

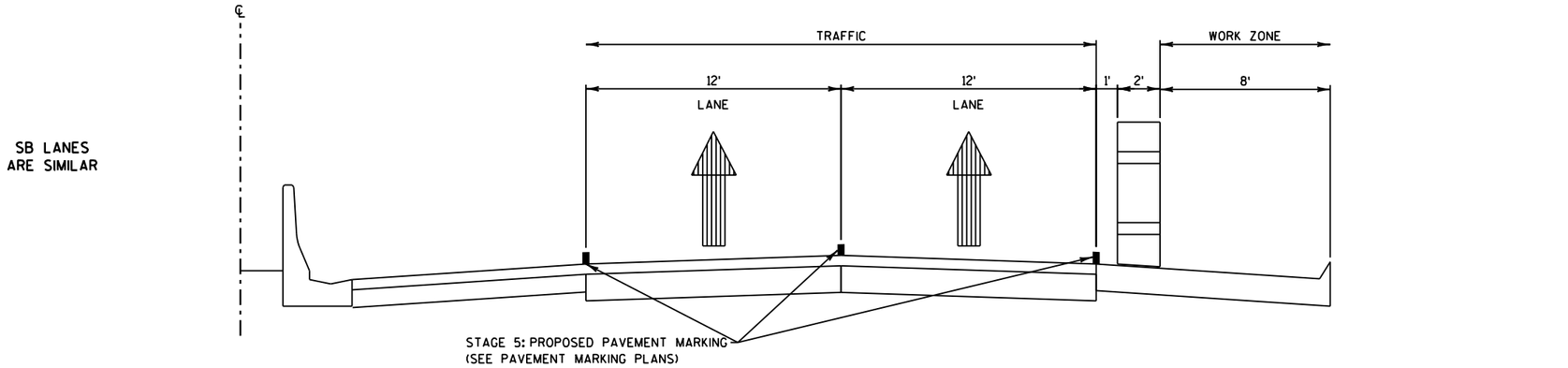
PLACE PERMANENT PAVEMENT MARKING (SEE PAVEMENT MARKING PLANS).

MILL, PLACE UPPER AND LOWER LAYER OF HMA ON RAMPS.

REPAIR ANY JOINTS AND CRACKS AS INDICATED IN PLANS OR AS DIRECTED BY ENGINEER.



STAGE 3 - PEAK HOURS (2-LANE SECTION)



STAGE 5 - PEAK HOURS (2-LANE SECTION)

GENERAL NOTES:

TEMPORARY PAVEMENT MARKINGS WILL BE REFLECTIVE PAINT EXCEPT ON EXISTING US 41 CONCRETE PAVEMENT/SHOULDERS, BRIDGE DECKS, OR FINAL ASPHALT SURFACE LAYER. USE REMOVABLE TAPE FOR THESE APPLICATIONS.

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 DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", UNLESS OTHERWISE SHOWN.

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

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

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

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

TRAFFIC-STAGE 3;

CLOSE OUTSIDE SHOULDER.

MAINTAIN 2-11' LANES IN EACH DIRECTION.

CONSTRUCTION-STAGE 3;

REPAIR OUTSIDE CONCRETE SHOULDER AND CONCRETE BARRIER WALL AS INDICATED IN PLANS OR AS DIRECTED BY ENGINEER.

REMOVE CONFLICTING PAVEMENT MARKINGS.

TRAFFIC-STAGE 5;

CLOSE OUTSIDE SHOULDER.

MAINTAIN 2-11' LANES IN EACH DIRECTION.

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 PEAK HOURS TYPICALS	SHEET 175	E

2

N

SB USH 41

EB I 94

WB I 94

41+32 42+00 44+00 46+00 48+00 50+00 52+00

NB USH 41

STA. 53+00

MATCH USH 41 NB

STA. 53+00

SB USH 41

54+00 56+00 58+00 60+00 62+00 64+00

NB USH 41

W. BLUEMOUND ROAD

STA. 67+00

SEE S.D.D. TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION.

WS Y W

66+00

BEGIN TAPER +29

50' TYP.

600' TAPER

575'

2600' 1600' 1000'

ROAD WORK 1 MILE W20-1

RIGHT LANE CLOSED 1/2 MILE W20-5

RIGHT LANE CLOSED 1500 FT W20-5

W04-2R

W. WISCONSIN AVENUE

MATCH

MATCH USH 41 NB

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 PEAK HOURS (MAINLINE)	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026402_s3_5p.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

2

STA. 67+00

W. WISCONSIN AVENUE

W. WELLS STREET

MENOMONEE RIVER

SB USH 41

NB USH 41

68+00

70+00

72+00

74+00

76+00

78+00

80+00

81+92

82+00

STA. 82+00

MATCH

600' TAPER

50' TYP.

END TAPER +95

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

W04-3R
30" X 30"

RIGHT LANE MUST EXIT
R3-22R
78" X 36"

3' SKIP 9' GAP

+00
+29
+46
+31

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

STA. 82+00

MATCH

W. STATE STREET

SB USH 41

NB USH 41

82+00

84+00

86+00

88+00

88+35

90+00

92+00

94+00

96+00

STA. 96+50

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

EXIT
E5-1
60" X 48"

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

W04-3R
30" X 30"

W04-1R

W03-2

3' SKIP 9' GAP

50' TYP.

+31
+52
+17
+33
+83
+36
+20
+65
+80
+76
+69
+07

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 PEAK HOURS (MAINLINE)	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026403_s3_5p.dgn PLOT DATE : 4/30/2015 PLOT BY : pjojdae PLOT NAME : PLOT SCALE : 1:100

STA. 96+50

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

+27

25' TYP.

+80

98+00

100+00

EXIT
E5-1
60" X 48"

SEE TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

W. VLIET STREET

N

STA. 112+50

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

102+00

50' TYP.

104+00

SB USH 41

+27

98+00

+03

100+00

100+00

101+16

+62

+34

NB USH 41

102+00

104+00

106+00

106+81

+03

25' TYP.

50' TYP.

108+00

+10

110+74

109+36

112+00

+81

112+00

+79

+50

R1-2
36" X 31"

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

EXIT
E5-1
60" X 48"

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

SEE TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

SEE TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

MATCH

MATCH

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION (CC)
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

STA. 112+50

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

SEE TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

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

STA. 127+50

N

Y W WS

50' TYP.

SB USH 41

114+00

116+00

118+00

120+00

122+00

124+00

126+00

+80

+86

+91

+52

+19

+34

NB USH 41

114+00

116+00

118+00

120+00

122+00

124+00

126+00

50' TYP.

R1-2
36" X 31"

W. WASHINGTON BLVD.

EXIT
E5-1
60" X 48"

MATCH

MATCH

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 PEAK HOURS (MAINLINE)	SHEET 178	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026404_s3_5p.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

N. 48TH STREET

N

W04-1R

W03-2

STA. 127+50

N. 47TH STREET

50'
TYP.

STA. 142+00 SB

128+00

130+00

132+00

134+00

SB USH 41

136+00

137+48

138+00

140+00

142+00

MATCH

NB USH 41

+42

+37

25'
TYP.

50'
TYP.

STA. 142+00 NB

MATCH

SEE S.D.D. 15D15
TRAFFIC CONTROL, EXIT &
ENTRANCE RAMP WITHIN
LANE CLOSURE

REMOVE PAVEMENT MARKING
ARROW AND "ONLY" FROM RIGHT
LANE

137+82

N. 46TH STREET

W. LLOYD STREET

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION (CC)
- DIRECTION OF TRAFFIC
- WORK AREA
- (B) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 PEAK HOURS (MAINLINE)	SHEET 179	E

2

N. 48TH STREET

N. 47TH STREET

W. LISBON AVENUE

W. GARFIELD AVENUE

W. NORTH AVENUE

RIGHT SHOULDER CLOSED
W21-5A

W01-6
48" X 24"

STA. 142+00 SB

SB USH 41

142+00

144+00

146+00

+78

MATCH

STA. 140+75 NB

NB USH 41

142+00

144+00

146+00

+11

MATCH

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- (CC) TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 PEAK HOURS (MAINLINE)	SHEET 180	E

2

2

N

W. LISBON AVENUE

N. 50TH STREET

N. 49TH STREET

N. 48TH STREET

N. 47TH STREET

N. 51ST STREET

W. MEINECKE AVENUE

W. NORTH AVENUE

HWY 41
UNDER CONSTR
XXX XX-XXX XX

G20-57
96" X 48"

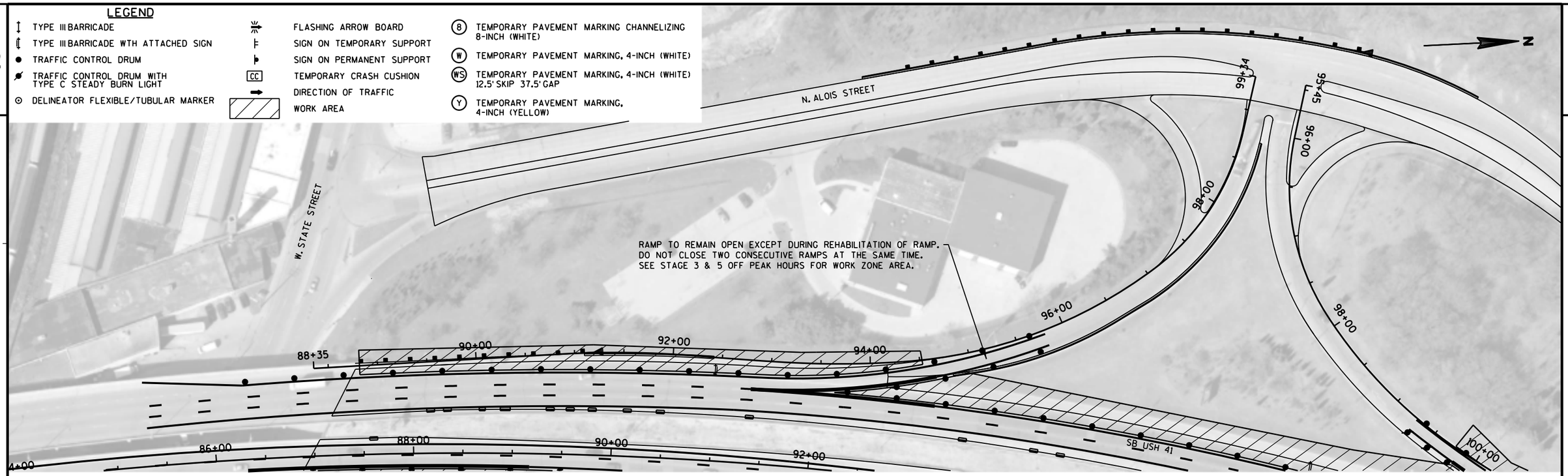
LEGEND

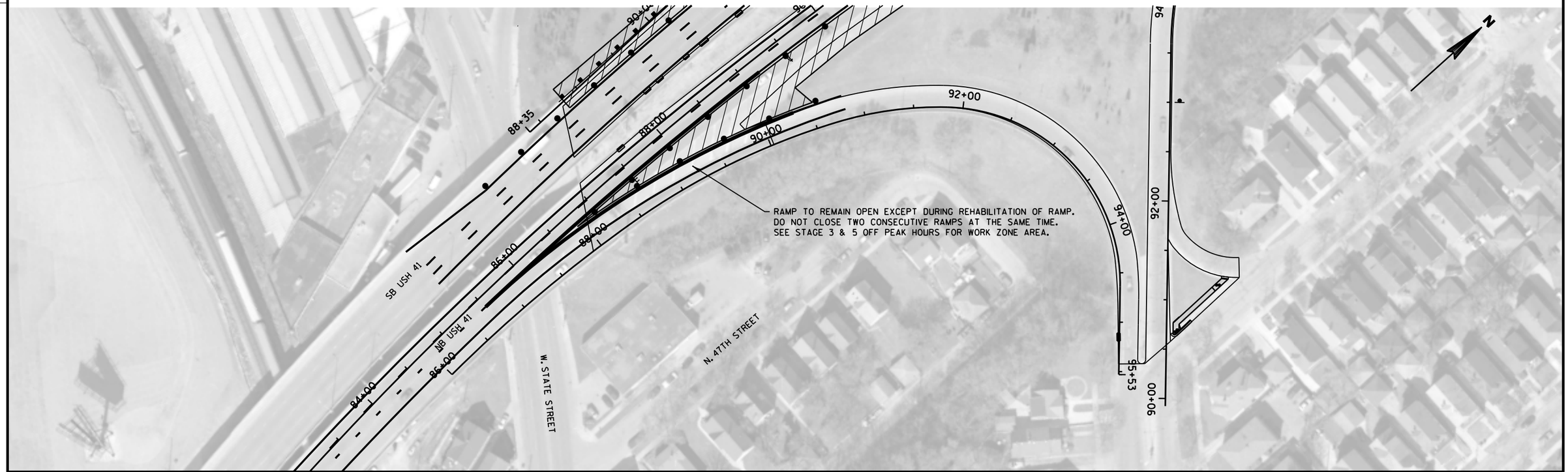
- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 PEAK HOURS (MAINLINE)	SHEET 181	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION (CC)
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

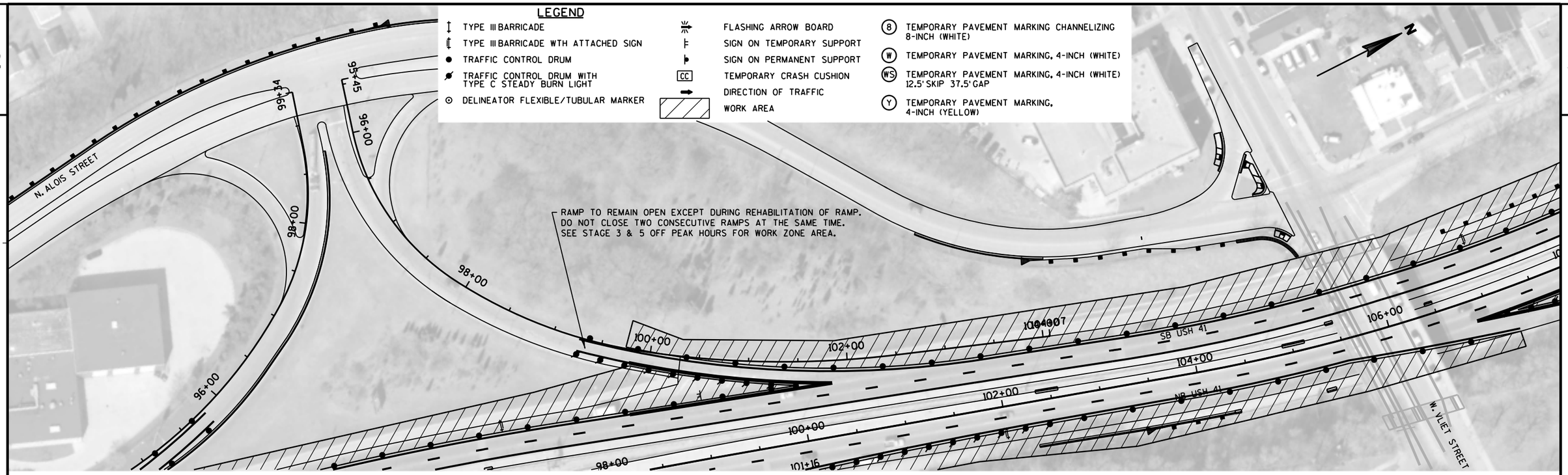


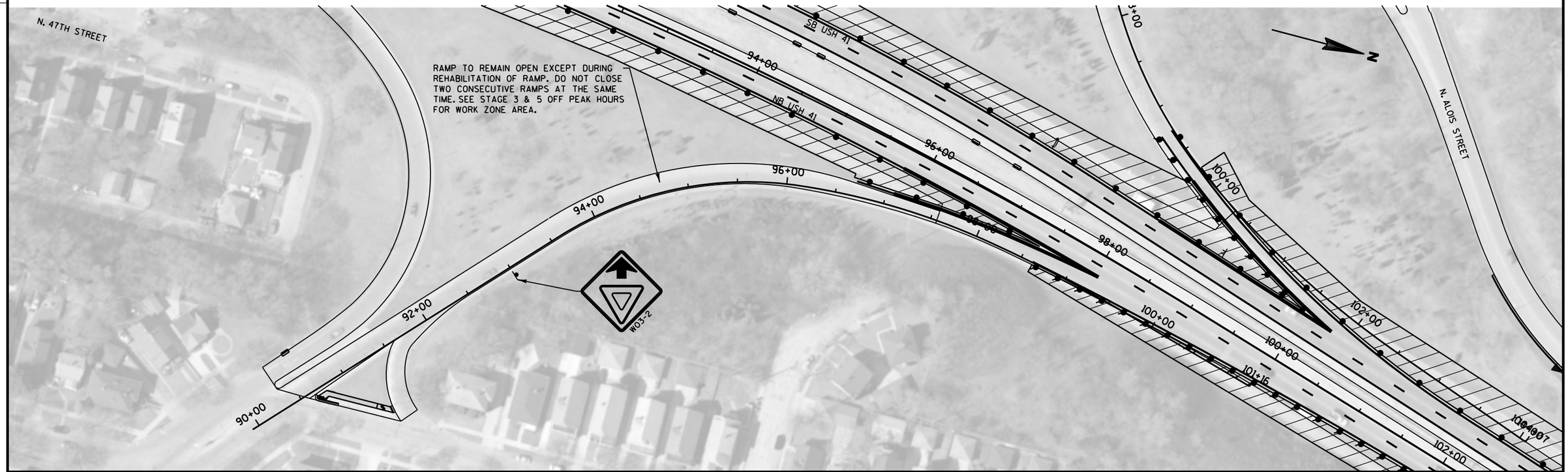


PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 PEAK HOURS (RAMPS)	SHEET 182	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC — TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)





PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 PEAK HOURS (RAMPS)	SHEET E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026415_s3_5p.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

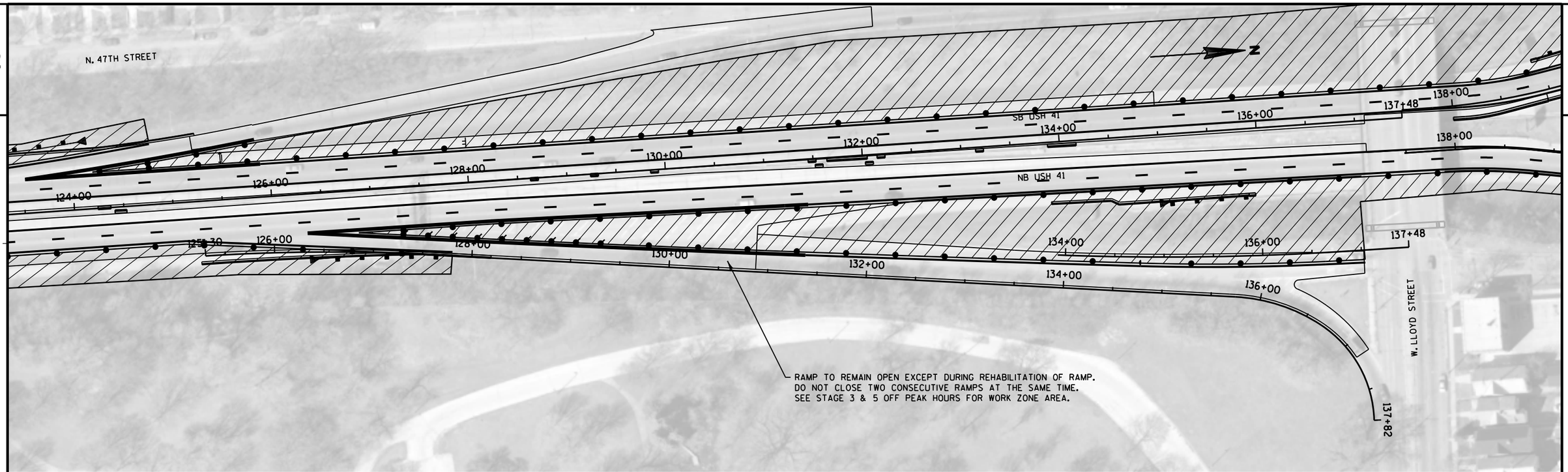
2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC — TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 PEAK HOURS (RAMPS)	SHEET 184	E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC — TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 PEAK HOURS (RAMPS)	SHEET	E

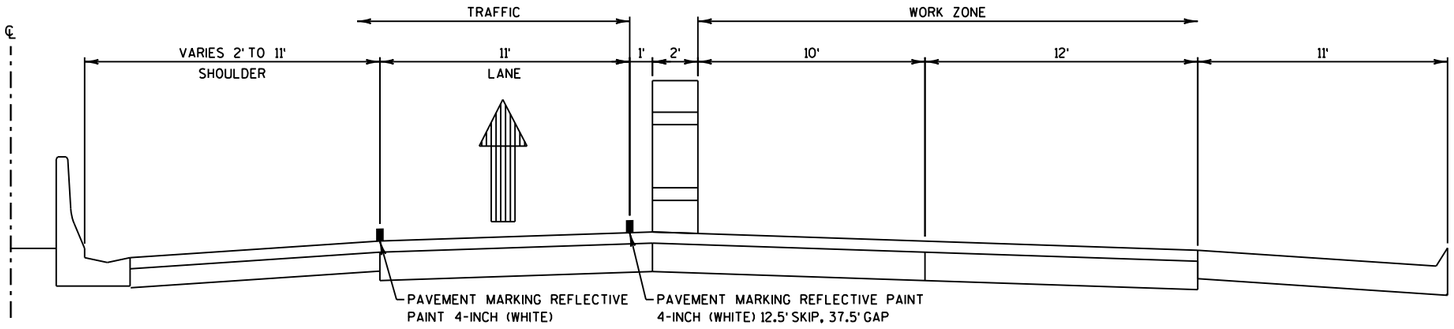
FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026417_s3_5p.dgn
PLOT DATE : 4/30/2015
PLOT BY : piojdae
PLOT NAME :
PLOT SCALE : 1:100
WISDOT/CADDS SHEET 42

2

2

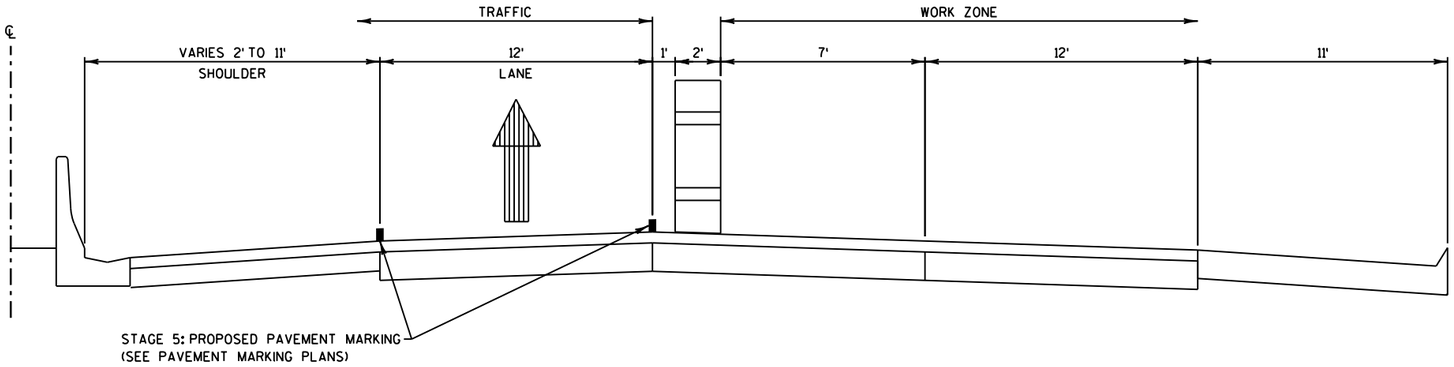
STAGE 3 - OFF PEAK HOURS (3-LANE SECTION)

SB LANES
ARE SIMILAR



STAGE 5 - OFF PEAK HOURS (3-LANE SECTION)

SB LANES
ARE SIMILAR



GENERAL NOTES:

TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", UNLESS OTHERWISE SHOWN.

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

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

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

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

USE REFLECTIVE PAINT FOR TEMPORARY LANE LINES EXCEPT ON FINAL ASPHALT SURFACE LAYER UNTIL PERMANENT PAVEMENT MARKINGS ARE PLACED.

TRAFFIC-STAGE 3:

CLOSE OUTSIDE LANE, MIDDLE LANE AND OUTSIDE SHOULDER.

MAINTAIN 1-11' LANE IN EACH DIRECTION.

CLOSE RAMPS AS DESCRIBED IN THE SPECIAL PROVISIONS.

CONSTRUCTION-STAGE 3:

MILL, IDENTIFY BASE PATCH LOCATIONS, OVERLAY LOWER LAYER OF HMA, CONCRETE BASE PATCH SHES AS REQUIRED ON OUTSIDE LANE, PLACE UPPER LAYER HMA.

PLACE TEMPORARY WEDGE WHERE DIFFERENCES IN PAVEMENT SURFACE ELEVATIONS BETWEEN LANES IS GREATER THAN $\frac{3}{4}$-INCH.

REPAIR ANY JOINTS AND CRACKS AS INDICATED IN PLANS OR AS DIRECTED BY ENGINEER.

TRAFFIC-STAGE 5:

CLOSE OUTSIDE LANE, MIDDLE LANE AND OUTSIDE SHOULDER.

MAINTAIN 1-12' LANE IN EACH DIRECTION.

CLOSE RAMPS AS DESCRIBED IN THE SPECIAL PROVISIONS.

CONSTRUCTION-STAGE 5:

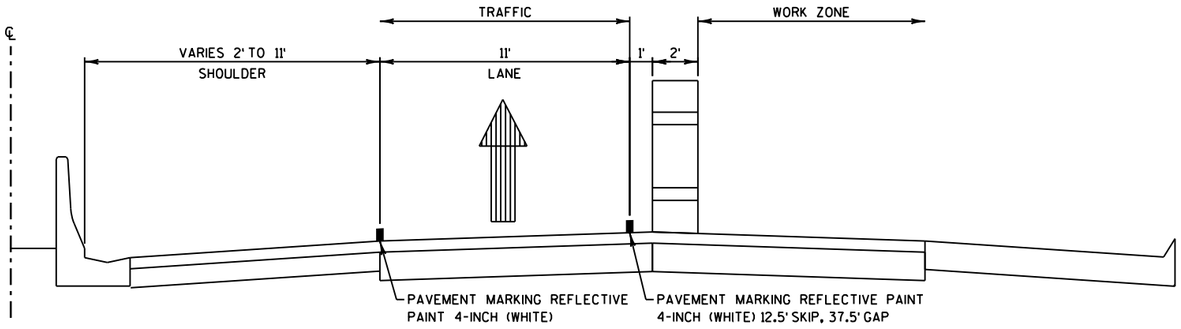
PLACE PERMANENT PAVEMENT MARKING (SEE PAVEMENT MARKING PLANS).

MILL, PLACE UPPER AND LOWER LAYER OF HMA ON RAMPS.

REPAIR ANY JOINTS AND CRACKS AS INDICATED IN PLANS OR AS DIRECTED BY ENGINEER.

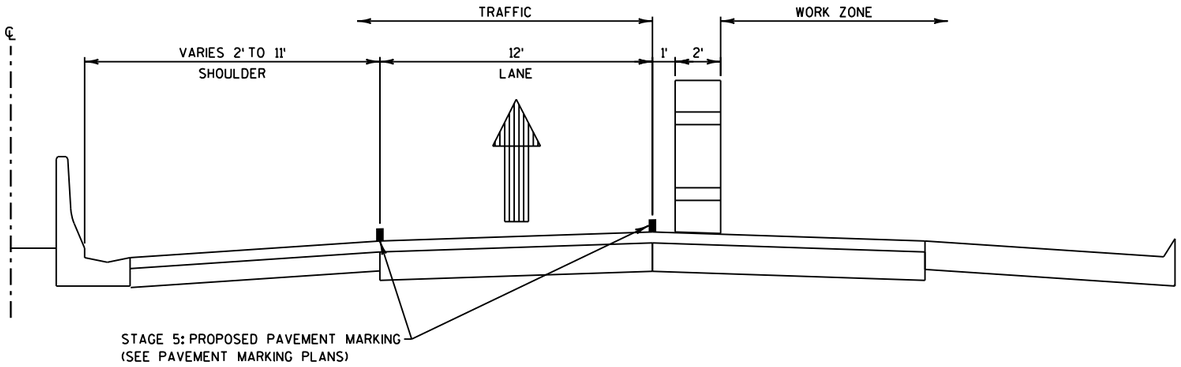
STAGE 3 - OFF PEAK HOURS (2-LANE SECTION)

SB LANES
ARE SIMILAR



STAGE 5 - OFF PEAK HOURS (2-LANE SECTION)

SB LANES
ARE SIMILAR



GENERAL NOTES:

TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", UNLESS OTHERWISE SHOWN.

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

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

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

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

USE REFLECTIVE PAINT FOR TEMPORARY LANE LINES EXCEPT ON FINAL ASPHALT SURFACE LAYER UNTIL PERMANENT PAVEMENT MARKINGS ARE PLACED.

TRAFFIC-STAGE 3:

CLOSE OUTSIDE LANE AND OUTSIDE SHOULDER.

MAINTAIN 1-11' LANE IN EACH DIRECTION.

CONSTRUCTION-STAGE 3:

MILL, IDENTIFY BASE PATCH LOCATIONS, BASE PATCH, PLACE LOWER AND UPPER LAYERS OF HMA, CONCRETE BASE PATCH SHES AS INDICATED IN PLANS OR AS DIRECTED BY ENGINEER ON OUTSIDE LANE.

TRAFFIC-STAGE 5;

CLOSE OUTSIDE LANE AND OUTSIDE SHOULDER.

MAINTAIN 1-12' LANE IN EACH DIRECTION.

CLOSE RAMPS AS DESCRIBED IN THE SPECIAL PROVISIONS.

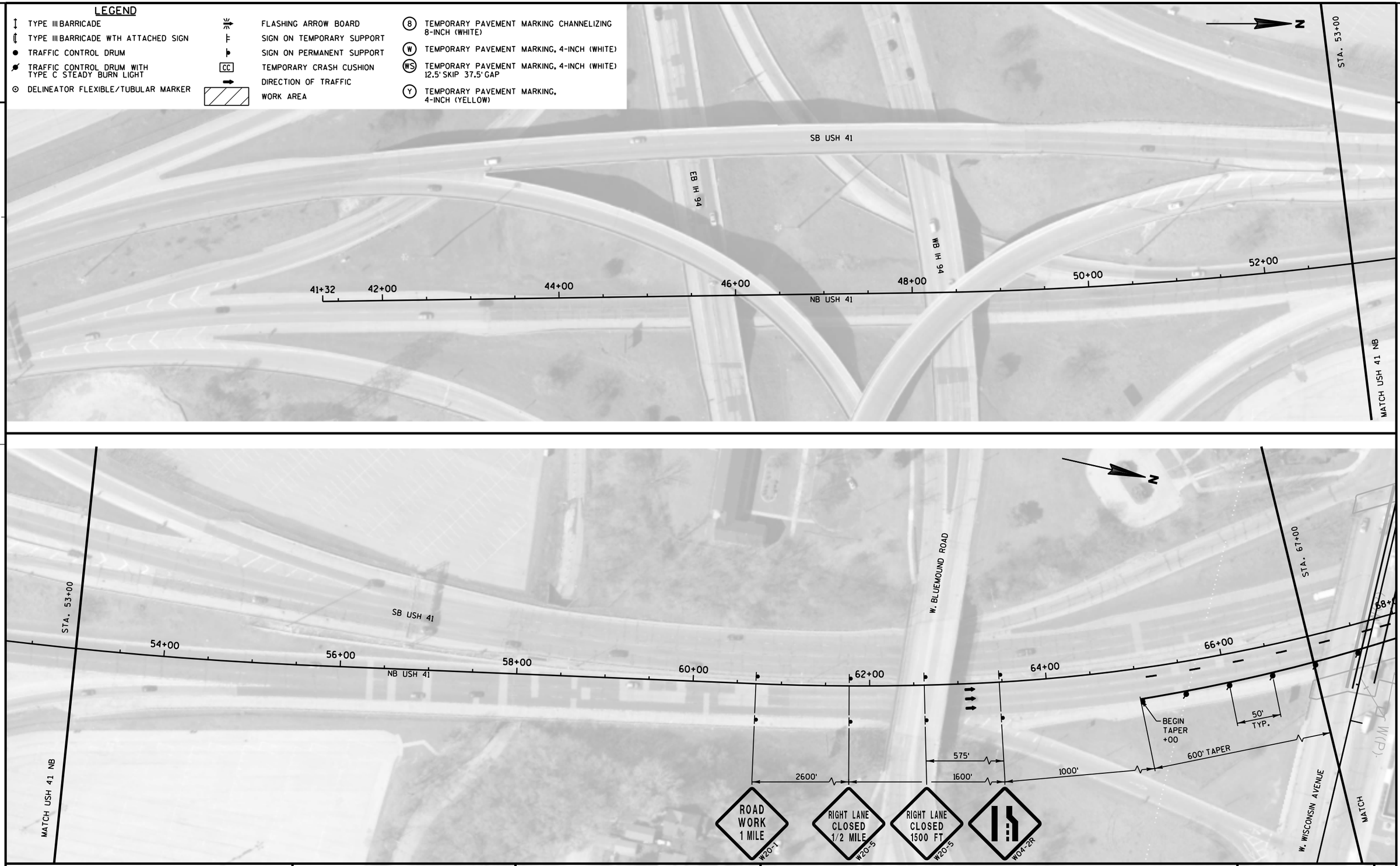
CONSTRUCTION-STAGE 5;

PLACE PERMANENT PAVEMENT MARKING
(SEE PAVEMENT MARKING PLANS).

MILL, BASE PATCH, PLACE UPPER AND LOWER LAYER OF HMA ON RAMPS.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION (CC)
- DIRECTION OF TRAFFIC
- WORK AREA
- (B) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 OFF PEAK HOURS (MAINLINE)	SHEET 188 E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026502_s3_5op.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

STA. 67+00

W. WISCONSIN AVENUE

W(P)

W. WELLS STREET

N

MENOMONEE RIVER

SB USH 41

NB USH 41

68+00

70+00

72+00

74+00

76+00

78+00

80+00

82+00

STA. 82+00

MATCH

50'
TYP.

END
TAPER
+50

RIGHT LANE
MUST EXIT
R3-22R
78" X 36"

600' TAPER

RAMP CLOSED
SEE STAGE 3 & 5 OFF PEAK (RAMPS)
FOR CLOSURE DETAILS

Y

WS

STA. 82+00

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

N

88+35

90+00

92+00

94+00

96+00

50'
TYP.

+65

80

+98

+20

WO4-3R
30" X 30"

STA. 96+50

82+00

84+00

86+00

88+00

90+00

92+00

94+00

96+00

EXIT
E5-1
60" X 48"

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

50'
TYP.

WO4-1R

WO3-2

+69

+07

+26

MATCH

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 OFF PEAK HOURS (MAINLINE)	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026503_s3_5op.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

2

STA. 96+50

98+00

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

+27

+80

100+00

25'
TYP.

EXIT
E5-1
60" X 48"

SEE TRAFFIC CONTROL,
EXIT AND ENTRANCE
RAMP WITHIN
LANE CLOSURE

102+00

50'
TYP.

W. VLIET STREET

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

STA. 112+50

98+00

+27

Y

+21

100+00

+56

SB USH 41

102+00

NB USH 41

104+00

106+00

108+00

110+74

109+36

112+00

+81

+99

108+00

112+00

+79

MATCH

W04-1R

R1-2
36" X 31"

YIELD

50'
TYP.

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

SEE TRAFFIC CONTROL,
EXIT AND ENTRANCE
RAMP WITHIN
LANE CLOSURE

+50

EXIT
E5-1
60" X 48"

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

MATCH

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

STA. 112+50

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

50'
TYP.

SB USH 41

114+00

116+00

118+00

120+00

122+00

124+00

126+00

+44

+91

+86

+41

NB USH 41

114+00

116+00

118+00

120+00

125+30

126+00

50'
TYP.

W. WASHINGTON BLVD.

R1-2
36" X 31"

YIELD

W04-1R

SEE TRAFFIC CONTROL,
EXIT AND ENTRANCE
RAMP WITHIN
LANE CLOSURE

SEE TRAFFIC CONTROL,
EXIT AND ENTRANCE
RAMP WITHIN
LANE CLOSURE

EXIT
E5-1
60" X 48"

STA. 127+50

MATCH

N

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 OFF PEAK HOURS (MAINLINE)	SHEET 190	E

2

2

N. 48TH STREET

N

W03-2

STA. 127+50

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

50'
TYP.

N. 47TH STREET

STA. 142+00 SB

128+00
130+00
132+00
134+00
SB USH 41
136+00
137+48
138+00
140+00
142+00

MATCH

+42

NB USH 41

138+00
140+00
142+00

STA. 142+00 NB

MATCH

+80

128+00
130+00
132+00
134+00
136+00
137+48

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

+43

50'
TYP.

134+00

136+00

N. 46TH STREET

REMOVE PAVEMENT MARKING ARROW AND "ONLY" FROM RIGHT LANE

137+82

W. LLOYD STREET

MATCH

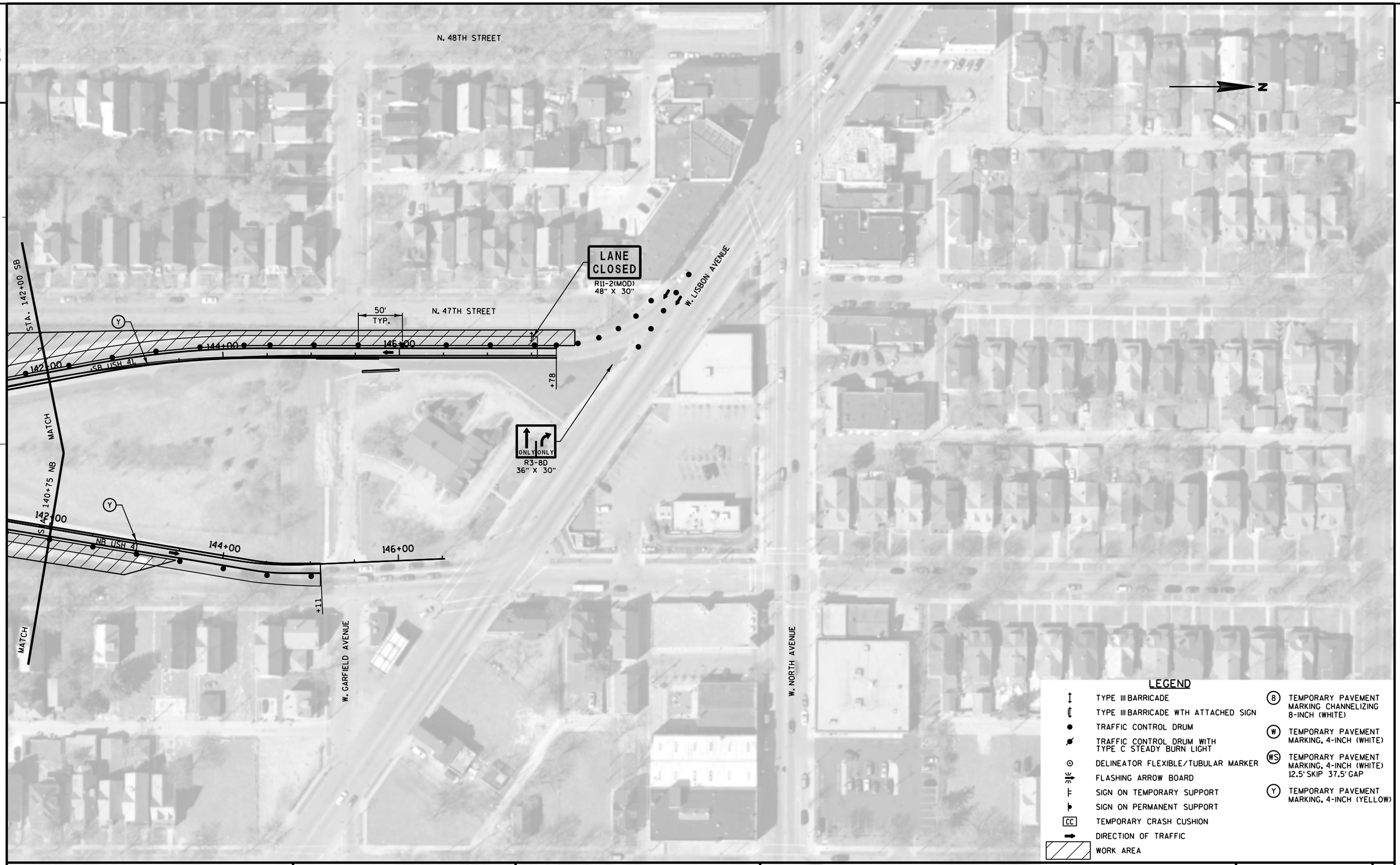
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 OFF PEAK HOURS (MAINLINE)	SHEET 191	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026505_s3_5op.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 OFF PEAK HOURS (MAINLINE)	SHEET 192	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026506_s3_5op.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

N

N. 50TH STREET

N. 49TH STREET

N. 48TH STREET

N. 47TH STREET

N. 51ST STREET

W. LISBON AVENUE

W. MEINECKE AVENUE

W. NORTH AVENUE

HWY 41
UNDER CONSTR
XXX XX-XXX XX

G20-57
96" X 48"

W16-9P
30" X 12"

AHEAD

ONLY ONLY

R3-8D
36" X 30"

LEGEND

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

- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 OFF PEAK HOURS (MAINLINE)	SHEET 193	E

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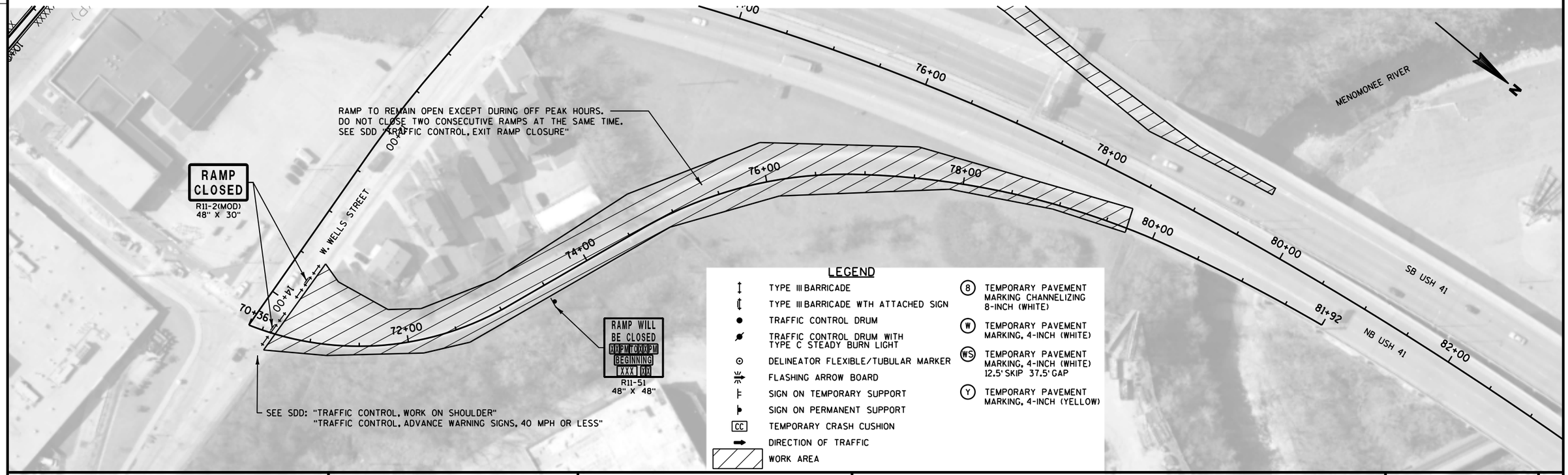


PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 OFF PEAK HOURS (RAMPS)	SHEET 194	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026513_s3_5op.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

MAINTAIN 1 LANE OF TRAFFIC IN EACH DIRECTION BETWEEN FREEWAY RAMPS AND STATE STREET. SEE S.D.D. 15D21 TRAFFIC CONTROL. INTERSECTION WITHIN SINGLE LANE CLOSURE

N

N. ALOIS STREET

W. STATE STREET

2+00 4+00 6+00 8+00 9+66 10+00 12+00

RAMP WILL BE CLOSED XX PM TO XX PM BEGINNING XXX XX
R11-51
48" X 48"

98+00

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

RAMP TO REMAIN OPEN EXCEPT DURING REHABILITATION OF RAMP. DO NOT CLOSE TWO CONSECUTIVE RAMPS AT THE SAME TIME.

96+00 94+00 92+00 90+00 88+35 6+00

4+00 86+00 88+00 90+00 92+00

SB USH 41

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

N

88+00 90+00 92+00 94+00 95+53

RAMP TO REMAIN OPEN EXCEPT DURING REHABILITATION OF RAMP. DO NOT CLOSE TWO CONSECUTIVE RAMPS AT THE SAME TIME. SEE SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

SEE SDD: "TRAFFIC CONTROL, SIDEWALK CLOSURE"
"TRAFFIC CONTROL, WORK ON SHOULDER"
"TRAFFIC CONTROL, ADVANCE WARNING SIGNS, 40 MPH OR LESS"

88+00 86+00 84+00 86+00

SB USH 41

NB USH 41

RAMP WILL BE CLOSED XX PM TO XX PM BEGINNING XXX XX
R11-51
48" X 48"

W. STATE STREET

N. 47TH STREET

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 OFF PEAK HOURS (RAMPS)	SHEET 195	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026514_s3_5op.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

N. ALOIS STREET

MAINTAIN TRAFFIC IN ONE DIRECTION AT ALL TIMES FROM VLIET STREET TO FREEWAY RAMPS. SEE S.D.D. 15D21 TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

RAMP TO REMAIN OPEN EXCEPT DURING REHABILITATION OF RAMP. DO NOT CLOSE TWO CONSECUTIVE RAMPS AT THE SAME TIME. SEE SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

CLOSE ALOIS STREET FROM STA 10+00 TO STA 20+00 IN CONCURENCE WITH CLOSURE OF THE ALOIS STREET ON/OFF RAMPS.

SEE SDD: "TRAFFIC CONTROL, SIDEWALK CLOSURE"
"TRAFFIC CONTROL, WORK ON SHOULDER"
"TRAFFIC CONTROL, ADVANCE WARNING SIGNS, 40 MPH OR LESS"

RAMP WILL BE CLOSED
XX PM TO XX PM
BEGINNING
XXX | XX
R11-51
48" X 48"

SB USH 41

NB USH 41

N. VLIET STREET

8+00 10+00 12+00 14+00 16+00 18+00 20+00 96+00 98+00 100+00 102+00 104+00 106+00 101+16

N. 47TH STREET

SB USH 41

NB USH 41

N. ALOIS STREET

94+00 96+00 98+00 100+00 101+16 102+00 92+00 90+00

SEE SDD: "TRAFFIC CONTROL, SIDEWALK CLOSURE"
"TRAFFIC CONTROL, WORK ON SHOULDER"
"TRAFFIC CONTROL, ADVANCE WARNING SIGNS, 40 MPH OR LESS"

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

RAMP WILL BE CLOSED
XX PM TO XX PM
BEGINNING
XXX | XX
R11-51
48" X 48"

RAMP TO REMAIN OPEN EXCEPT DURING REHABILITATION OF RAMP. DO NOT CLOSE TWO CONSECUTIVE RAMPS AT THE SAME TIME.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 OFF PEAK HOURS (RAMPS)	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026515_s3_5op.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC — TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

N. 47TH STREET

SB USH 41

NB USH 41

104+00 106+01 106+00 108+00 110+74 109+36 112+00 114+00 116+00 118+00 120+00

108+00 110+00 112+00 114+00 116+00 118+00 120+00

W. VLIET STREET

RAMP WILL BE CLOSED
XX PM TO XX PM
BEGINNING
XXX XX
R11-51
48" X 48"

RAMP TO REMAIN OPEN EXCEPT DURING REHABILITATION OF RAMP. DO NOT CLOSE TWO CONSECUTIVE RAMPS AT THE SAME TIME. SEE SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

SEE SDD: "TRAFFIC CONTROL, SINGLE LANE CLOSURE NON-FDREEWAY/EXPRESSWAY"
"TRAFFIC CONTROL, WORK ON SHOULDER"
"TRAFFIC CONTROL, ADVANCE WARNING SIGNS, 40 MPH OR LESS"

W. WASHINGTON BLVD.

RAMP TO REMAIN OPEN EXCEPT DURING REHABILITATION OF RAMP. DO NOT CLOSE TWO CONSECUTIVE RAMPS AT THE SAME TIME.

RAMP WILL BE CLOSED
XX PM TO XX PM
BEGINNING
XXX XX
R11-51
48" X 48"

N. 47TH STREET

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

SEE SDD: "TRAFFIC CONTROL, SINGLE LANE CLOSURE NON-FREEWAY/EXPRESSWAY"
"TRAFFIC CONTROL, WORK ON SHOULDER"
"TRAFFIC CONTROL, ADVANCE WARNING SIGNS, 40 MPH OR LESS"

W. WASHINGTON BLVD.

SB USH 41

NB USH 41

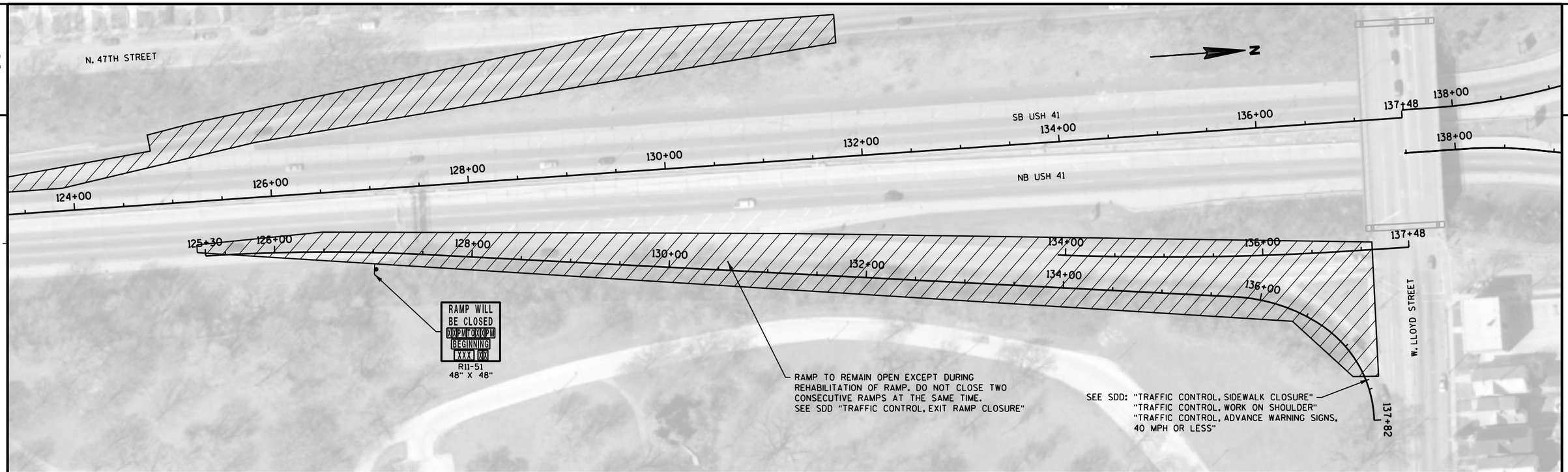
118+00 120+00 122+00 124+00 126+00 128+00 129+00 130+00 132+00

122+00 124+00 126+00 128+00

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 OFF PEAK HOURS (RAMPS)	SHEET 197	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026516_s3_5op.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42



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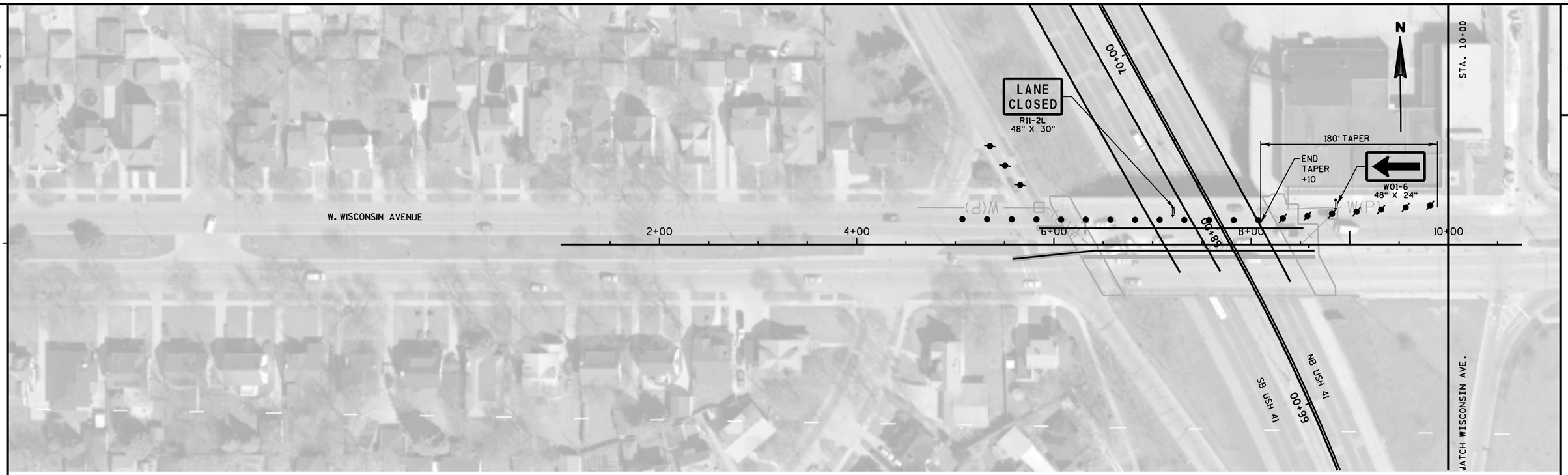
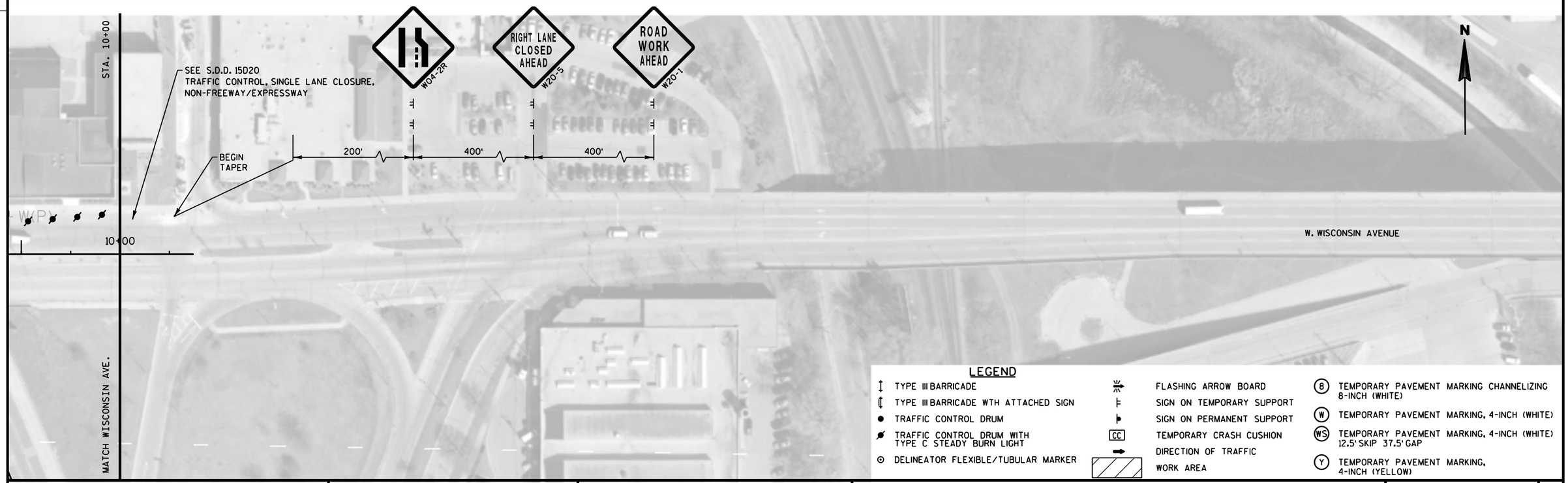
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- CC TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CONSTRUCTION STAGING-STAGE 3 & 5 OFF PEAK HOURS (RAMPS)	SHEET 198	E

2



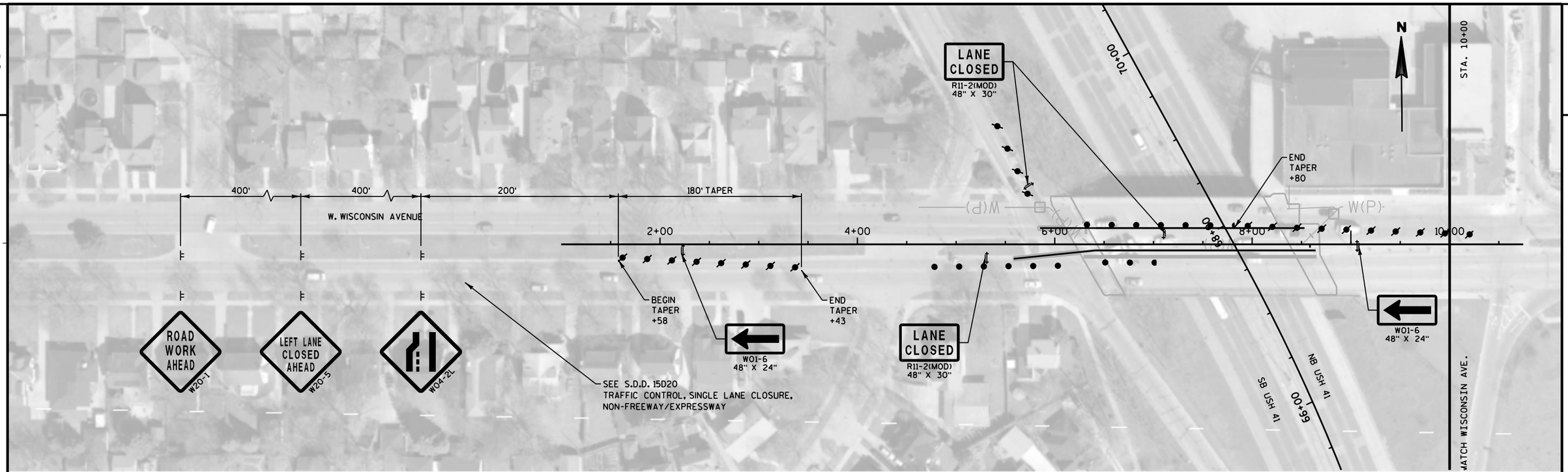


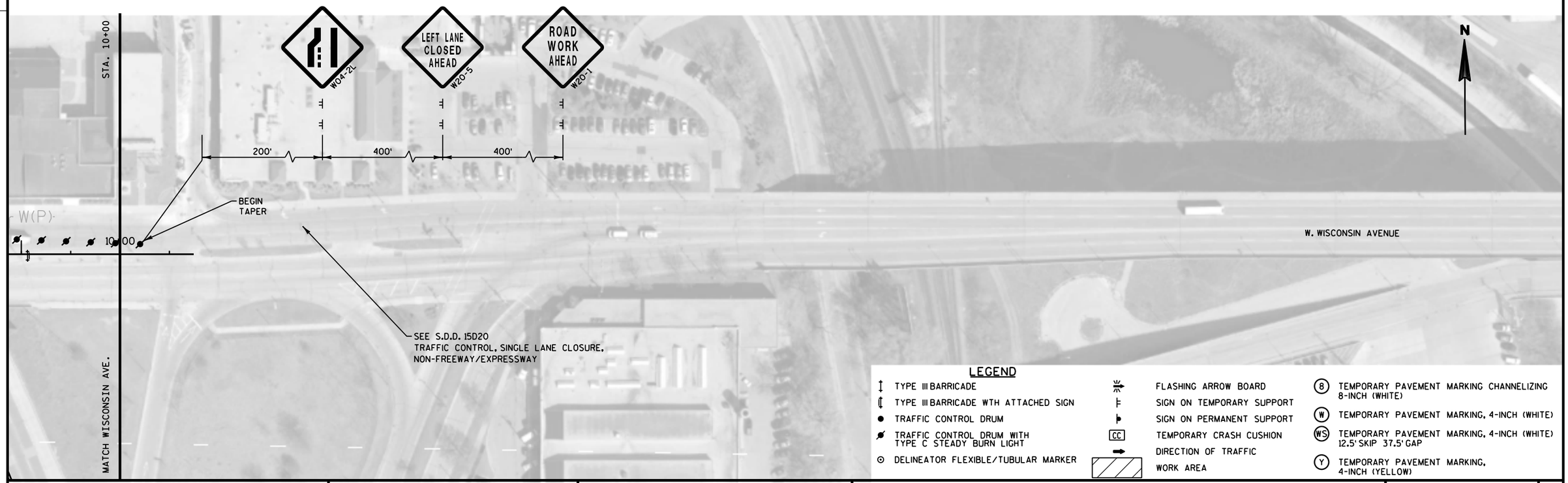
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION (CC)
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	WISCONSIN AVENUE SIGNAL PLACEMENT - STAGE 1	SHEET 199	E

2

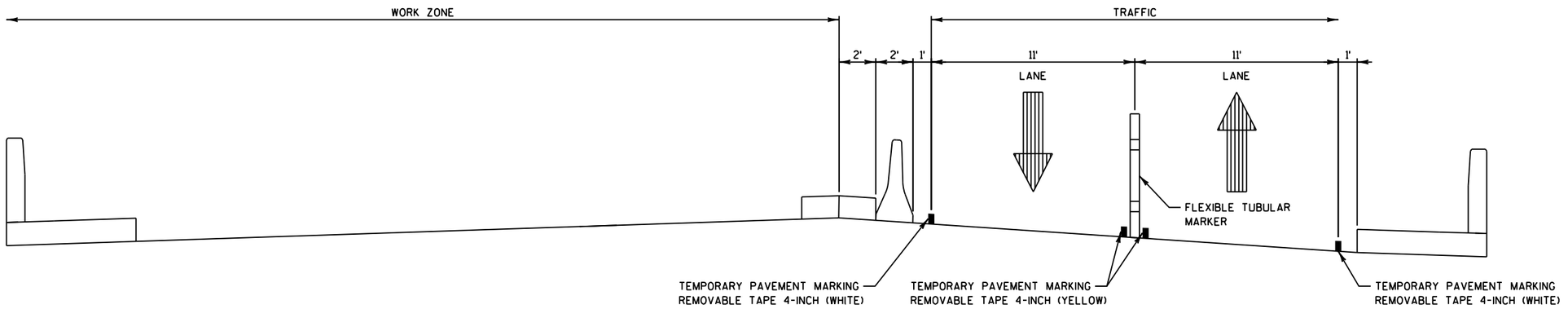




PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	WISCONSIN AVENUE SIGNAL PLACEMENT - STAGE 2	SHEET 200	E

2

VLIET STREET DECK REPLACEMENT STAGE 1
(LOOKING EAST)



GENERAL NOTES:

TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", ONE WAY LIGHTS IN TAPERS ONLY. UNLESS OTHERWISE SHOWN.

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

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

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

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

REMOVE CONFLICTING PAVEMENT MARKINGS.

TRAFFIC-STAGE 1:

CROSSOVERS PLACED ON VLIET STREET.

TRAFFIC SHIFTED TO SOUTH SIDE (EASTBOUND LANES) OF BRIDGE (1-11' THROUGH LANE IN EACH DIRECTION).

CONSTRUCTION-STAGE 1:

REMOVE AND REPLACE NORTH SIDE (WESTBOUND LANES) OF BRIDGE DECK.

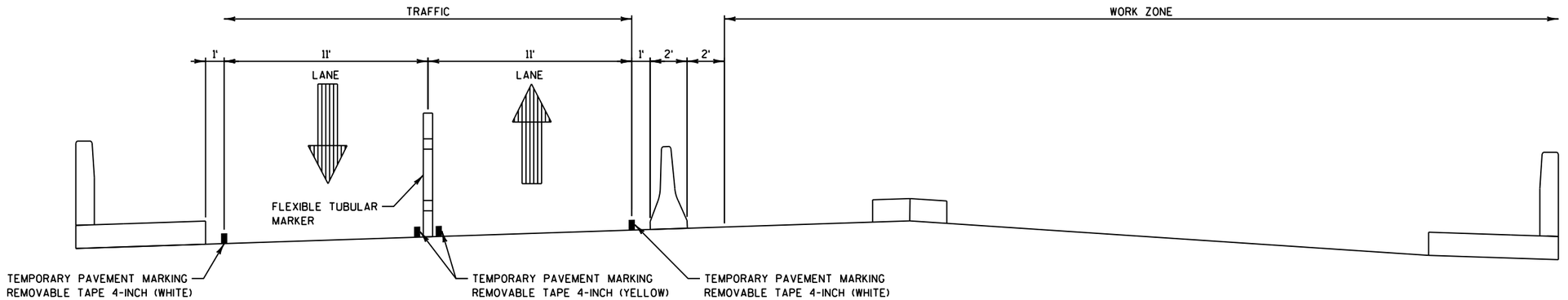
TRAFFIC-STAGE 2:

TRAFFIC SHIFTED TO NORTH SIDE (WESTBOUND LANES) OF BRIDGE (1-11' THROUGH LANE IN EACH DIRECTION).

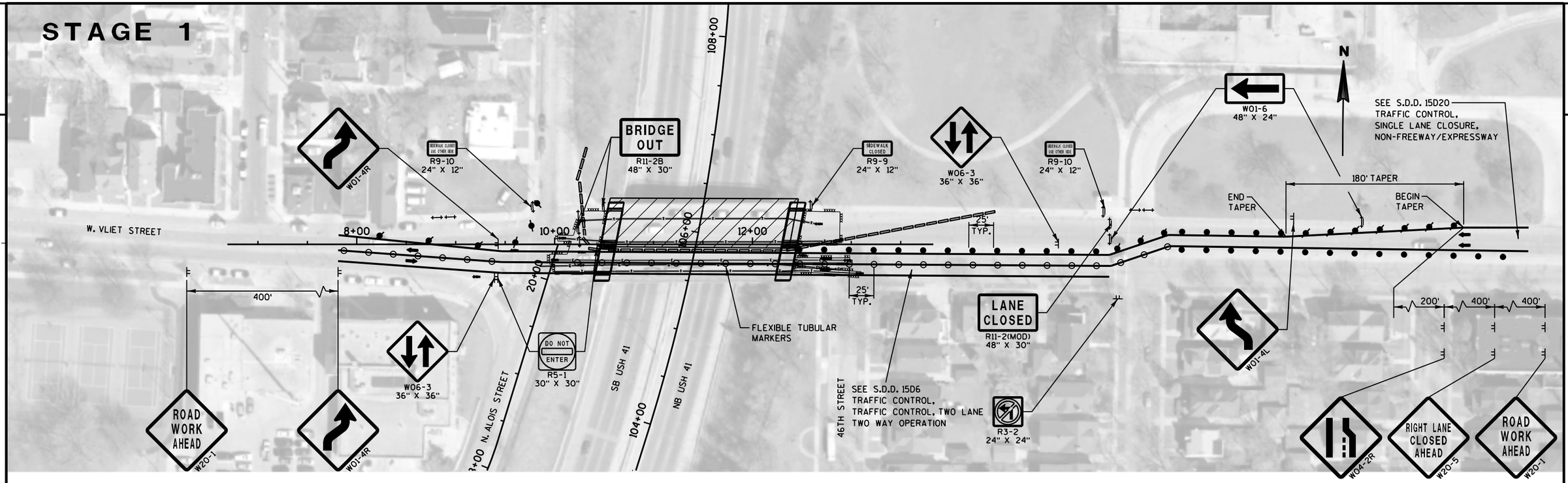
CONSTRUCTION-STAGE 2:

REMOVE AND REPLACE SOUTH SIDE (EASTBOUND LANES) OF BRIDGE DECK.

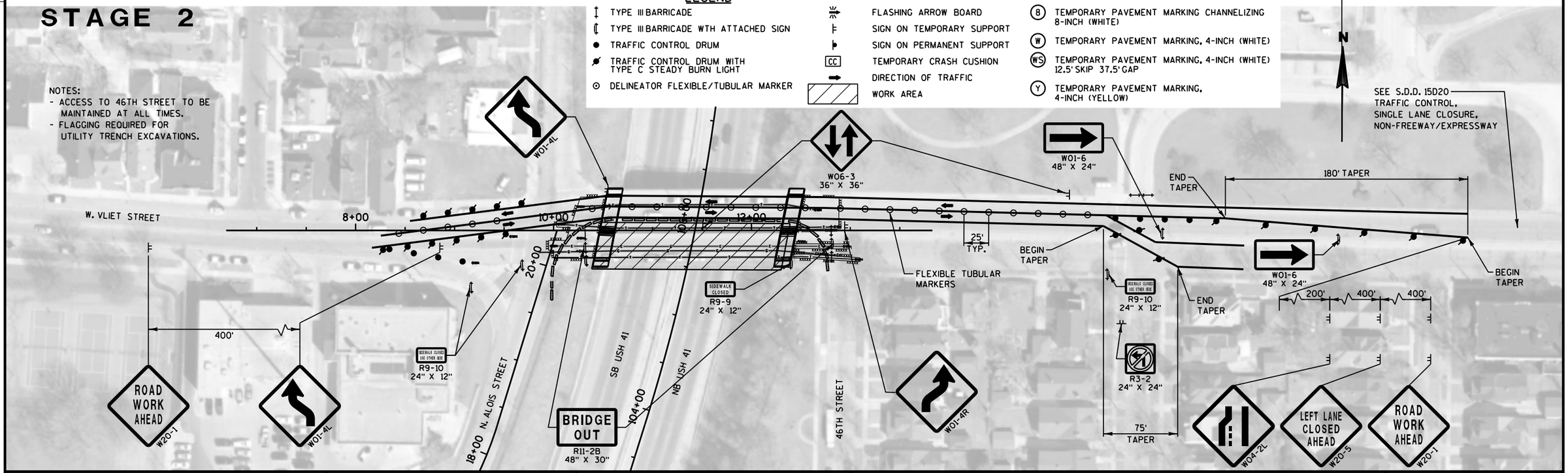
VLIET STREET DECK REPLACEMENT STAGE 2
(LOOKING EAST)



STAGE 1



STAGE 2



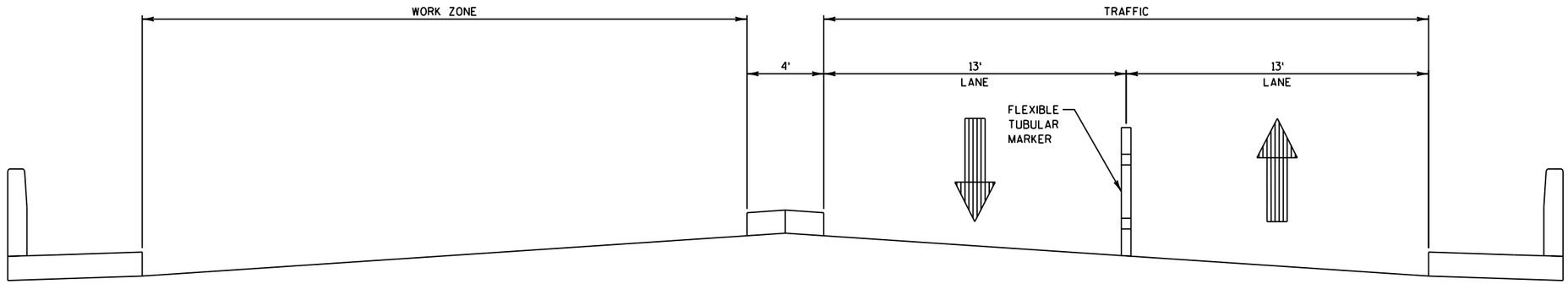
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	VLIET STREET BRIDGE DECK REPLACEMENT	SHEET E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026701_sb.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

2

2

STAGE 1



GENERAL NOTES:

TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", ONE WAY LIGHTS IN TAPERS ONLY. UNLESS OTHERWISE SHOWN.

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

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

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

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

REMOVE CONFLICTING PAVEMENT MARKINGS.

TRAFFIC-STAGE 1:

SHIFT TRAFFIC TO EXISTING EASTBOUND LANES (1-13' LANE IN EACH DIRECTION).

CONSTRUCTION-STAGE 1:

MILL, REPAIR CONCRETE DECK AND OVERLAY AS SHOWN ON BRIDGE PLANS.

TRAFFIC-STAGE 2:

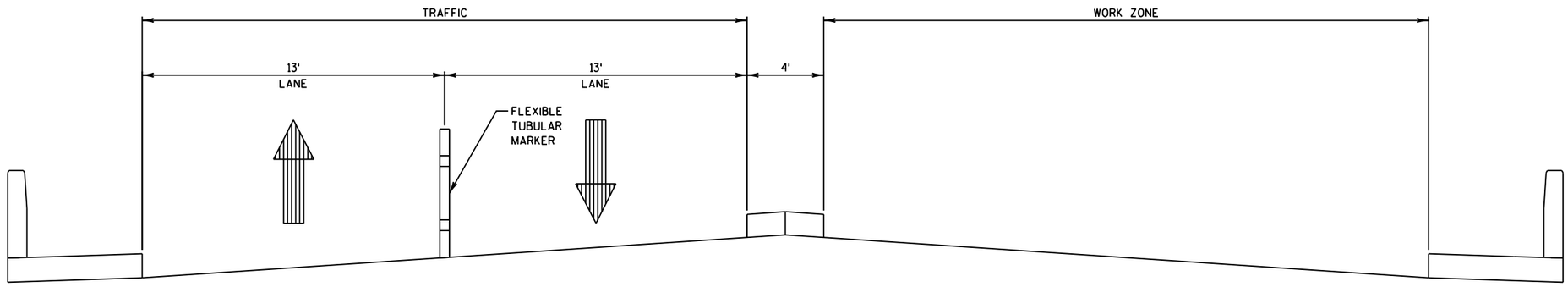
SHIFT TRAFFIC TO NEWLY RESURFACED WESTBOUND LANES (1-13' LANE IN EACH DIRECTION).

CONSTRUCTION-STAGE 2:

MILL, REPAIR CONCRETE DECK AND OVERLAY AS SHOWN ON BRIDGE PLANS.

BRIDGE	STAGE 1 WORK ZONE WIDTH	STAGE 2 WORK ZONE WIDTH	TOTAL BRIDGE DECK WIDTH
WASHINGTON	26'	26'	56'

STAGE 2

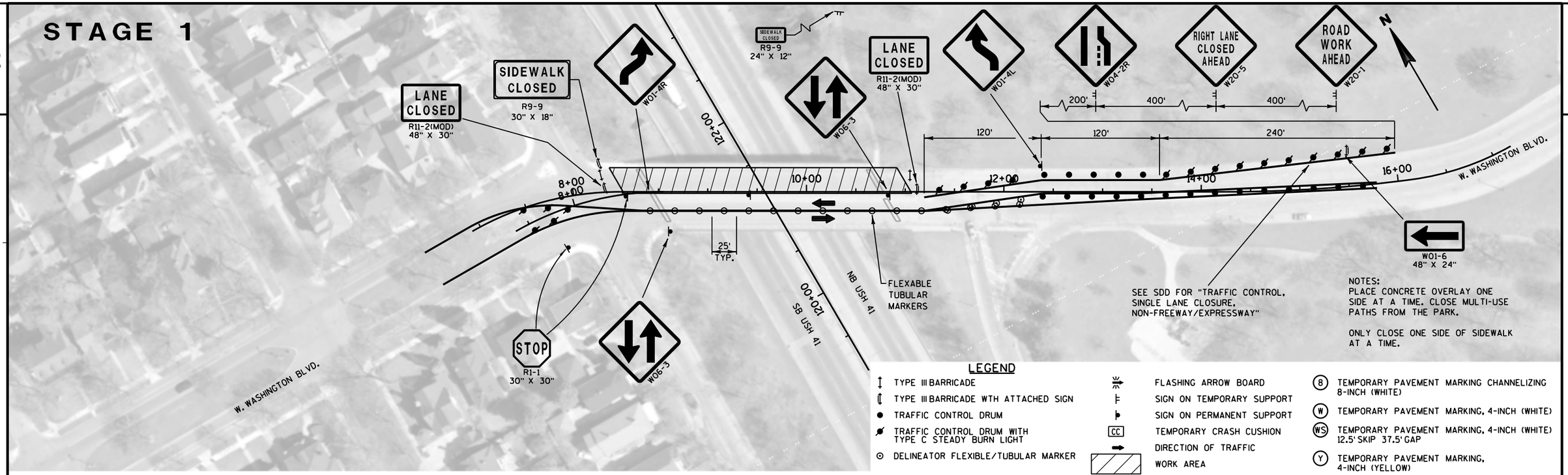


PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	BRIDGE DECK OVERLAY - WASHINGTON BLVD.	SHEET 203	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026800_sb.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

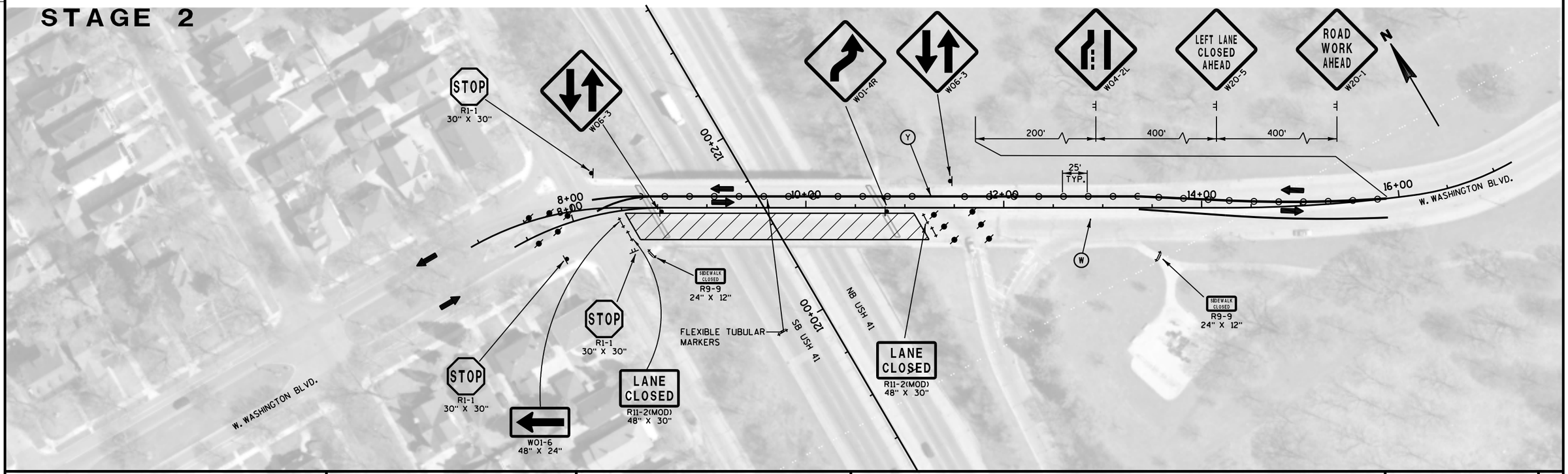
STAGE 1



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

STAGE 2



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	BRIDGE DECK OVERLAY - W. WASHINGTON BLVD.	SHEET 204	E

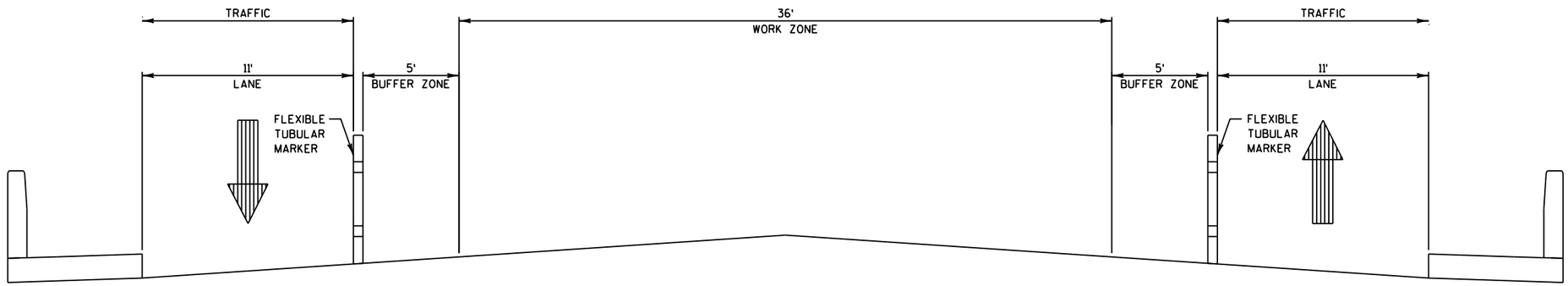
FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_026802_sb.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

STAGE 1



GENERAL NOTES;

TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", ONE WAY LIGHTS IN TAPERS ONLY. UNLESS OTHERWISE SHOWN.

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

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

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

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

REMOVE CONFLICTING PAVEMENT MARKINGS.

TRAFFIC-STAGE 1;

SHIFT TRAFFIC TO EXISTING OUTSIDE LANES (1-11' LANE IN EACH DIRECTION).

CONSTRUCTION-STAGE 1;

MILL, REPAIR CONCRETE DECK AND OVERLAY AS SHOWN ON BRIDGE PLANS.

TRAFFIC-STAGE 2;

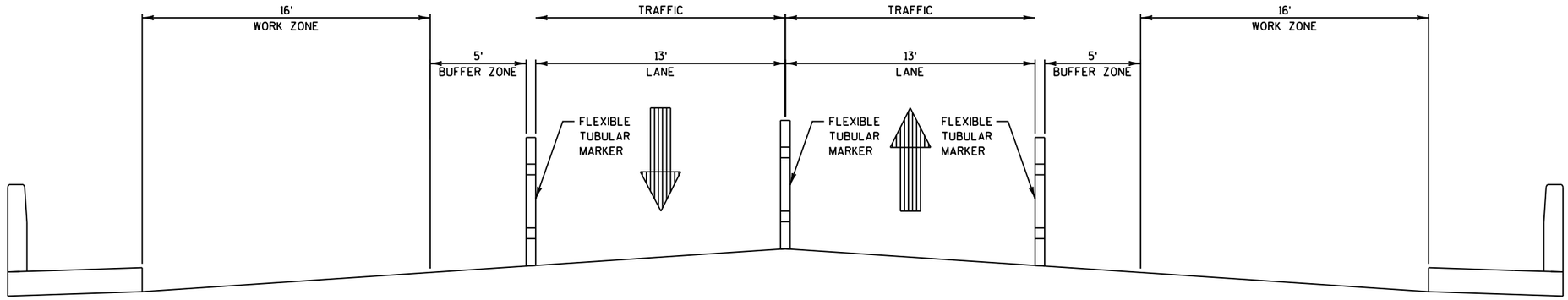
SHIFT TRAFFIC TO NEWLY RESURFACED INSIDE LANES (1-13' LANE IN EACH DIRECTION).

CONSTRUCTION-STAGE 2;

MILL, REPAIR CONCRETE DECK AND OVERLAY AS SHOWN ON BRIDGE PLANS.

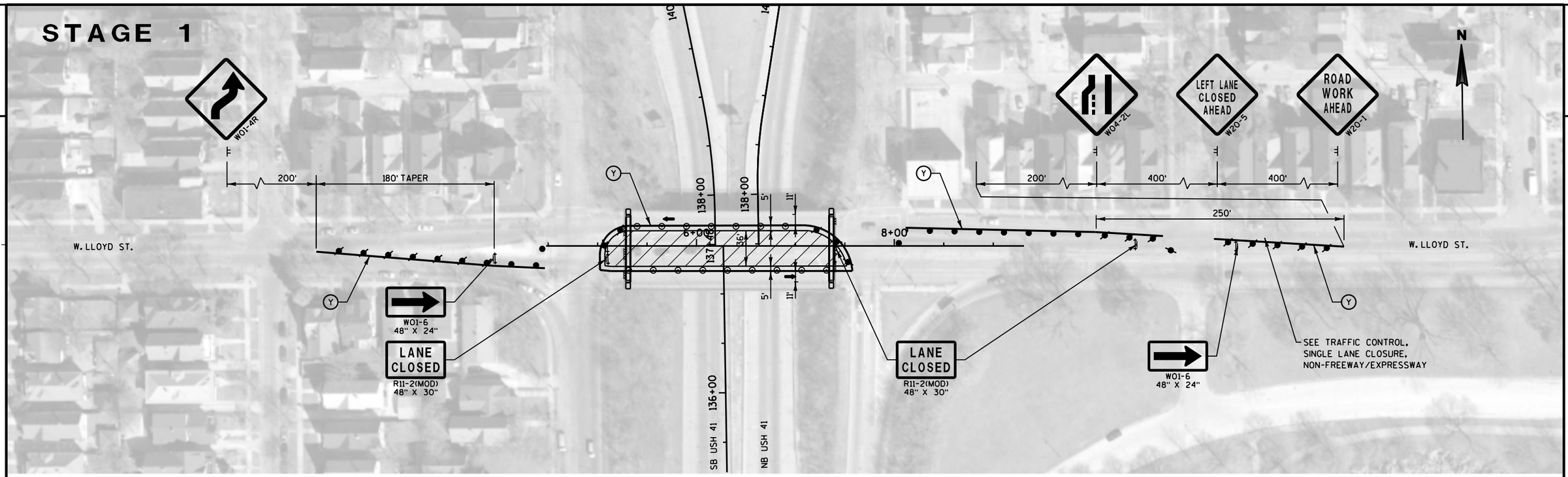
BRIDGE	STAGE 1 WORK ZONE WIDTH	STAGE 2 WORK ZONE WIDTH	TOTAL BRIDGE DECK WIDTH
LLOYD	36'	2-16' AREAS	68'

STAGE 2

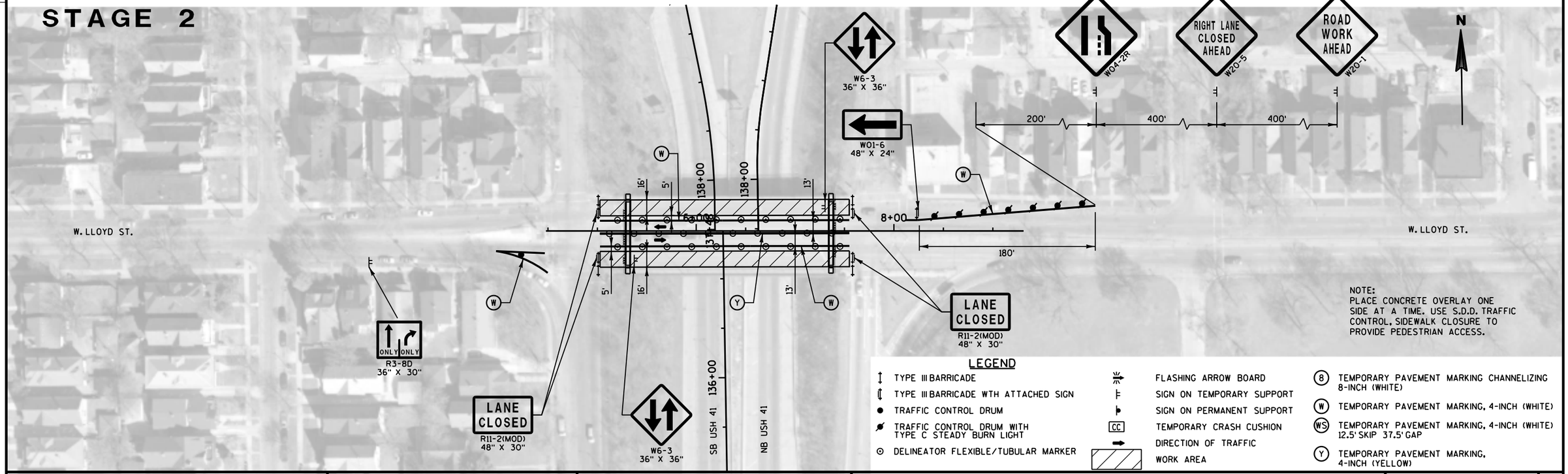


PROJECT NO:1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	BRIDGE DECK OVERLAY - LLOYD ST.	SHEET 205	E

STAGE 1



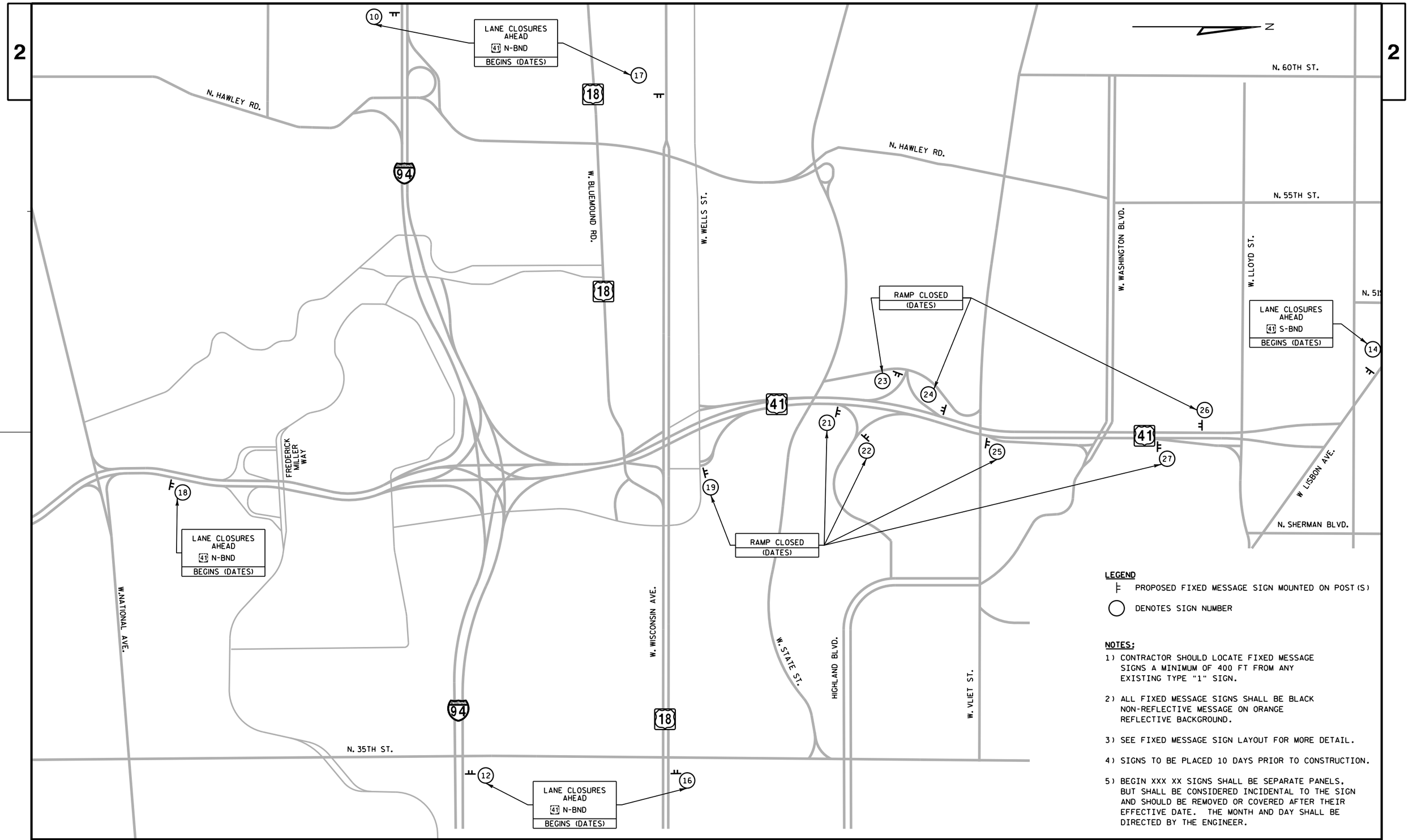
STAGE 2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TEMPORARY CRASH CUSHION
- DIRECTION OF TRAFFIC
- WORK AREA
- (8) TEMPORARY PAVEMENT MARKING CHANNELIZING 8-INCH (WHITE)
- (W) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE)
- (WS) TEMPORARY PAVEMENT MARKING, 4-INCH (WHITE) 12.5' SKIP 37.5' GAP
- (Y) TEMPORARY PAVEMENT MARKING, 4-INCH (YELLOW)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	BRIDGE DECK OVERLAY-W. LLOYD ST.	SHEET 206	E



LEGEND

- ⊨ PROPOSED FIXED MESSAGE SIGN MOUNTED ON POST(S)
- ◯ DENOTES SIGN NUMBER

NOTES:

1) CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400 FT FROM ANY EXISTING TYPE "1" SIGN.
2) ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND.
3) SEE FIXED MESSAGE SIGN LAYOUT FOR MORE DETAIL.
4) SIGNS TO BE PLACED 10 DAYS PRIOR TO CONSTRUCTION.
5) BEGIN XXX XX SIGNS SHALL BE SEPARATE PANELS, BUT SHALL BE CONSIDERED INCIDENTAL TO THE SIGN AND SHOULD BE REMOVED OR COVERED AFTER THEIR EFFECTIVE DATE. THE MONTH AND DAY SHALL BE DIRECTED BY THE ENGINEER.

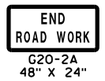
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	ADVANCE WARNING SIGNS - LANE / RAMP CLOSURES	SHEET 207 E

2

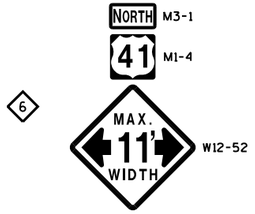
1

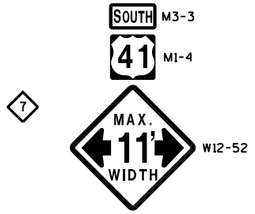
2

3

4 

5

6 

7 

PCMS MESSAGES

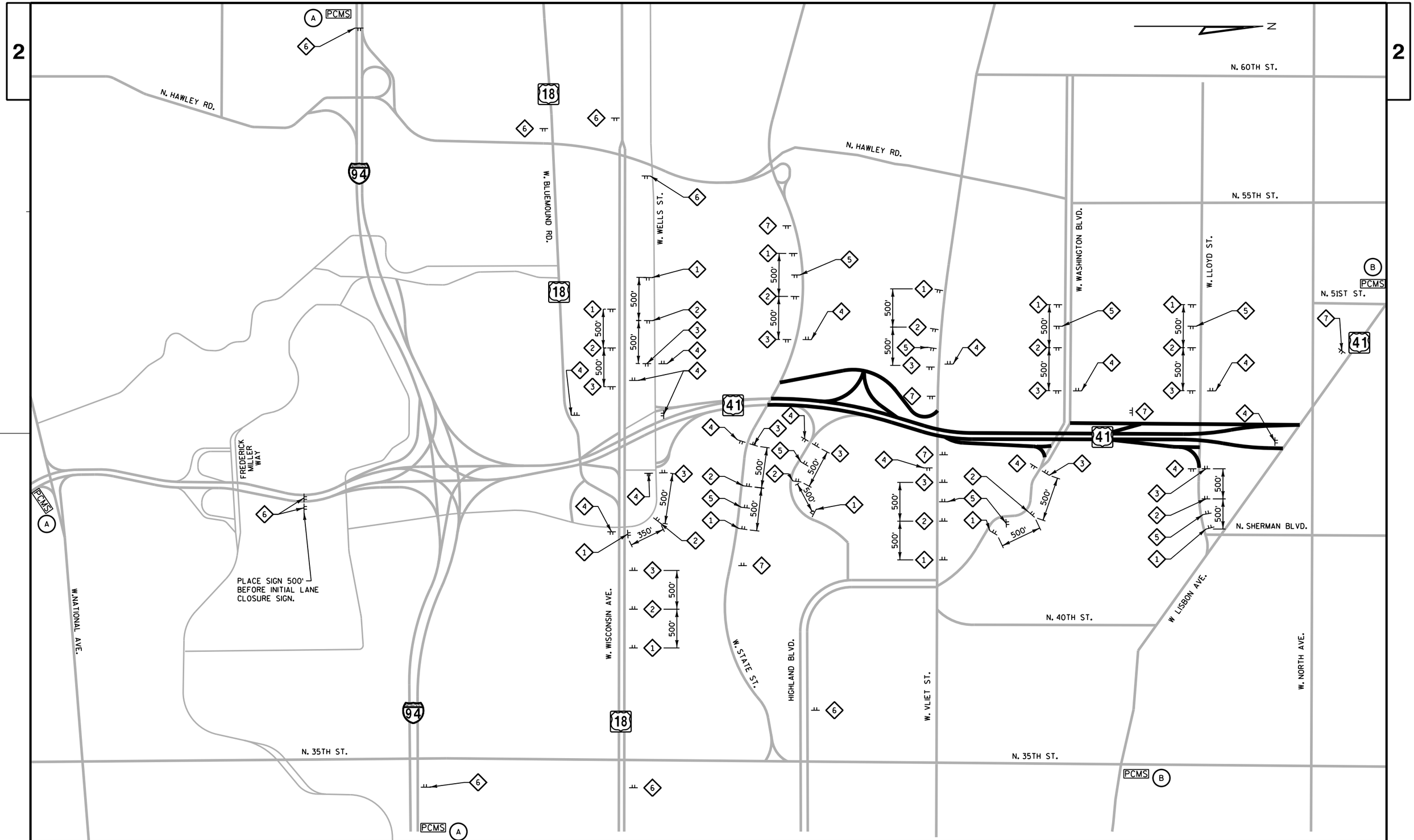
(A) PRIOR TO WORK MESSAGE TO READ:
"LANE CLOSURES
N-BND USH 41
"DATE - DATE"

(B) PRIOR TO WORK MESSAGE TO READ:
"LANE CLOSURES
S-BND USH 41
"DATE - DATE"

LEGEND

PCMS	PORTABLE CHANGEABLE MESSAGE BOARD
⊨	SIGN ON TEMPORARY SUPPORT
↕	TYPE III BARRICADE
⇕	TYPE III BARRICADE WTH ATTACHED SIGN

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	ADVANCED WARNING PLAN	SHEET 208	E

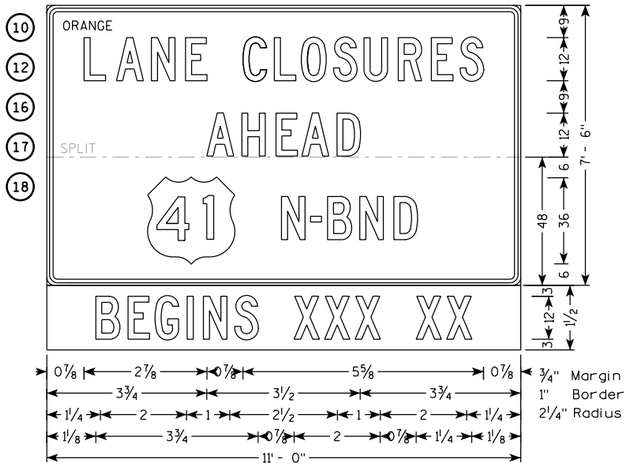


PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	ADVANCED WARNING PLAN	SHEET 209	E

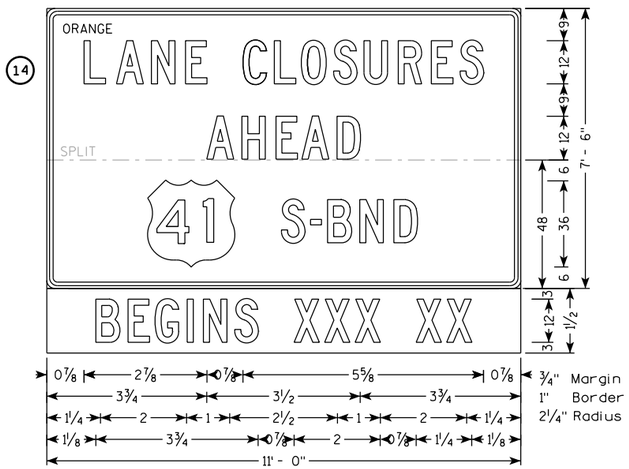
FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_027013_dt.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:1000

WISDOT/CADDS SHEET 42

(10) (12) (16) (17) (18)



(14)



(22) (23) (24) (25)

(19) (26) (27) (21)

NOTES:

1) ALL SIGNS TO HAVE STANDARD REFLECTIVE SHEETING - REFERENCE: "WISDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION." LATEST EDITION.

2) AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE SIGNING AND MARKING SUPERVISOR SHALL VERIFY EACH SIGN LOCATION.

3) ALL FIXED MESSAGE SIGNS TO BE MOUNTED ON WOODEN SUPPORT POSTS (4"X6"). POSTS ARE INCIDENTAL TO ITEM "FIXED MESSAGE SIGN. STEEL POSTS (2"X2") MAY BE USED FOR SIGNS ON SURFACE STREETS.

4) SIGNS ON THIS SHEET TO BE PAID UNDER THE ITEM "FIXED MESSAGE SIGNS." OR "SPECIAL MESSAGE SIGNS"

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

6) ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS:

6-IN CAPES SHALL BE SERIES C
12-IN CAPS SHALL BE SERIES D

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

8) SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 637.2.1.2.

9) SIGN NUMBERS SHOWN BY .... (XX)

10) BEGIN XXX XX SIGNS TO BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION.

11) BEGIN XXX XX SIGNS SHALL BE SEPERATE PANELS, BUT SHALL BE CONSIDERED AS PART OF THE SIGN AND SHOULD BE REMOVED OR COVERED AFTER THEIR EFFECTIVE DATE. THE MONTH AND DAY SHALL BE DIRECTED BY THE ENGINEER IN THE FIELD.

12) DO NOT SCALE.

2

2

N

N. HAWLEY RD.

N. 60TH ST.

N. 55TH ST.

N. 51

N. 47TH ST.

N. 46TH ST.

N. 40TH ST.

N. 35TH ST.

N. SHERMAN BLVD.

W. BLUEMOUND RD.

W. WELLS ST.

W. WASHINGTON BLVD.

W. LLOYD ST.

W. LISBON AVE.

W. NORTH AVE.

W. STATE ST.

W. VLIET ST.

WEST MARTIN DR.

WEST JUNEAU AVE.

HIGHLAND BLVD.

W. WISCONSIN AVE.

W. NATIONAL AVE.

FREDERICK MILLER WAY

18

41

94

DETOUR
M4-8
24" X 12"

TO (ORANGE)
M 4-5
24" X 12"

Vliet St
State St

MO5-1L
21" X 21"

MO6-1
21" X 21"

MO6-2
21" X 21"

DETOUR
1500 FT
W20-2

DETOUR
AHEAD
W20-2

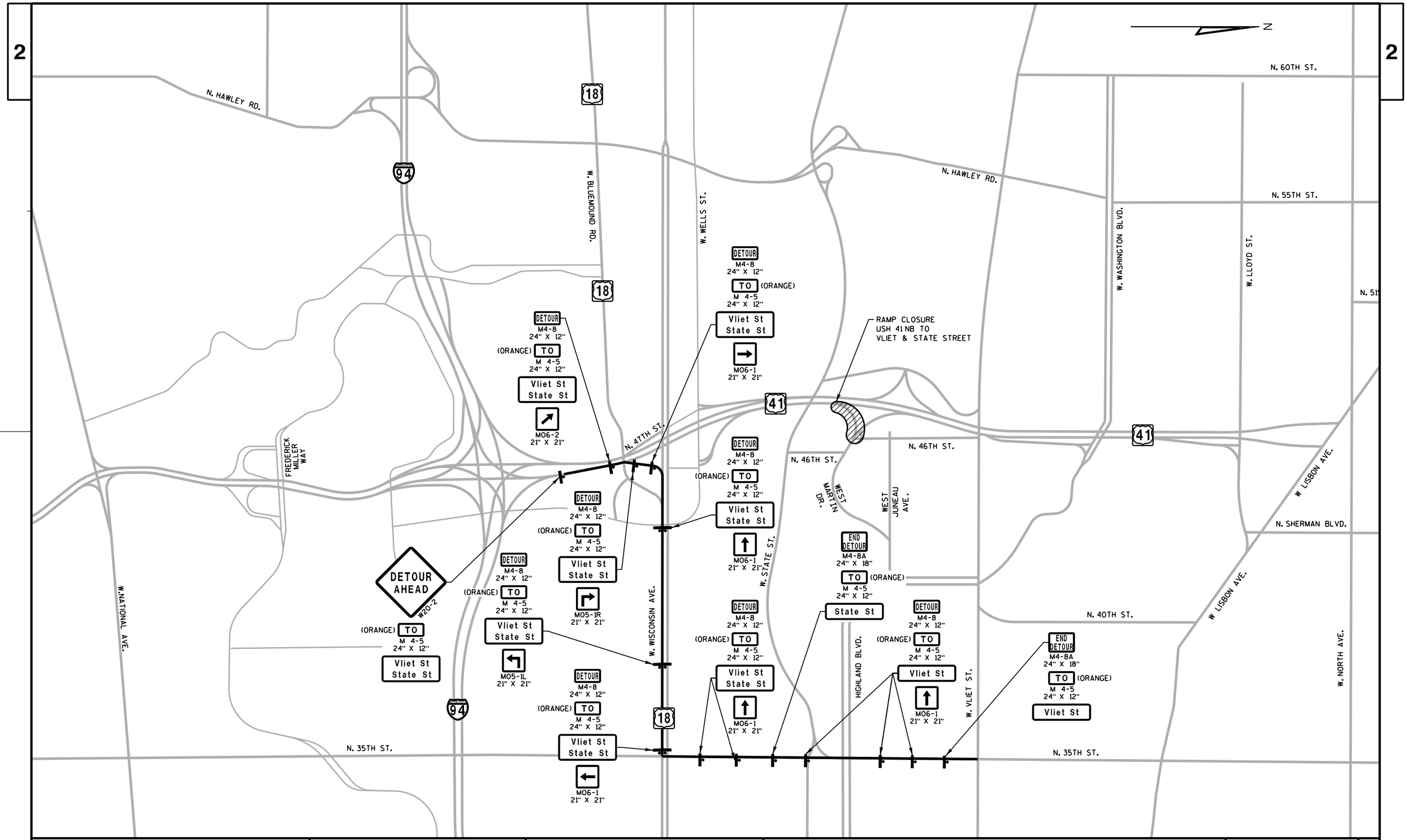
Vliet St

END
DETOUR
M4-8A
24" X 18"

RAMP CLOSURE
USH 41 SB TO
VLIET & STATE STREET

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	DETOUR PLAN - SB USH 41 OFF-RAMP TO VLIET & STATE STREET	SHEET 211 E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_027020_dt.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:1000



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	DETOUR PLAN - NB USH 41 OFF-RAMP TO VLIET & STATE STREET	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_027021_dt.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:1000

WISDOT/CADDS SHEET 42

2

N. HAWLEY RD.

EXISTING SIGNS TO BE COVERED

SOUTH 41 (A) SOUTH 41 (B) SOUTH 41 (C) TO SOUTH 41 (D) TO SOUTH 41 (E)

TO (ORANGE) M 4-5 24" X 12"
Interstate 94 M1-1 24" X 24"
18 MO6-1 21" X 21"
DETOUR M4-8 24" X 12"
TO (ORANGE) M 4-5 24" X 12"
41 M1-4 24" X 24"
MO5-1L 21" X 21"
MO6-1 21" X 21"

W. BLUEMOUND RD.

W. WELLS ST.

N. 47TH ST.

FREDERICK MILLER WAY

W. NATIONAL AVE.

W. WISCONSIN AVE.

N. 35TH ST.

END DETOUR M4-8A 24" X 18"

MO5-1R 21" X 21"

N. 46TH ST.

RAMP CLOSURE ALOIS STREET TO SB USH 41

WEST MARTIN DR.

WEST JUNEAU AVE.

W. STATE ST.

DETOUR AHEAD W20-2

HIGHLAND BLVD.

W. VLIET ST.

N. 40TH ST.

N. 60TH ST.

N. 55TH ST.

W. WASHINGTON BLVD.

W. LLOYD ST.

W LISBON AVE.

N. SHERMAN BLVD.

W. NORTH AVE.

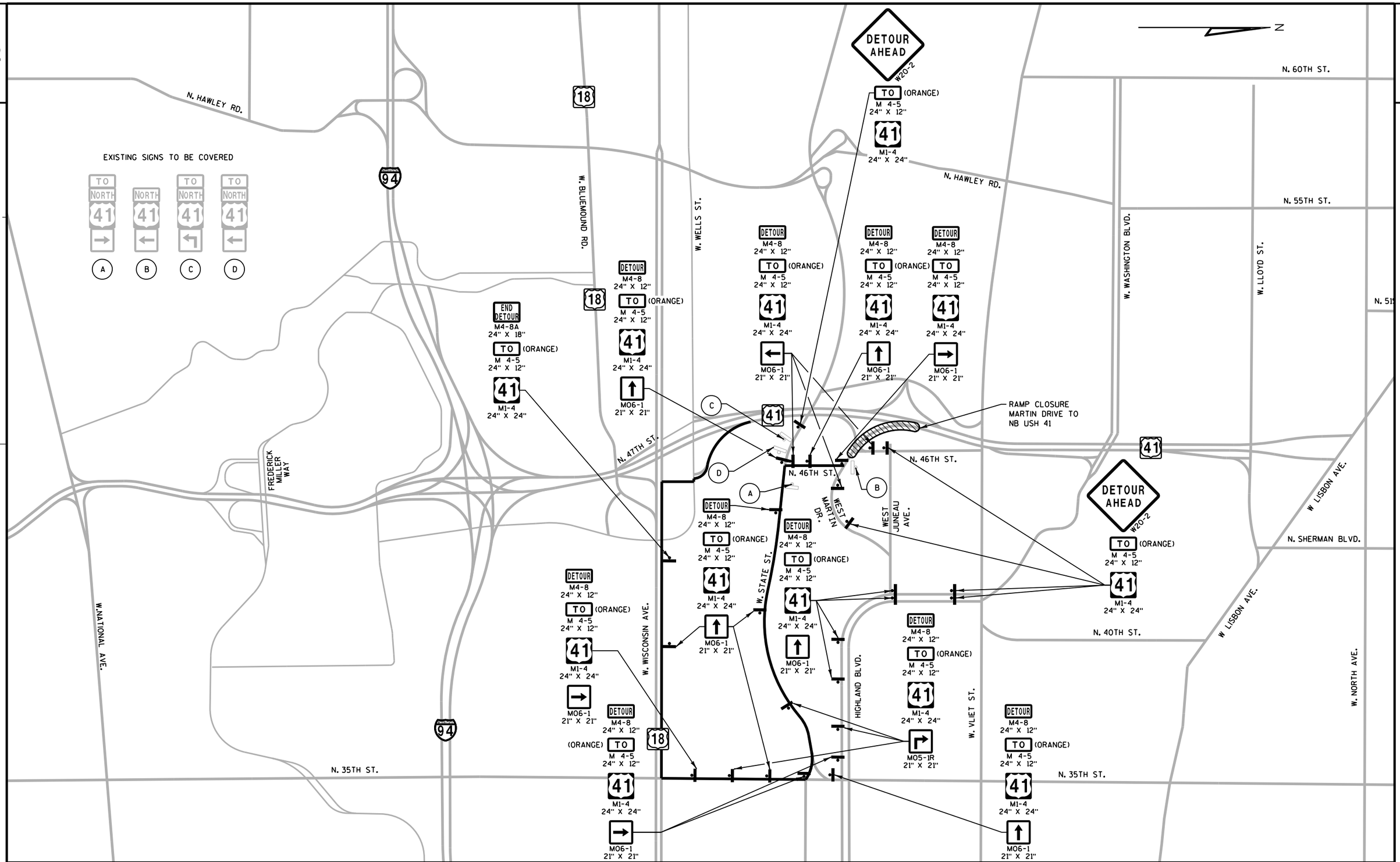
N

2

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	DETOUR PLAN - ALOIS STREET ON-RAMP TO SB USH 41	SHEET E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_027022_dt.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:1000

WISDOT/CADDS SHEET 42



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	DETOUR PLAN - MARTIN DRIVE ON-RAMP TO NB USH 41	SHEET E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_027023_dt.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:1000

WISDOT/CADDS SHEET 42

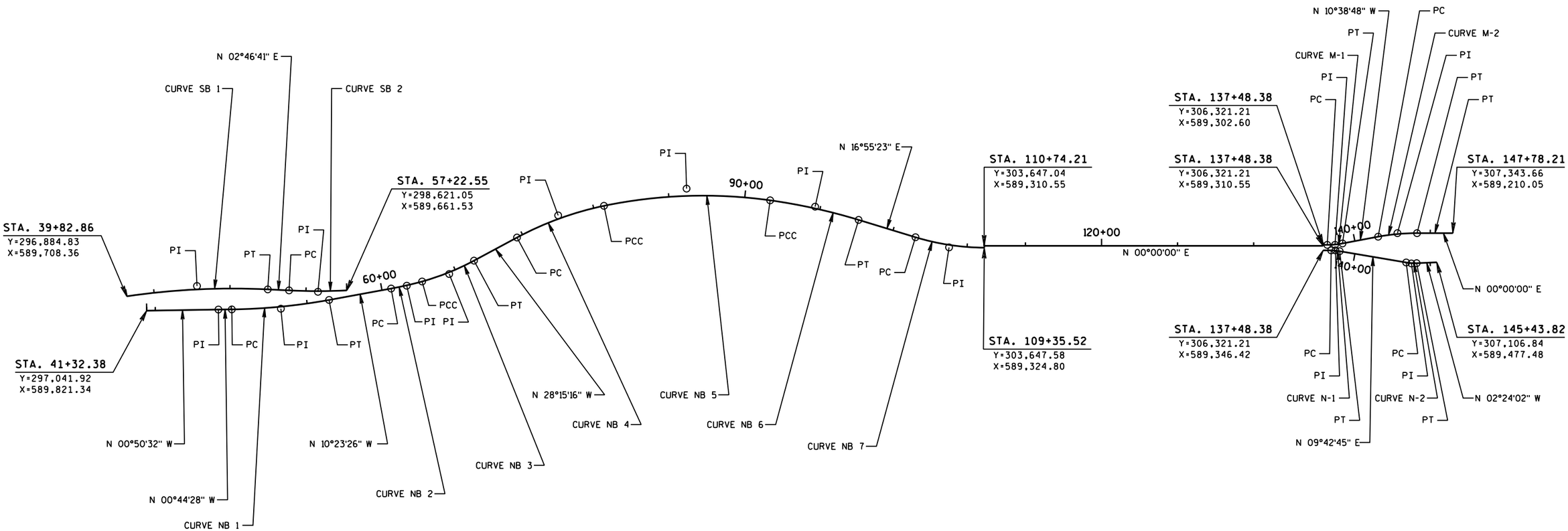
2

ALIGNMENT DATA IS BASED ON AS-BUILT PLANS WITHOUT ANY FIELD SURVEY AND IS TO BE USED FOR REFERENCE ONLY

N

CURVE SB 1	
P.I.	45+42.33
	Y 297,438.34
	X 589,626.86
△	= 11°09'15"
D	= 01°00'00"
T	= 559.47
L	= 1115.41'
E	= 27.25'
R	= 5729.58'
P.C.	39+82.86
P.T.	50+98.27

CURVE SB 2	
P.I.	54+94.57
	Y 298,392.99
	X 589,673.18
△	= 05°42'16"
D	= 01°15'00"
T	= 228.36'
L	= 456.34'
E	= 5.68'
R	= 4583.56'
P.C.	52+66.22
P.T.	57+22.55



CURVE NB 1	
P.I.	51+90.83
	Y 298,100.27
	X 589,806.65
△	= 09°39'08"
D	= 01°15'00"
T	= 387.00
L	= 772.18'
E	= 16.31'
R	= 4533.66'
P.C.	48+03.82
P.T.	55+76.00

CURVE NB 2	
P.I.	61+98.80
	Y 299,093.51
	X 589,624.48
△	= 05°01'04"
D	= 02°00'00"
T	= 125.52'
L	= 250.89'
E	= 2.75'
R	= 2864.79'
P.C.	60+73.28
P.C.C.	63+24.17

CURVE NB 3	
P.I.	65+45.83
	Y 299,428.21
	X 589,532.22
△	= 12°50'36"
D	= 02°54'34"
T	= 221.66'
L	= 441.46'
E	= 12.43'
R	= 1969.39'
P.C.C.	63+24.17
P.T.	67+65.63

CURVE NB 4	
P.I.	75+19.57
	Y 300,287.57
	X 589,070.38
△	= 16°28'13"
D	= 02°14'54"
T	= 368.84'
L	= 732.59'
E	= 26.55'
R	= 2548.48'
P.C.	71+50.73
P.C.C.	78+83.32

CURVE NB 5	
P.I.	85+48.69
	Y 301,299.98
	X 588,859.17
△	= 19°45'45"
D	= 01°30'00"
T	= 665.36'
L	= 1317.50'
E	= 57.52'
R	= 3819.72'
P.C.C.	78+83.32
P.C.C.	92+00.83

CURVE NB 6	
P.I.	95+59.35
	Y 302,313.94
	X 589,001.28
△	= 08°56'41"
D	= 01°15'00"
T	= 358.52'
L	= 715.58'
E	= 14.00'
R	= 4583.66'
P.C.C.	92+00.83
P.T.	99+16.41

CURVE NB 7	
P.I.	106+62.36
	Y 303,370.58
	X 589,322.78
△	= 16°30'18"
D	= 03°00'00"
T	= 277.00'
L	= 550.17'
E	= 19.98'
R	= 1909.86'
P.C.	103+85.35
P.T.	109+35.52

CURVE M-1	
P.I.	138+41.03
	Y 306,413.87
	X 589,302.60
△	= 10°38'48"
D	= 08°46'19"
T	= 60.86'
L	= 121.37'
E	= 2.83'
R	= 653.18'
P.C.	137+80.17
P.T.	139+01.55

CURVE M-2	
P.I.	143+41.63
	Y 306,906.19
	X 589,210.05
△	= 10°38'48"
D	= 03°27'15"
T	= 154.56'
L	= 308.23'
E	= 7.19'
R	= 16.58.78'
P.C.	141+87.07
P.T.	144+95.30

CURVE N-1	
P.I.	138+44.86
	Y 306,417.69
	X 589,346.42
△	= 09°42'45"
D	= 14°21'29"
T	= 33.90'
L	= 67.65'
E	= 1.44'
R	= 399.05'
P.C.	138+10.95
P.T.	138+78.60

CURVE N-2	
P.I.	144+52.67
	Y 307,016.95
	X 589,488.99
△	= 12°06'48"
D	= 14°40'57"
T	= 41.40'
L	= 82.50'
E	= 2.19'
R	= 390.23'
P.C.	144+11.26
P.T.	144+93.76

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	ALIGNMENT PLAN-MAINLINE	SHEET 215	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_027201_ad.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:800

WISDOT/CADDS SHEET 42

2

EB WISCONSIN AVE.
ON RAMP CURVE 1

P.I. 64+39.52
Y 299,197.82
X 589,536.95
△ = 22°32'42"
D = 09°00'00"
T = 126.89
L = 250.50'
E = 12.52'
R = 636.62'
P.C. 63+12.63
P.T. 65+63.13

ALIGNMENT DATA IS BASED ON AS-BUILT PLANS WITHOUT ANY FIELD SURVEY AND IS TO BE USED FOR REFERENCE ONLY

WB WELLS ST.
OFF RAMP CURVE 1

P.I. 75+24.10
Y 300,147.24
X 588,949.64
△ = 26°30'00"
D = 08°00'00"
T = 168.64
L = 331.25'
E = 19.59'
R = 716.20'
P.C. 73+55.46
P.T. 76+86.71

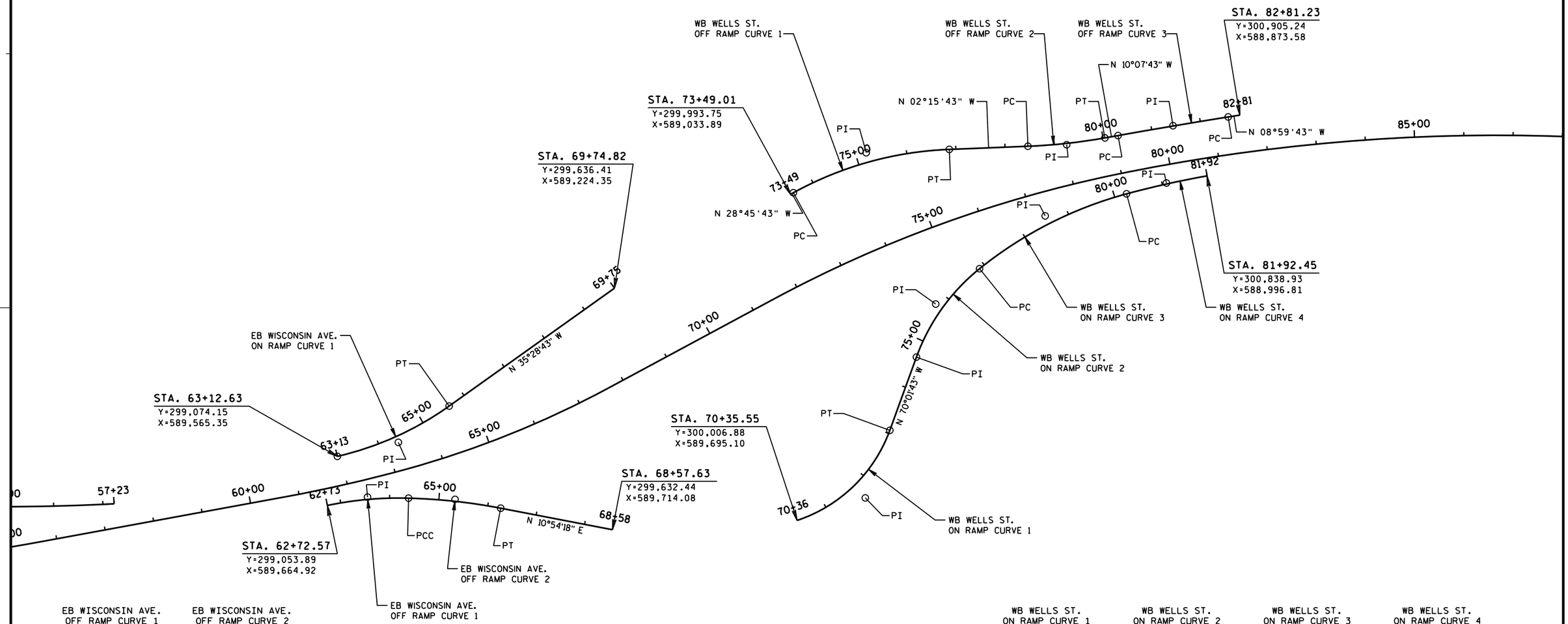
WB WELLS ST.
OFF RAMP CURVE 1

P.I. 79+25.11
Y 300,553.97
X 588,933.58
△ = 07°52'00"
D = 05°00'00"
T = 78.79
L = 157.33'
E = 2.71'
R = 1145.92'
P.C. 78+46.32
P.T. 80+03.65

WB WELLS ST.
OFF RAMP CURVE 1

P.I. 81+44.13
Y 300,769.82
X 588,895.02
△ = 01°08'00"
D = 00°30'00"
T = 113.33
L = 226.66'
E = 0.56'
R = 11459.16'
P.C. 80+30.80
P.T. 82+57.46

N



EB WISCONSIN AVE.
OFF RAMP CURVE 1

P.I. 63+55.86
Y 299,135.43
X 589,647.92
△ = 13°15'59"
D = 08°00'00"
T = 83.29
L = 165.83'
E = 4.83'
R = 716.20'
P.C. 62+72.57
P.C.C. 64+38.40

EB WISCONSIN AVE.
OFF RAMP CURVE 2

P.I. 65+32.76
Y 299,313.01
X 589,652.54
△ = 09°24'52"
D = 05°00'00"
T = 94.36
L = 188.29'
E = 3.88'
R = 1145.92'
P.C.C. 64+38.40
P.T. 66+26.69

WB WELLS ST.
ON RAMP CURVE 1

P.I. 71+81.36
Y 300,145.40
X 589,649.59
△ = 51°50'28"
D = 19°05'55"
T = 145.81
L = 271.44'
E = 33.56'
R = 300.00'
P.C. 70+35.55
P.T. 73+06.99

WB WELLS ST.
ON RAMP CURVE 2

P.I. 75+79.29
Y 300,288.21
X 589,256.63
△ = 31°12'24"
D = 13°59'59"
T = 114.29
L = 222.91'
E = 15.66'
R = 409.26'
P.C. 74+65.00
P.C.C. 76+87.90

WB WELLS ST.
ON RAMP CURVE 3

P.I. 78+58.86
Y 300,510.44
X 589,077.80
△ = 23°40'43"
D = 07°01'33"
T = 170.95
L = 337.03'
E = 17.73'
R = 815.51'
P.C.C. 76+87.90
P.C.C. 80+24.93

WB WELLS ST.
ON RAMP CURVE 4

P.I. 81+08.75
Y 300,756.37
X 589,011.25
△ = 05°13'29"
D = 03°07'08"
T = 83.82
L = 167.52'
E = 1.91'
R = 1837.02'
P.C.C. 80+24.93
P.T. 81+92.45

PROJECT NO:1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	ALIGNMENT PLAN-RAMPS	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_027206_ad.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:200

SB USH 41 ON RAMP AT ALOIS ST. CURVE 1	
P.I.	91+54.51
	Y 301,782.13
	X 588,823.00
△	= 08?04'19"
D	= 06°00'00"
T	= 67.38
L	= 134.53'
E	= 2.37'
R	= 954.93'
P.C.	90+87.14
P.R.C.	92+21.67

SB USH 41 ON RAMP AT ALOIS ST. CURVE 2	
P.I.	92+67.09
	Y 301,893.95
	X 588,837.85
△	= 01°21'45"
D	= 01°30'00"
T	= 45.42
L	= 90.84'
E	= 0.27'
R	= 3819.72'
P.R.C.	92+21.67
P.C.C.	93+12.51

SB USH 41 ON RAMP AT ALOIS ST. CURVE 3	
P.I.	93+73.00
	Y 301,999.24
	X 588,849.29
△	= 07°14'57"
D	= 06°00'00"
T	= 60.49
L	= 120.82'
E	= 1.91'
R	= 954.93'
P.C.C.	93+12.51
P.C.C.	94+33.33

SB USH 41 ON RAMP AT ALOIS ST. CURVE 4	
P.I.	95+75.35
	Y 302,201.72
	X 588,845.59
△	= 33°07'44"
D	= 11°59'59"
T	= 142.02
L	= 276.08'
E	= 20.67'
R	= 477.48'
P.C.C.	94+33.33
P.C.C.	97+09.41

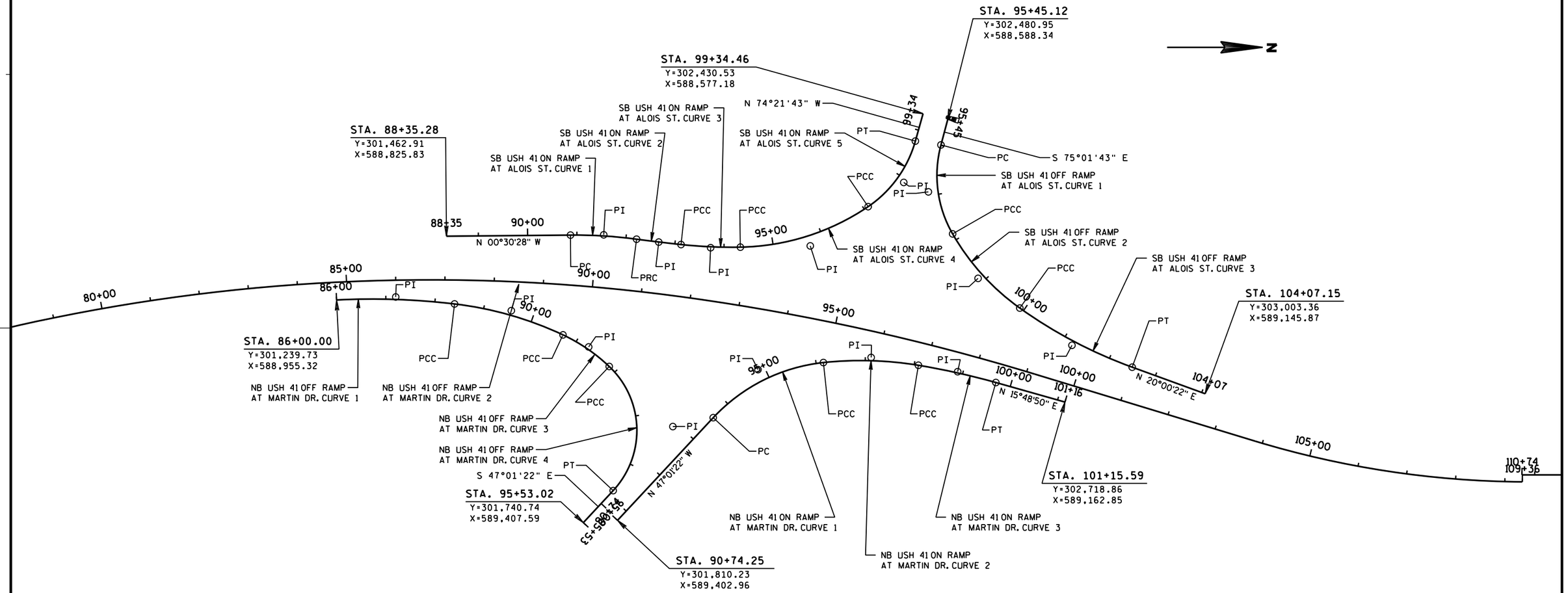
SB USH 41 ON RAMP AT ALOIS ST. CURVE 5	
P.I.	97+96.74
	Y 302,391.46
	X 588,716.75
△	= 40°11'06"
D	= 24°00'01"
T	= 87.33
L	= 167.44'
E	= 15.47'
R	= 238.73'
P.C.C.	97+09.41
P.T.	98+76.85

ALIGNMENT DATA IS BASED ON AS-BUILT PLANS WITHOUT ANY FIELD SURVEY AND IS TO BE USED FOR REFERENCE ONLY

SB USH 41 OFF RAMP AT ALOIS ST. CURVE 1	
P.I.	96+97.71
	Y 302,441.53
	X 588,735.75
△	= 44°51'31"
D	= 24°00'01"
T	= 98.54
L	= 186.91'
E	= 19.54'
R	= 238.73'
P.C.	95+99.17
P.C.C.	97+86.08

SB USH 41 OFF RAMP AT ALOIS ST. CURVE 2	
P.I.	98+90.16
	Y 302,542.49
	X 588,911.43
△	= 24°35'42"
D	= 11°59'59"
T	= 104.09
L	= 204.96'
E	= 11.21'
R	= 477.48'
P.C.C.	97+86.08
P.C.C.	99+91.04

SB USH 41 OFF RAMP AT ALOIS ST. CURVE 3	
P.I.	101+21.10
	Y 302,733.07
	X 589,047.46
△	= 15°30'42"
D	= 06°00'00"
T	= 130.06
L	= 258.53'
E	= 8.82'
R	= 954.93'
P.C.C.	99+91.04
P.T.	102+49.57



NB USH 41 OFF RAMP AT MARTIN DR. CURVE 1	
P.I.	87+20.28
	Y 301,359.86
	X 588,949.33
△	= 09°36'00"
D	= 04°00'00"
T	= 120.28
L	= 240.00'
E	= 5.04'
R	= 1432.39'
P.C.	86+00.00
P.C.C.	88+40.00

NB USH 41 OFF RAMP AT MARTIN DR. CURVE 2	
P.I.	89+56.00
	Y 301,594.50
	X 588,977.07
△	= 18°24'00"
D	= 08°00'00"
T	= 116.00
L	= 230.00'
E	= 9.33'
R	= 716.20'
P.C.C.	88+40.00
P.C.C.	90+70.00

NB USH 41 OFF RAMP AT MARTIN DR. CURVE 3	
P.I.	91+27.55
	Y 301,751.61
	X 589,050.81
△	= 18°15'35
D	= 16°00'00"
T	= 57.55
L	= 114.12'
E	= 4.59'
R	= 358.10'
P.C.C.	90+70.00
P.C.C.	91+84.12

NB USH 41 OFF RAMP AT MARTIN DR. CURVE 4	
P.I.	93+61.85
	Y 301,922.55
	X 589,212.47
△	= 89°34'30"
D	= 32°00'00"
T	= 177.73
L	= 279.92'
E	= 73.23'
R	= 179.05'
P.C.C.	91+84.12
P.T.	94+64.05

NB USH 41 ON RAMP AT MARTIN DR. CURVE 1	
P.I.	94+92.78
	Y 302,095.55
	X 589,096.75
△	= 40°53'59"
D	= 16°00'00"
T	= 133.53
L	= 255.62'
E	= 24.09'
R	= 358.10'
P.C.	93+59.25
P.C.C.	96+14.88

NB USH 41 ON RAMP AT MARTIN DR. CURVE 2	
P.I.	97+12.30
	Y 302,325.19
	X 589,072.12
△	= 15°29'34"
D	= 08°00'00"
T	= 97.42
L	= 193.66'
E	= 6.60'
R	= 716.20'
P.C.C.	96+14.88
P.C.C.	98+08.54

NB USH 41 ON RAMP AT MARTIN DR. CURVE 3	
P.I.	98+89.18
	Y 302,500.87
	X 589,101.11
△	= 06°26'39"
D	= 04°00'00"
T	= 80.64
L	= 161.11'
E	= 2.27'
R	= 1432.39'
P.C.C.	98+08.54
P.T.	99+69.65

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	ALIGNMENT PLAN-RAMPS	SHEET 217	E

ALIGNMENT DATA IS BASED ON AS-BUILT PLANS WITHOUT ANY FIELD SURVEY AND IS TO BE USED FOR REFERENCE ONLY

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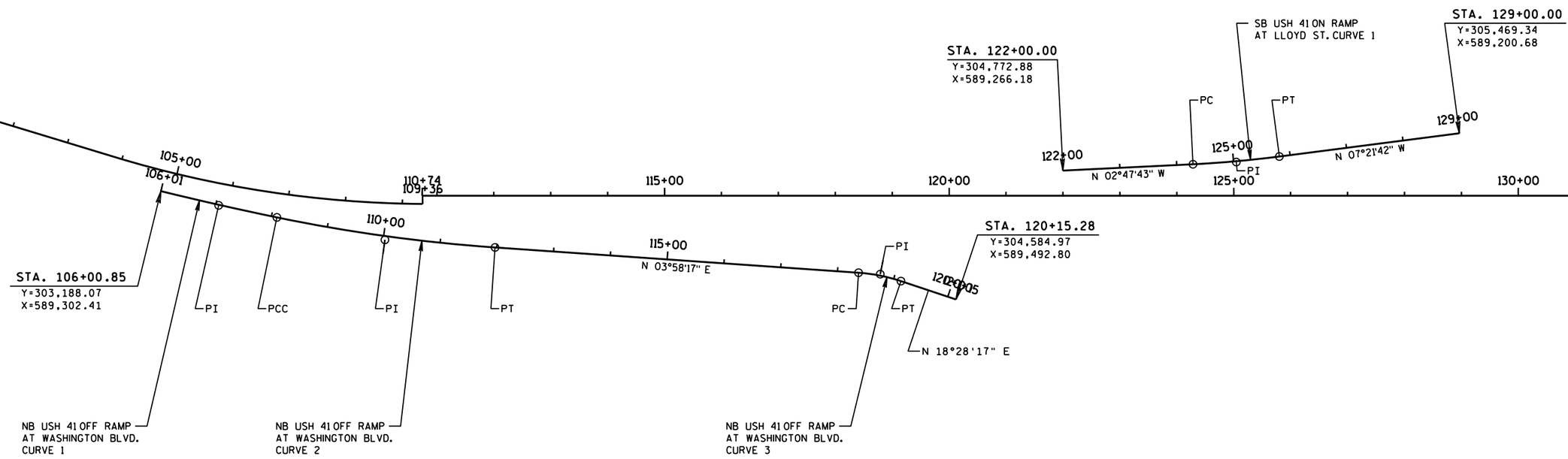


NB USH 41 OFF RAMP AT WASHINGTON BLVD. CURVE 1	
P.I.	107+05.30
	Y 303,289.50
	X 589,327.34
△	= 02°05'19"
D	= 01°00'00"
T	= 104.45
L	= 208.87'
E	= 0.95'
R	= 5729.58'
P.C.	106+00.85
P.C.C.	108+09.72

NB USH 41 OFF RAMP AT WASHINGTON BLVD. CURVE 2	
P.I.	110+03.63
	Y 303,581.64
	X 589,387.92
△	= 07°44'41"
D	= 02°00'00"
T	= 193.91
L	= 387.23'
E	= 6.56'
R	= 2864.78'
P.C.C.	108+09.72
P.T.	111+96.95

NB USH 41 OFF RAMP AT WASHINGTON BLVD. CURVE 3	
P.I.	118+75.37
	Y 304,451.88
	X 589,448.34
△	= 14?30'00"
D	= 19°05'55"
T	= 38.16
L	= 75.92'
E	= 2.42'
R	= 300.00'
P.C.	118+37.21
P.T.	119+13.13

SB USH 41 ON RAMP AT LLOYD ST. CURVE 1	
P.I.	125+04.86
	Y 305,077.38
	X 589,251.31
△	= 04°33'59"
D	= 03°00'00"
T	= 76.15
L	= 152.22'
E	= 1.52'
R	= 1909.86'
P.C.	124+28.71
P.T.	125+80.93

2

NB USH 41 OFF RAMP
AT EB LLOYD ST. CURVE 1

P.I. 126+42.05
Y 305,214.19
X 589,366.78
△ = 06°42'49"
D = 03°00'00"
T = 112.02
L = 223.79'
E = 3.28'
R = 1909.86'
P.C. 125+30.03
P.T. 127+53.82

NB USH 41 OFF RAMP
AT EB LLOYD ST. CURVE 2

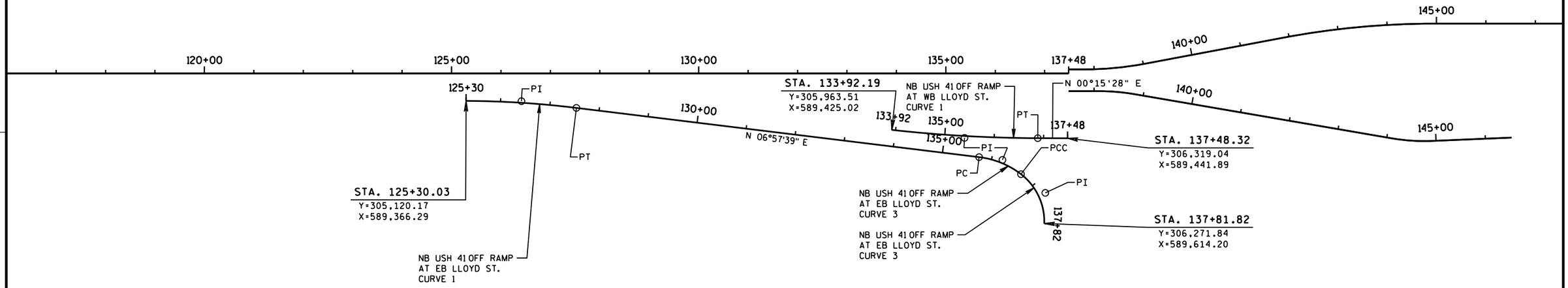
P.I. 136+22.13
Y 306,187.30
X 589,485.58
△ = 30°32'12"
D = 32°56'10"
T = 47.49
L = 92.71'
E = 6.36'
R = 173.96'
P.C. 135+74.64
P.C.C. 136+67.36

NB USH 41 OFF RAMP
AT EB LLOYD ST. CURVE 3

P.I. 137+29.36
Y 306,274.17
X 589,552.23
△ = 54°39'07"
D = 47°44'47"
T = 62.01
L = 114.46'
E = 15.07'
R = 120.00'
P.C.C. 136+67.36
P.T. 137+81.82

NB USH 41 OFF RAMP
AT WB LLOYD ST. CURVE 1

P.I. 135+40.29
Y 306,110.76
X 589,440.95
△ = 05°55'08"
D = 02°00'00"
T = 148.10
L = 295.94'
E = 3.83'
R = 2864.79'
P.C. 133+92.19
P.T. 136+88.13



ALIGNMENT DATA IS BASED ON AS-BUILT PLANS WITHOUT ANY FIELD SURVEY AND IS TO BE USED FOR REFERENCE ONLY

WELLS ST. CURVE 1

P.I. 11+80.82
Y 299,984.10
X 589,435.16
△ = 05°17'39"
D = 05°00'14"
T = 52.94
L = 105.80'
E = 1.22'
R = 1145.00'
P.C. 11+27.89
P.T. 12+33.68

STATE ST. CURVE 1

P.I. 5+23.54
Y 301,457.93
X 588,755.20
△ = 11°08'21"
D = 06°45'00"
T = 82.77
L = 165.03'
E = 4.03'
R = 848.83'
P.C. 4+40.76
P.T. 6+05.79

STATE ST. CURVE 2

P.I. 8+20.99
Y 301,314.65
X 589,016.47
△ = 11°53'11"
D = 08°30'00"
T = 70.17
L = 139.84'
E = 3.64'
R = 674.07'
P.C. 7+50.82
P.T. 8+90.66

WASHINGTON BLVD. CURVE WA-N 1

P.I. 7+70.98
Y 304,805.45
X 589,114.81
△ = 29°57'36"
D = 19°05'55"
T = 80.27
L = 156.87'
E = 10.55'
R = 300.00'
P.C. 6+90.71
P.T. 8+47.58

WASHINGTON BLVD. CURVE WA-S 1

P.I. 8+15.01
Y 304,783.26
X 589,152.84
△ = 29°57'36"
D = 19°05'55"
T = 80.27
L = 156.87'
E = 10.55'
R = 300.00'
P.C. 7+34.74
P.T. 8+91.61

ALIGNMENT DATA IS BASED ON AS-BUILT PLANS WITHOUT ANY FIELD SURVEY AND IS TO BE USED FOR REFERENCE ONLY

ALOIS ST. CURVE SR 1

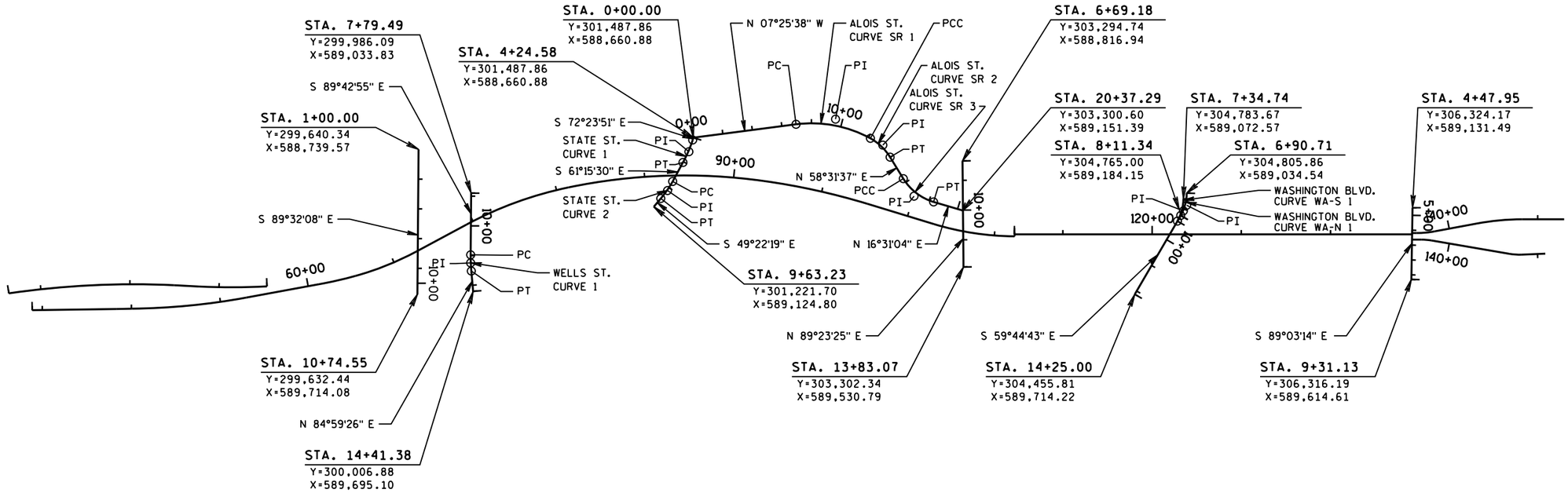
P.I. 9+64.03
Y 302,443.80
X 588,536.26
△ = 36°12'58"
D = 07°00'00"
T = 267.66
L = 517.37'
E = 42.65'
R = 818.51'
P.C. 6+96.37
P.C.C. 12+13.75

ALOIS ST. CURVE SR 2

P.I. 13+08.82
Y 302,761.70
X 588,710.95
△ = 29°44'18"
D = 16°00'00"
T = 95.08
L = 185.86'
E = 12.41'
R = 358.10'
P.C.C. 12+13.75
P.T. 13+99.61

ALOIS ST. CURVE SR 3

P.I. 17+06.56
Y 302,971.60
X 589,053.82
△ = 42°00'33"
D = 16°00'00"
T = 137.49
L = 262.56'
E = 25.49'
R = 358.10'
P.C. 15+69.06
P.T. 18+31.62



PROJECT NO:1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	ALIGNMENT PLAN-SIDE ROADS	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_027215_ad.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:800
WISDOT/CADDS SHEET 42

DATE 30JUN15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1350-09-70 QUANTITY
0010	201.0105	Clearing	STA	112.000	112.000
0020	201.0110	Clearing	SY	576.000	576.000
0030	201.0120	Clearing	ID	100.000	100.000
0040	201.0205	Grubbing	STA	112.000	112.000
0050	201.0210	Grubbing	SY	576.000	576.000
0060	201.0220	Grubbing	ID	100.000	100.000
0070	203.0200	Removing Old Structure (station) 001. 11+45.92	LS	1.000	1.000
0080	204.0100	Removing Pavement	SY	1,015.000	1,015.000
0090	204.0110	Removing Asphaltic Surface	SY	43.000	43.000
0100	204.0115	Removing Asphaltic Surface Butt Joints	SY	1,540.000	1,540.000
0110	204.0125	Removing Asphaltic Surface Milling	TON	14,520.000	14,520.000
0120	204.0150	Removing Curb & Gutter	LF	2,877.000	2,877.000
0130	204.0155	Removing Concrete Sidewalk	SY	186.000	186.000
0140	204.0157	Removing Concrete Barrier	LF	1,520.000	1,520.000
0150	204.0165	Removing Guardrail	LF	895.000	895.000
0160	204.0170	Removing Fence	LF	12.000	12.000
0170	204.0195	Removing Concrete Bases	EACH	71.000	71.000
0180	204.0220	Removing Inlets	EACH	9.000	9.000
0190	204.0245	Removing Storm Sewer (size) 001. 12-Inch	LF	5.000	5.000
0200	205.0100	Excavation Common	CY	270.000	270.000
0210	206.1000	Excavation for Structures Bridges (structure) 001. B-40-53	LS	1.000	1.000
0220	209.0100	Backfill Granular	CY	15.000	15.000
0230	210.0100	Backfill Structure	CY	160.000	160.000
0240	213.0100	Finishing Roadway (project) 001. 1350-09-70	EACH	1.000	1.000
0250	305.0110	Base Aggregate Dense 3/4-Inch	TON	16.000	16.000
0260	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,800.000	1,800.000
0270	320.0145	Concrete Base 8-Inch	SY	690.000	690.000
0280	390.0403	Base Patching Concrete Shes	SY	3,747.000	3,747.000
0290	416.0610	Drilled Tie Bars	EACH	5,740.000	5,740.000
0300	416.0620	Drilled Dowel Bars	EACH	3,720.000	3,720.000
0310	416.1715	Concrete Pavement Repair SHES	SY	2,000.000	2,000.000
0320	416.1725	Concrete Pavement Replacement SHES	SY	420.000	420.000
0330	440.4410.S	Incentive IRI Ride	DOL	14,612.000	14,612.000
0340	455.0120	Asphaltic Material PG64-28	TON	901.000	901.000
0350	455.0605	Tack Coat	GAL	3,660.000	3,660.000
0360	460.1110	HMA Pavement Type E-10	TON	16,125.000	16,125.000
0370	460.2000	Incentive Density HMA Pavement	DOL	10,320.000	10,320.000
0380	460.4000	HMA Cold Weather Paving	TON	4,000.000	4,000.000
0390	465.0125	Asphaltic Surface Temporary	TON	25.000	25.000
0400	502.0100	Concrete Masonry Bridges	CY	731.000	731.000
0410	502.3100	Expansion Device (structure) 001. B-40-60	LS	1.000	1.000
0420	502.3200	Protective Surface Treatment	SY	4,521.000	4,521.000
0430	502.5005	Masonry Anchors Type L No. 5 Bars	EACH	275.000	275.000
0440	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	133,345.000	133,345.000
0450	505.0905	Bar Couplers No. 5	EACH	12.000	12.000
0460	505.0906	Bar Couplers No. 6	EACH	36.000	36.000
0470	506.4000	Steel Diaphragms (structure) 001. B-40-53	EACH	25.000	25.000
0480	509.0301	Preparation Decks Type 1	SY	168.000	168.000
0490	509.0302	Preparation Decks Type 2	SY	35.000	35.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1350-09-70 QUANTITY
0500	509.0500	Cleaning Decks	SY	2,781.000	2,781.000
0510	509.1000	Joint Repair	SY	73.000	73.000
0520	509.1200	Curb Repair	LF	36.000	36.000
0530	509.1500	Concrete Surface Repair	SF	620.000	620.000
0540	509.2000	Full-Depth Deck Repair	SY	5.000	5.000
0550	509.2500	Concrete Masonry Overlay Decks	CY	170.000	170.000
0560	511.1200	Temporary Shoring (structure) 001. B-40-53	SF	440.000	440.000
0570	516.0500	Rubberized Membrane Waterproofing	SY	32.000	32.000
0580	520.8000	Concrete Collars for Pipe	EACH	10.000	10.000
0590	522.0312	Culvert Pipe Reinforced Concrete Class IV 12-Inch	LF	112.000	112.000
0600	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	4.000	4.000
0610	601.0331	Concrete Curb & Gutter 31-Inch	LF	400.000	400.000
0620	601.0551	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type A	LF	1,282.000	1,282.000
0630	601.0555	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type A	LF	54.000	54.000
0640	601.0574	Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type G	LF	1,112.000	1,112.000
0650	601.0600	Concrete Curb Pedestrian	LF	60.000	60.000
0660	602.0410	Concrete Sidewalk 5-Inch	SF	1,490.000	1,490.000
0670	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	48.000	48.000
0680	603.0105	Concrete Barrier Single-Faced 32-Inch	LF	639.000	639.000
0690	603.0405	Concrete Barrier Transition Section	LF	39.000	39.000
0700	603.1132	Concrete Barrier Type S32	LF	72.000	72.000
0710	603.8000	Concrete Barrier Temporary Precast Delivered	LF	790.000	790.000
0720	603.8125	Concrete Barrier Temporary Precast Installed	LF	790.000	790.000
0730	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	72.000	72.000
0740	608.0415	Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	LF	8.000	8.000
0750	611.0627	Inlet Covers Type HM	EACH	1.000	1.000
0760	611.0648	Inlet Covers Type R	EACH	1.000	1.000
0770	611.0651	Inlet Covers Type S	EACH	8.000	8.000
0780	611.3220	Inlets 2x2-FT	EACH	8.000	8.000
0790	611.3230	Inlets 2x3-FT	EACH	1.000	1.000
0800	611.3253	Inlets 2.5x3-FT	EACH	1.000	1.000
0810	611.8110	Adjusting Manhole Covers	EACH	2.000	2.000
0820	611.8115	Adjusting Inlet Covers	EACH	5.000	5.000
0830	614.0010	Barrier System Grading Shaping Finishing	EACH	11.000	11.000
0840	614.0397	Guardrail Mow Strip Emulsified Asphalt	SY	1,285.000	1,285.000
0850	614.2300	MGS Guardrail 3	LF	1,775.000	1,775.000
0860	614.2310	MGS Guardrail 3 HS	LF	50.000	50.000
0870	614.2320	MGS Guardrail 3 QS	LF	50.000	50.000
0880	614.2500	MGS Thrie Beam Transition	LF	39.500	39.500
0890	614.2610	MGS Guardrail Terminal EAT	EACH	11.000	11.000
0900	614.2620	MGS Guardrail Terminal Type 2	EACH	3.000	3.000
0910	616.0204	Fence Chain Link 4-FT	LF	133.000	133.000
0920	616.0208	Fence Chain Link 8-FT	LF	333.000	333.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1350-09-70 QUANTITY
0930	616.0329	Gates Chain Link (width) 001. 12-Ft	EACH	2.000	2.000
0940	616.0700.S	Fence Safety	LF	1,400.000	1,400.000
0950	619.1000	Mobilization	EACH	1.000	1.000
0960	620.0100	Concrete Corrugated Median	SF	240.000	240.000
0970	625.0500	Salvaged Topsoil	SY	23,000.000	23,000.000
0980	627.0200	Mulching	SY	11,000.000	11,000.000
0990	628.1104	Erosion Bales	EACH	25.000	25.000
1000	628.1504	Silt Fence	LF	2,050.000	2,050.000
1010	628.1520	Silt Fence Maintenance	LF	4,100.000	4,100.000
1020	628.1905	Mobilizations Erosion Control	EACH	15.000	15.000
1030	628.1910	Mobilizations Emergency Erosion Control	EACH	8.000	8.000
1040	628.2004	Erosion Mat Class I Type B	SY	23,000.000	23,000.000
1050	628.2006	Erosion Mat Urban Class I Type A	SY	2,000.000	2,000.000
1060	628.7005	Inlet Protection Type A	EACH	5.000	5.000
1070	628.7010	Inlet Protection Type B	EACH	115.000	115.000
1080	628.7015	Inlet Protection Type C	EACH	119.000	119.000
1090	628.7020	Inlet Protection Type D	EACH	20.000	20.000
1100	628.7504	Temporary Ditch Checks	LF	75.000	75.000
1110	628.7555	Culvert Pipe Checks	EACH	15.000	15.000
1120	628.7570	Rock Bags	EACH	50.000	50.000
1130	629.0210	Fertilizer Type B	CWT	23.000	23.000
1140	630.0130	Seeding Mixture No. 30	LB	663.000	663.000
1150	630.0200	Seeding Temporary	LB	182.000	182.000
1160	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	77.000	77.000
1170	635.0300	Sign Supports Replacing Base Connection Bolts	EACH	14.000	14.000
1180	637.1220	Signs Type I Reflective SH	SF	2,773.000	2,773.000
1190	637.2210	Signs Type II Reflective H	SF	1,098.410	1,098.410
1200	637.2230	Signs Type II Reflective F	SF	283.000	283.000
1210	638.2102	Moving Signs Type II	EACH	3.000	3.000
1220	638.2601	Removing Signs Type I	EACH	19.000	19.000
1230	638.2602	Removing Signs Type II	EACH	97.000	97.000
1240	638.3000	Removing Small Sign Supports	EACH	65.000	65.000
1250	638.3100	Removing Structural Steel Sign Supports	EACH	6.000	6.000
1260	642.5201	Field Office Type C	EACH	1.000	1.000
1270	643.0100	Traffic Control (project) 001. 1350-09-70	EACH	1.000	1.000
1280	643.0300	Traffic Control Drums	DAY	60,984.000	60,984.000
1290	643.0410	Traffic Control Barricades Type II	DAY	3,112.000	3,112.000
1300	643.0420	Traffic Control Barricades Type III	DAY	8,674.000	8,674.000
1310	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	145.000	145.000
1320	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	145.000	145.000
1330	643.0705	Traffic Control Warning Lights Type A	DAY	3,468.000	3,468.000
1340	643.0715	Traffic Control Warning Lights Type C	DAY	9,630.000	9,630.000
1350	643.0800	Traffic Control Arrow Boards	DAY	211.000	211.000
1360	643.0900	Traffic Control Signs	DAY	26,124.000	26,124.000
1370	643.0910	Traffic Control Covering Signs Type I	EACH	46.000	46.000
1380	643.0920	Traffic Control Covering Signs Type II	EACH	182.000	182.000
1390	643.1000	Traffic Control Signs Fixed Message	SF	860.000	860.000
1400	643.1050	Traffic Control Signs PCMS	DAY	685.000	685.000
1410	643.1055.S	Truck or Trailer Mounted Attenuator	DAY	50.000	50.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1350-09-70 QUANTITY
1420	643.2000	Traffic Control Detour (project) 001. 1350-09-70	EACH	1.000	1.000
1430	643.3000	Traffic Control Detour Signs	DAY	2,870.000	2,870.000
1440	646.0106	Pavement Marking Epoxy 4-Inch	LF	49,920.000	49,920.000
1450	646.0126	Pavement Marking Epoxy 8-Inch	LF	774.000	774.000
1460	646.0600	Removing Pavement Markings	LF	80,500.000	80,500.000
1470	646.0790.S	Removing Raised Pavement Markers	EACH	93.000	93.000
1480	646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF	6,410.000	6,410.000
1490	646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF	9,220.000	9,220.000
1500	647.0606	Pavement Marking Island Nose Epoxy	EACH	1.000	1.000
1510	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	1,925.000	1,925.000
1520	647.0746	Pavement Marking Diagonal Epoxy 24-Inch	LF	2,300.000	2,300.000
1530	647.0776	Pavement Marking Crosswalk Epoxy 12-Inch	LF	125.000	125.000
1540	647.0856	Pavement Marking Concrete Corrugated Median Epoxy	SF	36.000	36.000
1550	647.0955	Removing Pavement Markings Arrows	EACH	3.000	3.000
1560	647.0965	Removing Pavement Markings Words	EACH	3.000	3.000
1570	649.0200	Temporary Pavement Marking Reflective Paint 4-Inch	LF	83,500.000	83,500.000
1580	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	51,700.000	51,700.000
1590	649.0701	Temporary Pavement Marking 8-Inch	LF	9,800.000	9,800.000
1600	649.0801	Temporary Pavement Marking Removable Tape 8-Inch	LF	8,230.000	8,230.000
1610	649.1700	Temporary Pavement Marking Arrows	EACH	2.000	2.000
1620	649.1900	Temporary Pavement Marking Words	EACH	2.000	2.000
1630	650.4000	Construction Staking Storm Sewer	EACH	8.000	8.000
1640	650.4500	Construction Staking Subgrade	LF	95.000	95.000
1650	650.5000	Construction Staking Base	LF	95.000	95.000
1660	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	3,585.000	3,585.000
1670	650.6000	Construction Staking Pipe Culverts	EACH	2.000	2.000
1680	650.6500	Construction Staking Structure Layout (structure) 001. B-40-53	LS	1.000	1.000
1690	650.6500	Construction Staking Structure Layout (structure) 002. B-40-60	LS	1.000	1.000
1700	650.8000	Construction Staking Resurfacing Reference	LF	19,062.000	19,062.000
1710	650.8500	Construction Staking Electrical Installations (project) 001. 1350-09-70	LS	1.000	1.000
1720	650.9910	Construction Staking Supplemental Control (project) 001. 1350-09-70	LS	1.000	1.000
1730	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	10,862.000	10,862.000
1740	652.0230	Conduit Rigid Nonmetallic Schedule 40 2 1/2-Inch	LF	411.000	411.000
1750	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	272.000	272.000
1760	652.0615	Conduit Special 3-Inch	LF	1,335.000	1,335.000
1770	653.0140	Pull Boxes Steel 24x42-Inch	EACH	26.000	26.000
1780	653.0222	Junction Boxes 18x12x6-Inch	EACH	2.000	2.000
1790	653.0905	Removing Pull Boxes	EACH	11.000	11.000
1800	654.0105	Concrete Bases Type 5	EACH	43.000	43.000
1810	654.0108	Concrete Bases Type 8	EACH	7.000	7.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1350-09-70 QUANTITY
1820	654.0230	Concrete Control Cabinet Bases Type L30	EACH	3.000	3.000
1830	655.0144	Cable In Duct 4-4 AWG	LF	2,203.000	2,203.000
1840	655.0610	Electrical Wire Lighting 12 AWG	LF	18,560.000	18,560.000
1850	655.0615	Electrical Wire Lighting 10 AWG	LF	5,890.000	5,890.000
1860	655.0620	Electrical Wire Lighting 8 AWG	LF	41,013.000	41,013.000
1870	655.0630	Electrical Wire Lighting 4 AWG	LF	21,820.000	21,820.000
1880	655.0640	Electrical Wire Lighting 1 AWG	LF	54.000	54.000
1890	656.0400	Electrical Service Main Lugs Only Meter Pedestal (location) 001. HL-40-AZ	LS	1.000	1.000
1900	656.0400	Electrical Service Main Lugs Only Meter Pedestal (location) 002. HL-40-VL	LS	1.000	1.000
1910	656.0400	Electrical Service Main Lugs Only Meter Pedestal (location) 003. HL-40-LA	LS	1.000	1.000
1920	657.0210	Transformer Bases Breakaway 15-17 Inch Bolt Circle	EACH	25.000	25.000
1930	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	43.000	43.000
1940	657.0322	Poles Type 5-Aluminum	EACH	43.000	43.000
1950	657.0375	Poles Type A	EACH	15.000	15.000
1960	657.0380	Poles Type E	EACH	10.000	10.000
1970	657.0610	Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	EACH	29.000	29.000
1980	657.0620	Luminaire Arms Single Member 6-Inch Clamp 4-FT	EACH	30.000	30.000
1990	657.0635	Luminaire Arms Single Member 6-Inch Clamp 10-FT	EACH	7.000	7.000
2000	657.0715	Luminaire Arms Truss Type 4 1/2-Inch Clamp 15-FT	EACH	14.000	14.000
2010	657.0720	Luminaire Arms Truss Type 6-Inch Clamp 20-FT	EACH	6.000	6.000
2020	657.6005.S	Anchor Assemblies Light Poles on Structures	EACH	2.000	2.000
2030	659.0600	Underdeck Lighting (location) 001. B-40-53	LS	1.000	1.000
2040	659.0600	Underdeck Lighting (location) 002. B-40-56	LS	1.000	1.000
2050	659.0600	Underdeck Lighting (location) 003. B-40-60	LS	1.000	1.000
2060	659.0802	Plaques Sequence Identification	EACH	15.000	15.000
2070	659.1120	Luminaires Utility LED B	EACH	37.000	37.000
2080	659.1125	Luminaires Utility LED C	EACH	15.000	15.000
2090	659.1130	Luminaires Utility LED D	EACH	57.000	57.000
2100	659.1215	Luminaires Underdeck LED C	EACH	12.000	12.000
2110	659.2230	Lighting Control Cabinets 240/480 30-Inch	EACH	3.000	3.000
2120	690.0150	Sawing Asphalt	LF	170.000	170.000
2130	690.0250	Sawing Concrete	LF	17,820.000	17,820.000
2140	715.0502	Incentive Strength Concrete Structures	DOL	4,230.000	4,230.000
2150	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,000.000	2,000.000
2160	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	3,600.000	3,600.000
2170	SPV.0060	Special 001. Sawing Concrete Barrier	EACH	130.000	130.000
2180	SPV.0060	Special 002. Welding Manhole Access Covers	EACH	3.000	3.000
2190	SPV.0060	Special 003. Storm Sewer Structure Rehabilitation	EACH	34.000	34.000
2200	SPV.0060	Special 004. Cleaning Storm Sewer	EACH	44.000	44.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1350-09-70 QUANTITY
2210	SPV.0060	Special 005. Mobilizations Emergency Pavement Repair	EACH	2.000	2.000
2220	SPV.0060	Special 006. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 1	EACH	2.000	2.000
2230	SPV.0060	Special 007. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 2	EACH	17.000	17.000
2240	SPV.0060	Special 008. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 3	EACH	4.000	4.000
2250	SPV.0060	Special 009. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 4	EACH	8.000	8.000
2260	SPV.0060	Special 010. Pavement Markings Grooved Preformed Thermoplastic Words	EACH	8.000	8.000
2270	SPV.0060	Special 011. Reconnect Pipe Underdrain 4-Inch	EACH	7.000	7.000
2280	SPV.0060	Special 012. Concrete Barrier Transition Type V27 to S32	EACH	1.000	1.000
2290	SPV.0060	Special 013. Pavement Marking Grooved Preformed Thermoplastic Yield Line 18-Inch	EACH	24.000	24.000
2300	SPV.0060	Special 201. Removing Concrete Bases Type C	EACH	7.000	7.000
2310	SPV.0060	Special 202. Removing Lighting Units	EACH	78.000	78.000
2320	SPV.0060	Special 203. Removing Sign Lighting	EACH	6.000	6.000
2330	SPV.0060	Special 204. Removing Luminaires	EACH	4.000	4.000
2340	SPV.0060	Special 205. Removing Distribution Centers	EACH	1.000	1.000
2350	SPV.0060	Special 206. Removing Underdeck Lighting	EACH	3.000	3.000
2360	SPV.0060	Special 207. Lamp Disposal High Intensity Discharge	EACH	124.000	124.000
2370	SPV.0060	Special 208. Concrete Bases Type B	EACH	18.000	18.000
2380	SPV.0060	Special 209. Concrete Bases Type C	EACH	1.000	1.000
2390	SPV.0060	Special 450. Poles Type 9	EACH	1.000	1.000
2400	SPV.0060	Special 451. Poles Type 12 Special	EACH	1.000	1.000
2410	SPV.0060	Special 452. Poles Type 13 Special	EACH	1.000	1.000
2420	SPV.0060	Special 453. Monotube Arms 25-FT	EACH	1.000	1.000
2430	SPV.0060	Special 454. Monotube Arms 35-Ft	EACH	2.000	2.000
2440	SPV.0060	Special 455. Concrete Bases Type 10 Special	EACH	2.000	2.000
2450	SPV.0060	Special 456. Rectangular Polymer Concrete Vault 13x24x18-Inch	EACH	5.000	5.000
2460	SPV.0060	Special 650. Adjusting TES Manhole Cover	EACH	4.000	4.000
2470	SPV.0060	Special 651. Installing Conduit Into Existing Manhole	EACH	4.000	4.000
2480	SPV.0060	Special 700. Cleaning Bearings	EACH	42.000	42.000
2490	SPV.0060	Special 701. Bearing Replacement B-40-53	EACH	20.000	20.000
2500	SPV.0060	Special 702. Embedded Galvanic Anodes	EACH	539.000	539.000
2510	SPV.0085	Special 001. Crack Sealing	LB	5,620.000	5,620.000
2520	SPV.0090	Special 001. Pavement Markings Grooved Preformed Thermoplastic Stop Line 18-Inch	LF	272.000	272.000
2530	SPV.0090	Special 002. Pavement Marking Grooved Preformed Thermoplastic Crosswalk 6-Inch	LF	239.000	239.000
2540	SPV.0090	Special 003. Joint And Crack Repair	LF	7,000.000	7,000.000
2550	SPV.0090	Special 004. Mending Fence	LF	500.000	500.000
2560	SPV.0090	Special 005. Concrete Curb & Gutter 31-Inch Type A Full-Depth	LF	190.000	190.000

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DATE 30JUN15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1350-09-70 QUANTITY
2570	SPV.0090	Special 006. Concrete Curb and Gutter 32-Inch Type A Special	LF	308.000	308.000
2580	SPV.0090	Special 007. Concrete Barrier Single-Faced 42-Inch	LF	104.000	104.000
2590	SPV.0090	Special 008. Concrete Curb & Gutter 31-Inch Type A Full Depth HES	LF	389.000	389.000
2600	SPV.0090	Special 009. Pavement Markings Grooved Contrast Preformed Plastic Tape 4-Inch	LF	20.000	20.000
2610	SPV.0090	Special 010. Modified MGS Thrie Beam Transition	LF	276.500	276.500
2620	SPV.0090	Special 650. 6-Duct Conduit, Cement Encased, 4-Inch Rigid Nonmetallic Conduit DB-60	LF	115.000	115.000
2630	SPV.0090	Special 651. 3-Duct Conduit, Cement Encased, 4-Inch Rigid Nonmetallic Conduit DB-60	LF	56.000	56.000
2640	SPV.0090	Special 652. City of Milwaukee Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	30.000	30.000
2650	SPV.0090	Special 653. City of Milwaukee Conduit Special 3-Inch	LF	320.000	320.000
2660	SPV.0105	Special 001. Removing Sand Barrel Array And Concrete Pad Sta 115+50 Rt	LS	1.000	1.000
2670	SPV.0105	Special 002. Removing Sand Barrel Array And Concrete Pad Sta 127+15 Rt	LS	1.000	1.000
2680	SPV.0105	Special 003. Milling and Removing Temporary Joint	LS	1.000	1.000
2690	SPV.0105	Special 201. Maintenance Of Lighting Systems	LS	1.000	1.000
2700	SPV.0105	Special 202. Lighting System Integrator	LS	1.000	1.000
2710	SPV.0105	Special 203. Lighting System Survey	LS	1.000	1.000
2720	SPV.0105	Special 650. Underdeck Utility Structure B-40-53 City of Milwaukee Electrical Conduit	LS	1.000	1.000
2730	SPV.0105	Special 651. Underdeck Utility Structure B-40-53 City of Milwaukee Comminications Conduit	LS	1.000	1.000
2740	SPV.0105	Special 652. Construction Staking City of Milw Underground Conduit, Signals, & Lighting	LS	1.000	1.000
2750	SPV.0105	Special 700. Gas Main Support System B-40-53	LS	1.000	1.000
2760	SPV.0105	Special 701. Electrical Fiberglass 6 Duct Package Structure # B-40-53	LS	1.000	1.000
2770	SPV.0165	Special 700. Concrete Cure And Seal Treatment	SF	15,250.000	15,250.000
2780	SPV.0180	Special 001. ROW Fence Based Clearing	SY	12,033.000	12,033.000
2790	SPV.0195	Special 001. Cold Patch	TON	10.000	10.000

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CLEARING & GRUBBING

FROM STA	OFFSET	TO STA	OFFSET	LOCATION	201.0105 CLEARING* STA	201.0110 CLEARING** SY	201.0120 CLEARING ID	201.0205 GRUBBING* STA	201.0210 GRUBBING** SY	201.0220 GRUBBING ID	SPV.0180.001 ROW FENCE BASED CLEARING SY	COMMENTS
6+00	RT	20+00	RT	ALOIS ST	4	17	--	4	17	--	1,396	ACCESS PATH 8+50 RT
88+50	LT	99+00	LT	ALOIS ST ON-RAMP	8	--	--	8	--	--	289	
86+00	RT	95+00	RT	MARTIN DR OFF-RAMP	--	137	--	--	137	--	652	ACCESS PATH 93+00 RT
95+50	LT	98+50	LT	US 41 SB	3	--	--	3	--	--	--	
90+00	RT	94+00	RT	US 41 NB	4	--	--	4	--	--	--	
92+00	LT/RT	101+00	LT/RT	MARTIN DR ON-RAMP	9	69	--	9	69	--	999	ACCESS PATH 97+00 RT
96+00	LT/RT	104+00	LT/RT	ALOIS ST OFF-RAMP	3	--	--	3	--	--	--	
100+00	RT	106+00	RT	US 41 NB	6	75	--	6	75	--	695	ACCESS PATH 101+00 RT
106+00	LT	121+00	LT	US 41 SB	15	61	--	15	61	--	1,521	ACCESS PATH 112+00 LT
107+00	RT	120+00	RT	WASHINGTON BLVD OFF-RAMP	13	45	--	13	45	--	1,143	ACCESS PATH 110+50 RT
122+00	RT	126+00	RT	US 41 NB	4	60	--	4	60	--	576	ACCESS PATH 124+00 RT
122+00	LT	137+00	LT	47TH ST ON-RAMP	6	--	--	6	--	--	1,721	
126+00	RT	137+00	RT	LLOYD ST OFF-RAMP	11	--	--	11	--	--	1,125	
128+00	LT	137+00	LT	US 41 SB	9	72	--	9	72	--	1,000	ACCESS PATH 133+00 LT
134+00	RT	137+00	RT	US 41 NB	3	--	--	3	--	--	33	
138+00	LT/RT	145+00	LT/RT	US 41 NB - LISBON RAMP	7	--	--	7	--	--	385	
138+00	LT	145+00	LT/RT	US 41 SB - LISBON RAMP	7	--	--	7	--	--	498	
				UNDISTRIBUTED	--	--	100	--	--	100	--	
				TOTALS	**112**	**536**	**100**	**112**	**536**	**100**	**12,033**	

*=CLEAR ZONE-BASED CLEARING & GRUBBING

**=ACCESS PATH CLEARING & GRUBBING (ADDITIONAL QUANTITIES SHOWN ELSEWHERE)

REMOVING PAVEMENT

FROM STA	TO STA	LOCATION	204.0100 REMOVING PAVEMENT SY	204.0110 REMOVING ASPHALTIC SURFACE SY	REMARKS
86+96	112+50	US 41 NB	46	--	
86+96	112+50	US 41 SB	38	--	
112+50	127+50	US 41 NB	46	--	
112+50	127+50	US 41 SB	52	--	
127+50	144+00	US 41 NB	43	--	
127+50	144+00	US 41 SB	48	--	
145+23	146+00	US 41 SB, RT	--	43	C.E.
9+98	10+18	ALOIS ST, LT	27	--	
9+95	10+62	VLIET ST	320	--	
12+24	13+10	VLIET ST	326	--	
5+27	5+33	LLOYD ST	35	--	
7+34	7+40	LLOYD ST	35	--	
		TOTAL	**1,015**	**43**	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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REMOVING ASPHALTIC SURFACE MILLING

FROM STA	TO STA	LOCATION	204.0125 REMOVING ASPHALTIC SURFACE MILLING TON	SPV.0105.003 MILLING AND REMOVING TEMPORARY JOINT LS
86+70	101+50	US 41 NB	1,910	-
87+18	101+50	US 41 SB	1,795	-
101+50	109+36	US 41 NB	1,105	-
101+50	109+36	US 41 SB	925	-
110+74	127+50	US 41 NB	1,260	-
110+74	127+50	US 41 SB	1,260	-
127+50	137+48	US 41 NB	1,225	-
127+50	137+48	US 41 SB	1,135	-
95+71	100+31	ALOIS ST OFF RAMP FROM US 41 SB	320	-
94+16	99+10	ALOIS ST ON RAMP TO US 41 SB	490	-
90+35	97+58	MARTIN DR ON RAMP TO US 41 NB	365	-
111+23	119+84	WASHINGTON BLVD OFF RAMP FROM US 41 NB	510	-
		47TH ST ON RAMP	370	-
127+01	137+12	NB USH 41 OFF RAMP AT LLOYD ST	765	-
137+48	145+11	USH 41 OFF RAMP AT LISBON AVE	465	-
137+48	147+57	USH 41 ON RAMP AT LISBON AVE	620	-
ENTIRE PROJECT		US 41	-	1
		TOTAL	**14,520**	**1**

NOTE: INCLUDES MILLING OF CONCRETE SURFACE TO DEPTH SPECIFIED IN PLANS.

REMOVING CONCRETE SIDEWALK

FROM STA	TO STA	LOCATION	204.0155 REMOVING CONCRETE SIDEWALK SY
90+66	91+22	MARTIN DR ON RAMP, RT	50
10+18	10+23	ALOIS ST, LT	3
8+91	10+70	VLIET ST, LT & RT	90
12+24	12+53	VLIET ST, LT & RT	27
5+29	5+33	LLOYD ST, LT & RT	6
7+34	7+97	LLOYD ST, LT & RT	6
10+75	10+86	WASHINGTON BLVD, RT	4
		TOTAL	**186**

REMOVING ASPHALTIC SURFACE BUTT JOINTS

FROM STA	TO STA	LOCATION	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY
86+70	87+64	US 41 NB	400
144+60	145+10	US 41 NB OFF RAMP TO LISBON AVE	140
87+18	88+00	US 41 SB	295
147+11	147+61	US 41 SB ON RAMP FROM LISBON AVE	135
89+53	90+03	MARTIN DR OFF RAMP FROM US 41 NB	135
90+48	91+41	MARTIN DR ON RAMP TO US 41 NB	12
99+06	99+08	ALOIS ST ON RAMP TO US 41 SB	16
96+69	96+71	ALOIS ST OFF RAMP FROM US 41 SB	16
119+82	119+84	WASHINGTON BLVD OFF RAMP FROM US 41 NB	12
132+18	132+20	LLOYD ST ON RAMP TO US 41 SB	50
137+10	137+12	LLOYD ST OFF RAMP FROM US 41 NB TO EB	9
10+36	10+61	WASHINGTON BLVD	180
12+31	12+56	WASHINGTON BLVD	140
		TOTAL	**1,540**

REMOVING CURB & GUTTER

FROM STA	TO STA	LOCATION	204.0150 REMOVING CURB AND GUTTER LF
89+70	90+98	US 41 SB, LT	128
102+30	103+16	US 41 NB, RT	86
113+91	115+19	US 41 NB, RT	128
115+67	116+95	US 41 SB, LT	128
124+29	125+26	US 41 SB, LT	97
125+25	128+31	US 41 NB, RT	306
133+88	134+57	US 41 NB, RT	70
138+81	140+96	US 41 ON RAMP AT LISBON AVE, RT	214
139+78	140+95	US 41 ON RAMP AT LISBON AVE, LT	118
140+13	140+76	US 41 OFF RAMP AT LISBON AVE, LT	63
145+06	145+86	US 41 ON RAMP AT LISBON AVE, RT	108
90+65	91+23	MARTIN ST ON RAMP, RT	32
94+81	98+70	ALOIS ST ON RAMP	389
5+53	11+68	ALOIS ST, LT	632
10+18	10+23	ALOIS ST, LT	10
16+29	17+59	ALOIS ST, RT	133
19+50	19+95	ALOIS ST, LT	72
19+95	20+11	ALOIS ST, RT	17
8+55	8+65	WASHINGTON BLVD, RT	10
10+60	11+03	WASHINGTON BLVD, LT & RT	40
ENTIRE PROJECT		INLET REHABILITATIONS	96
		TOTAL	**2,877**

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ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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REMOVING CONCRETE BARRIER

FROM STA	OFFSET FT	TO STA	OFFSET FT	LOCATION	204.0157 REMOVING CONCRETE BARRIER LF	REMARKS
87+56	LT&RT	132+11	LT&RT	US 41 NB	210	MEDIAN SPOT REPAIRS
88+14	LT&RT	139+24	LT&RT	US 41 SB	564	MEDIAN SPOT REPAIRS
103+36	RT	104+36	RT	US 41 NB, RT	102	
105+23	RT	105+33	RT	US 41 NB, RT	10	
118+06	RT	119+10	RT	US 41 NB, RT	104	
122+56	LT	124+28	LT	US 41 SB, LT	173	
134+69	RT	135+95	RT	US 41 NB, RT	127	
136+69	RT	136+78	RT	US 41 NB, RT	9	INLET REHAB
138+00	RT	139+25	RT	US 41 SB ON RAMP AT LISBON	128	
138+88	LT	139+73	LT	US 41 SB ON RAMP AT LISBON	85	
95+11	RT	95+19	RT	MARTIN ST OFF-RAMP	8	
				TOTAL	**1,520**	

REMOVING GUARDRAIL

FROM STA	OFFSET FT	TO STA	OFFSET FT	LOCATION	204.0165 REMOVING GUARDRAIL LF
87+55	93 LT	89+35	103 LT	USH 41	185
6+15	40 LT	11+50	40 LT	ALOIS ST	480
17+90	30 RT	20+00	22 RT	ALOIS ST	230
				TOTAL	**895**

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REMOVING INLETS

STRUCT NO	STATION	OFFSET	LOCATION	204.0220 REMOVING INLETS EACH
83.3	74+51	34	US 41 NB, RT	1
107.2	103+03	47	US 41 NB, RT	1
112.3	114+48	59	US 41 NB, RT	1
113.2	116+72	60	US 41 SB, LT	1
114.2	118+23	65	US 41 NB, RT	1
118.3	122+96	59	US 41 SB, LT	1
119.1	124+27	60	US 41 SB, LT	1
203.3	134+47	62	US 41 NB, RT	1
207.6	139+88	29	US 41 SB RAMP AT LISBON, LT	1
			TOTAL	**9**

REMOVING STORM SEWER

STRUCT NO	STATION	OFFSET	LOCATION	204.0245 12-INCH LF
114.2	118+22	65	US 41 NB, RT	5
			TOTAL	**5**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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EARTHWORK SUMMARY

From/To Station	205.0100 Common Excavation (1)		Salvaged/ Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (6) Factor 1.3	Mass Ordinate +/- (7)	Waste	Comment:
	Cut (2)	EBS Excavation (3)							
USH 41 MAINTENANCE CROSSOVER	270	0	0	270	12	16	254	254	
	270	0	0	270	12	16	254	254	
	Total (0010)	**270**							

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Breaker Run
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
6) Expanded Fill. Factor = 1.3 Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor
7) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

BASE AGGREGATE DENSE

LOCATION		305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON
CONCRETE PAVEMENT		--	150
CURB AND GUTTER		--	692
CONCRETE BARRIER		--	127
SIDEWALK		--	37
MAINTENANCE CROSSOVER		16	234
GUARDRAIL MOW STRIPS		--	428
UNDISTRIBUTED		--	132
	TOTAL	**16**	**1,800**

CONCRETE BASE

FROM STA	TO STA	LOCATION	320.0145 CONCRETE BASE 8-INCH SY
10+03	10+62	VLIET ST APPROACH	335
12+30	13+10	VLIET ST APPROACH	295
5+29	5+33	LLOYD ST APPROACH	30
7+34	7+97	LLOYD ST APPROACH	30
		TOTAL	**690**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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BASE PATCHING CONCRETE SHES

FROM STA	OFFSET	TO STA	OFFSET	LOCATION	390.0403 BASE PATCHING CONCRETE SHES SY
86+70	RT	96+50	RT	US 41 NB	361
87+18	LT	96+50	LT	US 41 SB	93
96+50	RT	112+50	RT	US 41 NB	500
96+50	LT	112+50	LT	US 41 SB	333
112+50	RT	127+50	RT	US 41 NB	575
112+50	LT	127+50	LT	US 41 SB	280
127+50	RT	137+48	RT	US 41 NB	120
127+50	LT	137+48	LT	US 41 SB	248
137+48	RT	144+10	RT	US 41 NB OFF RAMP AT LISBON AVE	80
137+48	LT	147+57	LT	US 41 SB ON RAMP AT LISBON AVE	245
94+16	RT	99+10	RT	ALOIS ST ON RAMP	56
90+35	LT	97+56	LT	MARTIN DR ON RAMP	240
94+13	RT	96+79	RT	ALOIS ST ON RAMP	56
95+71	RT	100+31	RT	ALOIS ST OFF RAMP	48
111+23	LT	120+16	LT	WASHINGTON BLVD OFF RAMP	159
125+22	RT	129+00	RT	47TH ST ON RAMP	105
127+00	LT	137+12	LT	LLOYD ST OFF RAMP	250
				TOTAL	**3,747**

DRILLED TIE BARS AND DOWEL BARS

FROM STA	TO STA	LOCATION	416.0610 TIE BARS EACH	416.0620 DOWEL BARS EACH
75+51		US 41 NB, RT	8	--
86+70	96+50	US 41 NB	248	360
87+18	96+50	US 41 SB	188	112
96+50	112+50	US 41 NB	616	112
96+50	112+50	US 41 SB	376	304
112+50	127+50	US 41 NB	787	289
112+50	127+50	US 41 SB	342	288
127+50	137+48	US 41 NB	266	144
127+50	137+48	US 41 SB	227	223
137+48	146+00	US 41 NB OFF RAMP AT LISBON AVE	312	96
137+48	147+57	US 41 SB ON RAMP AT LISBON AVE	628	288
90+03	95+42	MARTIN DR OFF RAMP	106	96
90+35	97+56	MARTIN DR ON RAMP	93	208
94+16	99+10	ALOIS ST ON RAMP	284	87
95+71	100+31	ALOIS ST OFF RAMP	16	57
111+23	120+16	WASHINGTON BLVD OFF RAMP	56	191
125+22	129+00	47TH ST ON RAMP	40	125
127+00	137+12	LLOYD ST OFF RAMP	62	164
1+00	20+14	ALOIS ST	825	494
10+03	10+62	VLIET ST APPROACH	48	41
12+30	13+10	VLIET ST APPROACH	135	41
8+55	8+65	WASHINGTON BLVD, RT	5	--
10+60	11+03	WASHINGTON BLVD, LT & RT	20	--
5+29	5+33	LLOYD ST APPROACH	26	--
7+34	7+97	LLOYD ST APPROACH	26	--
		TOTAL	**5,740**	**3,720**

CONCRETE PAVEMENT

FROM STA	OFFSET	TO STA	OFFSET	LOCATION	416.1715 CONCRETE PAVEMENT REPAIR SHES SY	416.1725 CONCRETE PAVEMENT REPLACEMENT SHES SY	REMARKS
75+51	RT			US 41 NB, RT	2	--	INLET REM.
86+96	RT	112+50	RT	US 41 NB	200	--	RUMBLE STRIP & INLET REM.
86+96	LT	112+50	LT	US 41 SB	192	--	RUMBLE STRIP & INLET REM.
112+50	RT	127+50	RT	US 41 NB	180	--	RUMBLE STRIP & INLET REM.
112+50	LT	127+50	LT	US 41 SB	83	--	RUMBLE STRIP & INLET REM.
127+50	RT	144+00	RT	US 41 NB	198	--	RUMBLE STRIP & INLET REM.
127+50	LT	144+00	LT	US 41 SB	155	--	RUMBLE STRIP & INLET REM.
1+00	LT&RT	20+14	LT&RT	ALOIS ST	408	292	
90+03	LT	95+42	LT	MARTIN DR OFF RAMP	44	128	
				UNDISTRIBUTED	538	--	
				TOTAL	**2,000**	**420**	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

HMA PAVEMENT TYPE E-10

FROM STA	TO STA	LOCATION	440.4410.S QMP RIDE; INCENTIVE IRI RIDE DOL	455.0120 ASPHALTIC MATERIAL PG 64-28 TON	455.0605 TACK COAT GAL	460.1110 HMA PAVEMENT TYPE E-10 TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON	460.4000 HMA COLD WEATHER PAVING TON
86+70	96+50	US 41 NB	1114	71	317	1,285	--	--
87+18	96+50	US 41 SB	1059	62	273	1,115	--	--
96+50	112+50	US 41 NB	1818	93	415	1,680	--	--
96+50	112+50	US 41 SB	1818	90	345	1,635	--	--
112+50	127+50	US 41 NB	1705	98	362	1,765	--	--
112+50	127+50	US 41 SB	1705	102	382	1,850	--	--
127+50	137+48	US 41 NB	756	69	306	1,245	--	--
127+50	137+48	US 41 SB	756	57	204	1,020	--	--
90+35	97+58	MARTIN DR ON RAMP	290	27	114	480	--	--
94+16	99+10	ALOIS ST ON RAMP	383	26	74	460	--	--
95+71	100+31	ALOIS ST OFF RAMP	200	20	84	350	--	--
111+23	119+84	WASHINGTON BLVD OFF RAMP	897	32	135	565	--	--
		47TH ST ON RAMP	386	23	98	405	--	--
127+01	137+12	LLOYD ST OFF RAMP	383	47	201	840	--	--
137+48	145+11	US 41 NB OFF RAMP TO LISBON AVE	578	29	123	510	--	--
137+48	147+57	US 41 SB ON RAMP FROM LISBON AVE	764	38	162	680	--	--
10+03	10+62	VLIET ST	--	5	21	80	10	--
12+30	13+08	VLIET ST	--	4	18	70	15	--
8+78	8+83	WASHINGTON BLVD	--	1	2	5	--	--
10+74	10+79	WASHINGTON BLVD	--	1	2	5	--	--
5+29	5+33	LLOYD STREET	--	1	2	5	--	--
7+34	7+97	LLOYD STREET	--	1	2	5	--	--
		MAINTENANCE CROSSOVER	--	4	18	70	--	--
		UNDISTRIBUTED	--	--	--	--	--	4000
		TOTAL	**14,612**	**901**	**3,660**	**16,125**	**25**	**4,000**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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CULVERT PIPE ITEMS

INLET STATION	INLET OFFSET		DISCHARGE STATION	DISCHARGE OFFSET	ALIGNMENT	SLOPE	INVERT ELEVATIONS INLET	INVERT ELEVATIONS DISCHARGE	522.0312 CULVERT PIPE REINFORCED CONCRETE CL IV 12-INCH LF	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EACH	* JOINT TIES
10+35.8	33.4' LT	TO	10+44.2	34.2' RT	MAINTENANCE CROSSOVER	1.5%	709.9	708.9	56	2	6
10+79.8	35.2' LT	TO	10+75.7	32.8' RT	MAINTENANCE CROSSOVER	1.2%	708.0	707.2	56	2	6
					TOTAL				**112**	**4**	**12**

NOTES

(1) STATION AMD OFFSET IS TO END OF APRON ENDWALL.
(2) LENGTHS OF PIPE SHOWN DO NOT INCLUDE APRON ENDWALLS.
(3) INVERT ELEVATIONS SHOWN ARE TO THE END OF THE APRON ENDWALLS.
* FOR INFORMATION ONLY: JOINT TIES ARE REQUIRED FOR ENDWALLS. TIE LAST THREE PIPE JOINTS (TWO TIES PER JOINT-6 TIES MINIMUM PER ENDWALL). JOINT TIES ARE NON-PAY ITEMS.

CONCRETE BARRIER

FROM STA	TO STA	LOCATION	603.0105 SINGLE-FACED 32-INCH LF	603.0405 TRANSITION SECTION 32-INCH LF	603.1132 TYPE S32 LF	SPV.0060.012 TRANSITION TYPE V27 TO S32 EACH	SPV.0090.007 SINGLE-FACED 42-INCH LF	REMARKS
87+56	132+11	US 41 NB	189	-	-	-	8	MEDIAN SPOT REPAIRS & INLET REHABS
88+14	139+24	US 41 SB	331	-	-	-	96	MEDIAN SPOT REPAIRS & INLET REHABS
104+30	104+36	US 41 NB, RT	-	6.5	-	-	-	
105+23	105+33	US 41 NB, RT	10	-	-	-	-	
119+03	119+10	US 41 NB, RT	-	6.5	-	-	-	
122+56	122+63	US 41 SB, LT	-	6.5	-	-	-	
135+88	135+95	US 41 NB, RT	-	6.5	-	-	-	
136+69	136+78	US 41 NB, RT	9	-	-	-	-	INLET REHAB
138+00	138+96	US 41 SB ON-RAMP FROM LISBON AVE, RT	92	6.5	-	-	-	
138+88	138+95	US 41 SB ON-RAMP FROM LISBON AVE, LT	-	6.5	-	-	-	
95+11	95+19	MARTIN ST OFF-RAMP, RT	8	-	-	-	-	
19+54	20+13	ALOIS ST, RT	-	-	72	1	-	
		TOTAL	**639**	**39**	**72**	**1**	**104**	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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CURB & GUTTER

FROM STA	TO STA	LOCATION	601.0331 31-INCH LF	601.0551 4-INCH SLOPED 36-INCH TYPE A LF	601.0555 6-INCH SLOPED 36-INCH TYPE A LF	601.0574 4-INCH SLOPED 30-INCH TYPE G LF	601.0600 CONCRETE CURB PEDESTRAIN LF	SPV.0090.005 31-INCH TYPE A FULL DEPTH LF	SPV.0090.006 32-INCH TYPE A SPECIAL LF	SPV.0090.008 31-INCH TYPE A FULL DEPTH HES LF	REMARKS
102+30	104+30	US 41 NB, RT	-	157	-	-	-	-	44	-	
113+91	115+19	US 41 NB, RT	-	128	-	-	-	-	-	-	
115+67	116+95	US 41 SB, LT	-	128	-	-	-	-	-	-	
117+86	119+03	US 41 NB, RT	-	73	-	-	-	-	44	-	
122+63	125+26	US 41 SB, LT	-	-	-	219	-	-	44	-	
125+25	128+31	US 41 NB, RT	-	262	-	-	-	-	44	-	
133+88	135+89	US 41 NB, RT	-	158	-	-	-	-	44	-	
138+95	140+95	US 41 ON RAMP AT LISBON AVE, LT	-	157	-	-	-	-	44	-	
138+96	140+96	US 41 ON RAMP AT LISBON AVE, RT	-	156	-	-	-	-	44	-	
140+13	140+76	US 41 OFF RAMP AT LISBON AVE, LT	-	63	-	-	-	-	-	-	
145+06	145+86	US 41 ON RAMP AT LISBON AVE, RT	108	-	-	-	-	-	-	-	
5+29	5+33	LLOYD ST, LT & RT	-	-	-	-	-	10	-	-	
7+34	7+39	LLOYD ST, LT & RT	-	-	-	-	-	10	-	-	
8+55	8+65	WASHINGTON BLVD, RT	-	-	-	-	-	10	-	-	
10+60	11+03	WASHINGTON BLVD, LT & RT	-	-	-	-	-	40	-	-	
10+41	10+69	VLIET ST, LT & RT	-	-	-	-	-	60	-	-	
12+24	12+52	VLIET ST, LT & RT	-	-	-	-	-	60	-	-	
5+53	11+68	ALOIS ST, LT	-	-	-	632	-	-	-	-	
16+29	17+59	ALOIS ST, RT	-	-	-	133	-	-	-	-	
19+50	19+95	ALOIS ST, LT	72	-	-	-	20	-	-	-	
19+95	20+11	ALOIS ST, RT	17	-	-	-	20	-	-	-	
90+65	91+23	MARTIN ST ON RAMP, RT	32	-	-	-	20	-	-	-	
91+15	92+42	ALOIS ST ON RAMP, LT	-	-	-	128	-	-	-	-	
94+81	98+70	ALOIS ST ON RAMP, RT	-	-	-	-	-	-	-	389	
ENTIRE PROJECT		INLET REHABILITATIONS	42	-	54	-	-	-	-	-	
		UNDISTRIBUTED	129	-	-	-	-	-	-	-	ALOIS ST. SPOT REPAIR
		TOTAL	**400**	**1,282**	**54**	**1,112**	**60**	**190**	**308**	**389**	

SIDEWALK & CURB RAMPS

FROM STA	TO STA	LOCATION	602.0410 CONCRETE SIDEWALK 5-INCH SF	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA SF
90+71	91+22	MARTIN DR ON-RAMP, LT & RT	456	16
8+91	10+70	VLIET ST, LT & RT	820	32
12+24	12+53	VLIET ST, LT & RT	184	-
10+75	10+86	WASHINGTON BLVD, RT	30	-
		TOTAL	**1,490**	**48**

CONCRETE BARRIER TEMPORARY PRECAST

STAGE	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF
1	VLIET ST	470	470
2	VLIET ST	320	320
	TOTAL	**790**	**790**

NOTE: PLACE TURN DOWN NOSES AT TERMINI OF BARRIER.

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

DRAINAGE STRUCTURES

STR NO.	STATION	OFFSET		LOCATION	520.8000 CONCRETE COLLARS FOR PIPE EACH	608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH LF	608.0415 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH LF	611.0651 INLET COVERS TYPE S EACH	611.0627 INLET COVERS TYPE HM EACH	611.0648 INLET COVERS TYPE R EACH	611.3220 INLETS 2X2-FT EACH	611.3253 INLETS 2.5X3-FT EACH	611.3230 INLETS 2X3-FT EACH	611.8115 ADJUSTING INLET COVERS EACH	SPV.0060.011 RECONNECT PIPE UNDERDRAIN 4-INCH EACH
83.3	74+47	42.0	RT	US 41 NB	1	-	8	-	-	-	-	1	-	-	2
102.2	93+31	105.2	LT	US 41 SB	-	-	-	-	-	-	-	-	-	1	-
107.2	103+03	46.6	RT	US 41 NB	1	8	-	1	-	-	1	-	-	-	1
112.3	114+47	58.7	RT	US 41 NB	1	8	-	1	-	-	1	-	-	-	2
112.4	114+47	66.0	RT	US 41 NB	-	-	-	-	-	-	-	-	-	1	-
113.2	116+72	59.6	LT	US 41 SB	1	8	-	1	-	-	1	-	-	-	1
114.2	118+22	60.9	RT	US 41 NB	1	8	-	-	1	-	-	-	1	-	-
118.3	122+97	60.0	LT	US 41 SB	1	8	-	1	-	-	1	-	-	-	-
119.1	124+27	61.2	LT	US 41 SB	1	8	-	1	-	-	1	-	-	-	-
203.3	134+47	63.2	RT	US 41 NB	1	8	-	1	-	-	1	-	-	-	-
207.5	139+89	37.0	LT	US 41 SB ON RAMP FROM LISBON	-	-	-	-	-	-	-	-	-	1	-
207.6	139+88	29.0	LT	US 41 SB ON RAMP FROM LISBON	1	8	-	1	-	-	1	-	-	-	1
208	138+91	18.7	RT	US 41 SB ON RAMP FROM LISBON	-	-	-	-	-	-	-	-	-	1	-
208A	138+91	11.1	RT	US 41 SB ON RAMP FROM LISBON	1	8	-	1	-	-	1	-	-	-	-
95.6	10+56	47.0	LT	ALOIS ST	-	-	-	-	-	-	-	-	-	1	-
103.16	18+64	10.0	RT	ALOIS ST	-	-	-	-	-	1	-	-	-	-	-
				TOTAL	**10**	**72**	**8**	**8**	**1**	**1**	**8**	**1**	**1**	**5**	**7**

GENERAL NOTES:

1. OFFSET OF STRUCTURES IN CURB AND GUTTER SECTION REFER TO FLOW LINE OF CURB.
2. OFFSET OF STRUCTURES NOT IN CURB AND GUTTER SECTION REFER TO CENTERLINE OF STRUCTURE.
3. USE CONCRETE COLLARS AND PIPE TO RECONNECT PROPOSED INLET TO EXISTING DISCHARGE PIPE RUN.
3. GRATE AND RIM ELEVATIONS ARE GIVEN AT FLOW LINE OF CATCH BASIN OR CENTER OF MANHOLE CASTING OR CENTER OF FIELD INLET COVER.
4. DEPTH OF STRUCTURE IS MEASURED FROM RIM ELEVATION TO DISCHARGE ELEVATION.

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

DRAINAGE STRUCTURES (CONTINUED)

STR NO.	STATION	OFFSET		LOCATION	(3) GRATE/ FLOW LINE ELEV.	(4) DEPTH OF STR	PIPE #1		PIPE #2		PIPE #3		PIPE #4	
							SIDE/ SIZE/ TYPE	DISCH. ELEV.	SIDE/ SIZE/ TYPE	INVERT ELEV.	SIDE/ SIZE/ TYPE	INVERT ELEV.	SIDE/ SIZE/ TYPE	INVERT ELEV.
83.3	74+47	42.0	RT	US 41 NB	648.95	4.70	W. 15" RCP	644.25	E. 12" RCP	644.25	W. 4" P.U.D.	646.05	W. 4" P.U.D.	646.05
102.2	93+31	105.2	LT	US 41 SB	--	--	--	--	--	--	--	--	--	--
107.2	103+03	46.6	RT	US 41 NB	689.89	5.95	W. 12" RCP	683.94	E. 12" RCP	684.04	N. 4" P.U.D.	687.50	--	--
112.3	114+47	58.7	RT	US 41 NB	717.87	5.60	W. 12" RCP	712.27	E. 12" RCP	712.27	W. 4" P.U.D.	716.07	S. 4" P.U.D.	716.17
112.4	114+47	66.0	RT	US 41 NB	-	--	-	-	-	-	--	--	--	--
113.2	116+72	59.6	LT	US 41 SB	720.25	5.50	E. 12" RCP	714.75	N. 4" P.U.D.	718.85	--	--	--	--
114.2	118+22	60.9	RT	US 41 NB	721.13	5.53	W. 12" RCP	715.60	--	--	--	--	--	--
118.3	122+97	60.0	LT	US 41 SB	723.50	4.20	E. 12" RCP	719.30	W. 12" RCP	719.30	--	--	--	--
119.1	124+27	61.2	LT	US 41 SB	723.79	4.35	E. 12" RCP	719.44	--	--	--	--	--	--
203.3	134+47	63.2	RT	US 41 NB	706.03	4.60	W. 12" RCP	701.43	E. 12" RCP	701.43	--	--	--	--
207.5	139+89	37.0	LT	US 41 SB ON RAMP FROM LISBON	--	--	--	--	--	--	--	--	--	--
207.6	139+88	29.0	LT	US 41 SB ON RAMP FROM LISBON	708.75	5.40	W. 12" RCP	703.35	E. 4" P.U.D.	705.75	--	--	--	--
208	138+91	18.7	RT	US 41 SB ON RAMP FROM LISBON	703.47	--	S. 12" RCP	698.37	W. 12" RCP	698.57	E. 12" RCP	698.57	N. 12" CPP	700.34
208A	138+91	11.1	RT	US 41 SB ON RAMP FROM LISBON	704.81	6.14	E. 12" RCP	698.67	--	--	--	--	--	--
95.6	10+56	47.0	LT	ALOIS ST	--	--	--	--	--	--	--	--	--	--
103.16	18+64	10.0	RT	ALOIS ST	--	--	--	--	--	--	--	--	--	--

ADJUSTING MANHOLE COVERS

CAT.	STATION	LOCATION	611.8110 EACH	REMARKS
0080				
	10+17	VLIET STREET, RT	1	SANITARY
	12+45	VLIET STREET, RT	1	SANITARY
	TOTAL		**2**	

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EXISTING DRAINAGE PIPE REHABILITATION

STRUCT NO	STATION	OFFSET	RT/LT	LOCATION	SPV.0060.003 STORM SEWER STRUCTURE REHABILITATION EACH	SPV.0060.004 CLEANING STORM SEWER EACH
100.3	88+71	38.1	LT	US 41 SB	1	-
100.4	88+63	41.8	LT	US 41 SB	1	-
100.5	88+13	40.0	LT	US 41 SB	1	-
100.7	87+65	37.9	LT	US 41 SB	-	1
101.1	93+05	59.0	RT	US 41 SB	-	1
101.2	93+12	0.3	RT	US 41 SB	-	1
101.3	91+60	43.0	RT	US 41 NB	1	-
102	93+55	39.1	LT	US 41 SB	-	1
102.3	94+71	2.0	LT	US 41 SB ON RAMP FROM ALOIS	-	1
103	95+52	33.6	LT	US 41 SB	-	-
103.1	95+53	39.5	LT	US 41 SB	1	-
104.1	97+51	31.2	LT	US 41 SB	-	1
104.2	97+52	43.0	RT	US 41 NB	1	-
105.1	101+74	2.3	LT	ALOIS ST OFF RAMP	1	-
105.3	100+25	44.0	RT	US 41 NB	1	-
107.1	102+50	73.0	LT	US 41 SB	-	1
107.3	101+03	52.0	RT	US 41 NB	-	1
107.4	102+33	79.0	LT	US 41 SB	-	1
107.5	102+33	84.0	LT	US 41 SB	-	1
109.2	106+28	73.6	LT	US 41 SB	-	1
109.3	106+42	7.3	LT	US 41 NB	1	-
109.4	106+50	9.4	LT	US 41 NB	1	-
109.5	107+75	12.4	RT	WASHINGTON BLVD OFF RAMP	-	1
110	108+61	15.7	LT	US 41 NB	1	-
110.2	108+61	11.9	LT	US 41 NB	1	-
111.1	112+15	5.3	LT	US 41 SB	-	1
111.4	112+23	57.0	RT	US 41 NB	1	-
112.5	114+45	4.2	RT	WASHINGTON BLVD OFF RAMP	1	-
113.3	116+80	4.0	RT	US 41 NB	-	1
116.2	119+76	4.0	RT	US 41 SB	-	1
117	121+65	4.3	LT	US 41 SB	1	-
117.1	121+97	56.9	LT	US 41 SB	-	1
117.1A	122+00	63.0	LT	US 41 SB	-	1
117.2	121+32	62.0	RT	US 41 NB	1	-
117.3	121+25	68.3	RT	US 41 NB	-	1
118.5	122+97	60.0	RT	US 41 NB	-	1
119.2	124+27	62.3	RT	US 41 NB	1	-
120	125+72	5.0	LT	47TH ST ON RAMP TO US 41 SB	-	1
120.1	125+72	9.5	LT	47TH ST ON RAMP TO US 41 SB	-	1
205.2	129+01	93.4	LT	US 41 SB	-	1

EXISTING DRAINAGE PIPE REHABILITATION (CONTINUED)

STRUCT NO	STATION	OFFSET	RT/LT	LOCATION	SPV.0060.003 STORM SEWER STRUCTURE REHABILITATION EACH	SPV.0060.004 CLEANING STORM SEWER EACH
204.1	131+97	2.4	RT	US 41 SB	1	-
204.4	132+05	10.0	RT	US 41 NB	1	-
204.8	131+73	2.3	RT	LLOYD ST OFF RAMP	-	1
204.9	131+73	5.0	RT	LLOYD ST OFF RAMP	1	-
202.1	136+72	43.0	LT	US 41 SB	-	1
202.2	136+73	61.0	LT	US 41 SB	-	1
202.3	136+72	22.0	RT	US 41 NB	1	-
202.4	136+72	70.0	RT	US 41 NB	1	-
202.5	136+73	57.2	LT	LLOYD ST OFF RAMP	-	1
202.6	137+18	23.1	RT	US 41 NB	-	1
202.7	137+36	23.6	RT	US 41 NB	-	1
206.1	137+25	3.6	RT	US 41 SB	-	1
206.2	137+45	3.7	RT	US 41 SB	-	1
207	137+90	3.7	RT	US 41 SB ON RAMP AT LISBON AVE	-	-
207A	137+99	12.3	RT	US 41 SB ON RAMP AT LISBON AVE	1	-
207.3	137+99	48.3	LT	US 41 SB ON RAMP AT LISBON AVE	-	-
208.1	138+94	16.5	LT	US 41 NB OFF RAMP AT LISBON AVE	-	1
208.2	138+95	7.0	LT	US 41 NB OFF RAMP AT LISBON AVE	1	-
208.4	140+94	8.9	RT	US 41 SB ON RAMP AT LISBON AVE	1	-
208.6	141+26	9.0	LT	US 41 NB OFF RAMP AT LISBON AVE	1	-
91.1	1+98	27.4	RT	ALOIS ST	-	1
92.2	4+48	30.0	LT	ALOIS ST	1	-
103.4	97+98	0.3	LT	ALOIS ST OFF RAMP	1	-
94	7+98	38.0	RT	ALOIS ST	-	1
94.1	7+98	26.9	RT	ALOIS ST	-	1
95.2	97+97	1.4	LT	ALOIS ST ON RAMP	1	-
95.4	95+71	6.9	LT	ALOIS ST OFF RAMP	1	-
103.14	17+01	35.7	LT	ALOIS ST	-	1
103.16	18+34	10.0	RT	ALOIS ST	1	-
96	91+50	97.0	RT	MARTIN DR ON RAMP	1	-
97.1	90+68	17.0	RT	MARTIN DR ON RAMP	1	-
98	90+40	21.0	LT	MARTIN DR ON RAMP	-	1
102.9	95+47	2.6	RT	MARTIN DR ON RAMP	-	1
300	9+24	64.0	RT	W. VLIET ST	1	-
301.1	12+48	30.0	RT	W. VLIET ST	-	1
301.2	12+95	34.0	LT	W. VLIET ST	-	1
302	119+88	24.0	LT	WASHINGTON BLVD OFF RAMP	-	1
303.1	5+20	38.0	RT	LLOYD ST	-	1
303.2	5+20	30.0	LT	LLOYD ST	-	1
303.3	7+45	38.0	RT	LLOYD ST	-	1
303.4	7+45	30.0	LT	LLOYD ST	-	1
				TOTAL	**34**	**44**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

3

MGS GUARDRAIL

FROM STA	OFFSET FT	TO STA	OFFSET FT	LOCATION	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	614.2300 MGS GUARDRAIL 3 LF	614.2310 MGS GUARDRAIL 3 HS LF	614.2320 MGS GUARDRAIL 3 QS LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH	614.0397 GUARDRIAL MOW STRIP EMULSIFIED ASPHALT SY	SPV.0090.010 MODIFIED MGS THRIE BEAM TRANSITION LF
103+40	RT	104+30	RT	US 41 NB	1	-	-	-	-	1	-	40	39.5
106+81	LT	115+85	LT	US 41 SB	1	700	-	-	-	1	1	400	-
115+01	RT	119+03	RT	US 41 NB	1	312.5	-	-	-	1	-	180	39.5
122+63	LT	124+16	LT	47TH ST ON RAMP TO US 41 SB	1	62.5	-	-	-	1	-	70	39.5
126+35	RT	127+89	RT	US 41 NB	1	100	-	-	-	1	1	70	-
134+98	RT	135+88	RT	US 41 NB	1	-	-	-	-	1	-	40	39.5
138+95	LT	139+85	LT	US 41 SB OFF RAMP TO LISBON AVE	1	-	-	-	-	1	-	40	39.5
138+96	RT	139+86	RT	US 41 SB OFF RAMP TO LISBON AVE	1	-	-	-	-	1	-	40	39.5
5+95	LT	10+58	LT	ALOIS ST	1	425	-	-	-	1	1	205	-
17+38	RT	19+54	RT	ALOIS ST	1	125	-	-	39.5	1	-	95	-
88+92	LT	91+32	LT	US 41 SB ON RAMP FROM ALOIS ST	1	50	50	50	-	1	-	105	39.5
				TOTALS	**11**	**1,775**	**50**	**50**	**39.5**	**11**	**3**	**1,285**	**276.5**

3

GRADING, SHAPING, AND FINISHING FOR BARRIER SYSTEM

LOCATION	COMMON CY	BORROW CY CY	TOPSOIL SY	MULCHING SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE #70 LB
STA. 10+58 LT. (ALOIS ST.)	-	10	140	140	0.1	3
STA. 17+38 RT. (ALOIS ST.)	5	-	70	70	0.1	1
STA. 89+88 LT. (SB USH 41)	10	-	75	75	0.1	1
STA. 103+40 RT. (NB USH 41)	-	10	50	50	0.1	1
STA. 115+01 RT. (NB USH 41)	20	-	130	130	0.1	2
STA. 115+85 LT. (SB USH 41)	10	-	50	50	0.1	1
STA. 124+16 LT. (SB USH 41)	10	-	60	60	0.1	1
STA. 126+35 RT. (NB USH 41)	10	-	65	65	0.1	1
STA. 134+98 RT. (NB USH 41)	10	-	50	50	0.1	1
STA. 139+85 LT. (SB USH 41)	-	10	50	50	0.1	1
STA. 139+86 RT. (SB USH 41)	-	10	50	50	0.1	1

NOTE: FOR INFORMATIONAL PURPOSES ONLY.

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

EROSION CONTROL

FROM STA	OFFSET	TO STA	OFFSET	LOCATION	628.1104 EROSION BALES EACH	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATION EROSION CONTROL EACH	628.1910 MOBILIZATION EMERGENCY E.C. EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH
138+00	LT/RT	145+00	LT/RT	US 41 NB	--	-	--	--	--	30	6	--
138+00	LT/RT	145+00	LT/RT	US 41 SB	--	390	780	--	--	30	6	--
5+00	LT	12+00	LT	ALOIS ST	--	700	1,400	--	--	--	--	--
16+00	RT	20+00	RT	ALOIS ST	--	460	920	--	--	--	--	--
				UNDISTRIBUTED	25	500	1,000	15	8	15	3	50
				TOTAL	**25**	**2,050**	**4,100**	**15**	**8**	**75**	**15**	**50**

FENCE SAFETY

LOCATION	616.0700.S FENCE SAFETY LF
VLIET ST. STRUCTURE	200
WASHINGTON BLVD. STRUCTURE	200
LLOYD ST. STRUCTURE	500
ALOIS ST. AND VLIET STREET	200
UNDISTRIBUTED	300
TOTAL	**1,400**

CORRUGATED MEDIAN

FROM STA	TO STA	LOCATION	620.0100 CONCRETE CORRUGATED MEDIAN SF
9+98	10+18	ALOIS STREET, LT	240
		TOTAL	**240**

INLET PROTECTION

FROM STA	OFFSET	TO STA	OFFSET	LOCATION	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
6+00	RT	20+00	RT	ALOIS ST	--	10	16	--
74+47	RT			US 41 NB	--	1	--	--
88+50	LT	99+00	LT	ALOIS ST ON-RAMP	--	--	4	--
86+00	RT	95+00	RT	MARTIN DR OFF-RAMP	--	--	5	--
87+00	LT	96+50	LT	US 41 SB	--	5	2	3
90+00	RT	94+00	RT	US 41 NB	--	1	2	--
92+00	LT/RT	101+00	LT/RT	MARTIN DR ON-RAMP	--	4	7	--
96+00	LT/RT	104+00	LT/RT	ALOIS ST OFF-RAMP	--	5	7	--
97+00	RT	122+00	RT	US 41 NB	--	16	6	--
97+00	LT	123+00	LT	US 41 SB	--	13	6	--
107+00	RT	120+00	RT	WASHINGTON BLVD OFF-RAMP	--	3	7	--
122+00	RT	126+00	RT	US 41 NB	--	5	3	--
122+00	LT	137+00	LT	47TH ST ON-RAMP	--	6	1	--
126+00	RT	137+00	RT	LLOYD ST OFF-RAMP	--	4	5	--
128+00	LT	137+00	LT	US 41 SB	--	4	4	5
128+00	RT	137+00	RT	US 41 NB	--	6	1	4
138+00	LT/RT	145+00	LT/RT	US 41 NB - LISBON RAMP	--	4	3	2
138+00	LT/RT	145+00	LT/RT	US 41 SB - LISBON RAMP	--	5	2	2
8+00	LT/RT	13+00	LT/RT	VLIET STREET BRIDGE	--	--	4	--
8+00	LT/RT	13+00	LT/RT	WASHINGTON BLVD BRIDGE	--	--	2	--
5+00	LT/RT	9+00	LT/RT	LLOYD ST BRIDGE	--	--	8	--
				UNDISTRIBUTED	5	23	24	4
				TOTAL	**5**	**115**	**119**	**20**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

3

RESTORATION ITEMS

FROM STA	OFFSET	TO STA	OFFSET	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	628.2004 EROSION MAT CLASS I TYPE B SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB
6+00	RT/LT	20+00	RT/LT	ALOIS ST	648	1,396	648	-	1.3	37	19
88+50	LT	99+00	LT	ALOIS ST ON-RAMP	1,727	-	1,727	-	1.1	31	-
86+00	RT	95+00	RT	MARTIN DR OFF-RAMP	275	652	275	-	0.6	17	9
95+50	LT	98+50	LT	US 41 SB	553	-	553	-	0.3	10	-
90+00	RT	94+00	RT	US 41 NB	305	-	305	-	0.2	5	-
92+00	LT/RT	101+00	LT/RT	MARTIN DR ON-RAMP	2,899	999	2,899	-	2.5	70	13
96+00	LT/RT	104+00	LT/RT	ALOIS ST OFF-RAMP	2,276	-	2,276	-	1.4	41	-
100+00	RT	121+00	RT	US 41 NB	1,231	695	1,231	-	1.2	35	9
106+00	LT	121+00	LT	US 41 SB	1,952	1,521	1,952	-	2.2	63	21
107+00	RT	120+00	RT	WASHINGTON BLVD OFF-RAMP	912	1,143	912	-	1.3	37	15
121+00	RT	126+00	RT	US 41 NB	929	576	929	-	0.9	27	8
122+00	LT	137+00	LT	47TH ST ON-RAMP	267	1,721	267	-	1.3	36	23
126+00	RT	137+00	RT	LLOYD ST OFF-RAMP	856	1,125	856	-	1.2	36	15
128+00	LT	137+00	LT	US 41 SB	1,200	-	1,200	-	0.8	22	-
134+00	RT	137+00	RT	US 41 NB	381	-	381	-	0.2	7	-
138+00	LT/RT	145+00	LT/RT	US 41 NB - LISBON RAMP	695	385	695	-	0.7	19	5
138+00	LT	145+00	LT/RT	US 41 SB - LISBON RAMP	597	498	597	-	0.7	20	7
138+00	--	141+00	--	LISBON RAMP CROSS OVER	1,103	-	1,103	-	0.7	20	-
				UNDISTRIBUTED	4,194	289	4,194	2,000	4.4	130	38
				TOTAL	**23,000**	**11,000**	**23,000**	**2,000**	**23**	**663**	**182**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

TRAFFIC CONTROL

LOCATION	STAGE	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0410 TRAFFIC CONTROL BARRICADES TYPE II DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1000 TRAFFIC CONTROL FIXED MESSAGE SIGNS SF	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	643.1055.S TRUCK OR TRAILER-MOUNTED ATTENUATOR DAY	(1) 643.0910 * TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	(1) 643.0920 * TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EACH	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES EACH
ROADWAY															
USH 41	1	8,052	--	176	--	1,386	44	704	--	--	--	--	--	--	--
	2	9,282	--	204	--	816	68	1,122	--	--	--	--	--	--	--
	3	11,740	1,088	1,700	--	435	34	2,142	--	--	--	--	--	--	--
	4	4,914	--	108	--	432	36	594	--	--	--	--	--	--	--
	5	12,334	928	1,450	--	371	29	1,827	--	--	--	--	--	--	--
USH 41	ALL	1,370	--	548	548	--	--	13,015	860	685	50	--	--	--	--
RAMP CLOSURES		800	160	800	320	--	--	800	--	--	--	--	--	--	--
ALOIS STREET		1,500	20	120	40	--	--	100	--	--	--	--	--	--	--
UNDISTRIBUTED		--	--	--	--	--	--	--	--	--	--	20	20	--	--
SUBTOTAL USH 41		49,992	2,196	5,106	908	3,440	211	20,304	860	685	50	20	20	--	--
BRIDGES															
WISCONSIN AVE	1	230	--	10	--	100	--	100	--	--	--	--	--	--	--
	2	370	--	30	--	210	--	210	--	--	--	--	--	--	--
VLIET ST	1	4,692	276	1,380	736	1,748	--	2,116	--	--	--	--	--	32	32
	2	2,760	368	1,104	736	2,024	--	1,840	--	--	--	--	--	25	25
WASHINGTON BLVD	1	330	60	180	240	330	--	420	--	--	--	--	--	30	30
	2	900	60	180	240	600	--	450	--	--	--	--	--	18	18
LLOYD ST	1	1,254	--	342	304	722	--	342	--	--	--	--	--	16	16
	2	456	152	342	304	456	--	342	--	--	--	--	--	24	24
UNDISTRIBUTED		--	--	--	--	--	--	--	--	--	--	10	10	--	--
SUBTOTAL BRIDGES		10,992	916	3,568	2,560	6,190	--	5,820	--	--	--	10	10	145	145
PROJECT TOTALS		**60,984**	**3,112**	**8,674**	**3,468**	**9,630**	**211**	**26,124**	**860**	**685**	**50**	**30**	**30**	**145**	**145**

NOTE (1): TRAFFIC CONTROL COVERING SIGNS TYPE I & TYPE II BASED UPON 1 CYCLE

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE.

TRAFFIC CONTROL DETOURS

LOCATION	(2) 643.0910 * TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	(2) 643.0920 * TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	643.2000 TRAFFIC CONTROL DETOUR (1350-09-70) EACH	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAY
SB USH 41 OFF-RAMP TO VLIET & STATE STREET	8	-	-	840
ALOIS STREET ON-RAMP TO SB USH 41	-	92	-	560
NB USH 41 OFF-RAMP TO VLIET & STATE STREET	8	-	-	650
MARTIN DRIVE ON-RAMP TO NB USH 41	-	60	-	820
TOTAL	**16**	**152**	**1**	**2870**

NOTE (2): TRAFFIC CONTROL COVERING SIGNS TYPE 1 & TYPE II BASED UPON 4 CYCLES

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE.

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

PAVEMENT MARKING

FROM STA	TO STA	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 LF	646.0841.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH LF	646.0843.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH LF	647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW) EACH	647.0856 PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY SF	647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH LF	647.0746 PAVEMENT MARKING DIAGONAL EPOXY 24-INCH LF	647.0776 PAVEMENT MARKING CROSSWALK EPOXY 12-INCH LF
64+29	127+50	US 41 NB	6,183	6,183	--	2,910	3,551	--	--	742	900	--
127+50	137+48	US 41 NB	998	998	--	350	860	--	--	120	600	--
137+48	146+52	US 41 NB TO LISBON AVE	1,150	904	--	226	220	--	--	36	--	--
76+19	122+61	US 41 SB	4,273	4,273	--	2,200	2,339	--	--	513	800	--
122+61	137+48	US 41 SB	1,487	1,487	--	372	750	--	--	178	--	--
137+48	147+56	US 41 SB LLOYD ST TO LISBON AVE	1,341	1,504	--	252	260	--	--	36	--	--
77+33	77+83	WELLS ST ON RAMP	50	50	--	--	--	--	--	--	--	--
90+57	95+53	MARTIN DR OFF RAMP FROM US 41 NB	480	525	--	--	--	--	--	--	--	--
90+35	96+30	MARTIN DR ON RAMP TO US 41 NB	750	610	--	--	--	--	--	--	--	--
1+00	20+00	ALOIS ST	4,538	3,696	114	--	60	1	36	--	--	125
95+10	99+10	ALOIS ST ON RAMP TO US 41 SB	600	420	--	--	50	--	--	--	--	--
95+71	99+52	ALOIS ST OFF RAMP FROM US 41 SB	530	440	--	--	50	--	--	--	--	--
112+11	119+85	WASHINGTON BLVD OFF RAMP FROM US 41 NB	800	770	--	--	190	--	--	200	--	--
126+34	129+00	LLOYD ST ON RAMP TO US 41 SB	454	1,054	80	--	575	--	--	--	--	--
131+72	137+82	LLOYD ST OFF RAMP FROM US 41 NB TO EB	608	534	--	100	315	--	--	100	--	--
10+36	12+80	VLIET ST BRIDGE	400	400	200	--	--	--	--	--	--	--
8+41	10+81	WASHINGTON BLVD BRIDGE	480	480	--	--	--	--	--	--	--	--
5+28	7+39	LLOYD ST BRIDGE	50	420	380	--	--	--	--	--	--	--
		SUBTOTAL	25,172	24,748	774	6,410	9,220	1	36	1,925	2,300	125
		TOTAL	**49,920**		**774**	**6,410**	**9,220**	**1**	**36**	**1,925**	**2,300**	**125**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

SPECIAL PAVEMENT MARKINGS

FROM STA	TO STA	LOCATION	SPV.0060.006 GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 1 EACH	SPV.0060.007 GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 EACH	SPV.0060.008 GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 3 EACH	SPV.0060.009 GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 4 EACH	SPV.0060.010 GROOVED PREFORMED THERMOPLASTIC WORDS EACH	SPV.0060.013 GROOVED PREFORMED THERMOPLASTIC YIELD LINE 18-INCH EACH	SPV.0090.001 GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH LF	SPV.0090.002 GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH LF	SPV.0090.009 GROOVED CONTRAST PREFORMED PLASTIC TAPE 4-INCH (YELLOW) LF
64+29	127+50	US 41 NB	--	--	--	--	--	--	--	--	--
127+50	137+48	US 41 NB	--	--	--	--	--	--	--	--	--
137+48	146+52	US 41 NB TO LISBON AVE	--	1	2	--	1	--	80	120	--
76+19	122+61	US 41 SB	--	--	--	--	--	--	--	--	--
122+61	137+48	US 41 SB	--	--	--	--	--	--	--	--	--
137+48	147+56	US 41 SB LLOYD ST TO LISBON AVE	--	1	1	--	1	--	--	--	--
77+33	77+83	WELLS ST ON RAMP	--	--	--	--	--	--	--	--	--
90+57	95+53	MARTIN DR OFF RAMP FROM US 41 NB	--	--	--	2	--	--	--	--	--
90+35	96+30	MARTIN DR ON RAMP TO US 41 NB	--	--	--	--	--	--	--	--	--
1+00	20+00	ALOIS ST	--	--	--	--	--	--	16	119	20
95+10	99+10	ALOIS ST ON RAMP TO US 41 SB	--	--	--	--	--	--	--	--	--
95+71	99+52	ALOIS ST OFF RAMP FROM US 41 SB	--	--	--	3	--	10	20	--	--
112+11	119+85	WASHINGTON BLVD OFF RAMP FROM US 41 NB	--	2	--	1	--	8	16	--	--
126+34	129+00	LLOYD ST ON RAMP TO US 41 SB	--	2	--	--	--	--	--	--	--
131+72	137+82	LLOYD ST OFF RAMP FROM US 41 NB TO EB	2	5	1	2	3	6	30	--	--
10+36	12+80	VLIET ST BRIDGE	--	2	--	--	1	--	30	--	--
8+41	10+81	WASHINGTON BLVD BRIDGE	--	--	--	--	--	--	--	--	--
5+28	7+39	LLOYD ST BRIDGE	--	4	--	--	2	--	80	--	--
		SUBTOTAL	2	17	4	8	8	24	272	239	20
		TOTAL	**2**	**17**	**4**	**8**	**8**	**24**	**272**	**239**	**20**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

3

REMOVING PAVEMENT MARKINGS

LOCATION	STAGE	646.0600 REMOVING PAVEMENT MARKINGS LF	646.0790.S REMOVING RAISED PAVEMENT MARKERS EACH	647.0955 REMOVING PAVEMENT MARKING ARROWS EACH	647.0965 REMOVING PAVEMENT PARKING WORDS EACH
ROADWAY					
USH 41	1	6,700	--	1	1
	2	18,500	--	--	--
	3	16,500	13	1	1
	4	22,000	--	--	--
	5	3,600	80	1	1
SUBTOTAL USH 41		67,300	93	3	3
BRIDGES					
VLIET ST	1	2,700	--	--	--
	2	2,800	--	--	--
WASHINGTON BLVD	1	3,100	--	--	--
	2	3,000	--	--	--
LLOYD ST	1	1,100	--	--	--
	2	500	--	--	--
SUBTOTAL BRIDGES		13,200	--	--	--
	TOTAL	**80,500**	**93**	**3**	**3**

SAWING CONCRETE

FROM STA	TO STA	LOCATION	690.0150 SAWING ASPHALT	690.0250 SAWING CONCRETE LF	SPV.0060.001 SAWING CONCRETE BARRIER EACH
74+43	74+51	US 41 NB, RT	--	18	--
86+50	96+50	US 41 NB	--	978	2
86+50	96+50	US 41 SB	--	511	30
96+50	112+50	US 41 NB	--	1,333	17
96+50	112+50	US 41 SB	--	1,318	10
112+50	127+50	US 41 NB	--	2,182	15
112+50	127+50	US 41 SB	--	1,253	27
127+50	137+48	US 41 NB	--	1,175	9
127+50	137+48	US 41 SB	40	1,043	16
		MARTIN DR OFF RAMP FROM US 41 NB	--	436	2
		MARTIN DR ON RAMP TO US 41 NB	--	544	--
		ALOIS ST OFF RAMP FROM US 41 SB	--	66	--
		ALOIS ST ON RAMP TO US 41 SB	--	926	--
		ALOIS ST	--	2,564	--
		WASHINGTON BLVD OFF RAMP FROM US 41 NB	--	426	--
		47TH STREET ON RAMP	--	288	--
		LLOYD ST OFF RAMP FROM US 41 NB TO WB	--	402	--
		US 41 NB LLOYD ST TO LISBON AVE	--	349	--
		US 41 SB LLOYD ST FROM LISBON AVE	--	1,174	2
		VLIET STREET BRIDGE	--	627	--
		WASHINGTON STREET BRIDGE	130	75	--
		LLOYD STREET BRIDGE	--	132	--
		TOTAL	**170**	**17,820**	**130**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

3

TEMPORARY PAVEMENT MARKING

STAGE	FROM STA	TO STA	ALIGNMENT	LOCATION	649.0200 TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (WHITE) LF	649.0200 TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (YELLOW) LF	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE) LF	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW) LF	649.0701 TEMPORARY PAVEMENT MARKING 8-INCH (WHITE) LF	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE) LF	649.1700 TEMPORARY PAVEMENT MARKING ARROWS EACH	649.1900 TEMPORARY PAVEMENT MARKING WORDS EACH
1												
	64+29	137+00		US 41 NB	4,740	800	1,150	--	2,190	1,400	--	--
	85+81	127+00		US 41 SB	3,780	280	170	120	1,220	80	--	--
2												
	64+29	144+42		US 41 NB	2,230	7,030	7,800	850	810	1,110	1	1
	85+33	142+57		US 41 SB	2,970	5,020	3,980	580	720	270	--	--
3												
	64+29	145+11		US 41 NB	8,140	7,740	1,720	1,270	2,100	870	--	--
	85+32	147+56		US 41 SB	7,480	6,050	320	190	1,230	70	--	--
4												
	64+29	144+42		US 41 NB	830	7,030	9,200	6,470	810	1,110	1	1
	85+33	142+57		US 41 SB	2,970	5,020	3,980	5,600	720	270	--	--
5	64+29	145+11		US 41 NB	--	--	2,750	1,390	--	1,850	--	--
	85+32	147+56		US 41 SB	--	--	1,200	--	--	1,200	--	--
VLIET STREET BRIDGE - STAGE 1												
				VLIET STREET	1,540	1,550	390	390	--	--	--	--
VLIET STREET BRIDGE - STAGE 2												
				VLIET STREET	1,540	1,550	390	390	--	--	--	--
WASHINGTON STREET BRIDGE - STAGE 1												
				WASHINGTON ST	180	1,800	--	--	--	--	--	--
WASHINGTON STREET BRIDGE - STAGE 2												
				WASHINGTON ST	480	1,400	--	400	--	--	--	--
LLOYD STREET BRIDGE - STAGE 1												
				LLOYD ST	--	1,100	--	--	--	--	--	--
LLOYD STREET BRIDGE - STAGE 2												
				LLOYD ST	250	--	500	500	--	--	--	--
				SUBTOTAL	37,130	46,370	33,550	18,150	9,800	8,230	2	2
				TOTAL	**83,500**		**51,700**		**9,800**	**8,230**	**2**	**2**

NOTE:
-ALL QUANTITIES ARE BASED ON PEAK HOUR MARKINGS. MARKINGS ARE NOT TO BE ADDED OR REMOVED FOR OFF-PEAK HOURS.
-PLACE REMOVABLE TAPE ON CONCRETE PAVEMENT, CONCRETE SHOULDERS, BRIDGE STRUCTURES, & FINISHED ASPHALT SURFACE.

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

CONSTRUCTION STAKING

CAT.	STA.	TO	STA.	STRUCT NO.	LOCATION	650.4000 STORM SEWER EACH	650.4500 SUBGRADE LF	650.5000 BASE LF	650.5500 CURB & GUTTER LF	650.6000 PIPE CULVERTS EACH	650.6500.001 STRUCTURE LAYOUT (B-40-53) LS	650.6500.002 STRUCTURE LAYOUT (B-40-60) LS	650.8000 RESURFACING REFERENCE LF	650.9910 SUPLEMENTAL CONTROL (1350-09-70) LS	SPV.0105.652 CITY OF MILWAUKEE UNDERGROUND CONDUIT, SIGNALS, & LIGHTING LS
0010	86+96	-	90+00		US 41 SB	--	--	--	--	--	--	--	304	--	--
	90+00	-	100+00		US 41 NB	--	--	--	--	--	--	--	1,000	--	--
	100+00	-	110+00		US 41 BASELINE	--	--	--	201	--	--	--	1,000	--	--
	114+48			112.2	US 41 NB	1	--	--	--	--	--	--	--	--	--
	116+72			113.2	US 41 SB	1	--	--	--	--	--	--	--	--	--
	118+22			114.2	US 41 NB	1	--	--	--	--	--	--	--	--	--
	110+00	-	120+00		US 41 BASELINE	--	--	--	373	--	--	--	1,000	--	--
	124+27			119.1	US 41 SB	1	--	--	--	--	--	--	--	--	--
	120+00	-	130+00		US 41 BASELINE	--	--	--	556	--	--	--	1,000	--	--
	130+00	-	137+48		US 41 BASELINE	--	--	--	202	--	--	--	748	--	--
	137+48	-	147+57		US 41 SB FROM LISBON AVE.	--	--	--	534	--	--	--	1,009	--	--
	137+48	-	145+11		US 41 NB TO LISBON AVE.	--	--	--	63	--	--	--	763	--	--
	86+00	-	95+53		US 41 NB OFF RAMP @ MARTIN DR.	--	--	--	--	--	--	--	953	--	--
	88+35	-	99+34		US 41 SB ON RAMP @ALOIS ST.	--	--	--	517	--	--	--	1,099	--	--
	90+00	-	101+16		US 41 NB ON RAMP @ MARTIN DR.	--	--	--	52	--	--	--	1,116	--	--
	95+45	-	104+07		US 41 SB OFF RAMP @ ALOIS ST.	--	--	--	--	--	--	--	862	--	--
	106+01	-	120+15		US 41 NB OFF RAMP @ WASHINGTON BLVD.	--	--	--	--	--	--	--	1,414	--	--
	122+00	-	129+00		US 41 SB ON RAMP @ 47TH ST.	--	--	--	110	--	--	--	700	--	--
	125+30	-	137+82		US 41 NB OFF RAMP @ LLOYD ST. EB	--	--	--	20	--	--	--	1,252	--	--
	133+92	-	137+48		US 41 NB OFF RAMP @ LLOYD ST. WB	--	--	--	63	--	--	--	356	--	--
	138+91			208	US 41 SB ON RAMP FROM LISBON	1	--	--	--	--	--	--	--	--	--
	139+88			207.6	US 41 SB ON RAMP FROM LISBON	1	--	--	--	--	--	--	--	--	--
	139+88			208A	US 41 SB ON RAMP FROM LISBON	1	--	--	--	--	--	--	--	--	--
	4+25	-	9+63		STATE ST.	--	--	--	--	--	--	--	539	--	--
	1+00	-	20+37		ALOIS ST.	--	--	--	894	--	--	--	1,937	--	--
	27+94			103.15	ALOIS ST.	1	--	--	--	--	--	--	--	--	--
	6+69	-	13+83		VLIET ST.	--	--	--	--	--	--	--	714	--	--
	6+91	-	8+11		WASHINGTON ST.	--	--	--	--	--	--	--	121	--	--
	7+35	-	14+25		WASHINGTON ST.	--	--	--	--	--	--	--	691	--	--
	4+48	-	9+31		LLOYD ST.	--	--	--	--	--	--	--	484	--	--
	10+11	-	11+06		MAINTENANCE CROSSOVER	--	95	95	--	2	--	--	--	--	--
					PROJECT	--	--	--	--	--	--	--	--	1	1
					SUBTOTALS	**8**	**95**	**95**	**3,585**	**2**	**0**	**0**	**19,062**	**1**	**1**
0020															
					VLIET ST.	--	--	--	--	--	1	--	--	--	--
					SUBTOTALS	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**
0040															
					LLOYD ST.	--	--	--	--	--	--	1	--	--	--
					SUBTOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**
					TOTALS	**8**	**95**	**95**	**3,585**	**2**	**1**	**1**	**19,062**	**1**	**1**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

3

WELDING MANHOLE ACCESS COVERS

LOCATION	SPV.0060.002 EACH
PROJECT WIDE	3
TOTAL	**3**

FIELD OFFICE TYPE C

LOCATION	642.5201 EACH
PROJECT WIDE	1
TOTAL	**1**

MOBILIZATIONS EMERGENCY PAVEMENT REPAIR

LOCATION	SPV.0060.005 EACH
PROJECT WIDE	2
TOTAL	**2**

3

CRACK SEALING

FROM STA	TO STA	LOCATION	SPV.0085.001 LB
86+96	147+57	US 41 NB	2,810
86+96	147+57	US 41 SB	2,810
		TOTAL	**5,620**

JOINT AND CRACK REPAIR

LOCATION	SPV.0090.003 LF
PROJECT WIDE	7,000
TOTAL	**7,000**

REMOVING SAND BARREL ARRAY AND CONCRETE PAD

STATION	LOCATION	SPV.0105.001 STA 115+50 RT LS	SPV.0105.002 STA 127+15 RT LS
115+50	US 41 NB, RT	1	-
127+50	US 41 NB, RT	-	1
	TOTAL	**1**	**1**

MENDING FENCE

LOCATION	SPV.0090.004 LF
PROJECT WIDE	500
TOTAL	**500**

COLD PATCH

LOCATION	SPV.0195.001 TON
PROJECT WIDE	10
TOTAL	**10**

GAS MAIN SUPPORT SYSTEM B-40-53

CAT.	LOCATION	SPV.0105.700 LS
0090		
	VLIET STREET BRIDGE, B-40-53	1
	TOTAL	**1**

ELECTRICAL FIBERGLASS 6 DUCT PACKAGE STRUCTURE # B-40-53

CAT.	LOCATION	SPV.0105.701 LS
0100		
	VLIET STREET BRIDGE, B-40-53	1
	TOTAL	**1**

ESTIMATE OF QUANTITIES-TRAFFIC SIGNALS
PROJECT ID. 1350-09-70
MILWAUKEE COUNTY

CATEGORY 0060

Std. Bid Item No.	Description	Unit	Quantity
652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	25
652.0230	Conduit Rigid Nonmetallic Schedule 40 2 1/2-Inch	LF	35
SPV.0060.450	Poles Type 9	EACH	1
SPV.0060.451	Poles Type 12 Special	EACH	1
SPV.0060.452	Poles Type 13 Special	EACH	1
SPV.0060.453	Monotube Arms 25-FT	EACH	1
SPV.0060.454	Monotube Arms 35-FT	EACH	2
SPV.0060.455	Concrete Bases Type 10 Special	EACH	2
SPV.0060.456	Rectangular Polymer Concrete Vault 13x24x18-Inch	EACH	5
SPV.0090.653	City of Milwaukee Conduit Special 3-Inch	LF	320

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

3

ADJUSTING TES MANHOLE COVER

CAT.	STATION	LOCATION	SPV.0060.650 EACH
0070			
	9+10	VLIET STREET, RT	1
	10+05	VLIET STREET, RT	1
	10+15	VLIET STREET, LT	1
	12+60	VLIET STREET, LT	1
	TOTAL		**4**

INSTALLING CONDUIT INTO EXISTING MANHOLE

CAT.	STATION	LOCATION	SPV.0060.651 EACH
0070			
	9+10	VLIET STREET, RT	1
	10+05	VLIET STREET, RT	1
	10+15	VLIET STREET, LT	1
	12+60	VLIET STREET, LT	1
	TOTAL		**4**

3

6-DUCT CONDUIT, CEMENT ENCASED, 4-INCH RIGID NONMETALLIC CONDUIT DB-60

CAT.	FROM	TO	LOCATION	SPV.0090.650 LF
0070				
	MH AT 10+05	WEST ABUTMENT	VLIET STREET, RT	47
	MH AT 13+00	EAST ABUTMENT	VLIET STREET, RT	68
	TOTAL			**115**

UNDERDECK UTILITY STRUCTURE B-40-53
CITY OF MILWAUKEE COMMUNICATIONS CONDUIT

CAT.	LOCATION	SPV.0105.651 LS
0070		
	VLIET STREET BRIDGE, B-40-53, RT	1
	TOTAL	**1**

CITY OF MILWAUKEE CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH

CAT.	LOCATION	SPV.0090.652 LF
0070		
	VLIET STREET / ALOIS STREET / 47TH STREET	30
	TOTAL	**30**

UNDERDECK UTILITY STRUCTURE B-40-53
CITY OF MILWAUKEE ELECTRICAL CONDUIT

CAT.	LOCATION	SPV.0105.650 LS
0070		
	VLIET STREET BRIDGE, B-40-53, LT	1
	TOTAL	**1**

3-DUCT CONDUIT, CEMENT ENCASED, 4-INCH RIGID NONMETALLIC CONDUIT DB-60

CAT.	FROM	TO	LOCATION	SPV.0090.651 LF
0070				
	MH AT 10+15	WEST ABUTMENT	VLIET STREET, LT	38
	MH AT 12+60	EAST ABUTMENT	VLIET STREET, LT	18
	TOTAL			**56**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2230 SIGNS TYPE II REFLECTIVE F [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	634.0618 WOOD POSTS 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.0101 SIGNS TYPE I REFLECTIVE SH [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
		SIGNS #1 - #78 NOT USED									SIGNS #1 - #78 NOT USED				SIGNS #1 - #78 NOT USED							
79	W13-2A(2M)	ADVISORY EXIT ARROW	48 x 90	--	30.000	1	--	--	--	--	--	MOUNT ON UPRIGHT OF S-40-241	x	--	--	--	--	--	--	--	--	--
80	E6-1	STATE ST VLIET ST EXIT [A] ONLY	-- x --	--	--	--	--	--	--	--	--	INSTALL ON S-40-339 I BEAMS INCIDENTAL	15 x 9.5	142.50	1	--	--	--	--	--	--	--
81	W1-6(2S)	NIGHT ARROW	48 x 24	--	8.000	--	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
82	M1-94(MOD)	STATE ST 1000 NORTH	84 x 36	21.000	--	1	2	2	--	--	--	--	x	--	--	--	--	--	--	--	--	--
83	M1-94(MOD)	STATE ST 1000 NORTH	84 x 36	21.000	--	1	--	--	--	--	#82	--	x	--	--	--	--	--	--	--	--	--
84	E5-1(5)	EXIT [A]	72 x 60	30.000	--	1	2	2	--	--	--	--	x	--	--	--	--	--	--	--	--	--
85	E13-1P	25 MPH	72 x 24	--	12.000	--	--	--	--	--	#84	--	x	--	--	--	--	--	--	--	--	--
86	W3-5(2S)	SPEED LIMIT 25 AHEAD	36 x 36	--	9.000	1	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
87	W3-5(2S)	SPEED LIMIT 25 AHEAD	36 x 36	--	9.000	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
88	W4-1(5)	MERGING TRAFFIC RIGHT	48 x 48	--	16.000	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
89	E1-1A	WASHINGTON BLVD EXIT 1/2 MILE	-- x --	--	--	--	--	--	--	--	--	RE-USE STEEL POSTS	25 x 7	175.00	1	--	--	2	--	--	--	--
89A		NO TRUCKS	-- x --	--	--	--	--	--	--	--	#89	--	10 x 2	20.00	1	--	--	--	--	--	--	--
90	E8-1	WASHINGTON BLVD 1/4 LLOYD ST 1/2 FREEWAY ENDS 3/4	-- x --	--	--	--	--	--	--	--	--	INSTALL ON S-40-242 I BEAMS INCIDENTAL	20 x 7.5	150.00	1	--	--	--	--	--	--	--
91	W13-2A(2M)	ADVISORY EXIT ARROW	48 x 90	--	30.000	--	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
92	R2-1(5)	SPEED LIMIT 50	48 x 60	20.000	--	1	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
93	J4-1(5) M3-1 M1-4	-- NORTH USH 41	36 x 54 36 x 18 36 x 36	13.500	--	--	--	1	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
93A	M1-6	STH 175 PLAQUE	36 x 36	9.000	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--	--	--
94	W1-6(2S)	NIGHT ARROW	48 x 24	--	8.000	--	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
95	E5-1(5)	EXIT [A]	72 x 60	30.000	--	1	2	2	--	--	--	--	x	--	--	--	--	--	--	--	--	--
96	E13-1P	30 MPH	72 x 24	--	12.000	--	--	--	--	--	#95	--	x	--	--	--	--	--	--	--	--	--
97	E4-11	VLIET ST STATE ST [A]	-- x --	--	--	--	--	--	--	--	--	RE-USE STEEL POSTS	17 x 7.5	127.50	1	--	--	2	--	--	--	--
98	R5-57(5)	PEDESTRIANS ETC...PROHIB.	36 x 36	9.000	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
99	E1-1A	[18] WELLS ST WISCONSIN AVE EXIT 1/2 MILE	-- x --	--	--	--	--	--	--	--	--	RE-USE STEEL POSTS	22 x 13.5	297.00	1	--	--	2	--	--	--	--
100	W4-3R(5)	MERGE ADDED LANE RT	48 x 48	--	16.000	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
101	W4-3R(5)	MERGE ADDED LANE RT	48 x 48	--	16.000	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
102	E6-51	[18] WELLS ST WISCONSIN AVE EXIT [A] ONLY	-- x --	--	--	--	--	--	--	--	--	INSTALL ON S-40-340 I BEAMS INCIDENTAL	18 x 13	234.00	1	--	--	--	--	--	--	--
103	E8-1	WELLS - WISCONSIN 1/4 [94] 1/2 MILLER PARK 3/4	-- x --	--	--	--	--	--	--	--	--	INSTALL ON S-40-241 I BEAMS INCIDENTAL	20 x 7.5	150.00	1	--	--	--	--	--	--	--
104	R5-1(3)	DO NOT ENTER	36 x 36	9.000	--	--	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
105	R3-2(2S)	NO LEFT TURN	24 x 24	4.000	--	1	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2230 SIGNS TYPE II REFLECTIVE F [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	634.0618 WOOD POSTS 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.0101 SIGNS TYPE I REFLECTIVE SH [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
106	J3-1(2S)	--	24 x 57	9.500	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
	M3-1	NORTH	24 x 12									--										
	M1-4	USH 41	24 x 24									--										
	M6-2	TILT ARROW	21 x 21									--										
106A	M1-6	STH 175 PLAQUE	24 x 24	4.000	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--	--	--
107	R5-1(3)	DO NOT ENTER	36 x 36	9.000	--	1	1		--	--	109	--	x	--	--	--	--	--	--	--	--	--
108	R5-1(3)	DO NOT ENTER	36 x 36	9.000	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
109	W3-1(2S)	STOP AHEAD	36 x 36	--	9.000	1	--	--	--	--	#107	--	x	--	--	--	--	--	--	--	--	--
110	W3-1(2S)	STOP AHEAD	36 x 36	--	9.000	1	--	--	--	--	#108	--	x	--	--	--	--	--	--	--	--	--
111	R5-57(5)	PEDESTRIANS ETC...PROHIB.	36 x 36	9.000	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
112	W3-1(2S)	STOP AHEAD	36 x 36	--	9.000	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
113	D1-2	[A] STATE ST [A] VLIET ST [A]	84 x 30	17.500	--	1	2	2	--	--	--	--	x	--	--	--	--	--	--	--	--	--
114	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	1	1	1	--	--	#113	--	x	--	--	--	--	--	--	--	--	--
115	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	1	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--	--
116	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	--	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
117	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	1	--	--	--	--	#118	--	x	--	--	--	--	--	--	--	--	--
118	D1-2	[A] STATE ST [A] VLIET ST [A]	84 x 30	17.500	--	1	2	2	--	--	--	--	x	--	--	--	--	--	--	--	--	--
119	R5-1(3)	DO NOT ENTER	36 x 36	9.000	--	1	--	1	--	--		--	x	--	--	--	--	--	--	--	--	--
120	J2-1(2S)	--	24 x 57	9.500	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
	M3-3	SOUTH	24 x 12																			
	M1-4	USH 41	24 x 24																			
	M5-1L	ADV ARROW LEFT	21 x 21																			
120A	M1-6	STH 175 PLAQUE	24 x 24	4.000	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--	--	--
121	J2-1(2S)	--	24 x 57	9.500	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
	M3-3	SOUTH	24 x 12																			
	M1-4	USH 41	24 x 24																			
	M5-1L	ADV ARROW LEFT	21 x 21																			
121A	M1-6	STH 175 PLAQUE	24 x 24	4.000	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--	--	--
122	J3-1(2S)	--	24 x 57	9.500	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
	M3-3	SOUTH	24 x 12																			
	M1-4	USH 18	24 x 24																			
	M6-1	ARROW	21 x 21																			
122A	M1-6	STH 175 PLAQUE	24 x 24	4.000	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--	--	--
123	J3-1(2S)	--	24 x 57	9.500	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
	M3-3	SOUTH	24 x 12																			
	M1-4	USH 18	24 x 24																			
	M6-1	ARROW	21 x 21																			
123A	M1-6	STH 175 PLAQUE	24 x 24	4.000	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--	--	--
124	R5-1(2S)	DO NOT ENTER	30 x 30	6.250	--	1	--	--	--	--		LIGHT POLE	x	--	--	--	--	--	--	--	--	--
125	R1-1(3)	STOP	36 x 36	7.460	--	1	1	1	--	--	#215	--	x	--	--	--	--	--	--	--	--	--
126	R1-1(3)	STOP	36 x 36	7.460	--	1	1	1	--	--		--	x	--	--	--	--	--	--	--	--	--
127	J3-1(2S)	--	24 x 57	9.500	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
	M3-3	SOUTH	24 x 12																			
	M1-4	USH 41	24 x 24																			
	M6-2	TILT ARROW	21 x 21																			
127A	M1-6	STH 175 PLAQUE	24 x 24	4.000	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--	--	--
128	--	FREEWAY ENTRANCE	66 x 30	13.750	--	--	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--	--
129	W1-13R(5)	TIPPY TRUCK	48 x 48	--	16.000	1	--	1	--	--	--	REMOVE FROM LT POLE TO WOOD POST	x	--	--	--	--	--	--	--	--	--
130	J2-1(2S)	--	24 x 57	9.500	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
	M3-3	SOUTH	24 x 12																			
	M1-4	USH 41	24 x 24																			
	M5-1R	ADV ARROW RIGHT	21 x 21																			

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2230 SIGNS TYPE II REFLECTIVE F [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	634.0618 WOOD POSTS 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.0101 SIGNS TYPE I REFLECTIVE SH [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
130A	M1-6	STH 175 PLAQUE	24 x 24	4.000	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--	--	--
131	R1-2(2S)	YIELD	36 x 31	3.880	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
132	R1-2(2S)	YIELD	36 x 31	3.880	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
133	E1-1A	WASHINGTON [A] BLVD	-- x --	--	--	--	--	--	--	--	--	RE-USE STEEL POSTS	22 x 7.5	165.00	1	--	--	2	--	--	--	--
133A		NO TRUCKS	-- x --	--	--	--	--	--	--	--	#133	--	10 x 2	20.00	1	--	--	--	--	--	--	--
134	M1-94(MOD)	VLIET ST 1400 NORTH	84 x 36	21.000	--	1	--	--	--	--	--	MOUNT ON BRIDGE BRACKETS MOUNTING INCIDENTAL	x	--	--	--	--	--	--	--	--	--
135	M1-94(MOD)	VLIET ST 1400 NORTH	84 x 36	21.000	--	1	--	--	--	--	--	MOUNT ON BRIDGE BRACKETS MOUNTING INCIDENTAL	x	--	--	--	--	--	--	--	--	--
136	E5-1(5)	EXIT [A]	72 x 60	30.000	--	1	2	2	--	--	--	--	x	--	--	--	--	--	--	--	--	--
137	J4-1	EXISTING ASSEMBLY	-- x --	--	--	1	--	--	--	--	--	USH 41	x	--	--	--	--	--	--	--	--	--
138	R2-1(5)	SPEED LIMIT 50	48 x 60	20.000	--	--	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
139	W3-1(2S)	STOP AHEAD	36 x 36	--	9.000	1	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
140	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	1	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
141	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
142	E8-1	VLIET STATE STS 1/4 WELLS - WISCONSIN 1/2 [94] 3/4	-- x --	--	--	--	--	--	--	--	--	INSTALL ON S-40-19 I BEAMS INCIDENTAL	21 x 7.5	157.50	1	--	--	--	--	--	--	--	--
143	E6-51(MOD)	FREEWAY ENDS 1/2 MILE	-- x --	--	--	--	--	--	--	--	--	INSTALL ON S-40-19 I BEAMS INCIDENTAL	21 x 6	126.00	1	--	--	--	--	--	--	--
144	E6-1(MOD)	LLOYD ST [A] EXIT [A] ONLY	-- x --	--	--	--	--	--	--	--	--	INSTALL ON S-40-19 I BEAMS INCIDENTAL	23 x 6.5	149.50	1	--	--	--	--	--	--	--
145	J4-1(5)	--	36 x 54	13.500	--	--	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
	M3-3	SOUTH	36 x 18																			
	M1-4	USH 41	36 x 36																			
145A	M1-6	STH 175 PLAQUE	36 x 36	9.000	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--	--	--
146	M1-94(MOD)	WASHINGTON BLVD	90 x 36	22.500	--	1	--	--	--	--	--	MOUNT ON BRIDGE INCIDENTAL MOUNTING	x	--	--	--	--	--	--	--	--	--
147	M1-94(MOD)	WASHINGTON BLVD	90 x 36	22.500	--	1	--	--	--	--	--	MOUNT ON BRIDGE INCIDENTAL MOUNTING	x	--	--	--	--	--	--	--	--	--
148	E6-51	[41] LISBON AVE 1/4 MILE	-- x --	--	--	--	--	--	--	--	--	INSTALL ON S-40-20 I BEAMS INCIDENTAL	19 x 7	133.00	1	--	--	--	--	--	--	--
148A	--	COVER PLAQUE STH 175	36 x 36	9.000	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--	--	--
149	--	FREEWAY ENDS	-- x --	--	--	--	--	--	--	--	--	MOUNT ABOVE #148	13 x 2.5	32.50	1	--	--	--	--	--	--	--
150	E6-1	LLOYD ST EXIT [A] ONLY [A]	-- x --	--	--	--	--	--	--	--	--	INSTALL ON S-40-20 I BEAMS INCIDENTAL	17 x 7.5	127.50	1	--	--	--	--	--	--	--
151	W3-3(2S)	SIGNAL AHEAD	36 x 36	--	9.000	1	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
152	W3-3(2S)	SIGNAL AHEAD	36 x 36	--	9.000	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
153	E5-1(5)	EXIT [A]	72 x 60	30.000	--	1	2	2	--	--	--	--	x	--	--	--	--	--	--	--	--	--
154	J4-1(5)	--	36 x 54	13.500	--	--	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
	M3-3	SOUTH	36 x 18																			
	M1-4	USH 41	36 x 36																			
154A	M1-6	STH 175 PLAQUE	36 x 36	9.000	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--	--	--
155	W4-3R(5)	MERGE ADDED LANE RT	48 x 48	--	16.000	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
156	W4-3R(2S)	MERGE ADDED LANE RT	36 x 36	--	9.000	1	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
157	R5-57(5)	PEDESTRIANS ETC...PROHIB.	36 x 36	9.000	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
158	E1-1A	VLIET ST STATE ST EXIT 1/2 MILE	-- x --	--	--	--	--	--	--	--	--	RE-USE STEEL POSTS	16 x 10	160.00	1	2	--	2	--	--	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2230 SIGNS TYPE II REFLECTIVE F [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	634.0618 WOOD POSTS 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.0101 SIGNS TYPE I REFLECTIVE SH [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
159	D12-3(MOD)	STADIUM AND TRAFFIC INFO TUNE RADIO TO 1180 AM	90 x 54	33.750	--	1	2	2	--	--	--	--	x	--	--	--	--	--	--	--	--	--
160	R3-2(2S)	NO LEFT TURN	24 x 24	4.000	--	1	1	1	--	--	#161	--	x	--	--	--	--	--	--	--	--	--
161	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	--	1	--	--	--	--	#160	--	x	--	--	--	--	--	--	--	--	--
162	R6-2L(2S)	ONE WAY	24 x 30	5.000	--	--	--	--	--	--	# 164	MOUNT ON SIDE OF STOP SIGN	x	--	--	--	--	--	--	--	--	--
163	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	--	1	--	--	--	--	#165	MOUNT ON SIDE OF STOP SIGN	x	--	--	--	--	--	--	--	--	--
164	R1-1(3)	STOP	36 x 36	7.460	--	1	1	1	--	--	#215	--	x	--	--	--	--	--	--	--	--	--
165	R1-1(3)	STOP	36 x 36	7.460	--	1	1	1	--	--		--	x	--	--	--	--	--	--	--	--	--
166	W12-1D(2M)	DOUBLE DOWN ARROWS	24 x 24	--	4.000	--	--	1	--	--	--	2' MOUNTING HEIGHT	x	--	--	--	--	--	--	--	--	--
167	R5-1(3)	DO NOT ENTER	36 x 36	9.000	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
168	R2-1(5)	SPEED LIMIT 50	48 x 60	20.000	--	1	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
169	M1-94	LLOYD ST	66 x 21	9.625	--	--	--	--	--	--	--	MOUNT ON BRIDGE. MOUNTING BRACKET INCIDENTAL	x	--	--	--	--	--	--	--	--	--
170	M1-94	LLOYD ST	66 x 21	9.625	--	--	--	--	--	--	--	MOUNT ON BRIDGE. MOUNTING BRACKET INCIDENTAL	x	--	--	--	--	--	--	--	--	--
171	W3-3(2S)	SIGNAL AHEAD	36 x 36	--	9.000	1	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
172	W3-3(2S)	SIGNAL AHEAD	36 x 36	--	9.000	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
173	R3-8P(2S)	LANE CONTROL	54 x 30	11.250	--	1	2	2	--	--	--	--	x	--	--	--	--	--	--	--	--	--
174	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
175	J2-1(2S)	--	24 x 57	9.500	--	1	--	--	--	--	#176	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
	M3-1	NORTH	24 x 12																			
	M1-4	USH 41	24 x 24																			
	M5-2L	ADV LEFT BEND ARROW	21 x 21																			
175A	M1-6	STH 175 PLAQUE	24 x 24	4.000	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--	--	--
176	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	--	--	--	1	--	#175	--	x	--	--	--	--	--	--	--	--	--
177	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	--	--	--	1	--	#179	--	x	--	--	--	--	--	--	--	--	--
178		* NOT USED *	-- x --	--	--	--	--	--	--	--	--	* NOT USED *	x	--	--	--	--	--	--	--	--	--
179	J2-1(2S)	--	24 x 57	9.500	--	1	1	1	--	--	#177	--	x	--	--	--	--	--	--	--	--	--
	M3-1	NORTH	24 x 12																			
	M1-4	USH 41	24 x 24																			
	M5-2L	ADV LEFT BEND ARROW	21 x 21																			
179A	M1-6	STH 175 PLAQUE	24 x 24	4.000	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--	--	--
180	R3-7L(3)	LEFT LANE MUST TURN	36 x 36	9.000	--	1	1	1	--	--	#185	--	x	--	--	--	--	--	--	--	--	--
181	R10-7(2S)	DO NOT BLOCK INTER.	24 x 30	5.000	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
182	J2-1(2S)	--	24 x 57	9.500	--	1	--	--	--	--	--	MOUNT HIGH ON UPRIGHT	x	--	--	--	--	--	--	--	--	--
	M3-1	NORTH	24 x 12																			
	M1-4	USH 41	24 x 24																			
	M5-2L	ADV LEFT BEND ARROW	21 x 21																			
182A	M1-6	STH 175 PLAQUE	24 x 24	4.000	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--	--	--
183	R3-60L(2M)	LANE CONTROL	30 x 36	7.500	--	1	--	--	--	--	--	MOUNT ON OVERHEAD. MOUNTING BRACKETS INCIDENTAL.	x	--	--	--	--	--	--	--	--	--
184	R3-50L(2M)	LANE CONTROL	30 x 36	7.500	--	1	--	--	--	--	--	MOUNT ON OVERHEAD. MOUNTING BRACKETS INCIDENTAL.	x	--	--	--	--	--	--	--	--	--
185	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	1	--	--	--	--	#180	--	x	--	--	--	--	--	--	--	--	--
186	E1-1(MOD)	[94] DOWNTOWN [LEFT] 2 MILES	-- x --	--	--	--	--	--	--	--	--	--	15 x 14	210.00	1	2	--	2	--	--	--	--
187	E1-1(MOD)	[94] MADISON [RIGHT] 2 MILES	-- x --	--	--	--	--	--	--	--	--	--	14 x 14	196.00	1	2	--	2	--	--	--	--
188	D12-2B(2S)	RIDESHARE INFO WWW.	84 x 36	21.000	--	1	2	2	--	--	--	--	x	--	--	--	--	--	--	--	--	--
189	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
190	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	1	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2230 SIGNS TYPE II REFLECTIVE F [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	634.0618 WOOD POSTS 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.0101 SIGNS TYPE I REFLECTIVE SH [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
191	R3-8E(2S)	LANE CONTROL	36 x 30	7.500	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
192	R3-7L(2S)	LEFT LANE MUST TURN	36 x 36	9.000	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
193	R1-2(2S)	YIELD	36 x 31	3.880	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
194	J2-1(2S)	--	24 x 57	9.500	--	1	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
	M3-3	SOUTH	24 x 12																			
	M1-4	USH 41	24 x 24																			
	M5-1L	ADV ARROW LEFT	21 x 21																			
194A	M1-6	STH 175 PLAQUE	24 x 24	4.000	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--	--	--
195	R3-2(2S)	NO LEFT TURN	24 x 24	4.000	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	x	--	--	--	--	--	--	--	--	--
196	R5-1(3)	DO NOT ENTER	36 x 36	9.000	--	--	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
197	R5-1(3)	DO NOT ENTER	36 x 36	9.000	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	x	--	--	--	--	--	--	--	--	--
198	R6-2L(2S)	ONE WAY	24 x 30	5.000	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	x	--	--	--	--	--	--	--	--	--
199	R6-2R(2S)	ONE WAY	24 x 30	5.000	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	x	--	--	--	--	--	--	--	--	--
200	D10-2	MILE 40	-- x --	--	--	1	1	--	--	--	--	--	x	--	--	--	--	--	--	--	--	--
201	D10-2	MILE 40	-- x --	--	--	1	1	--	--	--	--	--	x	--	--	--	--	--	--	--	--	--
202	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE	x	--	--	--	--	--	--	--	--	--
203	R5-57(5)	PEDESTRIANS ETC...PROHIB.	36 x 36	9.000	--	1	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
204	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
205	R1-1(2S)	STOP	30 x 30	5.180	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
206	R3-2(2S)	NO LEFT TURN	24 x 24	4.000	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	x	--	--	--	--	--	--	--	--	--
207	R5-1(3)	DO NOT ENTER	36 x 36	9.000	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE. 3' MOUNTING HEIGHT	x	--	--	--	--	--	--	--	--	--
208	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
209	R6-2R(2S)	ONE WAY	24 x 30	5.000	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	x	--	--	--	--	--	--	--	--	--
210	R5-1(3)	DO NOT ENTER	36 x 36	9.000	--	1	--	--	--	--	--	MOUNT ON LIGHT POLE	x	--	--	--	--	--	--	--	--	--
211	R6-2L(2S)	ONE WAY	24 x 30	5.000	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	x	--	--	--	--	--	--	--	--	--
212	R6-2L(2S)	ONE WAY	24 x 30	5.000	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE	x	--	--	--	--	--	--	--	--	--
213	R6-2R(2S)	ONE WAY	24 x 30	5.000	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
214	R6-2R(2S)	ONE WAY	24 x 30	5.000	--	1	1	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
215	R4-7(2S)	KEEP RIGHT	24 x 30	5.000	--	1	--	--	--	--	#125	SHEET 4	x	--	--	--	--	--	--	--	--	--
216	R6-2L(2S)	ONE WAY	24 x 30	5.000	--	--	--	--	--	--	#165	MOUNT ON SIDE OF STOP SIGN #164	x	--	--	--	--	--	--	--	--	--
217		* NOT USED *	-- x --	--	--	--	--	--	--	--	--	* NOT USED *	x	--	--	--	--	--	--	--	--	--
218	W11-2	PEDESTRIAN CROSSING	-- x --	--	--	--	--	1	1	--	--	MOVE FROM LIGHT POLE TO WOOD POST	x	--	--	--	--	--	--	--	--	--
219		* NOT USED *	-- x --	--	--	--	--	--	--	--	--	* NOT USED *	x	--	--	--	--	--	--	--	--	--
220	R3-18(4)	--	36 x 36	9.000	--	--	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
221	R3-18(4)	--	36 x 36	9.000	--	--	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--	--
222	R3-4A(4)	--	36 x 12	3.000	--	--	--	--	--	--	#220	--	x	--	--	--	--	--	--	--	--	--
223	R3-4A(4)	--	36 x 12	3.000	--	--	--	--	--	--	#221	--	x	--	--	--	--	--	--	--	--	--
	TOTALS			1098.410	283.000	97	65	77	3	15	--	--		2773.000	19	6	--	14				

CATEGORY 0050
SITE WORK FOR LIGHTING CONSTRUCTION

201.0110	CLEARING
201.0210	GRUBBING
204.0170	REMOVING FENCE
209.0100	BACKFILL GRANULAR
616.0204	FENCE CHAIN LINK 4-FT
616.0329	GATES CHAIN LINK 12-FT.

SYSTEM	LOCATION	201.0110 CLEARING SY	201.0210 GRUBBING SY	204.0170 REMOVING FENCE LF	209.0100 BACKFILL GRANULAR CY	616.0204 FENCE CHAIN LINK 4-FT LF	616.0329 GATES CHAIN LINK 12-FT EACH
HL-40-AZ	13+90, 50' RT (ALOIS STREET)	--	--	12	5	12	1
HL-40-VL	105+00, 85' RT (VLIET STREET)	40	40	--	5	--	--
HL-40-LA	145+00, 55' RT (GARFIELD/LISBON AVENUE)	--	--	--	5	48	1
	TOTAL (0050)	**40**	**40**	**12**	**15**	**60**	**2**

CATEGORY 0050
LIGHTING SYSTEM

650.8500	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (1350-09-70)
SPV.0105.201	MAINTENANCE OF LIGHTING SYSTEMS
SPV.0105.202	LIGHTING SYSTEM INTEGRATOR
SPV.0105.203	LIGHTING SYSTEM SURVEY

SYSTEM	LOCATION	650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT I.D. 1350-09-70) LS	SPV.0105.201 MAINTENANCE OF LIGHTING SYSTEMS LS	SPV.0105.202 LIGHTING SYSTEM INTEGRATOR LS	SPV.0105.203 LIGHTING SYSTEM SURVEY LS
HL-40-AZ, HL-40-VL, HL-40-LA	USH 41	1	1	1	1
	TOTAL (0050)	**1**	**1**	**1**	**1**

CATEGORY 0050
DISTRIBUTION CENTERS AND SERVICE
240/480 VAC 3-WIRE

654.0230	CONCRETE CONTROL CABINET BASES TYPE L30
655.0640	ELECTRICAL WIRE LIGHTING 1 AWG
656.0400.001	ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL HL-40-AZ
656.0400.002	ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL HL-40-VL
656.0400.003	ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL HL-40-LA
659.0802	PLAQUES SEQUENCE IDENTIFICATION
659.2230	LIGHTING CONTROL CABINETS 240/480 30-INCH

SYSTEM	LOCATION	654.0230 CONCRETE CONTROL CABINET BASES TYPE L30	655.0640 ELECTRICAL WIRE LIGHTING 1 AWG	656.0400.001 ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL	656.0400.002 ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL	656.0400.003 ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL	659.0802 PLAQUES SEQUENCE IDENTIFICATION	659.2230 LIGHTING CONTROL CABINETS 240/480 30-INCH
		EACH	LF	LS	LS	LS	EACH	EACH
HL-40-AZ	13+90, 50' RT (ALOIS STREET)	1	18	1	--	--	5	1
HL-40-VL	105+00, 85' RT (VLIET STREET)	1	18	--	1	--	5	1
HL-40-LA	145+00, 55' RT (LISBON AVENUE)	1	18	--	--	1	5	1
	TOTAL (0050)	**3**	**54**	**1**	**1**	**1**	**15**	**3**

PLAQUE TEXT

HL-40-AZ
ALOIS STREET
2 - 480 VAC WARNING (2 REQUIRED PER LOCATION; METER PEDESTAL AND CABINET DOOR)

HL-40-VL
VLIET STREET
2 - 480 VAC WARNING (2 REQUIRED PER LOCATION; METER PEDESTAL AND CABINET DOOR)

HL-40-LA
LISBON AVENUE
2 - 480 VAC WARNING (2 REQUIRED PER LOCATION; METER PEDESTAL AND CABINET DOOR)

CATEGORY 0050
LIGHTING REMOVAL ITEMS

204.0195 REMOVING CONCRETE BASES
653.0905 REMOVING PULL BOXES
SPV.0060.201 REMOVING CONCRETE BASES TYPE C
SPV.0060.202 REMOVING LIGHTING UNITS
SPV.0060.203 REMOVING SIGN LIGHTING
SPV.0060.204 REMOVING LUMINAIRES
SPV.0060.205 REMOVING DISTRIBUTION CENTERS
SPV.0060.206 REMOVING UNDERDECK LIGHTING
SPV.0060.207 LAMP DISPOSAL HIGH INTENSITY DISCHARGE

SYSTEM	LOCATION	SEQUENCE	204.0195 REMOVING CONCRETE BASES EACH	653.0905 REMOVING PULL BOXES EACH	SPV.0060.201 REMOVING CONCRETE BASES TYPE C EACH	SPV.0060.202 REMOVING LIGHTING UNITS EACH	SPV.0060.203 REMOVING SIGN LIGHTING EACH	SPV.0060.204 REMOVING LUMINAIRES EACH	SPV.0060.205 REMOVING DISTRIBUTION CENTERS EACH	SPV.0060.206 REMOVING UNDERDECK LIGHTING EACH	SPV.0060.207 LAMP DISPOSAL HIGH INTENSITY DISCHARGE EACH	COMMENTS
HL-40-VL	VARIOUS	VL - SYSTEM	--	11	--	--	--	--	--	--	--	--
HL-40-VL	106+40, RIGHT	HL-40-VL	--	--	--	--	--	--	1	--	--	--
HL-40-VL	VLIET ST.	UDL VLIET CIRC. A/B	--	--	--	--	--	--	--	1	4	--
HL-40-VL	WASHINGTON BLVD	UDL WASH. CIRC. A/B	--	--	--	--	--	--	--	1	4	--
HL-40-VL	LLOYD ST.	UDL LLOYD CIRC. G/H	--	--	--	--	--	--	--	1	4	--
HL-40-VL	86+98, RIGHT	S-40-339	--	--	--	--	1	--	--	--	1	--
HL-40-VL	87+75, C.I.M	CVL8/DVL8 (S-40-241 SB)	--	--	--	--	1	2	--	--	3	--
HL-40-VL	88+72, LEFT	S-40-340	--	--	--	--	1	--	--	--	1	--
HL-40-VL	90+21, C.I.M	CVL7/DVL7	1	--	--	1	--	--	--	--	2	--
HL-40-VL	92+69, C.I.M	CVL6/DVL6	1	--	--	1	--	--	--	--	2	--
HL-40-VL	95+10, C.I.M	CVL5/DVL5	1	--	--	1	--	--	--	--	2	--
HL-40-VL	97+40, C.I.M	CVL4/DVL4 (S-40-242 NB)	--	--	--	--	1	2	--	--	3	--
HL-40-VL	99+93, C.I.M	CVL3/DVL3	1	--	--	1	--	--	--	--	2	--
HL-40-VL	102+25, C.I.M	CVL2/DVL2	1	--	--	1	--	--	--	--	2	--
HL-40-VL	104+71, C.I.M	CVL1/DVL1	1	--	--	1	--	--	--	--	2	--
HL-40-VL	107+33, C.I.M	AVL1/BVL1	1	--	--	1	--	--	--	--	2	--
HL-40-VL	110+81, C.I.M	AVL2/BVL2	--	--	1	1	--	--	--	--	2	--
HL-40-VL	113+05, C.I.M	AVL3/BVL3	--	--	1	1	--	--	--	--	2	--
HL-40-VL	115+32, C.I.M	AVL4/BVL4	--	--	1	1	--	--	--	--	2	--
HL-40-VL	115+62	S-40-6	--	--	--	--	1	--	--	--	3	--
HL-40-VL	117+55, C.I.M	AVL5/BVL5	--	--	1	1	--	--	--	--	2	--
HL-40-VL	119+88, C.I.M	AVL6/BVL6	1	--	--	1	--	--	--	--	2	--
HL-40-VL	122+55, C.I.M	AVL7/BVL7	--	--	1	1	--	--	--	--	2	--
HL-40-VL	124+82, C.I.M	AVL8/BVL8	1	--	--	1	--	--	--	--	2	--
HL-40-VL	127+05, C.I.M	AVL9/BVL9	1	--	--	1	--	--	--	--	2	--
HL-40-VL	127+50	S-40-5	--	--	--	--	1	--	--	--	2	--
HL-40-VL	129+28, C.I.M	AVL10/BVL10	1	--	--	1	--	--	--	--	2	--
HL-40-VL	131+55, C.I.M	AVL11/BVL11	--	--	1	1	--	--	--	--	2	--
HL-40-VL	133+73, C.I.M	GVL1/HVL1	--	--	1	1	--	--	--	--	2	--
HL-40-VL	136+05, C.I.M	GVL2/HVL2	1	--	--	1	--	--	--	--	2	--

LIGHTING REMOVAL ITEMS CONTINUED ON NEXT SHEET

CATEGORY 0050
LIGHTING REMOVAL ITEMS

204.0195	REMOVING CONCRETE BASES
653.0905	REMOVING PULL BOXES
SPV.0060.201	REMOVING CONCRETE BASES TYPE C
SPV.0060.202	REMOVING LIGHTING UNITS
SPV.0060.203	REMOVING SIGN LIGHTING
SPV.0060.204	REMOVING LUMINAIRES
SPV.0060.205	REMOVING DISTRIBUTION CENTERS
SPV.0060.206	REMOVING UNDERDECK LIGHTING
SPV.0060.207	LAMP DISPOSAL HIGH INTENSITY DISCHARGE

SYSTEM	LOCATION	SEQUENCE	204.0195 REMOVING CONCRETE BASES EACH	653.0905 REMOVING PULL BOXES EACH	SPV.0060.201 REMOVING CONCRETE BASES TYPE C EACH	SPV.0060.202 REMOVING LIGHTING UNITS EACH	SPV.0060.203 REMOVING SIGN LIGHTING EACH	SPV.0060.204 REMOVING LUMINAIRES EACH	SPV.0060.205 REMOVING DISTRIBUTION CENTERS EACH	SPV.0060.206 REMOVING UNDERDECK LIGHTING EACH	SPV.0060.207 LAMP DISPOSAL HIGH INTENSITY DISCHARGE EACH	COMMENTS
HL-40-VL	138+34, C.I.M	GVL3/HVL3	1	--	--	1	--	--	--	--	2	--
HL-40-VL	139+86	GVL4	1	--	--	1	--	--	--	--	1	LISBON AVENUE OFF RAMP
HL-40-VL	141+32	GVL5	1	--	--	1	--	--	--	--	1	"
HL-40-VL	142+82	GVL6	1	--	--	1	--	--	--	--	1	"
HL-40-VL	139+96	HVL4	1	--	--	1	--	--	--	--	1	LISBON AVENUE ON RAMP
HL-40-VL	141+49	HVL5	1	--	--	1	--	--	--	--	1	"
HL-40-VL	143+04	HVL6	1	--	--	1	--	--	--	--	1	"
HL-40-VL	145+01	HVL7	1	--	--	1	--	--	--	--	1	"
HL-40-VL	147+26	HVL8	1	--	--	1	--	--	--	--	1	"
HL-40-VL	148+60	HVL9	1	--	--	1	--	--	--	--	1	"
HL-40-VL	88+25	CVL14	1	--	--	1	--	--	--	--	1	46TH STREET OFF RAMP
HL-40-VL	90+06	CVL15	1	--	--	1	--	--	--	--	1	"
HL-40-VL	90+96	CVL16	1	--	--	1	--	--	--	--	1	"
HL-40-VL	91+15	CVL17	1	--	--	1	--	--	--	--	1	"
HL-40-VL	92+30	CVL21	1	--	--	1	--	--	--	--	1	46TH STREET ON RAMP
HL-40-VL	93+16	CVL20	1	--	--	1	--	--	--	--	1	"
HL-40-VL	94+18	CVL19	1	--	--	1	--	--	--	--	1	"
HL-40-VL	96+17	CVL18	1	--	--	1	--	--	--	--	1	"
HL-40-VL	1+13	EVL20	1	--	--	1	--	--	--	--	1	ALOIS STREET
HL-40-VL	2+13	EVL14	1	--	--	1	--	--	--	--	1	"
HL-40-VL	3+21	EVL19	1	--	--	1	--	--	--	--	1	"
HL-40-VL	4+33	EVL13	1	--	--	1	--	--	--	--	1	"
HL-40-VL	5+43	EVL18	1	--	--	1	--	--	--	--	1	"
HL-40-VL	6+41	EVL12	1	--	--	1	--	--	--	--	1	"
HL-40-VL	7+45	EVL17	1	--	--	1	--	--	--	--	1	"
HL-40-VL	8+39	EVL11	1	--	--	1	--	--	--	--	1	"
HL-40-VL	9+09	EVL15	1	--	--	1	--	--	--	--	1	"
HL-40-VL	9+91	EVL10	1	--	--	1	--	--	--	--	1	"
HL-40-VL	10+17	EVL7	1	--	--	1	--	--	--	--	1	"
HL-40-VL	11+18	EVL9	1	--	--	1	--	--	--	--	1	"

LIGHTING REMOVAL ITEMS CONTINUED ON NEXT SHEET

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CATEGORY 0050
LIGHTING REMOVAL ITEMS

204.0195 REMOVING CONCRETE BASES
653.0905 REMOVING PULL BOXES
SPV.0060.201 REMOVING CONCRETE BASES TYPE C
SPV.0060.202 REMOVING LIGHTING UNITS
SPV.0060.203 REMOVING SIGN LIGHTING
SPV.0060.204 REMOVING LUMINAIRES
SPV.0060.205 REMOVING DISTRIBUTION CENTERS
SPV.0060.206 REMOVING UNDERDECK LIGHTING
SPV.0060.207 LAMP DISPOSAL HIGH INTENSITY DISCHARGE

SYSTEM	LOCATION	SEQUENCE	204.0195 REMOVING CONCRETE BASES EACH	653.0905 REMOVING PULL BOXES EACH	SPV.0060.201 REMOVING CONCRETE BASES TYPE C EACH	SPV.0060.202 REMOVING LIGHTING UNITS EACH	SPV.0060.203 REMOVING SIGN LIGHTING EACH	SPV.0060.204 REMOVING LUMINAIRES EACH	SPV.0060.205 REMOVING DISTRIBUTION CENTERS EACH	SPV.0060.206 REMOVING UNDERDECK LIGHTING EACH	SPV.0060.207 LAMP DISPOSAL HIGH INTENSITY DISCHARGE EACH	COMMENTS
HL-40-VL	12+25	EVL5	1	--	--	1	--	--	--	--	1	"
HL-40-VL	13+41	EVL8	1	--	--	1	--	--	--	--	1	"
HL-40-VL	15+10	EVL4	1	--	--	1	--	--	--	--	1	"
HL-40-VL	16+68	EVL3	1	--	--	1	--	--	--	--	1	"
HL-40-VL	18+53	EVL2	1	--	--	1	--	--	--	--	1	"
HL-40-VL	19+31	EVL1	1	--	--	1	--	--	--	--	1	"
HL-40-VL	96+57	EVL6	1	--	--	1	--	--	--	--	1	ALOIS / STATE STREET OFF RAMP
HL-40-VL	95+98	DVL17/DVL18	1	--	--	1	--	--	--	--	2	"
HL-40-VL	96+77	DVL19	1	--	--	1	--	--	--	--	1	"
HL-40-VL	98+77	DVL20	1	--	--	1	--	--	--	--	1	"
HL-40-VL	95+30	EVL16	1	--	--	1	--	--	--	--	1	ALOIS / STATE STREET ON RAMP
HL-40-VL	95+28	DVL16	1	--	--	1	--	--	--	--	1	"
HL-40-VL	93+62	DVL15	1	--	--	1	--	--	--	--	1	"
HL-40-VL	109+10	AVL15	1	--	--	1	--	--	--	--	1	WASHINGTON BLVD OFF RAMP
HL-40-VL	112+60	AVL16	1	--	--	1	--	--	--	--	1	"
HL-40-VL	114+13	AVL17	1	--	--	1	--	--	--	--	1	"
HL-40-VL	115+68	AVL18	1	--	--	1	--	--	--	--	1	"
HL-40-VL	117+33	AVL19	1	--	--	1	--	--	--	--	1	"
HL-40-VL	119+15	AVL20	1	--	--	1	--	--	--	--	1	"
HL-40-VL	125+10	BVL15	1	--	--	1	--	--	--	--	1	47TH STREET ON RAMP
HL-40-VL	126+81	BVL16	1	--	--	1	--	--	--	--	1	"
HL-40-VL	128+27	BVL17	1	--	--	1	--	--	--	--	1	"
HL-40-VL	128+05	AVL22	1	--	--	1	--	--	--	--	1	LLOYD STREET OFF RAMP
HL-40-VL	130+07	AVL21	1	--	--	1	--	--	--	--	1	"
HL-40-VL	132+02	BVL18	1	--	--	1	--	--	--	--	1	"
HL-40-VL	133+49	BVL19	1	--	--	1	--	--	--	--	1	"
HL-40-VL	134+96	BVL20	1	--	--	1	--	--	--	--	1	"
HL-40-VL	136+32	BVL21	1	--	--	1	--	--	--	--	1	"
HL-40-VL	136+78	BVL22	1	--	--	1	--	--	--	--	1	"
TOTAL (0050)			71	11	7	78	6	4	1	3	124	

CATEGORY 0050
LIGHTING BRANCH CIRCUIT WIRES - ISOLATED NEUTRAL SYSTEMS
240/480 VAC 3-WIRE

655.0610 ELECTRICAL WIRE LIGHTING 12 AWG *
655.0615 ELECTRICAL WIRE LIGHTING 10 AWG *
655.0620 ELECTRICAL WIRE LIGHTING 8 AWG
655.0630 ELECTRICAL WIRE LIGHTING 4 AWG

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

3

SYSTEM	NETWORK	LOCATION TO LOCATION	DISTANCE	654.061 ELECTRICAL WIRE LIGHTING 12 AWG LF	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG LF	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG LF	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG LF
HL-40-AZ	A/B/N/G	HL-40-AZ TO PB201 TO AAZ1	50	--	280	--	--
HL-40-AZ	A/B/N/G	AAZ1 TO BAZ2	265	--	1,100	--	--
HL-40-AZ	A/B/N/G	HL-40-AZ TO PB201 TO PB202 TO BAZ3	320	--	--	--	1,360
HL-40-AZ	A/B/N/G	BAZ3 TO AAZ4	135	--	--	--	580
HL-40-AZ	A/B/N/G	AAZ4 TO BAZ5	100	--	--	--	440
HL-40-AZ	A/B/N/G	BAZ5 TO AAZ6	120	--	--	--	520
HL-40-AZ	A/B/N/G	AAZ6 TO PB203 TO BAZ7	160	--	700	--	--
HL-40-AZ	A/B/N/G	AAZ6 TO PB203 TO PB204 TO PB205 TO BAZ8	395	--	--	--	1,660
HL-40-AZ	A/B/N/G	BAZ8 TO AAZ9	50	--	--	--	240
HL-40-AZ	A/B/N/G	AAZ9 TO BAZ10	170	--	--	--	720
HL-40-AZ	A/B/N/G	BAZ10 TO AAZ11	80	--	--	--	360
HL-40-AZ	A/B/N/G	AAZ11 TO BAZ12	160	--	--	--	680
HL-40-AZ	A/B/N/G	BAZ12 TO AAZ13	90	--	--	--	400
HL-40-AZ	C/D/N/G	BAZ13 TO PB206 TO PB207 TO CAZ1	260	--	--	1,120	--
HL-40-AZ	C/D/N/G	CAZ1 TO DAZ2	165	--	--	700	--
HL-40-AZ	C/D/N/G	DAZ2 TO CAZ3	145	--	--	620	--
HL-40-AZ	C/D/N/G	CAZ3 TO DAZ4	175	--	--	740	--
HL-40-AZ	E/F/N/G	HL-40-AZ TO PB201 TO PB208 TO EAZ1	280	--	--	1,200	--
HL-40-AZ	E/F/N/G	HL-40-AZ TO PB201 TO PB208 TO FAZ2	280	--	--	1,200	--
HL-40-AZ	E/F/N/G	FAZ2 TO EAZ3	375	--	--	1,540	--
HL-40-AZ	E/F/N/G	EAZ3 TO FAZ4	135	--	--	580	--
HL-40-AZ	E/F/N/G	FAZ4 TO EAZ5	135	--	--	580	--
HL-40-AZ	E/F/N/G	EAZ5 TO FAZ6	130	--	--	560	--
HL-40-AZ	E/F/N/G	FAZ6 TO EAZ7	150	--	--	640	--
HL-40-AZ	E/F/N/G	EAZ7 TO FAZ8	180	--	--	760	--
HL-40-AZ	E/F/N/G	FAZ8 TO EAZ9	195	--	--	820	--
HL-40-VL	C/D/N/G	HL-40-VL TO PB301 TO PB302 TO CVL1/DVL1	338	--	--	--	1,432
HL-40-VL	A/B/N/G	HL-40-VL TO PB301 TO PB302 TO AVL1/BVL1	282	--	--	--	1,208
HL-40-VL	A/B/N/G	JB301 TO UDL (NB VLIET STREET)	200	840	--	--	--
HL-40-VL	A/B/N/G	JB301 TO UDL (SB VLIET STREET)	200	840	--	--	--
HL-40-VL	A/B/N/G	BVL2/AVL2 TO PB306 TO PB307 TO BVL3	235	--	--	1,020	--
HL-40-VL	A/B/N/G	BVL3 TO AVL4	195	--	--	820	--
HL-40-VL	A/B/N/G	AVL4 TO BVL5	200	--	--	840	--
HL-40-VL	A/B/N/G	BVL5 TO AVL6	195	--	--	820	--
HL-40-VL	A/B/N/G	AVL6 TO BVL7	175	--	--	740	--
HL-40-VL	A/B/N/G	BVL7 TO AVL8	115	--	--	500	--
HL-40-VL	C/D/N/G	DVL2/CVL2 TO PB303 TO CVL3/DVL3	255	--	--	--	1,080
HL-40-VL	C/D/N/G	DVL2/CVL2 TO PB303 TO PB305 TO CVL9	470	--	--	1,960	--
HL-40-VL	C/D/N/G	CVL9 TO DVL10	165	--	--	700	--

LIGHTING BRANCH CIRCUIT WIRES CONTINUED ON NEXTSHEET

CATEGORY 0050
LIGHTING BRANCH CIRCUIT WIRES CONTINUED
240/480 VAC 3-WIRE

655.0610 ELECTRICAL WIRE LIGHTING 12 AWG *
655.0615 ELECTRICAL WIRE LIGHTING 10 AWG *
655.0620 ELECTRICAL WIRE LIGHTING 8 AWG
655.0630 ELECTRICAL WIRE LIGHTING 4 AWG

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

SYSTEM	NETWORK	LOCATION TO LOCATION	DISTANCE	654.061 ELECTRICAL WIRE LIGHTING 12 AWG LF	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG LF	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG LF	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG LF
HL-40-VL	C/D/N/G	DVL10 TO CVL11	185	--	--	780	--
HL-40-VL	C/D/N/G	CVL11 TO DVL12	150	--	--	640	--
HL-40-VL	C/D/N/G	DVL12 TO CVL13	85	--	--	380	--
HL-40-VL	C/D/N/G	DVL2/CVL2 TO PB303 TO PB304 TO CVL5	250	--	--	1,080	--
HL-40-VL	C/D/N/G	CVL5 TO PB304 TO DVL6	205	--	--	880	--
HL-40-VL	C/D/N/G	DVL6 TO CVL7	140	--	--	600	--
HL-40-VL	C/D/N/G	CVL7 TO DVL8	120	--	--	130	--
HL-40-LA	A/B/N/G	HL-40-LA TO PB401 TO PB402 TO ALA1	225	--	980	--	--
HL-40-LA	A/B/N/G	ALA1 TO BLA2	190	--	600	--	--
HL-40-LA	A/B/N/G	HL-40-LA TO PB401 TO PB402 TO BLA3	165	--	--	740	--
HL-40-LA	A/B/N/G	BLA3 TO ALA4	190	--	--	800	--
HL-40-LA	A/B/N/G	ALA4 TO BLA5	170	--	--	720	--
HL-40-LA	A/B/N/G	BLA5 TO ALA6	185	--	--	780	--
HL-40-LA	A/B/N/G	BLA5 TO PB403 TO PB404 TO PB405 TO BLA7	215	--	--	960	--
HL-40-LA	A/B/N/G	BLA7 TO ALA8	205	--	--	860	--
HL-40-LA	A/B/N/G	ALA8 TO BLA9	195	--	--	615	--
HL-40-LA	C/D/N/G	HL-40-LA TO PB401 TO PB402 TO PB403 TO PB404 TO JB401	860	--	--	--	3,640
HL-40-LA	C/D/N/G	JB401 TO UDL (NB LLOYD STREET)	200	840	--	--	--
HL-40-LA	C/D/N/G	JB401 TO UDL (SB LLOYD STREET)	200	840	--	--	--
HL-40-LA	C/D/N/G	JB401 TO DLA1/CLA1	220	--	--	--	920
HL-40-LA	C/D/N/G	DLA1/CLA1 TO CLA2/DLA2	262	--	--	--	1,088
HL-40-LA	C/D/N/G	CLA2/DLA2 TO DLA3/CLA3	265	--	--	--	1,100
HL-40-LA	C/D/N/G	DLA3/CLA3 TO PB406 TO CLA4/DLA4	261	--	--	--	1,104
HL-40-LA	C/D/N/G	CLA4/DLA4 TO PB408 TO DLA5/CLA5	265	--	--	--	1,120
HL-40-LA	C/D/N/G	JB402 TO UDL (NB WASHINGTON BLVD)	200	840	--	--	--
HL-40-LA	C/D/N/G	JB402 TO UDL (SB WASHINGTON BLVD)	200	840	--	--	--
HL-40-LA	E/F/N/G	HL-40-LA TO PB401 TO PB402 TO PB403 TO PB404 TO JCCNB401 TO PB406 TO PB407 TO ELA1	1,800	--	--	7,520	--
HL-40-LA	E/F/N/G	ELA1 TO PB407 TO FLA2	195	--	--	840	--
HL-40-LA	E/F/N/G	FLA2 TO ELA3	185	--	--	--	780
HL-40-LA	E/F/N/G	ELA3 TO FLA4	166	--	--	--	704
HL-40-LA	E/F/N/G	FLA4 TO ELA5	161	--	--	--	684
HL-40-LA	E/F/N/G	ELA1 TO PB407 TO PB406 TO PB408 TO PB409 TO PB410 TO FLA6	741	--	--	3,124	--
HL-40-LA	E/F/N/G	FLA6 TO ELA7	172	--	--	546	--
HL-40-LA	E/F/N/G	FLA6 TO PB410 TO ELA8	171	--	--	558	--
		TOTAL (0050)		**5,040** *	**3,660** *	**41,013**	**21,820**

SHEET 7 OF 16

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET:	E

3

3

CATEGORY 0050
LIGHTING BRANCH CIRCUIT CABLE IN DUCT - ISOLATED NEUTRAL SYSTEMS
240/480 VAC 3-WIRE

655.0144 CABLE IN DUCT 4-4 AWG

SYSTEM	NETWORK	LOCATION TO LOCATION	DISTANCE	655.0144 CABLE IN DUCT 4-4 AWG LF
HL-40-VL	C/D/N/G	CVL1/DVL1 TO DVL2/CVL2	263	273
HL-40-VL	C/D/N/G	CVL3/DVL3 TO DVL4/CVL4	260	270
HL-40-VL	A/B/N/G	AVL1/BVL1TO JB301	28	38
HL-40-VL	A/B/N/G	JB301 TO BVL2/AVL2	238	248
HL-40-LA	C/D/N/G	DLA5/CLA5 TO CLA6/DLA6	263	273
HL-40-LA	C/D/N/G	CLA6/DLA6 TO JB402	97	107
HL-40-LA	C/D/N/G	JB402 TO DLA7/CLA7	167	177
HL-40-LA	C/D/N/G	DLA7/CLA7 TO CLA8/DLA8	262	272
HL-40-LA	C/D/N/G	CLA8/DLA8 TO DLA9/CLA9	262	272
HL-40-LA	C/D/N/G	DLA9/CLA9 TO CLA10/DLA10	263	273
		TOTA (0050)		**2,203**

CATEGORY 0050
LIGHTING BRANCH CIRCUIT CONDUIT

652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH
652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH
652.0615 CONDUIT SPECIAL 3-INCH

SYSTEM	LOCATION TO LOCATION	652.0225 CONDUIT 2-INCH SCHEDULE 40 LF	652.0235 CONDUIT 3-INCH SCHEDULE 40 LF	652.0615 CONDUIT 3-INCH SPECIAL LF	COMMENTS
HL-40-AZ	HL-40-AZ TO PB201	--	50	--	--
HL-40-AZ	PB201 TO POLE 3+20	80	--	--	--
HL-40-AZ	POLE 3+20 TO POLE 1+09	211	--	--	--
HL-40-AZ	POLE 1+09 TO STUBOUT SOUTH	15	--	--	--
HL-40-AZ	PB201 TO PB202	--	--	110	--
HL-40-AZ	PB202 TO POLE 5+40	30	--	--	--
HL-40-AZ	POLE 5+40 TO POLE 7+61	221	--	--	--
HL-40-AZ	POLE 7+61 TO POLE 98+14	115	--	--	--
HL-40-AZ	POLE 98+14 TO POLE 97+00	114	--	--	--
HL-40-AZ	POLE 97+00 TO PB203	120	--	--	--
HL-40-AZ	PB203 TO POLE 95+40	30	--	--	--
HL-40-AZ	POLE 95+40 TO STUBOUT SOUTH	15	--	--	--
HL-40-AZ	PB203 TO PB204	--	--	75	--
HL-40-AZ	PB204 TO PB205	--	--	100	--
HL-40-AZ	PB205 TO POLE 92+45	200	--	--	--
HL-40-AZ	POLE 92+45 TO POLE 90+17	228	--	--	--
HL-40-AZ	POLE 90+17 TO POLE 87+77	240	--	--	MOUNTED ON EXISTING SIGN STRUCTURE
HL-40-AZ	POLE 87+77 TO PB206	50	--	--	--
HL-40-AZ	PB206 TO PB207	--	--	100	--
HL-40-AZ	PB207 TO POLE 89+02 (OFF RAMP)	50	--	--	--
HL-40-AZ	POLE 89+02 TO POLE 90+46 (OFF RAMP)	144	--	--	--
HL-40-AZ	POLE 90+46 TO POLE 91+84 (OFF RAMP)	138	--	--	--
HL-40-AZ	POLE 91+84 TO POLE 93+23 (OFF RAMP)	139	--	--	--
HL-40-AZ	POLE 93+23 TO POLE 94+65 (OFF RAMP)	142	--	--	--
HL-40-AZ	POLE 94+65 TO STUBOUT SOUTHEAST	15	--	--	--
HL-40-AZ	PB201 TO PB208	--	--	90	--
HL-40-AZ	PB208 TO POLE 1+84	180	--	--	--
HL-40-AZ	POLE 1+09 TO STUBOUT SOUTH	15	--	--	--
HL-40-AZ	PB208 TO POLE 3+99	40	--	--	--
HL-40-AZ	POLE 3+99 TO POLE 6+20	221	--	--	--
HL-40-AZ	POLE 6+20 TO POLE 9+00	280	--	--	--
HL-40-AZ	POLE 9+00 TO POLE 10+50	150	--	--	--
HL-40-AZ	POLE 10+50 TO POLE 13+00	250	--	--	--
HL-40-AZ	POLE 13+00 TO POLE 14+60	160	--	--	--
HL-40-AZ	POLE 14+60 TO POLE 16+20	160	--	--	--
HL-40-AZ	POLE 16+20 TO POLE 17+75	155	--	--	--
HL-40-AZ	POLE 17+75 TO POLE 19+25	150	--	--	--
HL-40-AZ	POLE 19+25 TO STUBOUT NORTH	15	--	--	--
HL-40-VL	HL-40-VL TO PB301	--	160	--	--

LIGHTING BRANCH CIRCUIT CONDUIT CONTINUED ON NEXT SHEET

CATEGORY 0050
LIGHTING BRANCH CIRCUIT CONDUIT

652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH
652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH
652.0615 CONDUIT SPECIAL 3-INCH

SYSTEM	LOCATION TO LOCATION	652.0225 CONDUIT 2-INCH SCHEDULE 40 LF	652.0235 CONDUIT 3-INCH SCHEDULE 40 LF	652.0615 CONDUIT 3-INCH SPECIAL LF	COMMENTS
HL-40-VL	PB301 TO PB302	--	--	100	--
HL-40-VL	PB302 TO POLE 102+67	158	--	--	--
HL-40-VL	PB302 TO POLE 105+27	102	--	--	--
HL-40-VL	POLE 107+90 TO PB306	97	--	--	--
HL-40-VL	POLE 100+04 TO PB303	104	--	--	--
HL-40-VL	PB303 TO POLE 97+46	154	--	--	--
HL-40-VL	PB303 TO PB304	--	--	120	--
HL-40-VL	PB304 TO POLE 100+71 (OFF RAMP)	31	--	--	--
HL-40-VL	POLE 100+71 TO STUBOUT NORTH EAST	15	--	--	--
HL-40-VL	PB304 TO POLE 99+04 (OFF RAMP)	136	--	--	--
HL-40-VL	POLE 99+04 TO POLE 97+44 (OFF RAMP)	160	--	--	--
HL-40-VL	POLE 97+44 TO POLE 96+21 (OFF RAMP)	123	--	--	--
HL-40-VL	POLE 96+21 TO POLE 11+72 (OFF RAMP)	110	--	--	--
HL-40-VL	POLE 11+72 TO STUBOUT NORTH	15	--	--	--
HL-40-VL	PB303 TO PB305	--	--	80	--
HL-40-VL	PB305 TO POLE 97+05 (ON RAMP)	320	--	--	--
HL-40-VL	POLE 97+05 TO POLE 95+57 (ON RAMP)	148	--	--	--
HL-40-VL	POLE 95+57 TO POLE 94+15 (ON RAMP)	142	--	--	--
HL-40-VL	POLE 94+15 TO POLE 93+04 (ON RAMP)	111	--	--	--
HL-40-VL	POLE 93+04 TO POLE 91+79 (ON RAMP)	125	--	--	--
HL-40-VL	POLE 91+79 TO STUBOUT SOUTH EAST	15	--	--	--
HL-40-VL	PB306 TO PB307	--	--	100	--
HL-40-VL	PB307 TO POLE 110+46 (OFF RAMP)	28	--	--	--
HL-40-VL	POLE 110+46 TO POLE 112+01 (OFF RAMP)	155	--	--	--
HL-40-VL	POLE 112+01 TO 113+27 (OFF RAMP)	126	--	--	--
HL-40-VL	POLE 113+27 TO POLE 114+60 (OFF RAMP)	133	--	--	--
HL-40-VL	POLE 114+60 TO POLE 115+97 (OFF RAMP)	137	--	--	--
HL-40-VL	POLE 115+97 TO POLE 117+35 (OFF RAMP)	138	--	--	--
HL-40-VL	POLE 117+35 TO POLE 118+77 (OFF RAMP)	142	--	--	--
HL-40-VL	POLE 118+77 TO STUBOUT NORTH EAST	15	--	--	--
HL-40-LA	HL-40-LA TO PB401	--	30	--	--
HL-40-LA	PB401 TO POLE 146+00	100	--	--	--
HL-40-LA	POLE 146+00 TO POLE 147+75	175	--	--	--
HL-40-LA	POLE 147+75 TO STUBOUT NORTH	15	--	--	--
HL-40-LA	PB401 TO POLE 144+25	75	--	--	--
HL-40-LA	POLE 144+25 TO PB402	125	--	--	--

LIGHTING BRANCH CIRCUIT CONDUIT CONTINUED ON NEXT SHEET

CATEGORY 0050
LIGHTING BRANCH CIRCUIT CONDUIT

652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH
652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH
652.0615 CONDUIT SPECIAL 3-INCH

SYSTEM	LOCATION TO LOCATION	652.0225 CONDUIT 2-INCH SCHEDULE 40 LF	652.0235 CONDUIT 3-INCH SCHEDULE 40 LF	652.0615 CONDUIT 3-INCH SPECIAL LF	COMMENTS
HL-40-LA	PB402 TO PB403	--	--	70	--
HL-40-LA	PB403 TO POLE 142+32	68	--	--	--
HL-40-LA	POLE 142+32 TO POLE 140+50	182	--	--	--
HL-40-LA	POLE 140+50 TO PB404	220	--	--	--
HL-40-LA	PB404 TO PB405	--	--	70	--
HL-40-LA	PB405 TO JB401	45	--	--	--
HL-40-LA	JB401 TO POLE 135+59	221	--	--	--
HL-40-LA	POLE 135+59 TO POLE 132+98	261	--	--	--
HL-40-LA	POLE 132+98 TO POLE 130+33	265	--	--	--
HL-40-LA	POLE 130+33 TO PB407	13	--	--	--
HL-40-LA	PB407 TO POLE 127+72	248	--	--	--
HL-40-LA	POLE 127+72 TO PB409	112	--	--	--
HL-40-LA	PB409 TO POLE 125+07	153	--	--	--
HL-40-LA	PB405 TO PB406	--	--	60	--
HL-40-LA	PB406 TO POLE 139+50 (OFF RAMP)	130	--	--	--
HL-40-LA	POLE 139+50 TO POLE 141+00 (OFF RAMP)	150	--	--	--
HL-40-LA	POLE 141+00 TO POLE 142+50 (OFF RAMP)	150	--	--	--
HL-40-LA	POLE 142+50 TO STUBOUT NORTH (OFF RAMP)	15	--	--	--
HL-40-LA	PB407 TO PB408	--	--	130	--
HL-40-LA	PB408 TO POLE 129+00 (OFF RAMP)	120	--	--	--
HL-40-LA	PB408 TO POLE 131+50 (OFF RAMP)	130	--	--	--
HL-40-LA	POLE 131+50 TO POLE 133+25 (OFF RAMP)	175	--	--	--
HL-40-LA	POLE 133+25 TO POLE 134+80 (OFF RAMP)	155	--	--	--
HL-40-LA	POLE 134+80 TO POLE 136+50 (OFF RAMP)	170	--	--	--
HL-40-LA	POLE 136+50 TO STUBOUT NORTH (OFF RAMP)	15	--	--	--
HL-40-LA	PB409 TO PB410	--	--	70	--
HL-40-LA	PB410 TO PB411	--	--	60	--
HL-40-LA	PB411 TO POLE 125+50 (ON RAMP)	100	--	--	--
HL-40-LA	PB411 TO POLE 127+25 (ON RAMP)	71	--	--	--
HL-40-LA	POLE 127+25 TO POLE 128+75 (ON RAMP)	150	--	--	--
HL-40-LA	POLE 128+75 TO STUBOUT NORTH	15	--	--	--
	TOTALS (0050)	10,837	240	1,335	

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CATEGORY 0050
LIGHTING PULL BOXES

653.0140 PULL BOXES STEEL 24x42-INCH
655.0615 ELECTRICAL WIRE LIGHTING 10 AWG (GROUNDING WIRE)

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

SYSTEM	LOCATION	LABEL	653.0140 PULL BOX 24x42 EACH	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG LF	COMMENTS
HL-40-AZ	3+90, 35' RT (ALOIS STREET)	PB201	1	40	HL-40-AZ TO PB201
HL-40-AZ	5+10, 35' RT (ALOIS STREET)	PB202	1	50	BAZ2 TO PB202
HL-40-AZ	95+75, 15' LT (ALOIS ST. ON RAMP)	PB203	1	50	BAZ4 TO PB203
HL-40-AZ	94+39, 120' LT	PB204	1	100	BAZ4 TO PB204
HL-40-AZ	94+35, 27' LT (C.I.M)	PB205	1	170	BAZ4 TO PB205
HL-40-AZ	87+30, 27' LT (C.I.M)	PB206	1	50	AAZ7/BAZ7 TO PB206
HL-40-AZ	87+50, 12' RT (46TH ST. OFF RAMP)	PB207	1	60	CAZ1 TO PB207
HL-40-AZ	3+60, 35' LT (ALOIS STREET)	PB208	1	50	FAZ1 TO PB208
HL-40-VL	104+27, 85' RT	PB301	1	100	HL-40-VL TO PB301
HL-40-VL	104+25, 14' LT (C.I.M)	PB302	1	110	AVLA/BVL1 TO PB302
HL-40-VL	99+00, 18' LT (C.I.M)	PB303	1	110	DVL2/CVL2 TO PB303
HL-40-VL	100+40, 25' LT (ALOIS ST. OFF RAMP)	PB304	1	30	CVL5 TO PB304
HL-40-VL	100+25, 10' LT (46TH ST. ON RAMP)	PB305	1	180	DVL2/CVL2 TO PB305
HL-40-VL	108+87, 16' LT (C.I.M)	PB306	1	110	BVL2/AVL2 TO PB306
HL-40-VL	110+18, 15' RT (WASHINGTON BLVD. OFF RAMP)	PB307	1	50	BVL3 TO PB307
HL-40-LA	145+00, 10' RT (LISBON AVE. ON RAMP)	PB401	1	30	HL-40-LA TO PB401
HL-40-LA	143+00, 20' RT (LISBON AVE. ON RAMP)	PB402	1	120	BLA2 TO PB402
HL-40-LA	143+00, 25' LT (LISBON AVE. ON RAMP)	PB403	1	70	ALA3 TO PB403
HL-40-LA	138+25, 25' LT (LISBON AVE. ON RAMP)	PB404	1	100	ALA4/BLA4 TO PB403
HL-40-LA	138+25, 16' RT (C.I.M)	PB405	1	40	ALA4/BLA4 TO PB405
HL-40-LA	138+20, 12' RT (LISBON AVE. OFF RAMP)	PB406	1	60	ALA4/BLA4 TO PB406
HL-40-LA	130+20, 04' RT (C.I.M)	PB407	1	20	DLA3/CLA3 TO PB407
HL-40-LA	130+20, 18' RT (LLOYD ST. OFF RAMP)	PB408	1	140	FLA1 TO PB408
HL-40-LA	126+60, 04' RT (C.I.M)	PB409	1	110	CLA4/DLA4 TO PB409
HL-40-LA	126+65, 55' LT	PB410	1	180	CLA4/DLA4 TO PB409
HL-40-LA	126+50, 25' LT (VINE ST. ON RAMP)	PB411	1	100	ELA3 TO PB410
	TOTAL (0050)		**26**	**2,230** *	

SHEET 12 OF 16

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET:	E

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CATEGORY 0050
UNDERDECK LIGHTING
240/480 VAC 3-WIRE

659.0600.001	UNDERDECK LIGHTING (B-40-53)
659.0600.002	UNDERDECK LIGHTING (B-40-56)
659.0600.003	UNDERDECK LIGHTING (B-40-60)
659.1215	LUMINAIRES UNDERDECK LED C

SYSTEM	LOCATION	659.0600.001 UNDERDECK LIGHTING (B-40-53) LS	659.0600.002 UNDERDECK LIGHTING (B-40-56) LS	659.0600.003 UNDERDECK LIGHTING (B-40-60) LS	659.1215 LUMINAIRES UNDERDECK LED C EACH
HL-40-AZ	VLIET STREET - B-40-53	1	--	--	4
HL-40-VL	WASHINGTON BOULEVARD - B-40-56	--	1	--	4
HL-40-LA	LLOYD STREET - B-40-60	--	--	1	4
	TOTAL (0050)	**1**	**1**	**1**	**12**

CATEGORY 0050
MEDIAN LIGHTING LUMINAIRE ARMS AND POLES

655.0610	ELECTRICAL WIRE LIGHTING 12 AWG *
657.0210	TRANSFORMER BASES BREAKAWAY 15-17 INCH BOLT CIRCLE *
657.0375	POLES TYPE A
657.0380	POLES TYPE E *
657.0620	LUMINAIRE ARMS SINGLE MEMBER 6-INCH CLAMP 4-FOOT
657.0635	LUMINAIRE ARMS SINGLE MEMBER 6-INCH CLAMP 10-FOOT *
659.1130	LUMINAIRES UTILITY LED D*
SPV.0060.208	CONCRETE BASES TYPE B
SPV.0060.209	CONCRETE BASES TYPE C

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

SYSTEM	SEQUENCE I. D.	STATION OFFSET	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	657.0210 TRANSFORMER BASES BREAKAWAY 15-17 INCH BOLT CIRCLE EACH	657.0375 POLES TYPE A EACH	657.0380 POLES TYPE E EACH	657.0620 LUMINAIRE ARMS SINGLE MEMBER 6-INCH CLAMP 4-FOOT EACH	657.0635 LUMINAIRE ARMS SINGLE MEMBER 6-INCH CLAMP 10-FOOT EACH	659.1130 LUMINAIRES UTILITY LED D EACH	SPV.0060.208 CONCRETE BASES TYPE B EACH	SPV.0060.209 CONCRETE BASES TYPE C EACH	COMENTS
HL-40-AZ	AAZ5/BAZ5	92+45, 29' LT	400	1	--	1	--	2	2	1	--	--
HL-40-AZ	AAZ6/BAZ6	90+17, 29' LT	400	1	--	1	--	2	2	1	--	--
HL-40-AZ	AAZ7/BAZ7	87+77, 29' LT	--	--	--	--	--	--	2	--	--	SIGN STRUCTURE MOUNTED
HL-40-VL	DVL4/CVL4	94+89, 28' LT (C.I.M)	400	1	--	1	--	2	2	1	--	--
HL-40-VL	CVL3/DVL3	97+46, 23' LT (C.I.M)	--	--	--	--	--	--	2	--	--	SIGN STRUCTURE MOUNTED
HL-40-VL	DVL2/CVL2	100+04, 18' LT (C.I.M)	344	1	1	--	2	--	2	1	--	--
HL-40-VL	CVL1/DVL1	102+67, 14' LT (C.I.M)	344	1	1	--	2	--	2	1	--	--
HL-40-VL	AVL1/BVL1	105+27, 14' LT (C.I.M)	344	1	1	--	2	--	2	1	--	--
HL-40-VL	BVL2/AVL2	107+91, 17' LT (C.I.M)	344	1	1	--	2	--	2	1	--	--
HL-40-LA	CLA10/DLA10	111+93, 03' LT (C.I.M)	344	1	1	--	2	--	2	1	--	--
HL-40-LA	DLA9/CLA9	114+56, 03' LT (C.I.M)	344	1	1	--	2	--	2	1	--	--
HL-40-LA	CLA8/DLA8	117+18, C.L	344	1	1	--	2	--	2	1	--	--
HL-40-LA	DLA7/CLA7	119+80, C.L	344	1	1	--	2	--	2	1	--	--
HL-40-LA	CLA6/DLA6	122+44, C.L	344	1	1	--	2	--	2	1	--	--
HL-40-LA	DLA5/CLA5	125+07, C.L	344	1	1	--	2	--	2	1	--	--
HL-40-LA	CLA4/DLA4	127+72, C.L	344	1	1	--	2	--	2	1	--	--
HL-40-LA	DLA3/CLA3	130+33, C.L.	344	1	1	--	2	--	2	1	--	--
HL-40-LA	CLA2/DLA2	132+98, C.L	344	1	1	--	2	--	2	1	--	--
HL-40-LA	DLA1/CLA1	135+59, 10' RT (C.I.M)	344	1	1	--	2	--	2	1	--	--
HL-40-LA	ALA4/BLA4	138+53, 21' LT (C.I.M)	344	1	1	--	2	--	2	1	--	--
HL-40-AZ / LA / VL	--	--	--	--	--	--	--	--	4	--	1	--
TOTAL (0050)			**6,360** *	**18** *	**15**	**3** *	**30**	**6** *	**44** *	**18**	**1**	

CATEGORY 0050
RAMP LIGHTING LUMINAIRE ARMS AND POLES

654.0105 CONCRETE BASES TYPE 5
654.0108 CONCRETE BASES TYPE 8
655.0610 ELECTRICAL WIRE LIGHTING 12 AWG *
657.0210 TRANSFORMER BASES BREAKAWAY 15-17 INCH BOLT CIRCLE *
658.0255 TRANSFORMER BASES BREAKAWAY 11 1/2 - INCH BOLT CIRCLE
657.0322 POLES TYPE 5 - ALUMINUM
657.0380 POLES TYPE E *
657.0610 LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 6-FOOT
657.0635 LUMINAIRE ARMS SINGLE MEMBER 6-INCH CLAMP 10-FOOT *
657.0715 LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 15-FOOT
657.0720 LUMINAIRE ARMS TRUSS TYPE 6-INCH CLAMP 20-FOOT
659.1120 LUMINAIRES UTILITY LED B
659.1125 LUMINAIRES UTILITY LED C
659.1130 LUMINAIRES UTILITY LED D *

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

SYSTEM	SEQUENCE I. D.	STATION	OFFSET	654.0105 CONCRETE BASES TYPE 5 EACH	654.0108 CONCRETE BASES TYPE 8 EACH	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	657.0210 TRANSFORMER BASES BREAKAWAY 15-17 INCH BOLT CIRCLE EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2 - INCH BOLT CIRCLE EACH	657.0322 POLES TYPE 5 ALUMINUM EACH	657.0380 POLES TYPE E EACH	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	657.0635 LUMINAIRE ARMS SINGLE MEMBER 6-INCH CLAMP 10-FT EACH	657.0715 LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 15-FT EACH	657.0720 LUMINAIRE ARMS TRUSS TYPE 6-INCH CLAMP 20-FT EACH	659.1120 LUMINAIRES UTILITY LED B EACH	659.1125 LUMINAIRES UTILITY LED C EACH	659.1130 LUMINAIRES UTILITY LED D EACH
HL-40-AZ	CAZ1	89+02 (NB OFF RAMP)	5' RT	--	1	220	1	--	--	1	--	--	--	1	--	--	1
HL-40-AZ	DAZ1	90+46 (NB OFF RAMP)	5' RT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	CAZ2	91+84 (NB OFF RAMP)	5' RT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	DAZ2	93+23 (NB OFF RAMP)	5' RT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	CAZ3	94+65 (NB OFF RAMP)	5' RT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	BAZ1	1+09 (ALOIS STREET)	45' RT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	AAZ1	3+20 (ALOIS STREET)	34' RT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	BAZ2	5+40 (ALOIS STREET)	31' RT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	AAZ2	7+61 (ALOIS STREET)	30' RT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	BAZ3	98+14 (SB ON RAMP)	56' LT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	AAZ3	97+00 (SB ON RAMP)	7' LT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	BAZ4	95+40 (SB ON RAMP)	6' LT	--	1	205	1	--	--	1	--	1	--	--	--	--	1
HL-40-AZ	EAZ1	1+84 (ALOIS STREET)	40' LT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	FAZ1	3+99 (ALOIS STREET)	40' LT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	EAZ2	6+20 (ALOIS STREET)	40' LT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	FAZ2	9+00 (ALOIS STREET)	45' LT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	EAZ3	10+50 (ALOIS STREET)	50' LT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	FAZ3	13+00 (ALOIS STREET)	30' LT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	EAZ4	14+60 (ALOIS STREET)	28' LT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	FAZ4	16+20 (ALOIS STREET)	28' LT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	EAZ5	17+75 (ALOIS STREET)	31' LT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-AZ	FAZ5	19+25 (ALOIS STREET)	44' LT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-VL	CVL10	91+79 (NB ON RAMP)	25' RT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-VL	DVL9	93+04 (NB ON RAMP)	5' RT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-VL	CVL9	94+15 (NB ON RAMP)	5' RT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-VL	DVL8	95+57 (NB ON RAMP)	5' RT	1	--	120	--	1	1	--	1	--	--	--	1	--	--
HL-40-VL	CVL8	97+05 (NB ON RAMP)	15' RT	--	1	220	1	--	--	1	--	--	--	1	--	--	1
HL-40-VL	BVL3	110+46 (NB OFF RAMP)	20' RT	--	1	220	1	--	--	1	--	--	--	1	--	--	1

RAMP LIGHTING LUMINAIRE ARMS AND POLES CONTINUED ON NEXT SHEET

CATEGORY 0050
RAMP LIGHTING LUMINAIRE ARMS AND POLES

654.0105	CONCRETE BASES TYPE 5
654.0108	CONCRETE BASES TYPE 8
655.0610	ELECTRICAL WIRE LIGHTING 12 AWG *
657.0210	TRANSFORMER BASES BREAKAWAY 15-17 INCH BOLT CIRCLE *
658.0255	TRANSFORMER BASES BREAKAWAY 11 1/2 - INCH BOLT CIRCLE
657.0322	POLES TYPE 5 - ALUMINUM
657.0380	POLES TYPE E *
657.0610	LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 6-FOOT
657.0635	LUMINAIRE ARMS SINGLE MEMBER 6-INCH CLAMP 10-FOOT *
657.0715	LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 15-FOOT
657.0720	LUMINAIRE ARMS TRUSS TYPE 6-INCH CLAMP 20-FOOT
659.1120	LUMINAIRES UTILITY LED B
659.1125	LUMINAIRES UTILITY LED C
659.1130	LUMINAIRES UTILITY LED D *

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

SYSTEM	SEQUENCE I. D.	STATION	OFFSET	654.0105 CONCRETE BASES TYPE 5 EACH	654.0108 CONCRETE BASES TYPE 8 EACH	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG L.F.	657.0210 TRANSFORMER BASES BREAKAWAY 15-17 INCH BOLT CIRCLE EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2 - INCH BOLT CIRCLE EACH	657.0322 POLES TYPE 5 ALUMINUM EACH	657.0380 POLES TYPE E EACH	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	657.0635 LUMINAIRE ARMS SINGLE MEMBER 6-INCH CLAMP 10-FT EACH	657.0715 LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 15-FT EACH	657.0720 LUMINAIRE ARMS TRUSS TYPE 6-INCH CLAMP 20-FT EACH	659.1120 LUMINAIRES UTILITY LED B EACH	659.1125 LUMINAIRES UTILITY LED C EACH	659.1130 LUMINAIRES UTILITY LED D EACH
HL-40-VL	AVL3	112+01 (NB OFF RAMP)	10' RT	1	--	145	--	1	1	--	--	--	1	--	1	--	--
HL-40-VL	BVL4	113+27 (NB OFF RAMP)	10' RT	1	--	145	--	1	1	--	--	--	1	--	1	--	--
HL-40-VL	AVL4	114+60 (NB OFF RAMP)	10' RT	1	--	145	--	1	1	--	--	--	1	--	1	--	--
HL-40-VL	BVL5	115+97 (NB OFF RAMP)	10' RT	1	--	145	--	1	1	--	--	--	1	--	1	--	--
HL-40-VL	AVL5	117+35 (NB OFF RAMP)	10' RT	1	--	145	--	1	1	--	--	--	1	--	1	--	--
HL-40-VL	BVL6	118+77 (NB OFF RAMP)	15' RT	1	--	145	--	1	1	--	--	--	1	--	1	--	--
HL-40-LA	ELA1	129+00 (NB OFF RAMP)	20' RT	--	1	220	1	--	--	1	--	--	--	1	--	--	1
HL-40-LA	FLA1	131+50 (NB OFF RAMP)	5' RT	1	--	145	--	1	1	--	--	--	1	--	--	1	--
HL-40-LA	ELA2	133+25 (NB OFF RAMP)	5' RT	1	--	145	--	1	1	--	--	--	1	--	--	1	--
HL-40-LA	FLA2	134+80 (NB OFF RAMP)	5' RT	1	--	145	--	1	1	--	--	--	1	--	--	1	--
HL-40-LA	ELA3	136+50 (NB OFF RAMP)	5' RT	1	--	145	--	1	1	--	--	--	1	--	--	1	--
HL-40-LA	ELA4	125+50 (SB ON RAMP)	20' LT	--	1	220	1	--	--	1	--	--	--	1	--	--	1
HL-40-LA	FLA4	127+25 (SB ON RAMP)	10' LT	1	--	145	--	1	1	--	--	--	1	--	1	--	--
HL-40-LA	ELA5	128+75 (SB ON RAMP)	10' LT	1	--	145	--	1	1	--	--	--	1	--	1	--	--
HL-40-LA	BLA3	140+50 (SB ON RAMP)	41' LT	--	1	220	1	--	--	1	--	--	--	1	--	--	1
HL-40-LA	ALA2	142+32 (SB ON RAMP)	38' LT	1	--	145	--	1	1	--	--	--	1	--	--	1	--
HL-40-LA	BLA2	144+25 (SB ON RAMP)	10' RT	1	--	145	--	1	1	--	--	--	1	--	--	1	--
HL-40-LA	ALA1	146+00 (SB ON RAMP)	10' RT	1	--	145	--	1	1	--	1	--	--	--	--	1	--
HL-40-LA	BLA1	147+75 (SB ON RAMP)	10' RT	1	--	145	--	1	1	--	1	--	--	--	--	1	--
HL-40-LA	ALA5	139+50 (NB OFF RAMP)	29' RT	1	--	145	--	1	1	--	1	--	--	--	--	--	1
HL-40-LA	BLA5	141+00 (NB OFF RAMP)	29' RT	1	--	145	--	1	1	--	1	--	--	--	--	1	--
HL-40-LA	ALA6	142+50 (NB OFF RAMP)	29' RT	1	--	145	--	1	1	--	1	--	--	--	--	1	--
HL-40-AZ/LA/VL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5	5	5
TOTAL (0050)				43	7	7,160 *	7 *	43	43	7 *	29	1 *	14	6	37	15	13 *

SHEET 16 OF 16

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET: E

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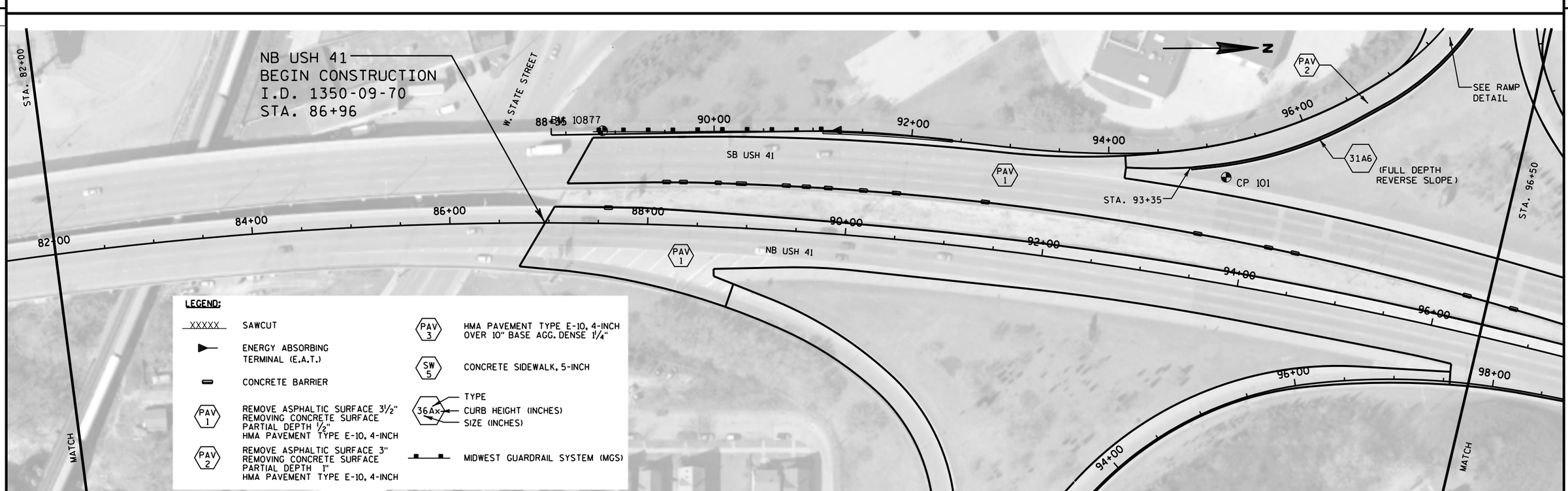
BENCH MARKS

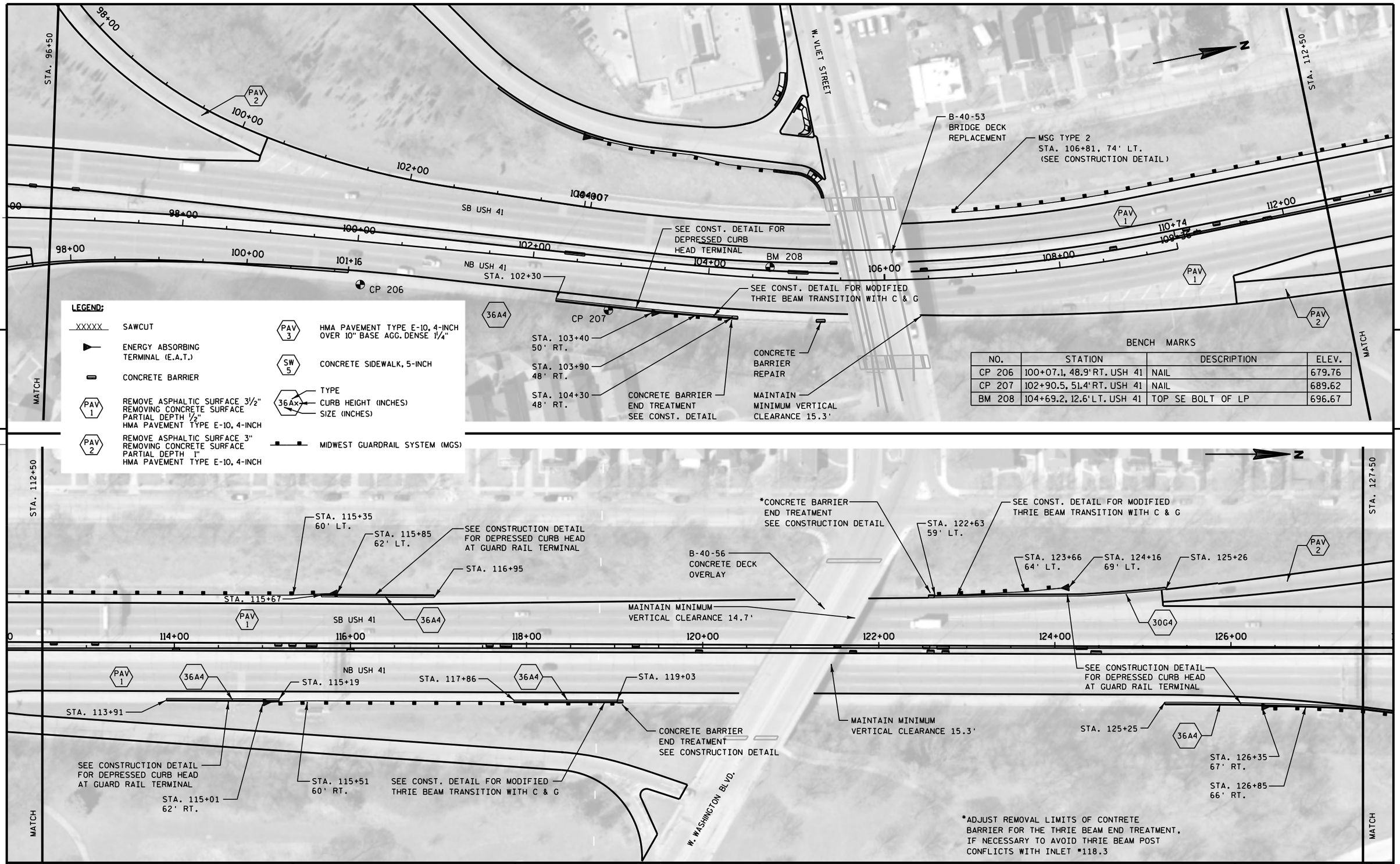
NO.	STATION	DESCRIPTION	ELEV.
BM 10877	87+53, 93.6' LT. USH 41	ALUMINUM DISK	648.78
CP 101	93+70.3, 106.7' LT. USH 41	SPIKE	658.55



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN (MAINLINE)	SHEET 271	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_050202_pn.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN (MAINLINE)	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_050203_pn.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44

N. 48TH STREET

N

STA. 127+50

N. 47TH STREET

B-40-60
CONCRETE DECK
OVERLAY

MAINTAIN MINIMUM
VERTICAL CLEARANCE 15.0'

MAINTAIN MINIMUM
VERTICAL CLEARANCE 14.7'

CONCRETE BARRIER
END TREATMENT
SEE CONST. DETAIL

STA. 138+95
32' LT.

SEE CONST. DETAIL FOR
MODIFIED THRIE BEAM
TRANSITION WITH C & G

STA. 139+35
34' LT.

STA. 139+85
38' LT.

SEE CONSTRUCTION DETAIL
FOR DEPRESSED CURB HEAD
AT GUARD RAIL TERMINAL

STA. 140+95

STA. 142+00 SB

36A4

PAV 1

128+00

130+00

132+00

134+00

136+00

137+48

138+00

140+00

142+00

SB USH 41

STA. 138+00

STA. 140+96

STA. 139+86
12' RT.

PAV 3

MATCH

36A4

STA. 128+31

PAV 1

NB USH 41

STA. 139+36
12' RT.

STA. 140+13

STA. 140+76

142+00

STA. 142+00 NB

MSG TYPE 2
STA. 127+89
74' RT.

SEE CONSTRUCTION DETAIL
FOR DEPRESSED CURB HEAD
AT TYPE 2 TERMINAL

PAV 2

STA. 133+88

36A4

CONCRETE BARRIER
END TREATMENT
SEE CONST. DETAIL

CONCRETE BARRIER
SINGLE-FACED,
32-INCH

STA. 138+96
11' RT.
CONCRETE BARRIER
END TREATMENT
SEE CONST. DETAIL

SEE MAINTENANCE
CROSSOVER CONST.
DETAIL

STA. 135+95
68' RT.

N. 46TH STREET

36A4

SEE CONSTRUCTION DETAIL
FOR DEPRESSED CURB HEAD
AT GUARD RAIL TERMINAL

STA. 134+98
70' RT.

STA. 135+48
68' RT.

SEE CONST. DETAIL FOR
MODIFIED THRIE BEAM
TRANSITION WITH C & G

MATCH

W. LLOYD STREET

LEGEND:

XXXXX	SAWCUT
	MGS ENERGY ABSORBING TERMINAL (E.A.T.) & THRIE BEAM TRANSITION
	CONCRETE BARRIER
PAV 1	REMOVE ASPHALTIC SURFACE 3½" REMOVING CONCRETE SURFACE PARTIAL DEPTH ½" HMA PAVEMENT TYPE E-10
PAV 2	REMOVE ASPHALTIC SURFACE 3" REMOVING CONCRETE SURFACE PARTIAL DEPTH 1" HMA PAVEMENT TYPE E-10, 4-INCH
PAV 3	HMA PAVEMENT TYPE E-10, 4-INCH OVER 10" BASE AGG. DENSE 1¼"
SW 5	CONCRETE SIDEWALK, 5-INCH
36Ax	TYPE CURB HEIGHT (INCHES) SIZE (INCHES)
	MIDWEST GUARDRAIL SYSTEM (MGS)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN	SHEET 273	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_050204_pn.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44

N. 48TH STREET

N. 47TH STREET

W. LISBON AVENUE

W. GARFIELD AVENUE

W. NORTH AVENUE

N

SB USH 41
END CONSTRUCTION
I.D.1350-09-70
STA. 147+57.00

NB USH 41
END CONSTRUCTION
I.D.1350-09-70
STA. 145+10.00

STA. 142+00 SB

142+00 SB USH 41 144+00 146+00

PAV 1

31A6

MATCH NB

STA. 142+00 NB

142+00 NB USH 41 144+00 146+00

PAV 1

MATCH

LEGEND:

XXXXX	SAWCUT
	MGS ENERGY ABSORBING TERMINAL (E.A.T.) & THRIE BEAM TRANSITION
	CONCRETE BARRIER
PAV 1	REMOVE ASPHALTIC SURFACE 3½" REMOVING CONCRETE SURFACE PARTIAL DEPTH ½" HMA PAVEMENT TYPE E-10
PAV 2	REMOVE ASPHALTIC SURFACE 3" REMOVING CONCRETE SURFACE PARTIAL DEPTH 1" HMA PAVEMENT TYPE E-10, 4-INCH
PAV 3	HMA PAVEMENT TYPE E-10, 4-INCH OVER 10" BASE AGG. DENSE 1¼"
SW 5	CONCRETE SIDEWALK, 5-INCH
36Ax	TYPE / CURB HEIGHT (INCHES) / SIZE (INCHES)
	MIDWEST GUARDRAIL SYSTEM (MGS)

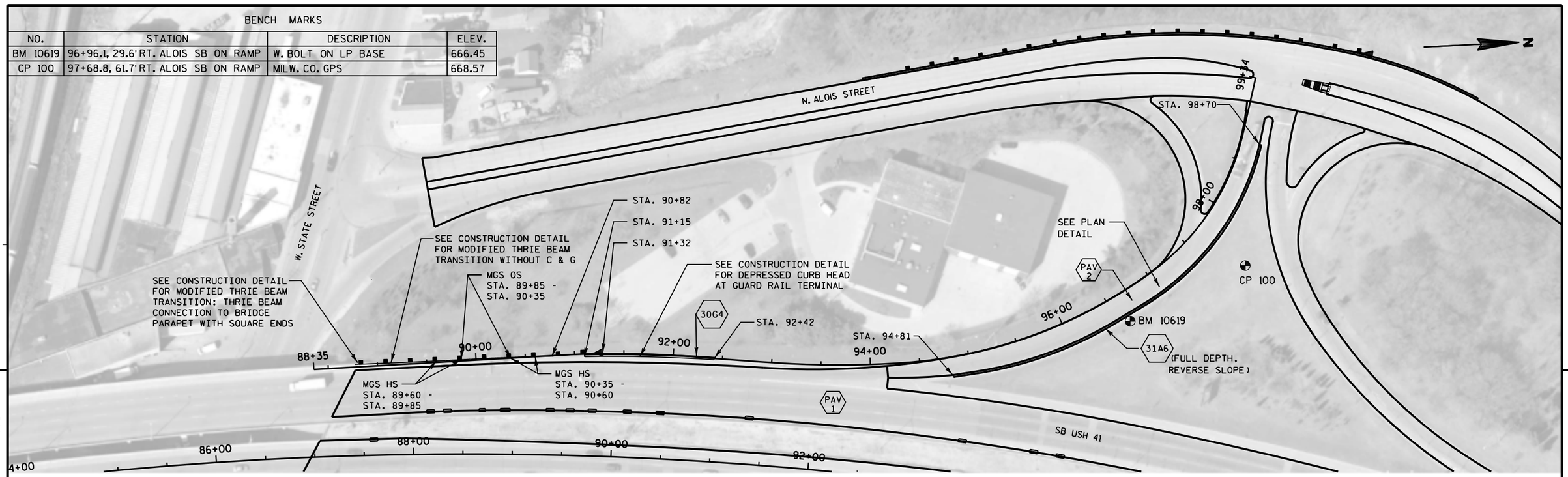
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN	SHEET	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_050205_pn.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44

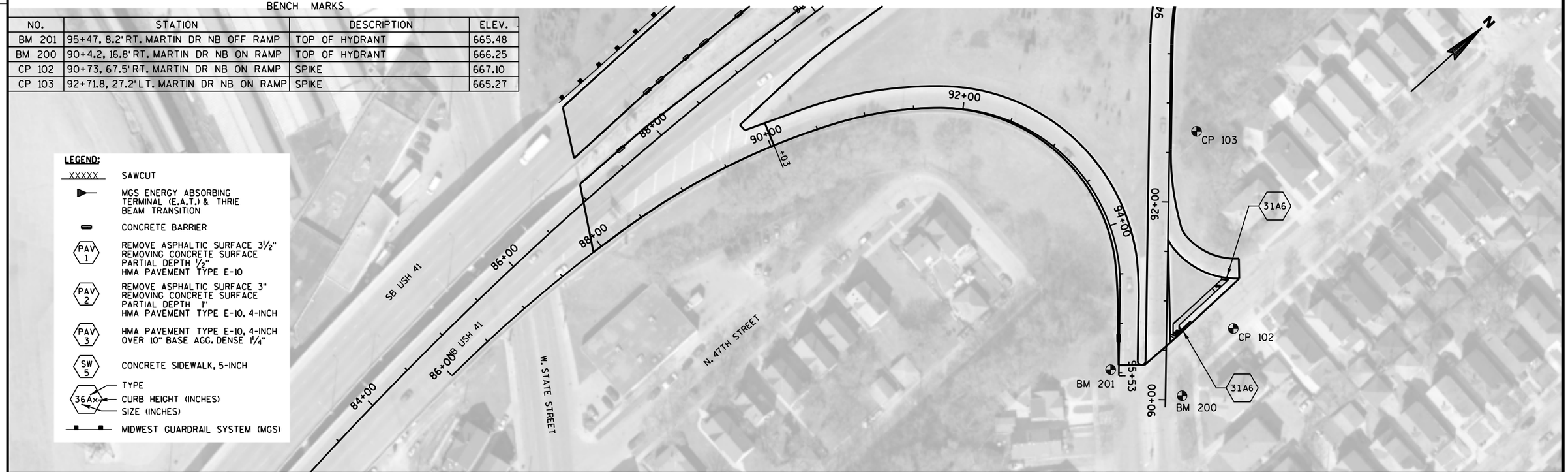
BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 10619	96+96.1, 29.6' RT. ALOIS SB ON RAMP	W. BOLT ON LP BASE	666.45
CP 100	97+68.8, 61.7' RT. ALOIS SB ON RAMP	MILW. CO. GPS	668.57



BENCH MARKS

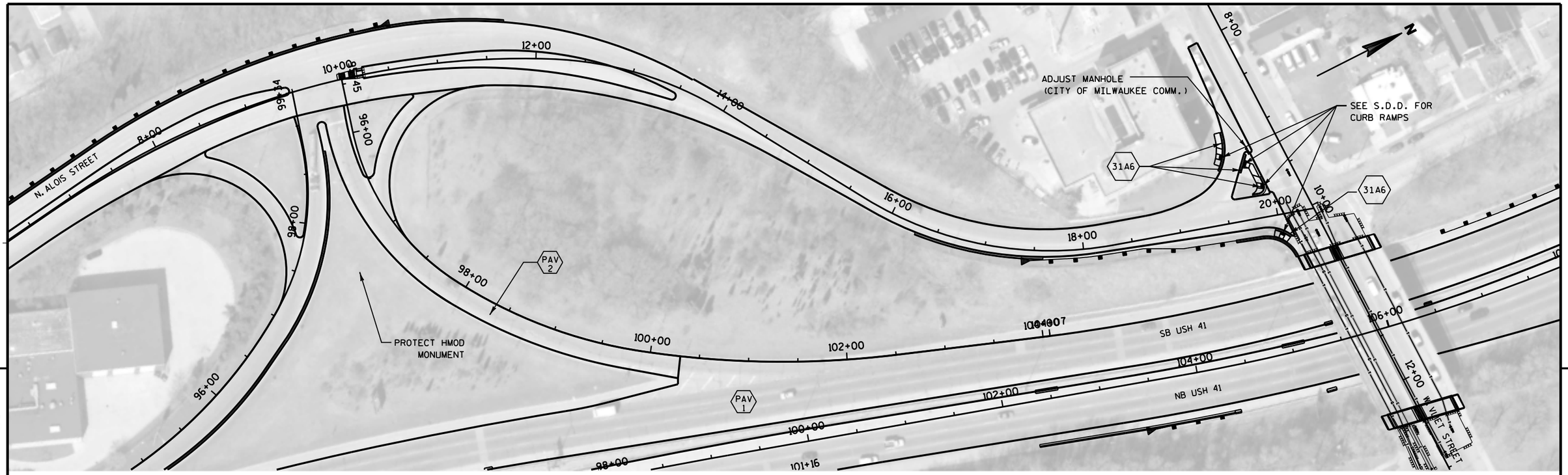
NO.	STATION	DESCRIPTION	ELEV.
BM 201	95+47, 8.2' RT. MARTIN DR NB OFF RAMP	TOP OF HYDRANT	665.48
BM 200	90+4.2, 16.8' RT. MARTIN DR NB ON RAMP	TOP OF HYDRANT	666.25
CP 102	90+73, 67.5' RT. MARTIN DR NB ON RAMP	SPIKE	667.10
CP 103	92+71.8, 27.2' LT. MARTIN DR NB ON RAMP	SPIKE	665.27



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN (RAMPS)	SHEET 275	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_050214_pn.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44



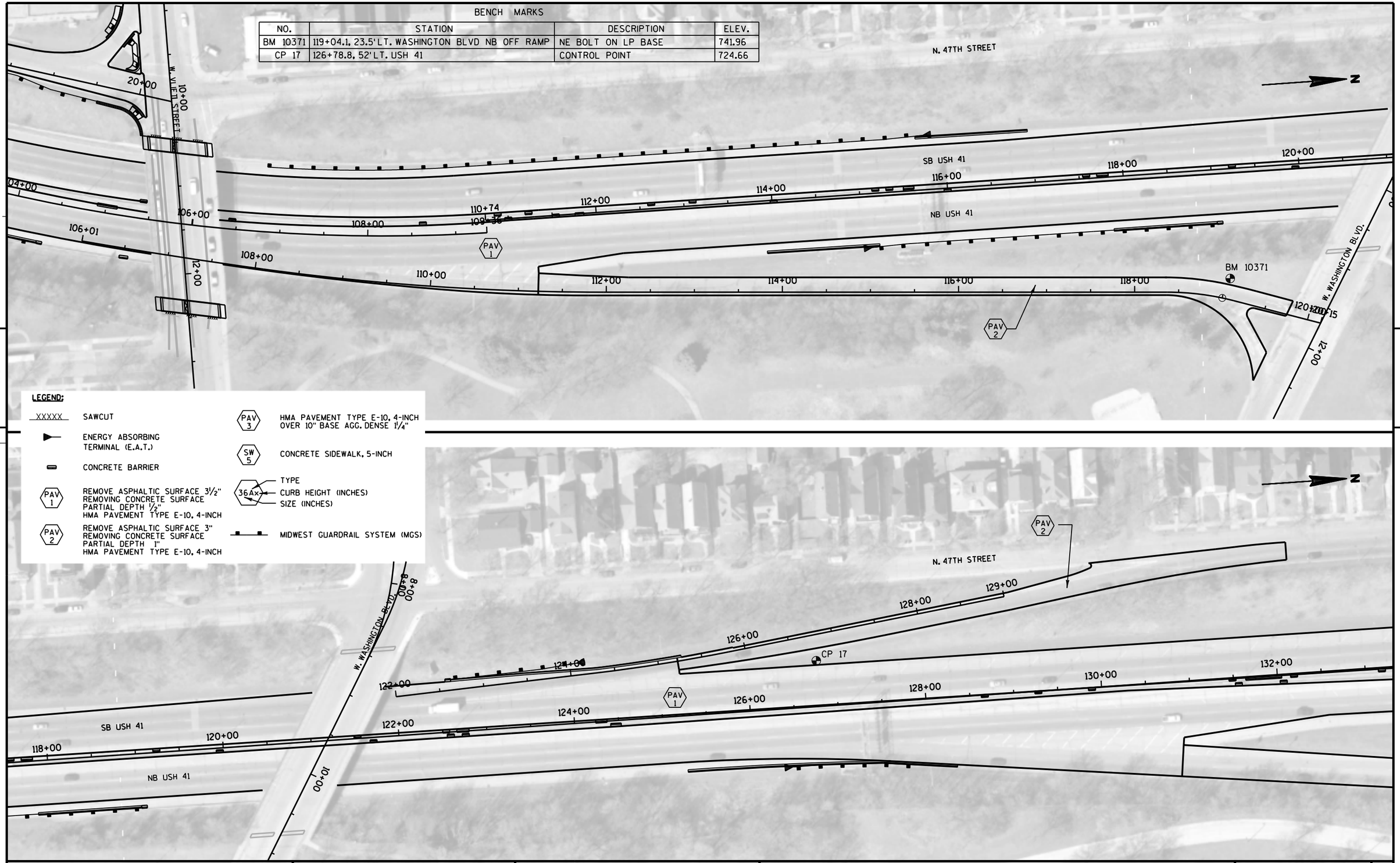
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN (RAMPS)	SHEET 276	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_050215_pn.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 10371	119+04.1, 23.5' LT. WASHINGTON BLVD NB OFF RAMP	NE BOLT ON LP BASE	741.96
CP 17	126+78.8, 52' LT. USH 41	CONTROL POINT	724.66



LEGEND:

- XXXXX — SAWCUT
- ENERGY ABSORBING TERMINAL (E.A.T.)
- CONCRETE BARRIER
- PAV 1 — REMOVE ASPHALTIC SURFACE 3½" REMOVING CONCRETE SURFACE PARTIAL DEPTH ½" HMA PAVEMENT TYPE E-10, 4-INCH
- PAV 2 — REMOVE ASPHALTIC SURFACE 3" REMOVING CONCRETE SURFACE PARTIAL DEPTH 1" HMA PAVEMENT TYPE E-10, 4-INCH
- PAV 3 — HMA PAVEMENT TYPE E-10, 4-INCH OVER 10" BASE AGG. DENSE 1¼"
- SW 5 — CONCRETE SIDEWALK, 5-INCH
- 36Ax — TYPE, CURB HEIGHT (INCHES), SIZE (INCHES)
- MIDWEST GUARDRAIL SYSTEM (MGS)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN (RAMPS)	SHEET 277	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_050216_pn.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44

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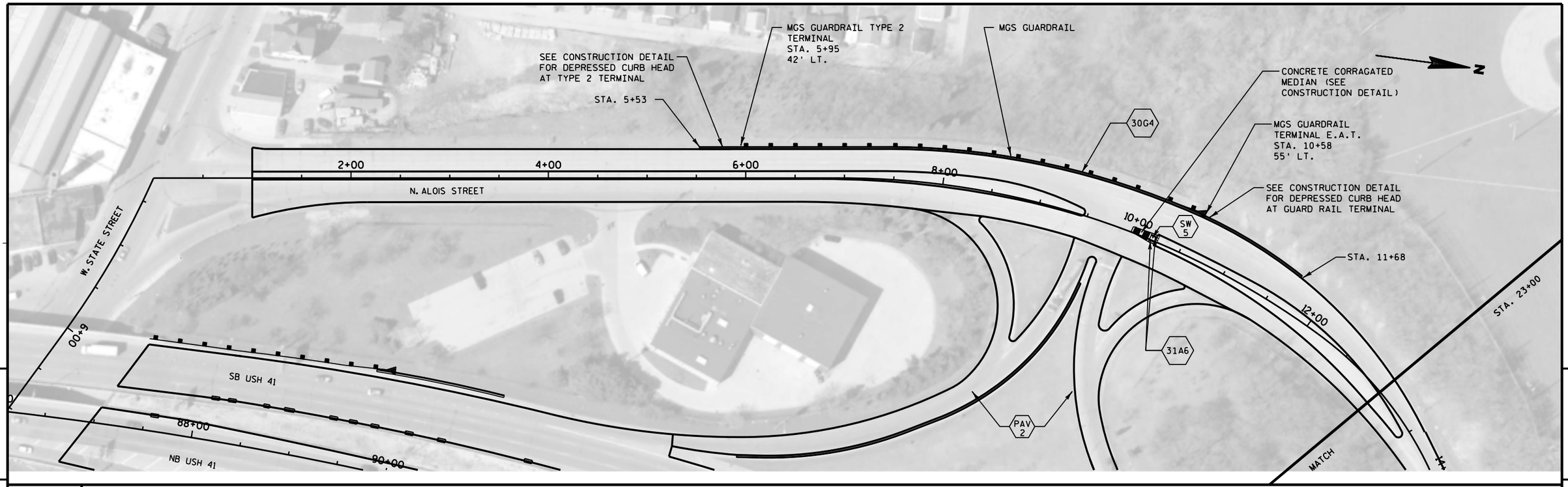
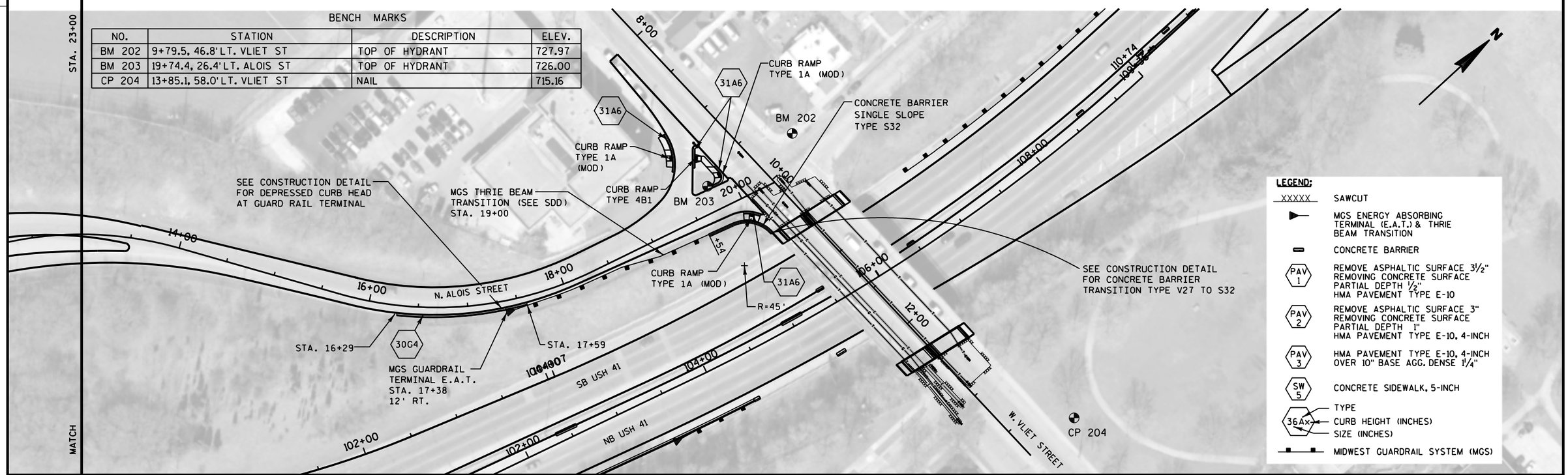
LEGEND:

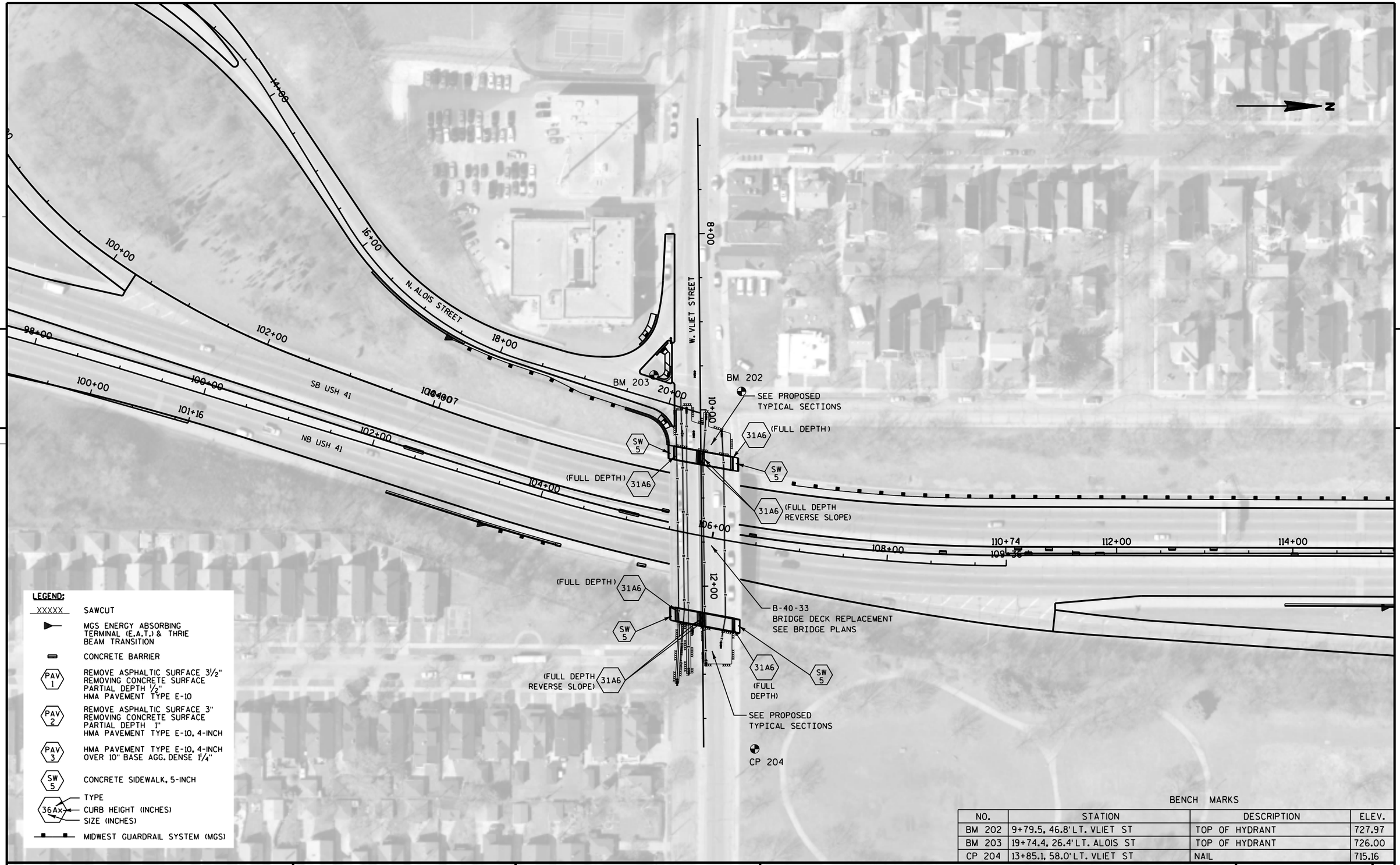
- XXXXX — SAWCUT
- ENERGY ABSORBING TERMINAL (E.A.T.)
- CONCRETE BARRIER
- PAV 1 — REMOVE ASPHALTIC SURFACE 3½" REMOVING CONCRETE SURFACE PARTIAL DEPTH ½" HMA PAVEMENT TYPE E-10, 4-INCH
- PAV 2 — REMOVE ASPHALTIC SURFACE 3" REMOVING CONCRETE SURFACE PARTIAL DEPTH 1" HMA PAVEMENT TYPE E-10, 4-INCH
- PAV 3 — HMA PAVEMENT TYPE E-10, 4-INCH OVER 10" BASE AGG. DENSE 1¼"
- SW 5 — CONCRETE SIDEWALK, 5-INCH
- 36Ax — TYPE / CURB HEIGHT (INCHES) / SIZE (INCHES)
- MIDWEST GUARDRAIL SYSTEM (MGS)

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN (RAMPS)	SHEET 278	E





PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN (SIDEROAD)	SHEET 279	E



LEGEND:

- XXXXX — SAWCUT
- MGS ENERGY ABSORBING TERMINAL (E.A.T.) & THRIE BEAM TRANSITION
- CONCRETE BARRIER
- PAV 1 — REMOVE ASPHALTIC SURFACE 3½" REMOVING CONCRETE SURFACE PARTIAL DEPTH ½" HMA PAVEMENT TYPE E-10
- PAV 2 — REMOVE ASPHALTIC SURFACE 3" REMOVING CONCRETE SURFACE PARTIAL DEPTH 1" HMA PAVEMENT TYPE E-10, 4-INCH
- PAV 3 — HMA PAVEMENT TYPE E-10, 4-INCH OVER 10" BASE AGG. DENSE 1¼"
- SW 5 — CONCRETE SIDEWALK, 5-INCH
- 36Ax — TYPE / CURB HEIGHT (INCHES) / SIZE (INCHES)
- MIDWEST GUARDRAIL SYSTEM (MGS)

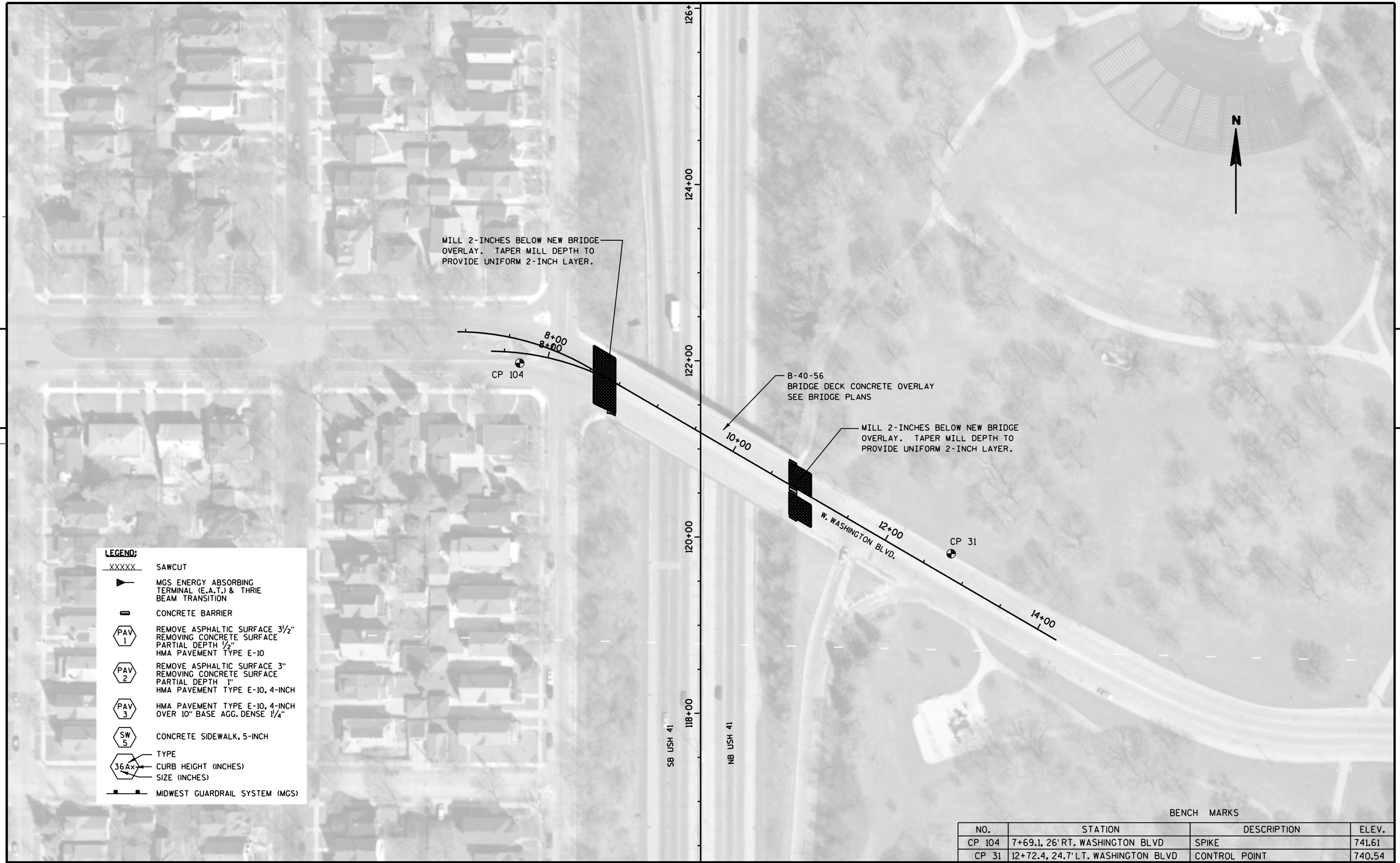
BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 202	9+79.5, 46.8'LT. VLIET ST	TOP OF HYDRANT	727.97
BM 203	19+74.4, 26.4'LT. ALOIS ST	TOP OF HYDRANT	726.00
CP 204	13+85.1, 58.0'LT. VLIET ST	NAIL	715.16

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN (SIDEROAD)	SHEET 280	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_050223_pn.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44



5 5

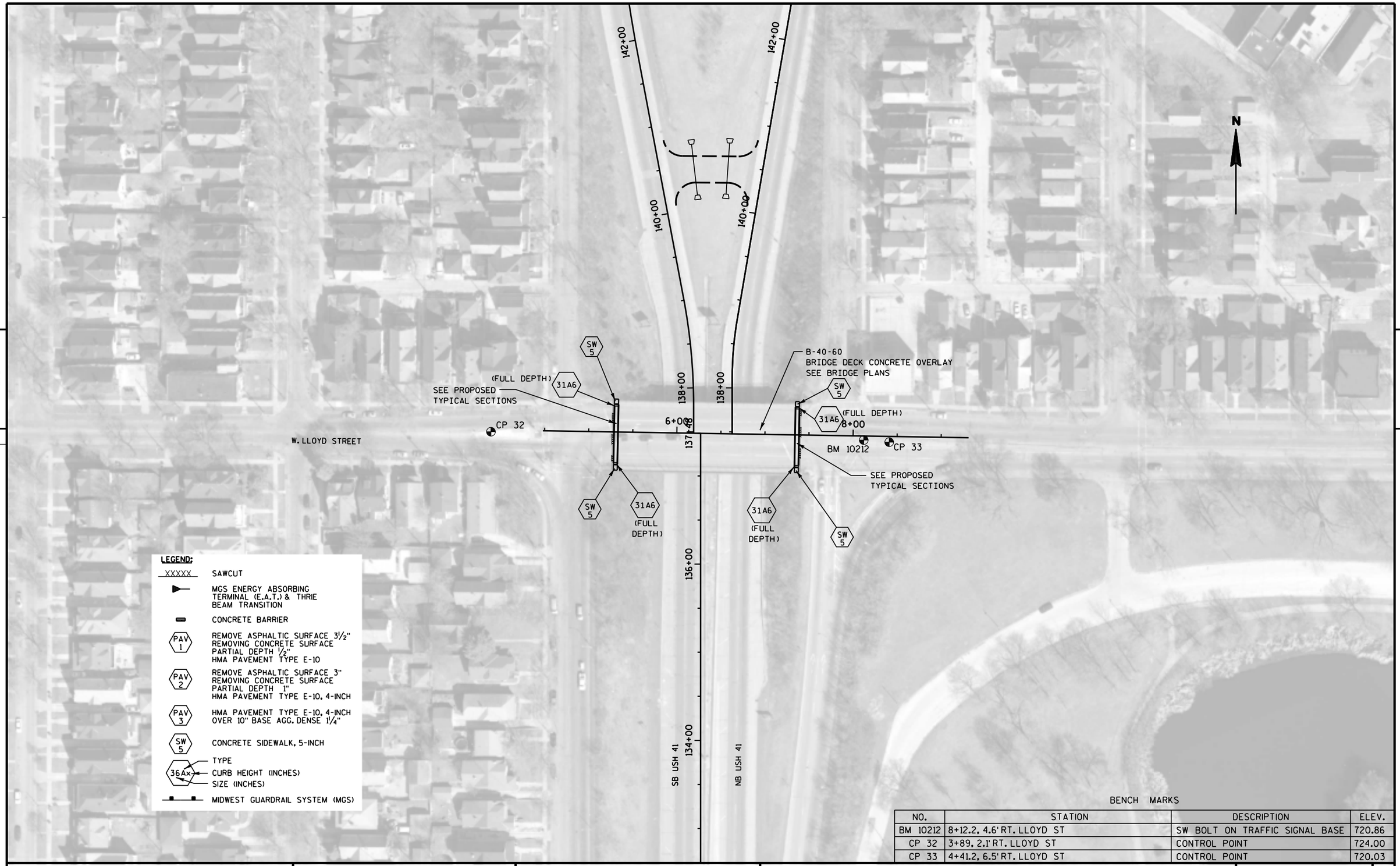
BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
CP 104	7+69.1, 26' RT. WASHINGTON BLVD	SPIKE	741.61
CP 31	12+72.4, 24.7' LT. WASHINGTON BLVD	CONTROL POINT	740.54

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN (SIDEROAD)	SHEET 281 E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_050224_pn.dgn PLOT DATE : 4/30/2015 PLOT BY : piojdae PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44



BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 10212	8+12.2, 4.6' RT. LLOYD ST	SW BOLT ON TRAFFIC SIGNAL BASE	720.86
CP 32	3+89, 2.1' RT. LLOYD ST	CONTROL POINT	724.00
CP 33	4+41.2, 6.5' RT. LLOYD ST	CONTROL POINT	720.03

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	PLAN (SIDEROAD)	SHEET 282	E

Standard Detail Drawing List

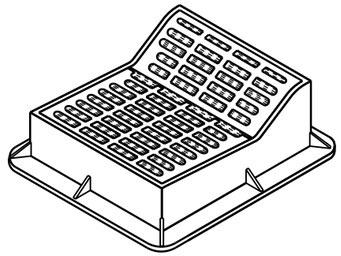
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
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
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-08	CONDUIT
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C09-05	CONCRETE BASE, TYPE 8
09C10-03	TRANSFORMER BASE FOR 15" BOLT CIRCLE
09C11-06	CONCRETE BASE TYPE 10
09C13-02	CONCRETE BASE TYPE 10 & TYPE 13 EXTENSION
09C14-02	CONCRETE CONTROL CABINET BASE, TYPE L
09E01-14D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-14G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E02-04	FREEWAY LIGHTING UNIT POLE WIRING
09E08-06A	TYPE 9 POLE 15'-30' MONOTUBE ARM
09E08-06B	TYPE 10 POLE 15'-30' MONOTUBE ARM
09E08-06C	TYPE 12 POLE 35'-55' MONOTUBE ARM
09E08-06D	TYPE 13 POLE 35'-55' MONOTBE ARM
09E08-06E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
10A01-03	ELECTRICAL HANDHOLE WIRING
10A02-03	IDENTIFICATION PLAQUES LIGHT POLES
10A04-02	IDENTIFICATION PLAQUES UNDERDECK AND HIGH MAST LIGHTING
10A05-02	ELECTRICAL DETAILS GROUND MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
10A11-02	ELECTRICAL DETAILS MEDIAN MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
10A17-04A	POLES, TYPES 7 ALUMINUM - 35'-10" SHAFT
10A17-04B	POLES, TYPES A ALUMINUM 47'-6" SHAFT
10A17-04C	POLES, TYPES E, ALUMINUM 49'-0" SHAFT
10A18-05A	LUMINAIRE ARMS, SINGLE MEMBER 6-INCH CLAMP
10A18-05B	LUMINAIRE ARMS, TRUSS TYPE 6-INCH CLAMP
11A01-05	MAINTENANCE CROSSOVER FOR FREEWAYS
11B01-05	CONCRETE CORRUGATED MEDIAN
13A03-05	CONCRETE PAVEMENT SHOULDERS
13C01-17	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-11A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C14-04A	BASE PATCHING CONCRETE
13C14-04B	BASE PATCHING CONCRETE
13C14-04C	BASE PATCHING CONCRETE
13C15-05A	CONCRETE BASE
13C15-05B	CONCRETE BASE
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	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"
14B22-06A	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)

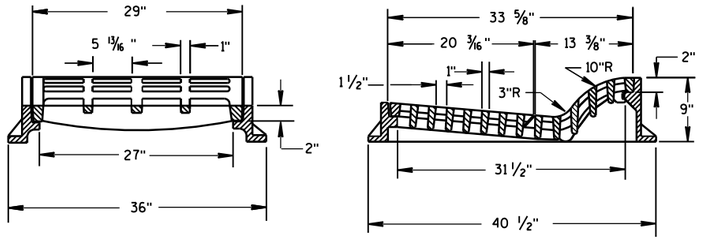
6

Standard Detail Drawing List

14B22-06B	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
14B28-03	GUARDRAIL MOW STRIP
14B32-03A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03E	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
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-02A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C18-03	MEDIAN ISLAND MARKING
15C19-02A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C19-02B	MOVING PAVEMENT MARKING OPERATION MULTI-LANE UNDIVIDED ROADWAY
15C19-02C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C20-01	YIELD MARKING
15C27-01	DOUBLE ARROW WARNING SIGN PLACEMENT
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-01B	LANE DROP PAVEMENT MARKING
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-05A	TRAFFIC CONTROL, LANE CLOSURE
15D14-02	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-02	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-03	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-03	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE
15D30-02A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS

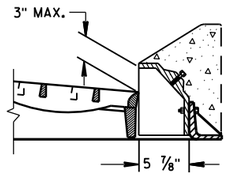
6





TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

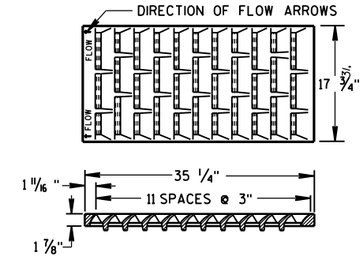
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

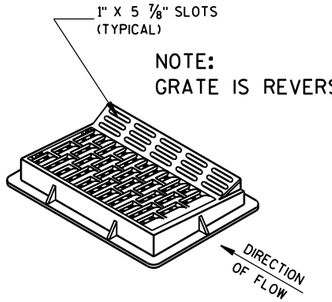
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

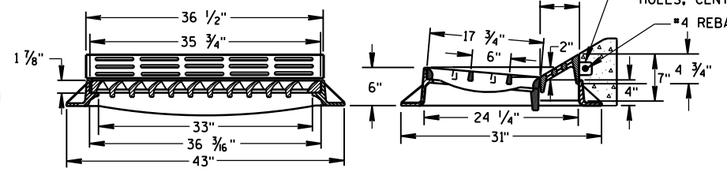
GENERAL NOTES

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.



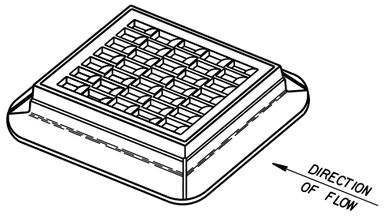


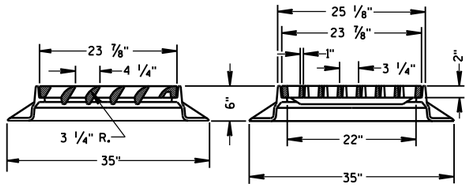


TYPE "HM"

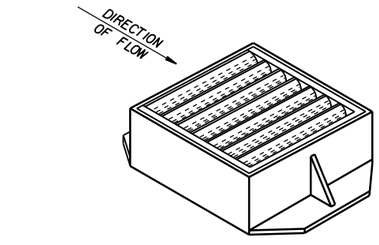
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

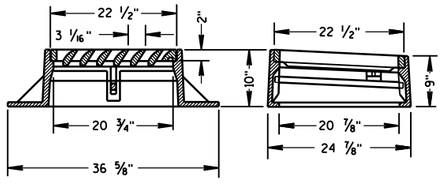
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



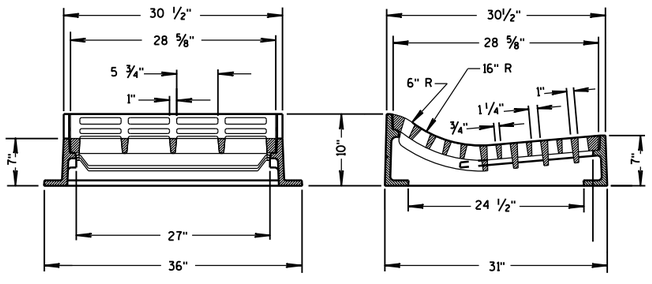


TYPE "S"



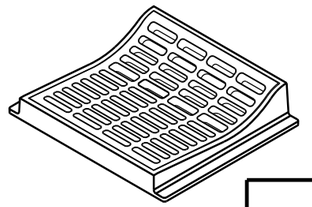


TYPE "V"



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

285

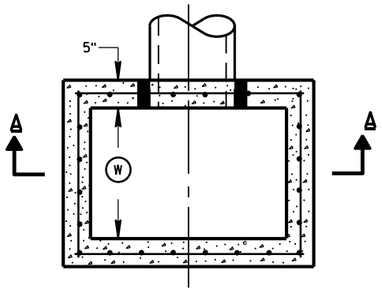
FHWA

6

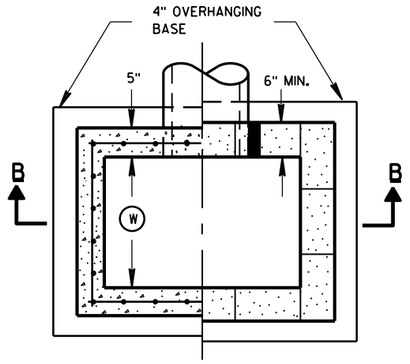
S.D.D. 8 A 5-19c

6

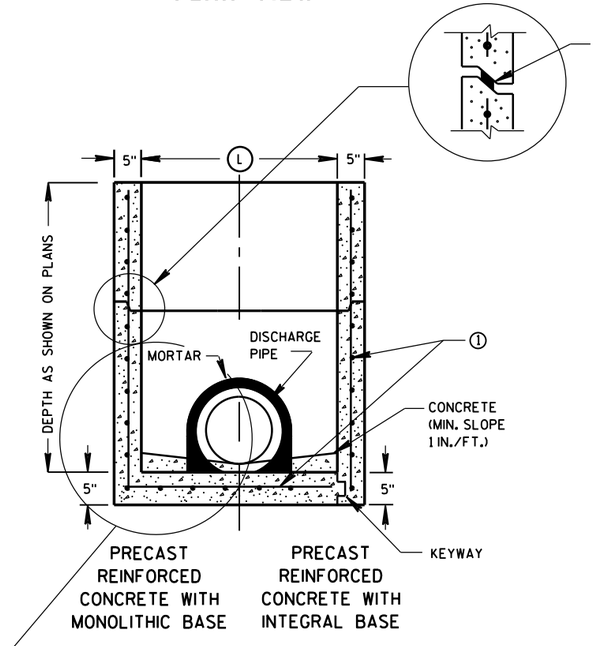
S.D.D. 8 A 5-19c



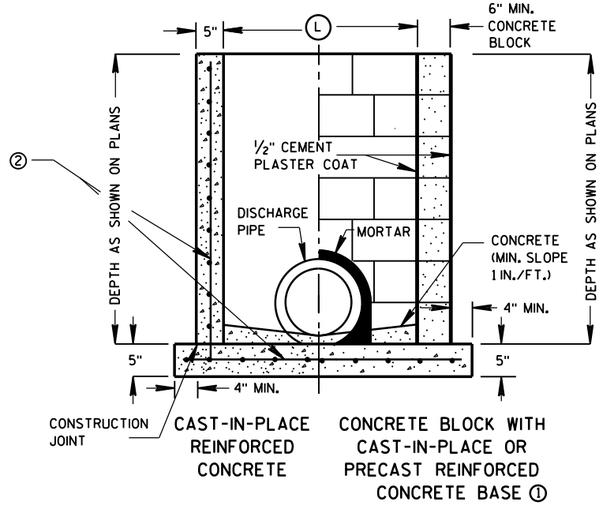
PLAN VIEW



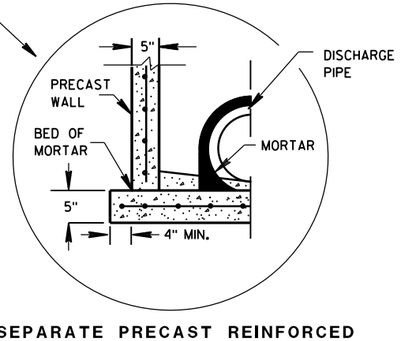
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

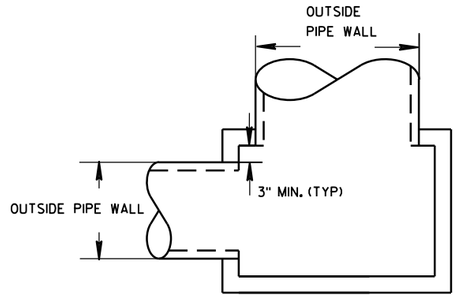
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

PIPE MATRIX

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



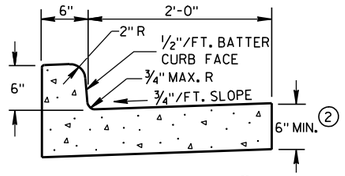
DETAIL "A"

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

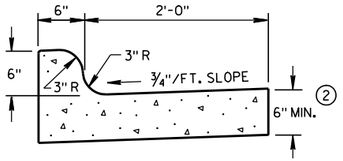
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

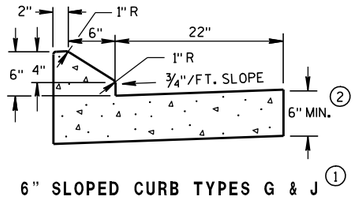
6
S.D.D. 8 C 7-1



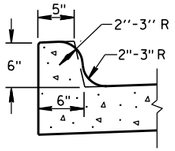
TYPES A & D (1)



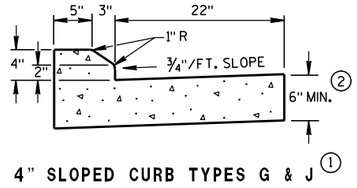
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

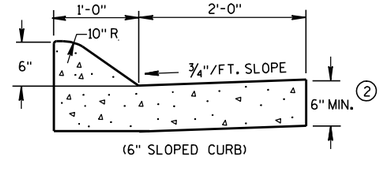


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

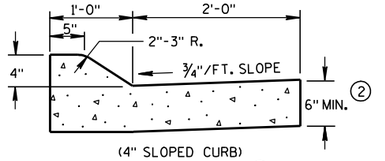


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

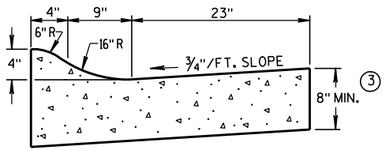


(6" SLOPED CURB)



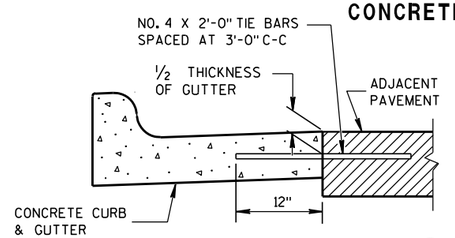
(4" SLOPED CURB)

TYPES A & D (1)

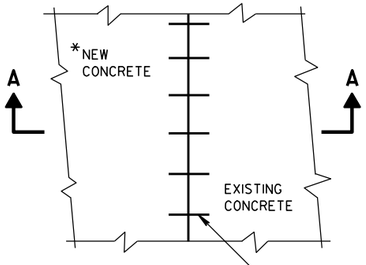


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

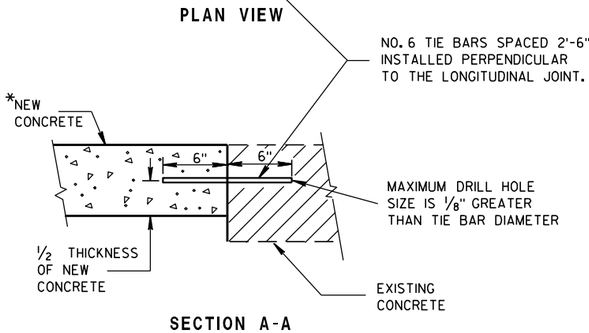


TYPICAL TIE BAR LOCATION (1)



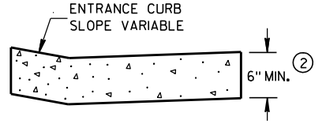
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

PLAN VIEW

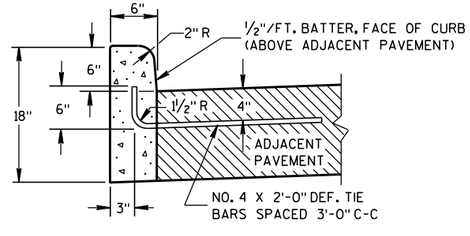


SECTION A-A

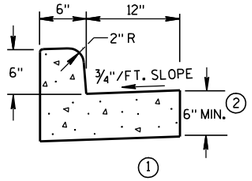
TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

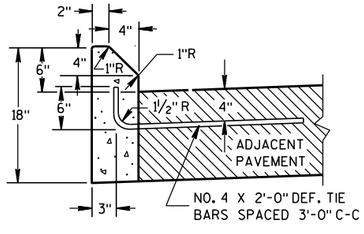


(1)
TYPES A & D



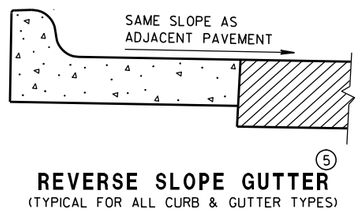
(1)
TYPES A & D

CONCRETE CURB & GUTTER 18"

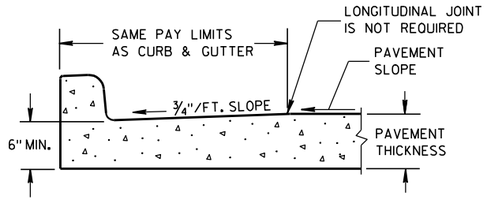


(1)
TYPES G & J

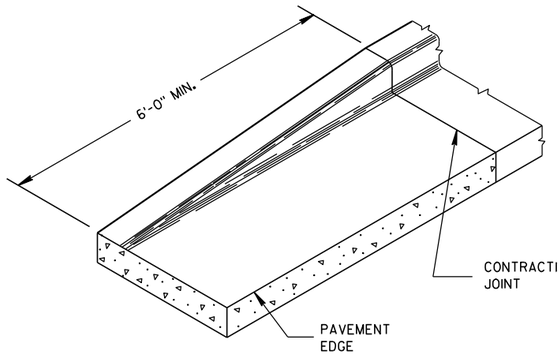
CONCRETE CURB



REVERSE SLOPE GUTTER (5)
(TYPICAL FOR ALL CURB & GUTTER TYPES)



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION 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 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 AND R.

(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) 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.

(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

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

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

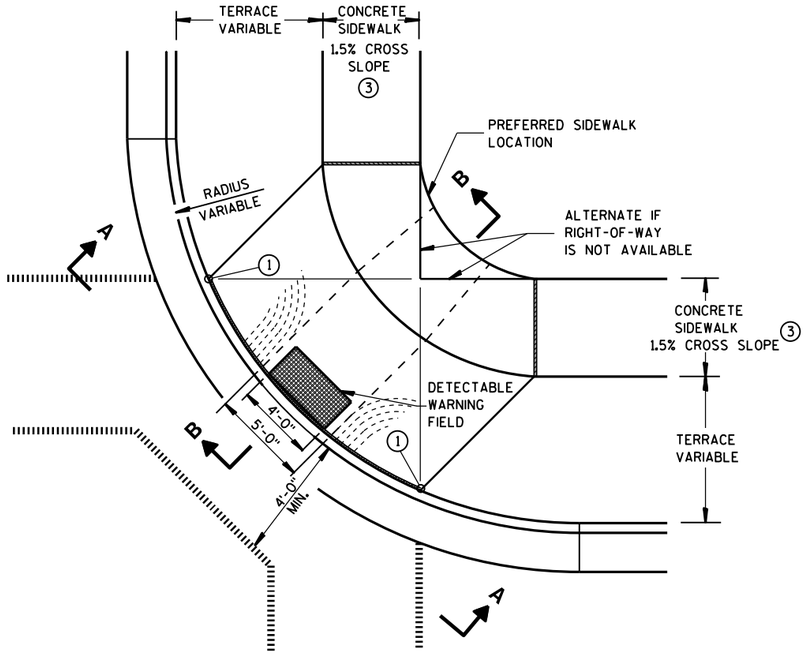
APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
287
ENT
FHWA

6

S.D.D. 8 D 1-17

6

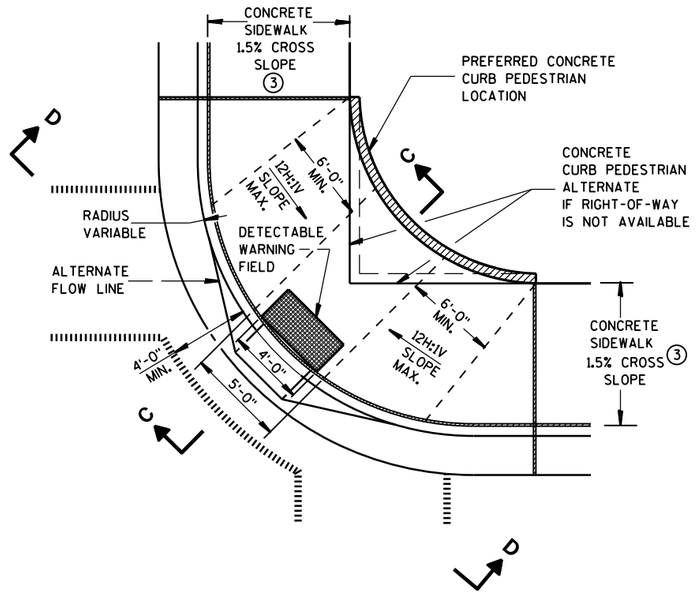
S.D.D. 8 D 1-17



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

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

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

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

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

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

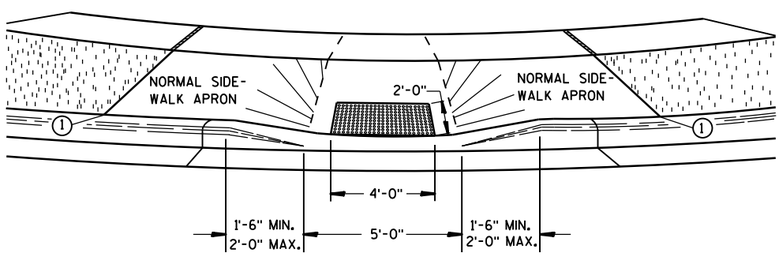
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

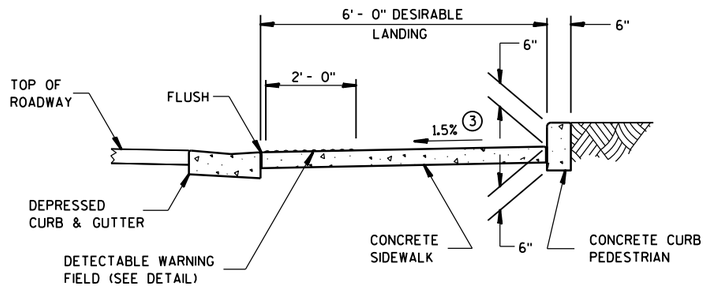
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

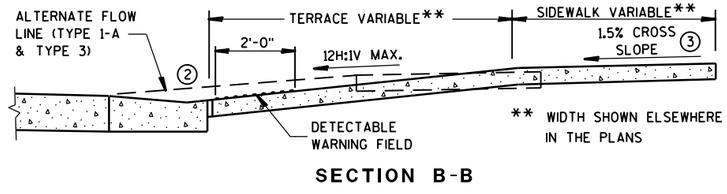
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



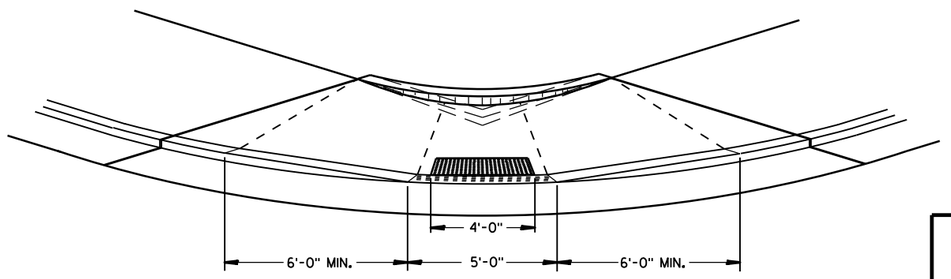
VIEW A-A



SECTION C-C



SECTION B-B



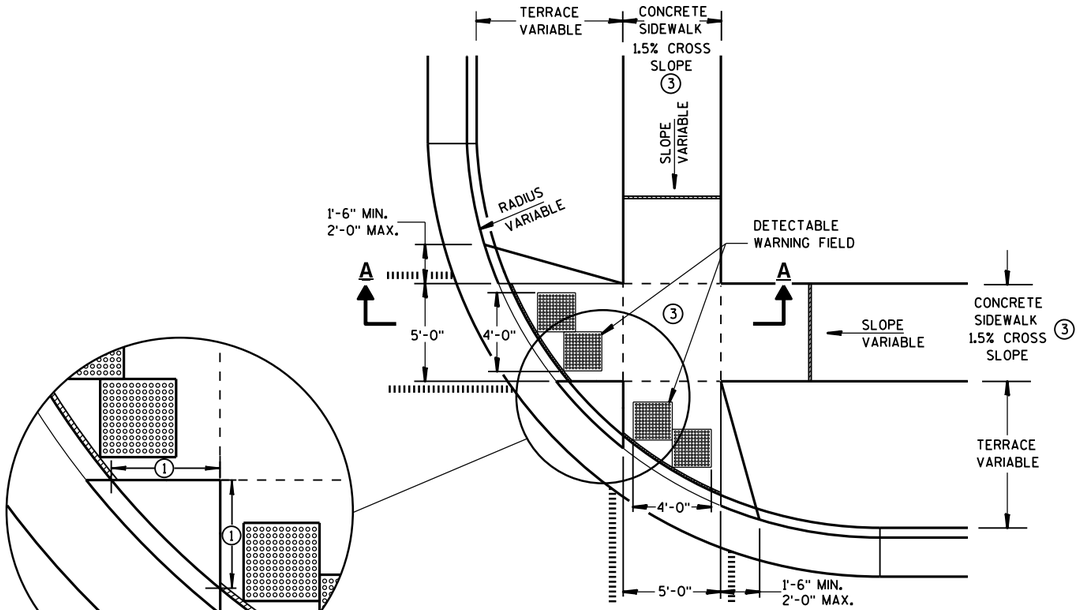
VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

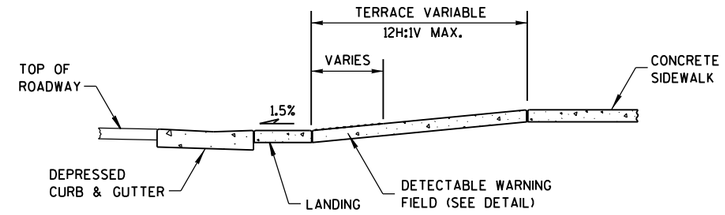
S.D.D. 8 D 5-15a



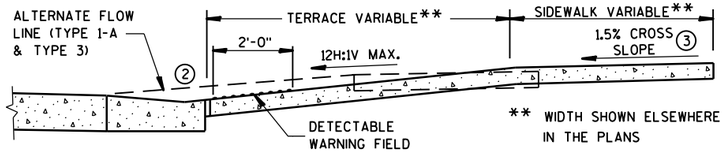
PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

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

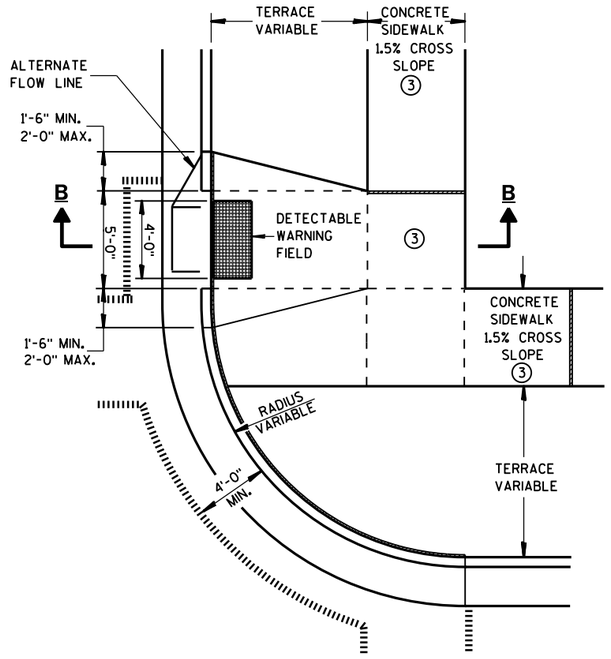
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

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



PLAN VIEW

TYPE 3 RAMP

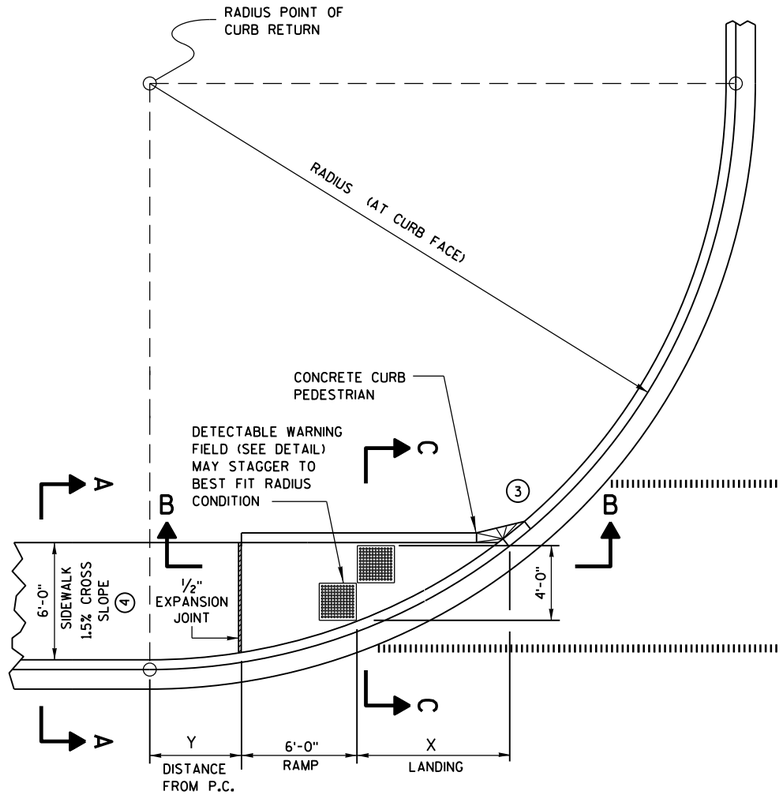
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

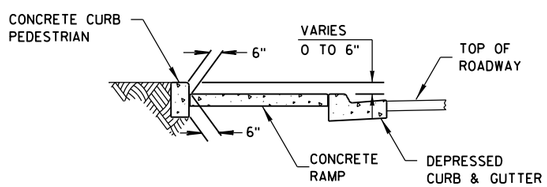
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

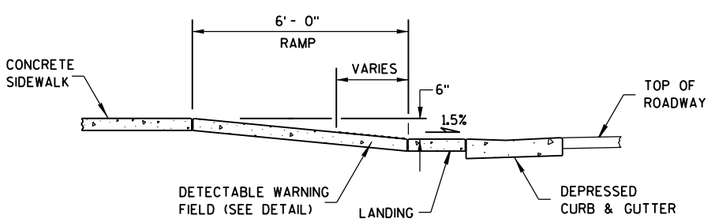
S.D.D. 8 D 5-15b



CURB RAMP TYPE 4A
PLAN VIEW



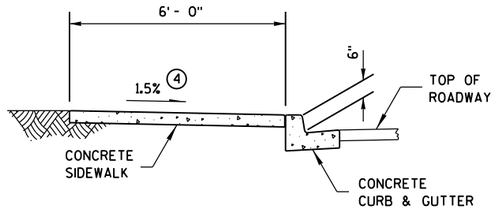
SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

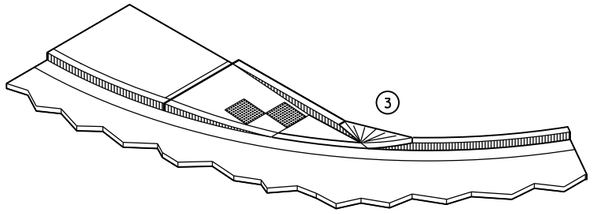
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

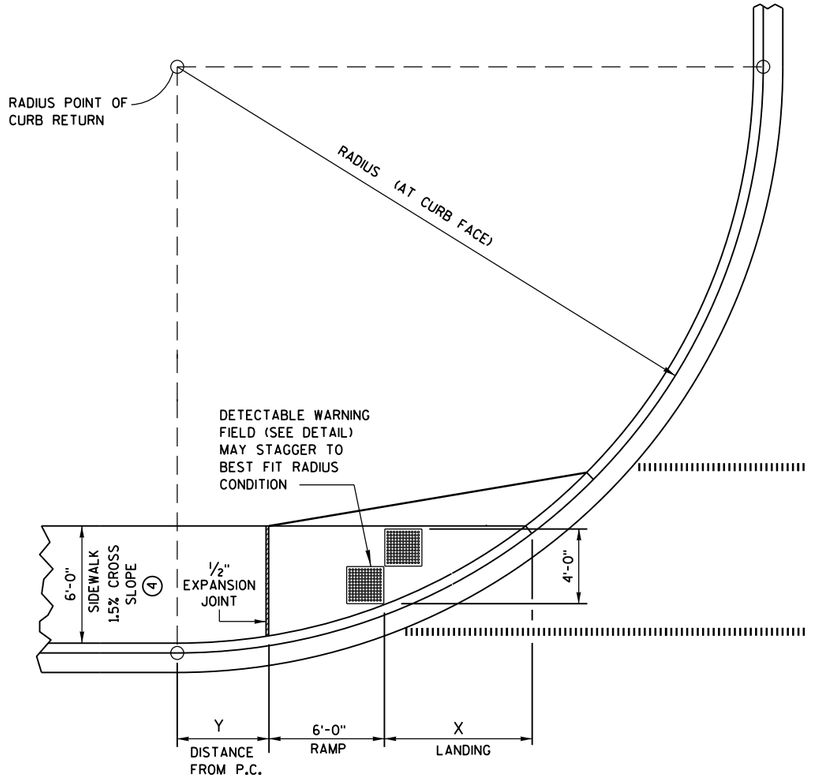
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

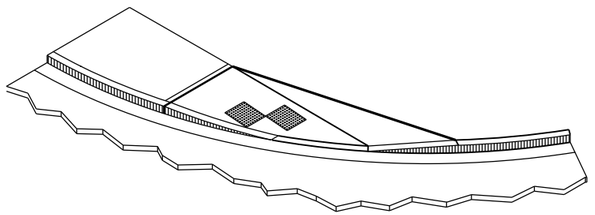
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

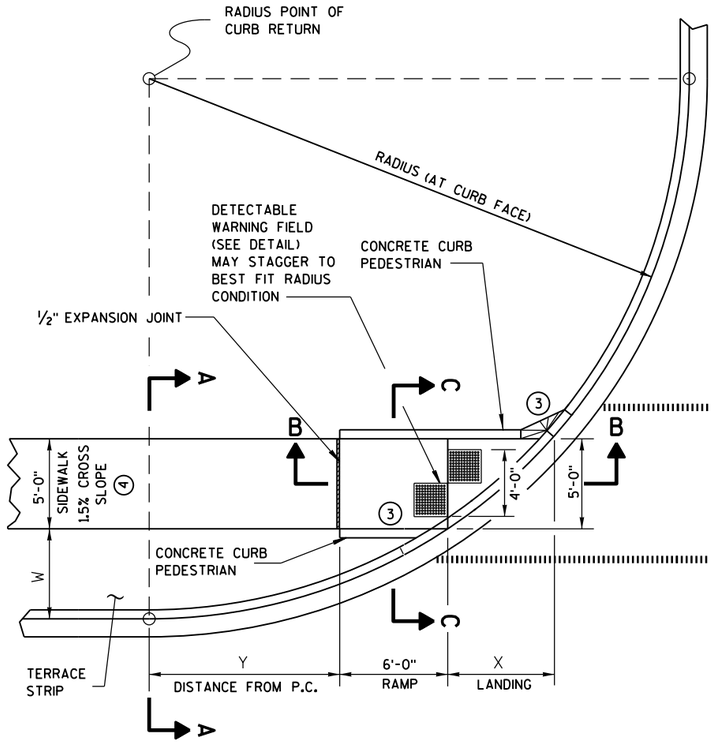
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

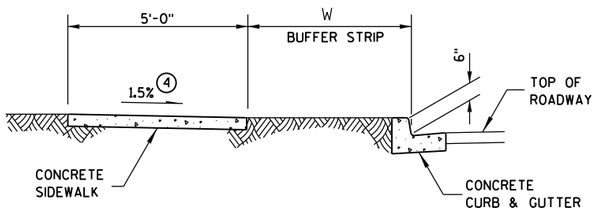
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

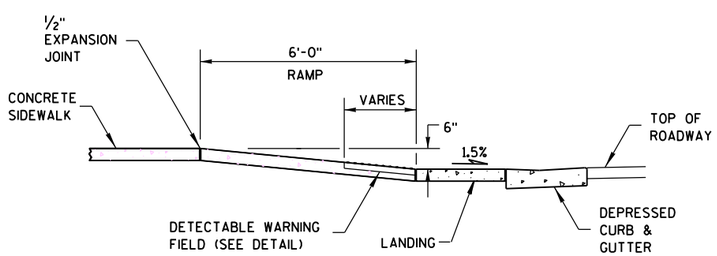
S.D.D. 8 D 5-15c



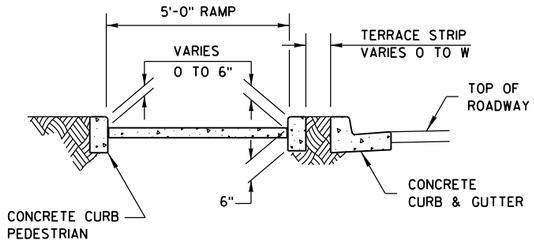
CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



SECTION B-B FOR TYPE 4B



SECTION C-C FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

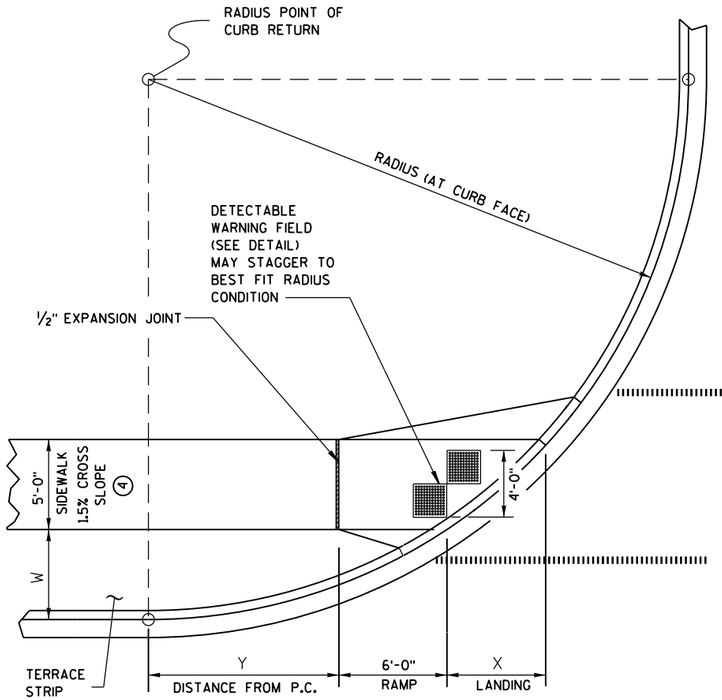
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

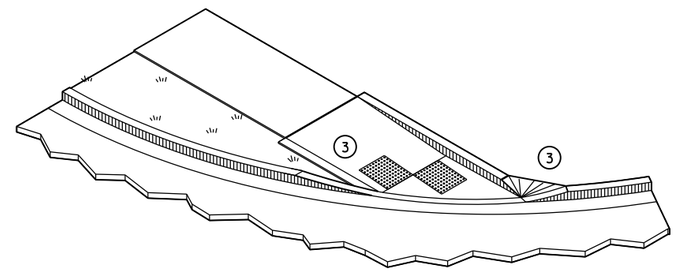
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

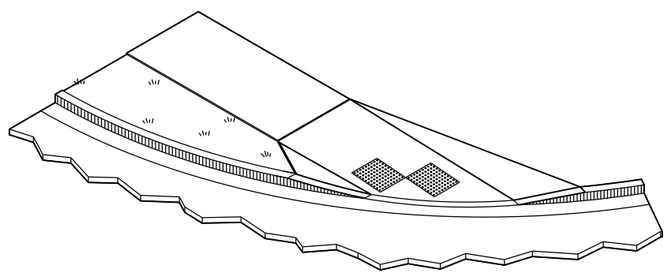
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



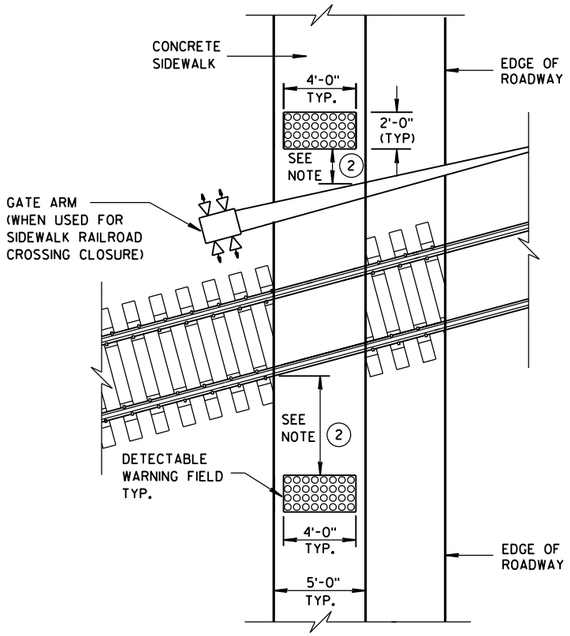
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS TYPE 4B AND 4B1

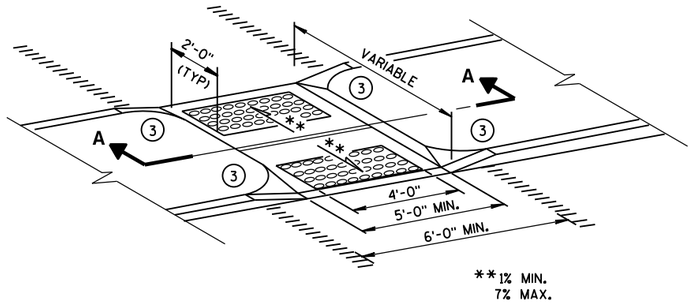
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

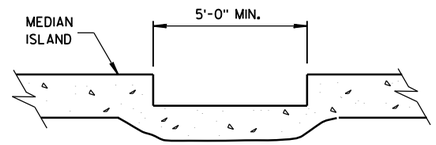
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

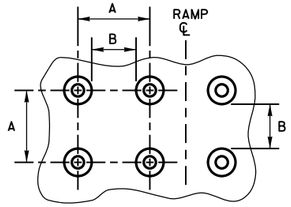
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

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

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



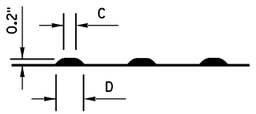
SECTION A-A



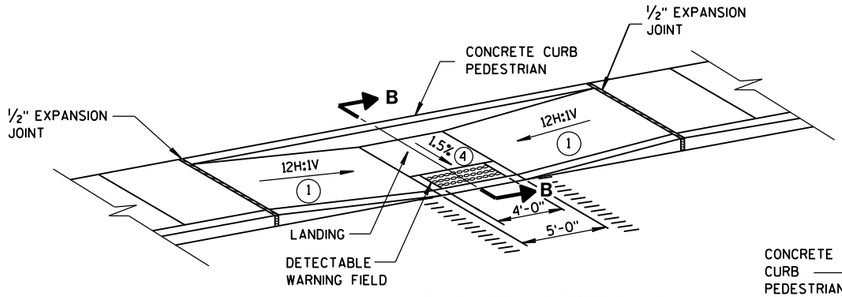
PLAN VIEW

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

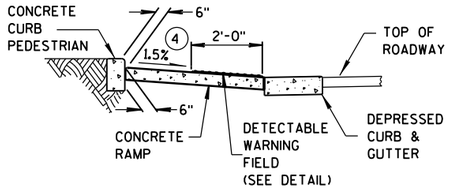
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

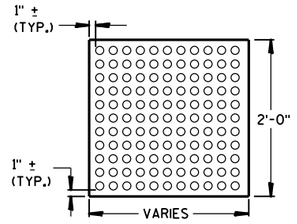


MID-BLOCK CROSSING
TYPE 7A



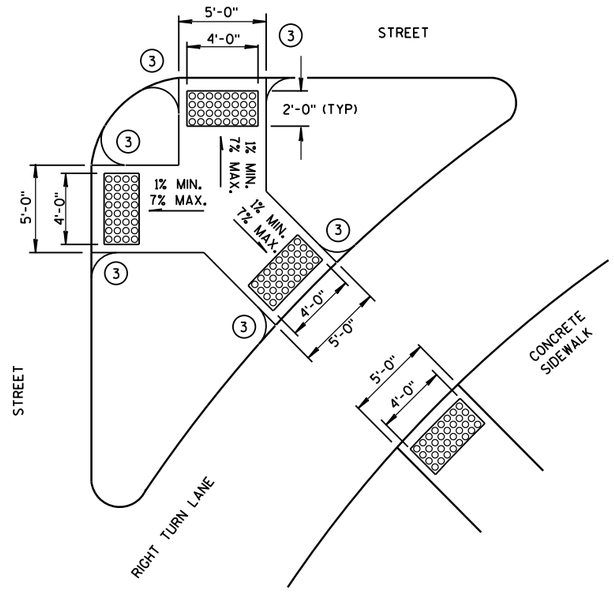
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

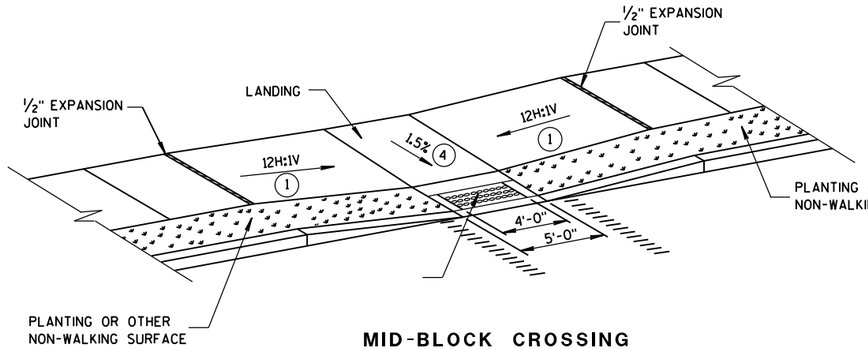


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

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

LEGEND

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

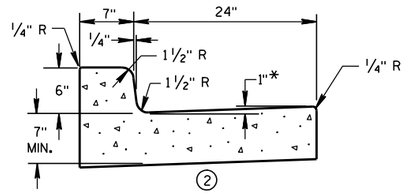
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

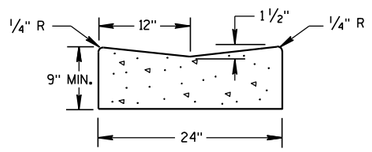
APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS [illegible] ENGINEER
FHWA

6

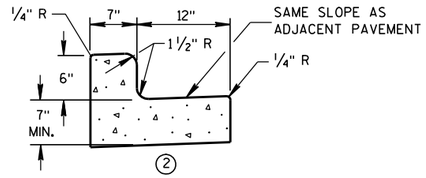
S.D.D. 8 D 5-15e



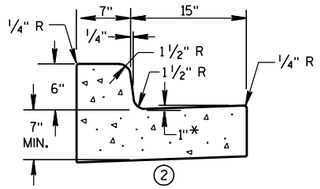
① CONCRETE CURB & GUTTER 31"



① CONCRETE GUTTER 24"

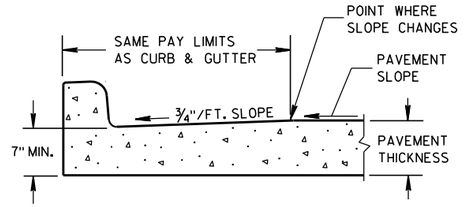


① CONCRETE CURB & GUTTER 19"



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.

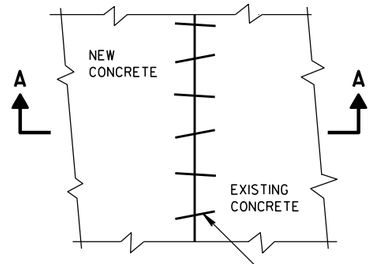
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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.

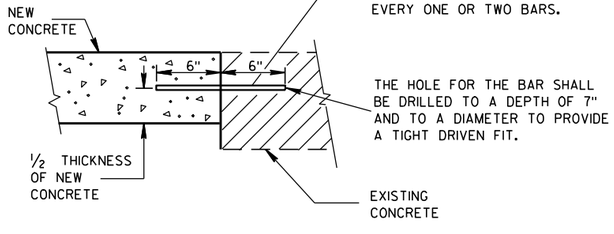
③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.



PLAN VIEW

EXISTING AND NEW CONCRETE MAY BE CURB & GUTTER, SURFACE DRAIN, PAVEMENT OR OTHER CONCRETE STRUCTURE.

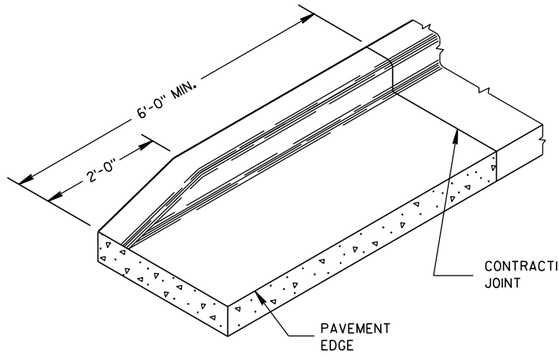
NO. 6 X 12" DEF. BARS SPACED 3'-0" C-C, INSTALLED ON 6:1 SKEW HORIZONTALLY. DIRECTION OF SKEW ALTERNATING AFTER EVERY ONE OR TWO BARS.



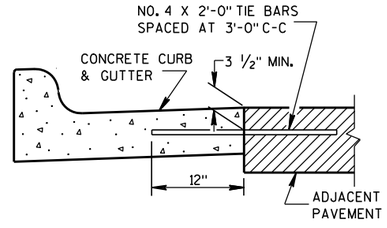
THE HOLE FOR THE BAR SHALL BE DRILLED TO A DEPTH OF 7" AND TO A DIAMETER TO PROVIDE A TIGHT DRIVEN FIT.

SECTION A-A

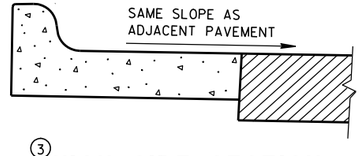
PAVEMENT TIES



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

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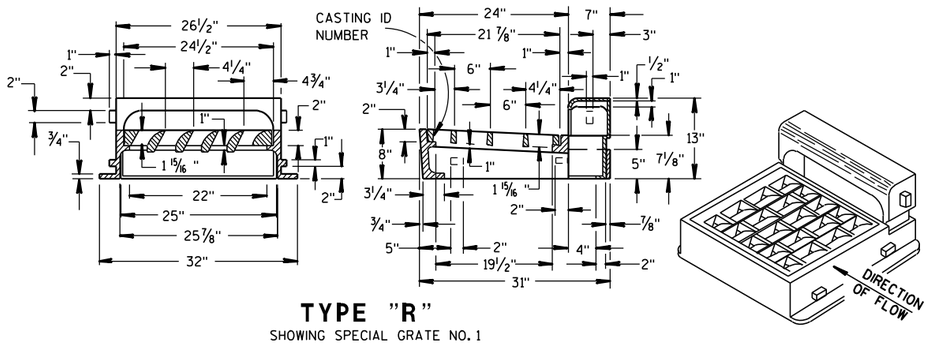
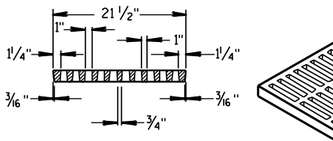
S.D.D. 8 D 16-10

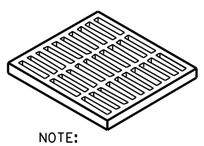
INLET COVERS



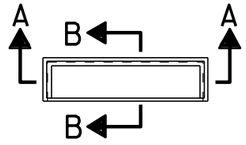
TYPE "R"

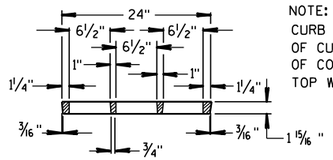
SHOWING SPECIAL GRATE NO. 1
(TO BE NOTED AS R-1 IN DRAINAGE TABLE)



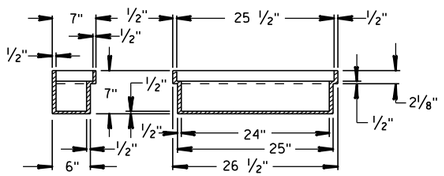


(APPROX. WEIGHT - 510 LBS.)
FRAME..... 245 LBS.
CURB..... 120 LBS.
GRATE..... 145 LBS.





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

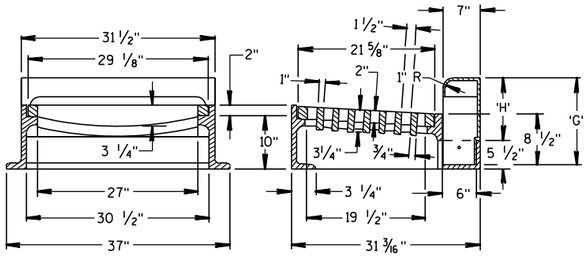
(GRATE..... 150 LBS.)
(TO BE USED UNLESS OTHERWISE NOTED IN DRAINAGE TABLE)

SECTION B-B SECTION A-A

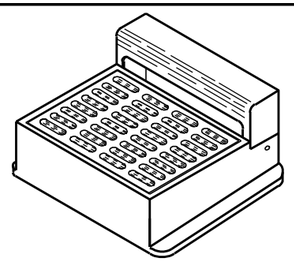
SPECIAL CURB PLUG "P"

(CURB PLUG..... 85 LBS.)
(TO BE NOTED AS R-P IN DRAINAGE TABLE)

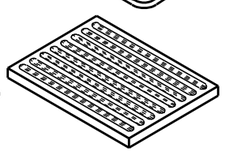
'H' = 9" FOR 6" CURB
'H' = 11" FOR 8" CURB
'G' = 13 3/4" FOR 6" CURB
'G' = 15 3/4" FOR 8" CURB



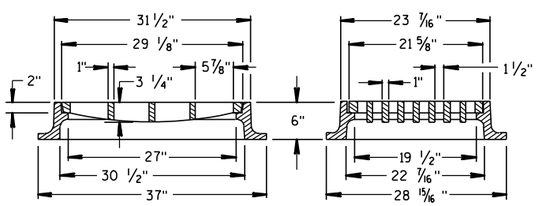
TYPE "W"



(APPROX. WEIGHT - 670 LBS.)
FRAME..... 350 LBS.
CURB BOX..... 135 LBS.
GRATE..... 185 LBS.



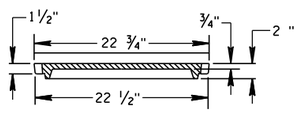
ALTERNATE GRATE
(FOR EXPRESSWAY RAMPS)
TYPES "W" & "X"



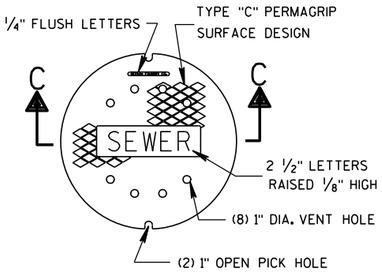
TYPE "X"

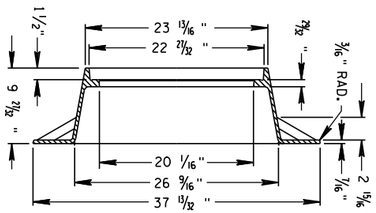
(APPROX. WEIGHT - 470 LBS.)

MANHOLE COVER



SECTION C-C





TYPE "Q"

(APPROX. WEIGHT - 290 LBS.)

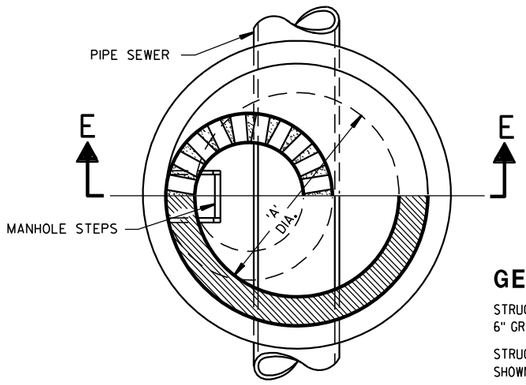
TABLE OF DIMENSIONS

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.

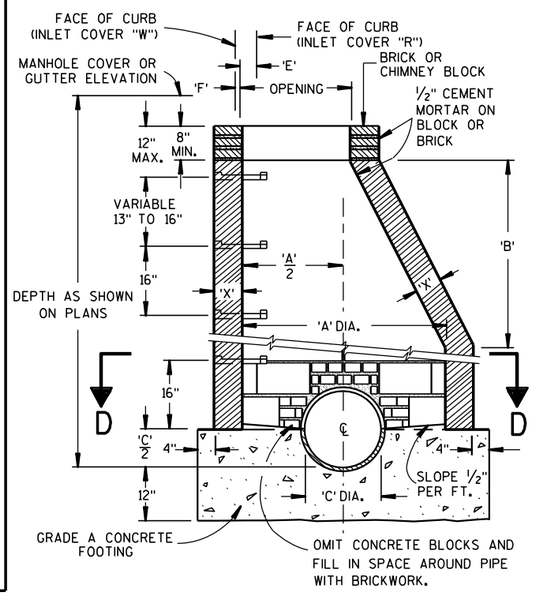
MANHOLE



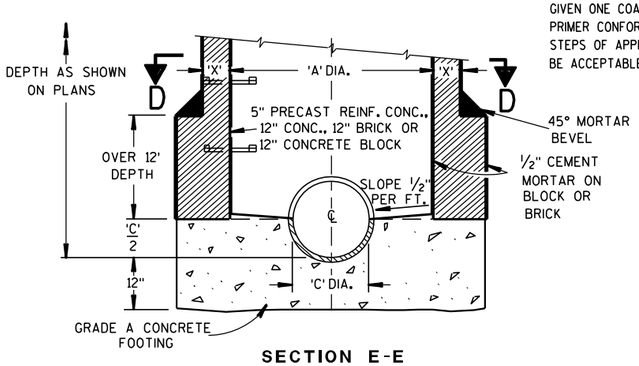
HALF SECTION D-D

TABLE OF OPENING DIMENSIONS

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"	—



SECTION E-E



SECTION E-E

TYPES 11, 12, 13 & 14

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.

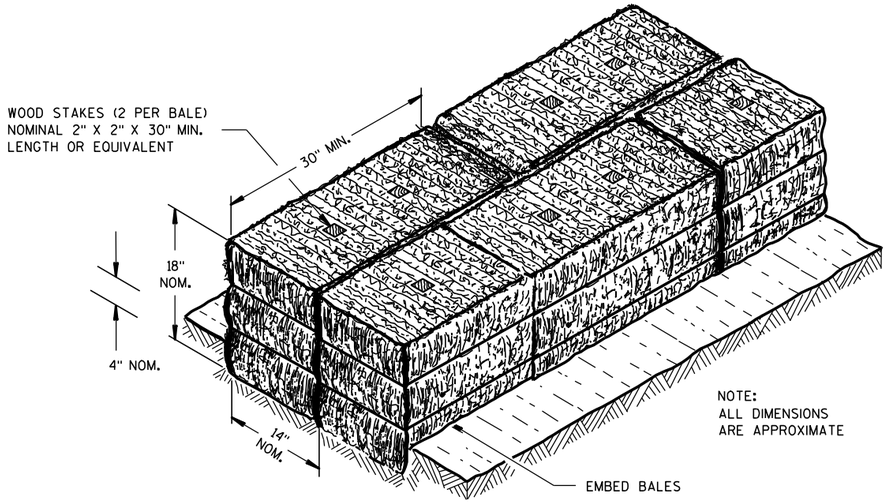
SOLID ALUMINUM STEPS SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 0.75 INCH. ALUMINUM SURFACES TO BE EMBEDDED IN CONCRETE SHALL BE GIVEN ONE COAT OF SUITABLE QUALITY PAINT, SUCH AS ZINC CHROMATE PRIMER CONFORMING TO FEDERAL SPECIFICATION TT-P-645 OR EQUIVALENT. STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCING BAR WILL BE ACCEPTABLE.

MANHOLES, MANHOLE & INLET COVERS

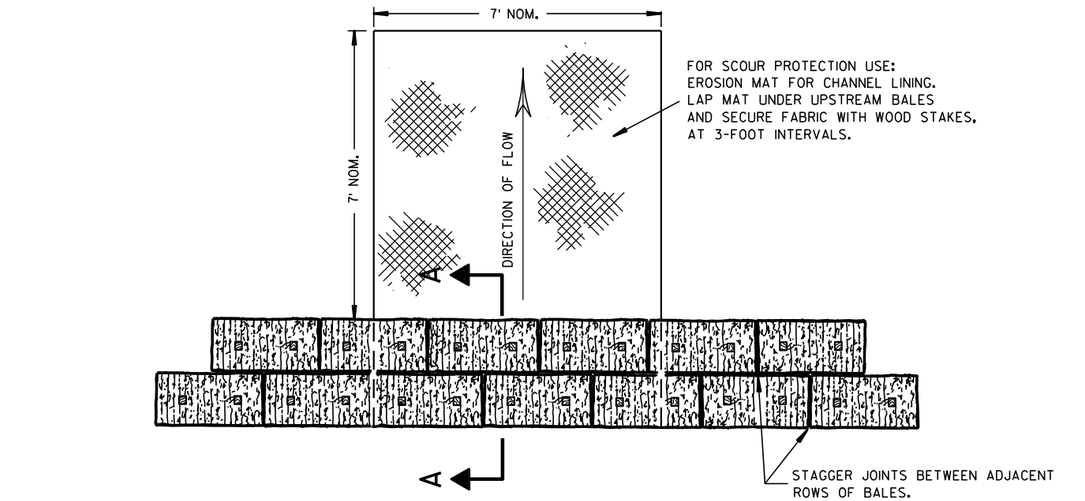
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/12/2011 DATE
/S/ Jerry H. Zogg
ROADSIDE STANDARDS ENGINEER
294
FHWA

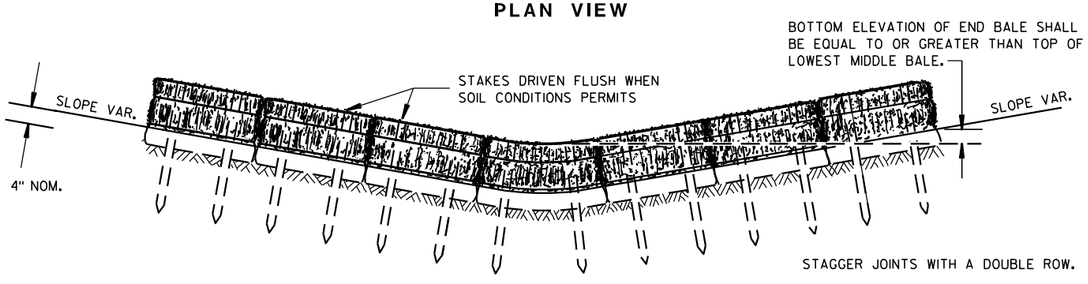
6
S.D.D. 8 D 17-6



SECTION A-A



PLAN VIEW



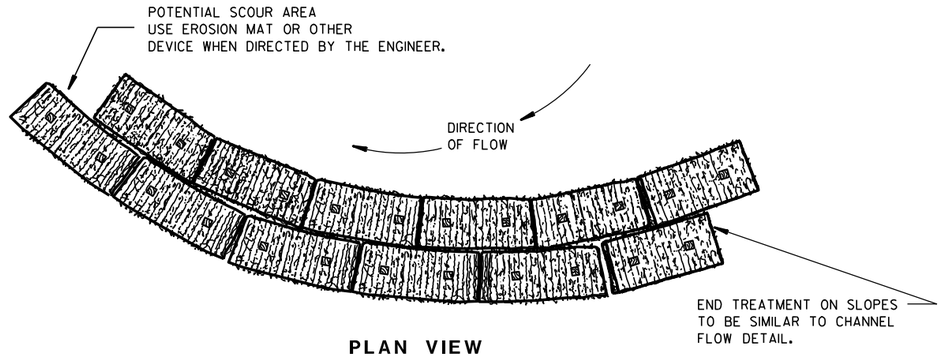
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

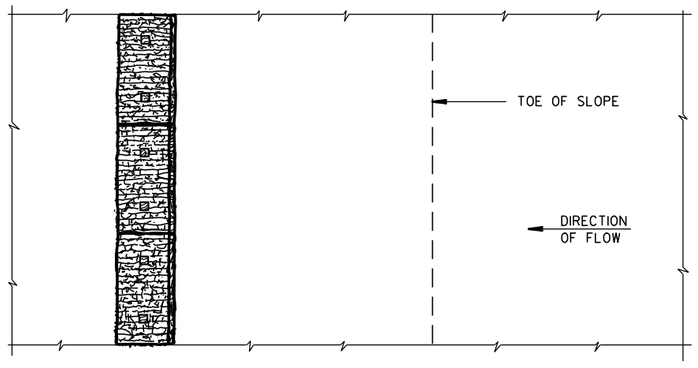
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

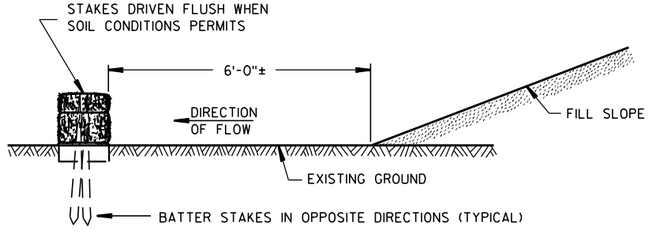


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

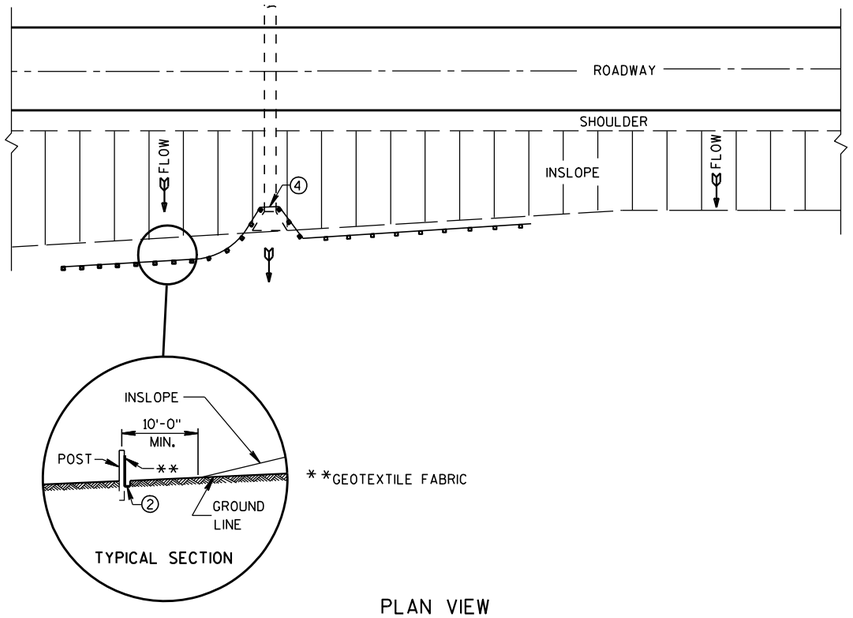
EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

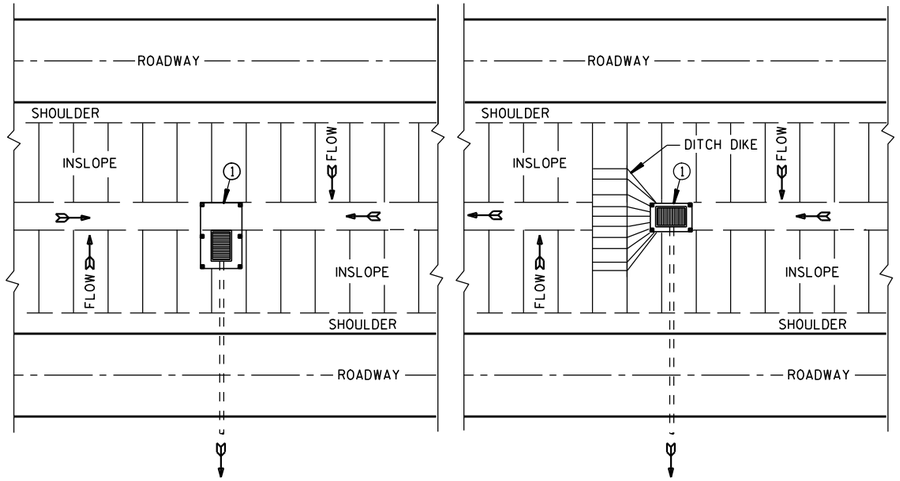
APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



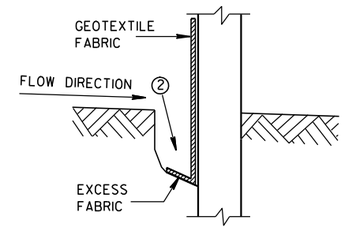
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

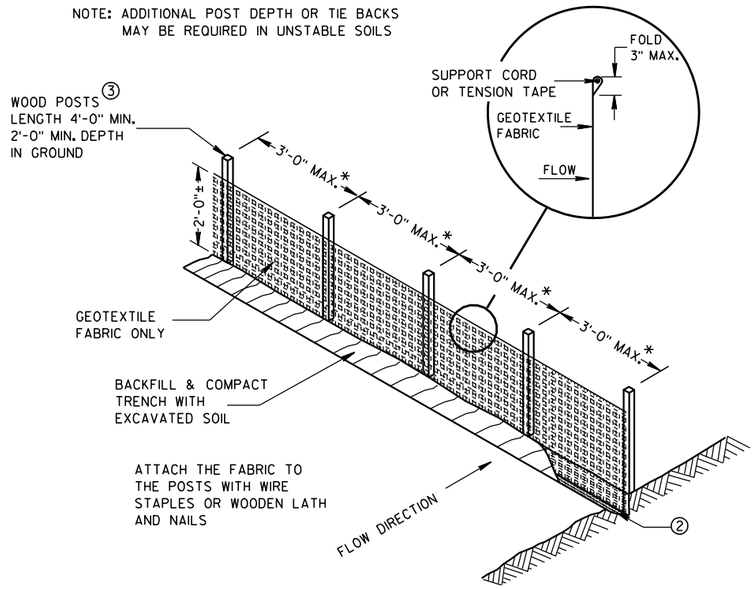
GENERAL NOTES

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.

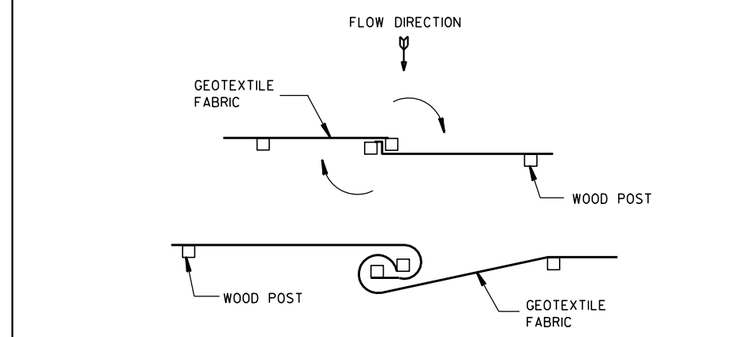


TRENCH DETAIL

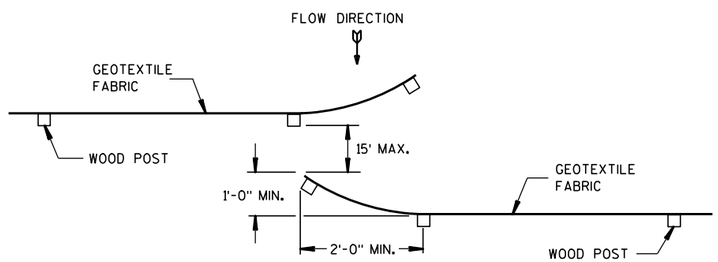


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

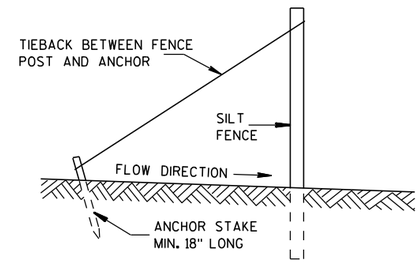


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

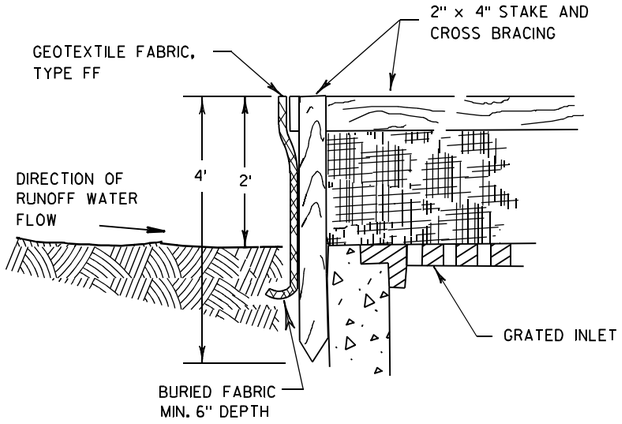
SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

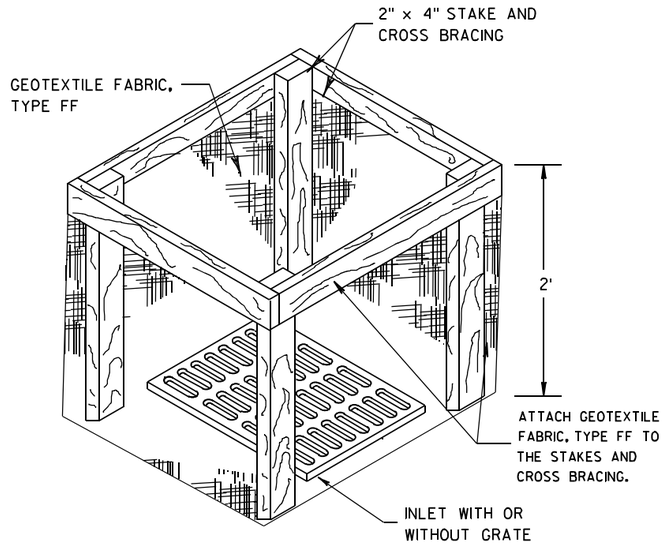
6

S.D.D. 8 E 9-6

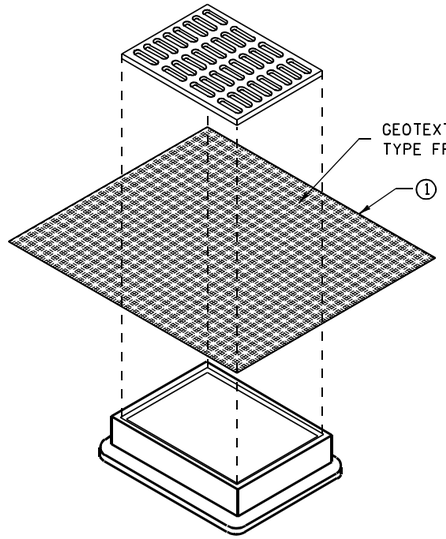
6

S.D.D. 8 E 9-6



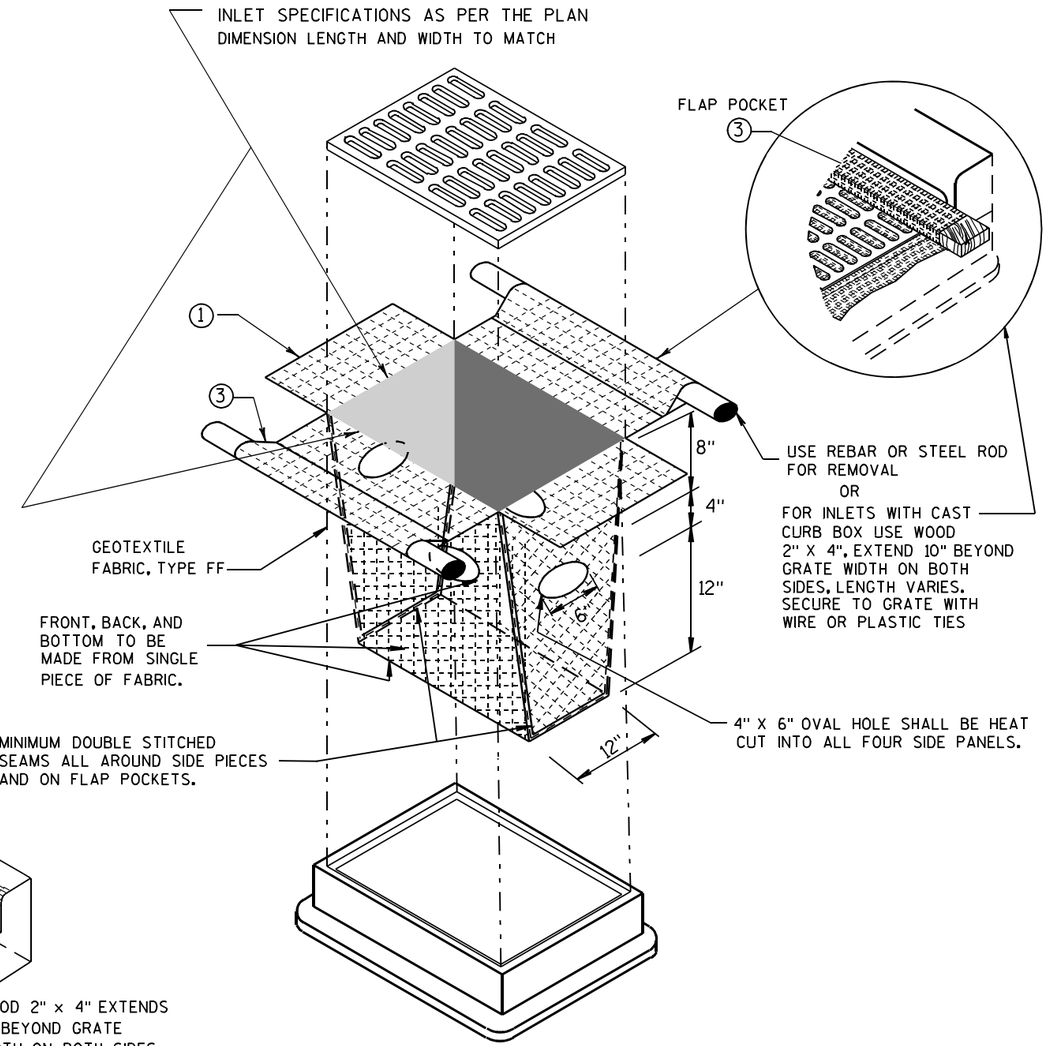


INLET PROTECTION, TYPE A



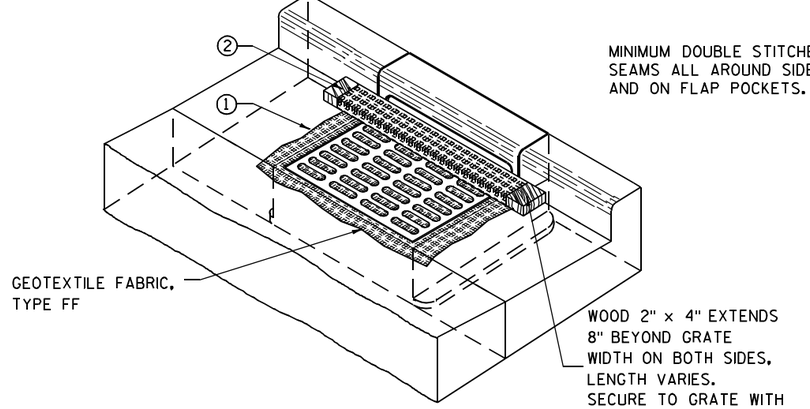
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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

METAL APRON ENDWALLS

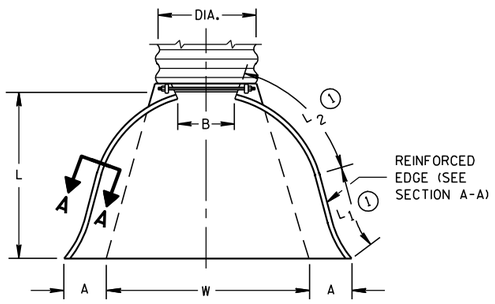
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

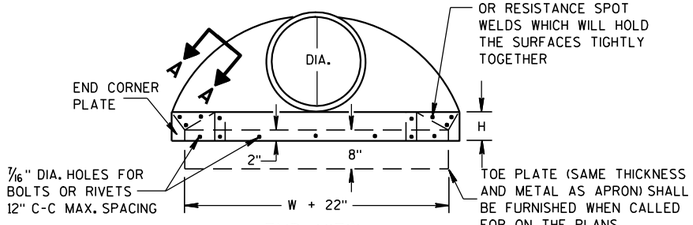
REINFORCED CONCRETE APRON ENDWALLS

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

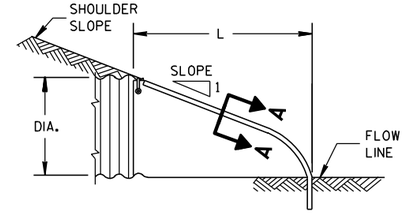
*MINIMUM
**MAXIMUM



PLAN VIEW

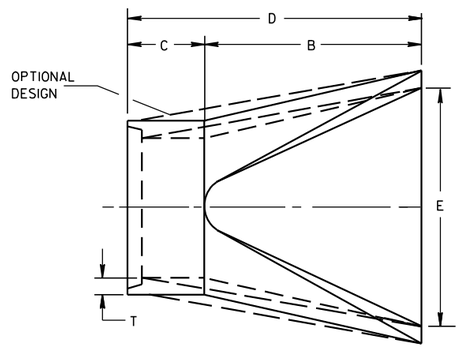


END VIEW

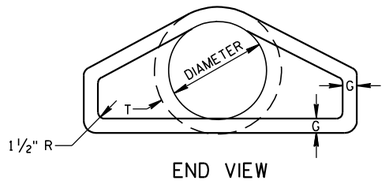


SIDE ELEVATION

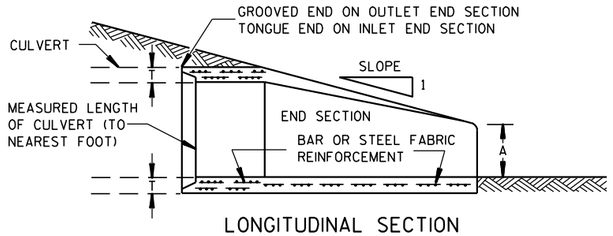
METAL ENDWALLS



PLAN

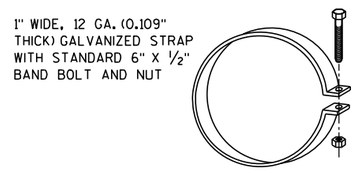


END VIEW



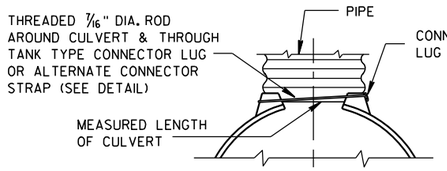
LONGITUDINAL SECTION

CONCRETE ENDWALLS

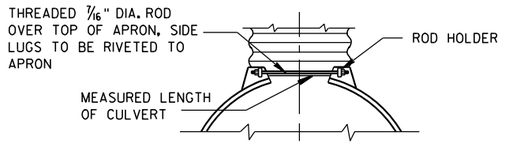


ALTERNATE FOR TYPE 1 CONNECTION

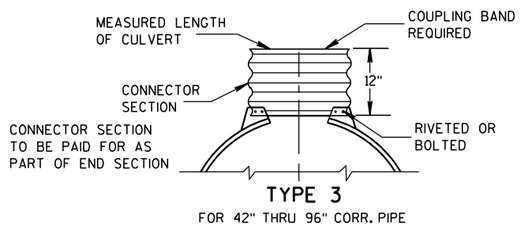
END SECTION CONNECTOR STRAP



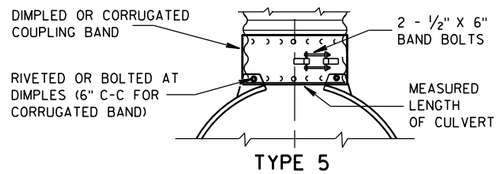
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

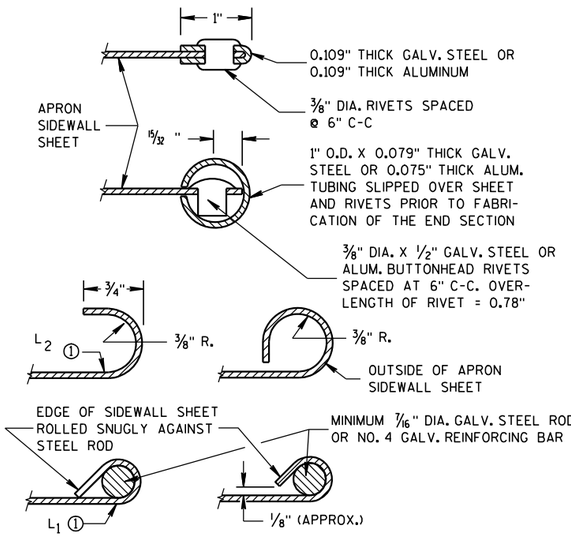
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

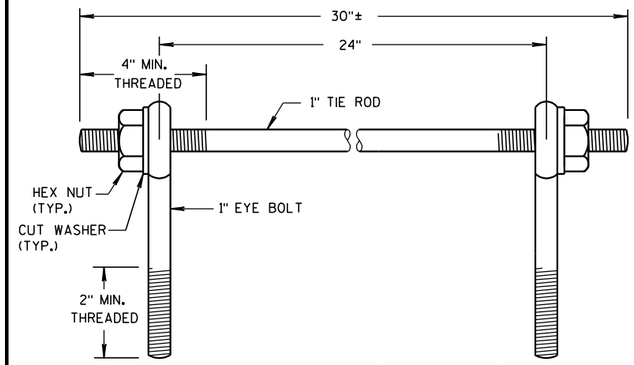
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

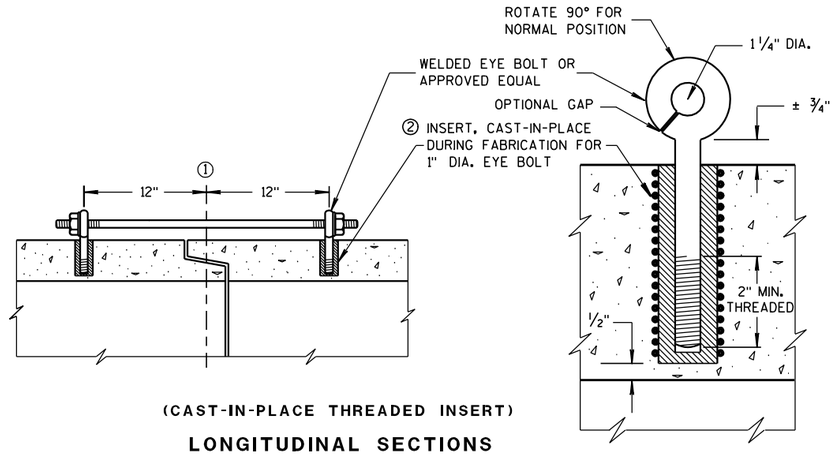
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

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

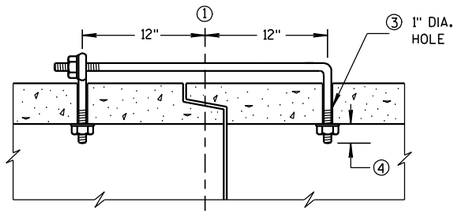
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

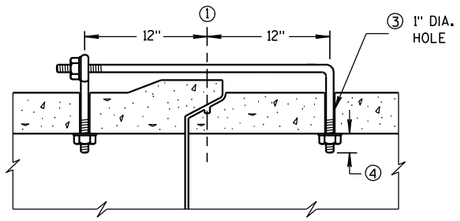
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

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



(TONGUE & GROOVE PIPE)

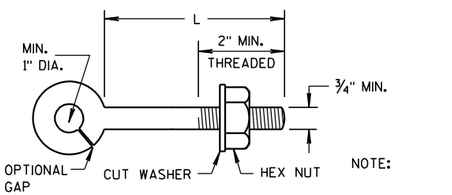


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

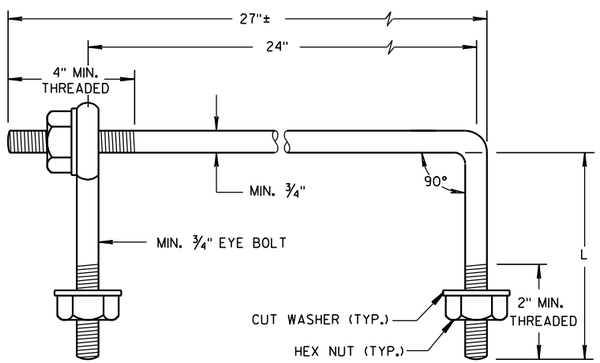
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

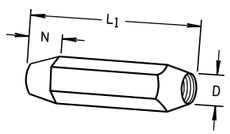
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

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

DIMENSIONS SHOWN ARE IN INCHES



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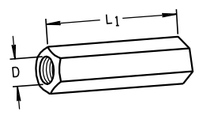
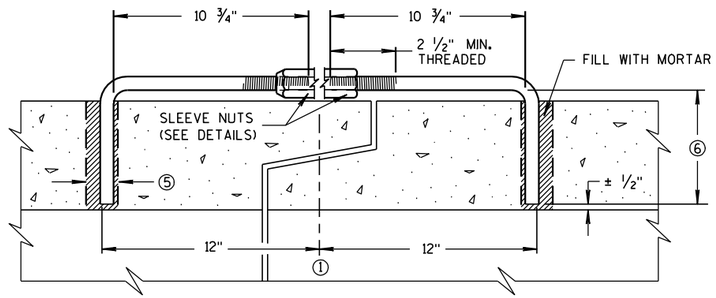


PLAIN

RIGHT AND LEFT THREADS

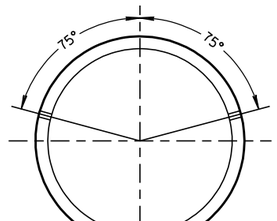
SLEEVE NUTS



LONGITUDINAL SECTION

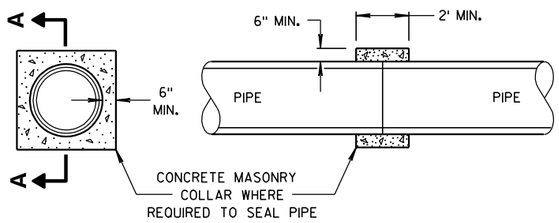
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
299
FHWA

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S.D.D. 8 F 4-7

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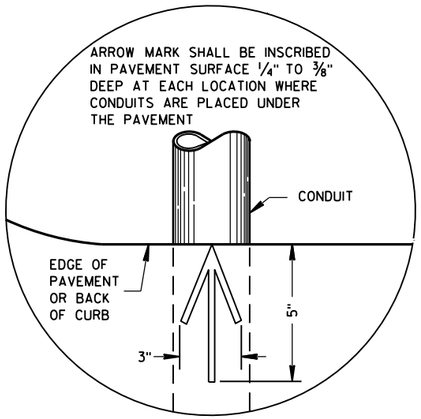
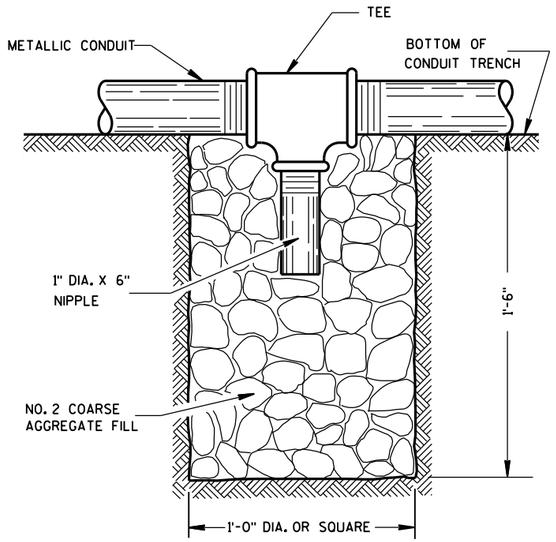
S.D.D. 8 F 4-7



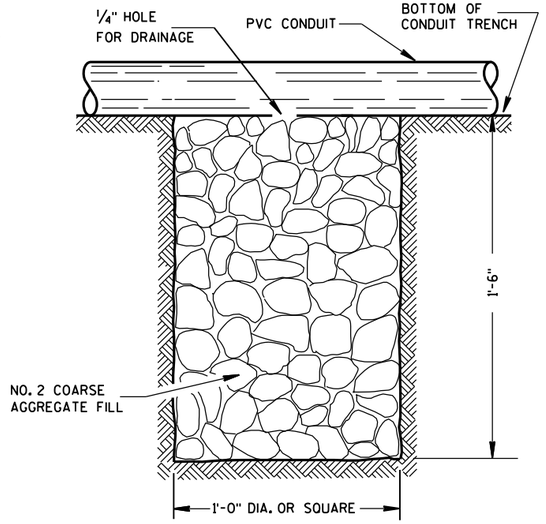
PLAN VIEW

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.

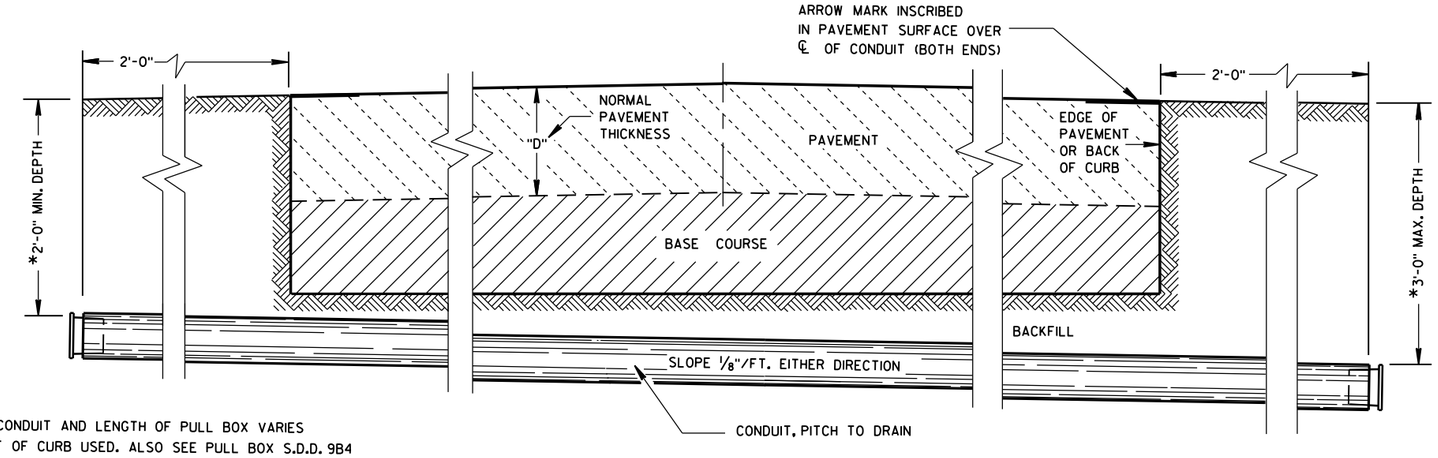
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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.).

POLY ROPE OR A PULL 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

Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA

6

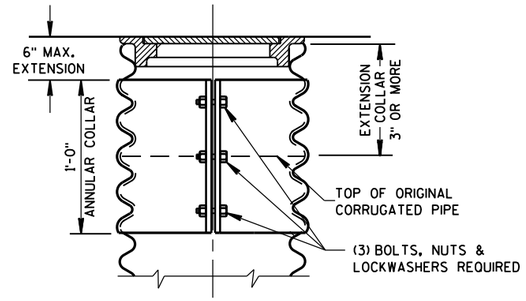
S.D.D. 9 B 2-8

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

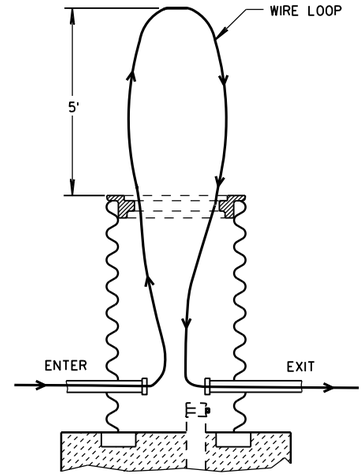
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	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.

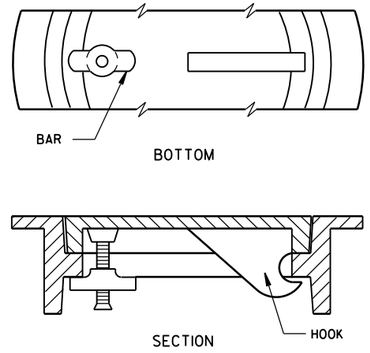
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

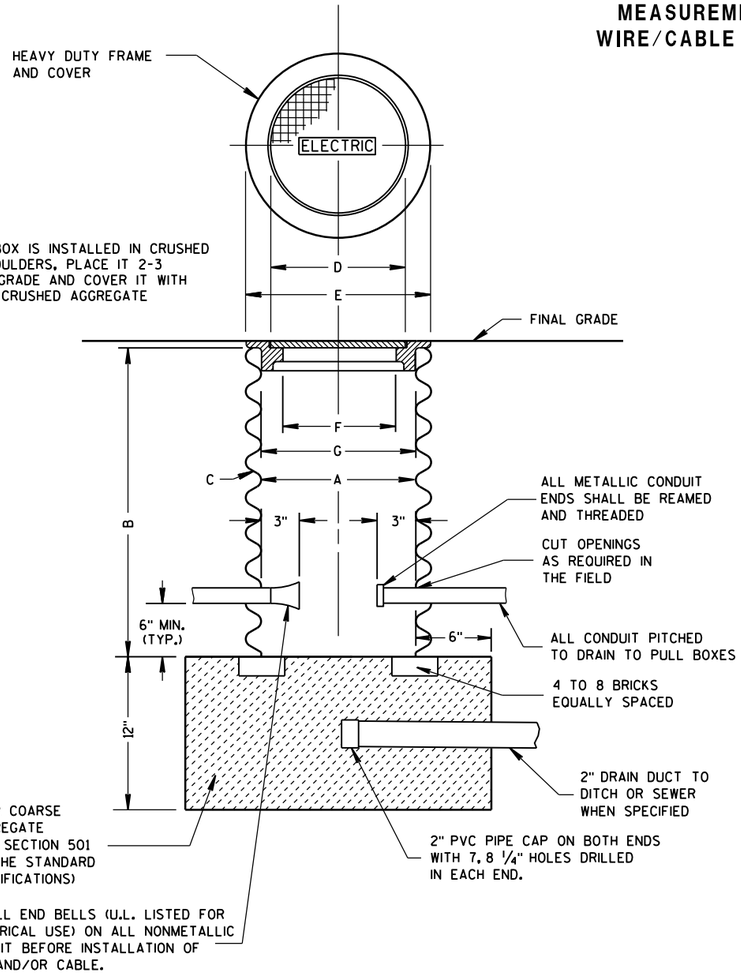


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



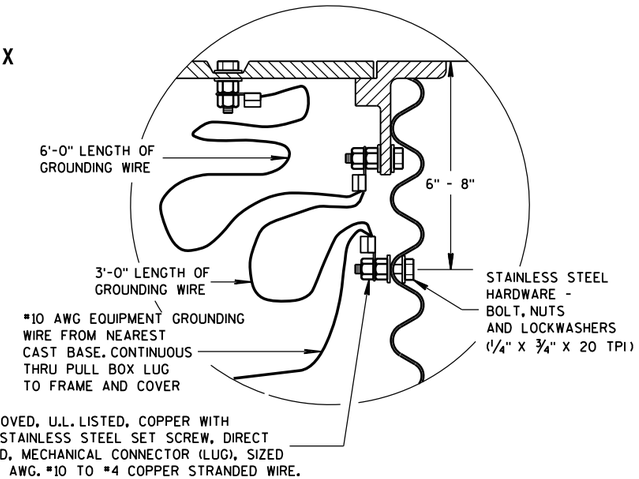
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

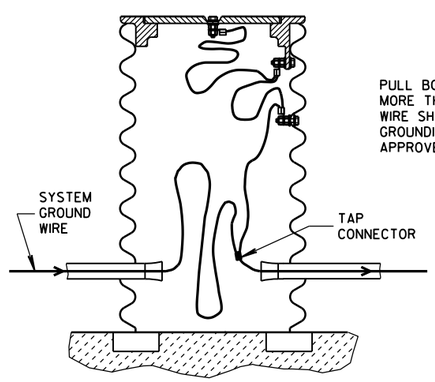


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



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

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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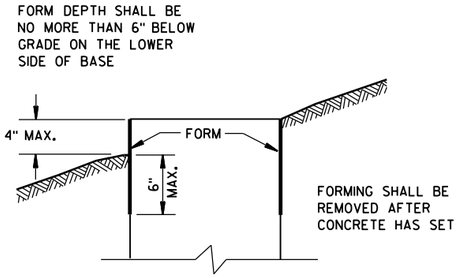
S.D.D. 9 B 4-11



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.

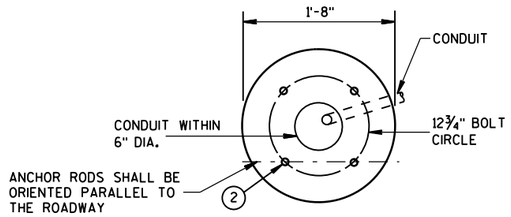
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

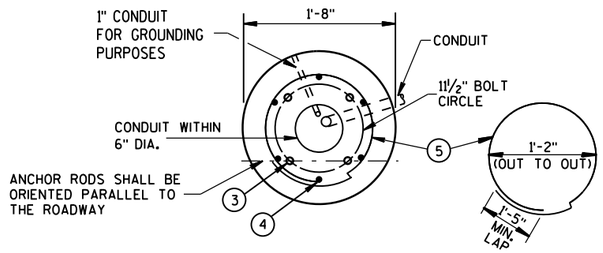
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

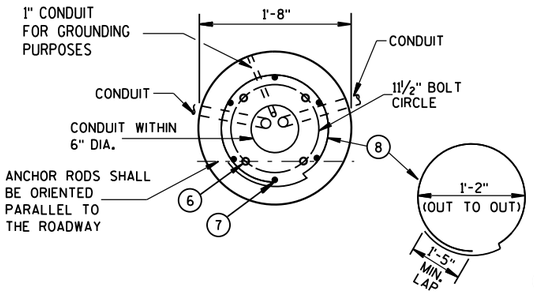
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

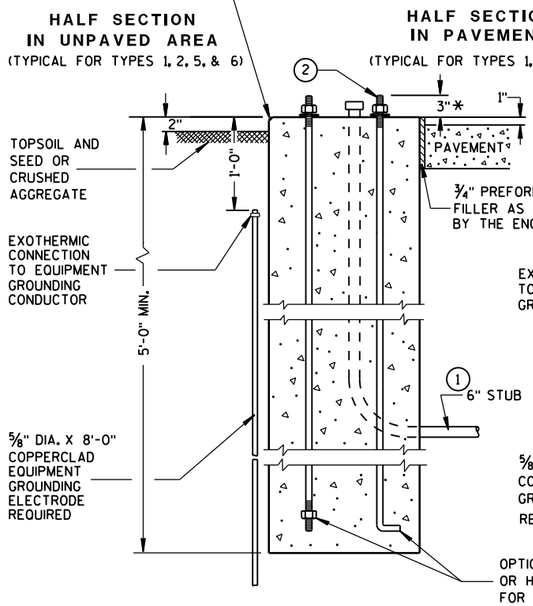
(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

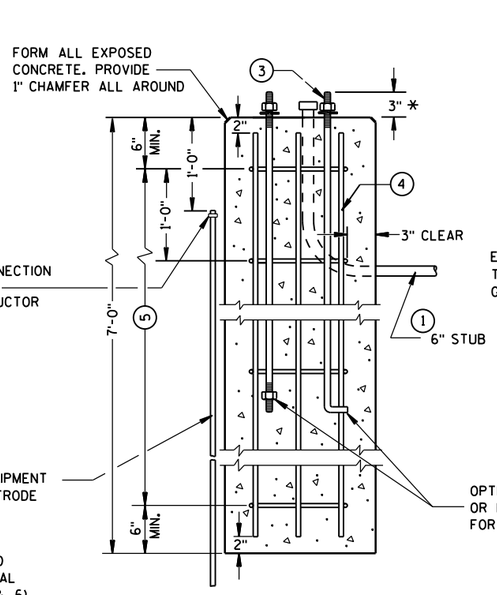
(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



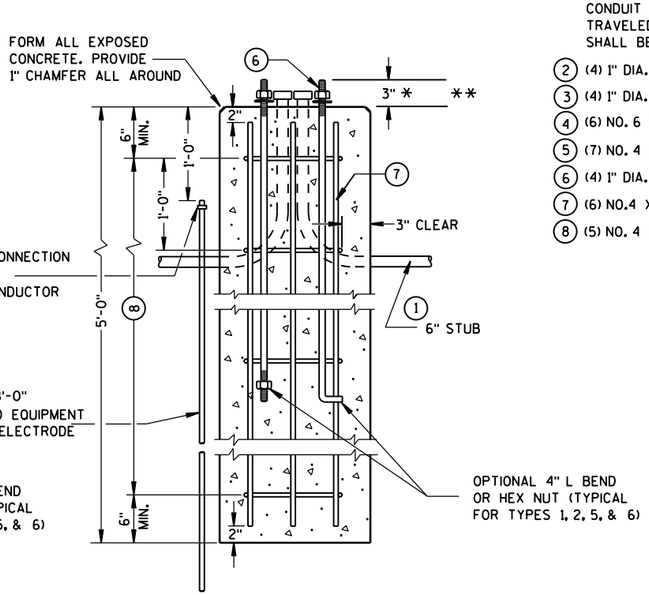








TYPE 2



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

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

6

S.D.D. 9 C 2-7

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.

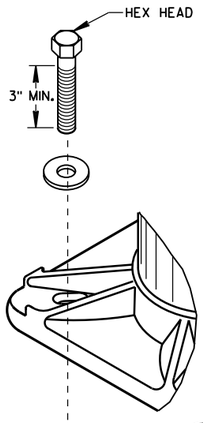
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

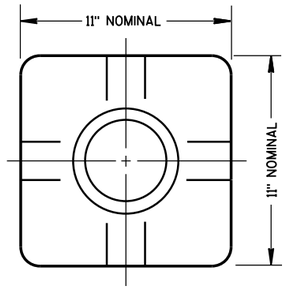
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

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

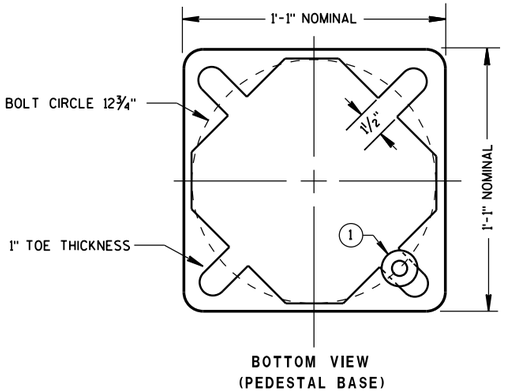
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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

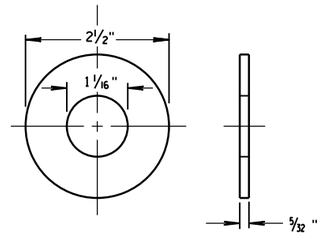




TOP VIEW
(PEDESTAL BASE)

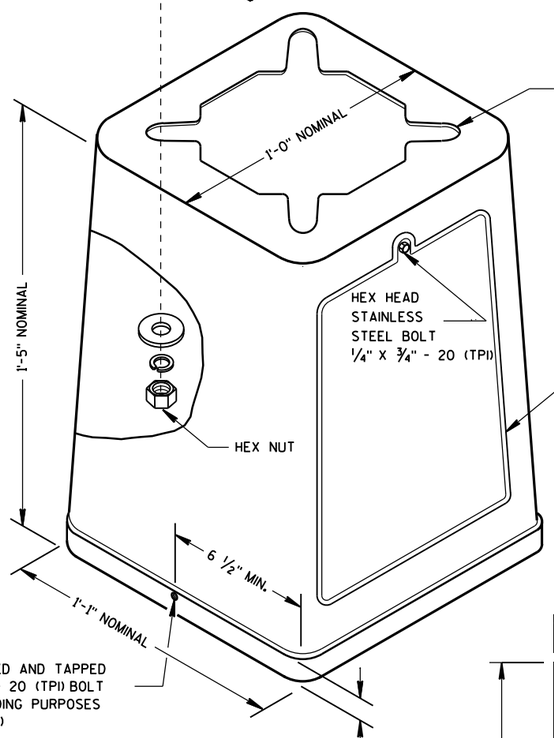


BOTTOM VIEW
(PEDESTAL BASE)

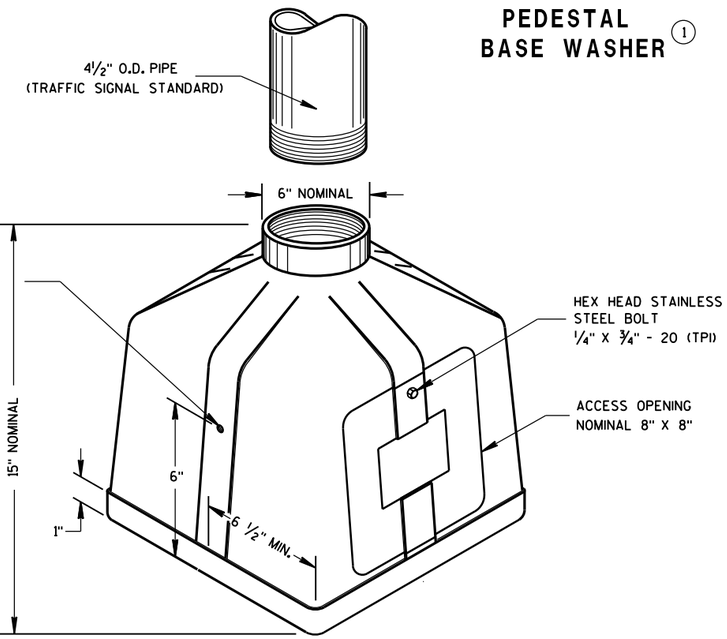


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

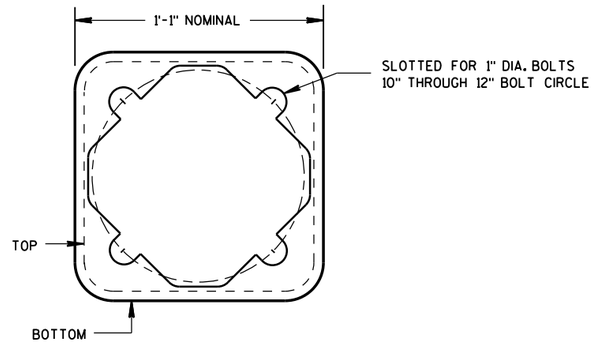


ISOMETRIC VIEW

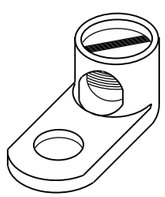


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

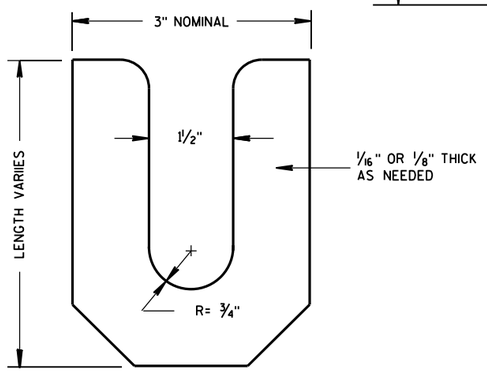


TYPICAL MECHANICAL CONNECTOR LUG

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
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 9 C 3-4

6

S.D.D. 9 C 3-4

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.

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).

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

ANCHOR RODS SHALL BE 1" X 60".

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.

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.

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

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

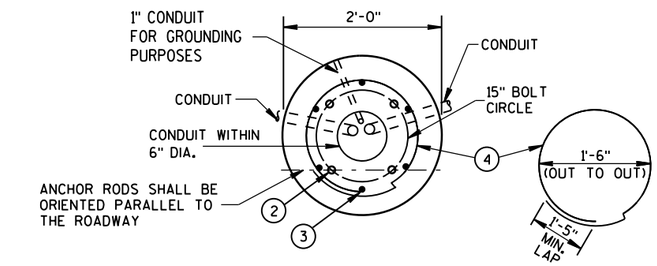
BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

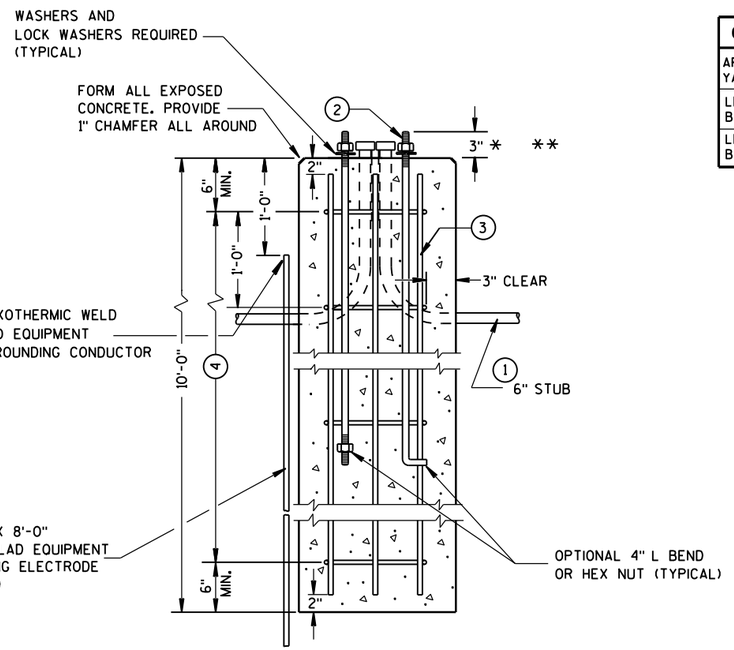
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN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

(2) (4) 1" DIA. X 5'-0" ANCHOR RODS

(3) (6) NO. 6 X 9'-8" BAR STEEL REINFORCEMENT.

(4) (10) NO. 4 X 6'-2" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



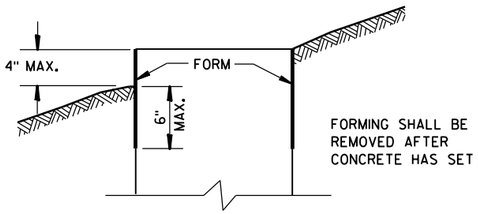


CONCRETE BASE, TYPE 8 (FOR 50' LIGHT POLES)

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

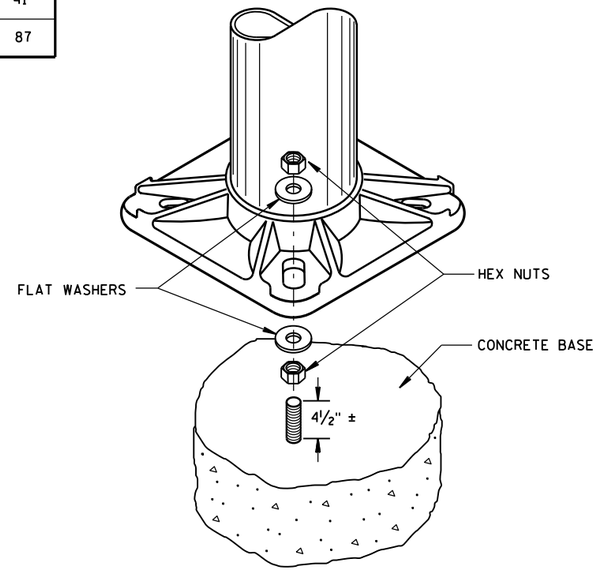
** FOR NONBREAKAWY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

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



FORMING DETAIL

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	1.2
LBS. OF HOOP BAR STEEL	41
LBS. OF VERTICAL BAR STEEL	87



NON-BREAKAWAY INSTALLATION (LEVELING NUT)

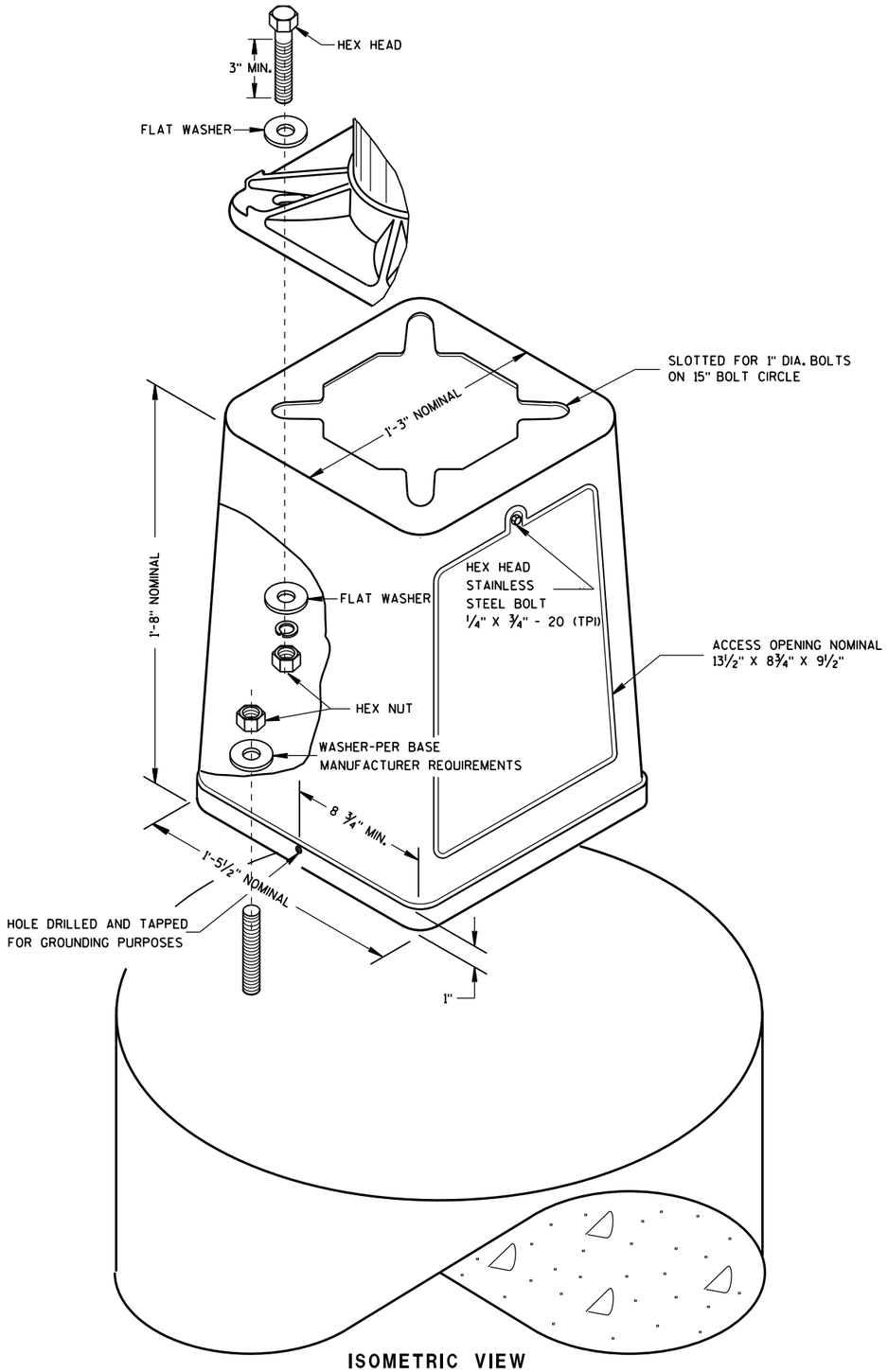
CONCRETE BASE, TYPE 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

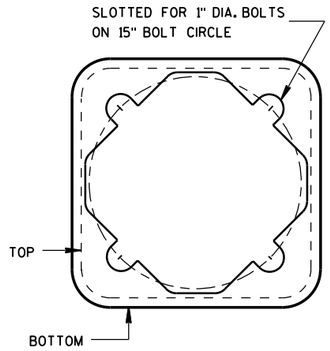
6

SDD 9 C 9-5



ISOMETRIC VIEW

TRANSFORMER BASE



BOTTOM VIEW

GENERAL NOTES

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

BREAKAWAY BASES (WHERE REQUIRED) WILL BE MEASURED AND PAID AS SEPARATE ITEMS OF WORK IN ADDITION TO THE LIGHT POLE.

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 DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIMS SHALL BE SIZED TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

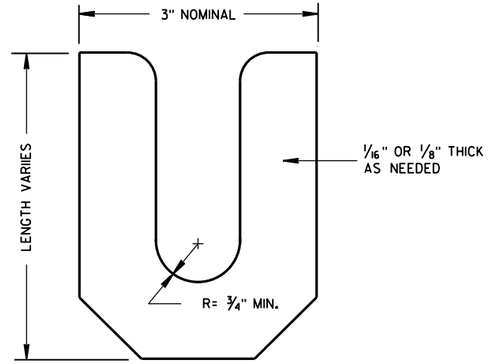
A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE TRANSFORMER BASE.

THE MECHANICAL CONNECTOR (GROUNDING LUG) SHALL BE INSTALLED USING THE TAPPED HOLE PROVIDED BY THE MANUFACTURER. THE MOUNTING BOLT HEXHEAD), NUT, WASHER AND LOCK WASHER SHALL BE STAINLESS STEEL, SIZED TO FIT THE THREADING AND HOLE SIZE, AND BE OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

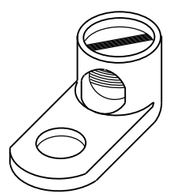
SHOULD A GROUNDING LUG MOUNTING HOLE NOT BE PROVIDED, THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" X 3/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE. IT SHALL BE MOUNTED IN THE SAME LOCATION AS IS SHOWN ON THE DRAWING.

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

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



LEVELING SHIM



TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE FOR 15" BOLT CIRCLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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 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 4 INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL END INSTALLED. ALL CONDUIT SHALL BE SLOPED TO PULL BOX.

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. CONDUIT IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

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

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).

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

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

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

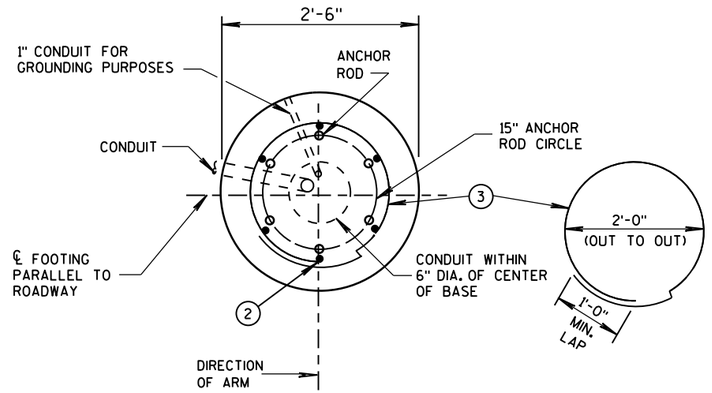
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

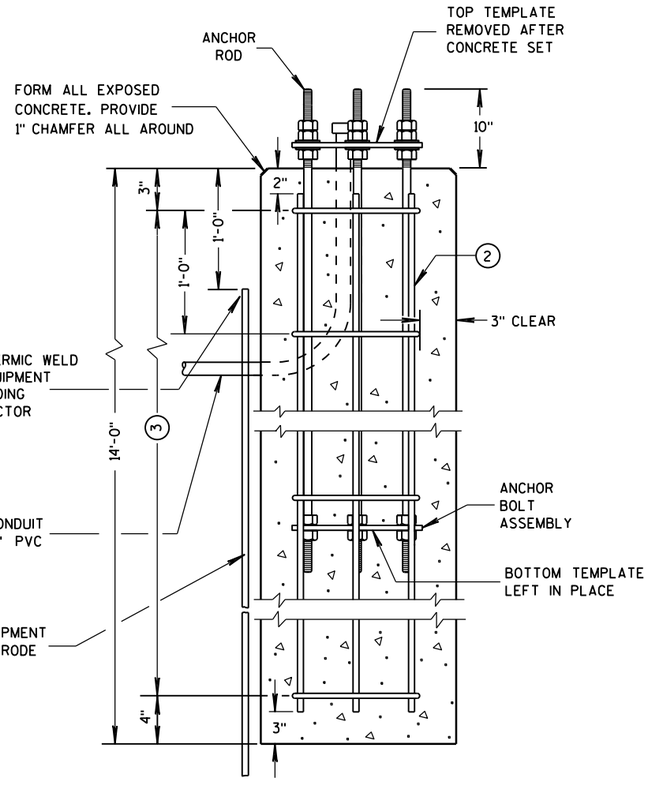
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES, (GREATER THAN 36 INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (6) NO. 6 X 13'-7" BAR STEEL REINFORCEMENT.

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

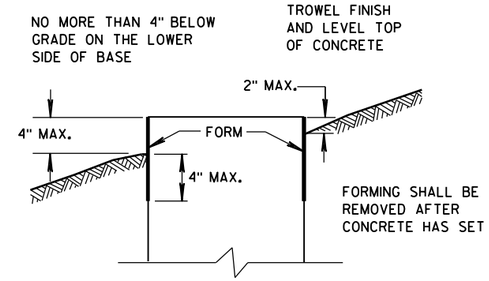
CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM, A709 GRADE 36	fy=36,000 p.s.i.



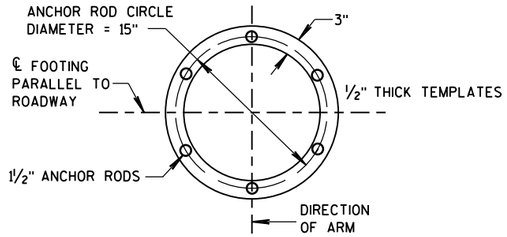


CONCRETE BASE TYPE 10
(FOR TYPE 9 & 10 POLES)

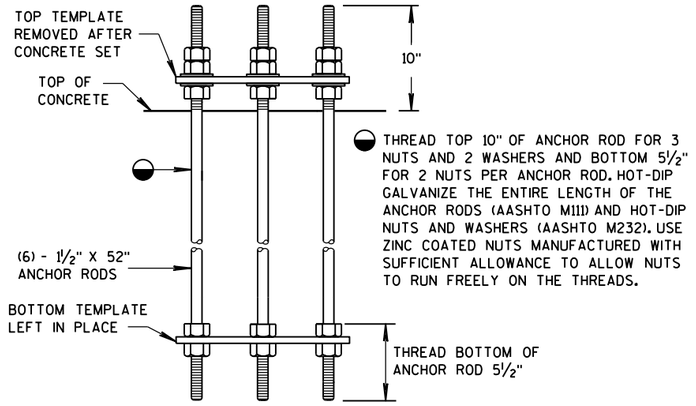
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.



FORMING DETAIL



TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 10 ANCHOR ASSEMBLY

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	2.5
LBS. OF HOOP BAR STEEL	69
LBS. OF VERTICAL BAR STEEL	122

CONCRETE BASE TYPE 10

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Feb. 2015 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

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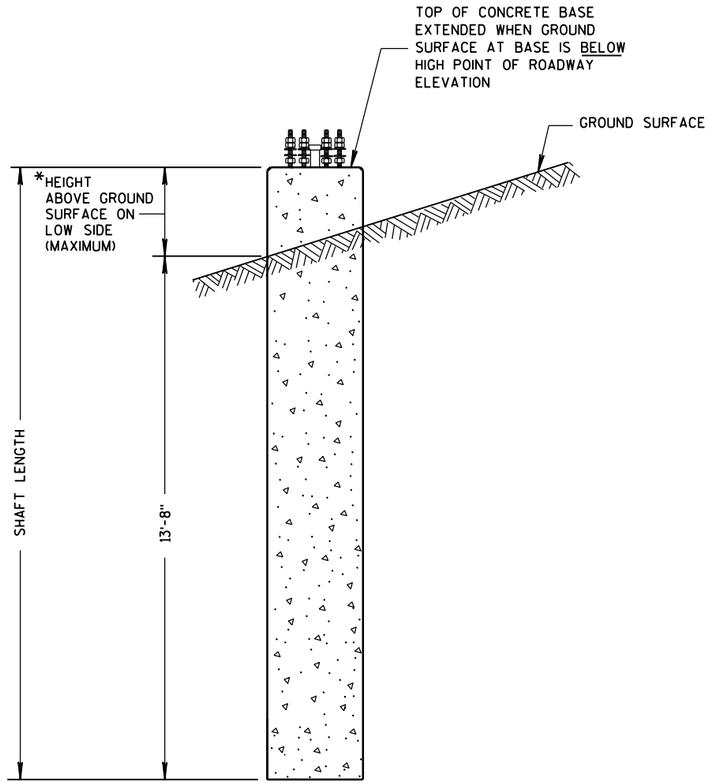
6

S.D.D. 9 C 11-6

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 10 CONCRETE BASE

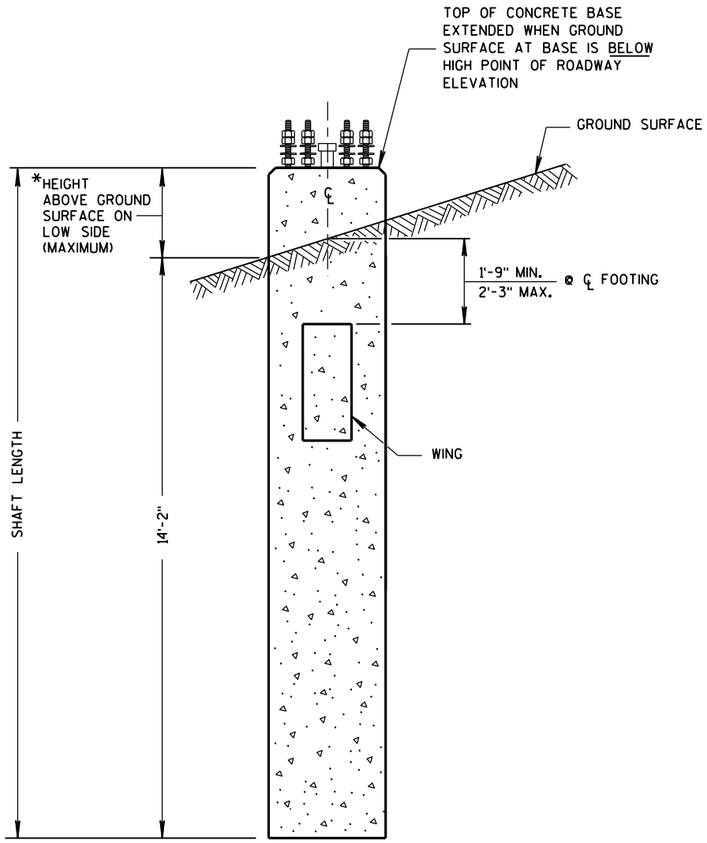
HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF HOOP BAR STEEL	LBS. OF VERTICAL BAR STEEL
>0" TO 6"	10"	14'-6"	14'-1"	16	2.6	78	127
>6" TO 1'-0"	1'-4"	15'-0"	14'-7"	16	2.7	78	131
>1'-0" TO 1'-6"	1'-10"	15'-6"	15'-1"	17	2.8	83	136
>1'-6" TO 2'-0"	2'-4"	16'-0"	15'-7"	17	2.9	83	141



CONCRETE BASE TYPE 10 (EXTENDED)

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 13 CONCRETE BASE

HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF H.S. BAR STEEL
>0" TO 6"	10"	15'-0"	14'-7"	16	6.5	447
>6" TO 1'-0"	1'-4"	15'-6"	15'-1"	16	6.6	454
>1'-0" TO 1'-6"	1'-10"	16'-0"	15'-7"	17	6.8	469
>1'-6" TO 2'-0"	2'-4"	16'-6"	16'-1"	17	7.0	476



CONCRETE BASE TYPE 13 (EXTENDED)

CONCRETE BASE
TYPE 10 & TYPE 13 EXTENSION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-26-2013
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
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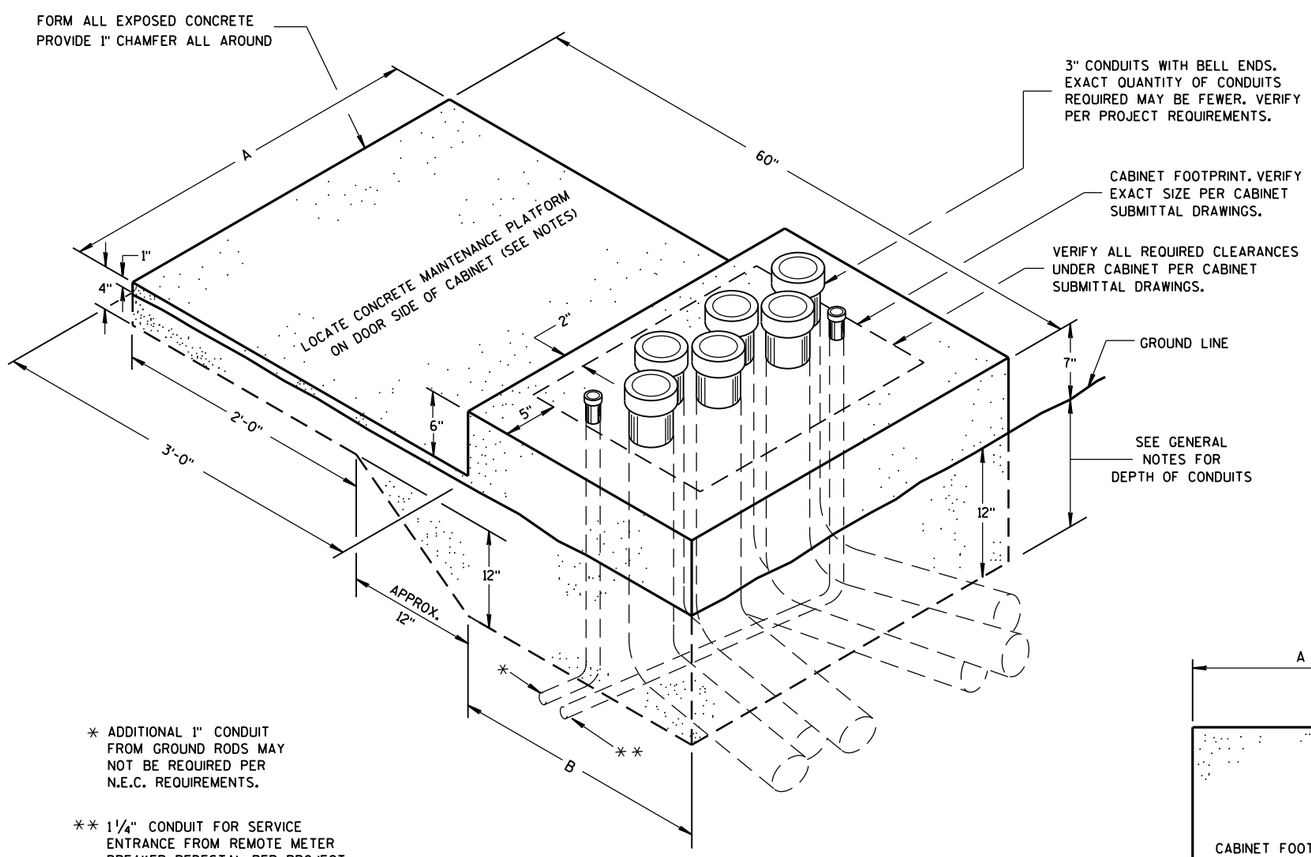
S.D.D. 9 C 13-2



* ADDITIONAL 1" CONDUIT FROM GROUND RODS MAY NOT BE REQUIRED PER N.E.C. REQUIREMENTS.

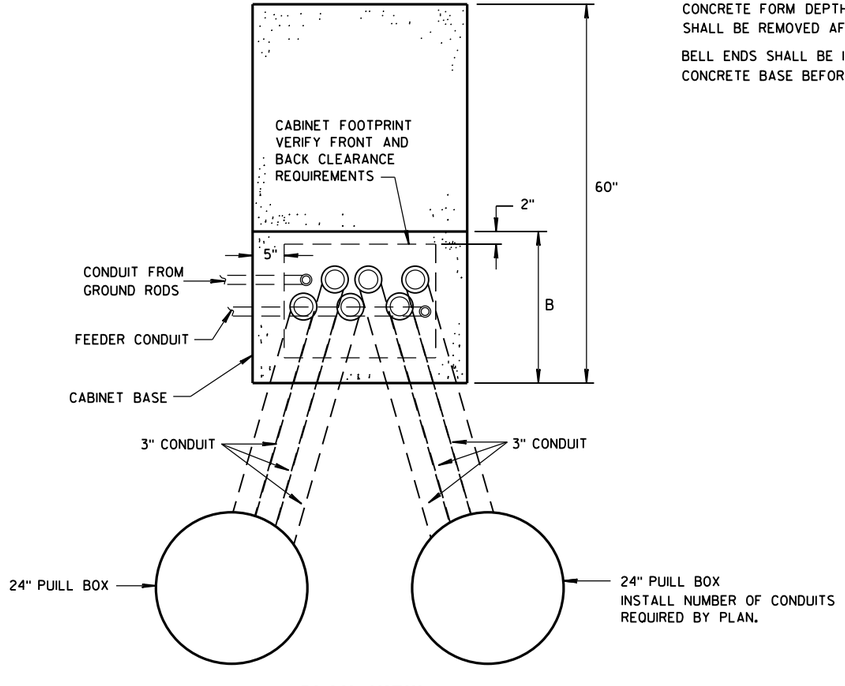
** 1¼" CONDUIT FOR SERVICE ENTRANCE FROM REMOTE METER BREAKER PEDESTAL PER PROJECT REQUIREMENTS. VERIFY LOCATION OF CONDUIT DEPENDENT UPON LOCATION OF INCOMING FEEDER AND FOR EASE OF CONNECTION TO LOAD CENTER.

ISOMETRIC VIEW

CONCRETE CONTROL CABINET BASE, TYPE L

(C.Y. CONCRETE = APPROX. 0.4)

CONCRETE BASE TYPE	CABINET WIDTH	DIMENSIONS		MAXIMUM 3" CONDUITS
		A	B	
L24	24"	34"	24"	4
L30	30"	40"	24"	6



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE L

GENERAL NOTES

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

INSTALL FOUR STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET BASES. THE ANCHORS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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

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

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

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

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

CONDUIT EXITING THE CONCRETE BASE SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

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

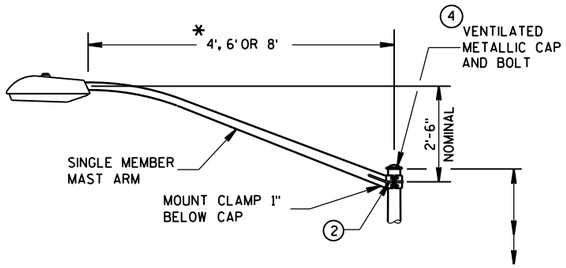
CONCRETE CONTROL CABINET BASE, TYPE L

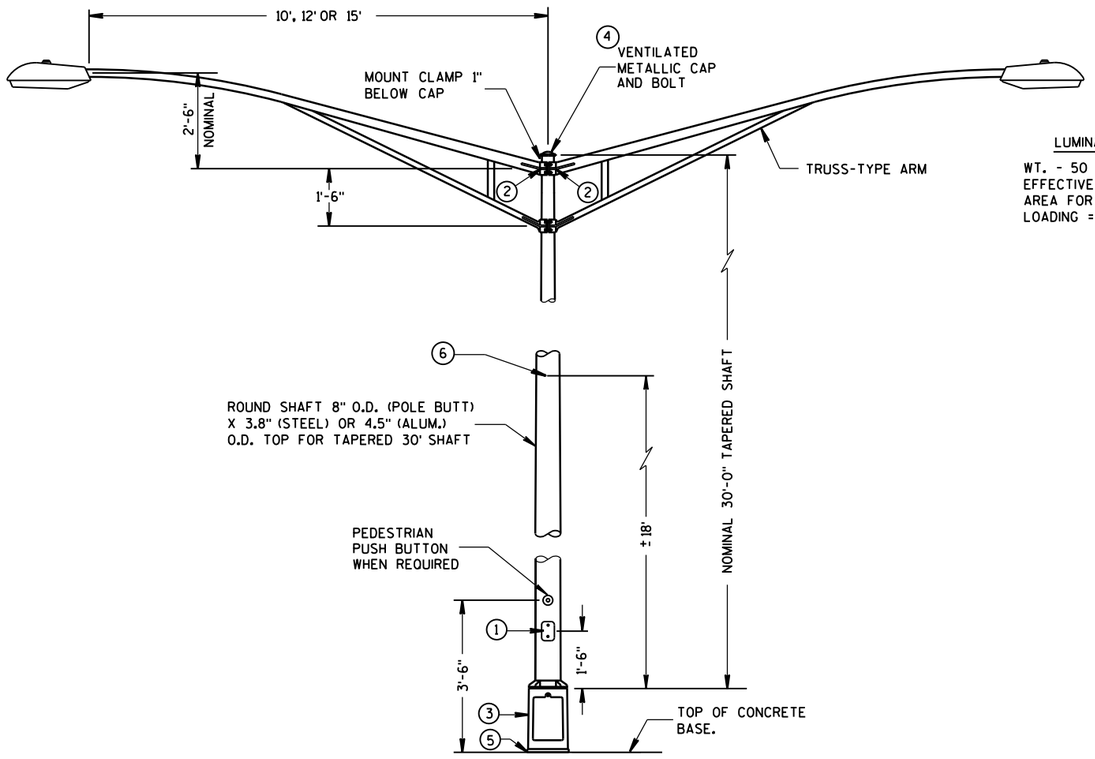
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Nov. 2014 — DATE
/S/ Thomas Gonring — STATE LIGHTING ENGINE
FHWA

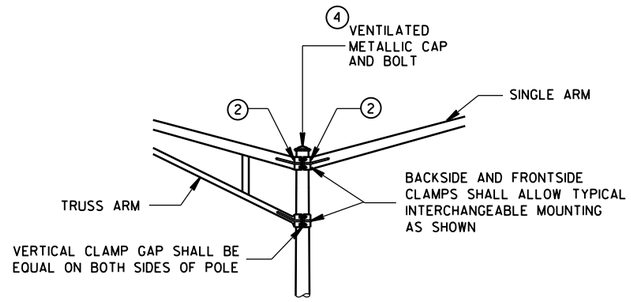
6 S.D.D. 9 C 14-2

*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.

6

S.D.D. 9 E 1-14d

POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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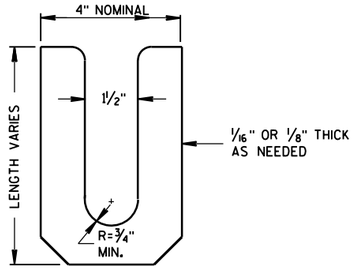
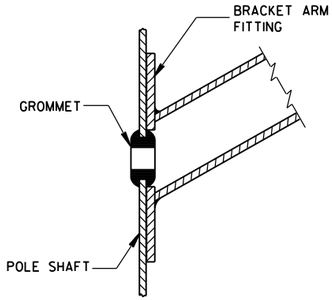
S.D.D. 9 E 1-14d

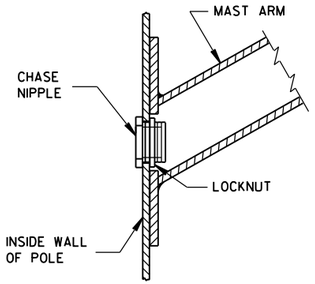


LEVELING SHIM (13)

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.

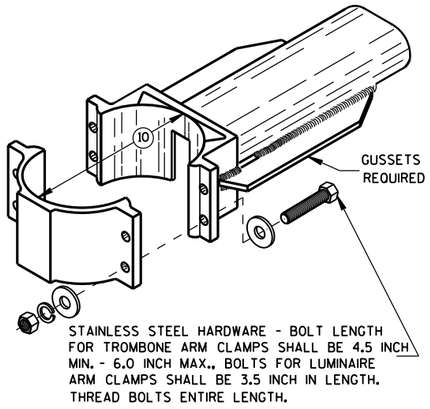
(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(11) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

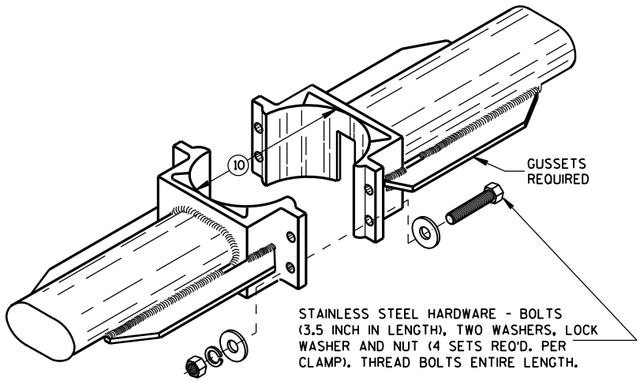
(12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(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.

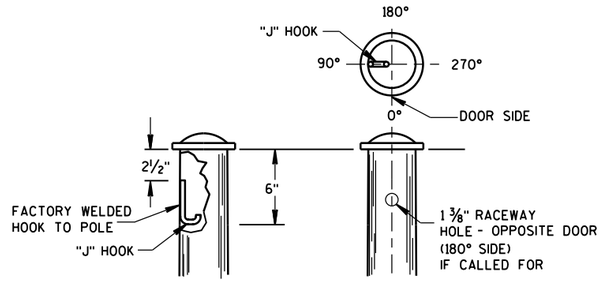
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



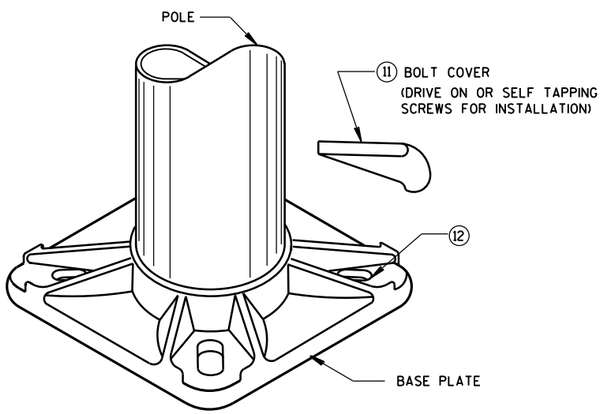
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



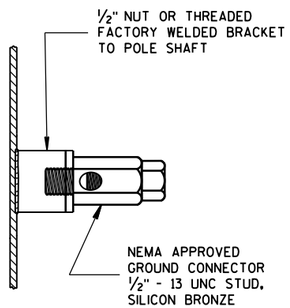
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

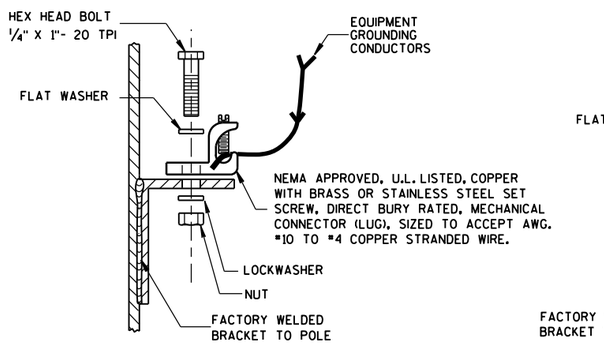


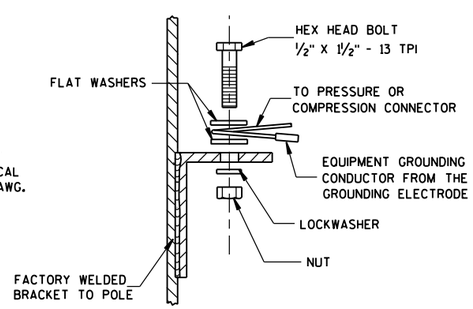
TYPICAL "J" HOOK LOCATION



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
FHWA

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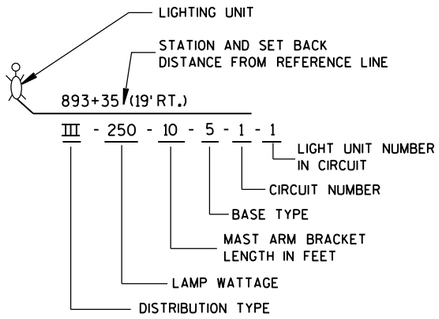
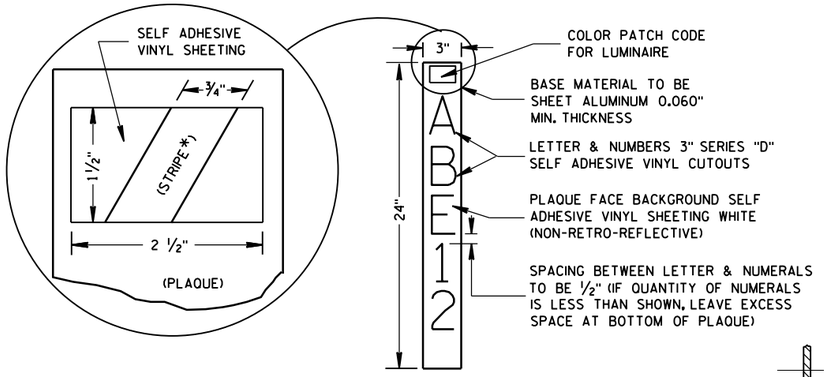


LIGHTING UNIT CODE
(TYPICAL)



COLOR PATCH CODE FOR LUMINAIRES

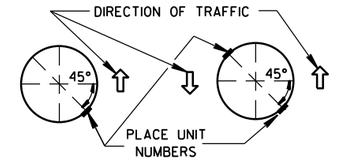
(HIGH PRESSURE SODIUM)

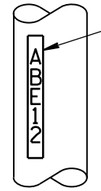
1000 WATT - NO PATCH
400 WATT - ORANGE
310 WATT - BLUE
250 WATT - ORANGE W/WHITE STRIPE*
200 WATT - RED
150 WATT - GREEN
100 WATT - BROWN

(MERCURY VAPOR)

400 WATT - (NO PATCH)
250 WATT - YELLOW

IDENTIFICATION PLAQUE





FASTEN TOP, CENTER AND BOTTOM OF PLAQUE WITH 3 ALUMINUM POP RIVETS (ALUM. POLES) OR STAINLESS STEEL POP RIVETS (STEEL POLES)

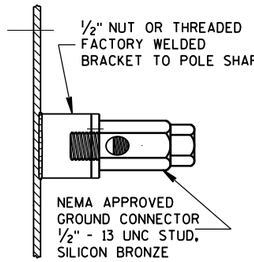
NOTES:

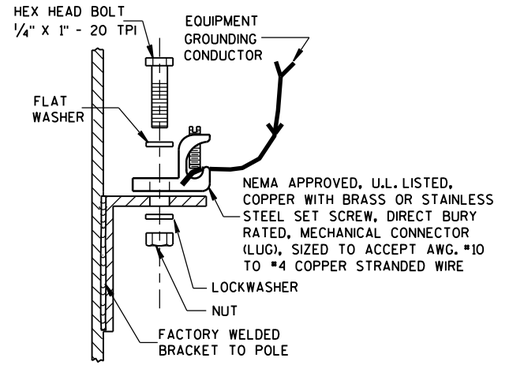
1) PLACE BOTTOM OF UNIT NUMBER PLAQUE 5'-0" ABOVE ELEVATION OF ADJACENT CURB OR SHOULDER.

2) UNIT NUMBERS: ONE REQUIRED FOR SINGLE ARM POLES TWO REQUIRED FOR MEDIAN MOUNT POLES.

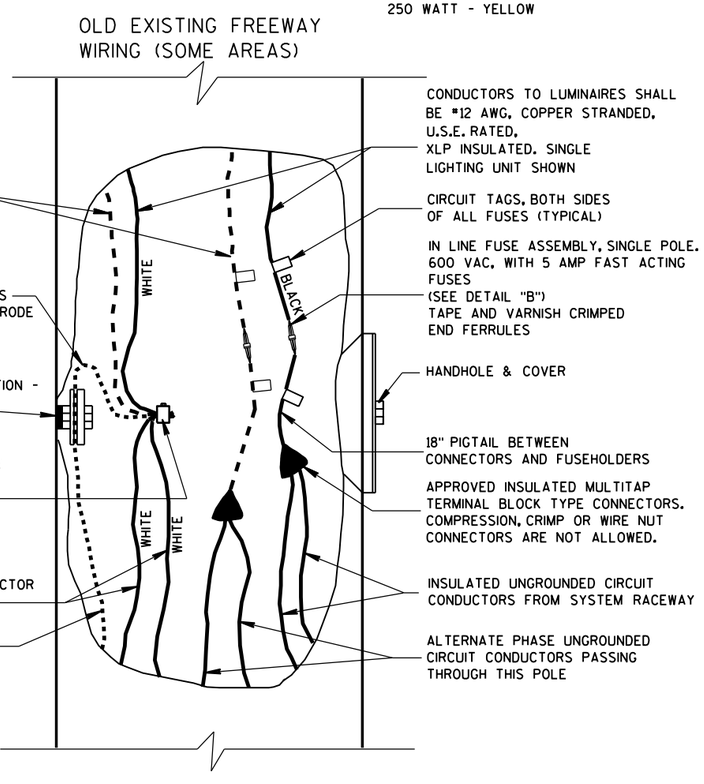
LIGHTING UNIT IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENT
(TYPICAL ALL LIGHTING UNITS)

FURNISH PLAQUE WHEN CALLED FOR BY SPECIAL PROVISIONS

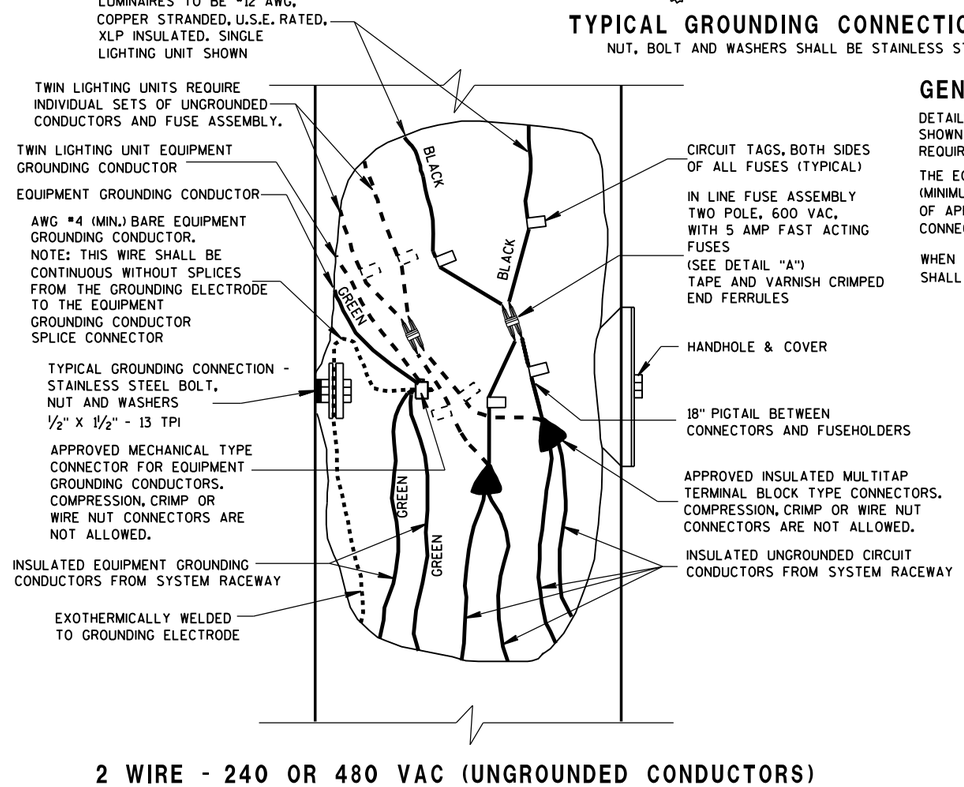




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



2 WIRE - 120, 240 OR 480 VAC TO GROUND



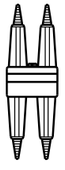
2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

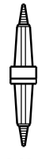
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EQUIPMENT GROUND 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.



DETAIL "A"
BREAKAWAY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



DETAIL "B"
BREAKAWAY SINGLE POLE WITH WATERPROOF INSULATING BOOT

FREEWAY LIGHTING UNIT POLE WIRING

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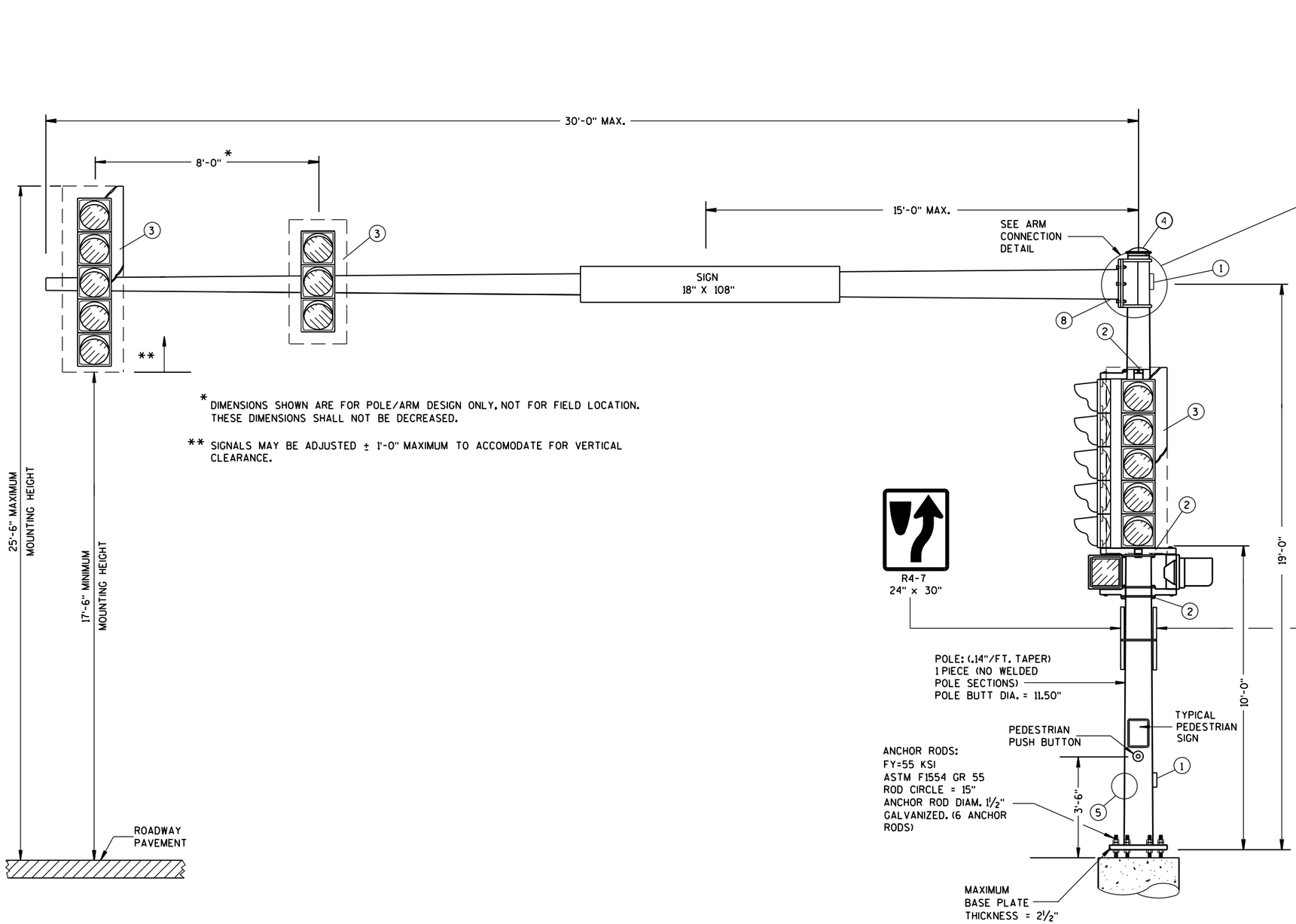
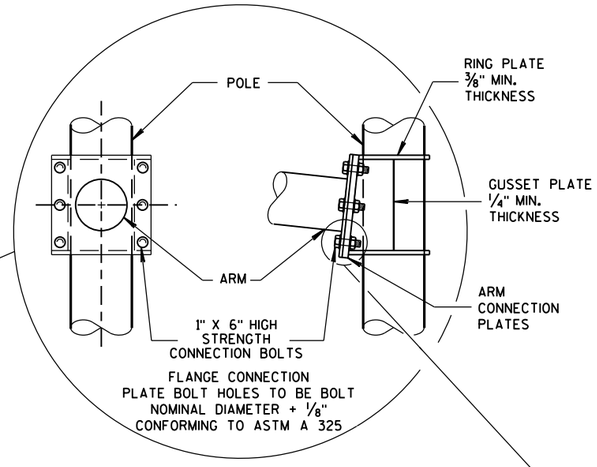
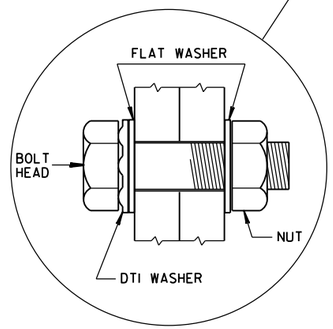


* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

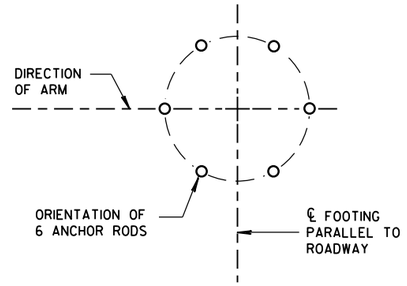
** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



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

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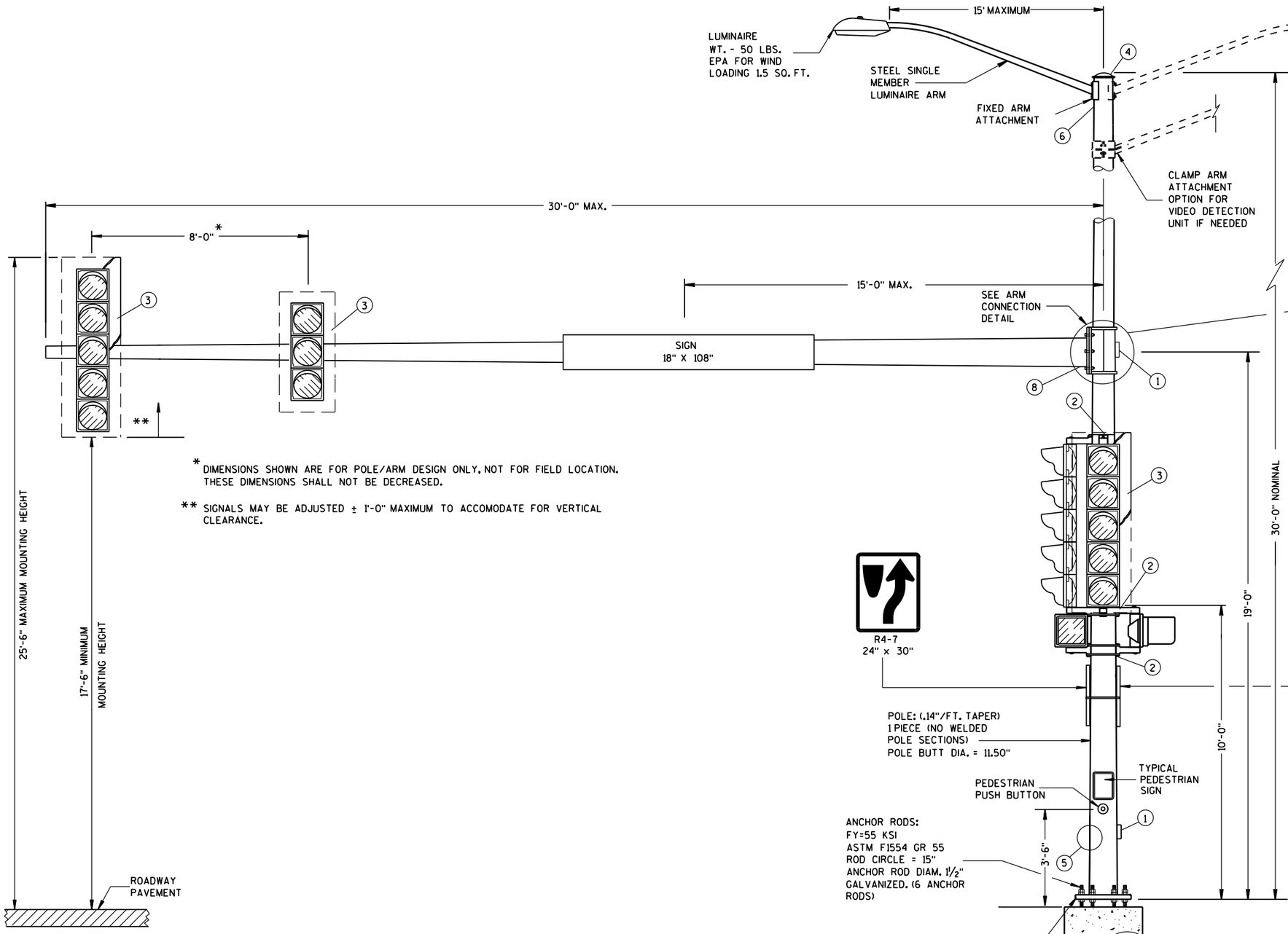

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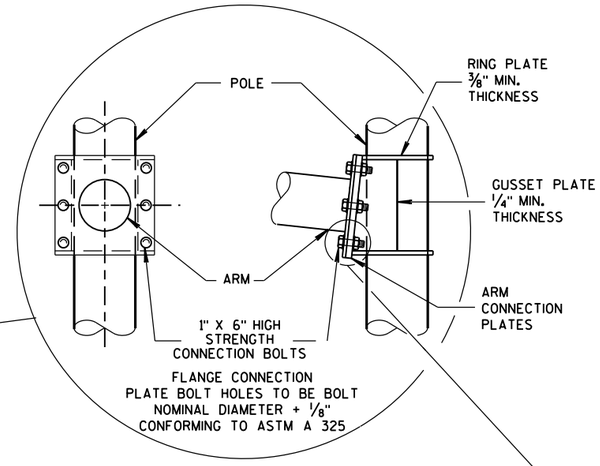
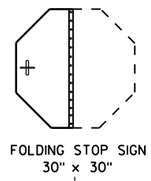
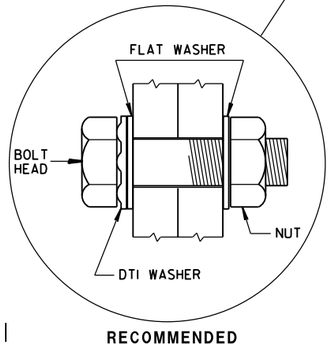
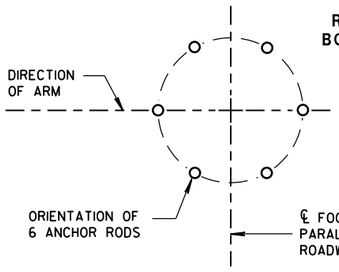


6 BOLT ARM CONNECTION DETAIL





RECOMMENDED BOLT ASSEMBLY DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 10 POLE
15'- 30' MONOTUBE ARM

TYPE 10 POLE
15' - 30' MONOTUBE ARM

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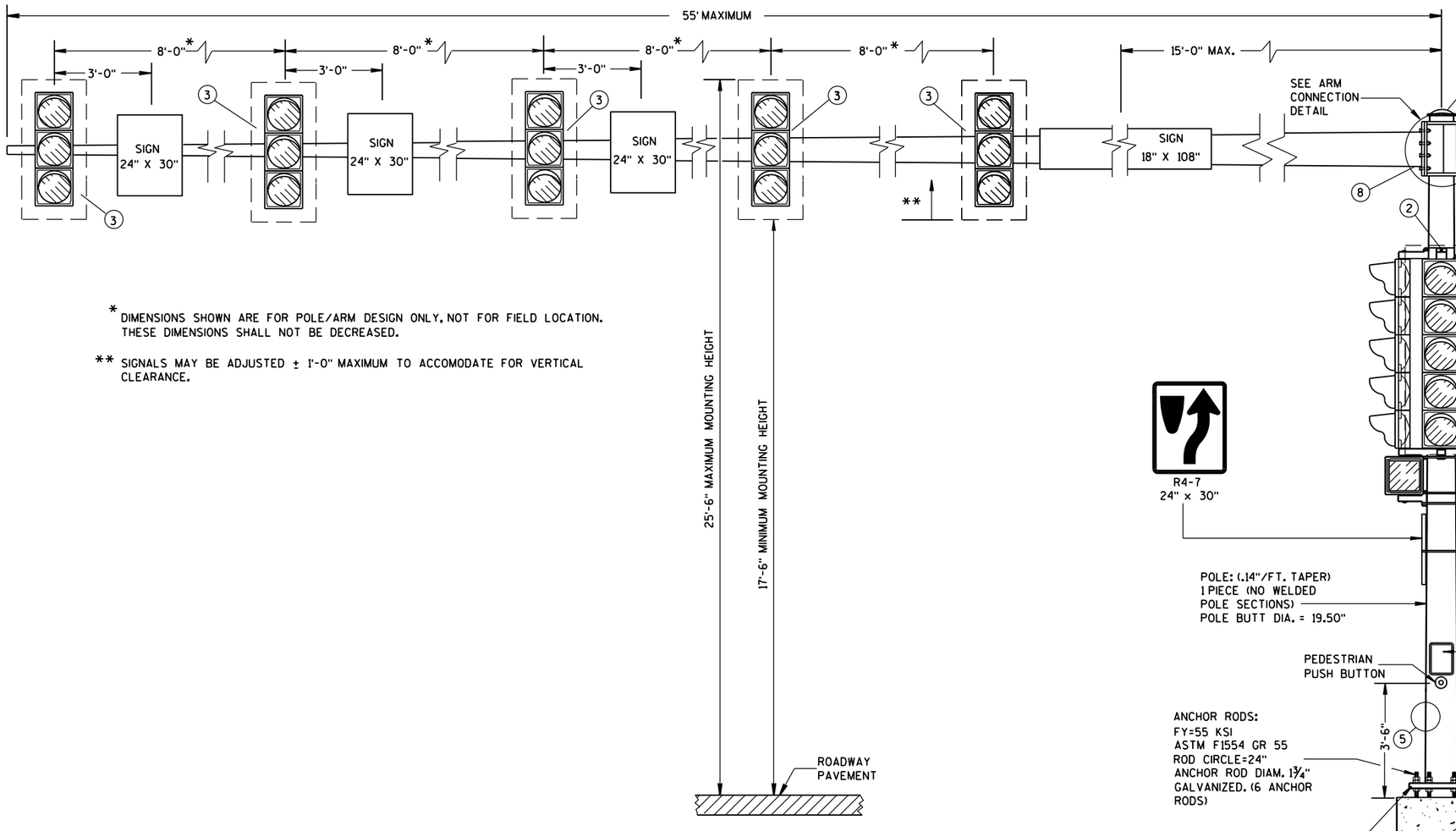

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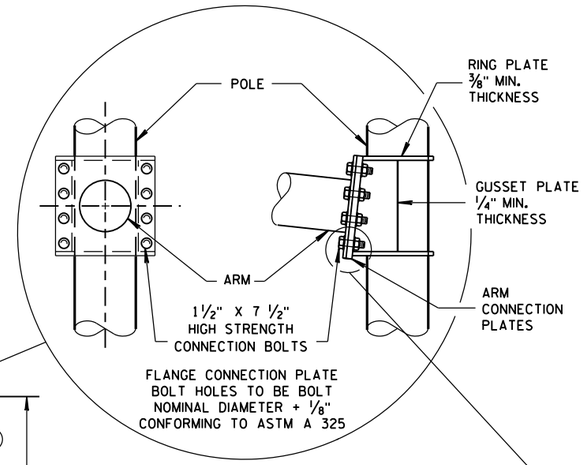
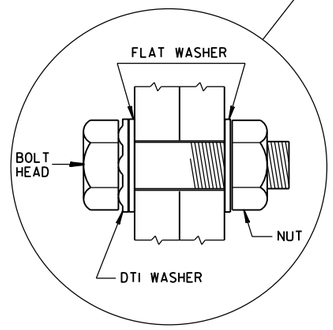
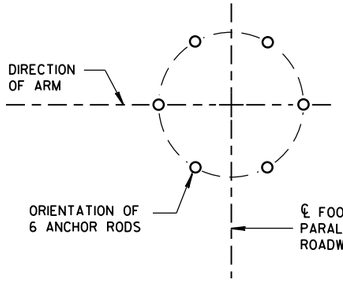


8 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 12 POLE 35'- 55' MONOTUBE ARM

TYPE 12 POLE
35' - 55' MONOTUBE ARM

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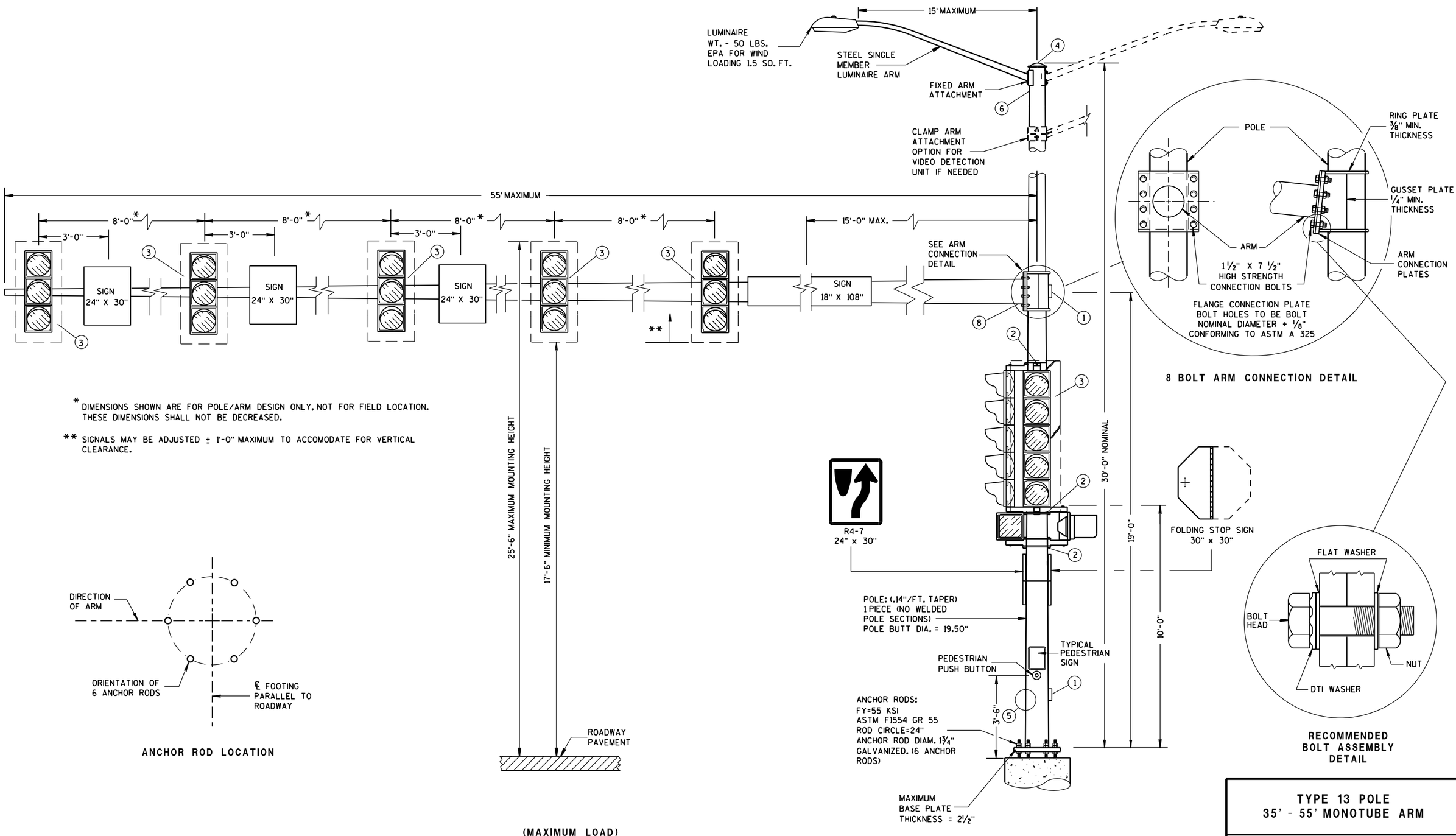

* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.

8 BOLT ARM CONNECTION DETAIL

RECOMMENDED
BOLT ASSEMBLY
DETAIL

ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 13 POLE 35'- 55' MONOTUBE ARM

TYPE 13 POLE
35' - 55' MONOTUBE ARM

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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.

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.

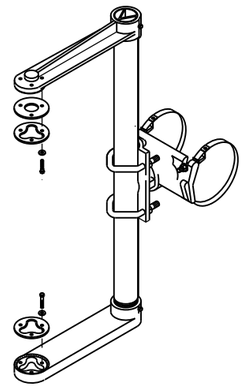
(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL DEPARTMENT PROVIDED STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

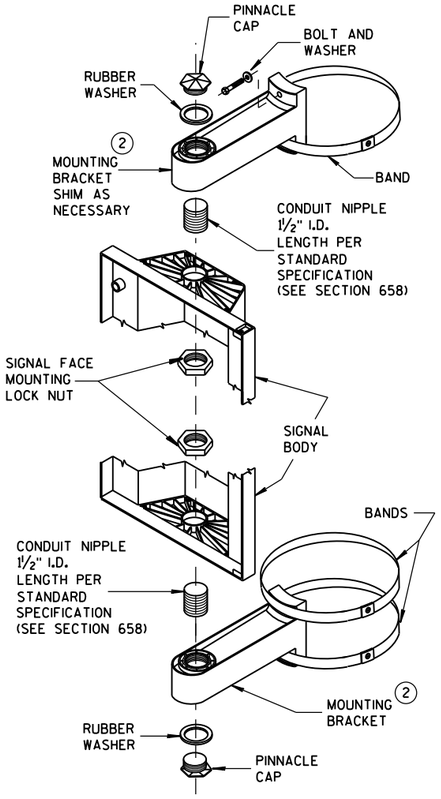
MOUNTING HEIGHT SHALL BE 5'-0" ABOVE THE CURB OR SHOULDER . ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

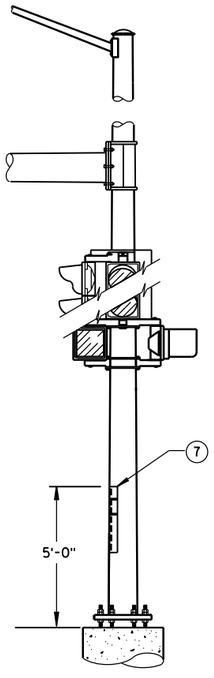


SIGNAL FACE MOUNTING BRACKET
DETAIL FOR MONOTUBE ARM

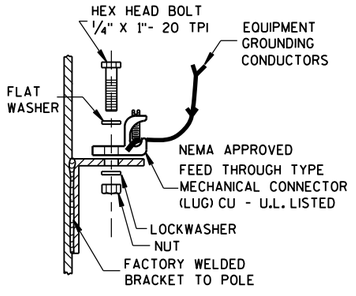
(MOUNT PER MANUFACTURER'S RECOMMENDATION)



SIGNAL FACE
VERTICAL MOUNTING DETAIL

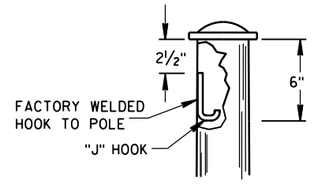


STRUCTURAL IDENTIFICATION
PLAQUE PLACEMENT



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

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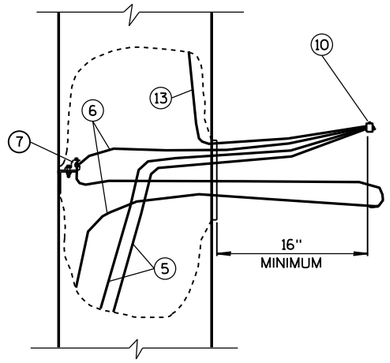
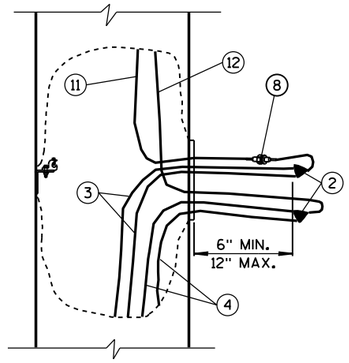
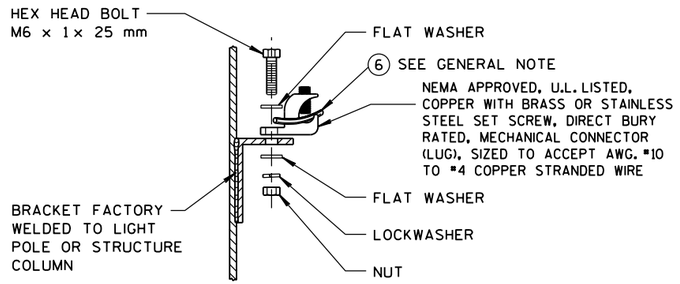


EQUIPMENT GROUNDING CONDUCTOR SLACK



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

TYPICAL CONDUCTOR SLACK AT HANDHOLES



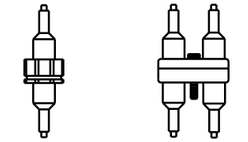
HANDHOLE GROUNDING LUG

(NUT, BOLT, WASHERS, AND LOCK WASHERS SHALL BE STAINLESS STEEL)

CONDUCTOR COLOR CODES

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

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



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

FUSE ASSEMBLIES

GENERAL NOTES

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

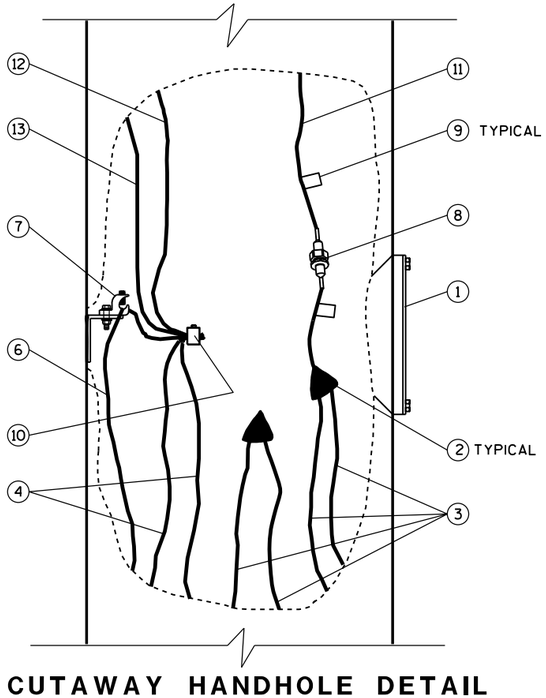
USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

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

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

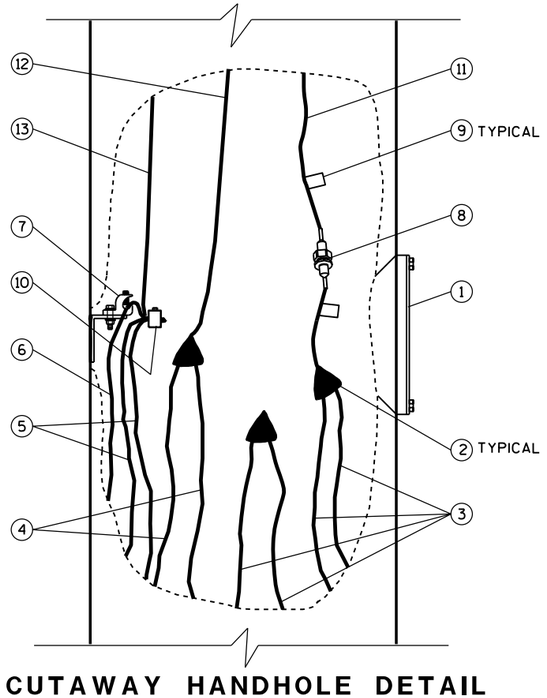
IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE, WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

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



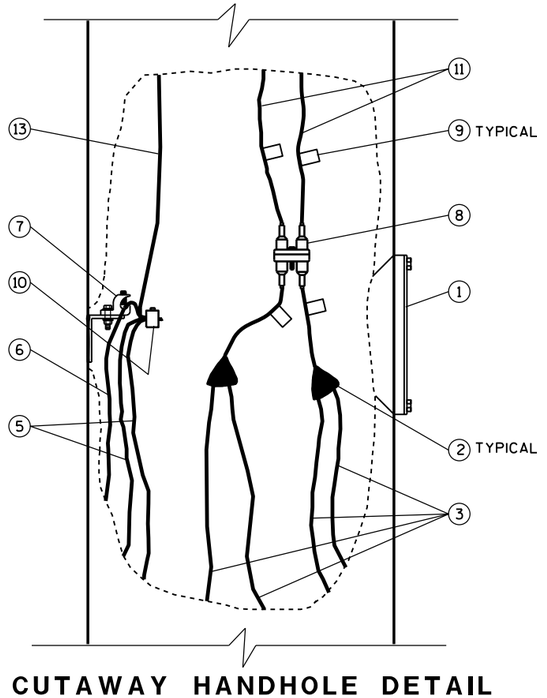
CUTAWAY HANDHOLE DETAIL

GROUNDED NEUTRAL SYSTEMS
1-Φ



CUTAWAY HANDHOLE DETAIL

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



CUTAWAY HANDHOLE DETAIL

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

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

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

ELECTRICAL HANDHOLE WIRING

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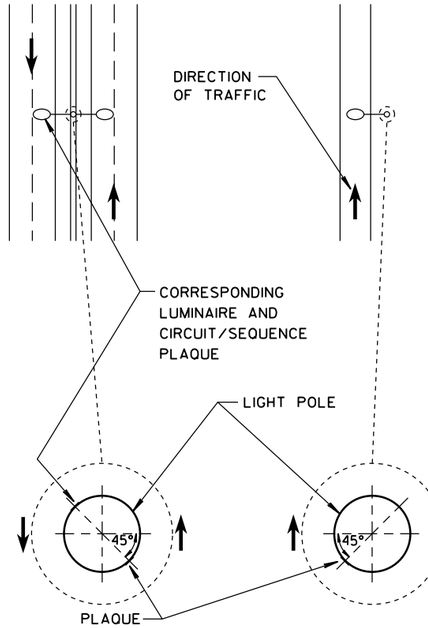


MEDIAN POLE SINGLE ARM POLE

LOCATION OF LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

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

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

GALVANIZED STEEL SHAFT - STAINLESS STEEL POP RIVETS

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

ALUMINUM SHAFTS - ALUMINUM POP RIVETS

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

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

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

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

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

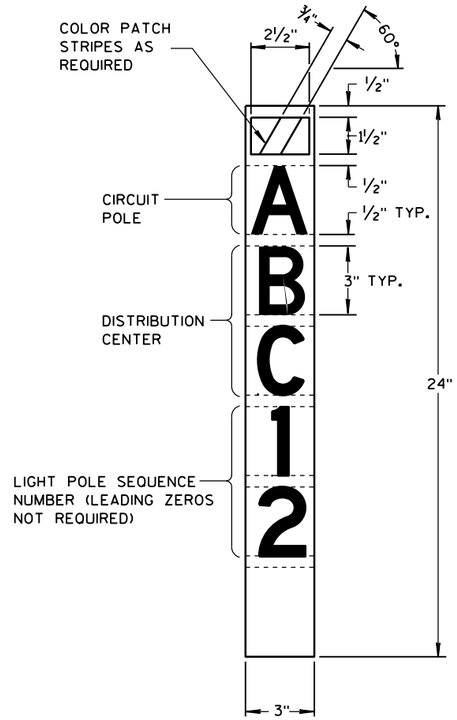
COLOR PATCHES - VARIOUS COLORS, SELF-ADHESIVE VINYL SHEETING

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

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

COLOR PATCH CODE FOR HPS AND LED LUMINAIRES

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



LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

IDENTIFICATION PLAQUES LIGHT POLES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 10 A 2-3

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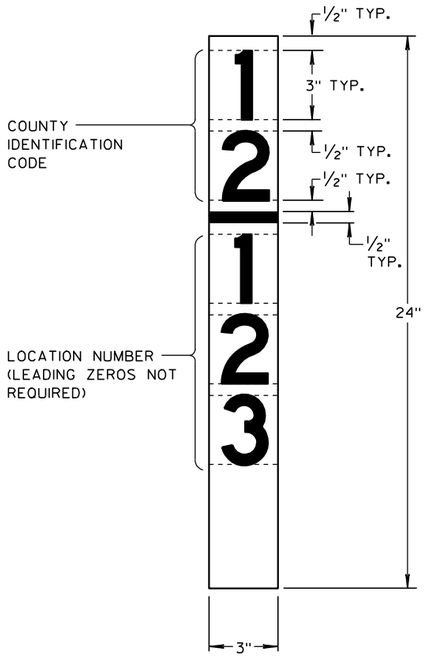
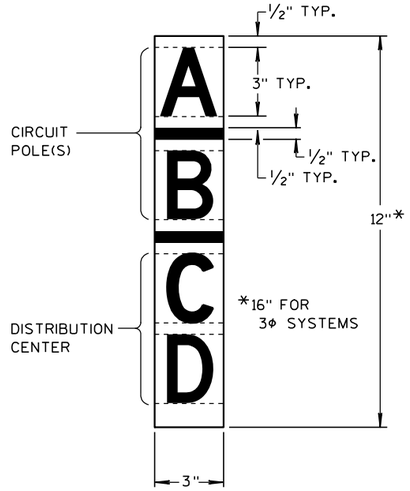
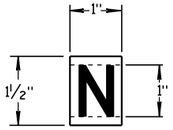
S.D.D. 10 A 2-3



HIGH MAST LIGHT TOWER STRUCTURE PLAQUE

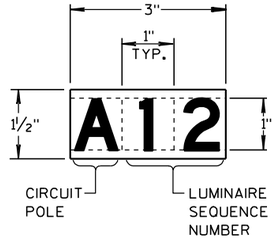


UNDERDECK LIGHTING OR HIGH MAST LIGHT TOWER CIRCUIT PLAQUE



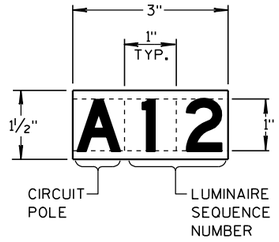
HIGH MAST LIGHT TOWER NORTH PLAQUE

(MOUNT ON LOWERING RING - INDICATING NORTH HEADING ^{2} ± $10^{\circ 3}$ WHEN RING IS RAISED AND LATCHED)



HIGH MAST LIGHT TOWER LUMINAIRE SEQUENCE PLAQUE

(MOUNT ON LUMINAIRE RING)



UNDER DECK LUMINAIRE SEQUENCE DECAL

(MOUNT ON LUMINAIRE)

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

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

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

CONCRETE SURFACE - MASONRY ANCHORS

GALVANIZED STEEL SHAFT - STAINLESS STEEL POP RIVETS

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

PLAQUE MATERIALS:

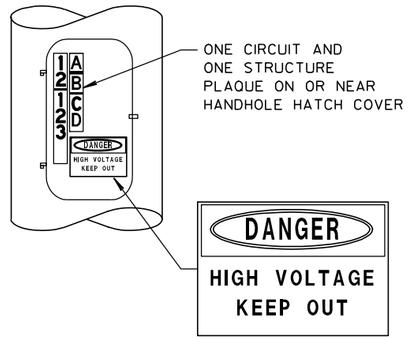
BASE - SHEET ALUMINUM, 0.060" THICK.

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

LINES - BLACK, ½" WIDE, SELF-ADHESIVE

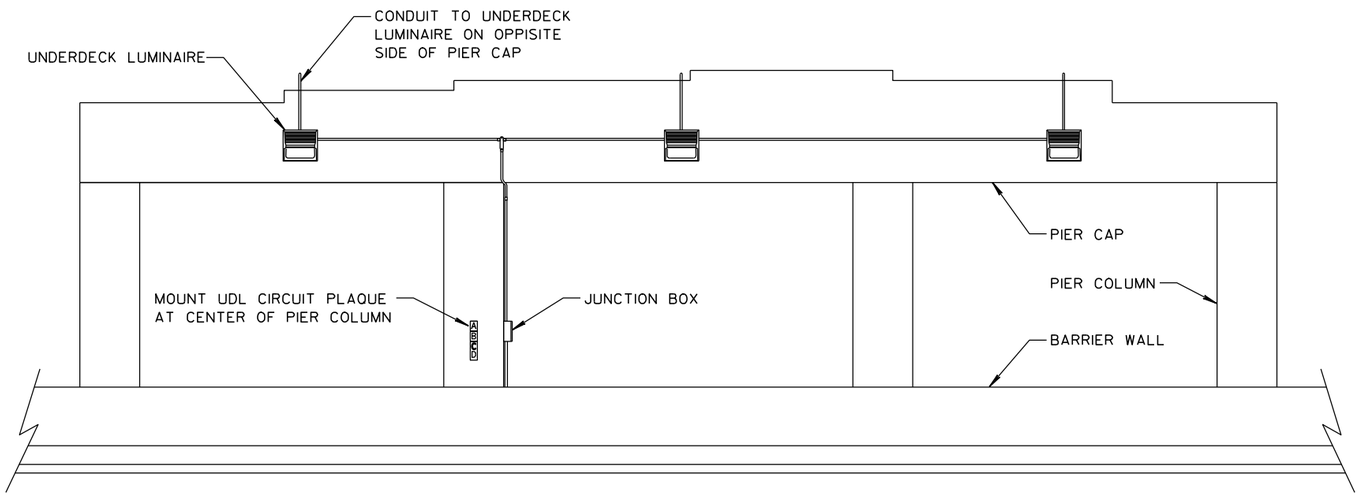
CHARACTERS - BLACK, SELF-ADHESIVE, SERIES "D", SIZE AS SHOWN

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



NOTE: NEMA PLAQUE SHOWN ABOVE IS REQUIRED ONLY IN PARK AND RIDE LOTS OR IN OTHER PEDESTRIAN ACCESSIBLE AREAS.

LOCATION OF HIGH MAST LIGHT TOWER STRUCTURE PLAQUE AND CIRCUIT PLAQUE



LOCATION OF UNDERDECK LIGHTING CIRCUIT PLAQUE

IDENTIFICATION PLAQUES UNDERDECK AND HIGH MAST LIGHTING
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 10/25/2010 DATE /S/ John Corbin STATE ELECTRICAL ENGI 319 HWYS FHWA

GENERAL NOTES

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

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

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

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

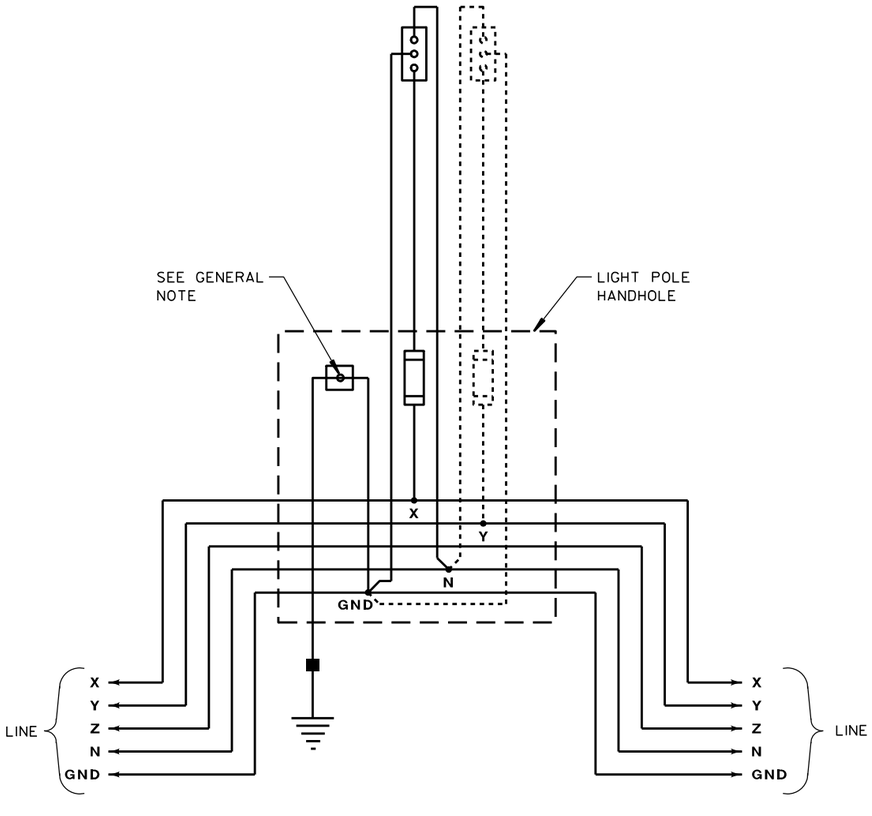
THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

HANDHOLE FUSE SCHEDULES

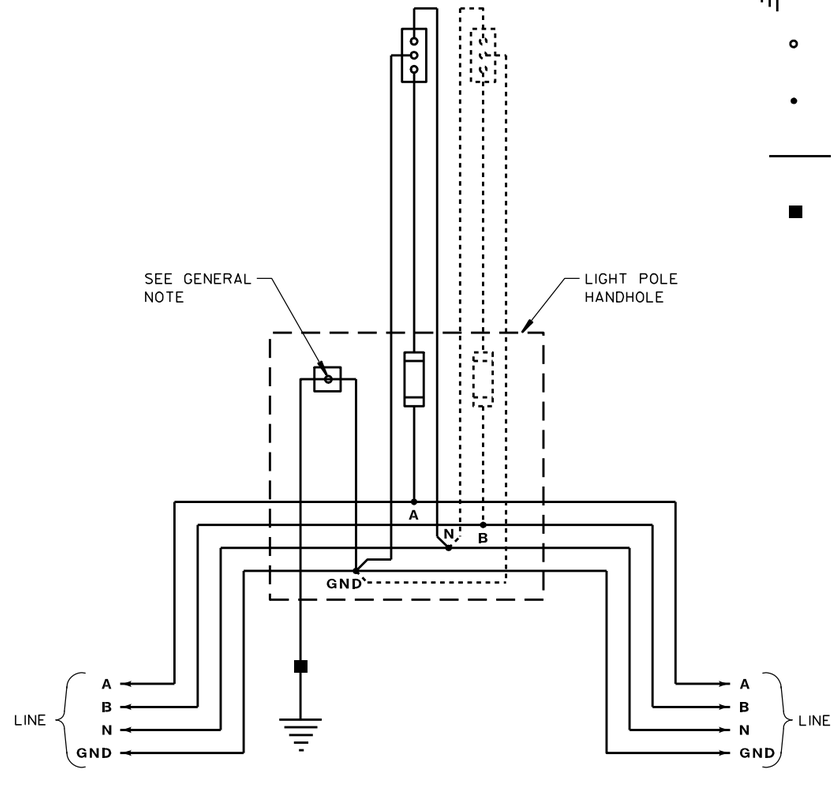
LINE VOLTAGE	BALLAST WATTAGE	
φ-GROUND	70-200 W	250-400 W
120 VAC	5 A	10 A
240 VAC	5 A	5 A
277 VAC	5 A	5 A
480 VAC	3 A	5 A

LEGEND

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



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



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

ELECTRICAL DETAILS
GROUND MOUNT LIGHT POLES
ISOLATED NEUTRAL SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 DATE
/S/ John Corbin
STATE ELECTRICAL ENGI
320
FHWA HWYS

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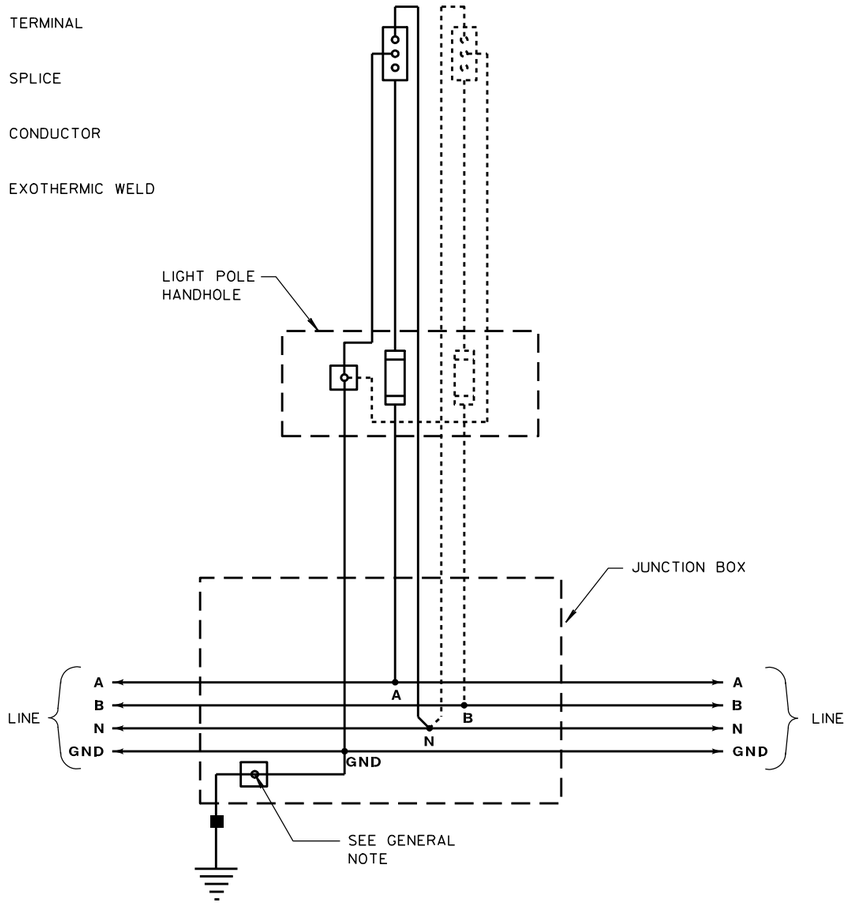
S.D.D. 10 A 5-2

6

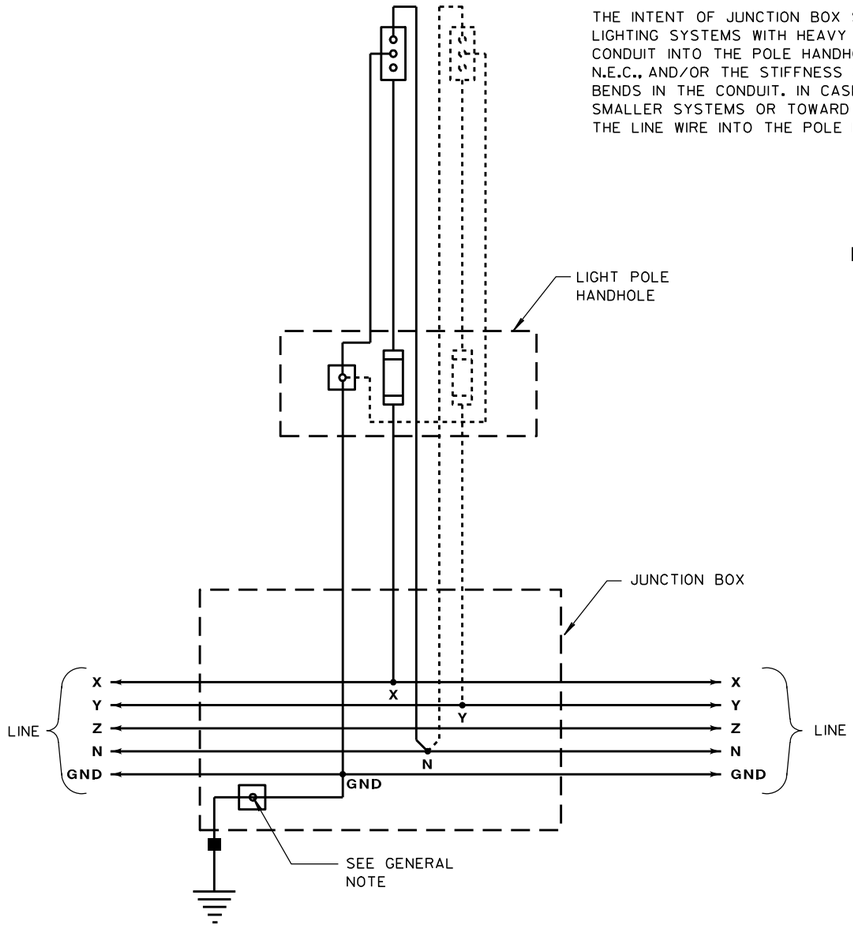
S.D.D. 10 A 5-2

LEGEND

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



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
1-ϕ 240/480VAC 3 WIRE



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
3-ϕ 480Y/277VAC 4 WIRE

GENERAL NOTES

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

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

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

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

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

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

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

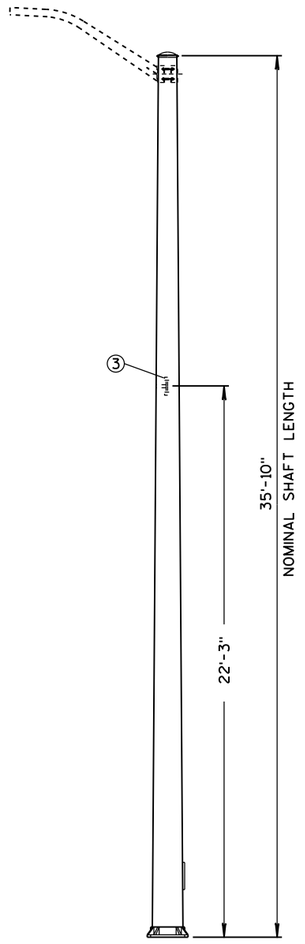
HANDHOLE FUSE SCHEDULES

LINE VOLTAGE ϕ-GROUND	BALLAST WATTAGE 150-200 W	BALLAST WATTAGE 250-400 W
240 VAC	5 A	5 A
277 VAC	5 A	5 A
480 VAC	3 A	5 A

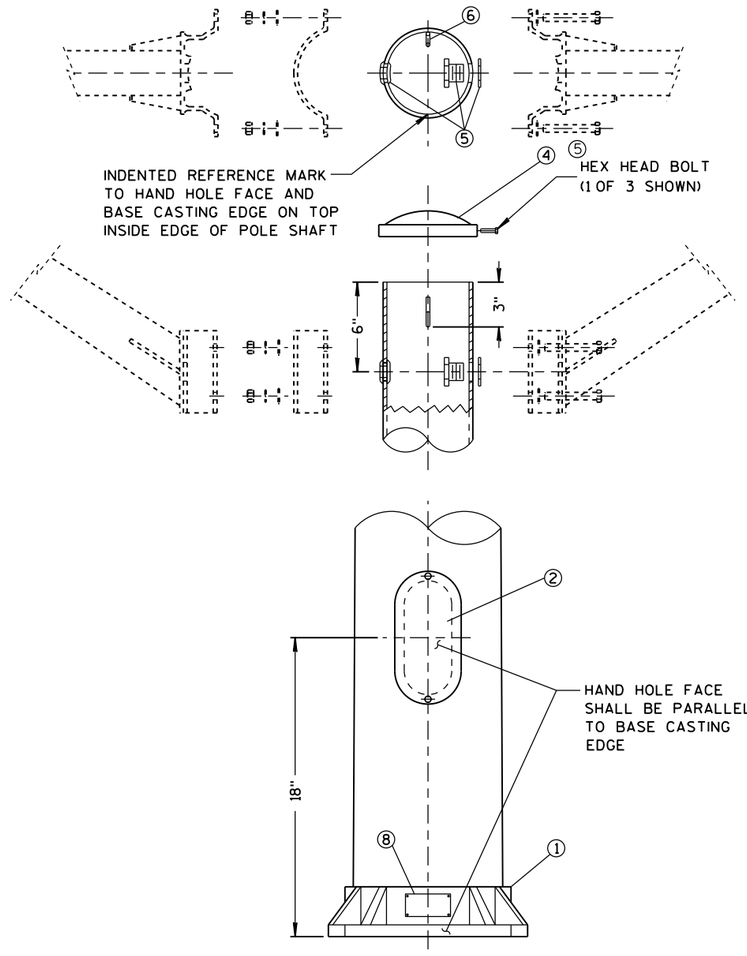
ELECTRICAL DETAILS
MEDIAN MOUNT LIGHT POLES
ISOLATED NEUTRAL SYSTEMS

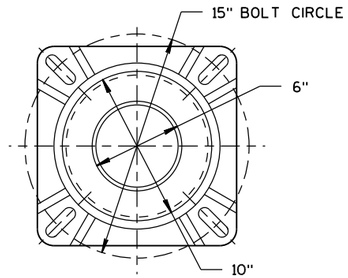
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 — DATE
/S/ John Corbin — STATE ELECTRICAL ENGI
321 — HWYS
FHWA

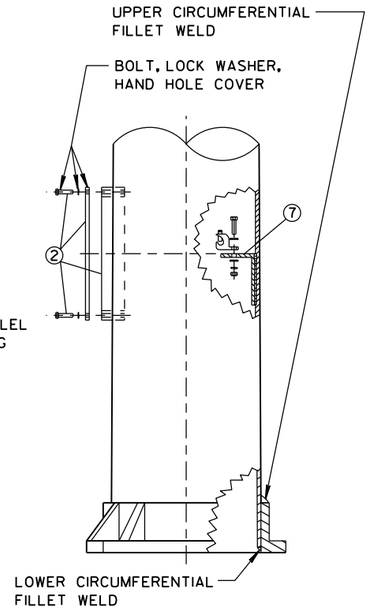


POLE, TYPE 7





(TOP VIEW)



GENERAL NOTES

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

SLOTTED ANCHOR ROD HOLES FOR 1"-8 UNC ANCHOR RODS (4 EACH, 15" BOLT CIRCLE), SHALL BE PROVIDED IN BASE CASTING.

POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM.
EXCEPT THAT BASE CASTINGS SHALL BE CONSTRUCTED OF 356-T6 ALUMINUM.
THE SHAFT SHALL BE ROUND AND UNIFORMLY TAPERED FROM A 10" O.D. BUTT TO A 6" O.D. TOP.

HEAT TREATMENT OF WELDMENTS IN STRUCTURAL AREAS (e.g. BASE CASTING, HAND HOLE, BRACKET FOR GROUNDING LUG) REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE ARMS AND CLAMP ASSEMBLIES SHOWN FOR INFORMATION ONLY (PAID SEPARATELY).

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. FOR E.P.A.

① SHOE BASE.

② 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY SECURED BY TWO (2) 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

HANDHOLE SHALL BE 90 DEGREES FROM LUMINAIRE ARMS OF TWIN LUMINAIRE POLES; 180 DEGREES FROM LUMINAIRE ARM OF SINGLE LUMINAIRE POLES; 0 DEGREES FROM LUMINAIRE ARM FOR STRUCTURE MOUNTED POLES.

③ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

④ FURNISH AND INSTALL CAST OR METALLIC (ALUMINUM ALLOY) POLE CAP. FASTEN CAP WITH THREE 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

⑤ 1 3/8" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET), PER EACH REQUIRED LUMINAIRE ARM.

⑥ FACTORY-WELDED "J" HOOK FOR POLE WIRE STRAIN RELIEF.

⑦ FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE. (LUG AND HARDWARE PAID UNDER SEPARATE ITEMS; SHOWN FOR INFORMATION ONLY). PROVIDE HOLE IN BRACKET FOR 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

⑧ MANUFACTURER'S PLATE SHOWING WisDOT POLE TYPE, MANUFACTURER, AND DATE.

POLE TYPE (NOM. SHAFT LENGTH)	TYPICAL APPLICATION	ARM & LUMINAIRE LOADS (MAX.)	ADDITIONAL (MAX.) LOADS
TYPE 7 (35'-10")	ARTERIALS	TWIN ARMS UP TO 10 FT. (SINGLE MEMBER)	UP TO 20 SQ. FT. ON TRAFFIC SIGNS, MOUNTED AS HIGH AS 15 FT. TO TOP OF SIGN, PLUS 1-3 SECTION, 1-5 SECTION, AND 2-PED. TRAFFIC HEAD
	FREEWAY	SINGLE ARM, UP TO 20 FT. TRUSS TYPE	UP TO 20 SQ. FT. OF TRAFFIC SIGNS, MOUNTED AS HIGH AS 15 FT. TO TOP OF SIGN

POLES, TYPE 7
ALUMINUM - 35'-10" SHAFT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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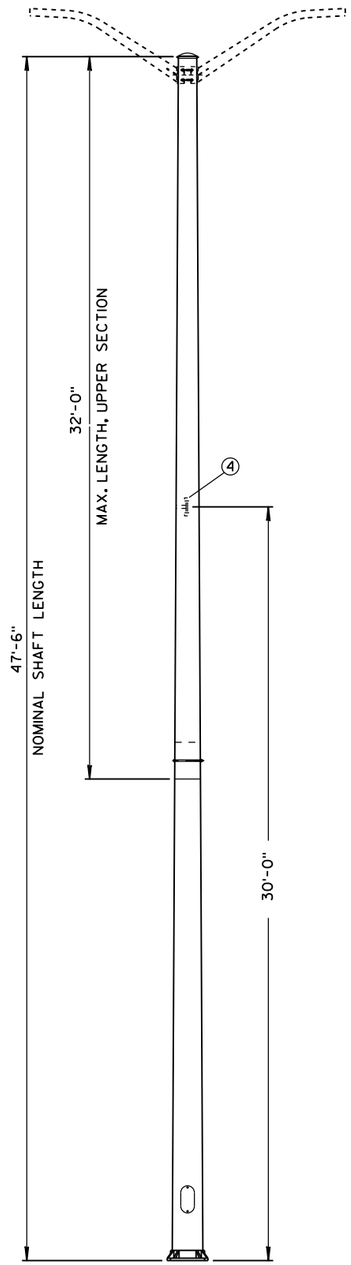
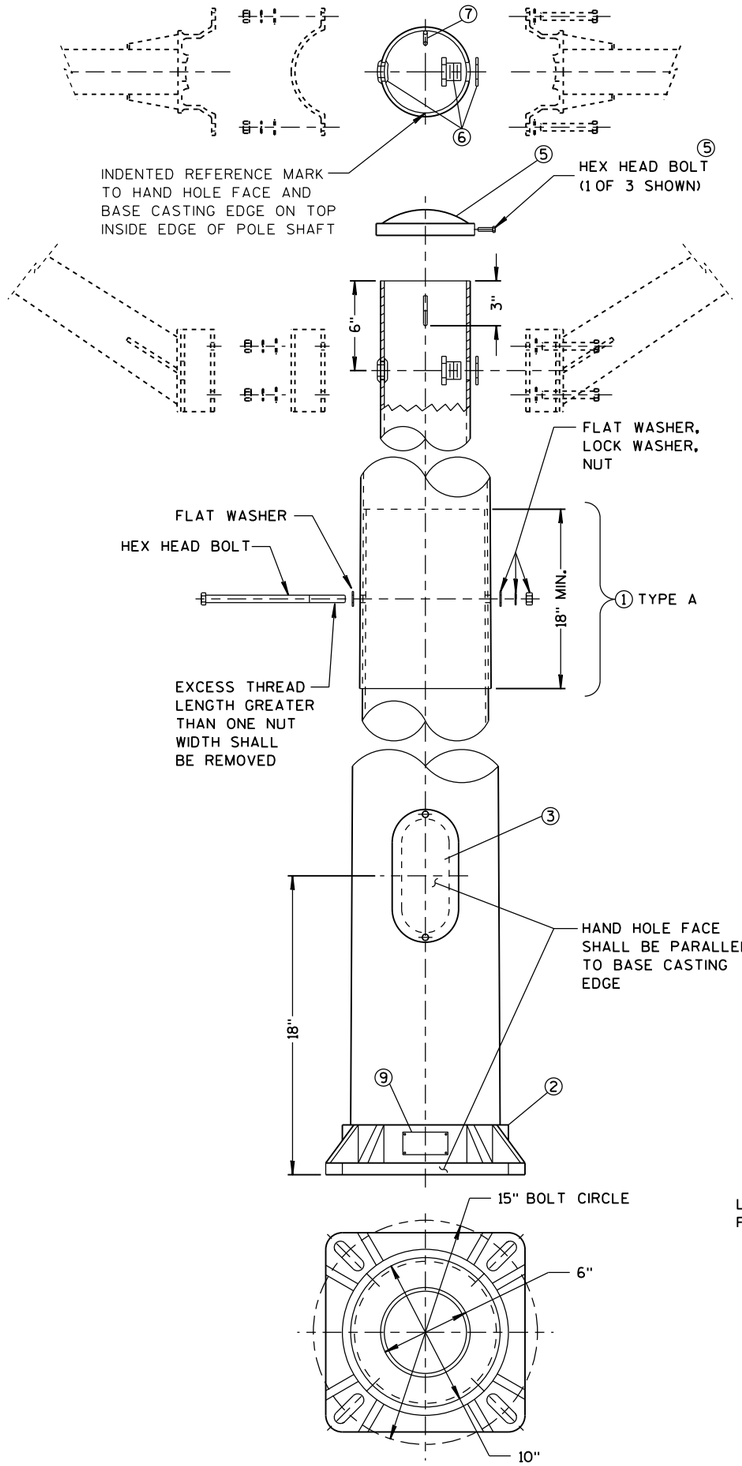
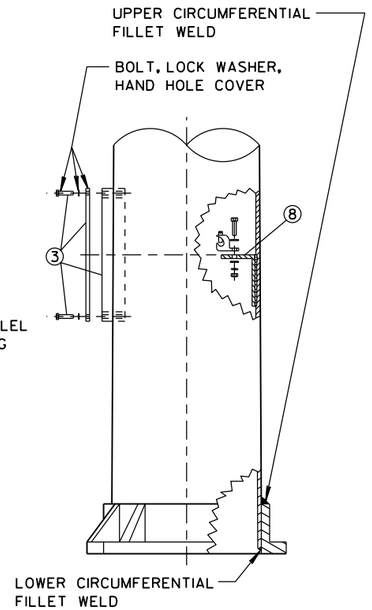
S.D.D. 10 A 17-4a



POLE, TYPE A



(TOP VIEW)



GENERAL NOTES

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

POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM. EXCEPT THAT BASE CASTINGS SHALL BE CONSTRUCTED OF 356-T6 ALUMINUM. THE SHAFT SHALL BE ROUND AND UNIFORMLY TAPERED FROM A 10" O.D. BUTT TO A 6" O.D. TOP.

HEAT TREATMENT OF WELDMENTS IN STRUCTURAL AREAS (e.g. BASE CASTING, HAND HOLE, BRACKET FOR GROUNDING LUG) REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE ARMS AND CLAMP ASSEMBLIES SHOWN FOR INFORMATION ONLY (PAID SEPARATELY).

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. FOR E.P.A.

① OPTIONAL TELESCOPING FIELD JOINT SECURED BY A 5/8"-11 TPI THROUGH BOLT OR STUD.

THE OVERLAP OF THE UPPER AND LOWER SECTIONS SHALL BE NOT LESS THAN 18".

② SHOE BASE.

③ 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY SECURED BY TWO (2) 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

HANDHOLE SHALL BE 90 DEGREES FROM LUMINAIRE ARMS OF TWIN LUMINAIRE POLES; 180 DEGREES FROM LUMINAIRE ARM OF SINGLE LUMINAIRE POLES; 0 DEGREES FROM LUMINAIRE ARM FOR STRUCTURE MOUNTED POLES.

④ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

⑤ FURNISH AND INSTALL CAST OR METALLIC (ALUMINUM ALLOY) POLE CAP. FASTEN CAP WITH THREE 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

⑥ 1 3/8" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET), PER EACH REQUIRED LUMINAIRE ARM.

⑦ FACTORY-WELDED "J" HOOK FOR POLE WIRE STRAIN RELIEF.

⑧ FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE. (LUG AND HARDWARE PAID UNDER SEPARATE ITEMS; SHOWN FOR INFORMATION ONLY). PROVIDE HOLE IN BRACKET FOR 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

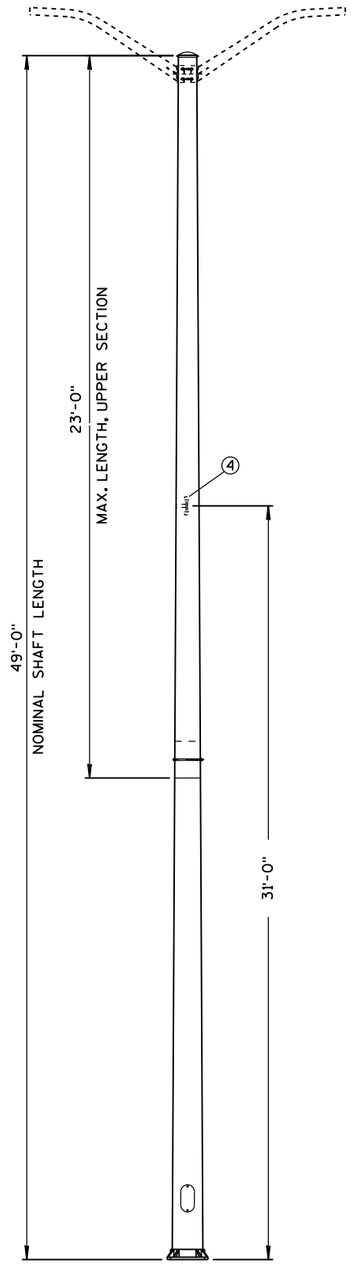
⑨ MANUFACTURER'S PLATE SHOWING WisDOT POLE TYPE, MANUFACTURER, AND DATE.

POLE TYPE (NOM. SHAFT LENGTH)	TYPICAL APPLICATION	ARM & LUMINAIRE LOADS (MAX.)	ADDITIONAL (MAX.) LOADS
TYPE A, (47'-6")	FREEWAY MEDIAN OR STRUCTURE MOUNT	SINGLE ARM, UP TO 10 FT., OR TWIN 4 FT. ARMS	UP TO 20 SQ. FT. OF TRAFFIC SIGNS, MOUNTED AS HIGH AS 15 FT. TO TOP OF SIGN

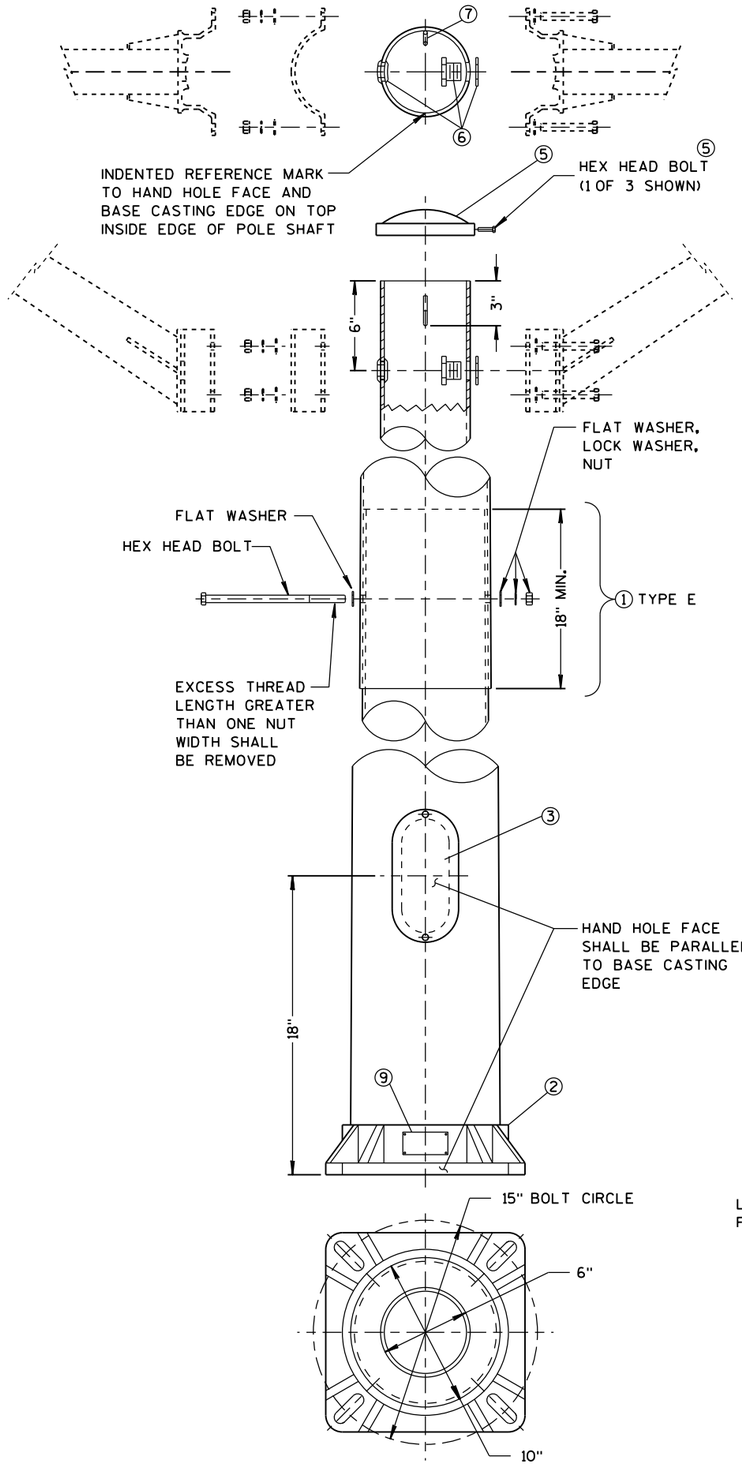
POLES, TYPE A
ALUMINUM 47'-6" SHAFT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

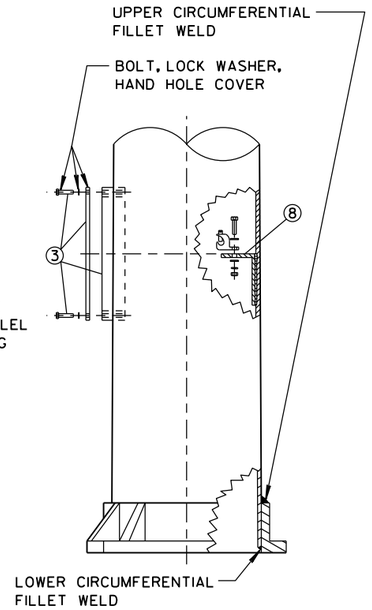
APPROVED
Sept. 2014
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
FHWA



POLE, TYPE E



(TOP VIEW)



GENERAL NOTES

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

POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM.
EXCEPT THAT BASE CASTINGS SHALL BE CONSTRUCTED OF 356-T6 ALUMINUM.

HEAT TREATMENT OF WELDMENTS IN STRUCTURAL AREAS (e.g. BASE CASTING, HAND HOLE, BRACKET FOR GROUNDING LUG) REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE ARMS AND CLAMP ASSEMBLIES SHOWN FOR INFORMATION ONLY (PAID SEPARATELY).

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. E.P.A..

① OPTIONAL TELESCOPING FIELD JOINT SECURED BY A 5/8"-11 TPI THROUGH BOLT OR STUD.
THE OVERLAP OF THE UPPER AND LOWER SECTIONS SHALL BE NOT LESS THAN 18".

② SHOE BASE.

③ 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY SECURED BY TWO (2) 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.
HANDHOLE SHALL BE 90 DEGREES FROM LUMINAIRE ARMS OF TWIN LUMINAIRE POLES; 180 DEGREES FROM LUMINAIRE ARM OF SINGLE LUMINAIRE POLES; 0 DEGREES FROM LUMINAIRE ARM FOR STRUCTURE MOUNTED POLES.

④ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

⑤ FURNISH AND INSTRALL CAST OR METALLIC (ALUMINUM ALLOY) POLE CAP. FASTEN CAP WITH THREE 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

⑥ 1 3/8" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET), PER EACH REQUIRED LUMINAIRE ARM.

⑦ FACTORY-WELDED "J" HOOK FOR POLE WIRE STRAIN RELIEF.

⑧ FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE. (LUG AND HARDWARE PAID UNDER SEPARATE ITEMS; SHOWN FOR INFORMATION ONLY). PROVIDE HOLE IN BRACKET FOR 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

⑨ MANUFACTURER'S PLATE SHOWING WisDOT POLE TYPE, MANUFACTURER, AND DATE.

POLE TYPE (NOM. SHAFT LENGTH)	TYPICAL APPLICATION	ARM & LUMINAIRE LOADS (MAX.)	ADDITIONAL (MAX.) LOADS
TYPE E, (49')	FREEWAY SLOPE MOUNT	SINGLE ARM, UP TO 20 FT., TRUSS TYPE OR TWIN ARMS UP TO 10' SINGLE MEMBER	UP TO 20 SQ. FT. OF TRAFFIC SIGNS, MOUNTED AS HIGH AS 15 FT. TO TOP OF SIGN

POLES, TYPE E, ALUMINUM 49'-0" SHAFT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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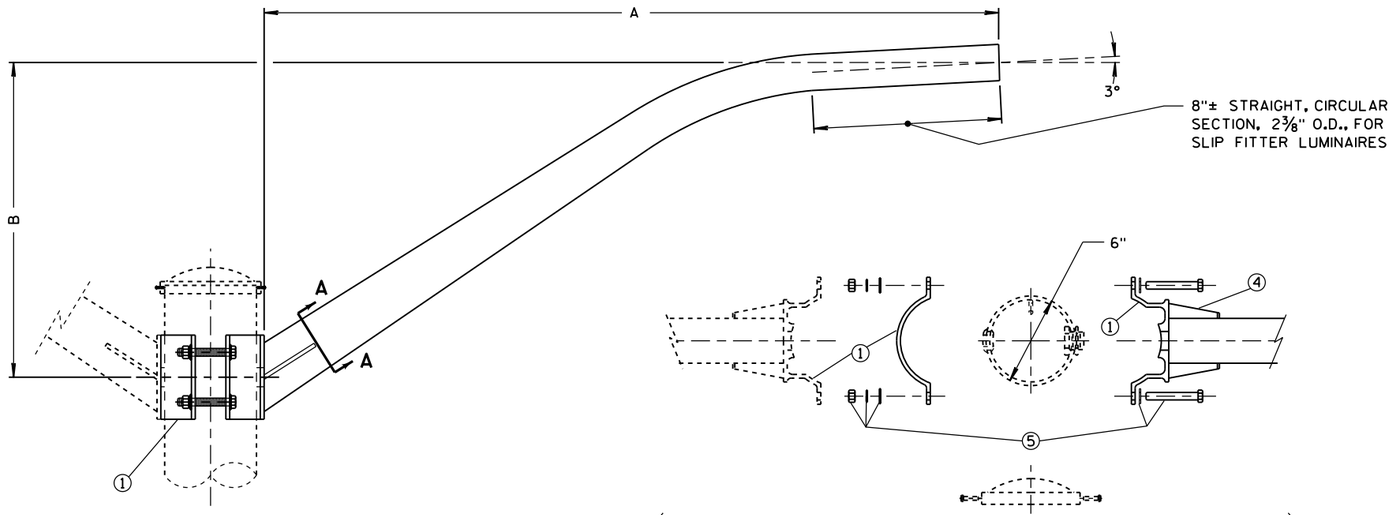
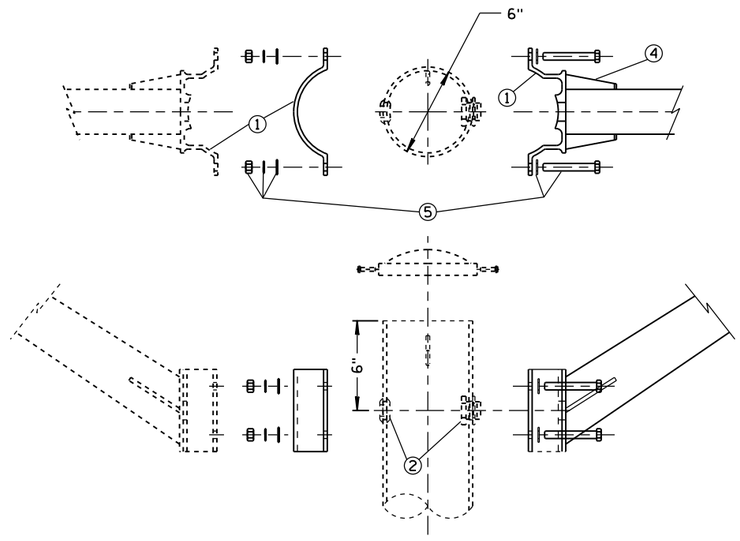


LUMINAIRE ARMS, SINGLE MEMBER, 6-INCH CLAMP - FOR POLES, TYPE 7, A OR E

VARIOUS LENGTHS (SEE TABLE)



CLAMP ASSEMBLY

SINGLE MEMBER CLAMP SHOWN

TYPE	DIM. A NOMINAL ARM LENGTH (FT)	DIM. B APPROX. RISE (FT)
SINGLE MEMBER	4.0	2.0
SINGLE MEMBER	8.0	3.0
SINGLE MEMBER	10.0	3.0
SINGLE MEMBER	15.0	3.0

GENERAL NOTES

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

ARMS AND CLAMP EXTRUSIONS SHALL BE CONSTRUCTED OF NATURAL FINISH 6063-T6 ALUMINUM.

HEAT TREATMENT OF WELDS IN STRUCTURAL AREAS IS REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. FOR E.P.A..

① CLAMPS SHALL BE EXTRUDED ALUMINUM.

② RACE WAY: 1 3/8" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET) PER EACH REQUIRED LUMINAIRE ARM. PROVIDE 1 1/2" HOLE IN CLAMP EXTRUSION TO CONTINUE RACEWAY.

③ STIFFENER

④ GUSSETS REQUIRED.

⑤ CLAMP BOLT ASSEMBLY (BOLT - 1/2"-13 UNC, 2 EACH - FLAT WASHER, LOCK WASHER, NUT) - 4 EACH PER CLAMP.

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S.D.D. 10 A 18-5a

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LUMINAIRE ARMS, SINGLE MEMBER 6-INCH CLAMP

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DEPARTMENT OF TRANSPORTATION

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Sept. 2014 — DATE
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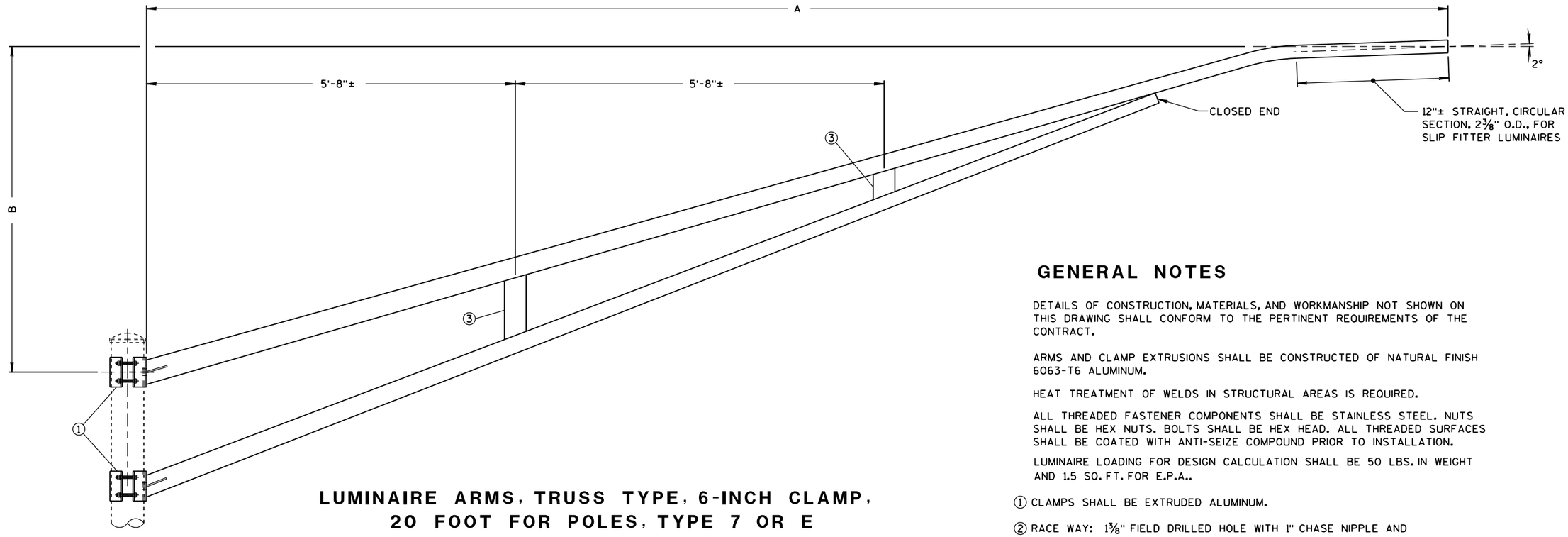

LUMINAIRE ARMS, TRUSS TYPE, 6-INCH CLAMP, 20 FOOT FOR POLES, TYPE 7 OR E

UPPER AND LOWER TRUSS CHORD CLAMPS SIMILIAR

TYPE	DIM. A NOMINAL ARM LENGTH (FT)	DIM. B APPROX. RISE (FT)
TRUSS TYPE	20.0	5.0

GENERAL NOTES

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

ARMS AND CLAMP EXTRUSIONS SHALL BE CONSTRUCTED OF NATURAL FINISH 6063-T6 ALUMINUM.

HEAT TREATMENT OF WELDS IN STRUCTURAL AREAS IS REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. FOR E.P.A..

① CLAMPS SHALL BE EXTRUDED ALUMINUM.

② RACE WAY: 1⅜" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET) PER EACH REQUIRED LUMINAIRE ARM. PROVIDE 1½" HOLE IN CLAMP EXTRUSION TO CONTINUE RACEWAY. NOTE: NO RACEWAY ON LOWER TRUSS CORD CLAMP. FOR INFORMATION ONLY.

③ STIFFENER.

④ GUSSETS REQUIRED.

⑤ CLAMP BOLT ASSEMBLY (BOLT - ½"-13 UNC, 2 EACH - FLAT WASHER, LOCK WASHER, NUT) - 4 EACH PER CLAMP.

LUMINAIRE ARMS, TRUSS TYPE 6-INCH CLAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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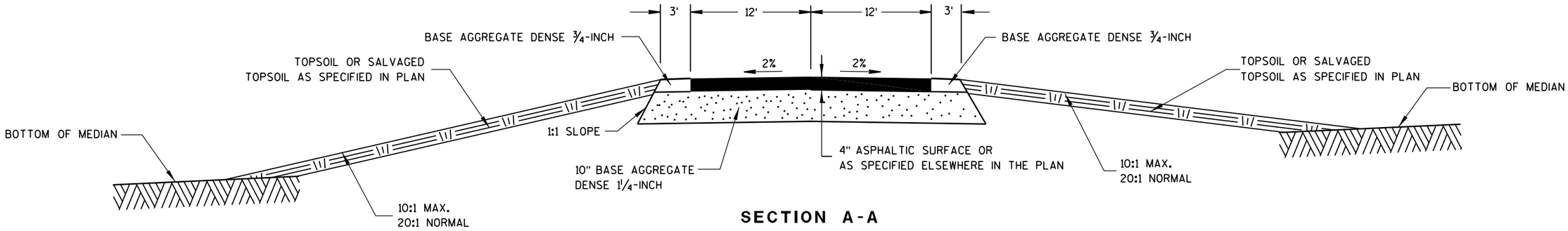
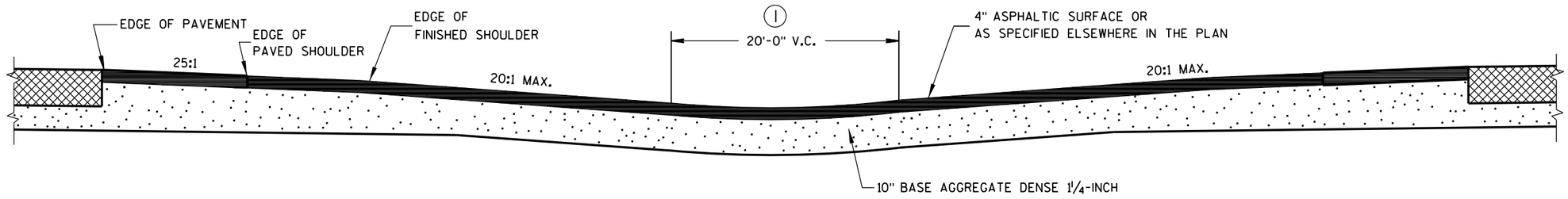
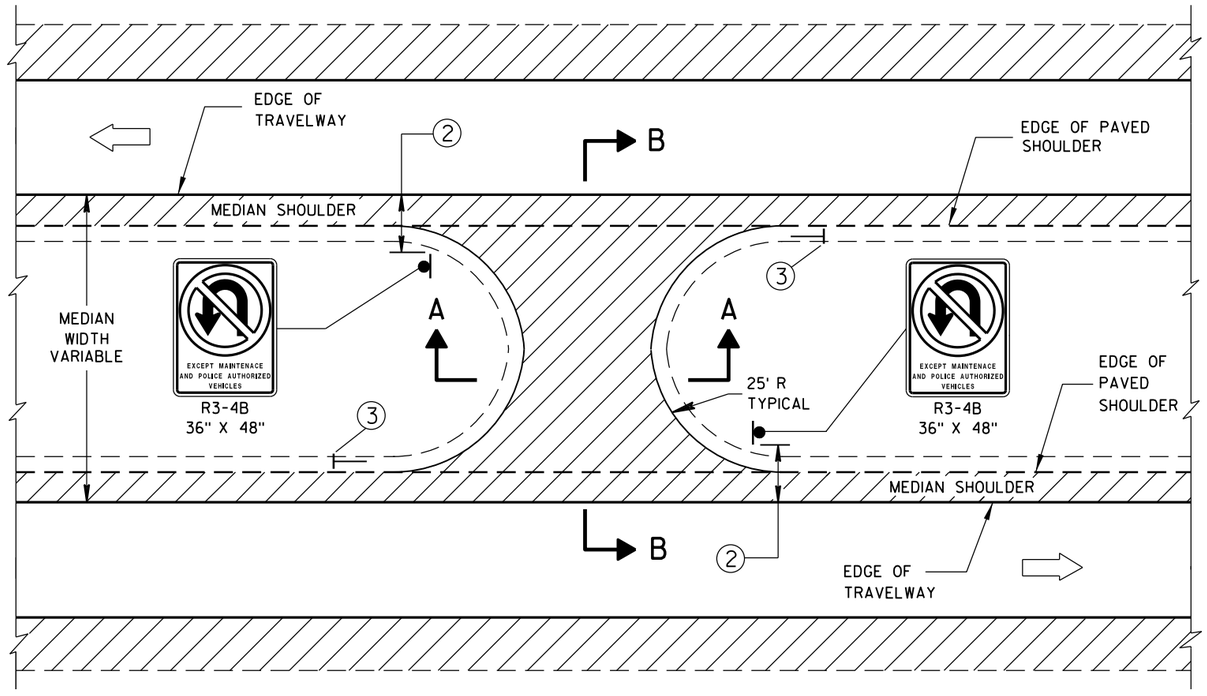


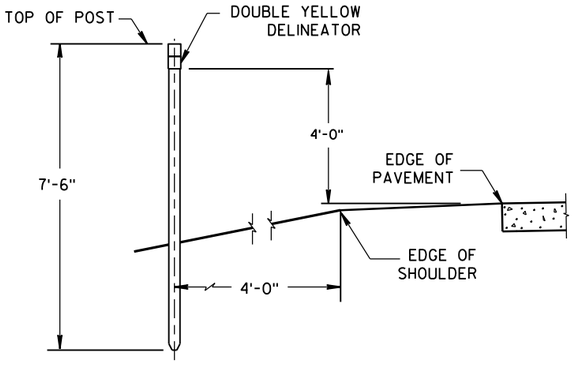
SECTION A-A



SECTION B-B



PLAN VIEW



DOUBLE YELLOW DELINEATOR INSTALLATION

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) ADJUST VERTICAL CURVE LOCATION LATERALLY TO MAINTAIN 20:1 MAX.

(2) SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

(3) INSTALL DOUBLE YELLOW DELINEATOR. SEE STANDARD DETAIL DRAWING 15A2.

MAINTENANCE CROSSOVER FOR FREEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

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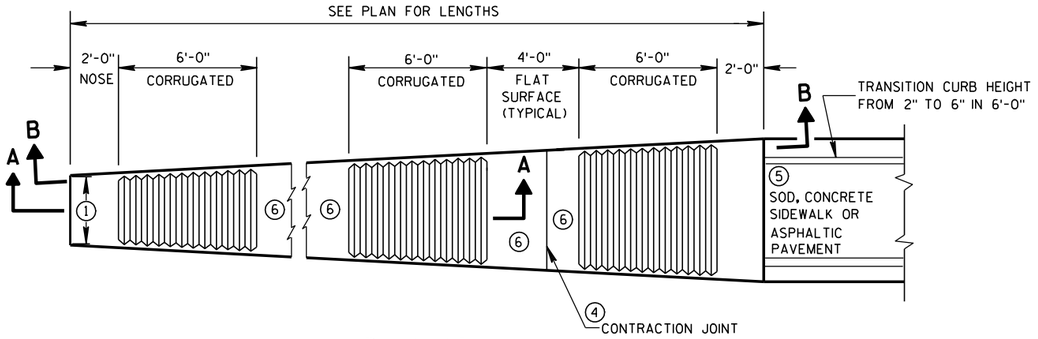
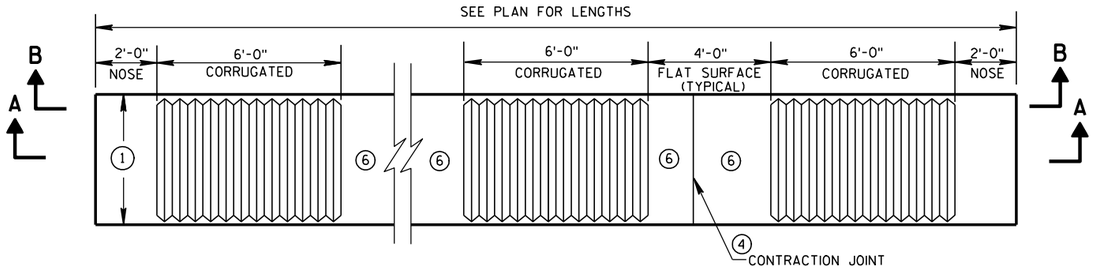


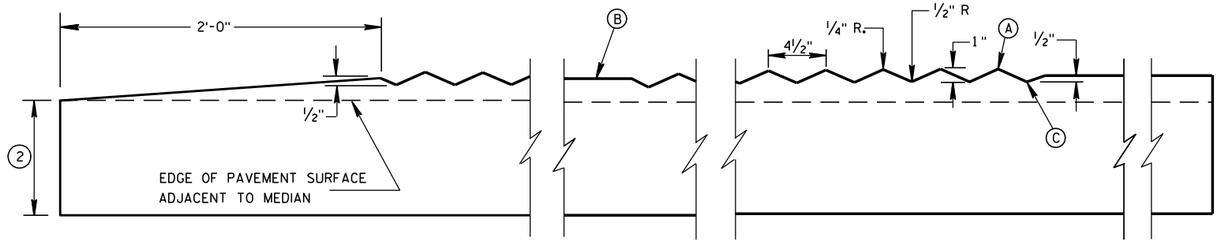
PLAN VIEW

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.

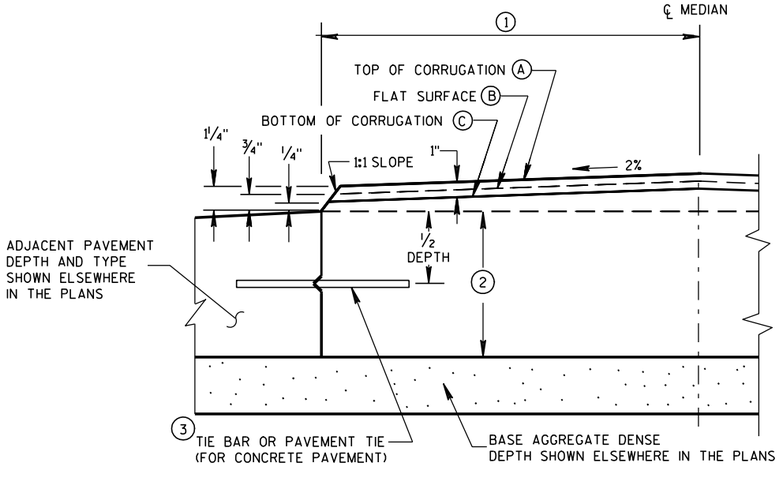
(2) THE DEPTH OF THE CONCRETE CORRUGATED MEDIAN SHALL BE 9-INCHES UNLESS SHOWN OTHERWISE IN THE PLAN.
ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN IN THE PLAN. TYPICAL OPTIONS ARE:
(1) NEW OR EXISTING CONCRETE PAVEMENT.
(2) ASPHALTIC CONCRETE OVER NEW OR EXISTING CONCRETE BASE COURSE, OR PAVEMENT.
(3) 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.

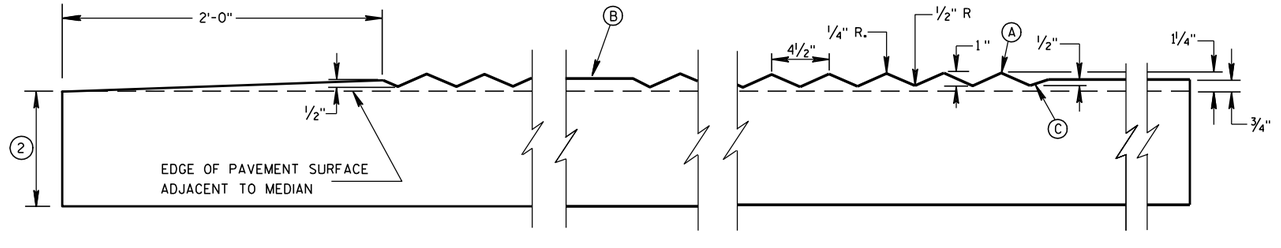
(5) SURFACE TYPE AND DETAILS ARE DEFINED ELSEWHERE IN THE PLAN.

(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 ENGINEER
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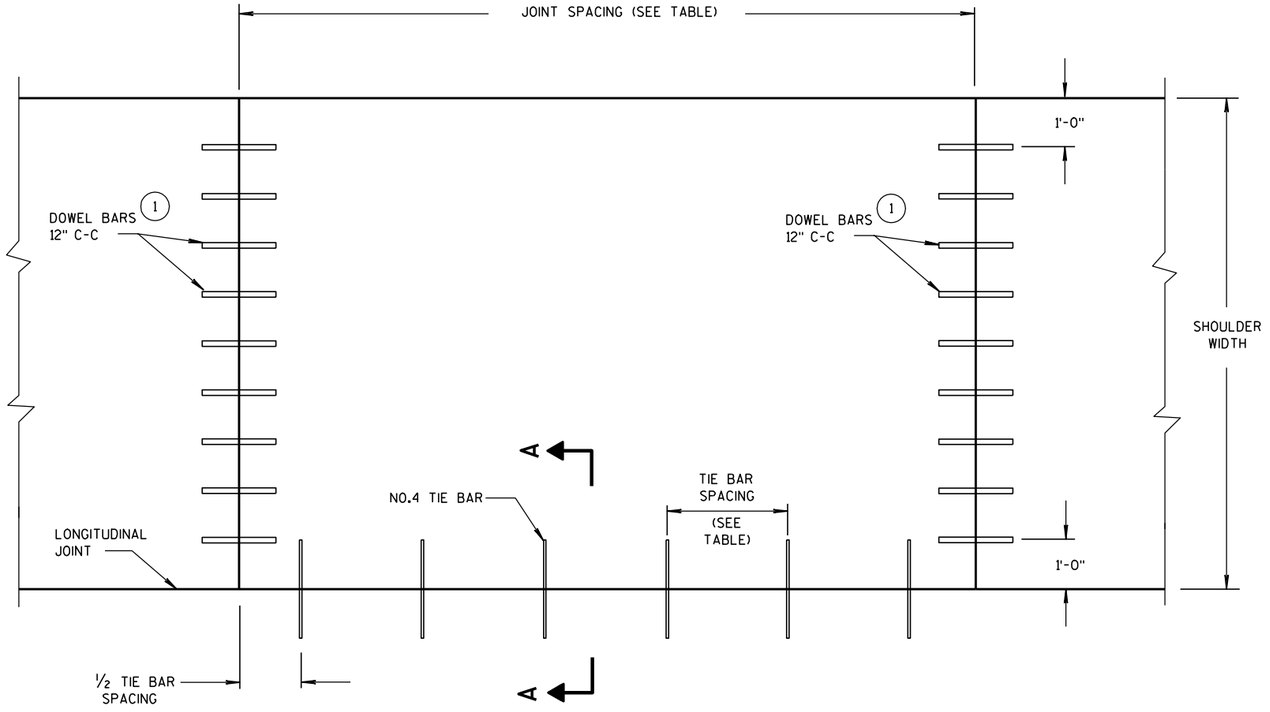


PLAN VIEW

CONCRETE PAVEMENT SHOULDER

PAVEMENT TYPE OF TRAFFIC LANES	TIE BAR SPACING	SHOULDER JOINT SPACING
NON-REINFORCED	30"	MATCH JOINT SPACING OF ADJACENT TRAFFIC LANE
CONTINUOUSLY REINFORCED	30"	15' FOR 6' TO 10' WIDE SHOULDERS
CONTINUOUSLY REINFORCED	36"	12' FOR 3' WIDE SHOULDERS

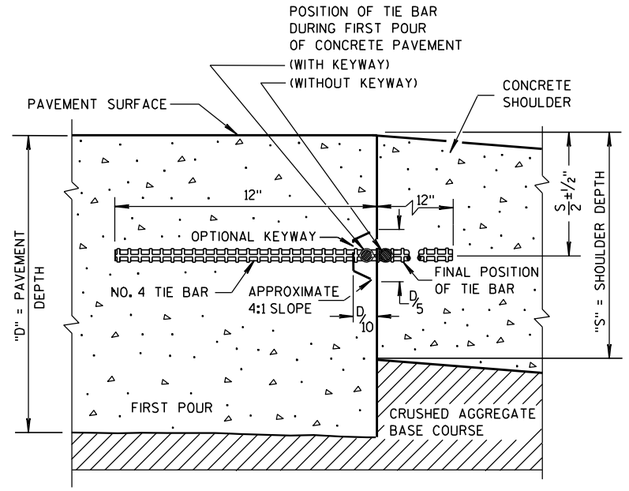
GENERAL NOTES

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

(1)

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
8/15/2011 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & D — INEER
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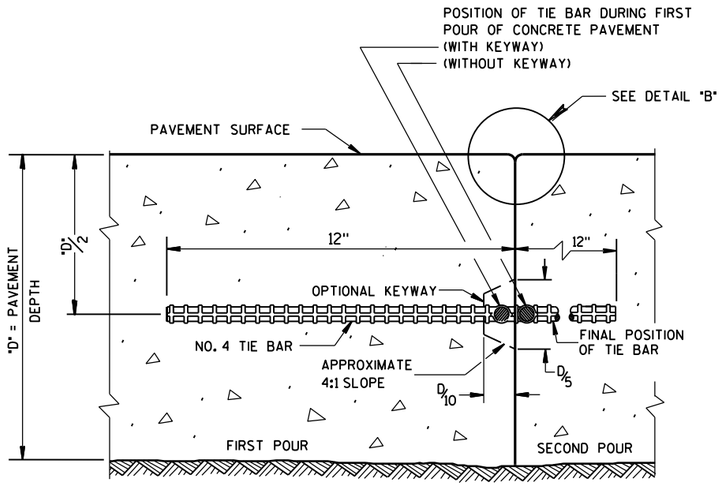
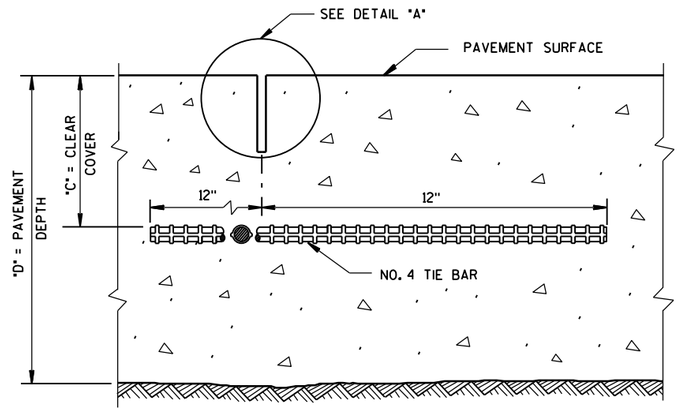


CONSTRUCTION JOINT



SAWED JOINT

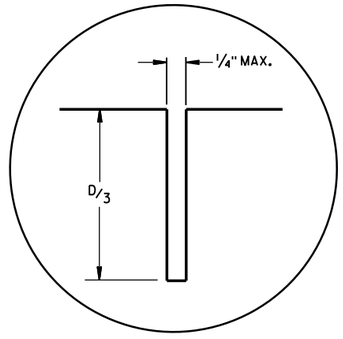
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

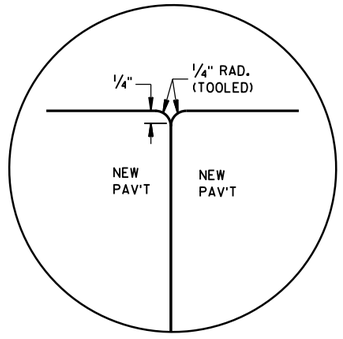
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

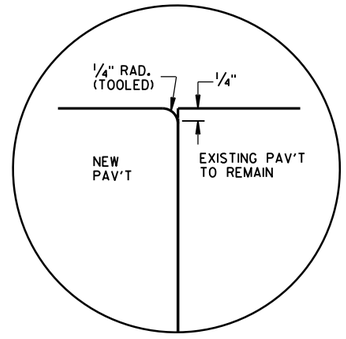
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



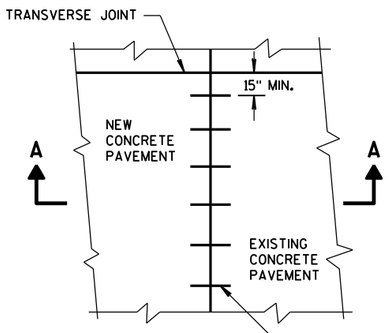
DETAIL "A"



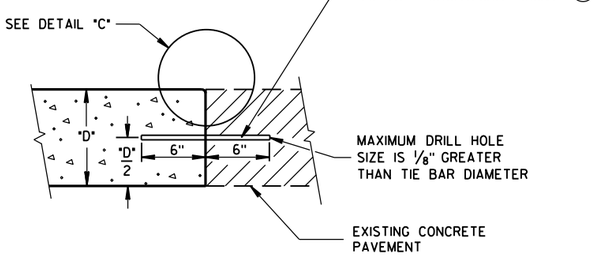
DETAIL "B"



DETAIL "C"



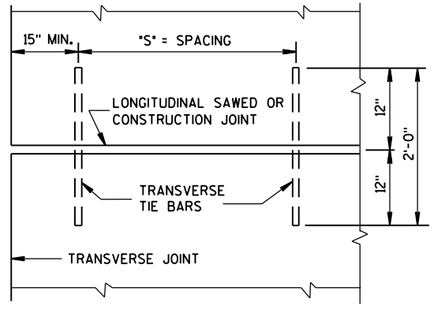
PLAN VIEW



SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/2014 DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE ...NEER

FHWA

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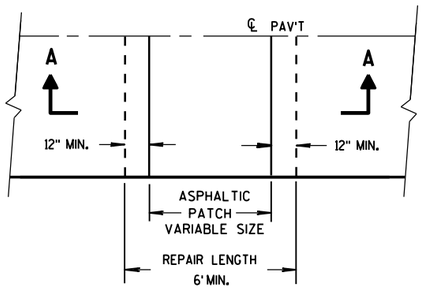
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

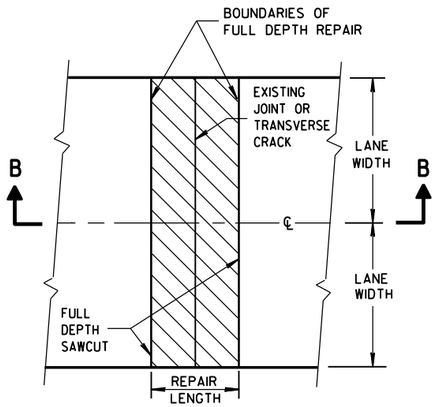
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

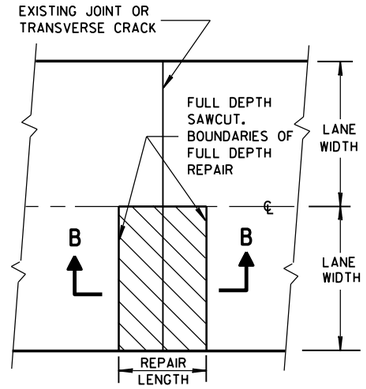
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW



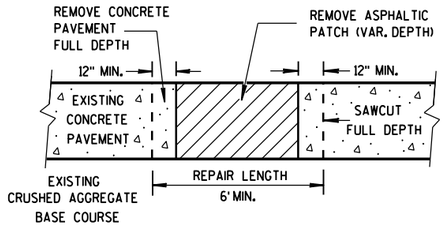
PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

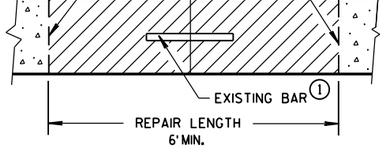
FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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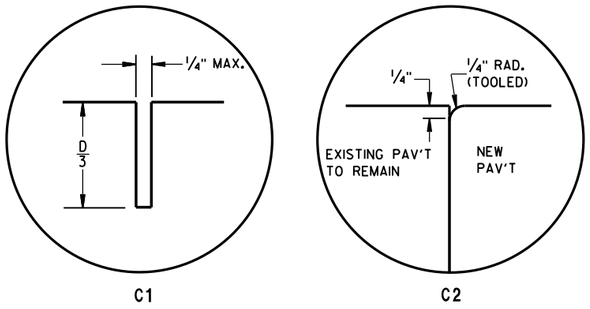
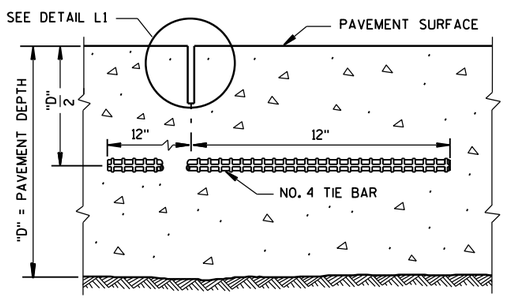


C1 C2

TRANSVERSE JOINTS

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

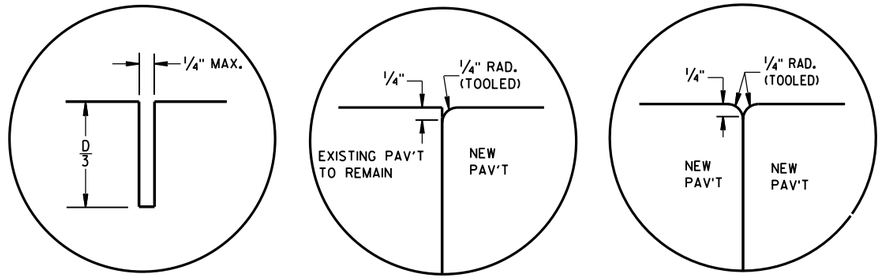
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

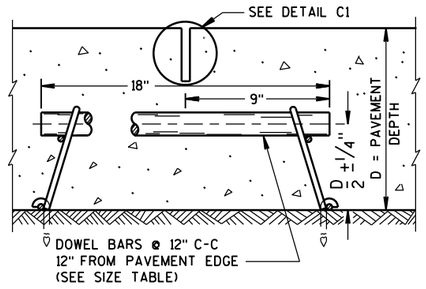
FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



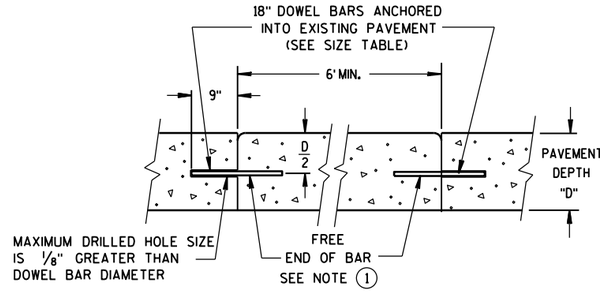
L1 L2 L3

LONGITUDINAL JOINTS

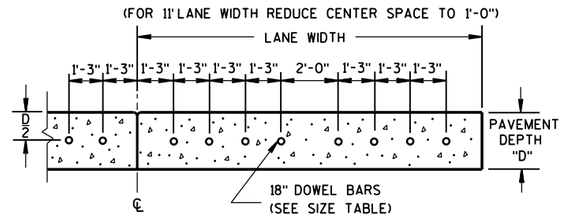


SECTION F-F

CONTRACTION JOINT



SECTION D-D

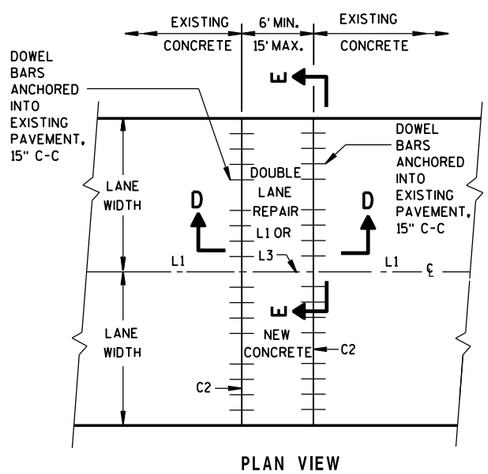


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

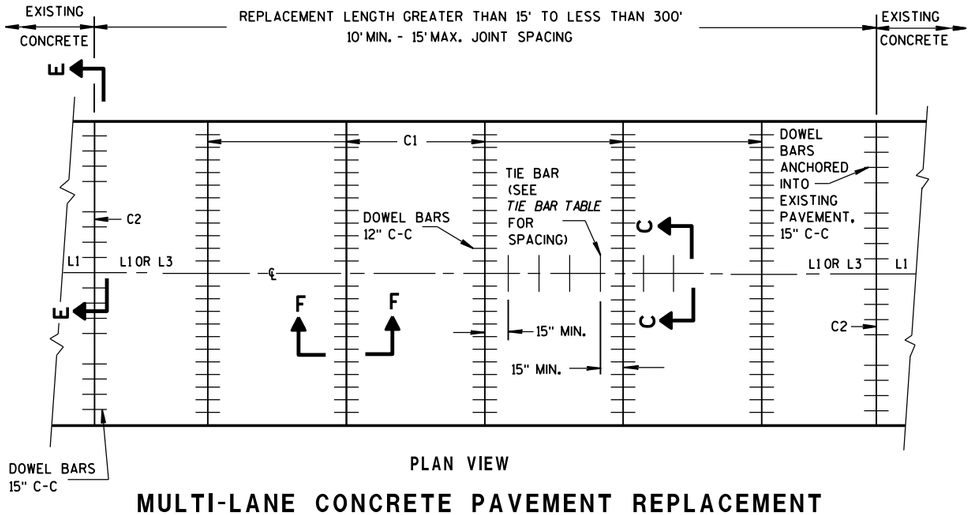
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6",6 1/2"	NONE	12'
7",7 1/2"	1"	14'
8",8 1/2"	1 1/4"	15'
9",9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



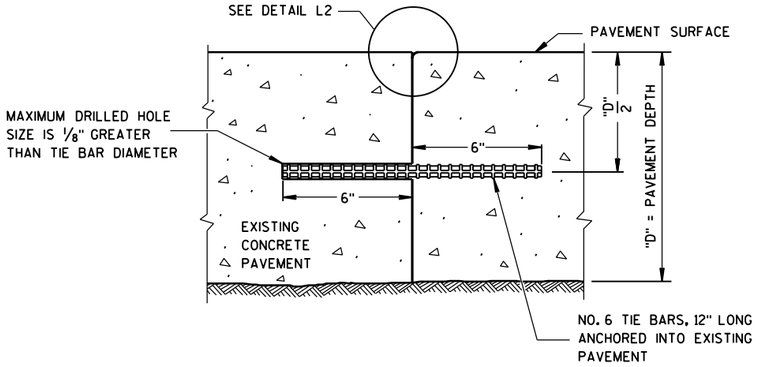
PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 13 C 9-11b



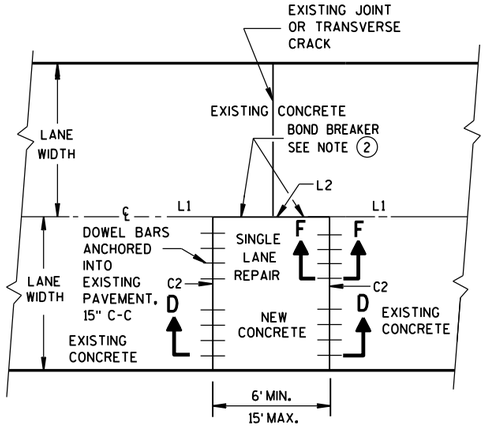
SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

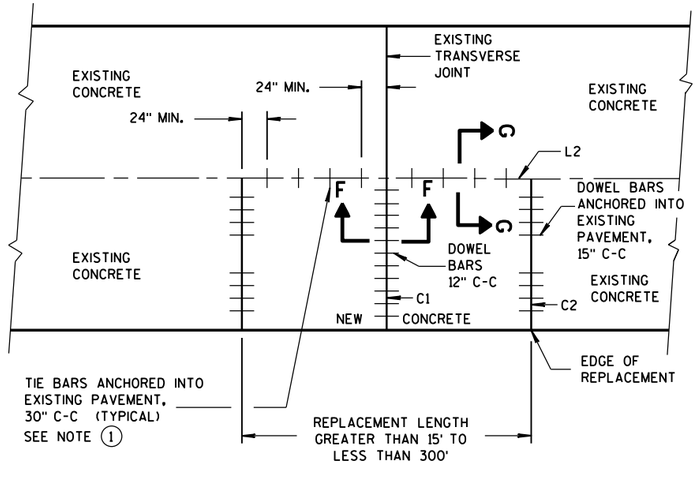
(1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12-2013 DATE
/S/ Deb Bischoff
PAVEMENT POLICY & DE
FHWA

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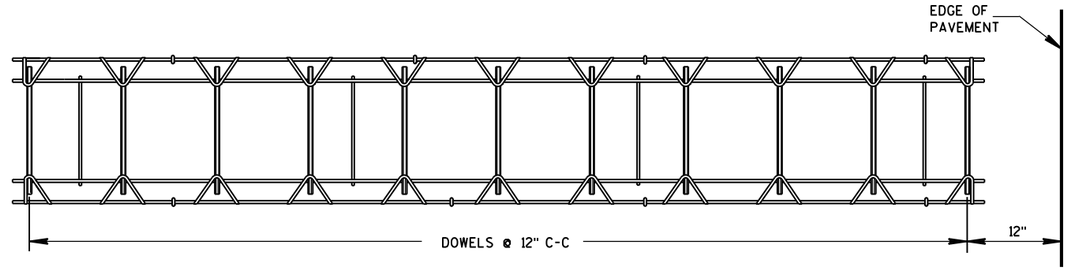
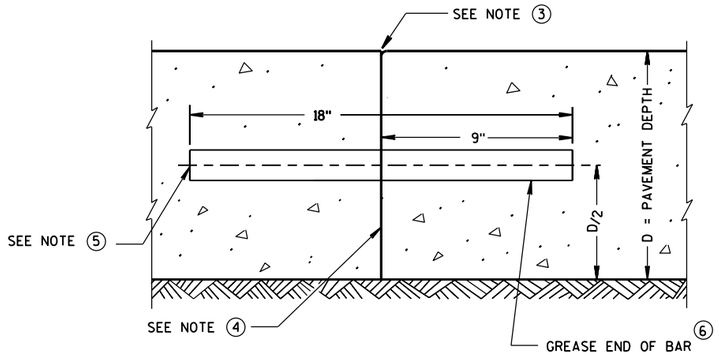
S.D.D. 13 C 9-11c



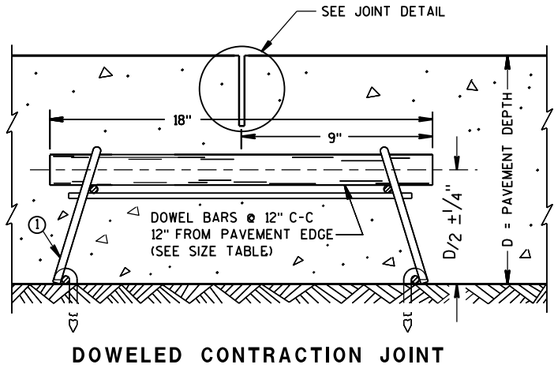
PLAN VIEW

SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



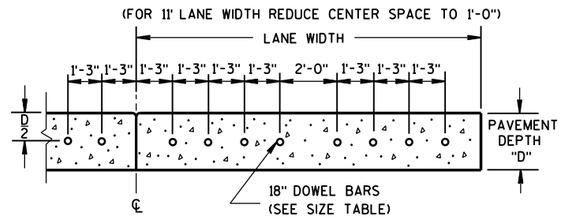
TRANSVERSE CONSTRUCTION JOINT



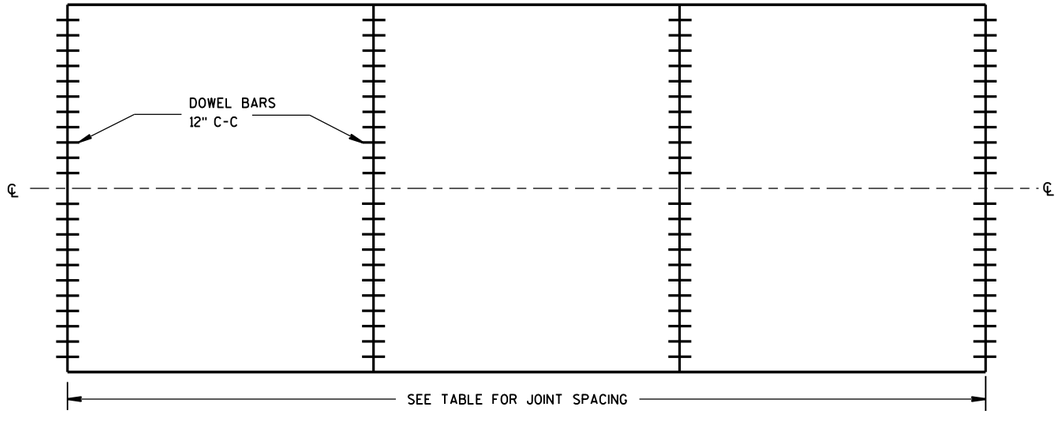
DOWELED CONTRACTION JOINT

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.

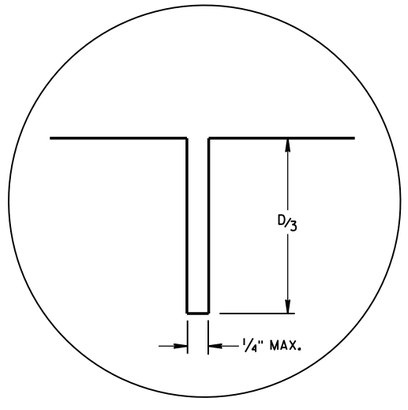
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

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 ...NEER
FHWA

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S.D.D. 13 C 13-8

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S.D.D. 13 C 13-8

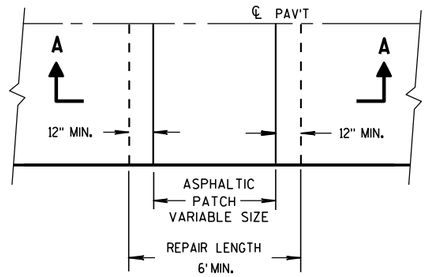
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

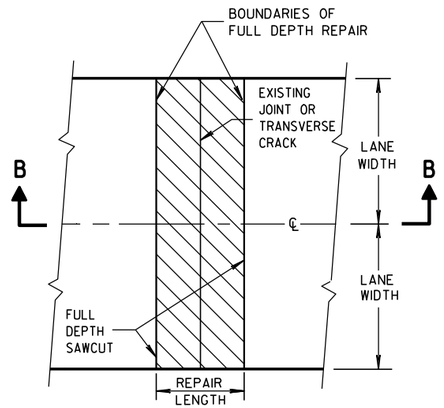
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

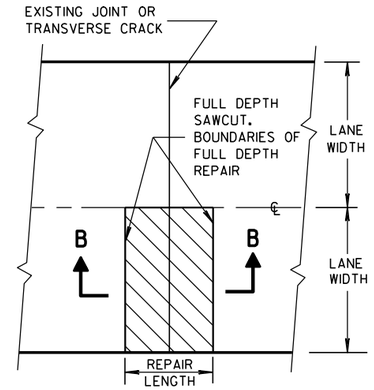
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW



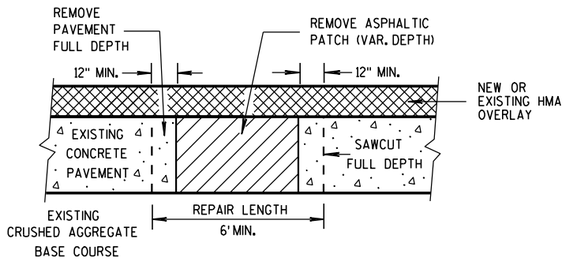
PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

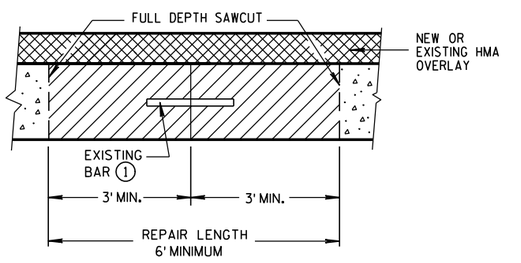
FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 13 C 14-4a

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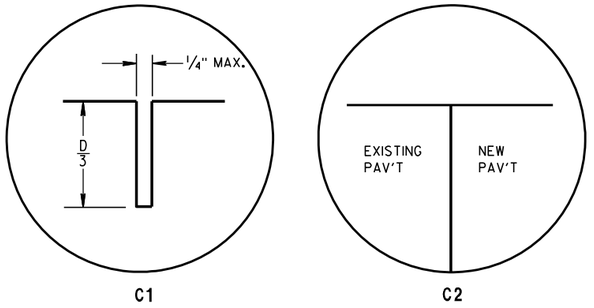
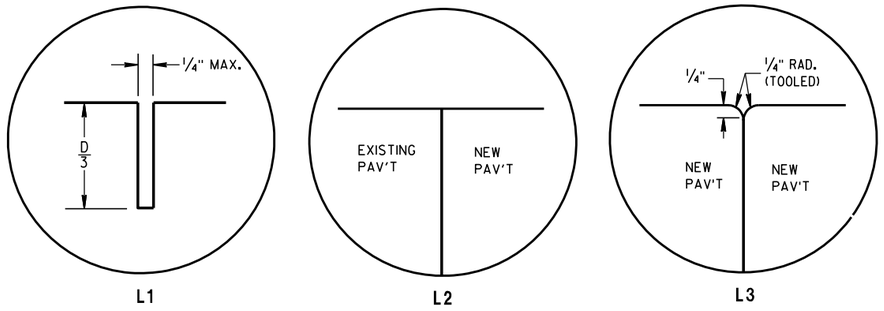
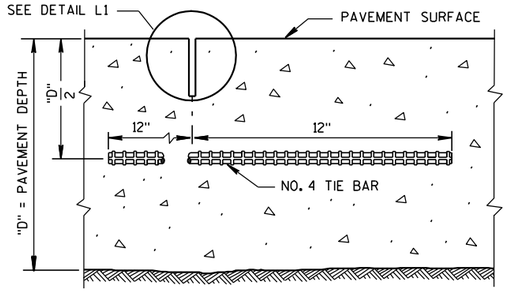
S.D.D. 13 C 14-4a



TRANSVERSE JOINTS

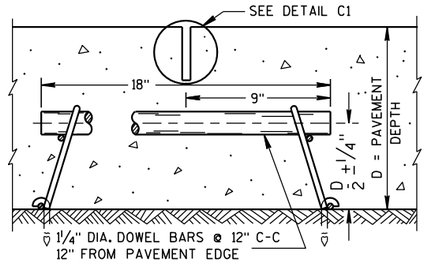


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

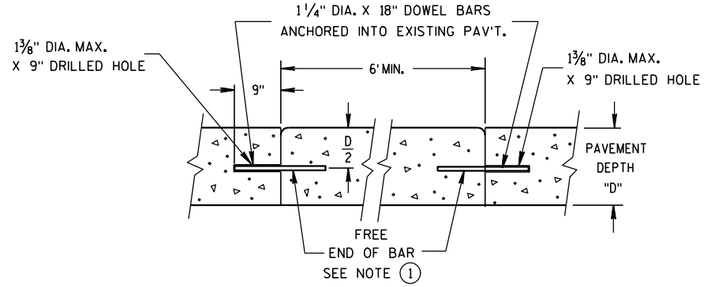
CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

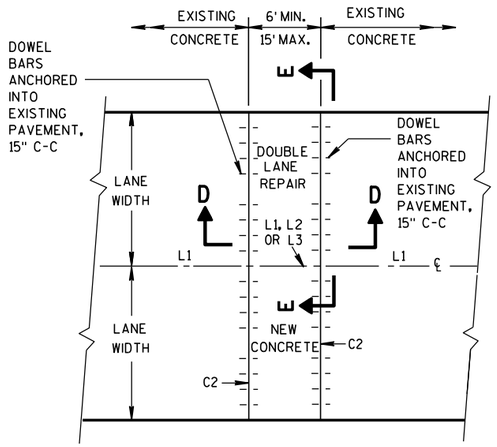
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

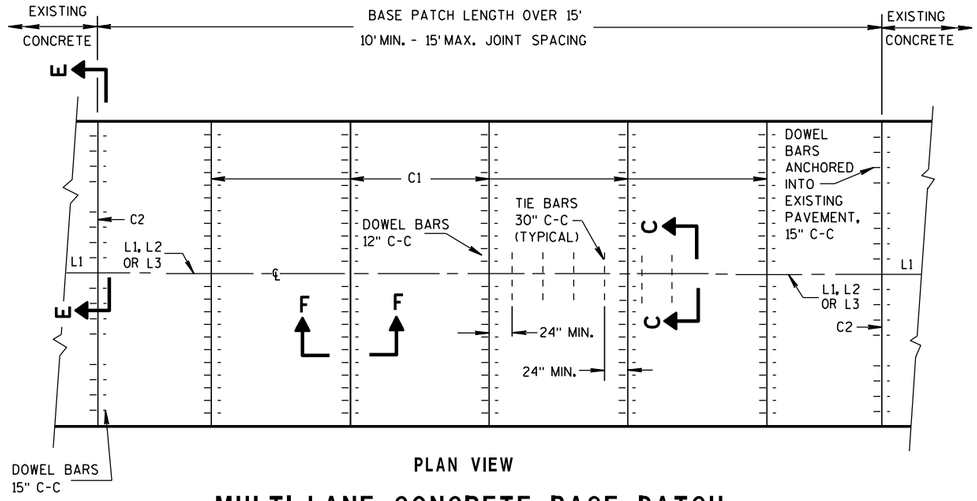


SECTION D-D



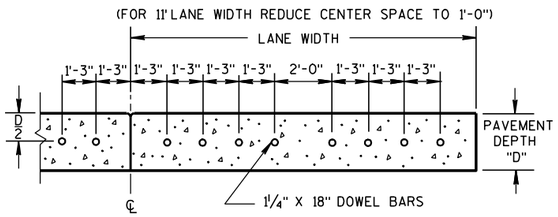
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH



SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 13 C 14-4b

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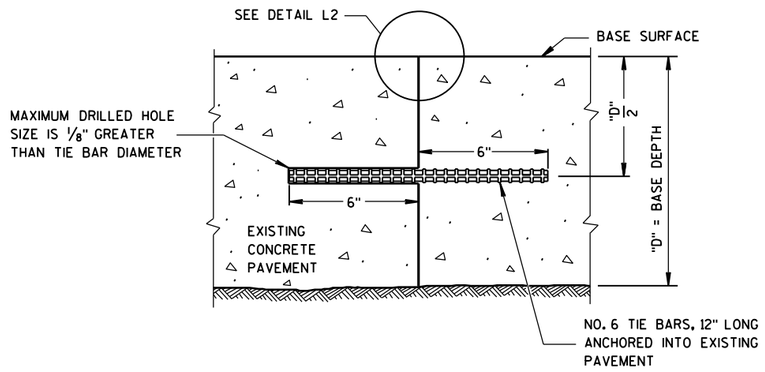
S.D.D. 13 C 14-4b



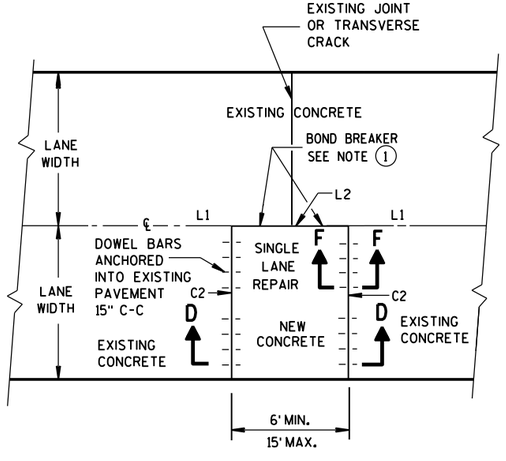
SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

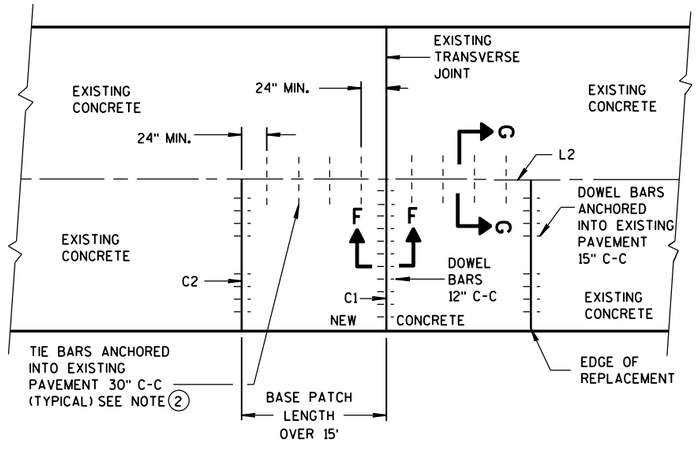
1. USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

2. WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12-11-2009 DATE
/S/ Deb Bischoff PAVEMENT POLICY & DE
FHWA

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S.D.D. 13 C 14-4c

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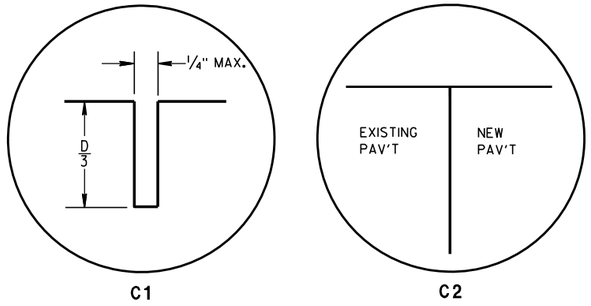
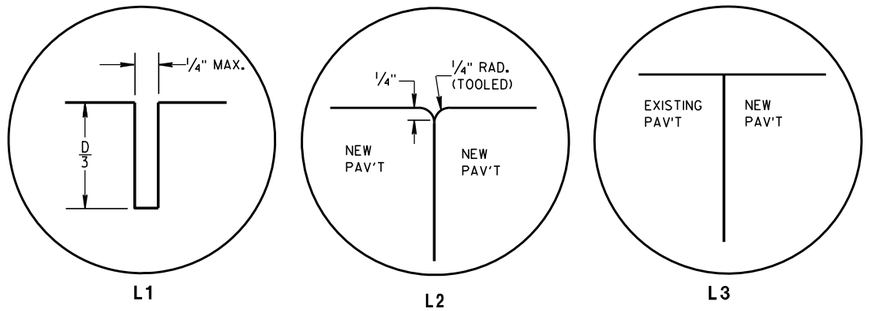
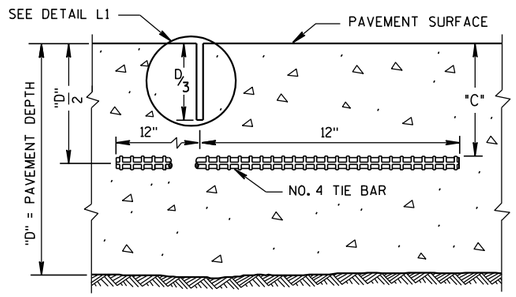
S.D.D. 13 C 14-4c



TRANSVERSE JOINTS

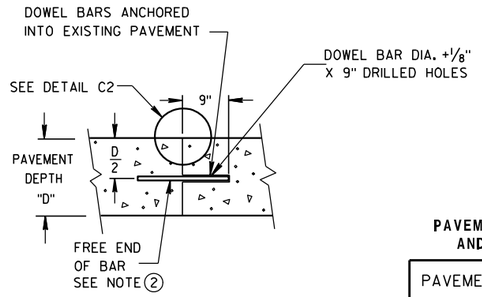


LONGITUDINAL JOINTS



SECTION C-C

SAWED JOINT



SECTION D-D

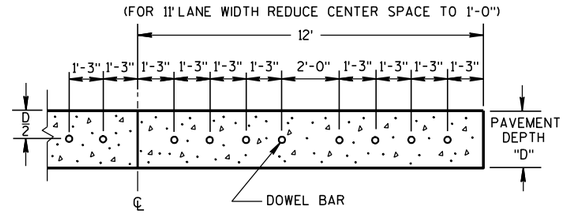
GENERAL NOTES

ANCHOR TIE BARS AND DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

(2) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



SECTION E-E

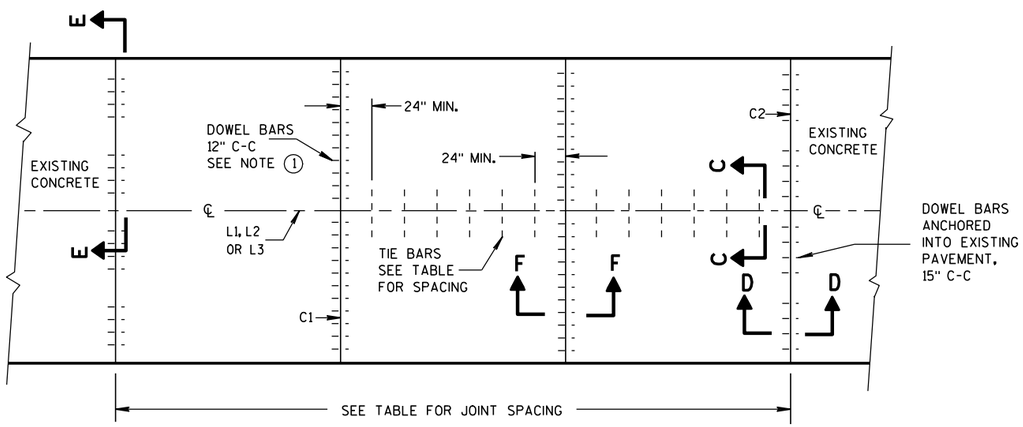
SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH "D"	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5½", 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'

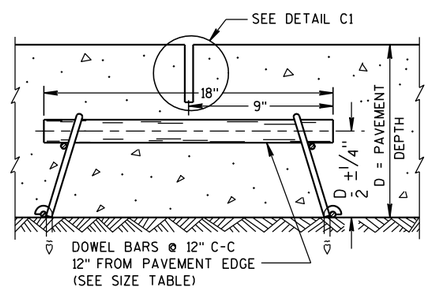
TIE BAR LOCATION TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING C-C	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 ½"	3"±½"	48"	42"
7, 7 ½"	3 ¼"±1"	45"	36"
8, 8 ½"	3 ¾"±1"	39"	30"
9, 9 ½"	4 ¼"±1"	33"	27"
10, 10 ½"	4 ¾"±1"	30"	24"
11, 11 ½"	5 ¼"±1"	27"	21"
12"	5 ¾"±1"	24"	21"



PLAN VIEW

CONCRETE BASE CONTRACTION JOINT LOCATIONS



SECTION F-F

CONTRACTION JOINT

CONCRETE BASE

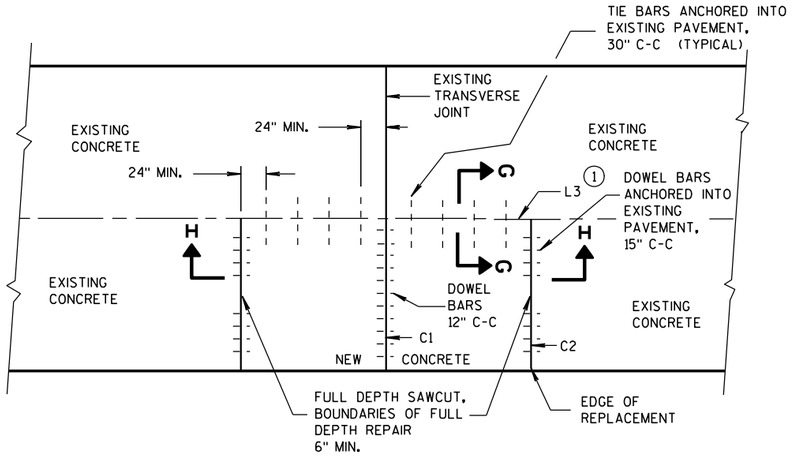
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 15-5a

6

S.D.D. 13 C 15-5a

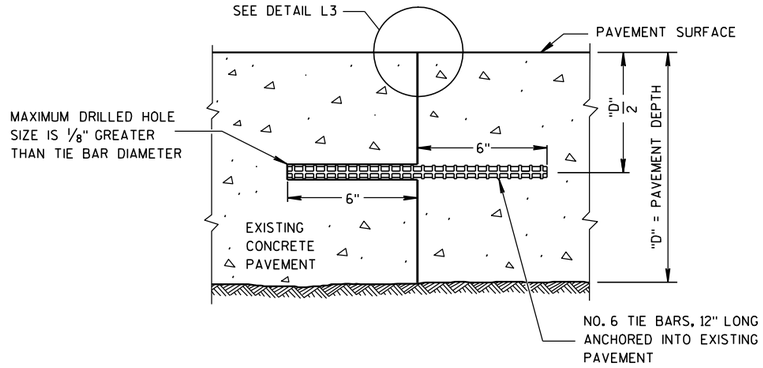


PLAN VIEW

SINGLE LANE CONCRETE BASE REPAIR

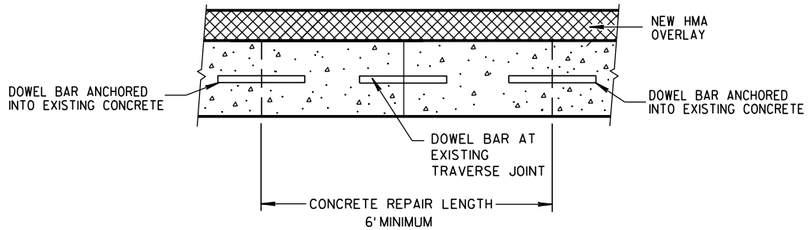
GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER AT THE LONGITUDINAL JOINT IN LIEU OF TIE BARS FOR SINGLE LANE CONCRETE BASE REPAIRS UP TO 15 FEET IN LENGTH.



SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT



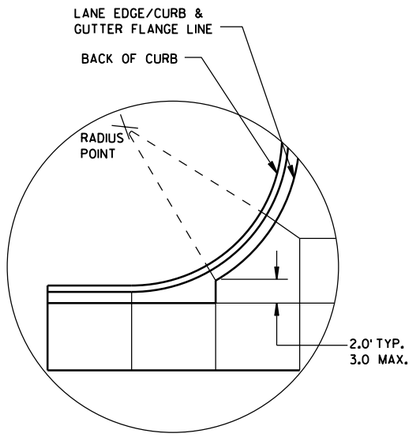
SECTION H-H

CONCRETE BASE

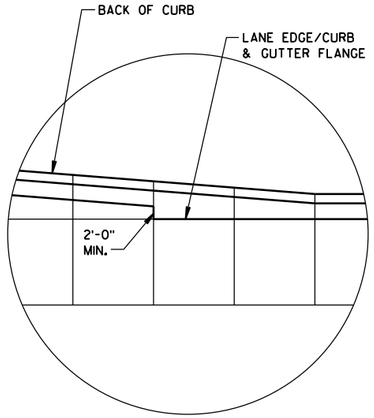
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12-11-2009 DATE
/S/ Deb Bischoff PAVEMENT POLICY & D339 ENGINEER
FHWA

6
S.D.D. 13 C 15-5b



DETAIL "A"



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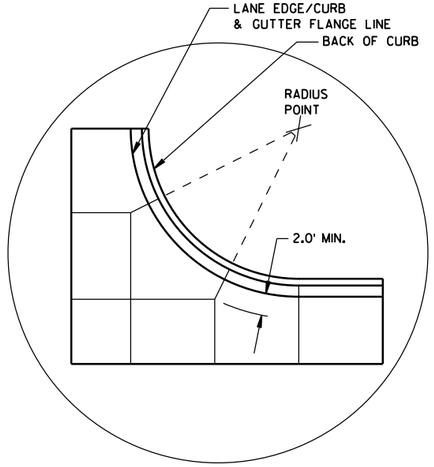
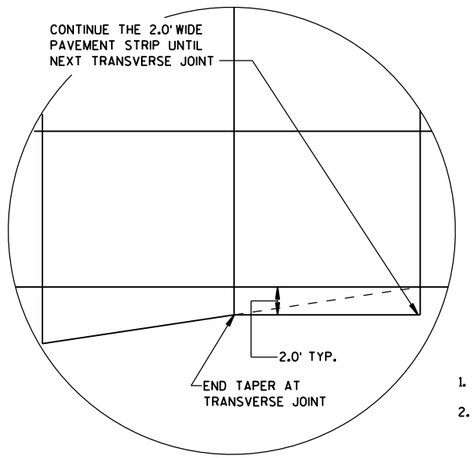


DETAIL "C"



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.

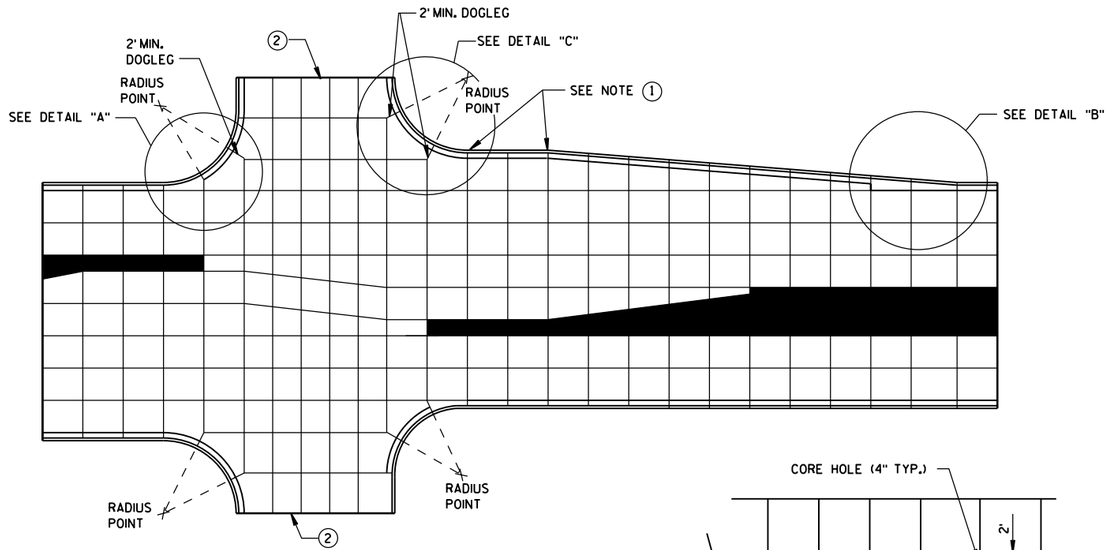
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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.

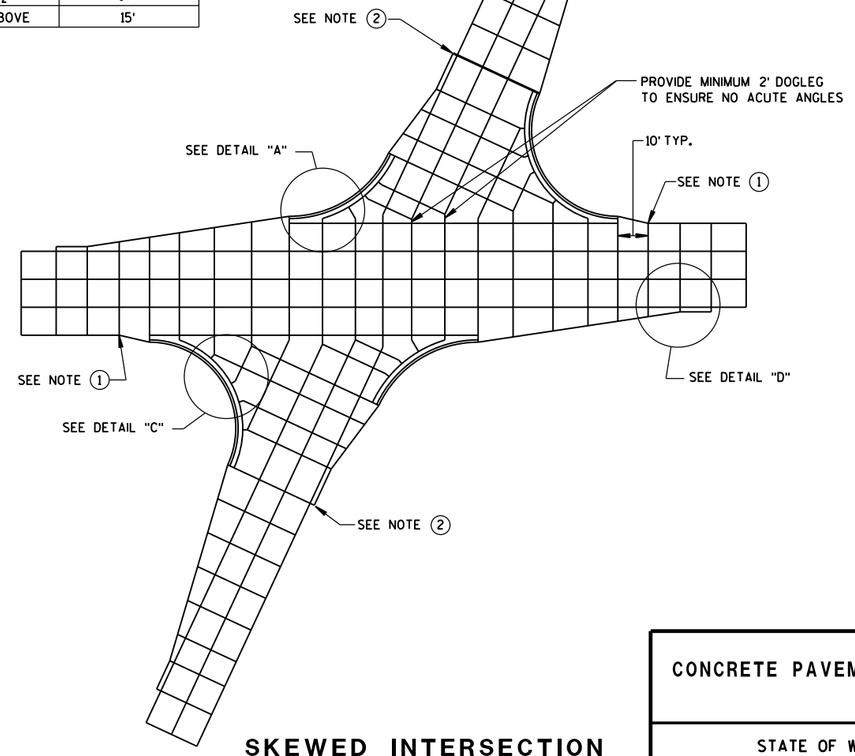
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



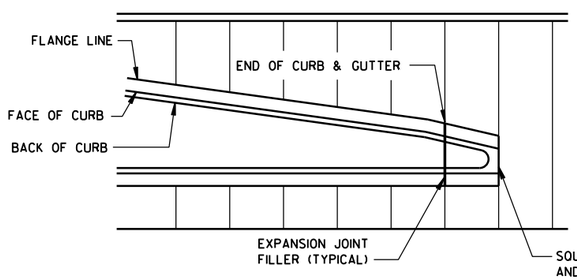
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

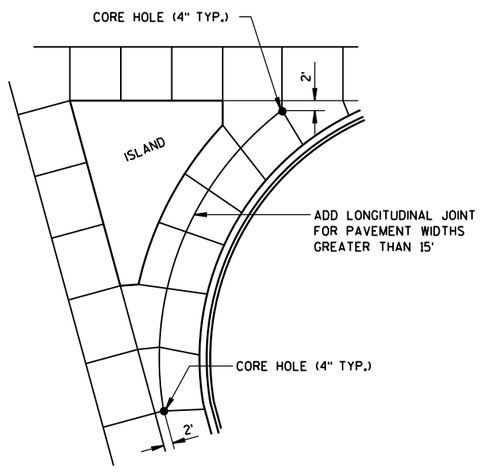
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

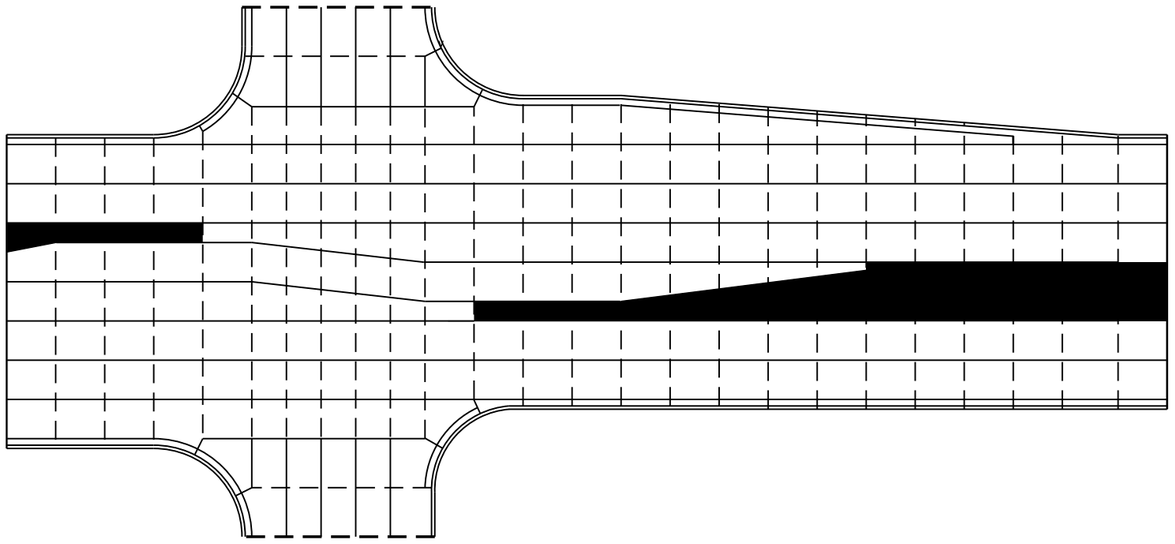
6
S.D.D. 13 C 18-2a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

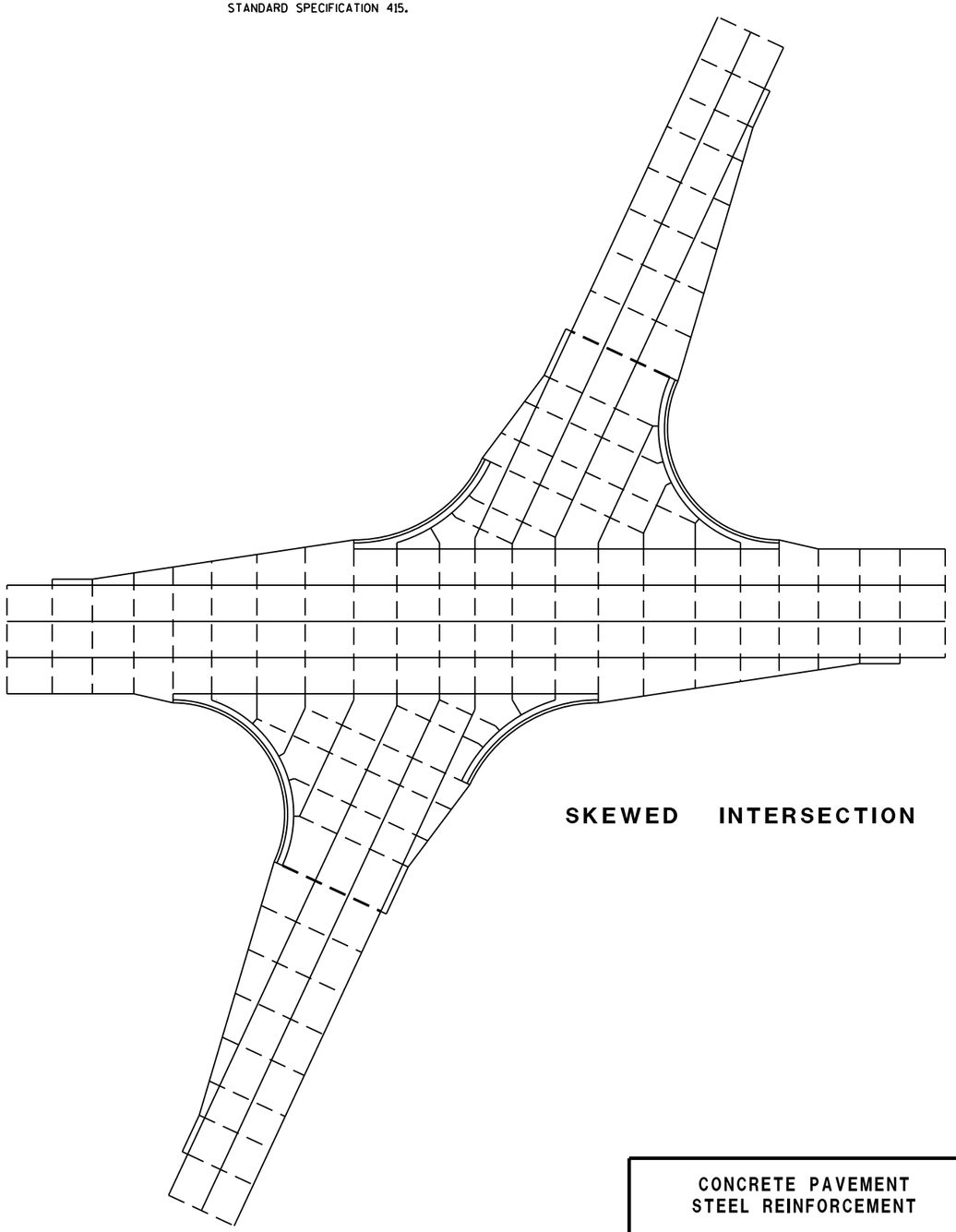
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

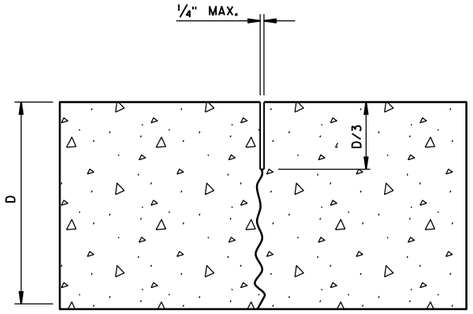
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

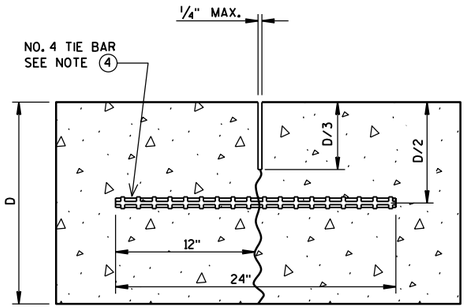
S.D.D. 13 C 18-2b

6

S.D.D. 13 C 18-2b



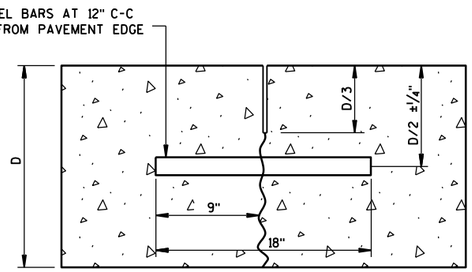
UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

GENERAL NOTES

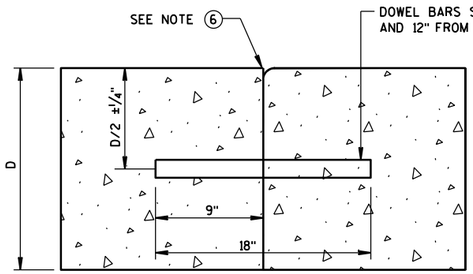
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.



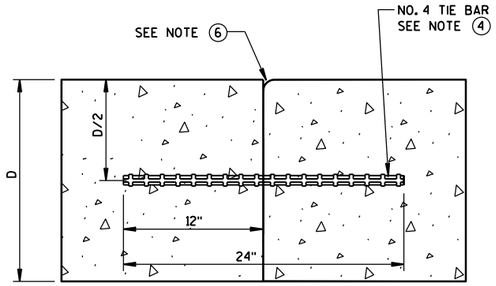
DOWELED-TRANSVERSE

CONTRACTION JOINTS

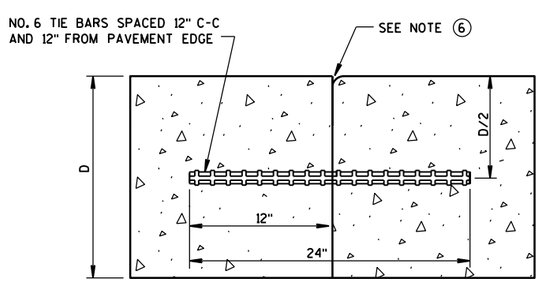
SEE NOTE (2)



DOWELED TRANSVERSE

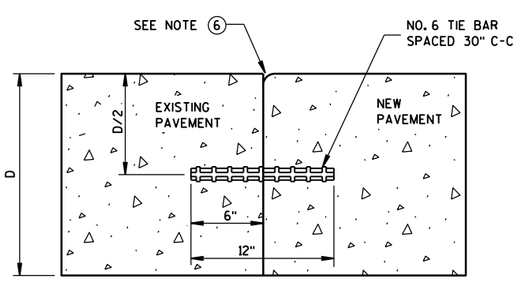


TIED LONGITUDINAL



TIED TRANSVERSE

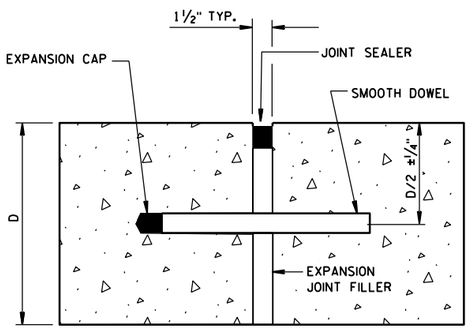
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

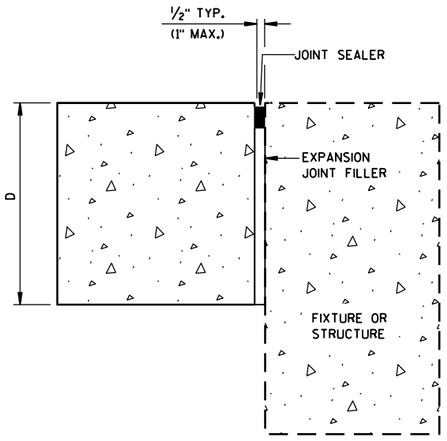
CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

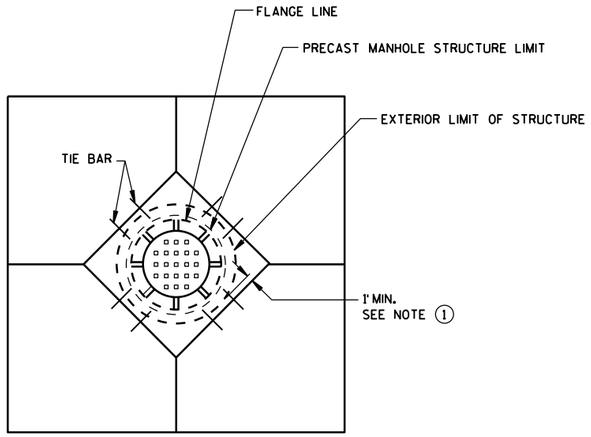
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

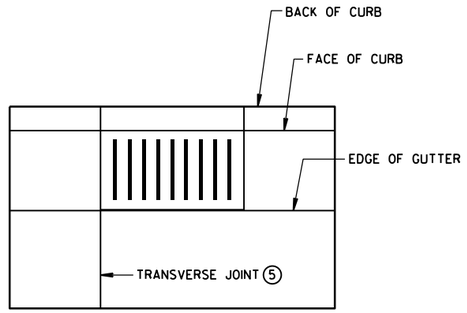
S.D.D. 13 C 18-2c

6

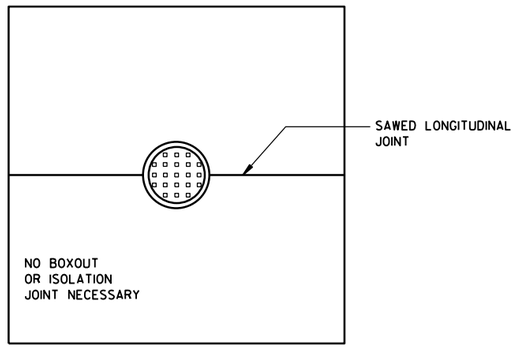
S.D.D. 13 C 18-2c



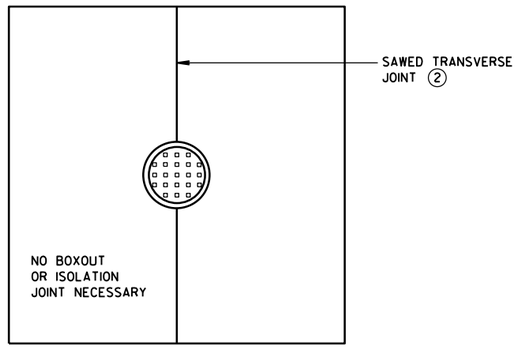
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



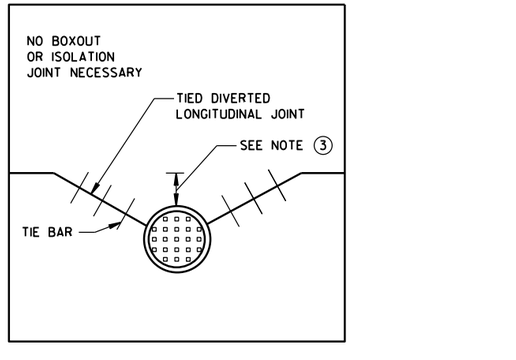
INLET WITH TRANSVERSE JOINT



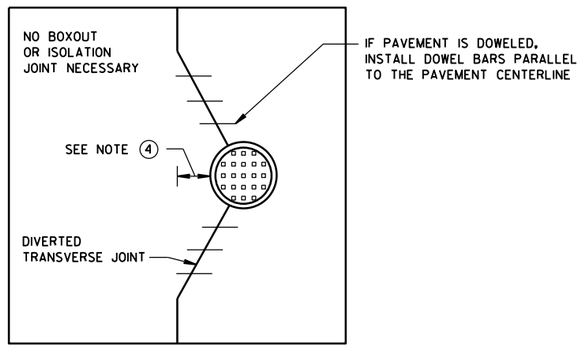
MANHOLE WITH LONGITUDINAL JOINT



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

5-3-2013 — DATE

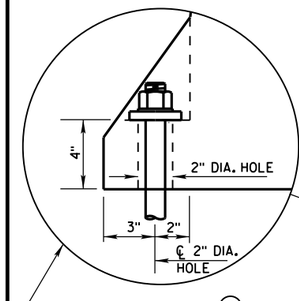
/S/ Deb Bischoff — PAVEMENT POLICY & DE

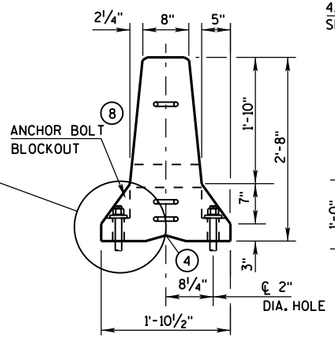
NEER

FHWA

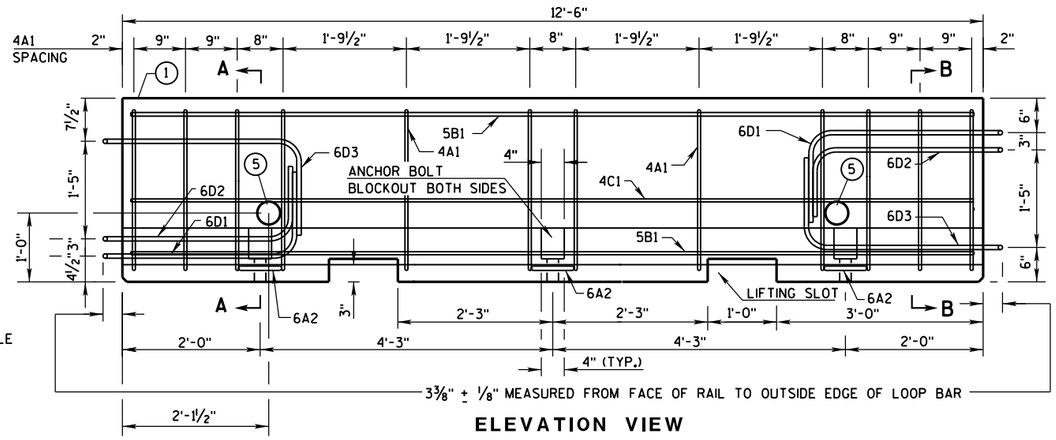
6

S.D.D. 13 C 18-2d

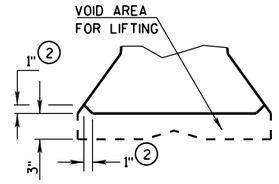




END VIEW



ELEVATION VIEW



DETAIL "B"
LIFTING SLOT DETAIL

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.

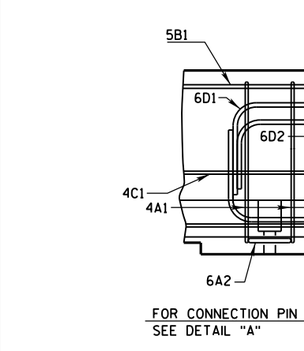
(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

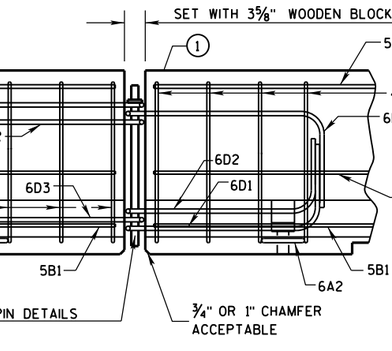
(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED 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.



SECTION A-A
(STIRRUP PLACEMENT)

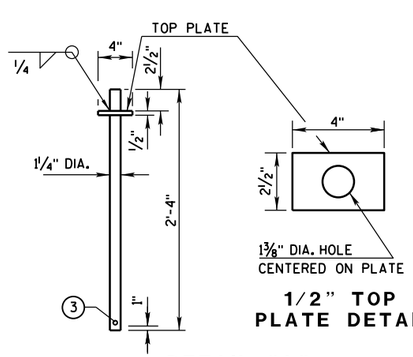


SECTION B-B
(STIRRUP PLACEMENT)

PLAN VIEW

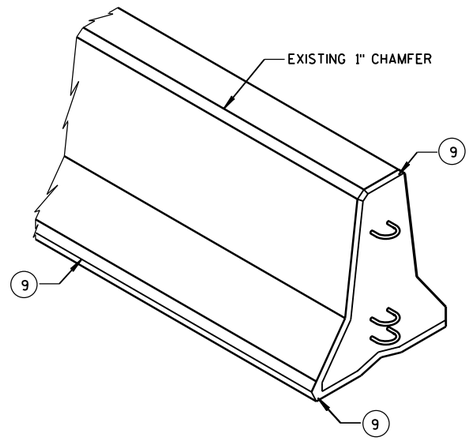
DETAILS OF BARRIER SECTION

DETAILS OF BARRIER CONNECTION



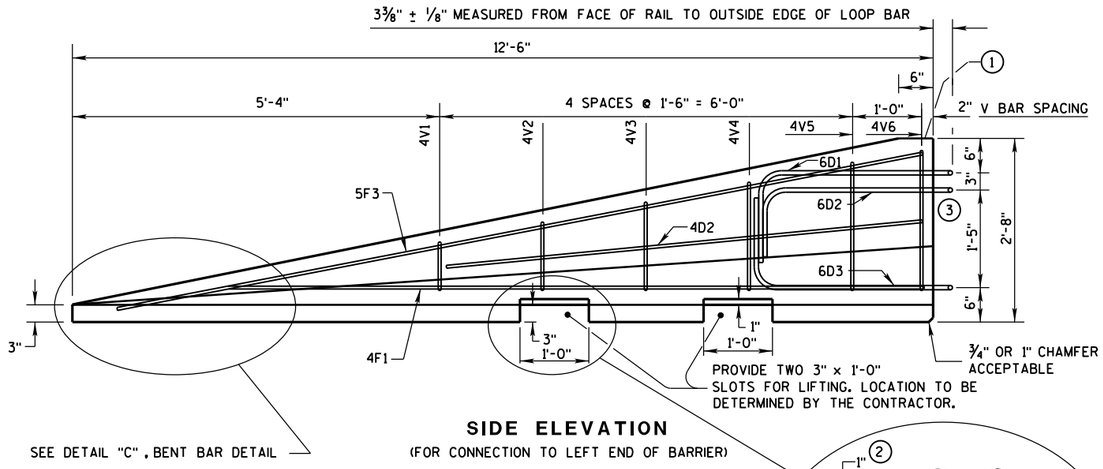
1/2" TOP
PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))

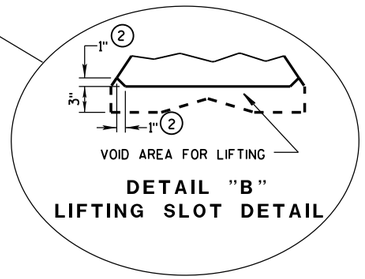


CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

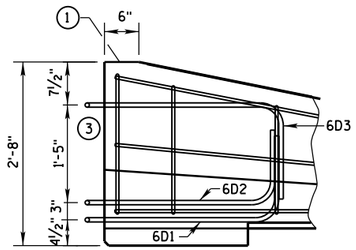
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



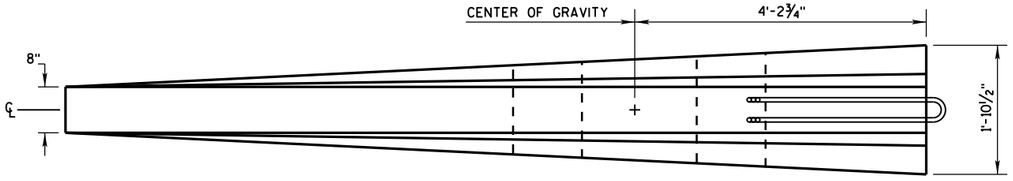
DETAIL "B"
LIFTING SLOT DETAIL



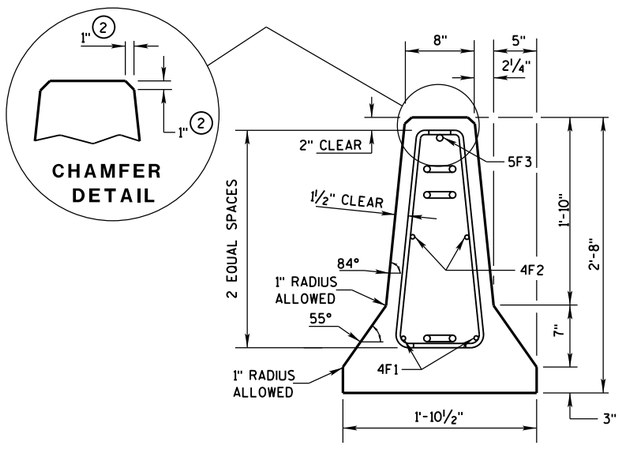
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

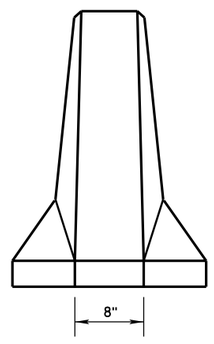
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



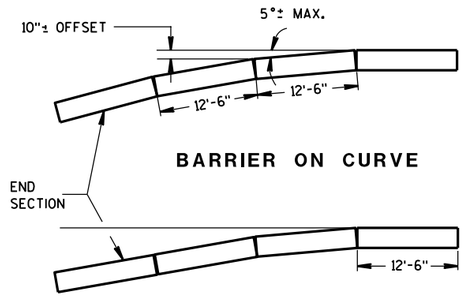
PLAN VIEW



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"

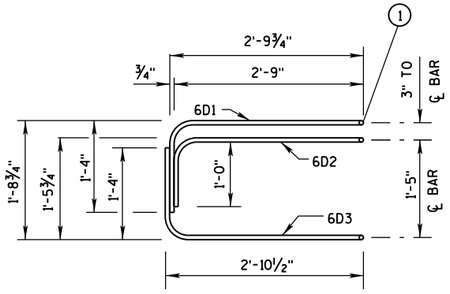
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14b

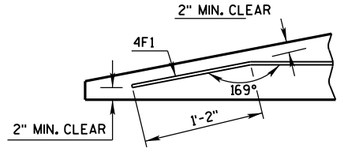
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

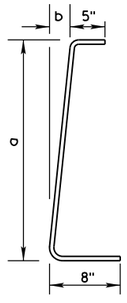
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



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

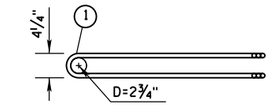
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

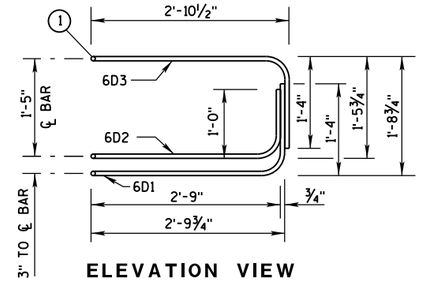
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

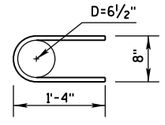
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



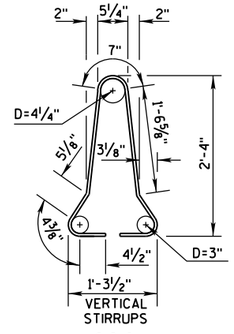
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2



4A1

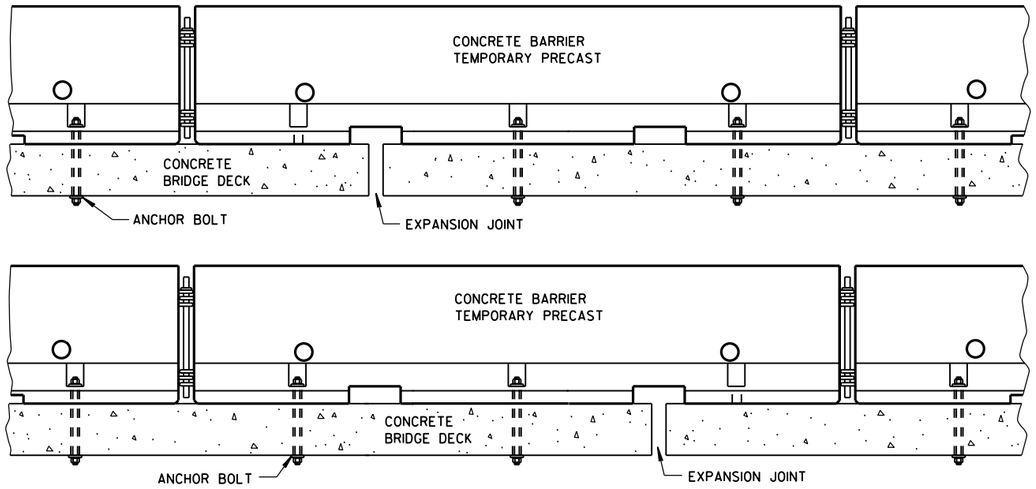
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

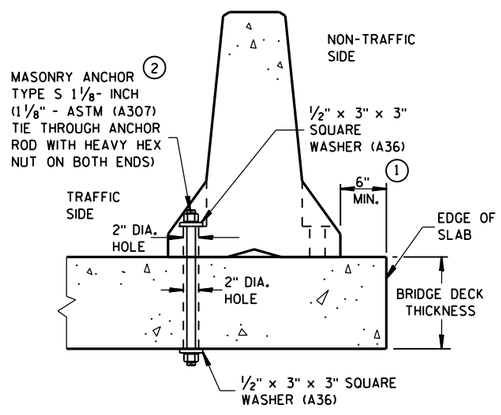
6

S.D.D. 14 B 7-14c



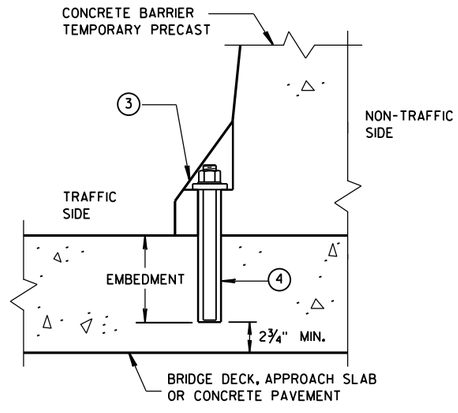
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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.

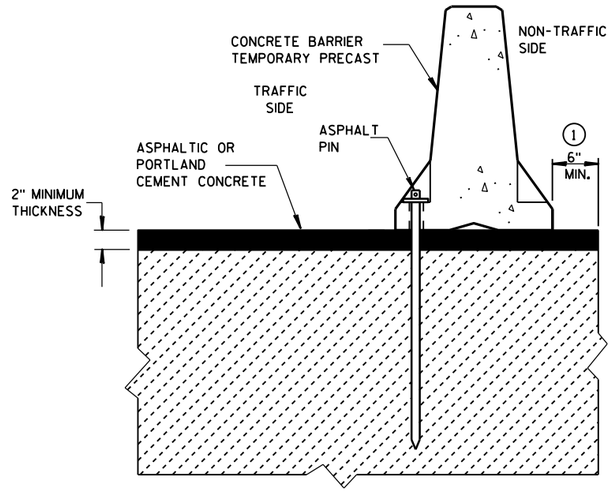
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

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.

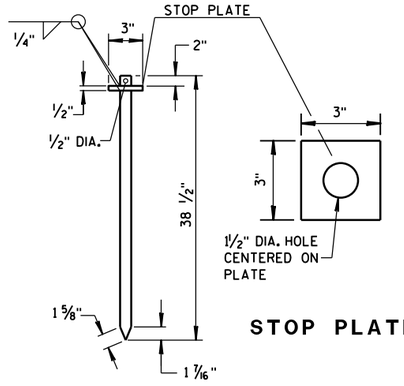
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

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

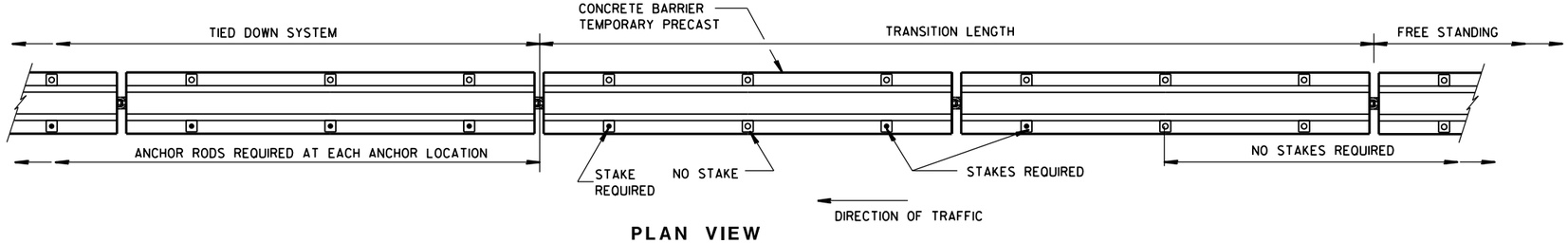
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

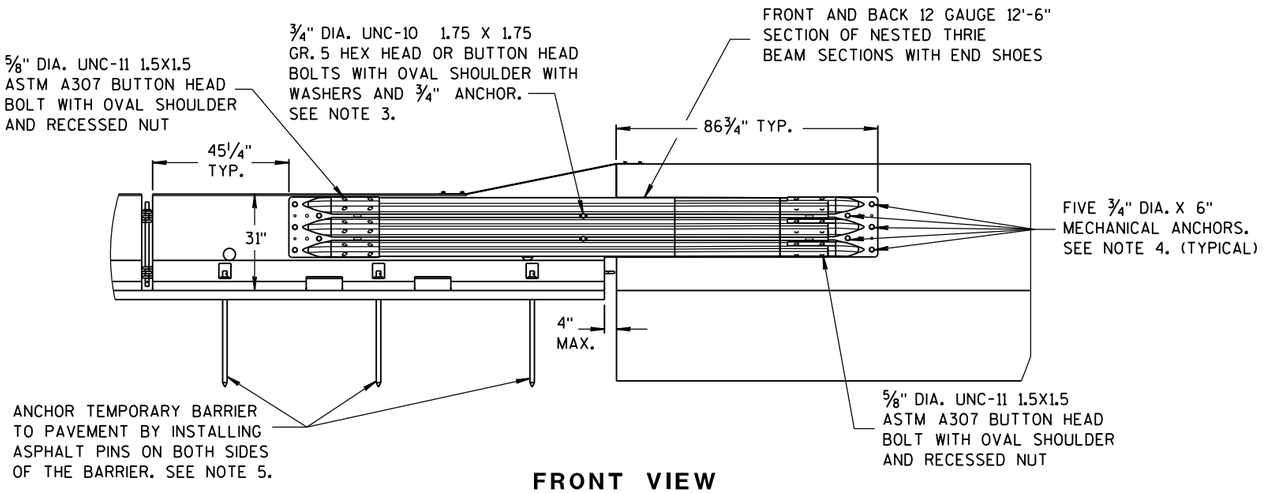
FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

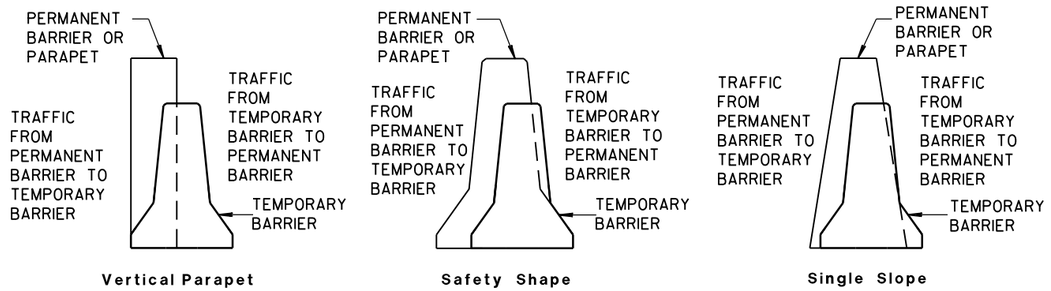
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14d



FRONT VIEW

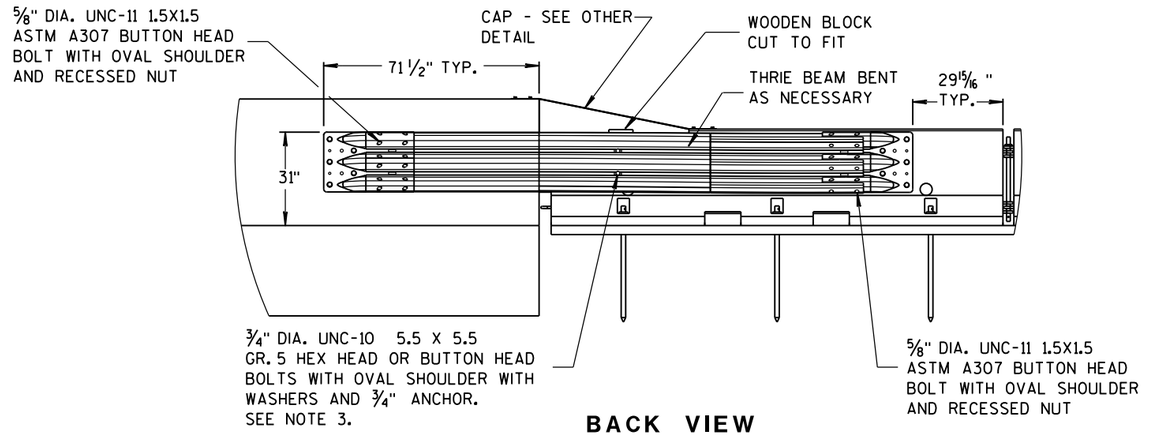


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

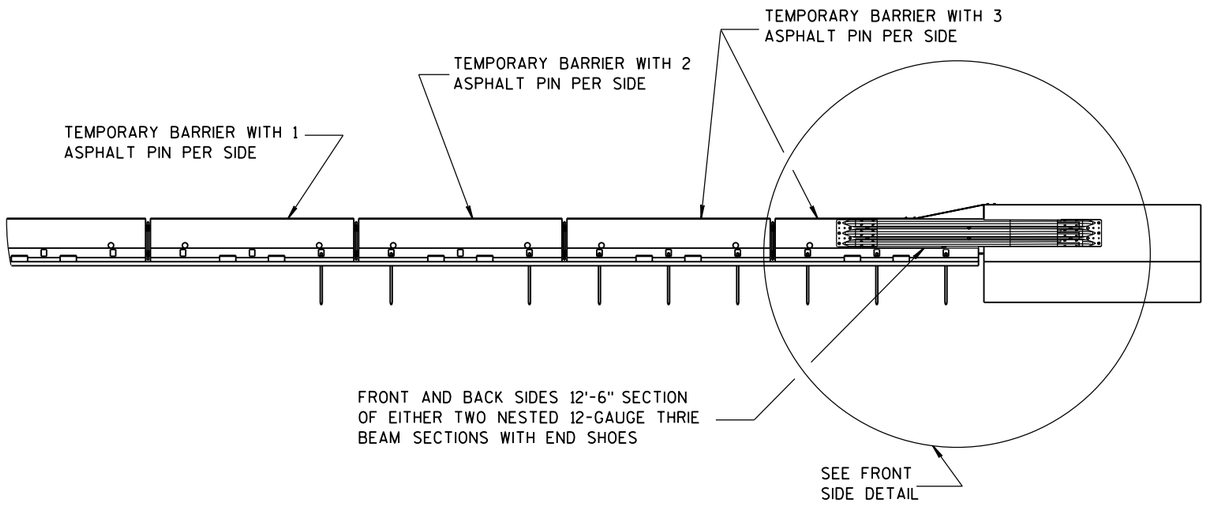
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

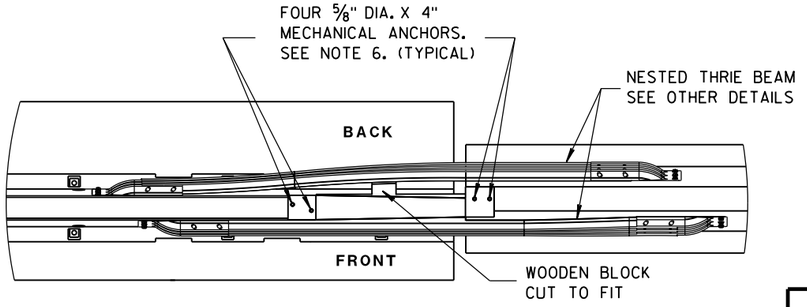
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 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



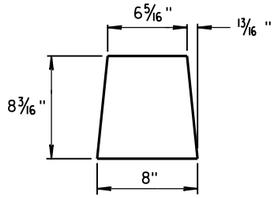
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

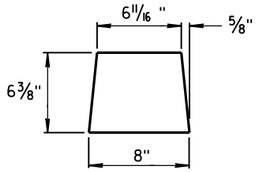
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

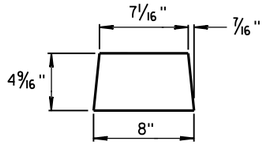
6
S.D.D. 14 B 7-14e



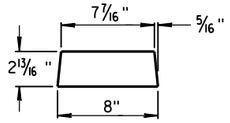
GUSSET 1



GUSSET 2

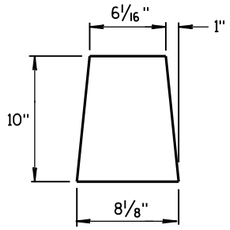


GUSSET 3

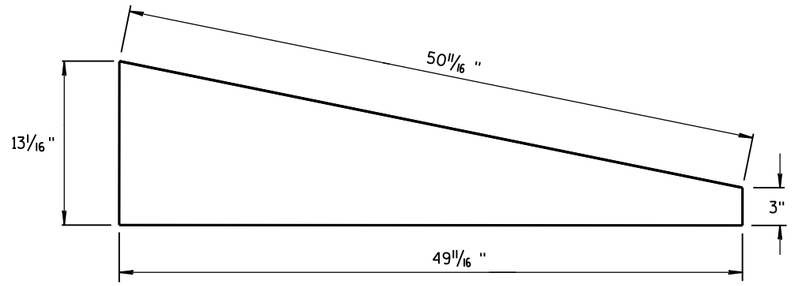


GUSSET 4

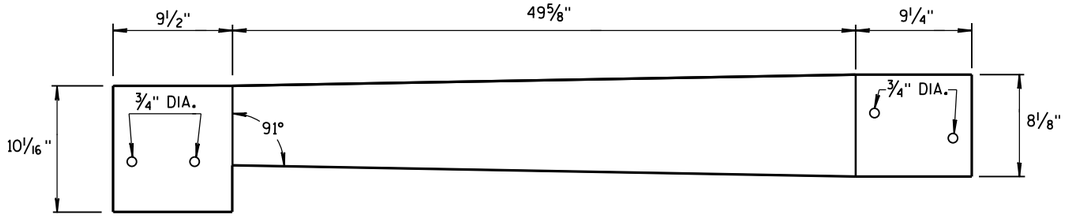
GUSSETS

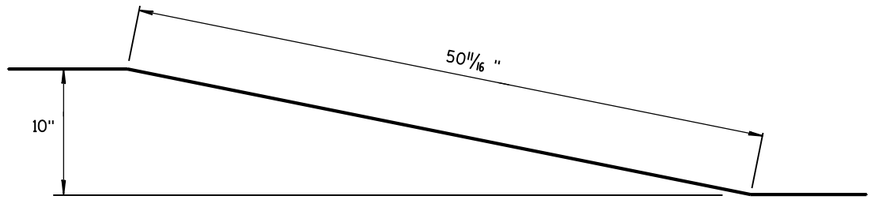


END PLATE



SIDE PLATE

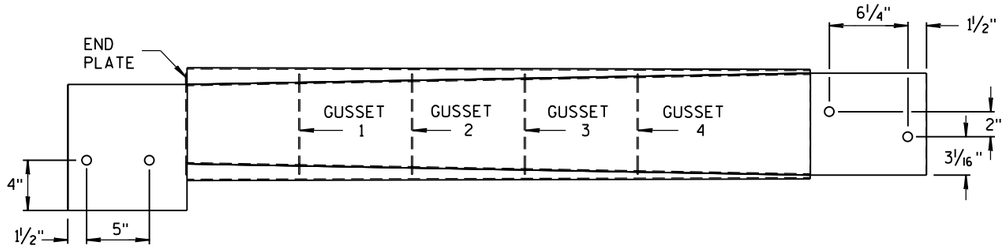


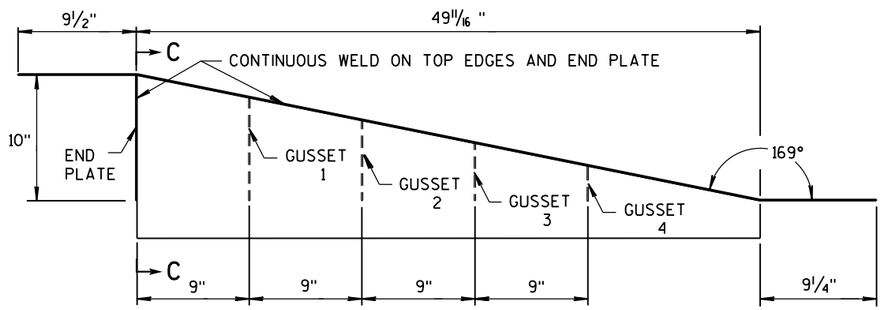


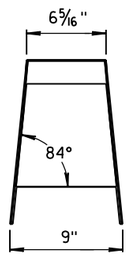
TOP PLATE

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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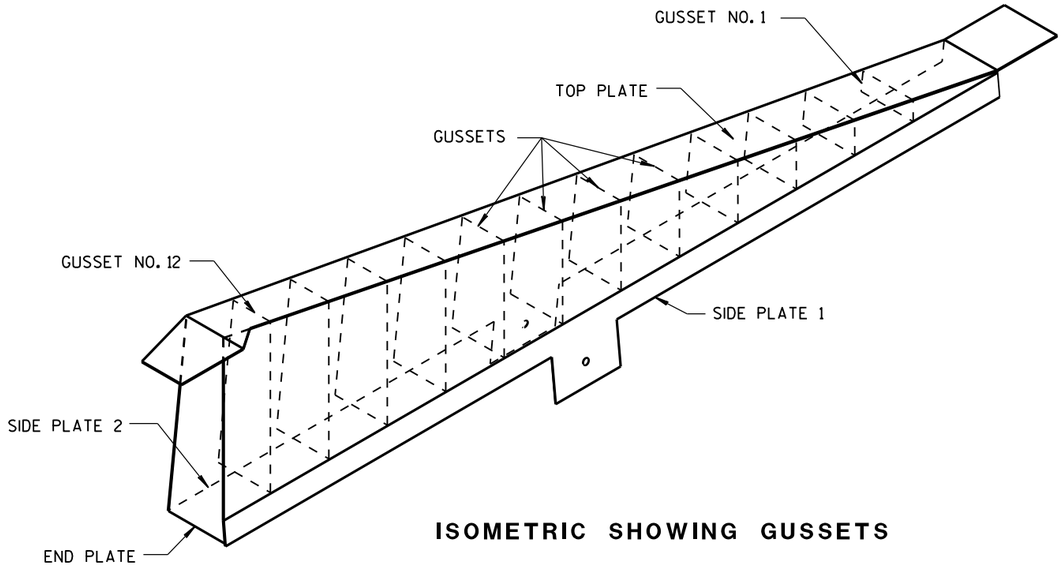
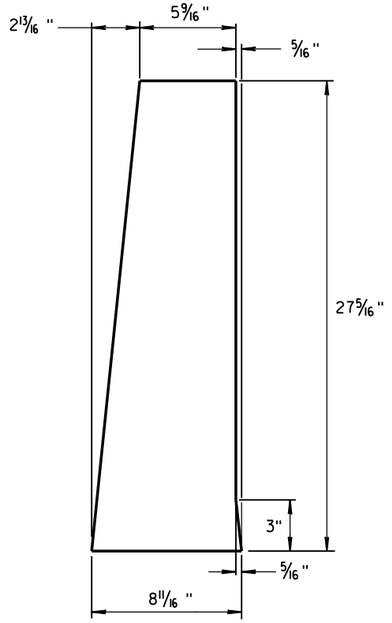
S.D.D. 14 B 7-14f

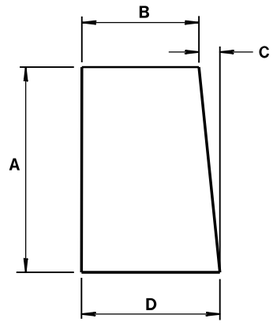


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



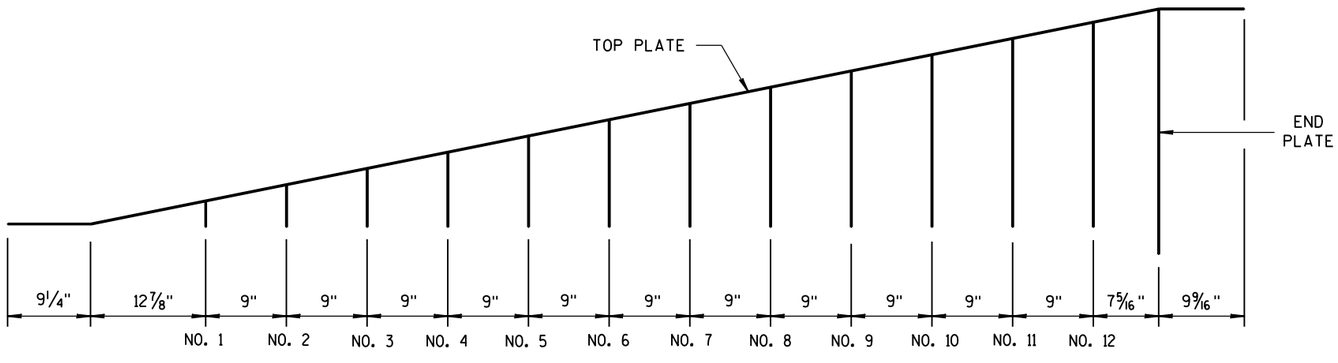
GUSSETS 1 - 12

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 TRANSPOR

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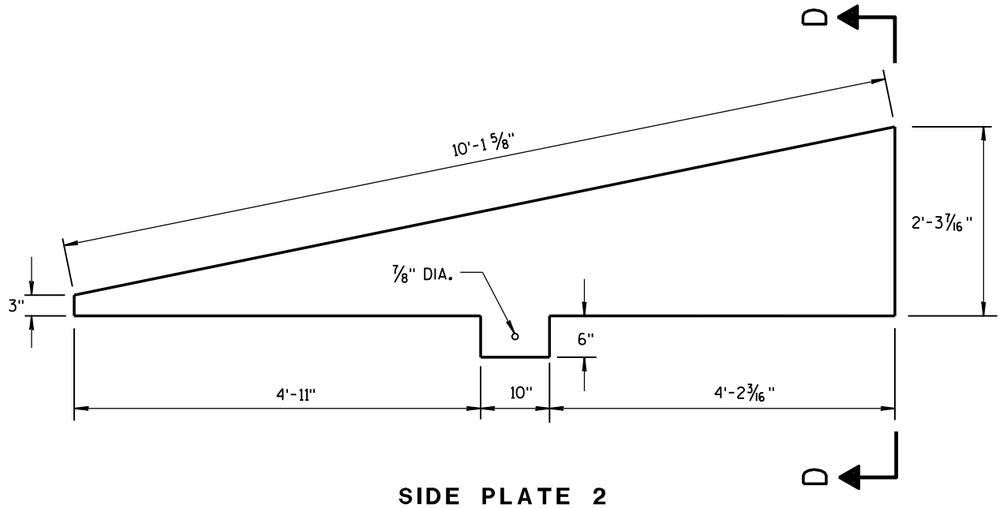
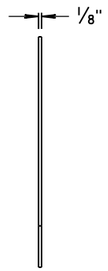
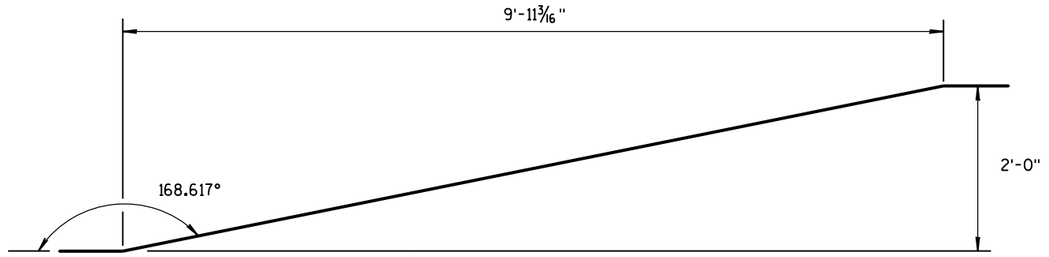
S.D.D. 14 B 7-14g



SIDE PLATE 2

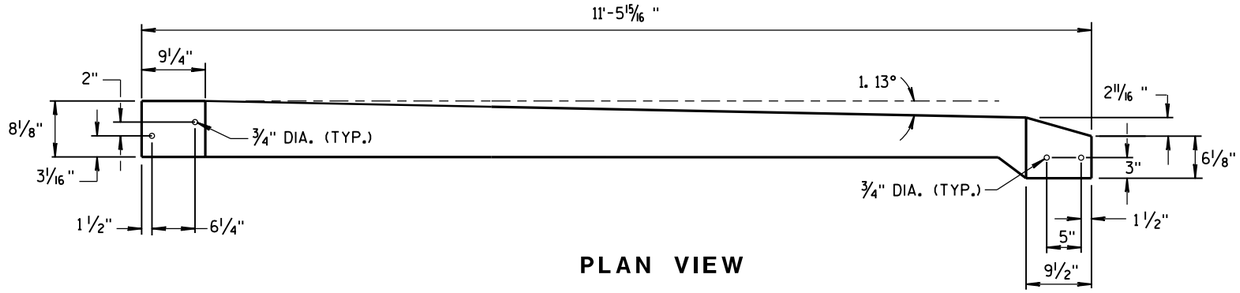


END VIEW



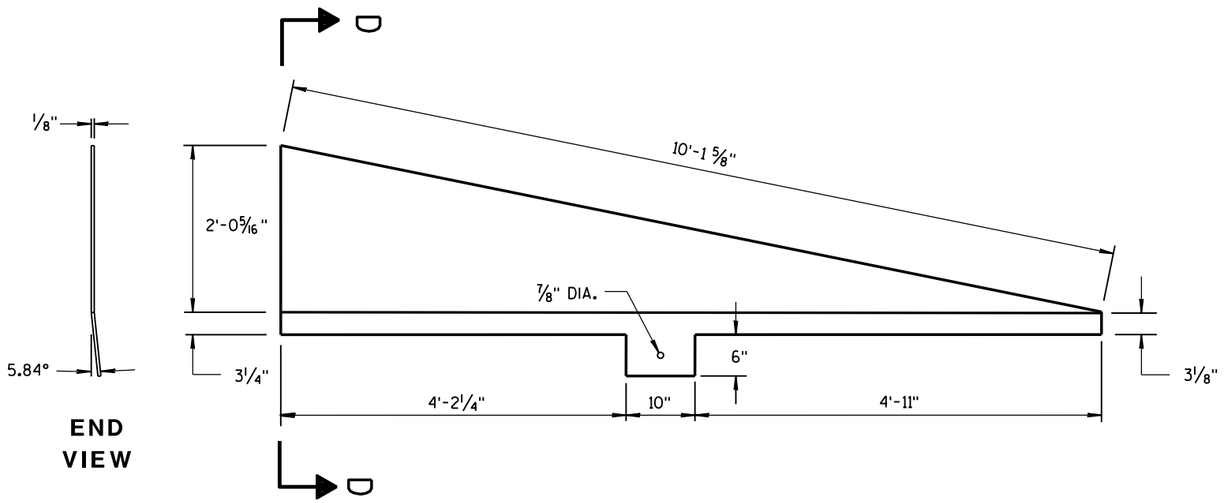
SIDE VIEW

TOP PLATE



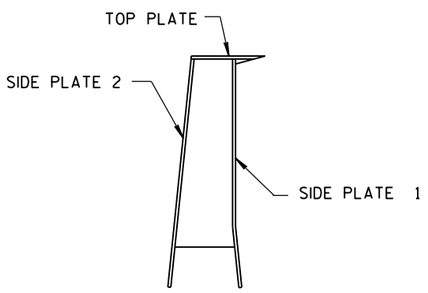
PLAN VIEW

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. Zoaa — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 7-14h

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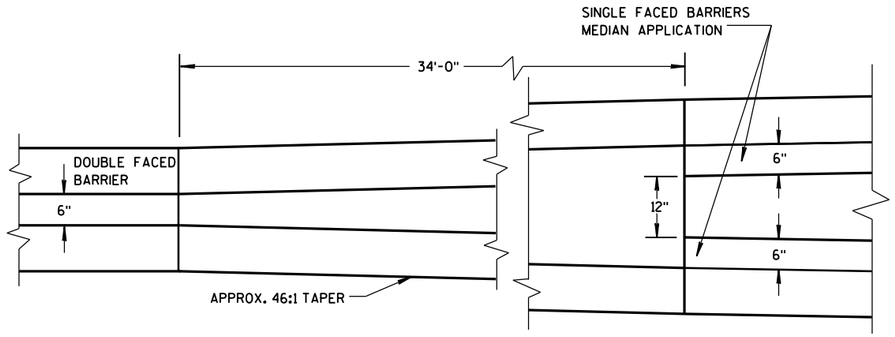
S.D.D. 14 B 7-14h



PLAN VIEW

TRANSITION DETAILS OF DOUBLE FACED TO SINGLE FACED CONCRETE MEDIAN BARRIER

(FOOTINGS ARE NOT SHOWN)

GENERAL NOTES

SPLICES OF LONGITUDINAL BARS SHALL BE MADE WITH BARS LAPPED AT LEAST 18-INCHES AND FIRMLY TIED OR FASTENED TOGETHER.

ALL BAR STEEL REINFORCEMENT SHALL CONFORM TO REQUIREMENTS OF AASHTO M31, GRADE 60.

(1) BARRIER SHALL BE INSTALLED ON A CONCRETE SHOULDER INSTEAD OF THE CONCRETE FOOTING WHEN SPECIFIED OR SHOWN ELSEWHERE IN CONTRACT.

(2) OPENINGS FOR DRAINAGE SHALL BE PLACED AT LOW POINTS OF VERTICAL CURVES OR WHERE DIRECTED BY THE ENGINEER.

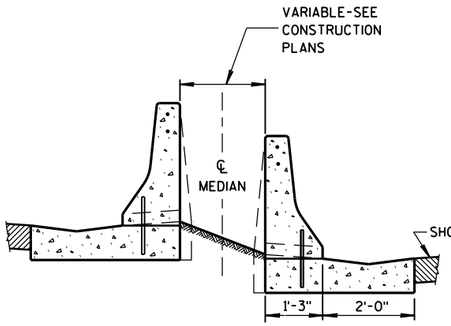
(3) 3/4-INCH BEVEL OR 1-INCH RADIUS (TYPICAL).

(4) NO. 4 BARS SHALL BE CONTINUED THROUGH CONSTRUCTION JOINTS.

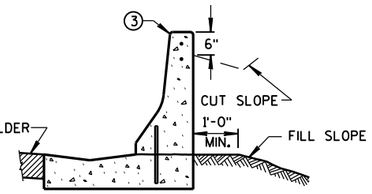
(5) EXPANSION JOINTS SHALL BE PLACED AT EXISTING EXPANSION JOINTS IN THE PAVEMENT AND AT STRUCTURES. SEE REINFORCEMENT AT BARRIER END DETAIL.

(6) SAWED CONTRACTION JOINTS SHALL BE PROVIDED ACROSS THE FULL WIDTH OF THE BARRIER FOOTING, AND IN FRONT, TOP AND BACK FACE OF THE BARRIER AT EXISTING PAVEMENT JOINTS AND AT UNIFORM INTERVALS BETWEEN WITH A MAXIMUM SPACING OF 25 FEET.

HIGH SIDE
CONCRETE BARRIER DETAIL

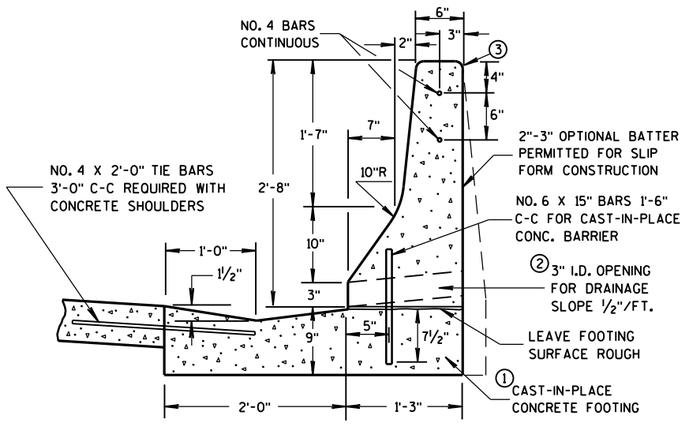


MEDIAN

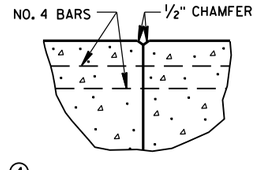


SHOULDER

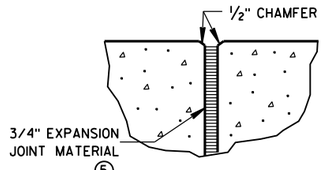
TYPICAL APPLICATIONS



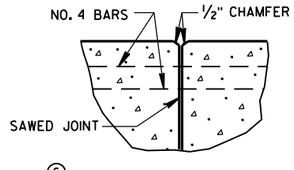
SECTION VIEW



4 CONSTRUCTION JOINT



5 EXPANSION JOINT



6 CONTRACTION JOINT

JOINT DETAILS

CONCRETE BARRIER,
SINGLE-FACED
(WITH ANCHORAGE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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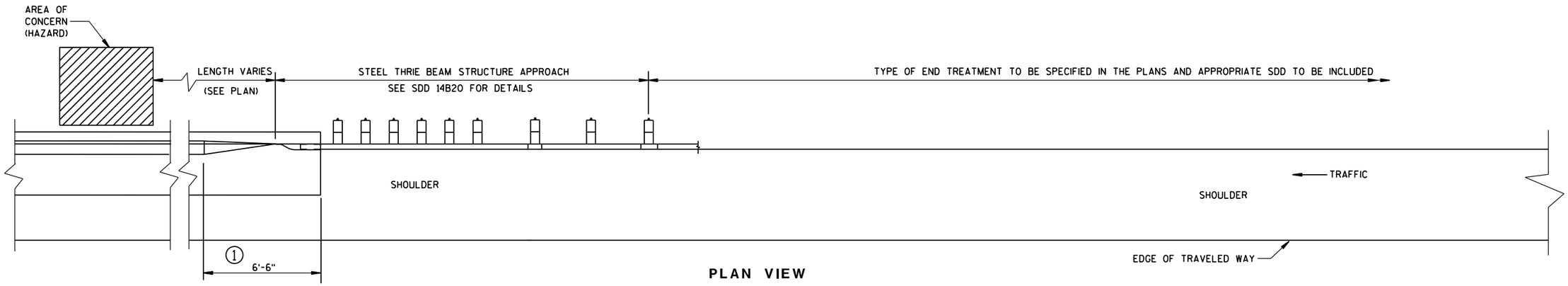
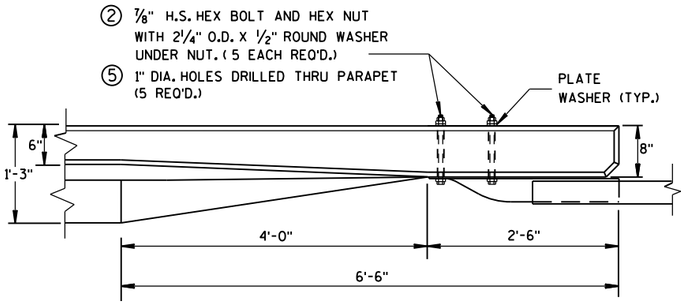
S.D.D. 14 B 22-6a



PLAN VIEW

TRANSITION TO STEEL PLATE BEAM GUARD AND END TERMINAL



PLAN VIEW

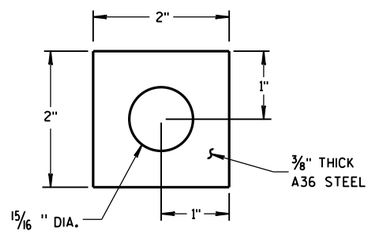
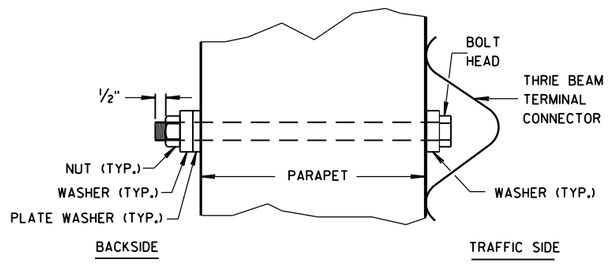


PLATE WASHER DETAIL

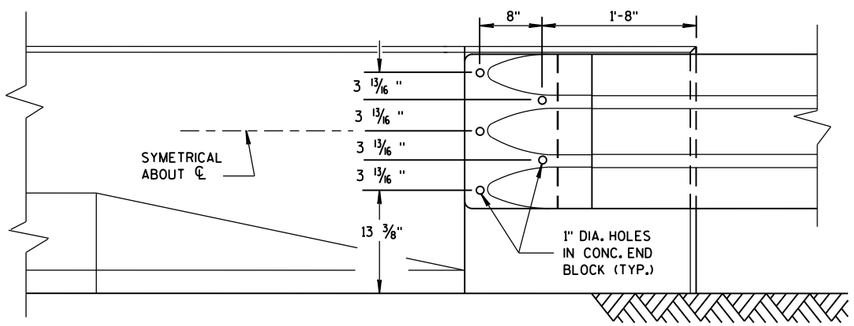


THRIE BEAM BOLT DETAIL

GENERAL NOTES

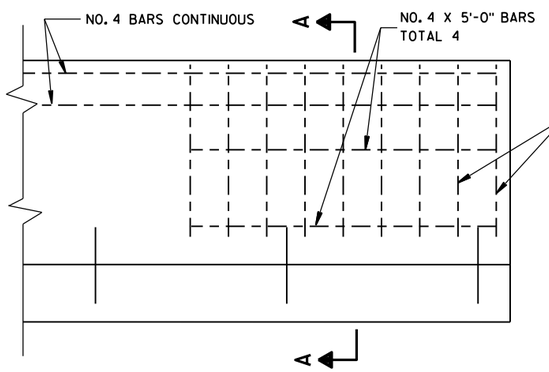
1. A SPECIAL END IS REQUIRED ON THE CONCRETE BARRIER TO TRANSITION TO A CONNECTION WITH THE STEEL THRIE BEAM STRUCTURE APPROACH. SEE THE DETAILS ON THIS SHEET.
2. BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. 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.
3. REINFORCEMENT REQUIRED AT EXPANSION JOINTS AND WHERE CONCRETE BARRIER IS TERMINATED.
4. PLACE REINFORCEMENT SUCH THAT IT WILL NOT CONFLICT WITH THE BOLT HOLES IN THE THRIE BEAM TERMINAL CONNECTOR.
5. INCLUDE THE PAYMENT FOR DRILLING BOLT HOLES THROUGH THE PARAPET, AND ALL BOLTS, NUTS AND WASHERS IN THE ITEM "STEEL THRIE BEAM STRUCTURAL APPROACH".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

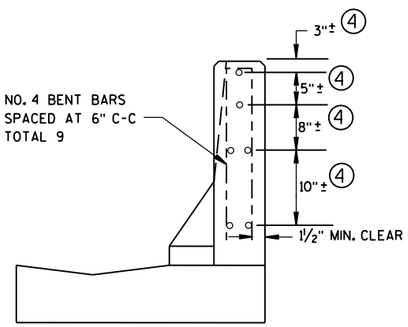


FRONT VIEW

CONCRETE BARRIER TRANSITION TO THRIE BEAM

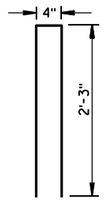


FRONT VIEW



SECTION A-A

3 REINFORCEMENT AT BARRIER END



BENT BAR DETAIL

CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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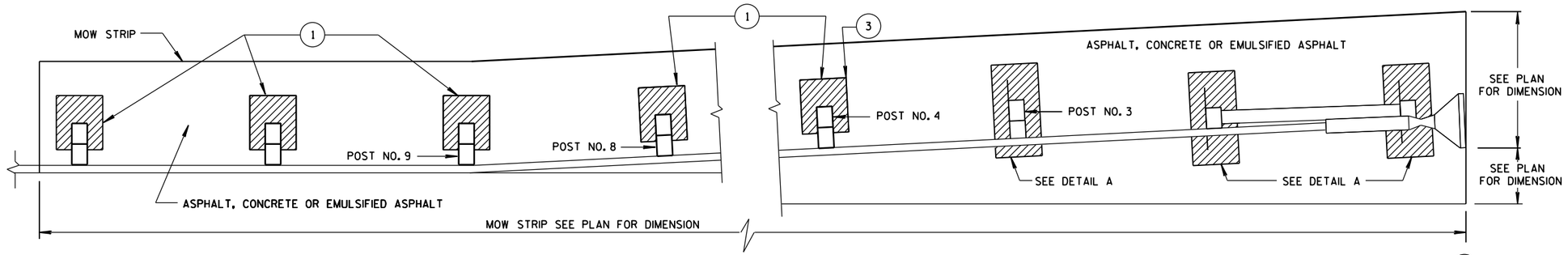
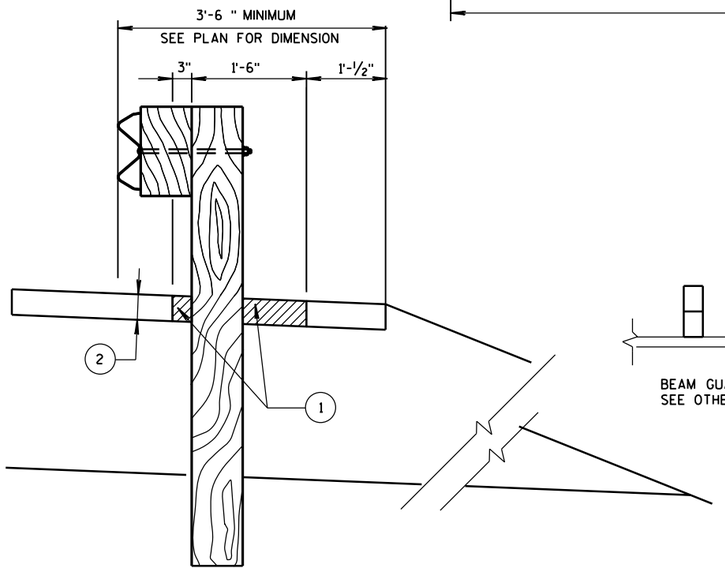
S.D.D. 14 B 22-6b

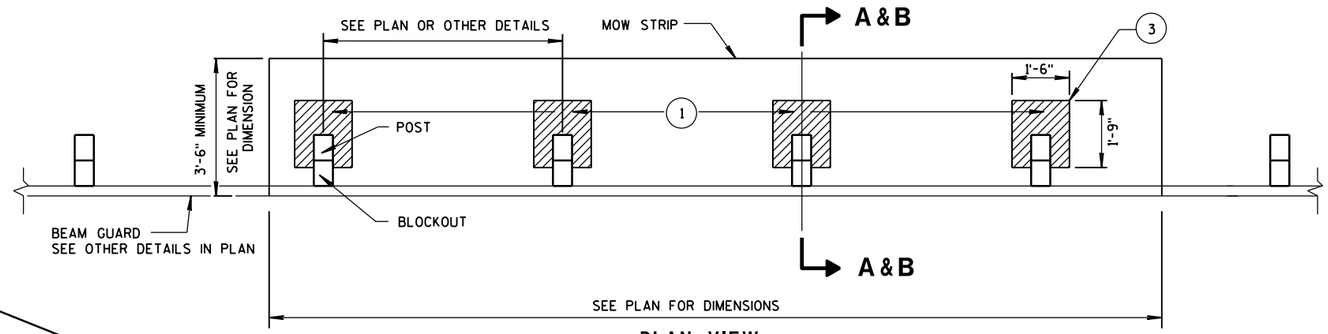


PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABORBING TERMINAL

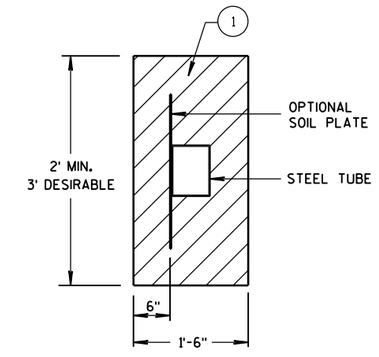


SECTION A-A

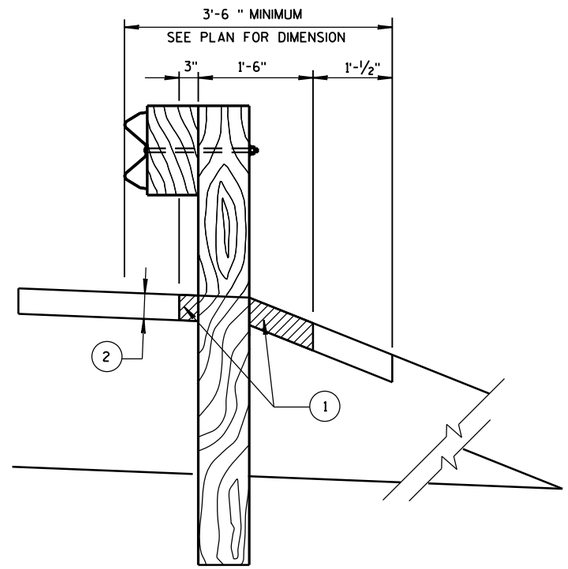


PLAN VIEW

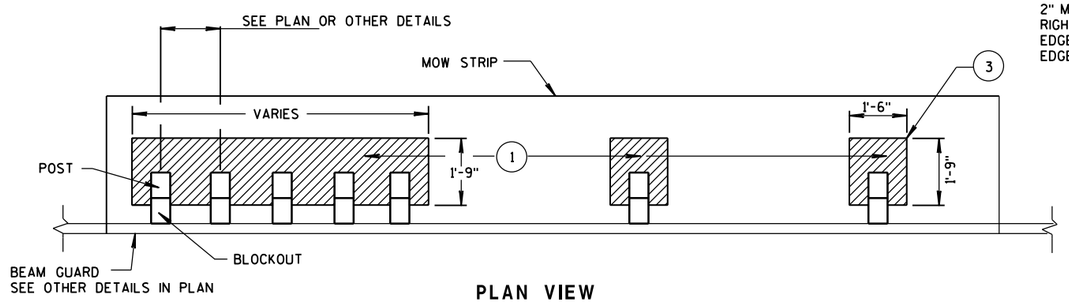
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



DETAIL A

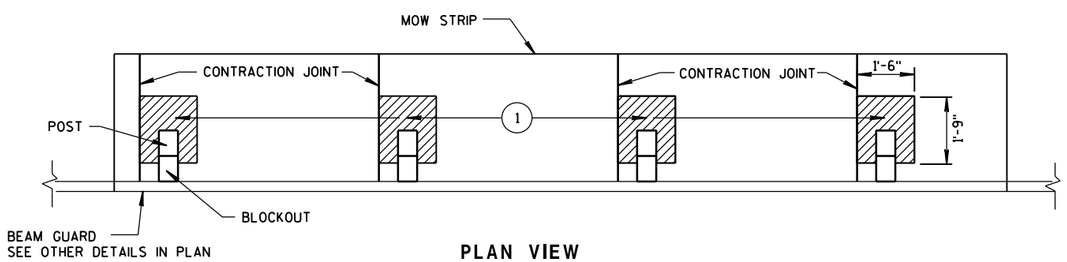


SECTION B-B



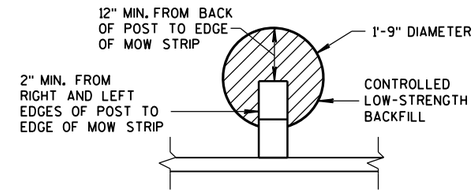
PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP



ALTERNATIVE HMA
MOW STRIP DESIGN

(1) CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.

(2) DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS

(3) FOR EMULSIFIED ASPHALT MOW STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS.)

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
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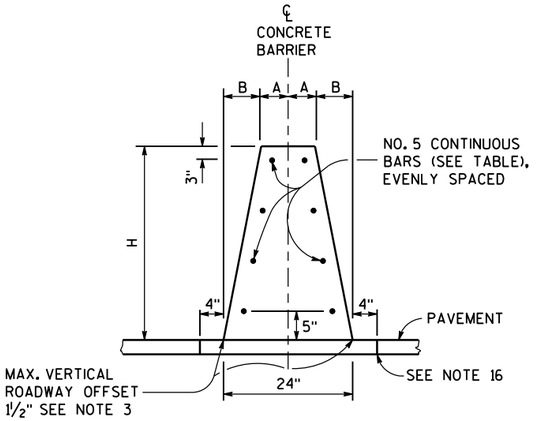
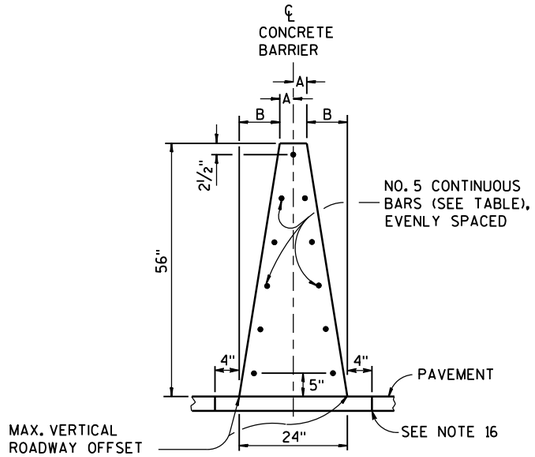
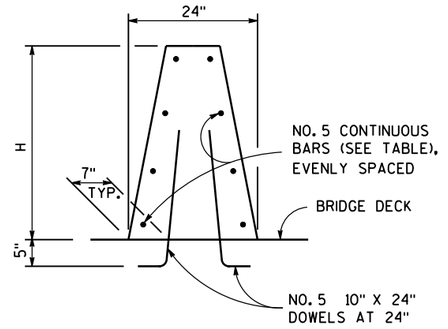
S.D.D. 14 B 28-3



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)



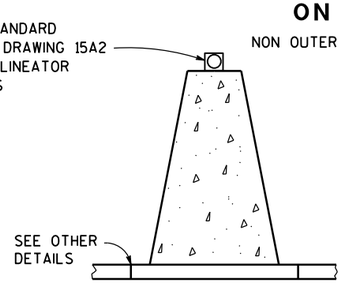
SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

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



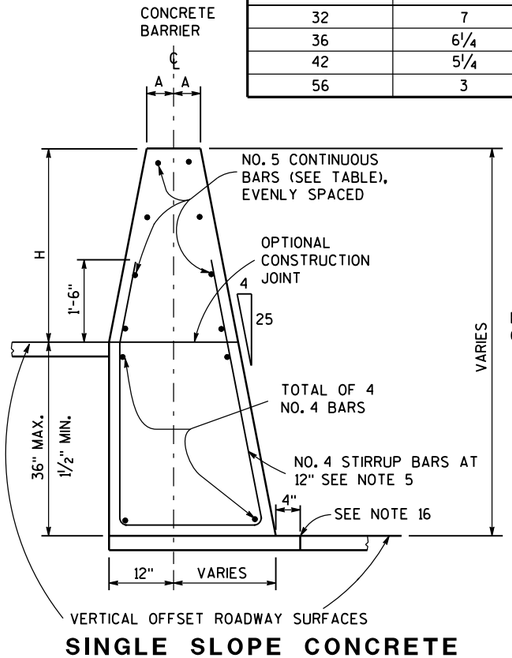
DELINEATION

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

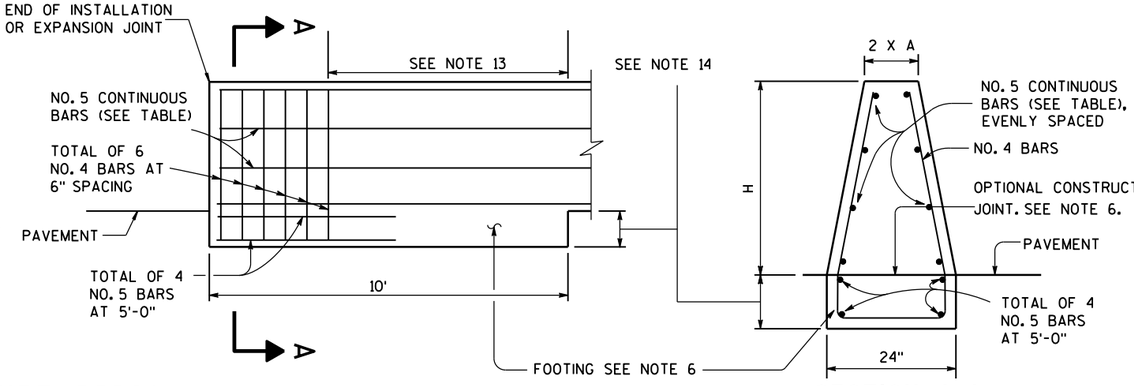
DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS

	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

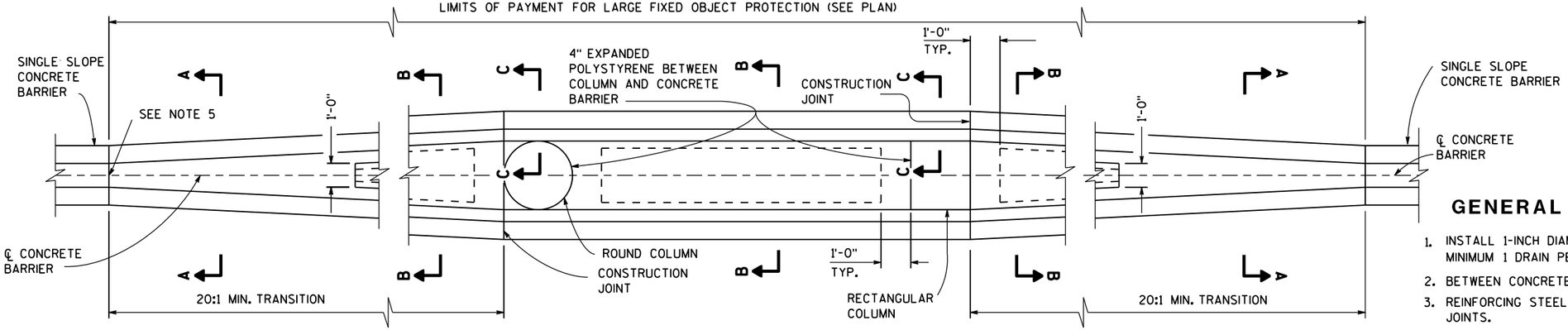
AT CONSTRUCTION JOINT

SECTION A-A

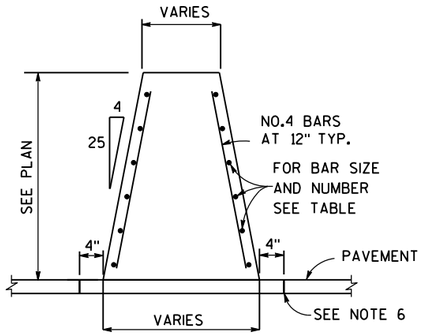
CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

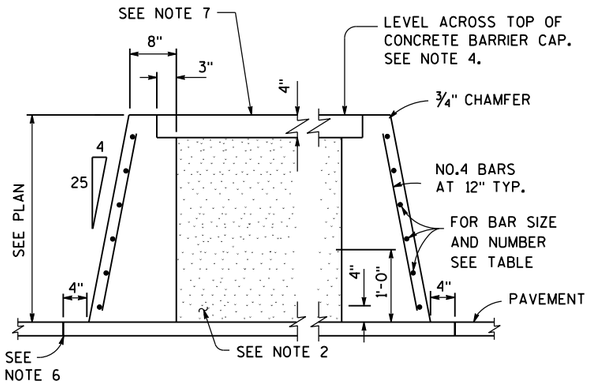
6
S.D.D. 14 B 32-3a



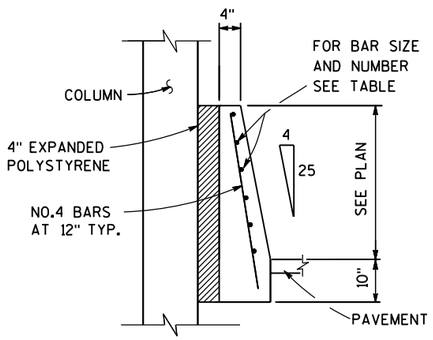
LARGE FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56



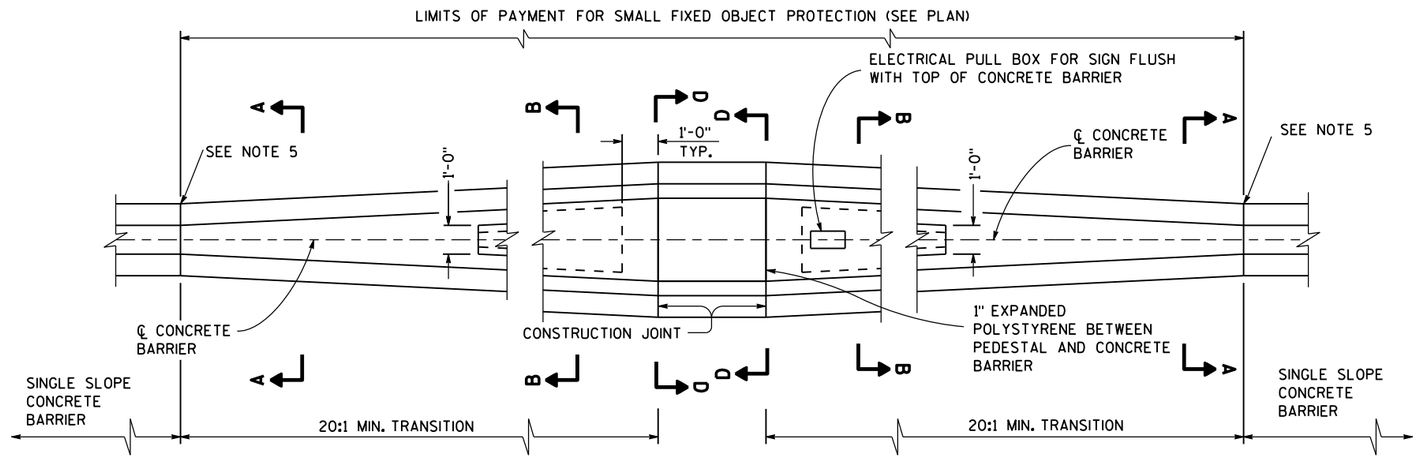
SECTION A-A



SECTION B-B



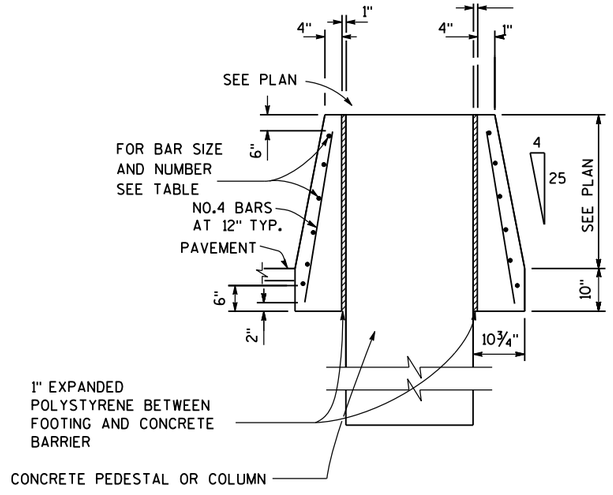
SECTION C-C



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 GRANULAR BACKFILL GRADE 2
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

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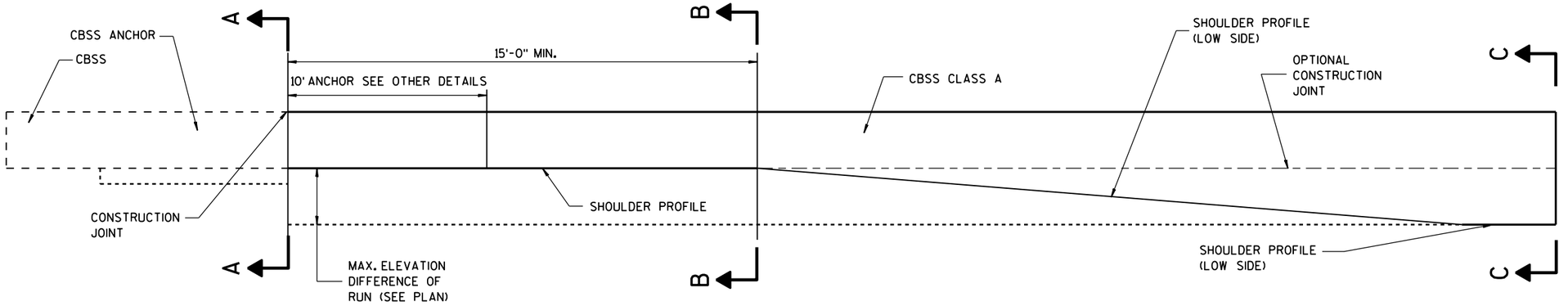
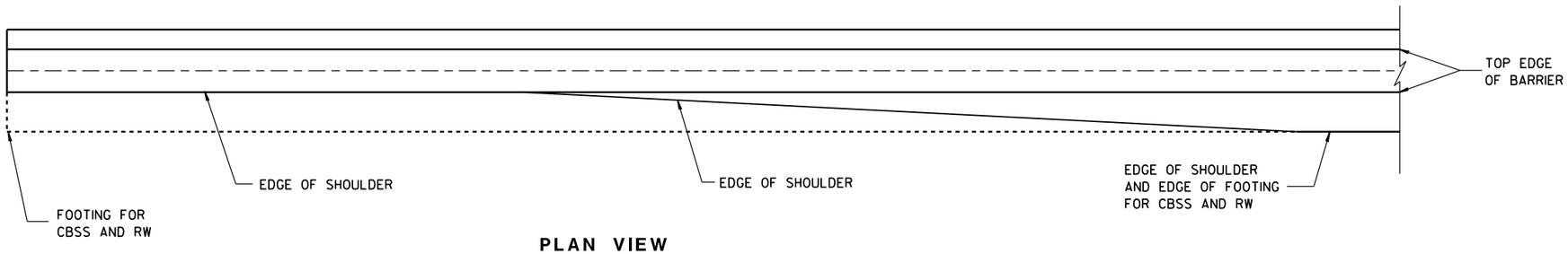
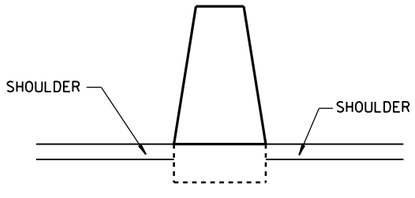
S.D.D. 14 B 32-3b



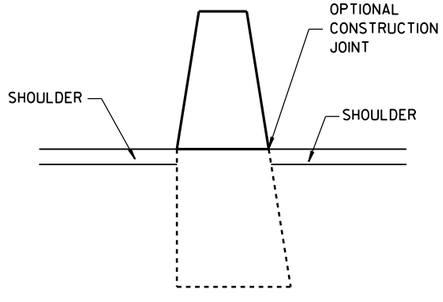
ELEVATION VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



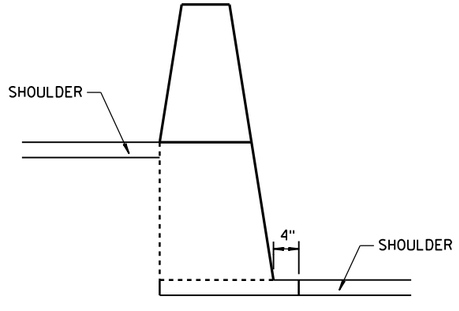
PLAN VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



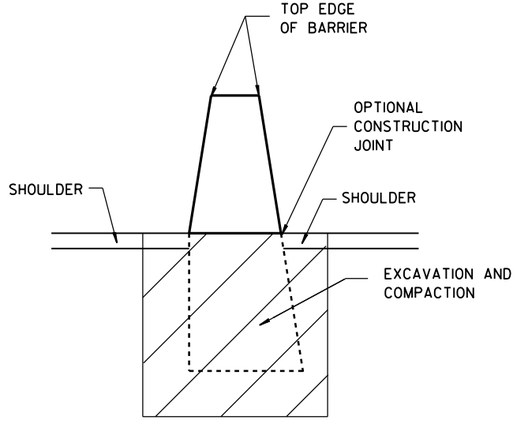
SECTION A-A



SECTION B-B



SECTION C-C



CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 14 B 32-3c

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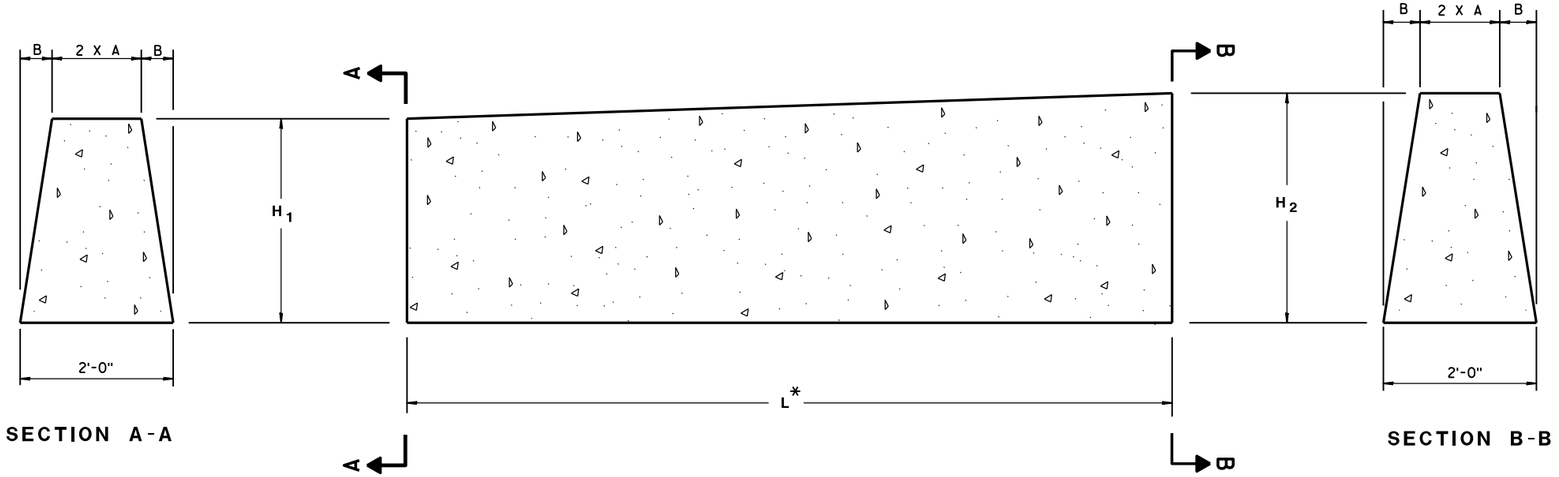
S.D.D. 14 B 32-3c



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

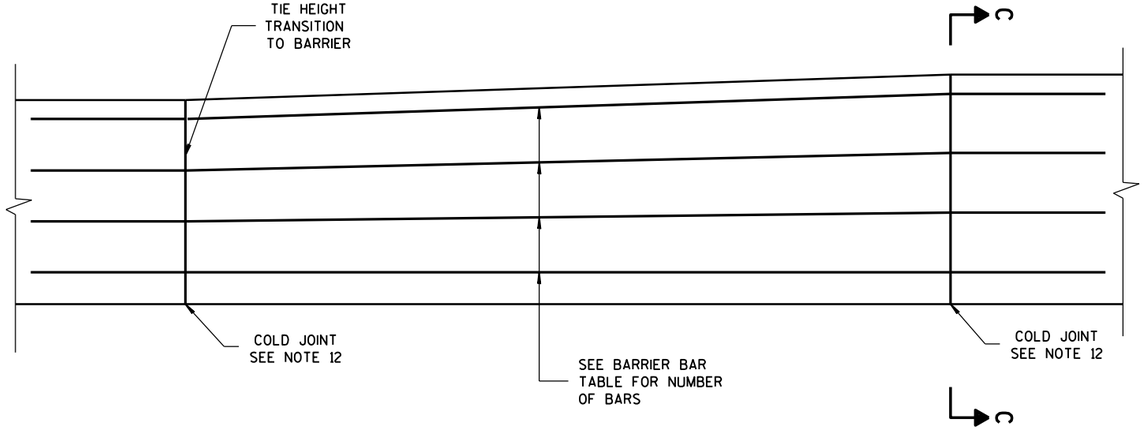
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

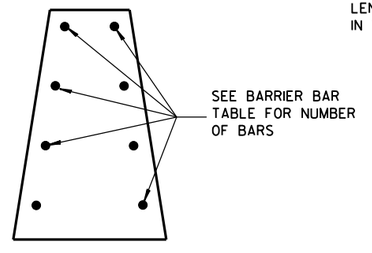
BARRIER BARS

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.



STEEL REINFORCEMENT DETAIL



SECTION C-C

CONCRETE BARRIER
SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2014
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 14 B 32-3d

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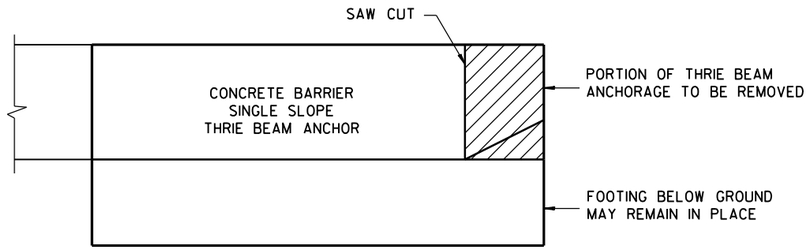
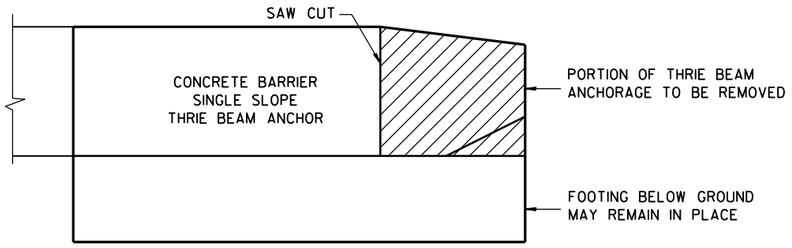
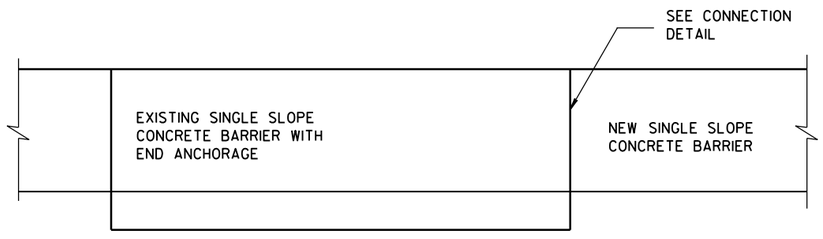
S.D.D. 14 B 32-3d



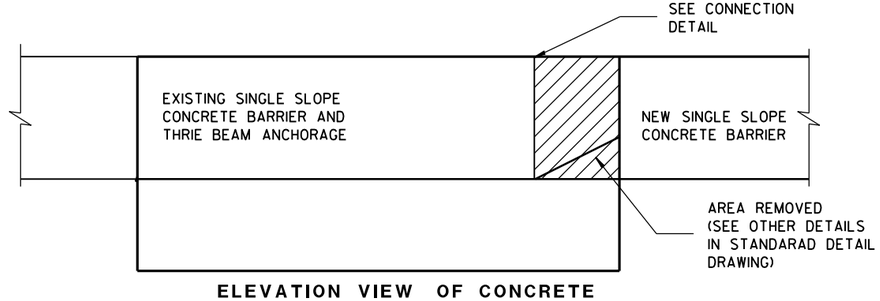
REMOVAL AREA OF
32" CONCRETE THRIE BEAM ANCHORAGE



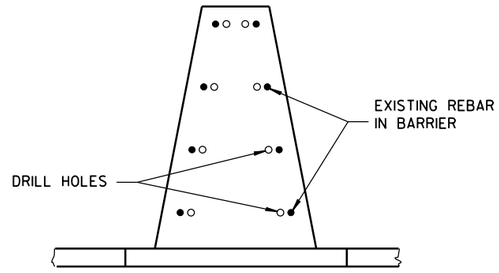
REMOVAL AREA OF CONCRETE THRIE BEAM
ANCHORAGE WITH HEIGHT GREATER THAN 32"



ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR END ANCHORAGE



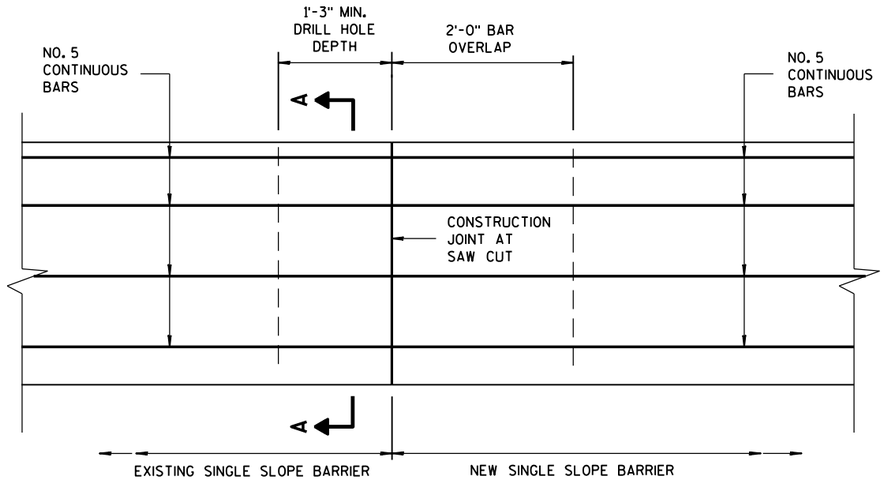
ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR THRIE BEAM TERMINAL



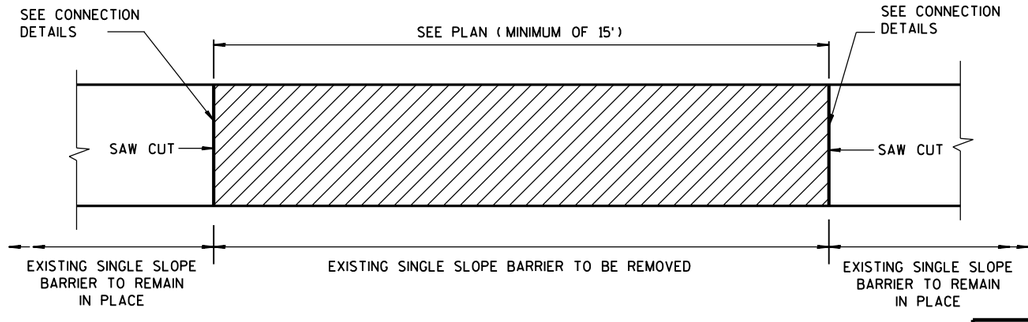
SECTION A-A

GENERAL NOTES

1. THE NUMBER OF DRILL HOLES IS EQUAL TO THE NUMBER OF REBAR IN BARRIER (SEE OTHER DETAILS).
2. MINIMUM DEPTH OF DRILL HOLES IS 1'-3".
3. DRILL HOLES TO BE A MINIMUM OF 4 INCHES FROM THE EDGE OF CONCRETE.
4. INSTALL EPOXY COATED NO. 5 BARS IN DRILL HOLES.
5. END ANCHORAGE MAY OR MAY NOT BE PRESENT ON EXISTING BARRIER.
6. REMOVE THRIE BEAM ANCHORAGE AS SHOWN.



CONNECTION OF EXISTING SINGLE SLOPE CONCRETE BARRIER TO
NEW SINGLE SLOPE CONCRETE BARRIER



ELEVATION FILE
BARRIER REMOVAL AND REPLACEMENT

CONCRETE BARRIER
SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

RETROFIT OR REPAIR SINGLE SLOPE CONCRETE BARRIER

6

S.D.D. 14 B 32-3e

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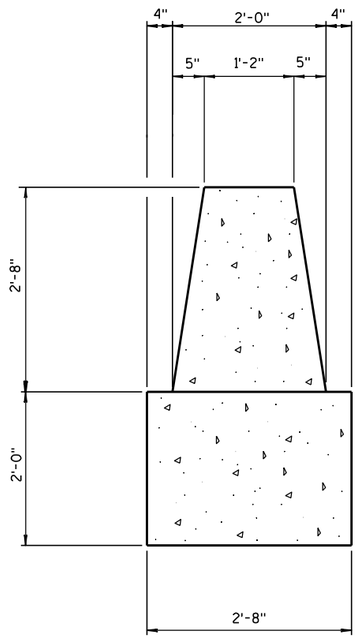
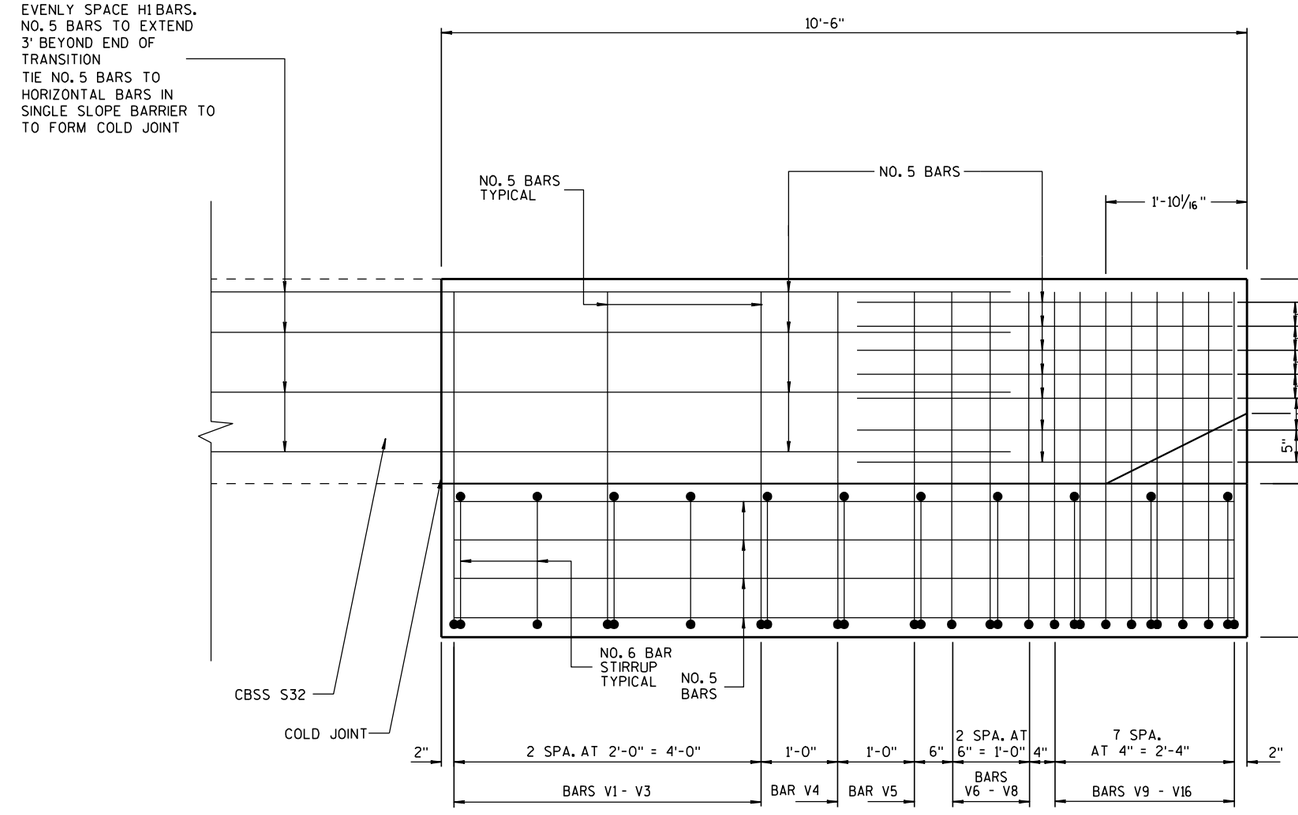
S.D.D. 14 B 32-3e

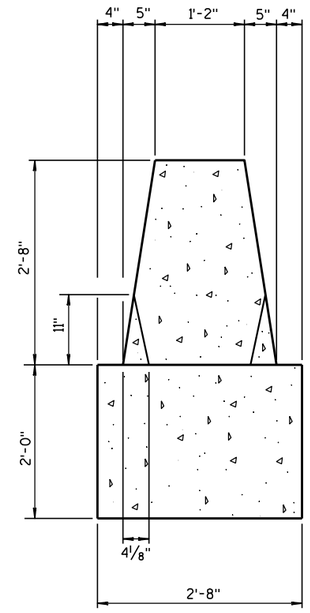


SECTION A-A

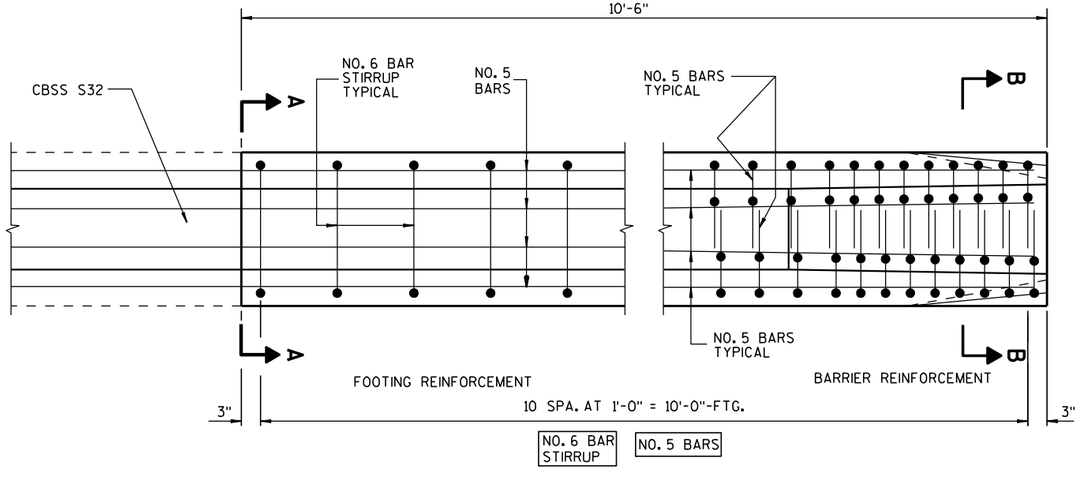


SEE SECTIONS (1) THRU (16)

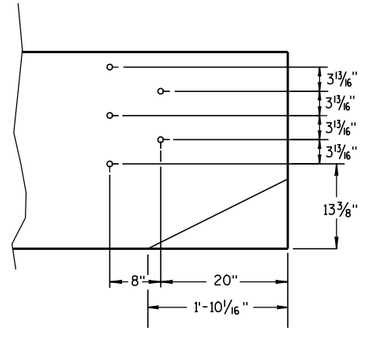
ELEVATION VIEW



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.

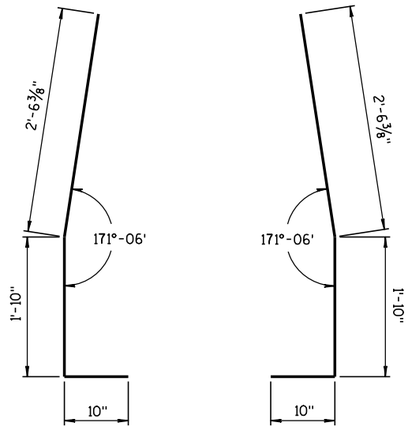
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

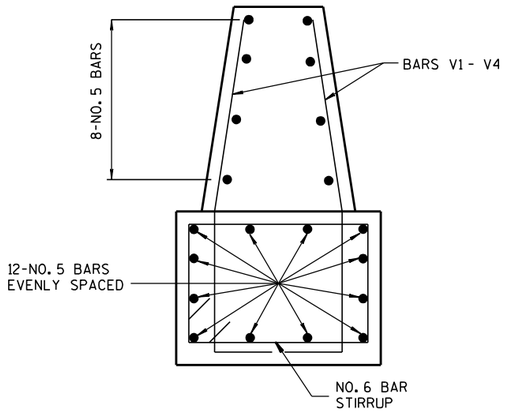
CONCRETE BARRIER
SINGLE SLOPE 32"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

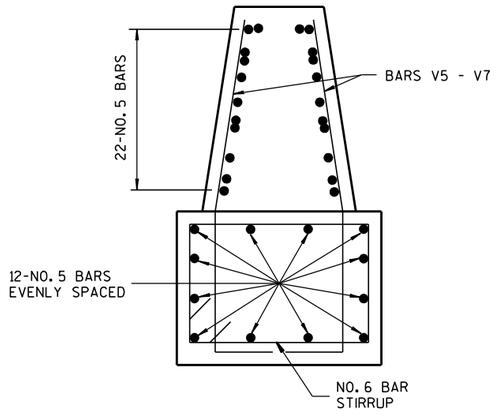
6
S.D.D. 14 B 33-1a



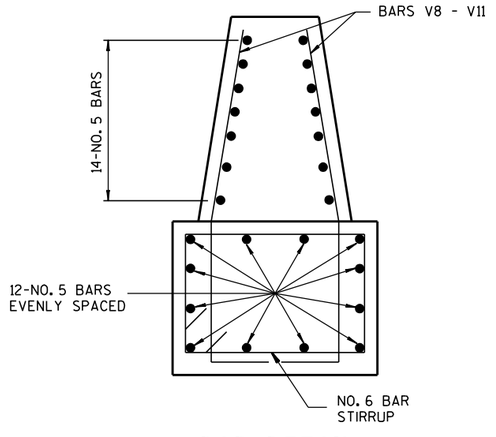
BAR BENDING DETAIL
FOR BARS V1 - V11



BAR DETAIL
SECTIONS 1 - 4



BAR DETAIL
SECTIONS 5 - 7



BAR DETAIL
SECTIONS 8 - 11

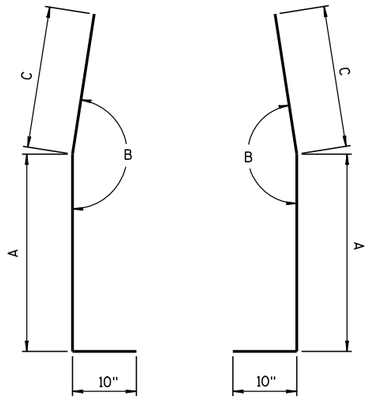
CONCRETE BARRIER
SINGLE SLOPE 32"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 33-1b

BAR CHART
SECTIONS V12 - V13

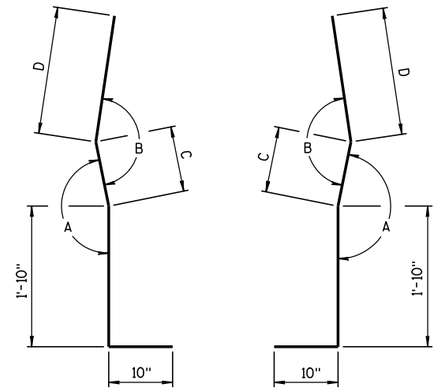
BAR	A	B	C
V12	2'-2"	171°-15'	2'-1 3/4"
V13	2'-7"	171°-05'	1'-9 3/8"



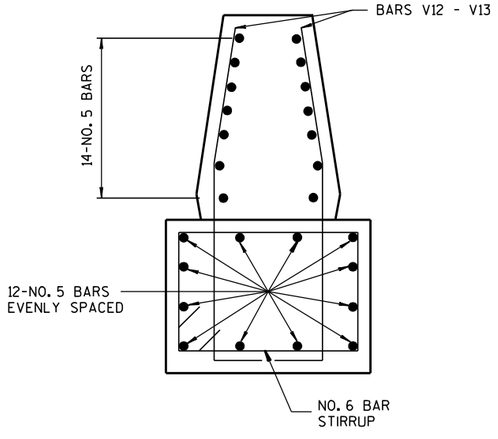
BAR BENDING DETAIL
FOR BARS V12 - V13

BAR CHART
SECTIONS V14 - V16

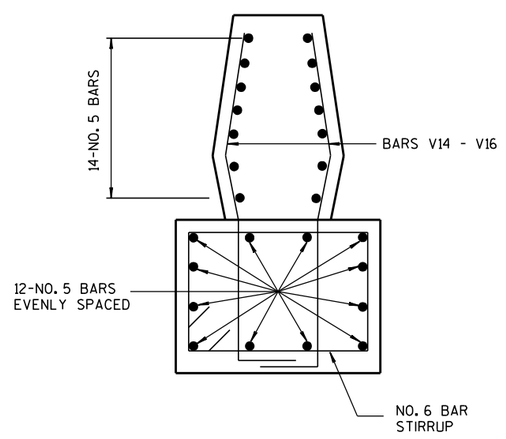
BAR	A	B	C	D
V14	168°-15'	159°-15'	6"	2'-0"
V15	169°-20'	161°-00'	8"	1'-10"
V16	168°-40'	160°-10'	10"	1'-8"



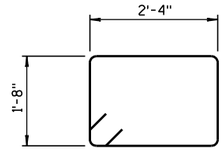
BAR BENDING DETAIL
FOR BARS V14 - V16



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

GENERAL NOTES

(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.

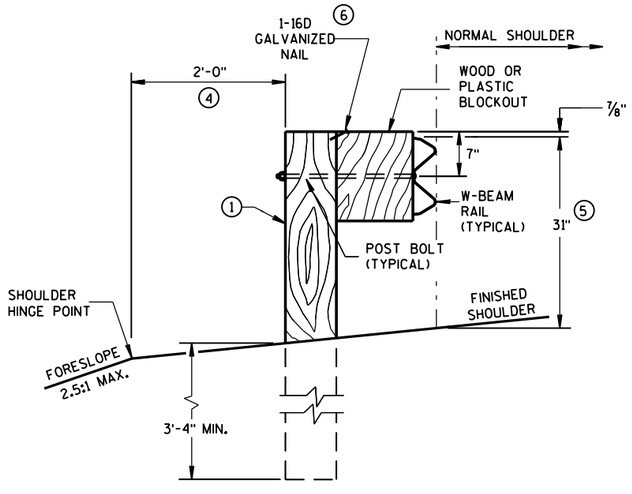
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(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).

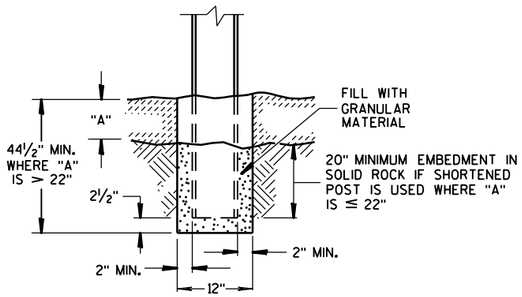
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

(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.



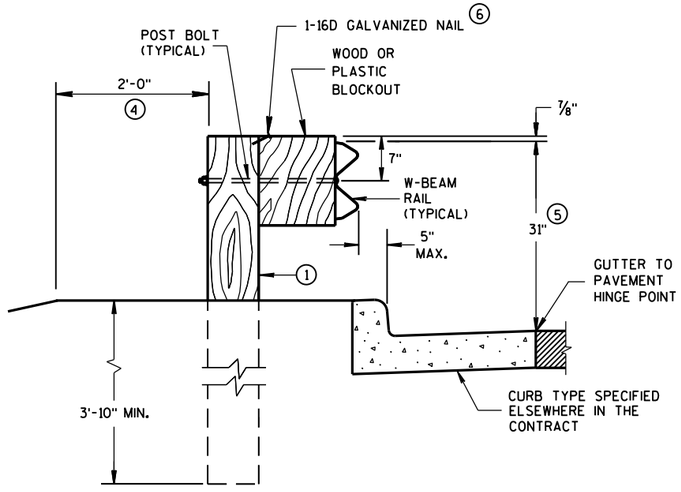
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



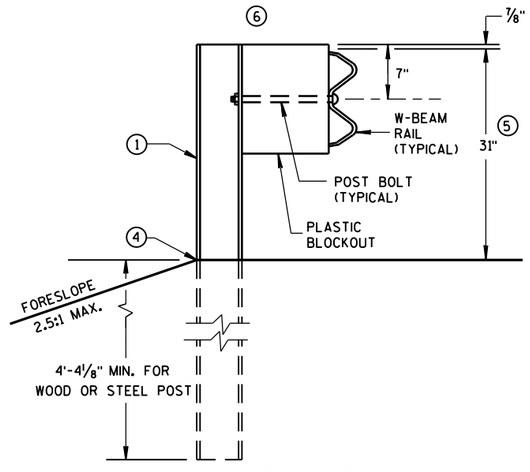
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



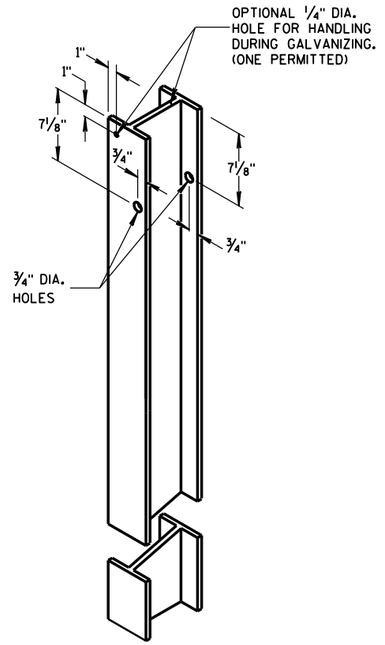
END VIEW

LOCATED ALONG A CURBED ROADWAY

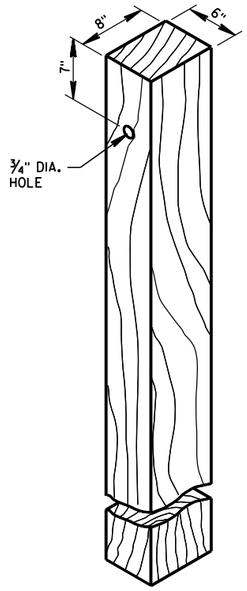


END VIEW

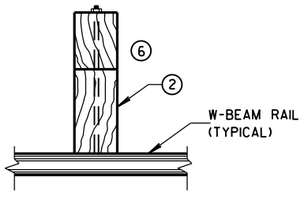
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



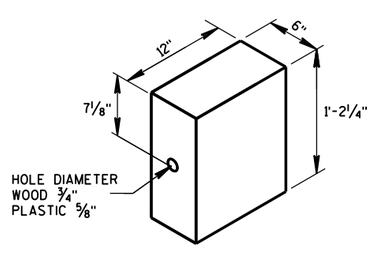
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



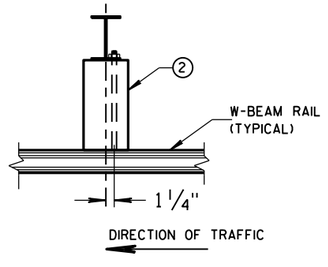
WOOD POST
(6" X 8") NOMINAL (1)



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

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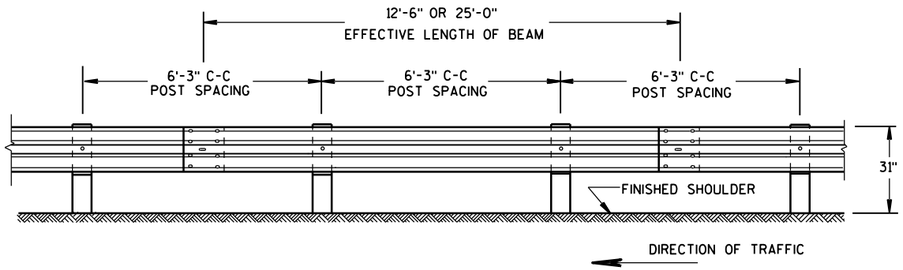
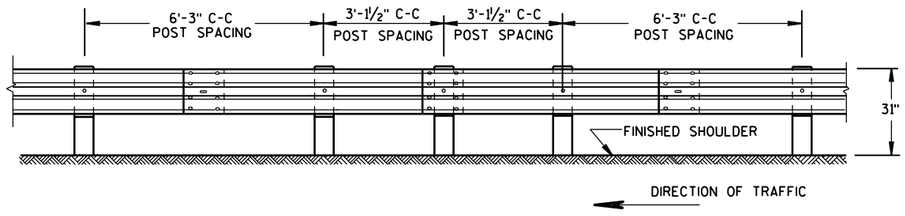


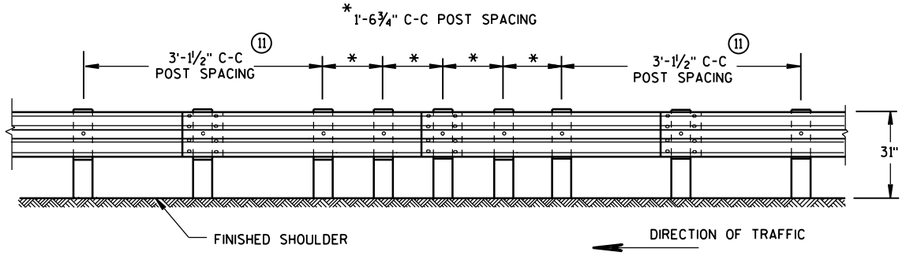
FRONT VIEW

POST SPACING STANDARD INSTALLATION



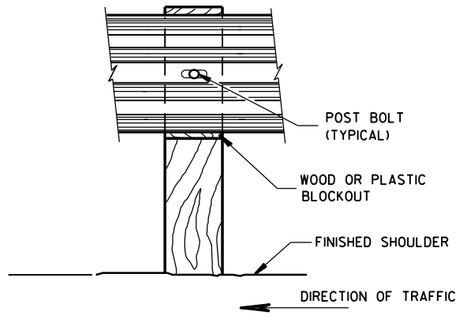
FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

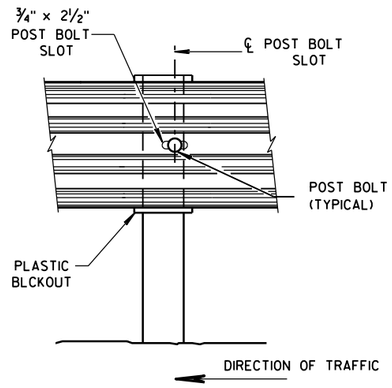


FRONT VIEW

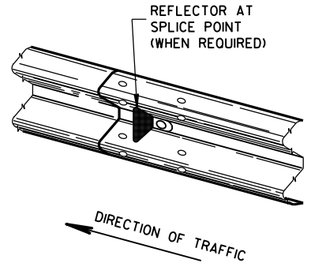
QUARTER POST SPACING (QS)

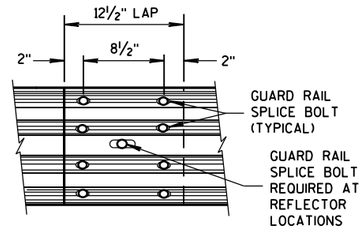


FRONT VIEW AT WOOD POST

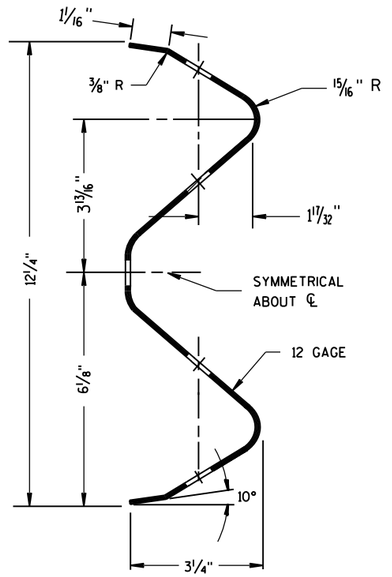


FRONT VIEW AT STEEL POST

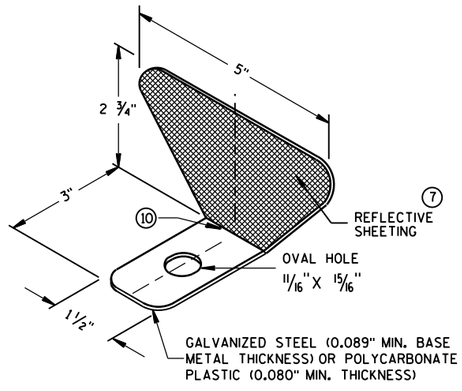




FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

GENERAL NOTES

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 ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING ⑧

	BEAM GUARD LENGTH	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 ⑨ 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 ⑩	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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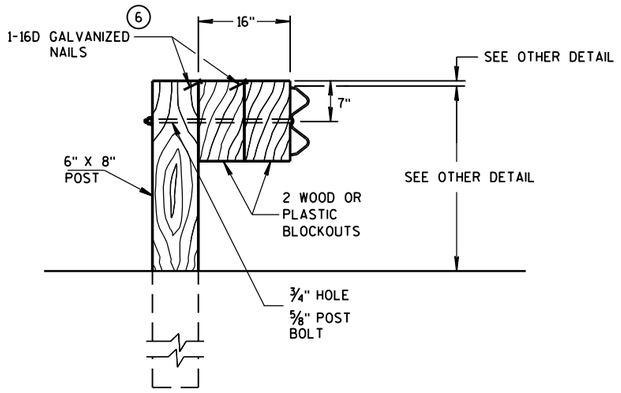
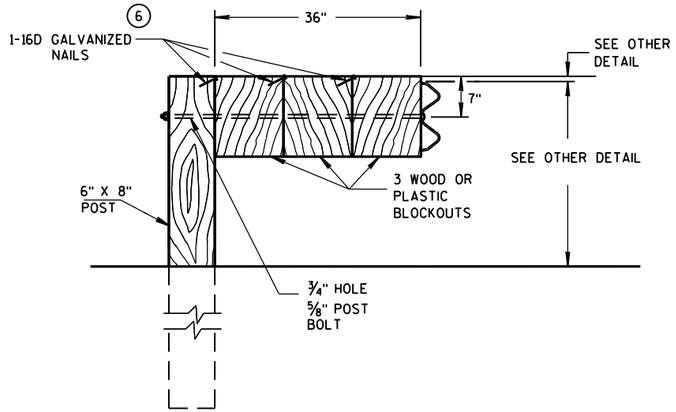


DETAIL FOR 16" BLOCKOUT DEPTH

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.

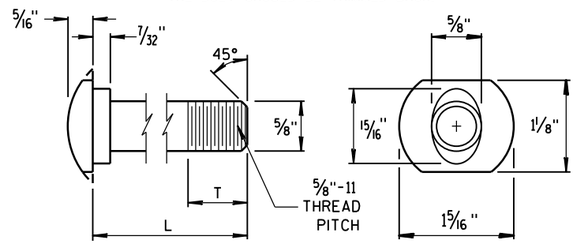


DETAIL FOR 36" BLOCKOUT DEPTH

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.

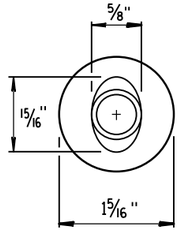
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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.

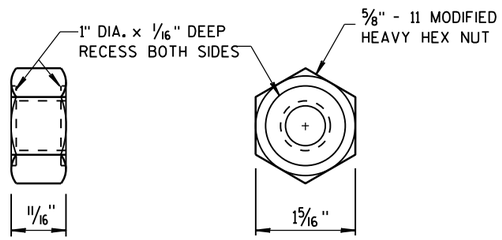


POST BOLT TABLE

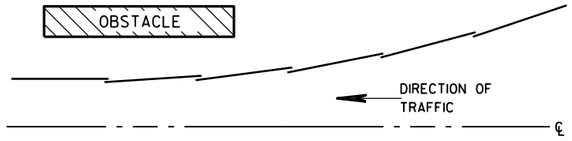
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

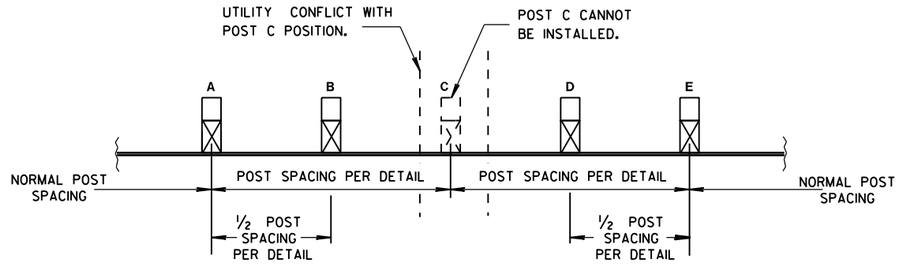


POST BOLT AND RECESS NUT

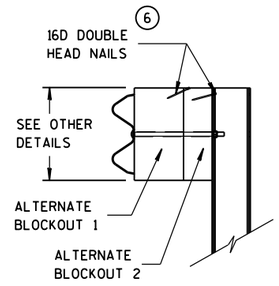


PLAN VIEW

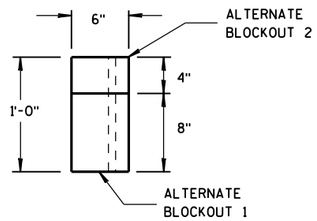
BEAM LAPPING DETAIL



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 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 42-3c

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.

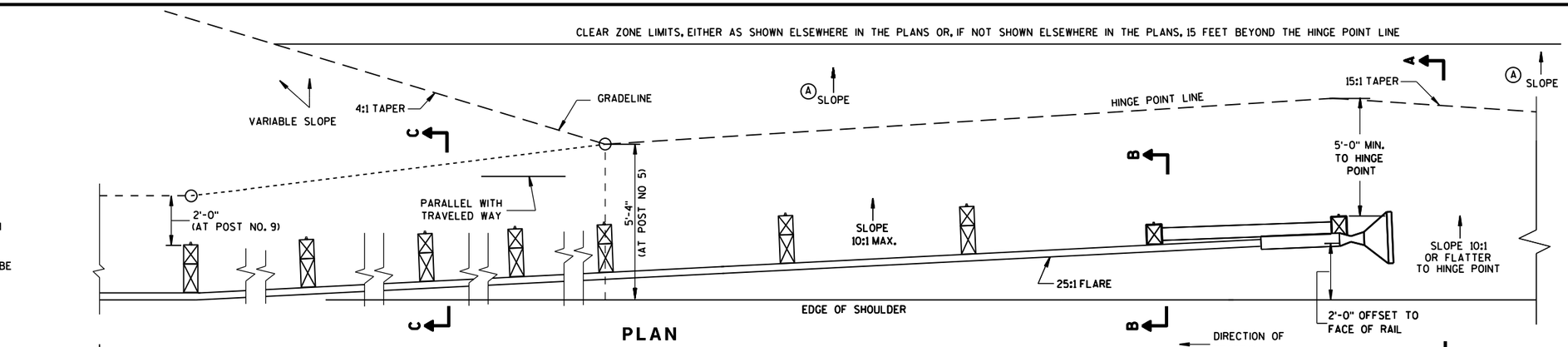
SEE SDD 14B42 FOR MORE INFORMATION.

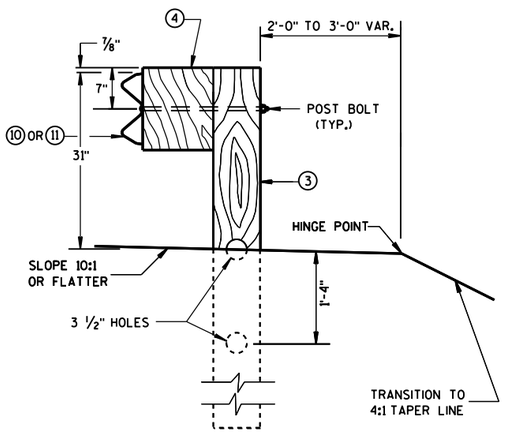
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

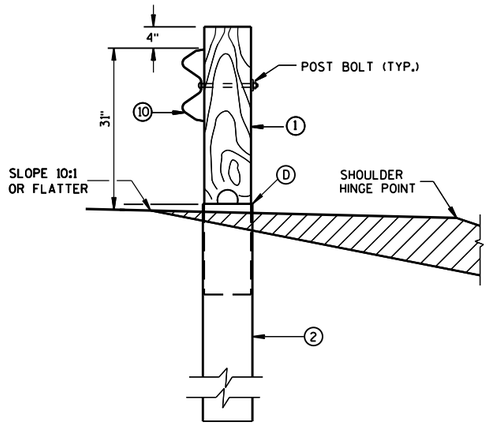
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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.

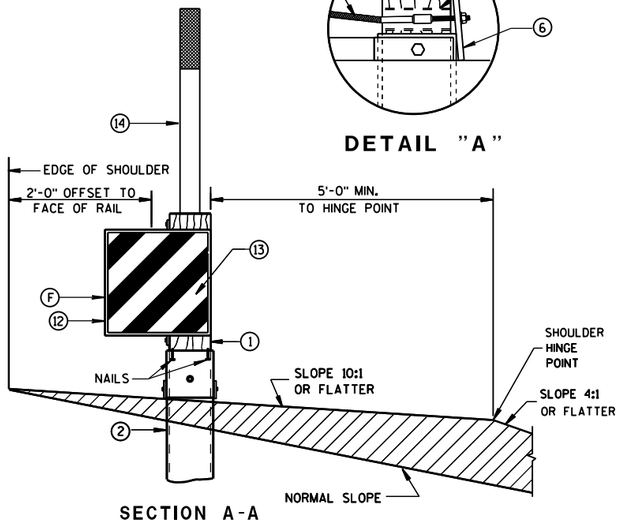




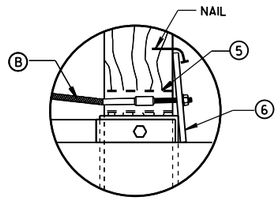
SECTION C-C
TYPICAL AT POST NOS. 3-9



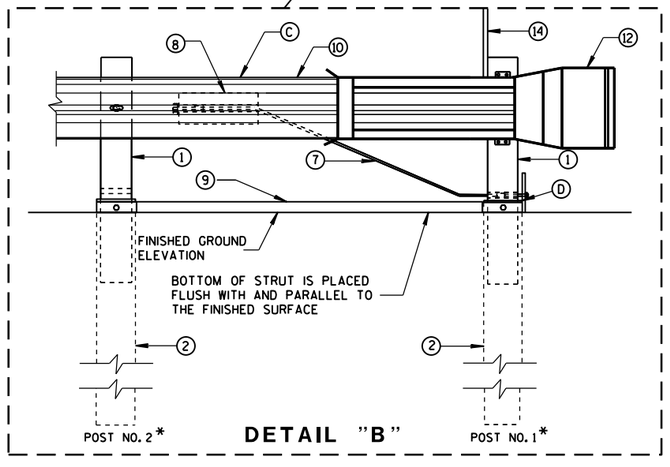
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



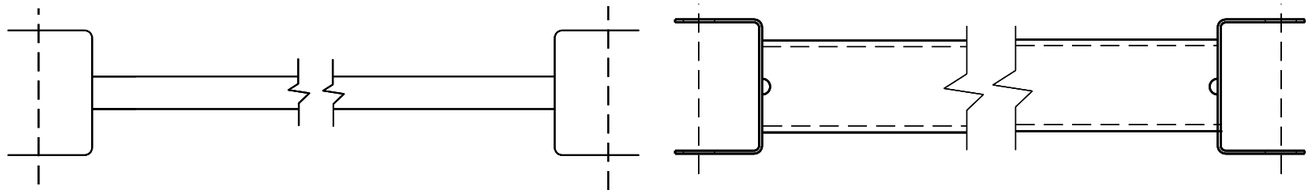
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 44-2a

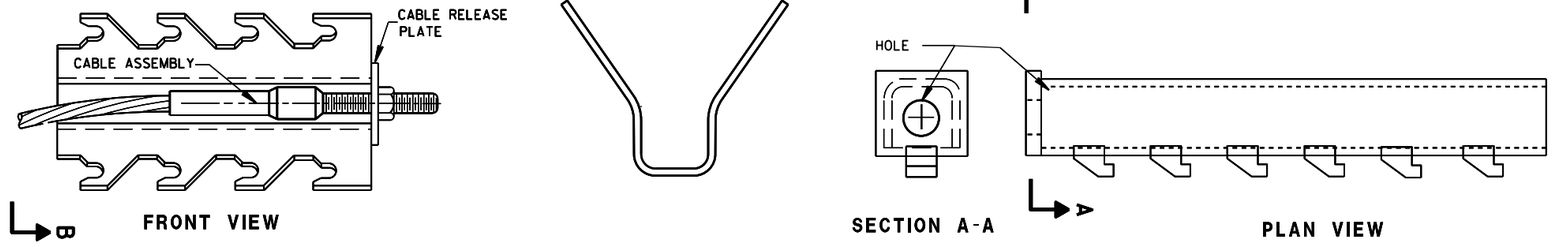
6



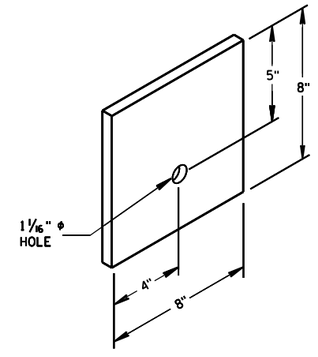
GENERIC GROUND STRUT (9) (H)

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)



GENERIC ANCHOR CABLE BOX (8) (H)



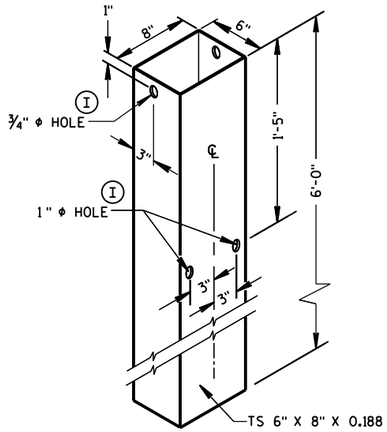
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

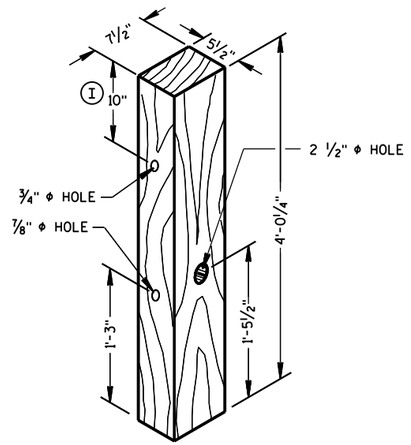
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

S.D.D. 14 B 44-2b

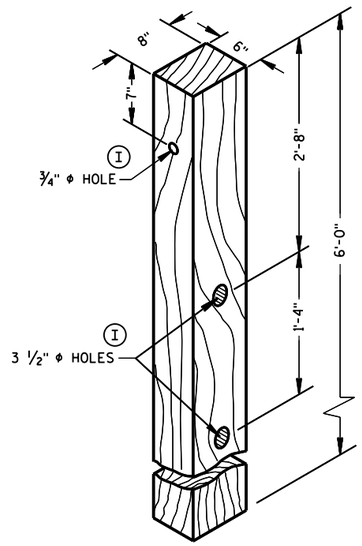


FOUNDATION TUBE (2)



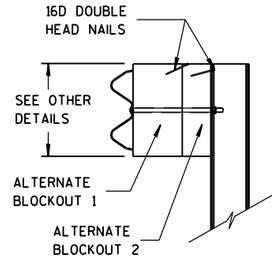
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

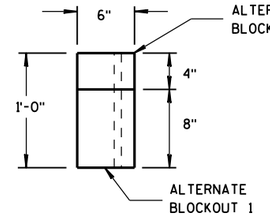


POSTS NUMBER 3-9

WOOD CRT POST (3)

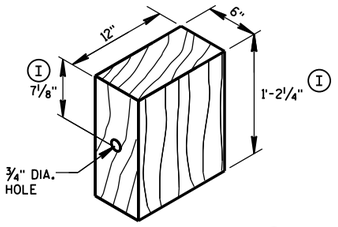


SIDE VIEW



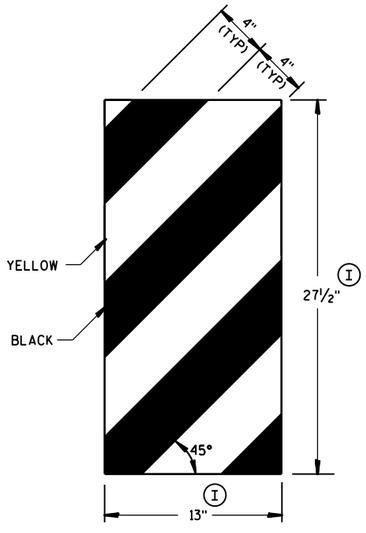
TOP VIEW

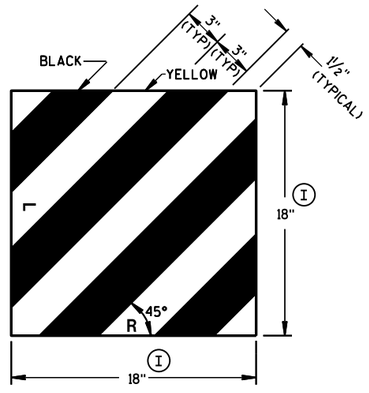
ALTERNATE WOOD BLOCKOUT DETAIL



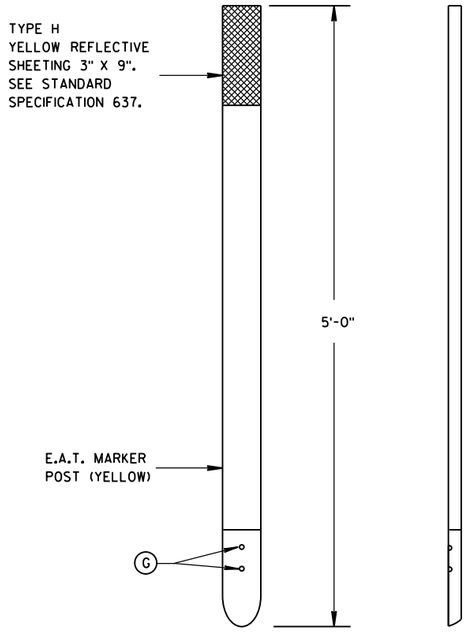
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





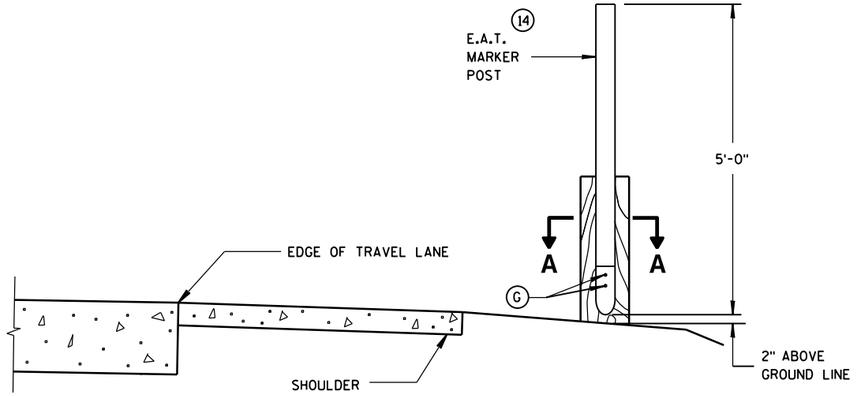
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

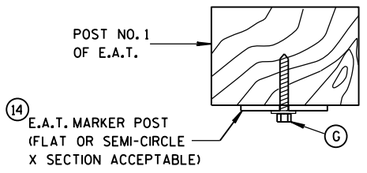
SIDE VIEW

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)

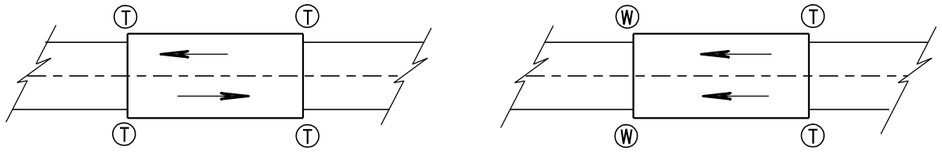
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

6

S.D.D. 14 B 44-2c



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

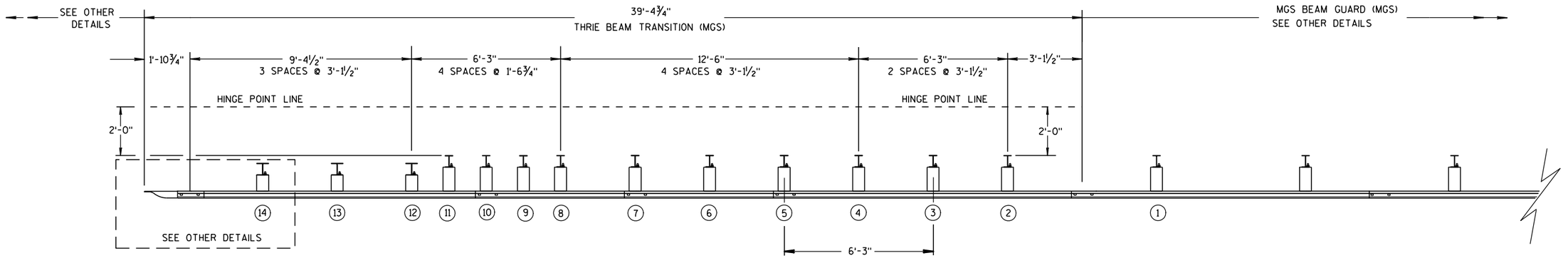
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

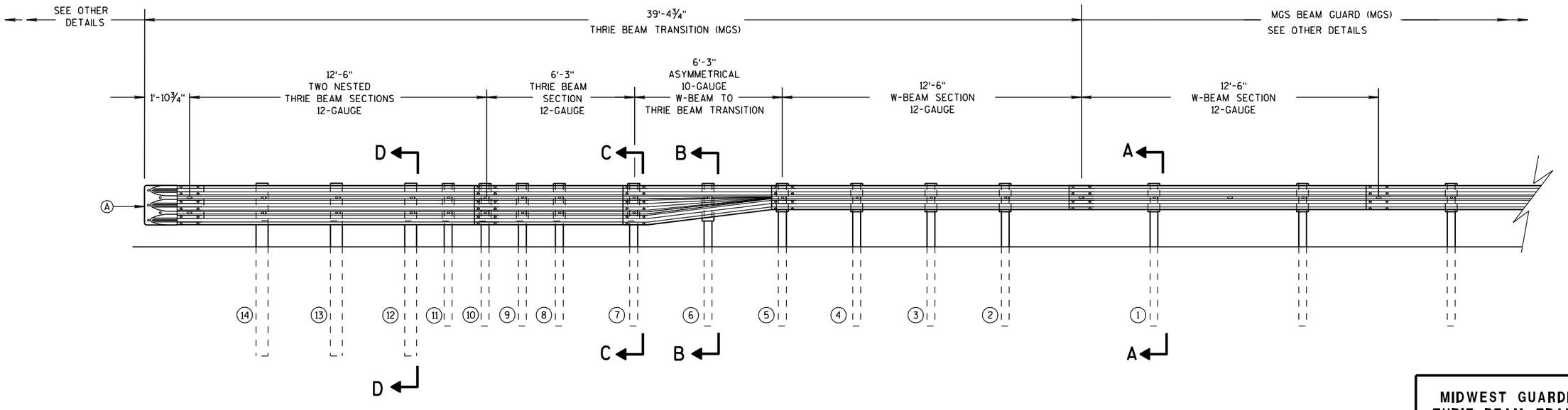
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

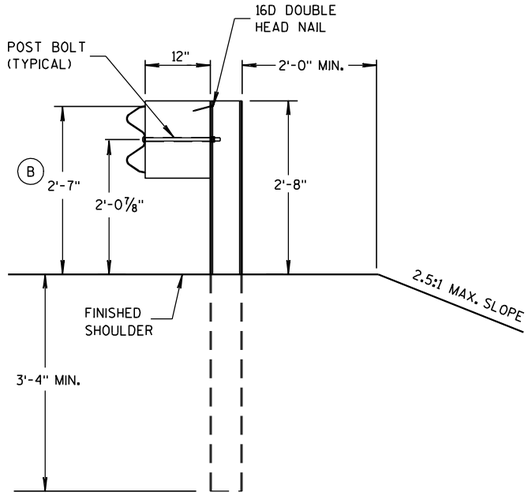
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6
S.D.D. 14 B 45-3a

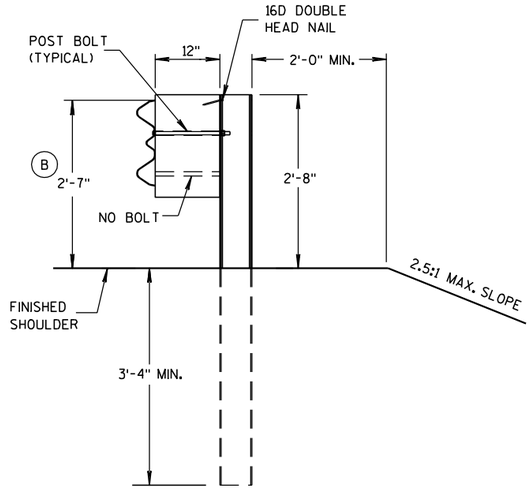
GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



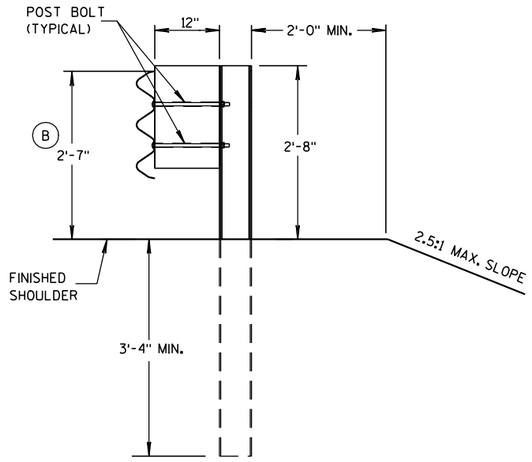
SECTION A-A

POSTS 1-5



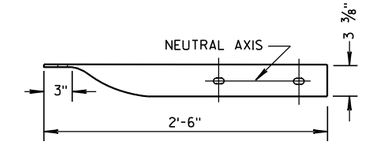
SECTION B-B

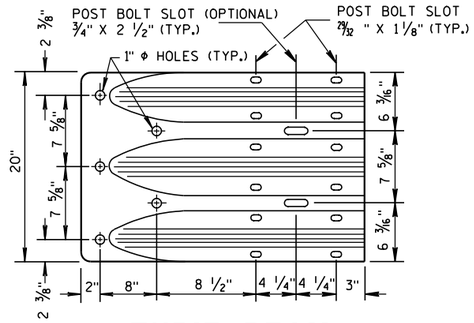
POST 6



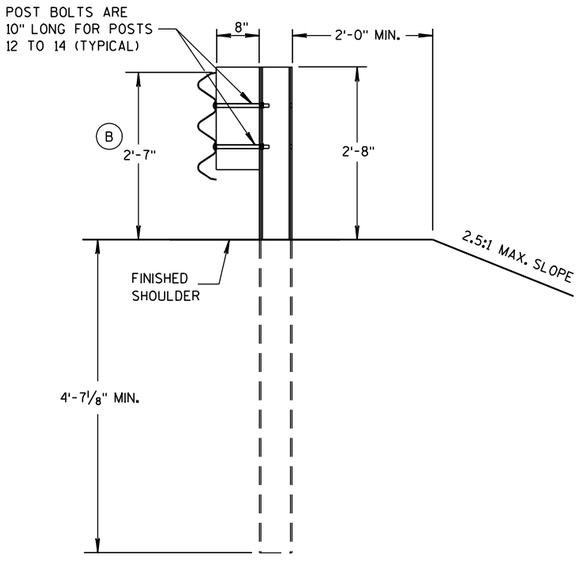
SECTION C-C

POSTS 7-11





THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-14

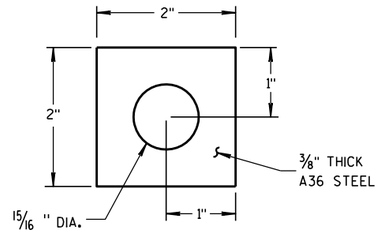
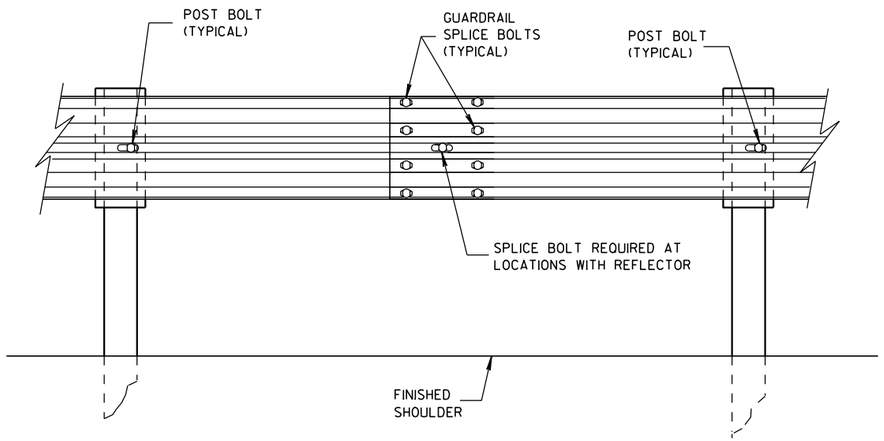
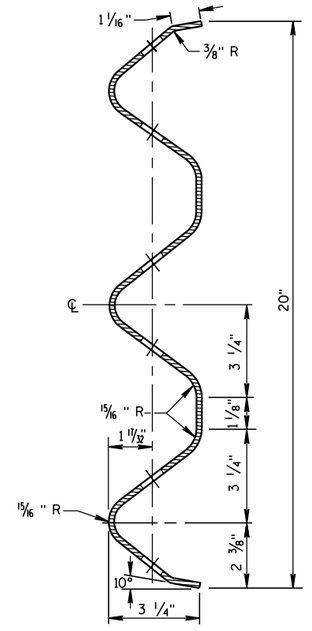


PLATE WASHER DETAIL



SPLICE DETAIL



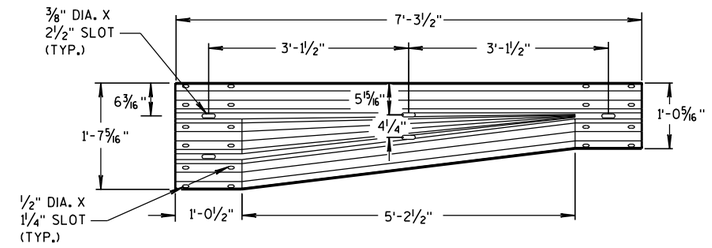
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

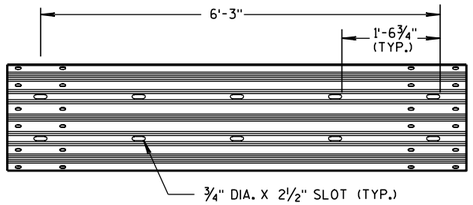
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

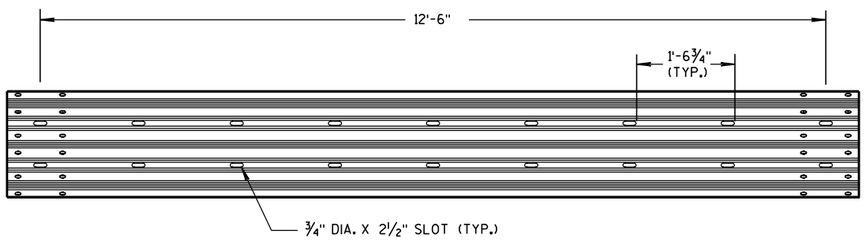
S.D.D. 14 B 45-3b



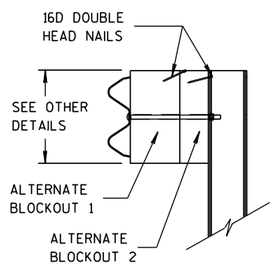
W-BEAM TO THRIE BEAM TRANSITION SECTION



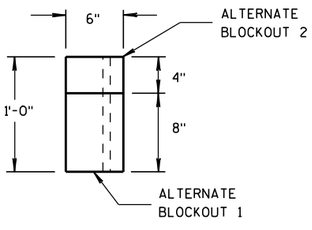
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

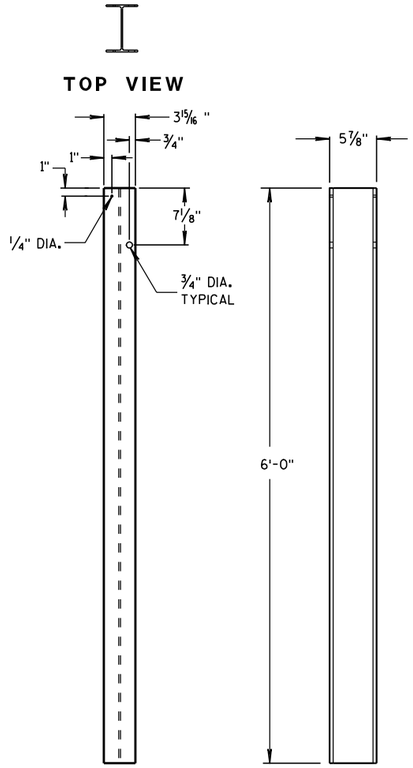


SIDE VIEW

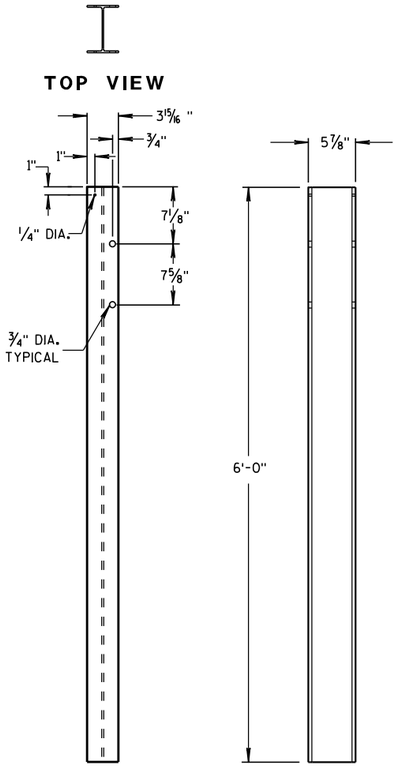


TOP VIEW

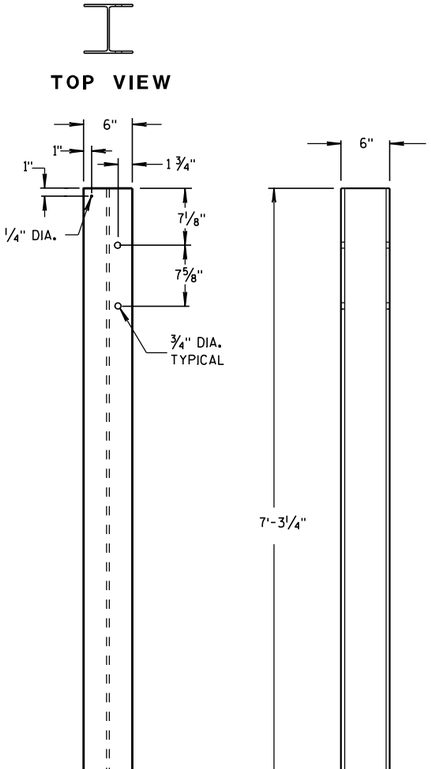
ALTERNATE WOOD BLOCKOUT DETAIL



STEEL POSTS 1-5

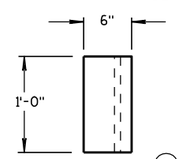


STEEL POSTS 6-11

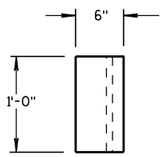


STEEL POSTS 12-14

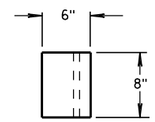
1 WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



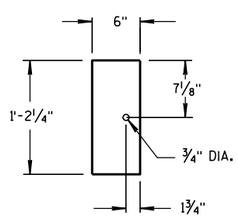
TOP VIEW (1)



TOP VIEW (1)

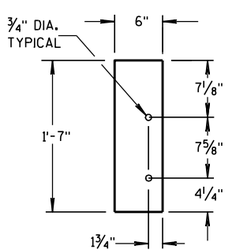


TOP VIEW



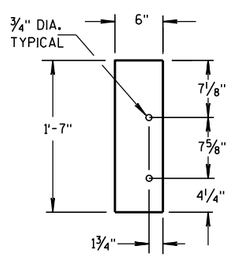
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

BLOCKOUT POSTS 12-14

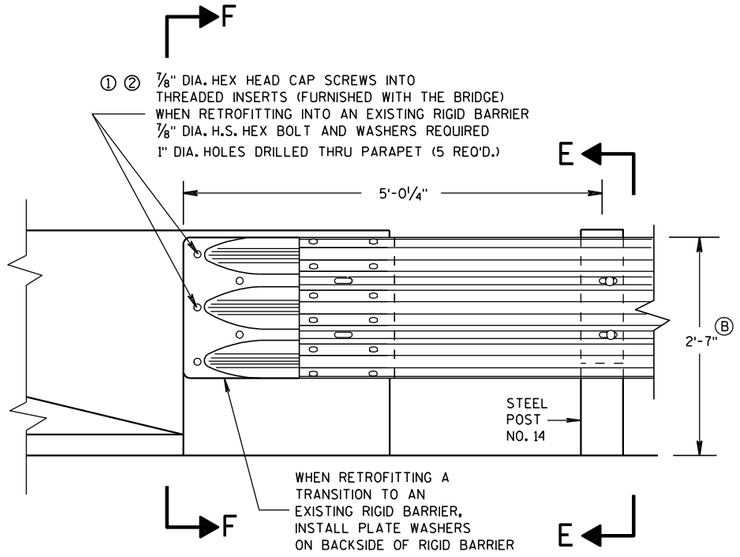
STEEL POST SIZES

POST NUMBER	SECTION TYPE	LENGTH
1	W6x9	72"
2	W6x9	72"
3	W6x9	72"
4	W6x9	72"
5	W6x9	72"
6	W6x9	72"
7	W6x9	72"
8	W6x9	72"
9	W6x9	72"
10	W6x9	72"
11	W6x9	72"
12	W6x15	87 1/8"
13	W6x15	87 1/8"
14	W6x15	87 1/8"

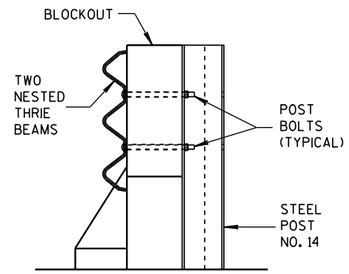
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 45-3c



FRONT VIEW



SECTION E-E

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

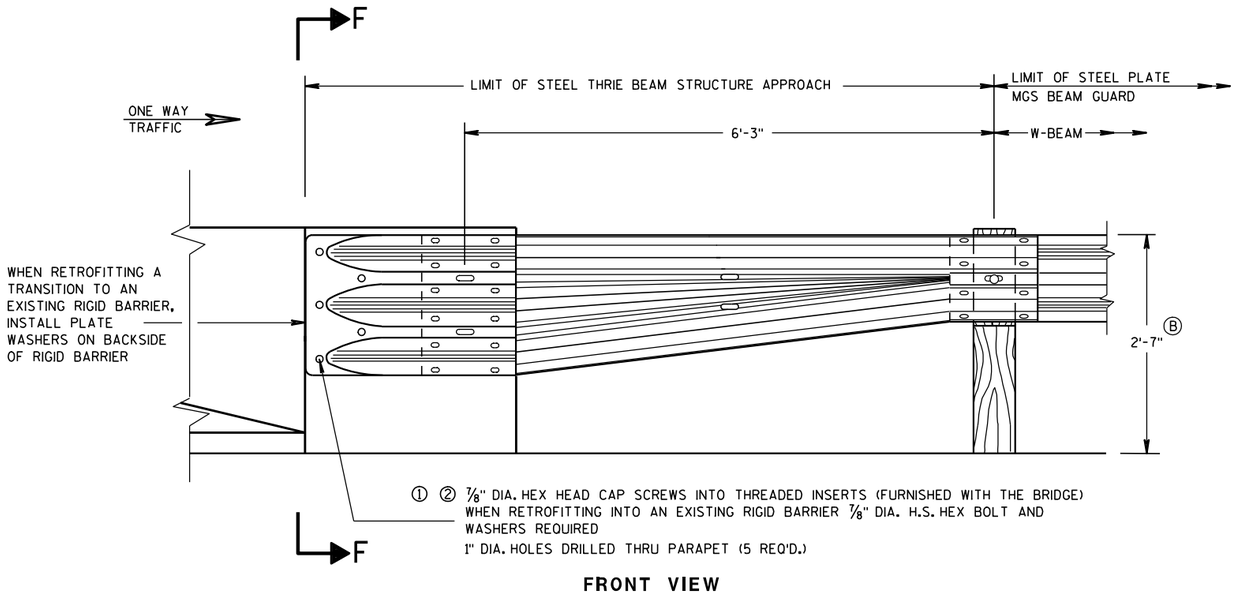
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② 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.

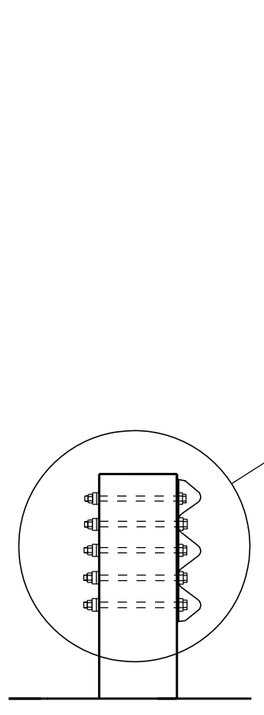
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

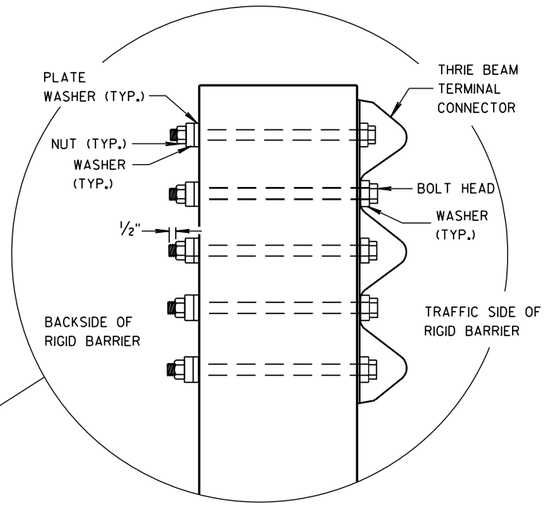
THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



FRONT VIEW



SECTION F-F



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

8/31/2012
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS [illegible]372 [illegible]ENT
ENGINEER

FHWA

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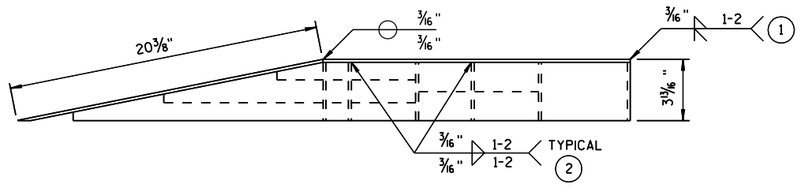

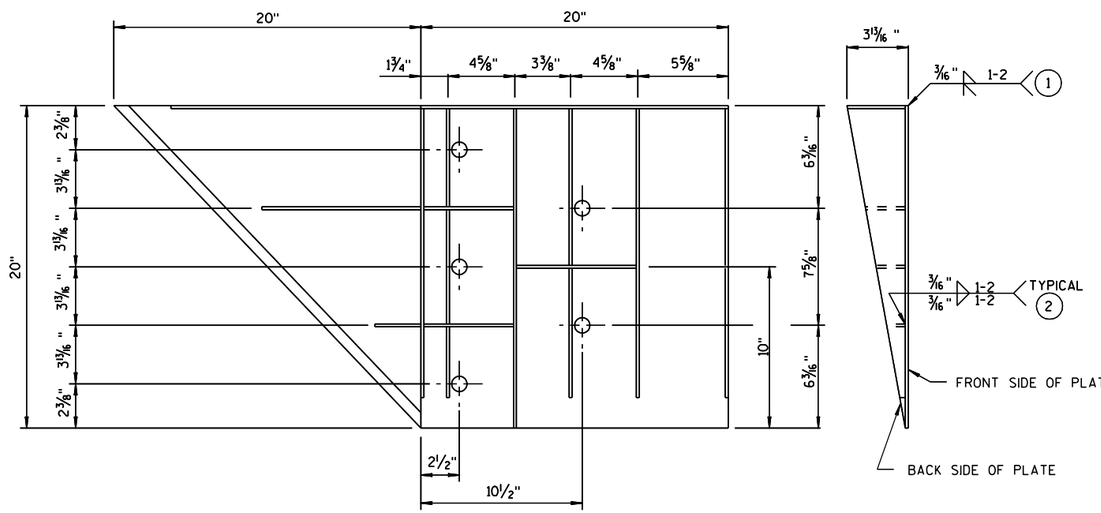

WELDING INSTRUCTION

(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.

(1) 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.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

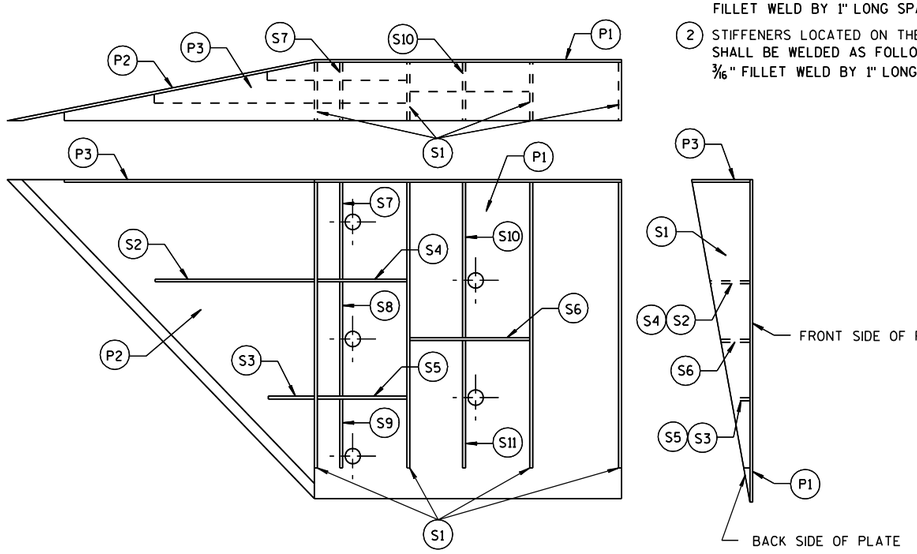

PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

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 5/8" 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 3/32"	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
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/S/ Jerry H ...
ROADWAY STANDARDS 373
ENGINEER
...MENT
FHWA

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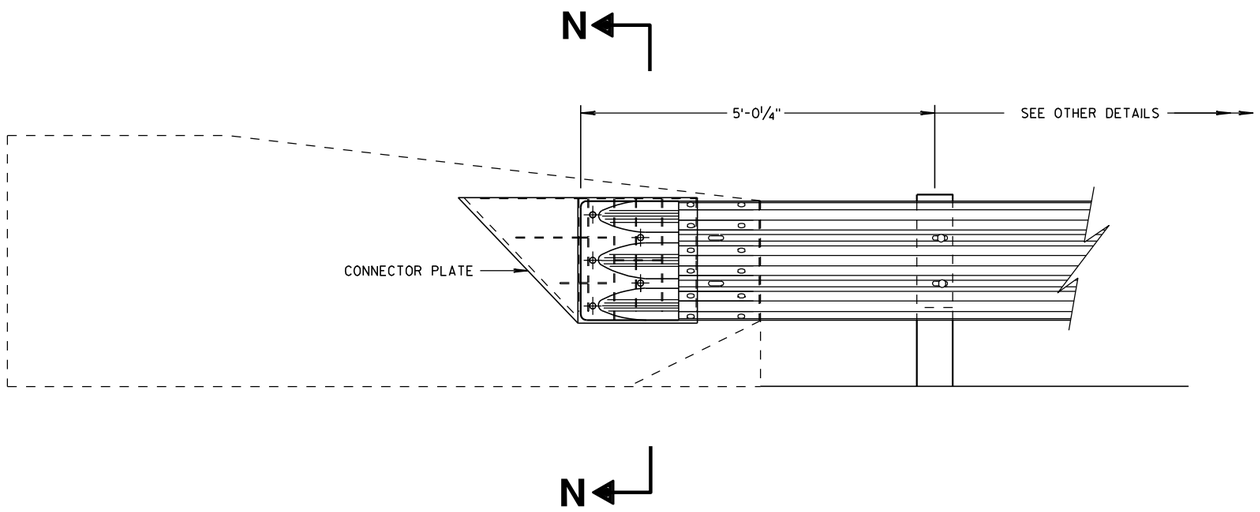
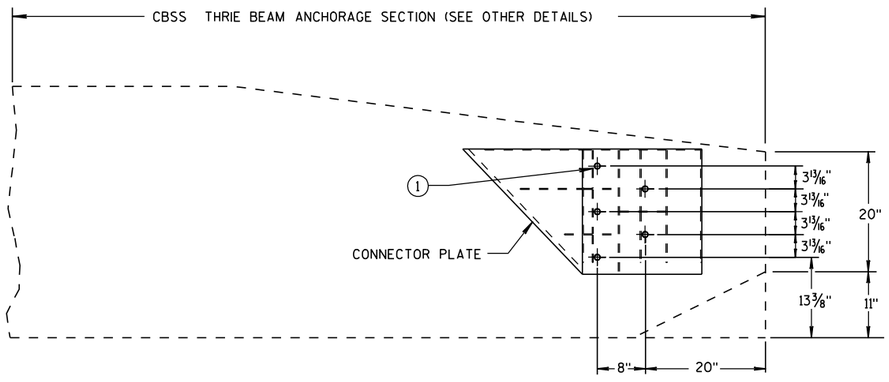


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

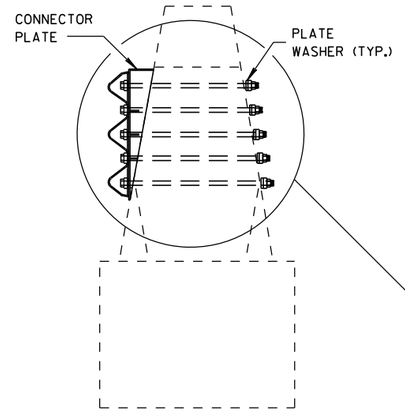


SINGLE SLOPE CONNECTION PLATE PLACEMENT

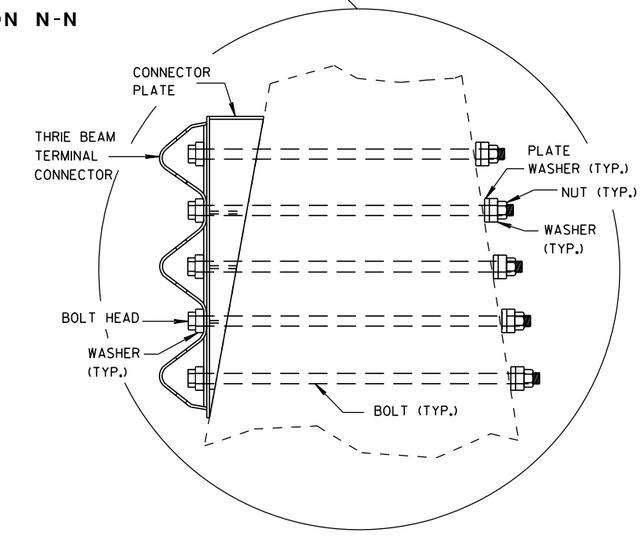
GENERAL NOTES

CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(1) 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 ⅝" 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

8/31/2012
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS [illegible]
ENGINEER

FHWA

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S.D.D. 14 B 45-3j

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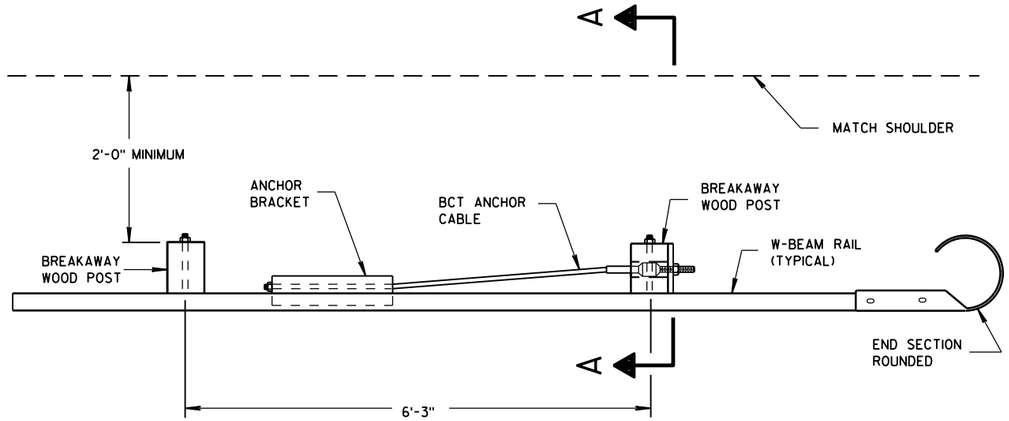
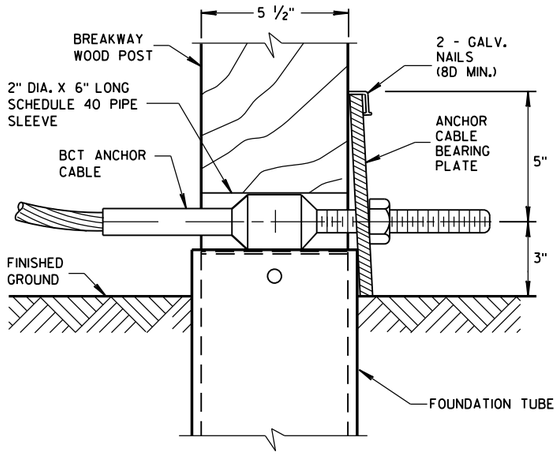
S.D.D. 14 B 45-3j



PLAN VIEW



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

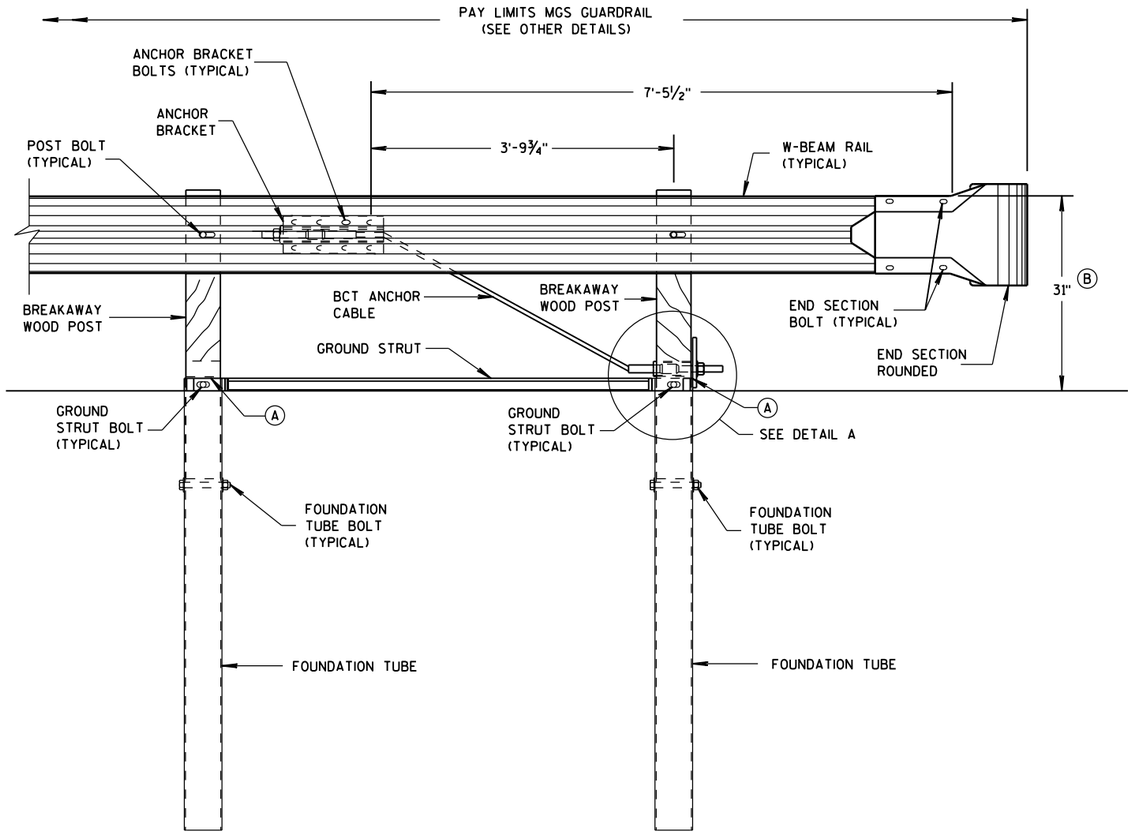
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

ANCHOR BRACKET AND GROUND STRUT BOLTS ARE A ⅝" DIAMETER ASTM A307 HEX HEAD BOLT. ANCHOR BRACKET BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅝" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

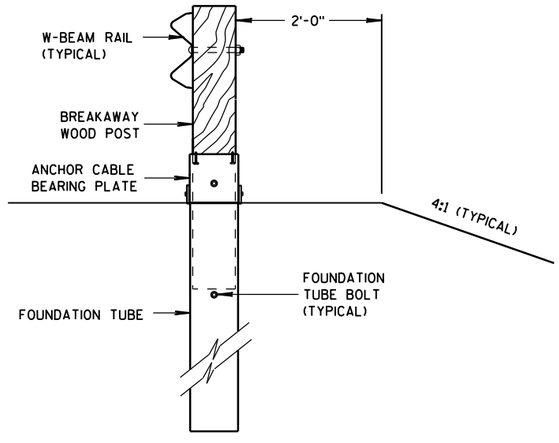
(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".

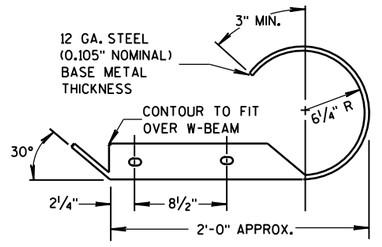


FRONT VIEW

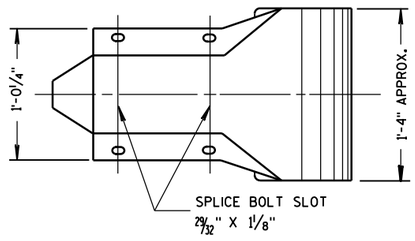
END RAIL DETAIL



SECTION A-A



PLAN VIEW



FRONT VIEW

W BEAM END SECTION ROUNDED

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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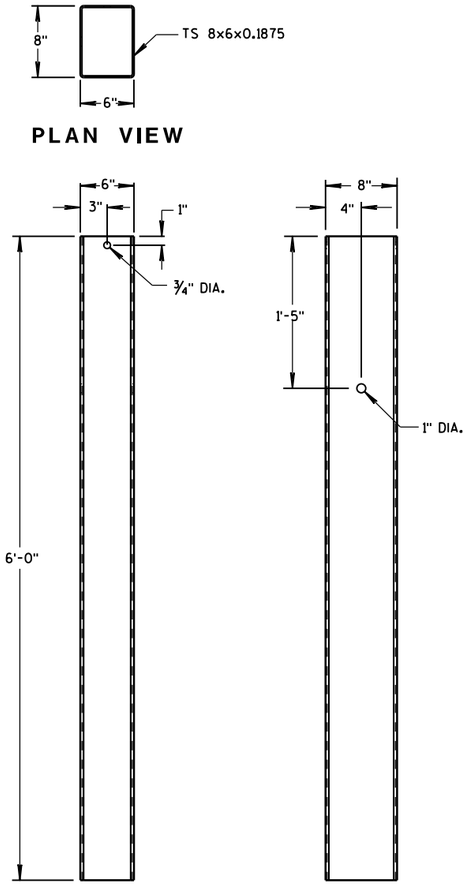
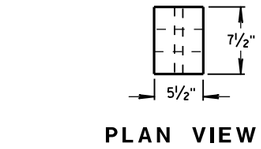
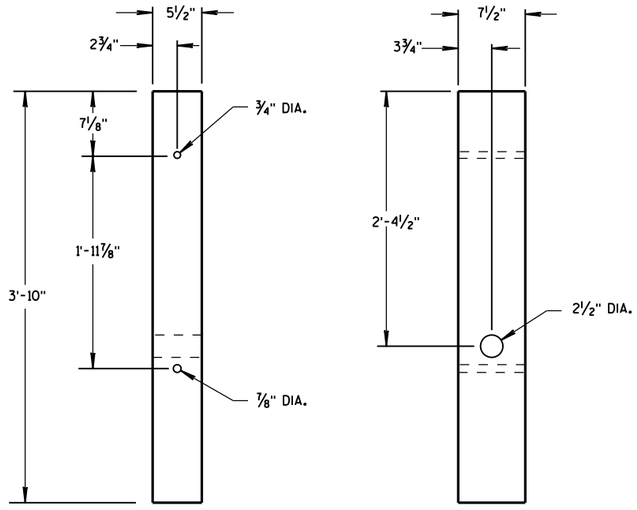
S.D.D. 14 B 47-2a



FOUNDATION TUBE



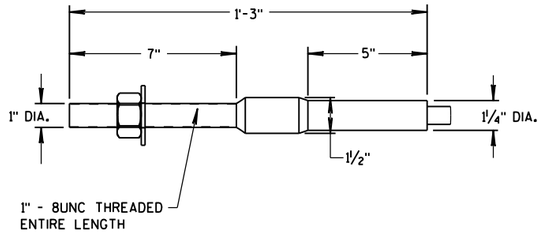


BREAKAWAY WOOD POST

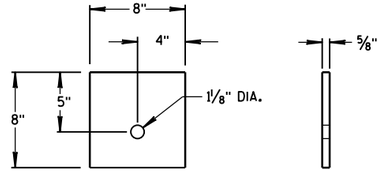
GENERAL NOTES

BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.

BCT ANCHOR CABLE



DETAIL B



ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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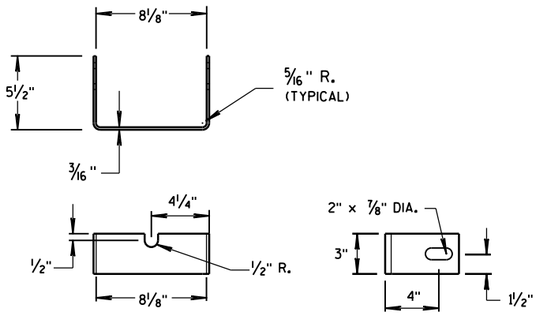
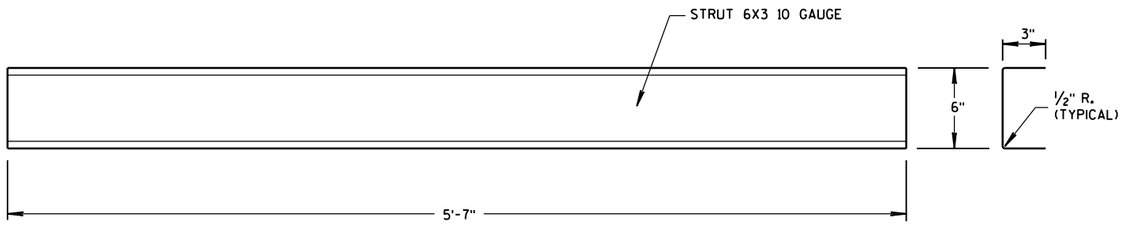
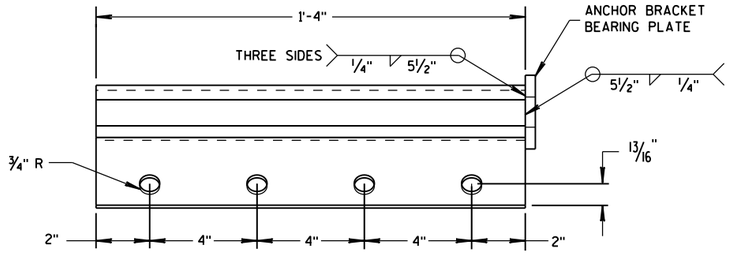
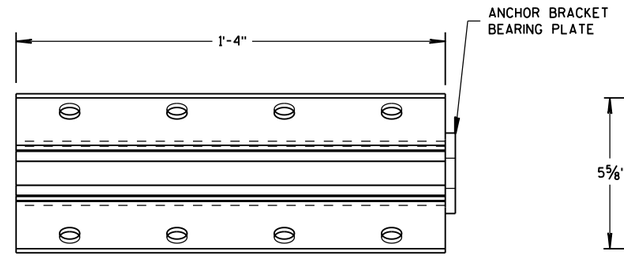


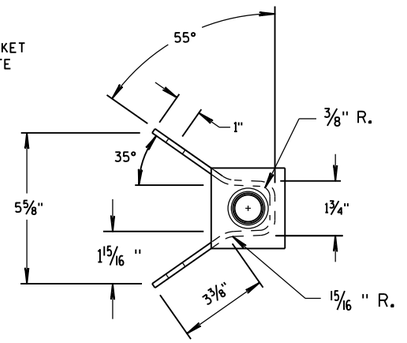
YOKE DETAIL



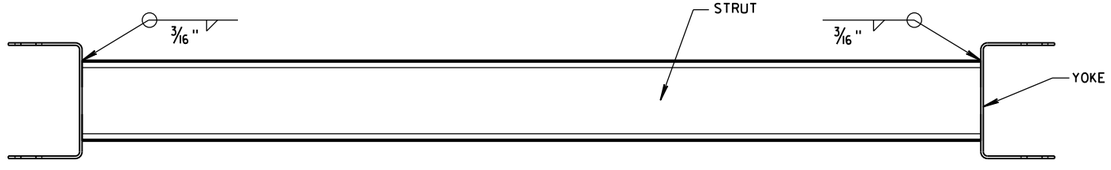
STRUT DETAIL



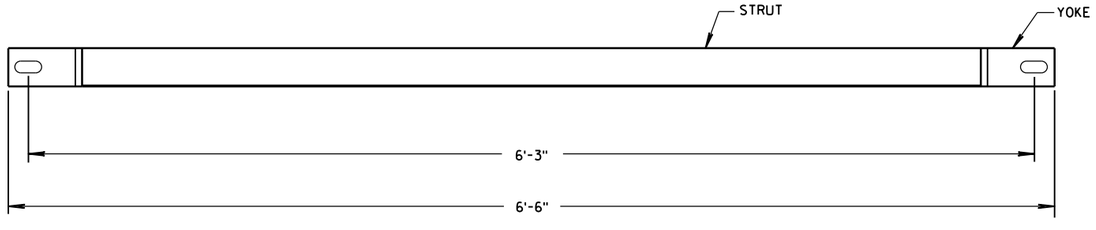




ANCHOR BRACKET

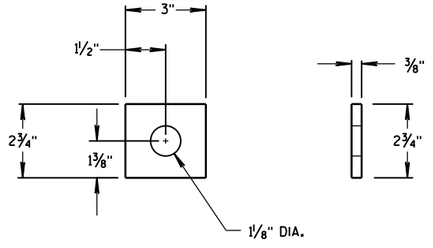


PLAN VIEW



FRONT VIEW

GROUND STRUT DETAIL



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

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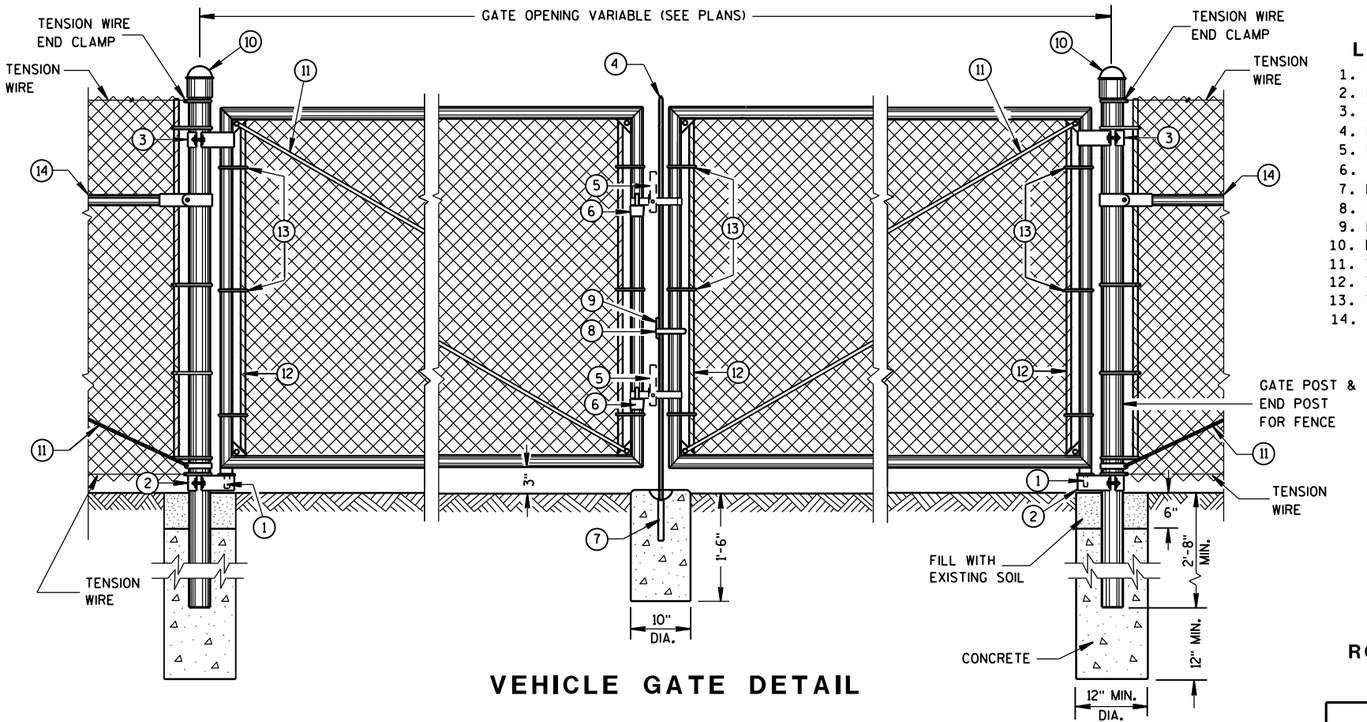
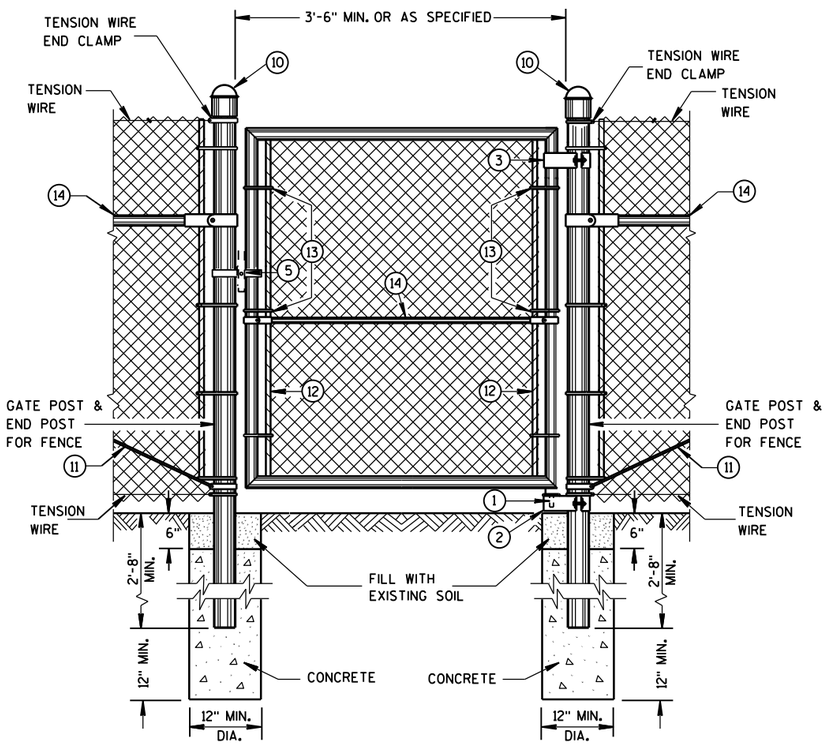


VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH *
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

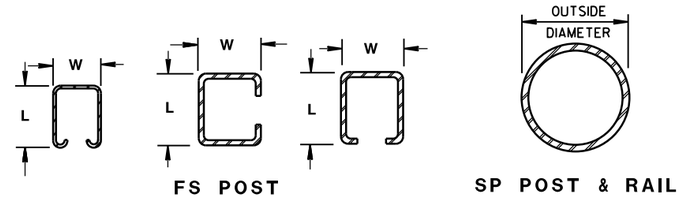
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.

USE TYPE 2, CLASS 3, MARCELLED/CRIMPED, TENSION WIRE PER ASTM A 817.



FS POST

SP POST & RAIL

CROSS SECTIONS OF POSTS AND RAILS

ROLLED-FORMED STEEL FENCE POST (2.0 OZ./SQ. FT. COATING)

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2†	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

ROUND STEEL FENCE POST (1.8 OZ./SQ. FT. COATING)

POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2†
	GREATER THAN OR EQUAL TO 8 FT.	FS3

REQUIRED POST SIZE FOR GATES

USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

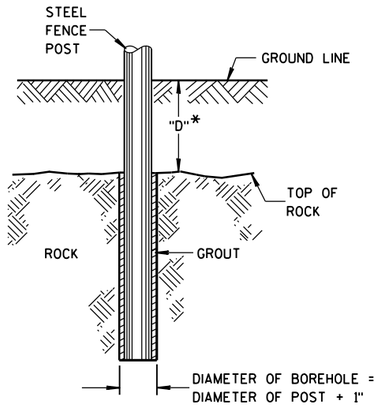
** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

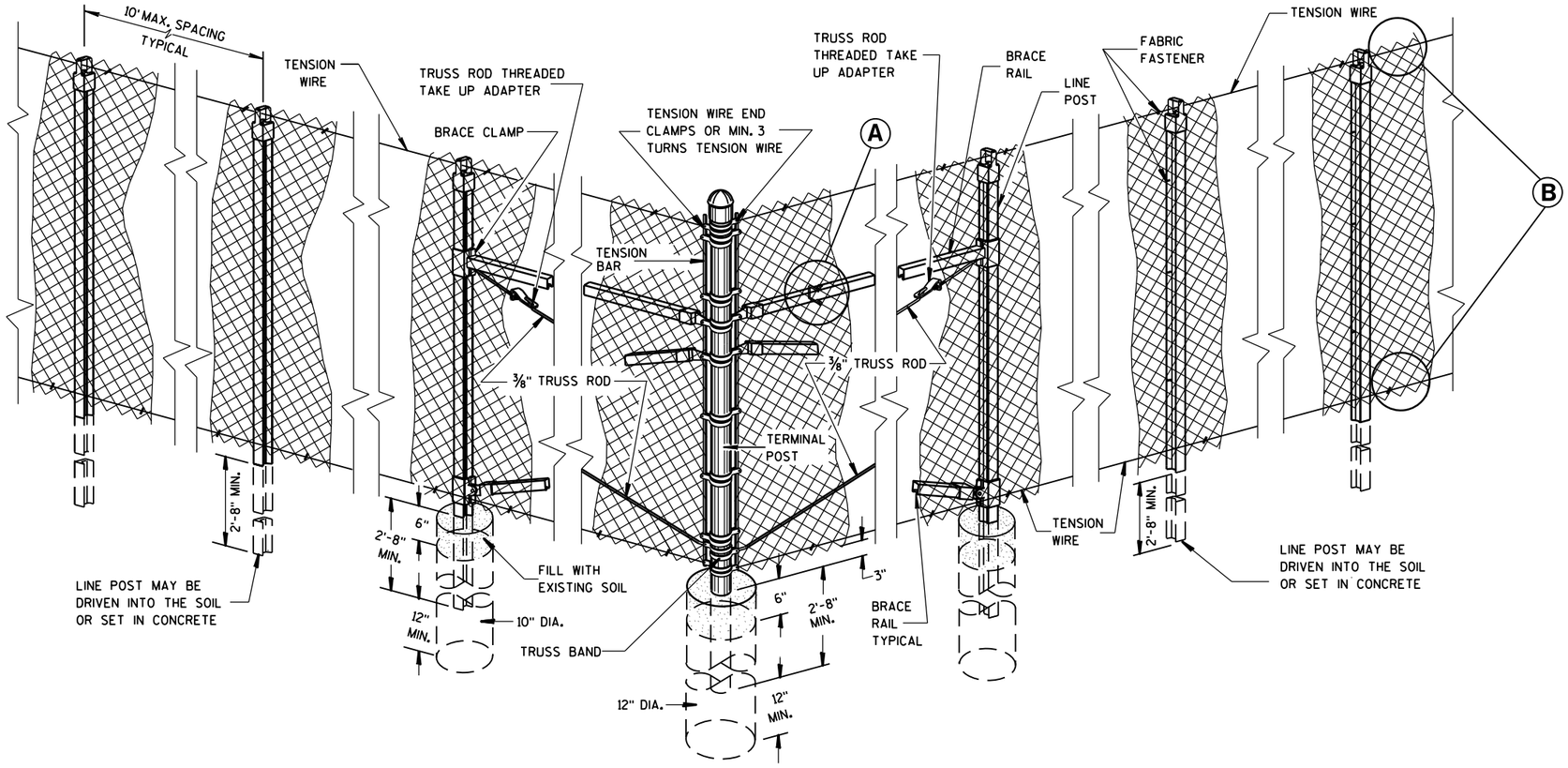
6

S.D.D. 15 B 3-15a

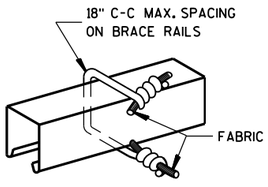


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST



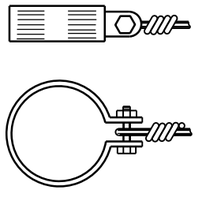
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



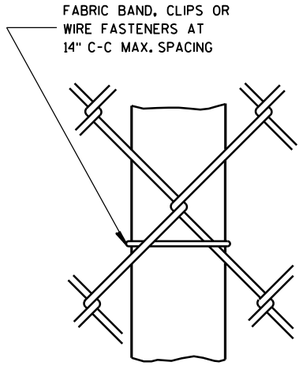
BRACE RAIL

FABRIC FASTENER

Ⓐ



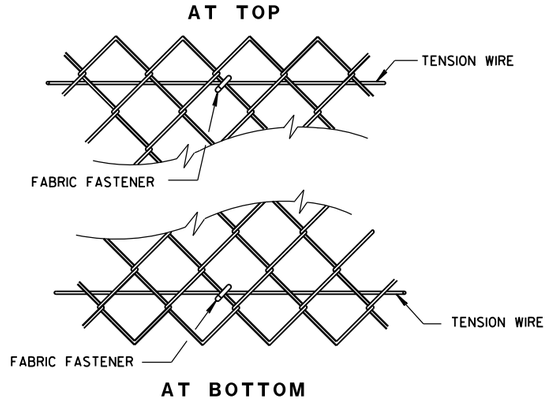
TENSION WIRE END CLAMP



LINE POST

FABRIC FASTENER

AT TOP



AT BOTTOM

SELVAGES

Ⓑ

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
FEB. 2015 DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

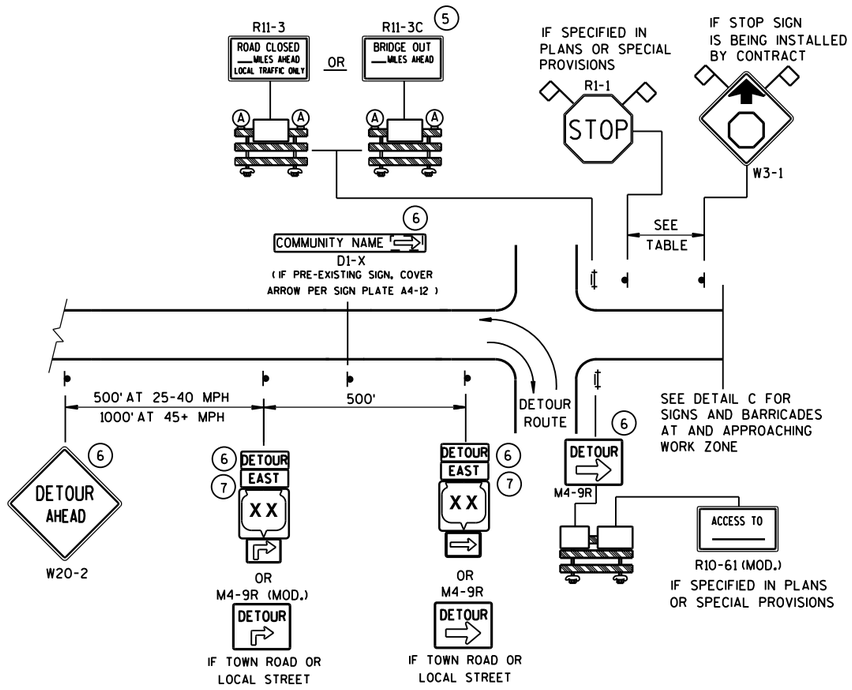
379

6

S.D.D. 15 B 3-15b

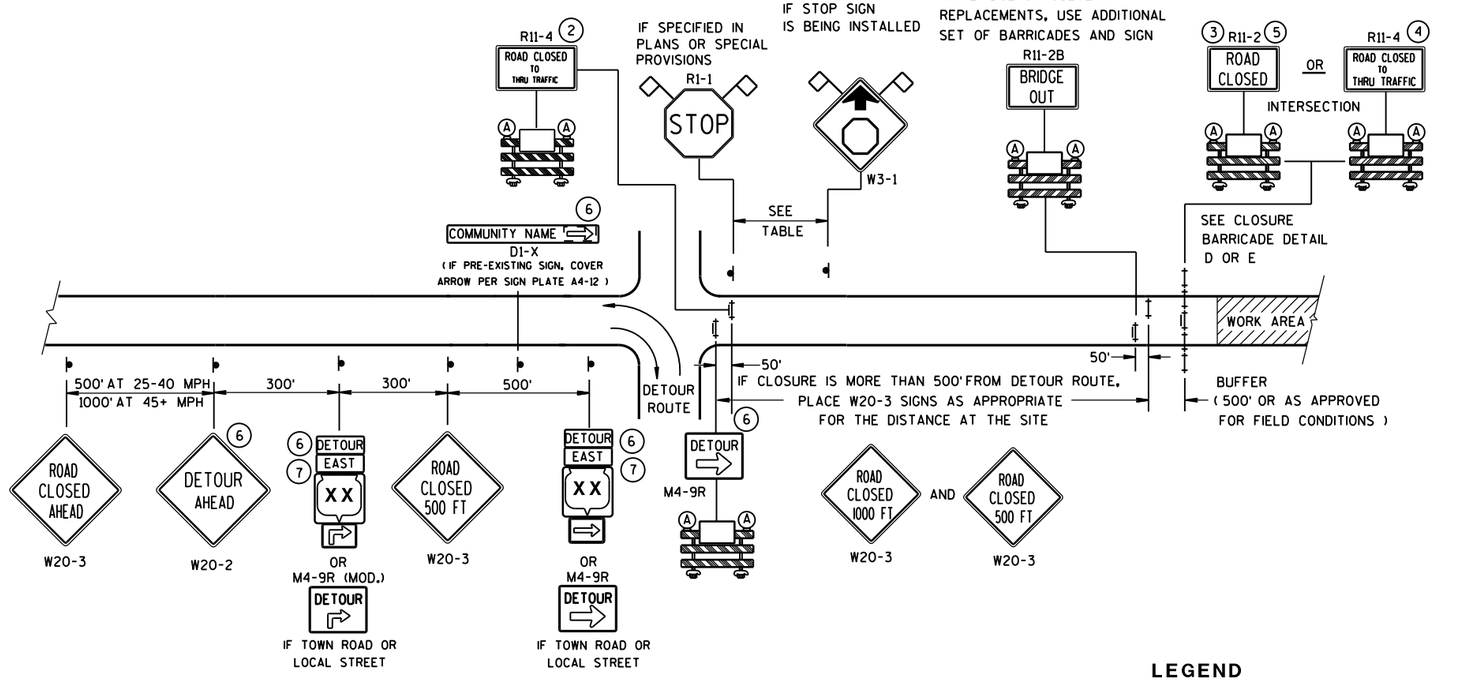
6

S.D.D. 15 B 3-15b



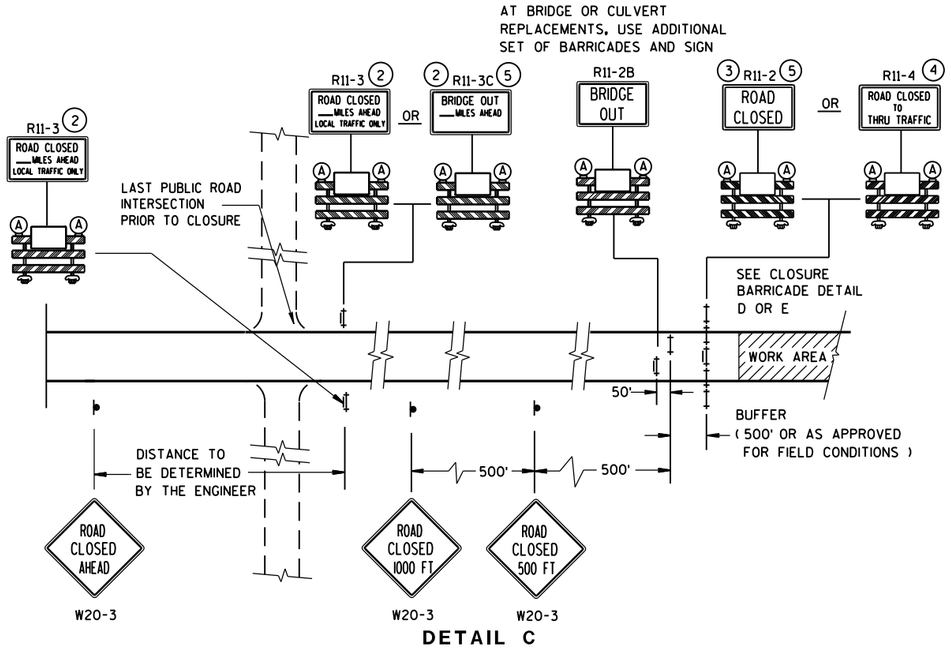
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

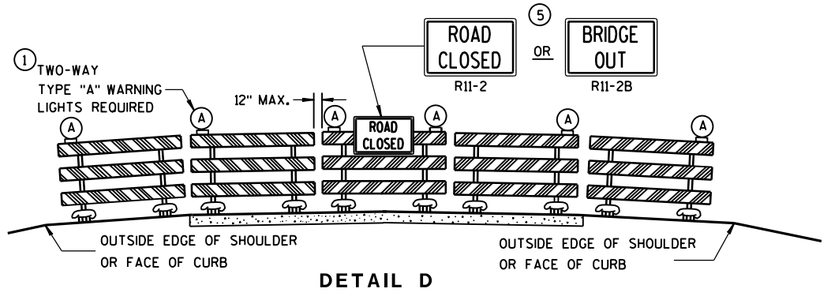
380

DESIGN

FHWA

6

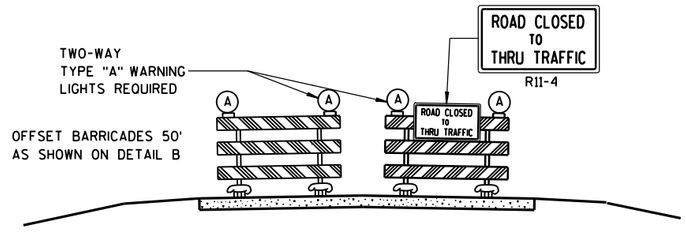
S.D.D. 15 C 2-5a



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

8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
DESIGN
FHWA

6

S.D.D. 15 C 2-5b

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.

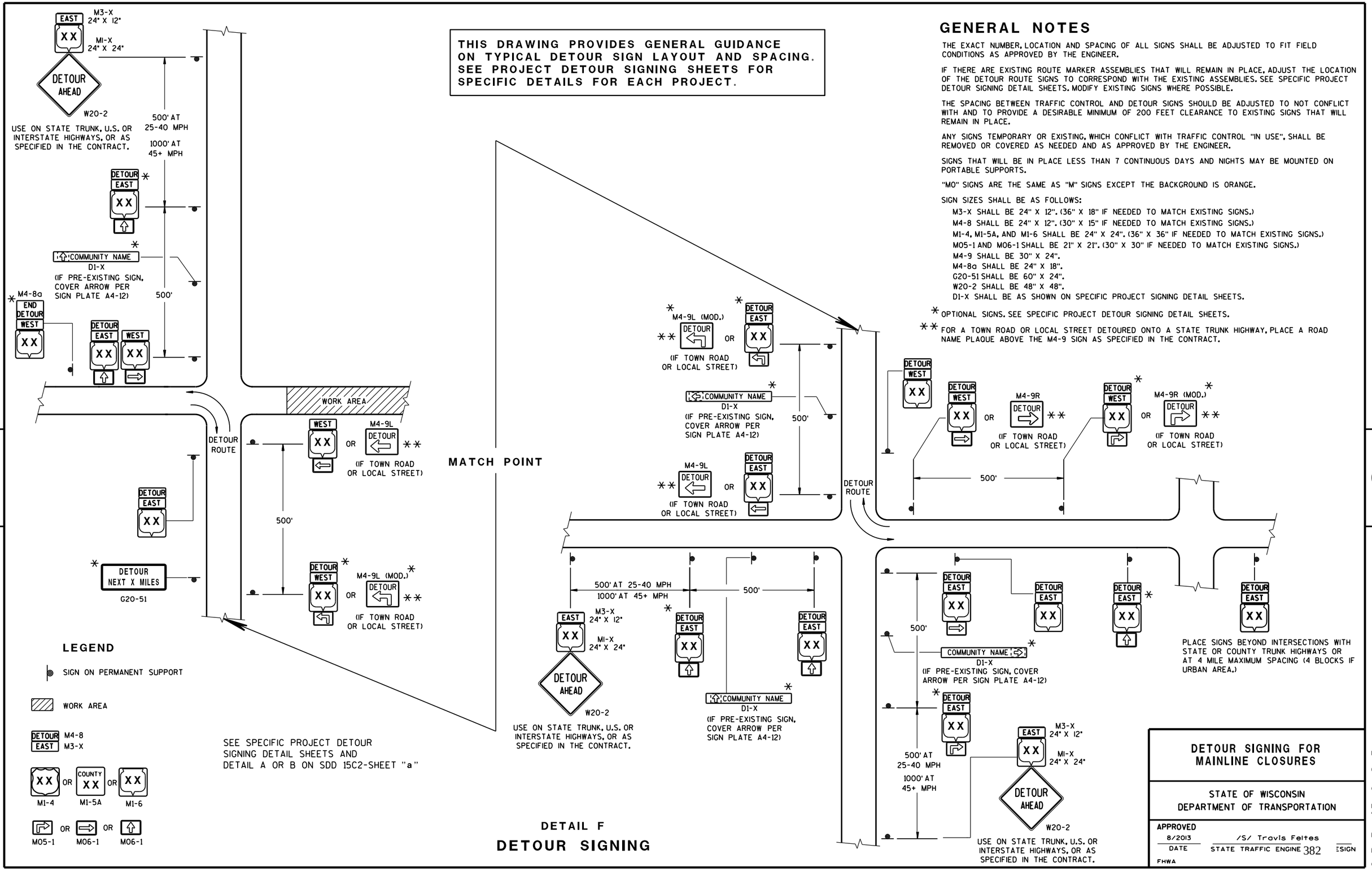
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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.)
- M05-1 AND M06-1 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.



DETAIL F

DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

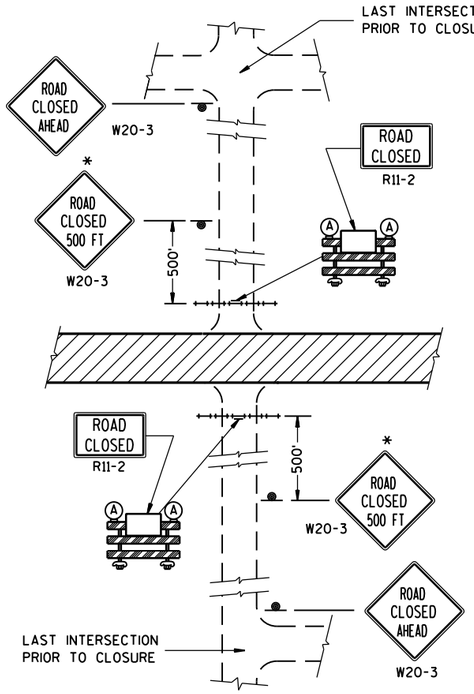
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 DATE
/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

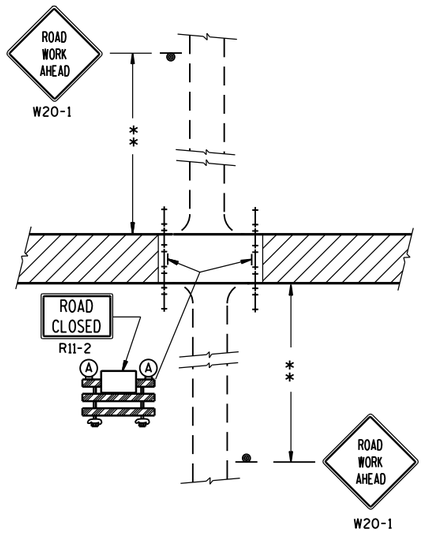
S.D.D. 15 C 2-5c

6



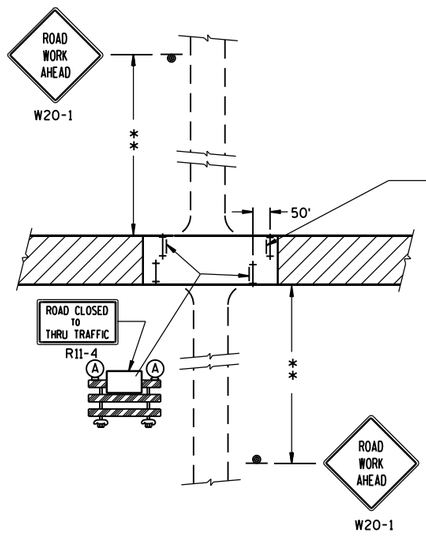
DETAIL 1

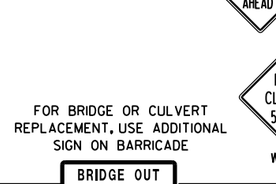
(NO ACCESS TO PROJECT)

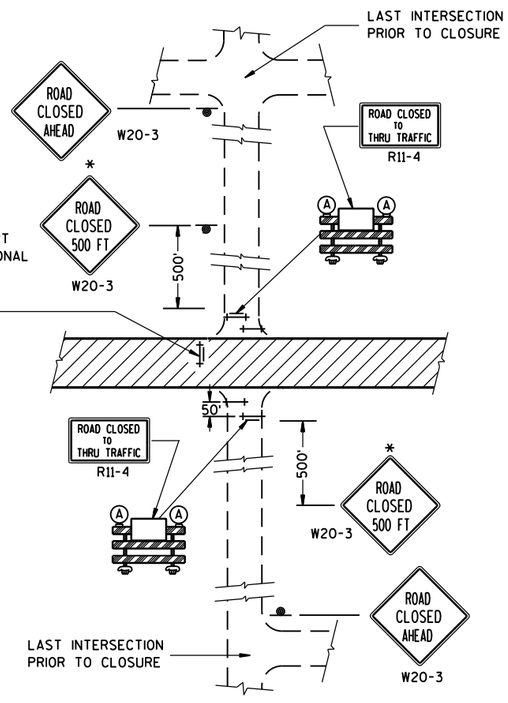


DETAIL 2

(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).







DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).

DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

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 AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

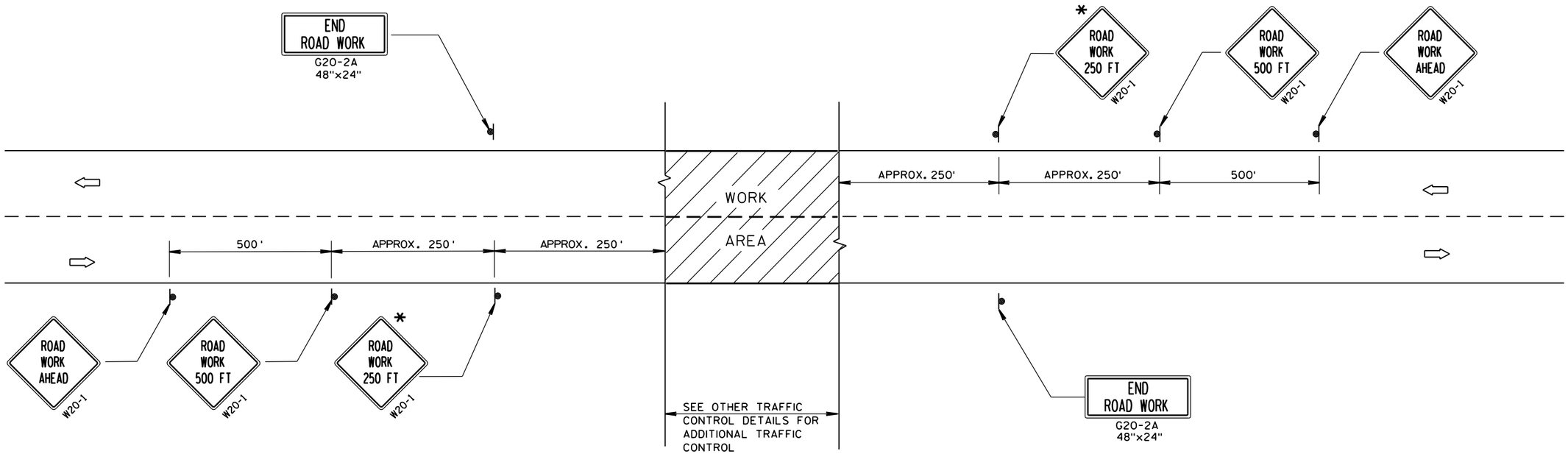
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

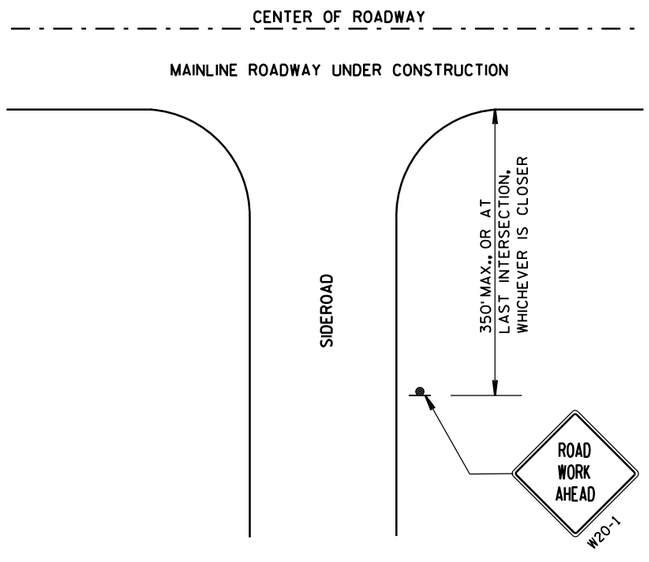
S.D.D. 15 C 3-2

6

S.D.D. 15 C 3-2



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

8/2013	/S/ Travis Feltes	
DATE	STATE TRAFFIC ENGINEER	SIGN

FHWA

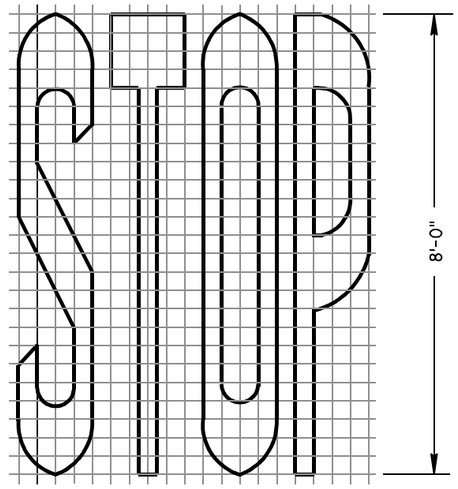
6

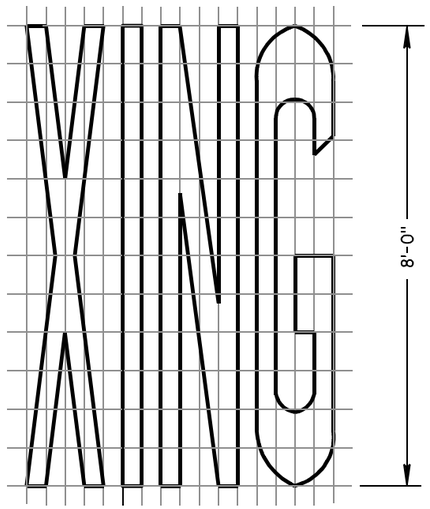
S.D.D. 15 C 5-2

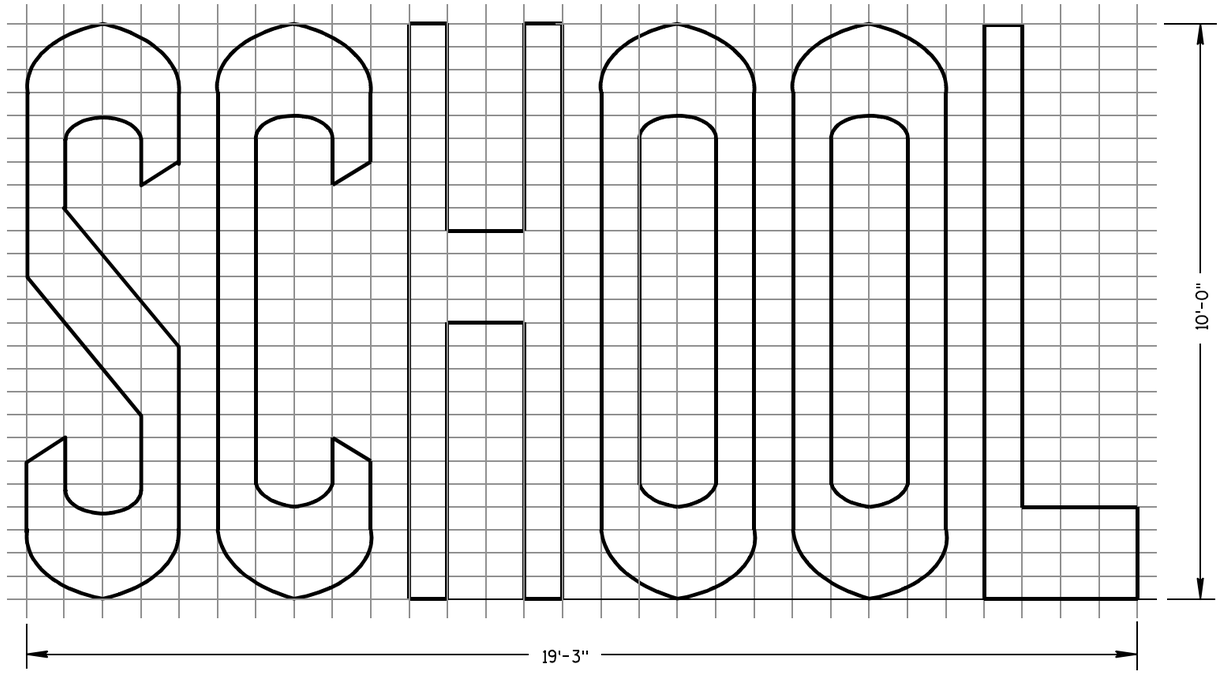
GENERAL NOTES

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.

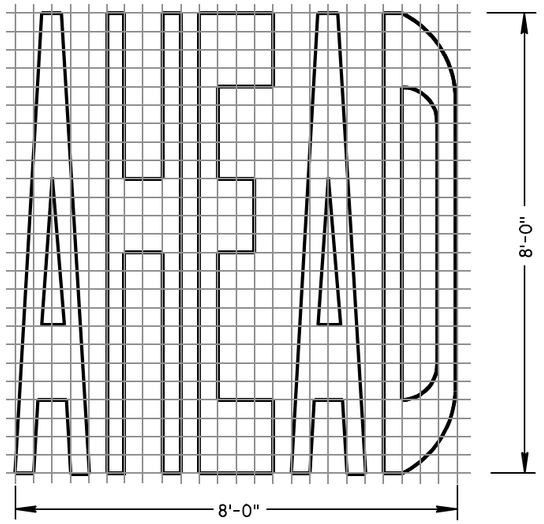
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

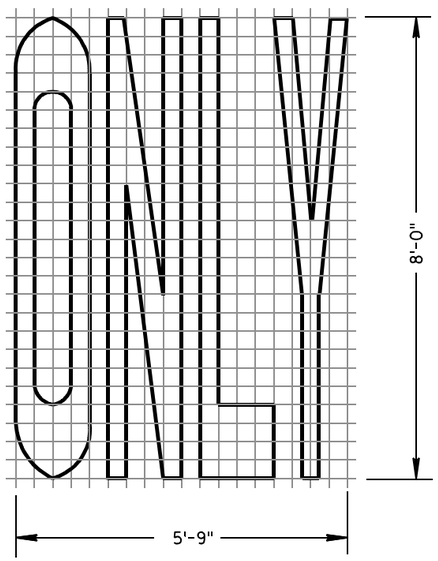


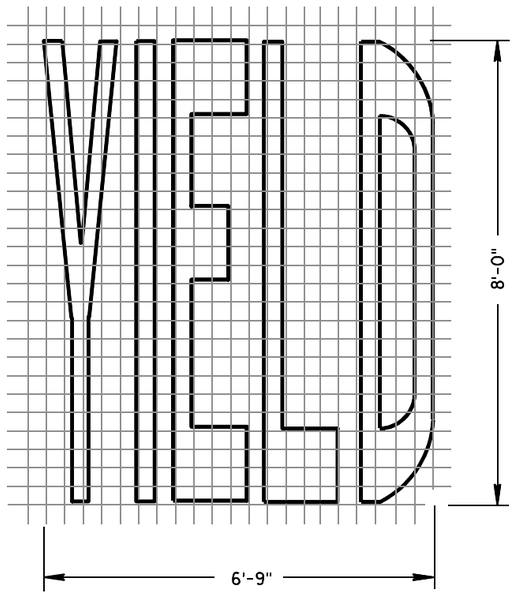


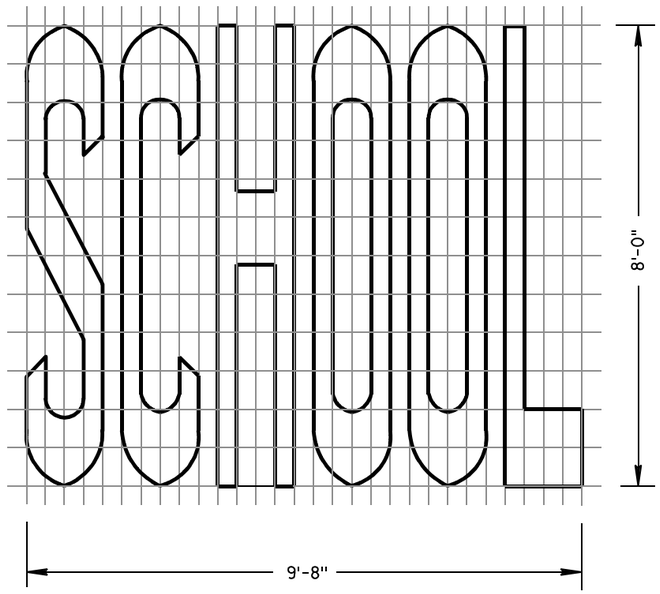


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-1-11 DATE — /S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER

FHWA

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S.D.D. 15 C 7-12b

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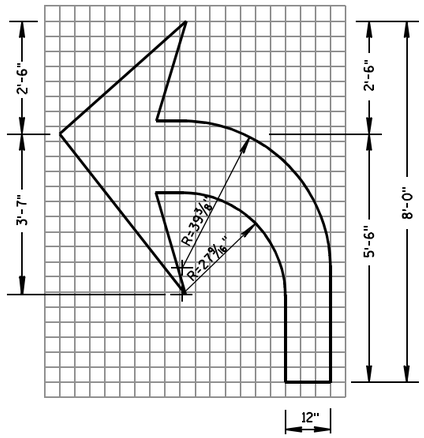
S.D.D. 15 C 7-12b

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.

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



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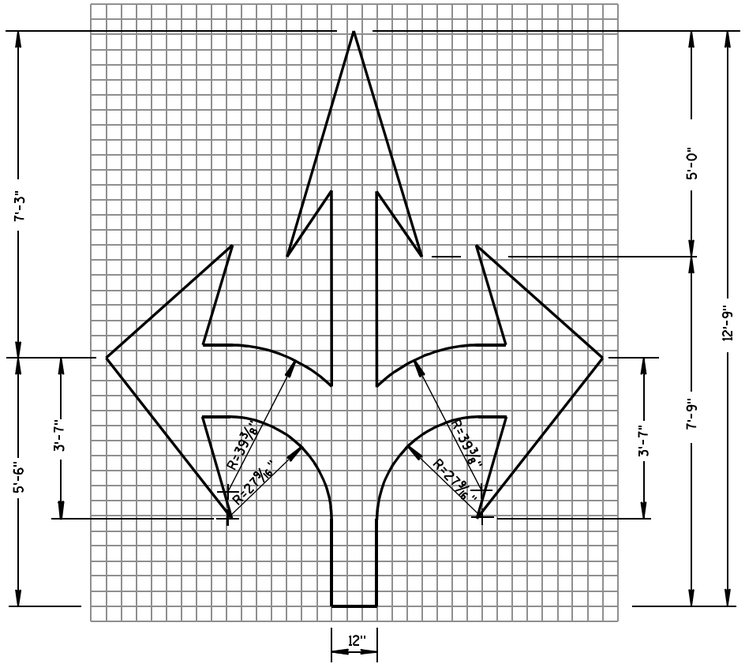

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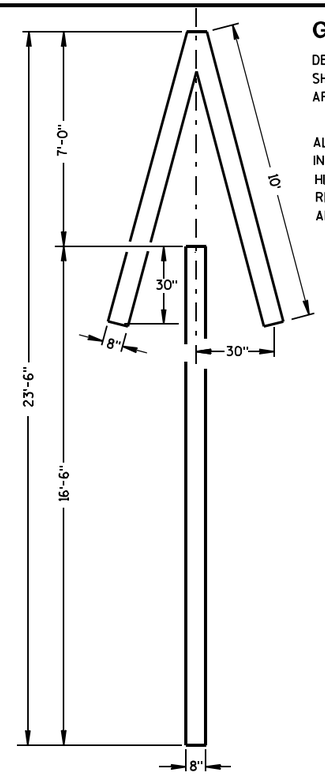

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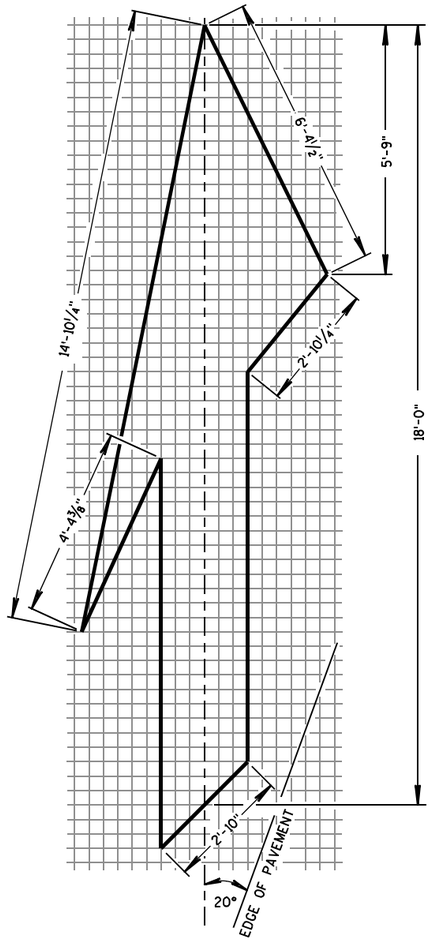
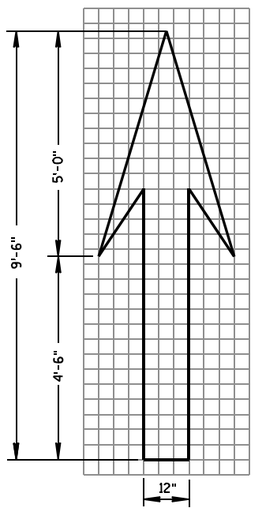
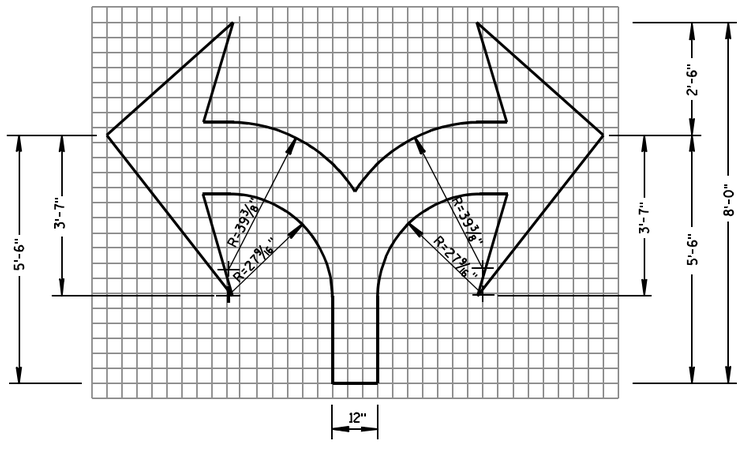


TYPE 5 LANE DROP ARROW



TYPE 1



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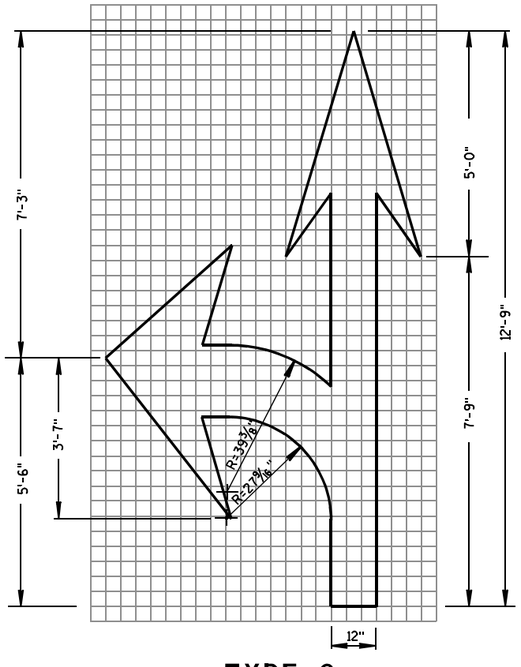

TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

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S.D.D. 15 C 7-12c

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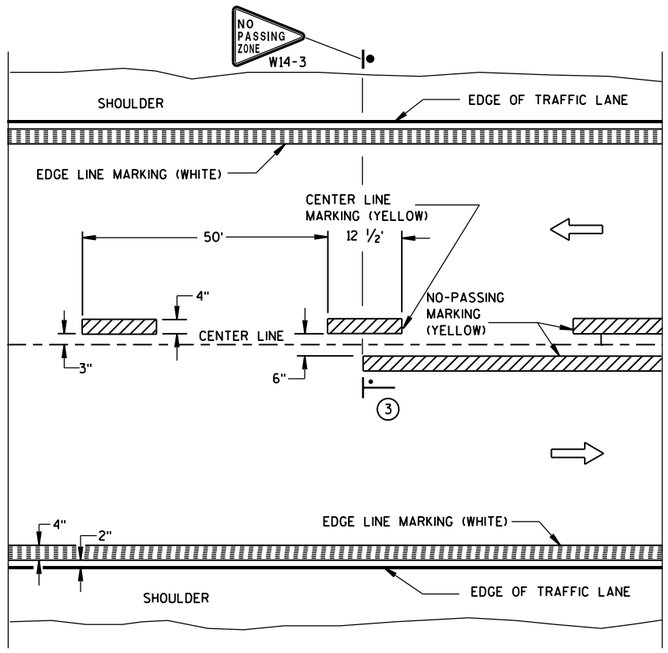
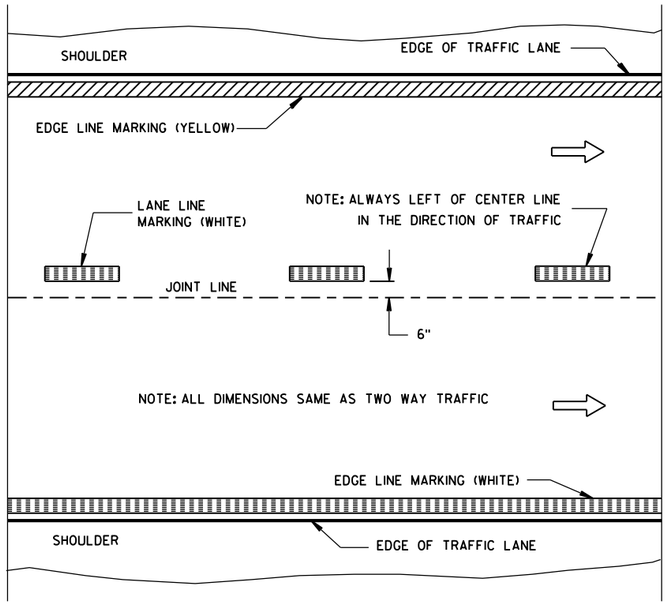
S.D.D. 15 C 7-12c

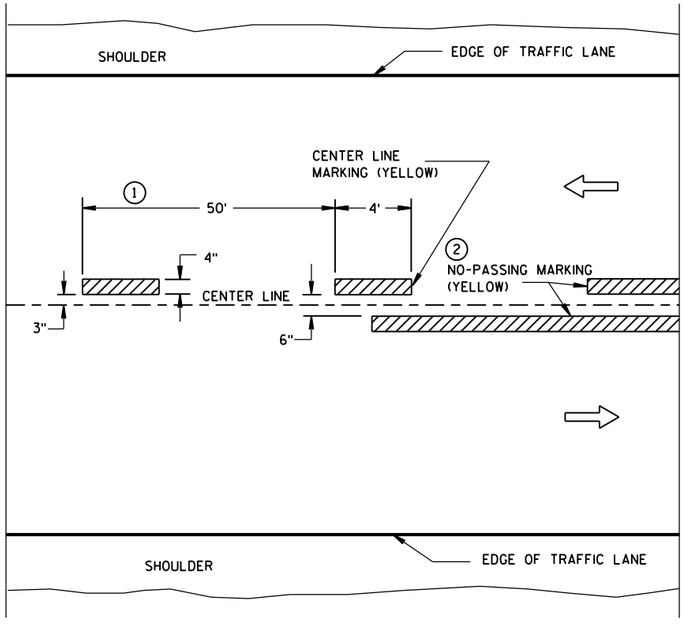


TWO WAY TRAFFIC

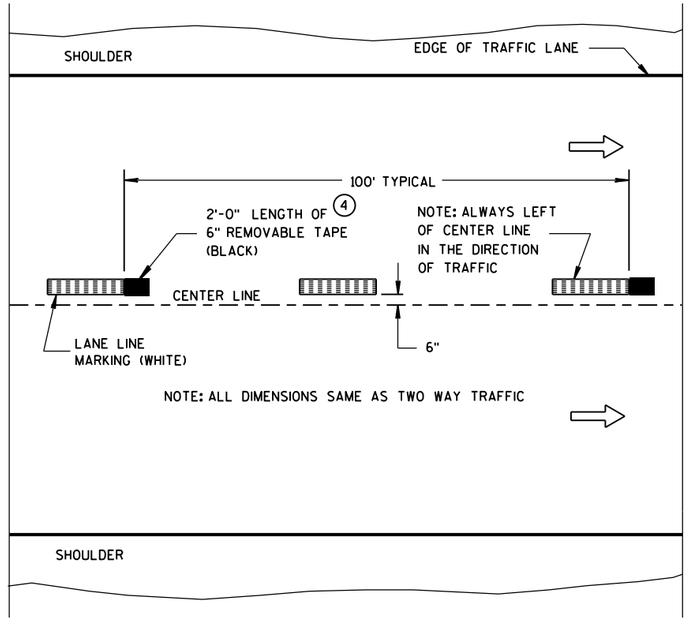


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

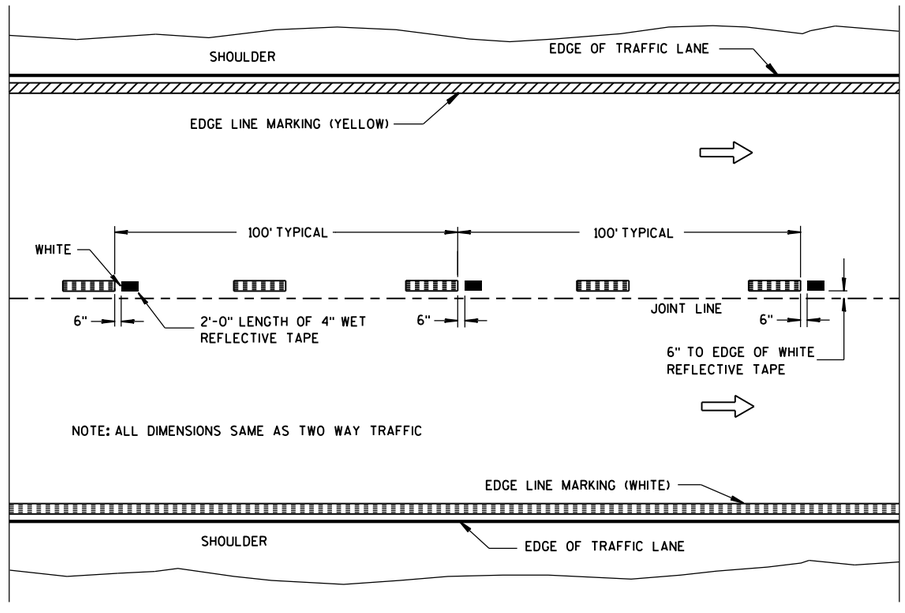
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

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S.D.D. 15 C 8-16a

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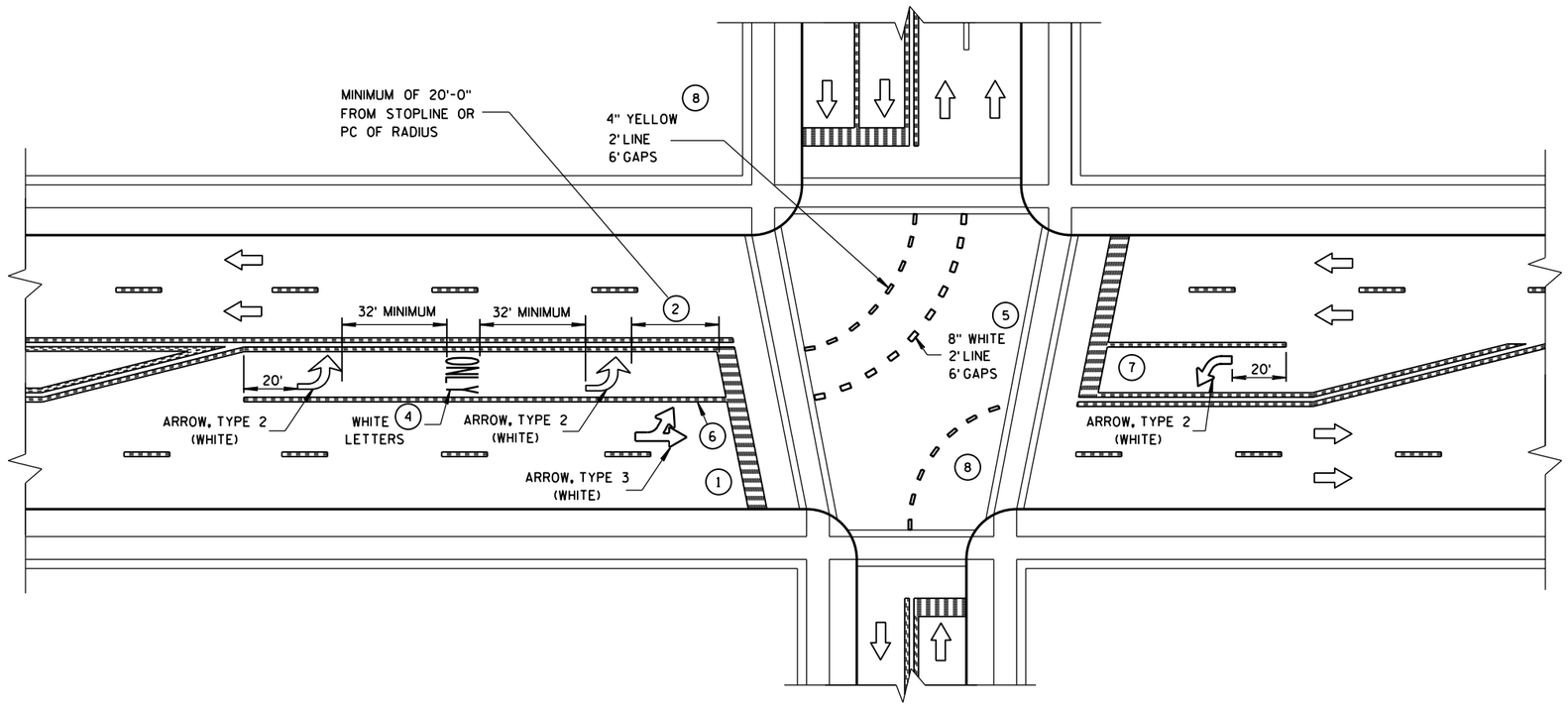
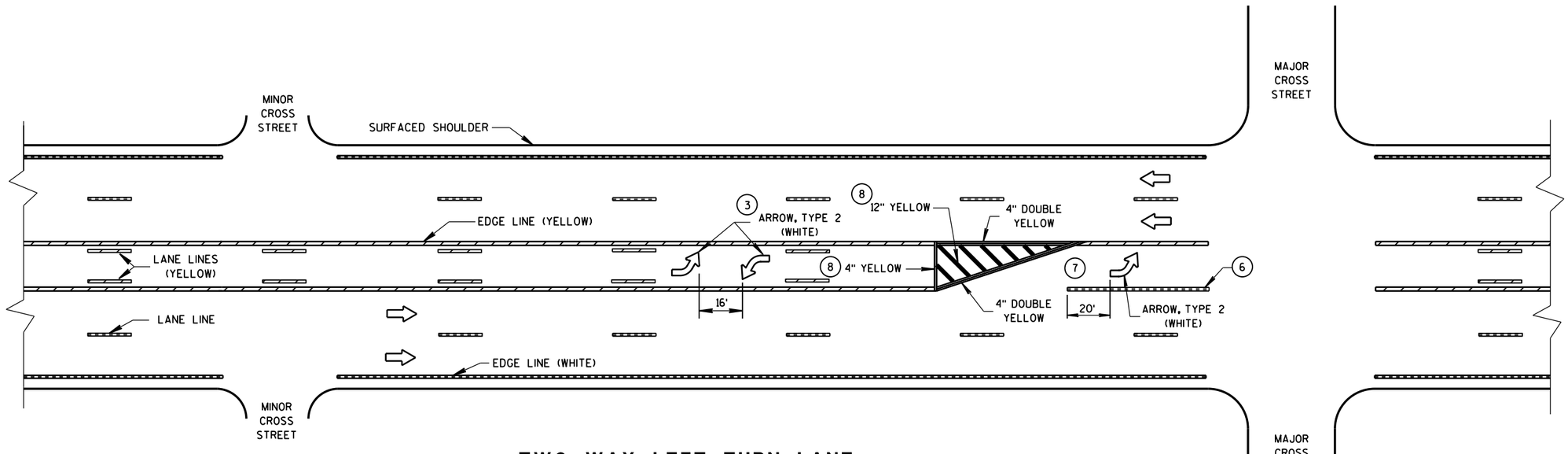
S.D.D. 15 C 8-16a



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 15 C 8-16e

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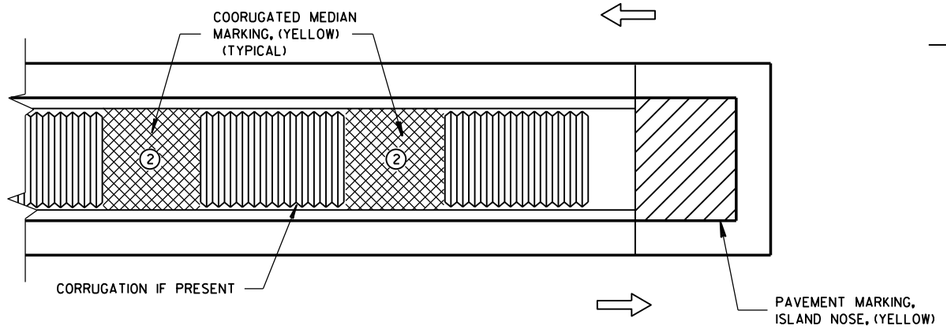
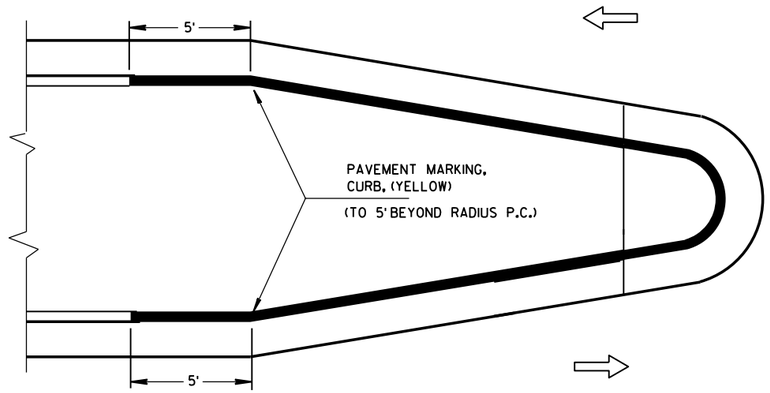
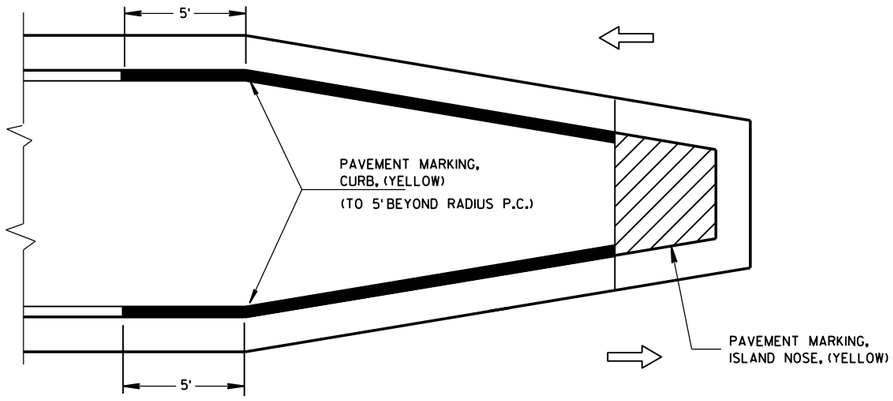
S.D.D. 15 C 8-16e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

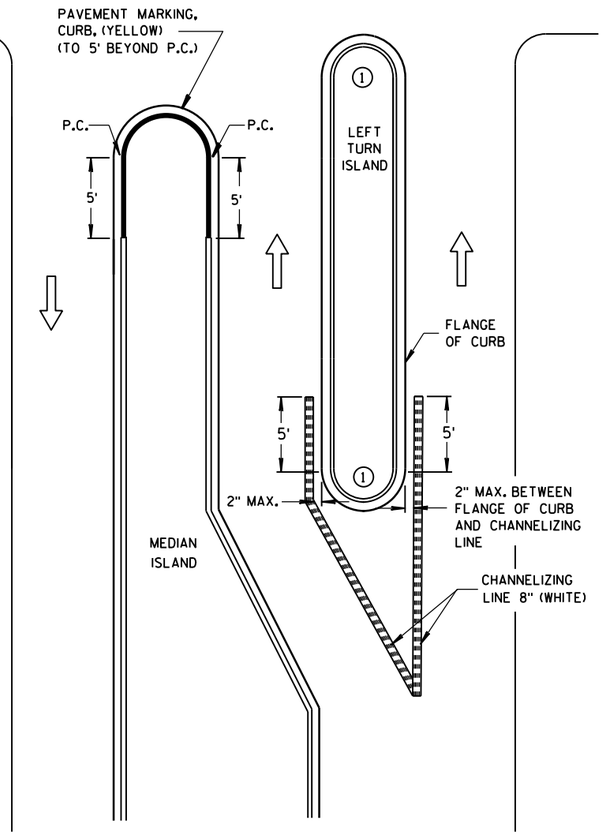


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

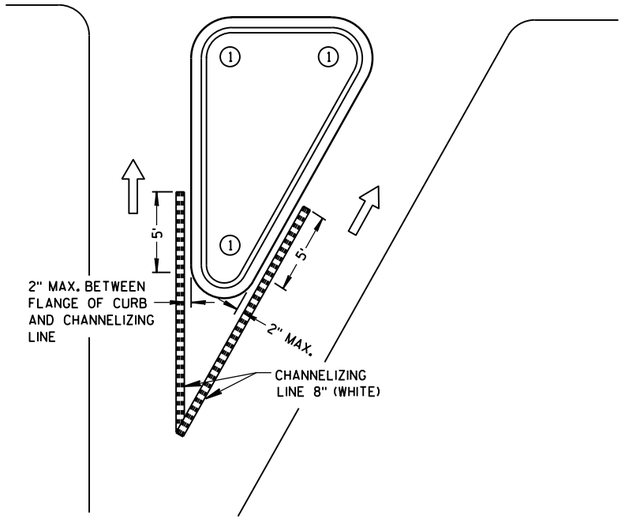


LEFT TURN & MEDIAN ISLAND

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

PAVEMENT MARKING
(ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 C 8-16f

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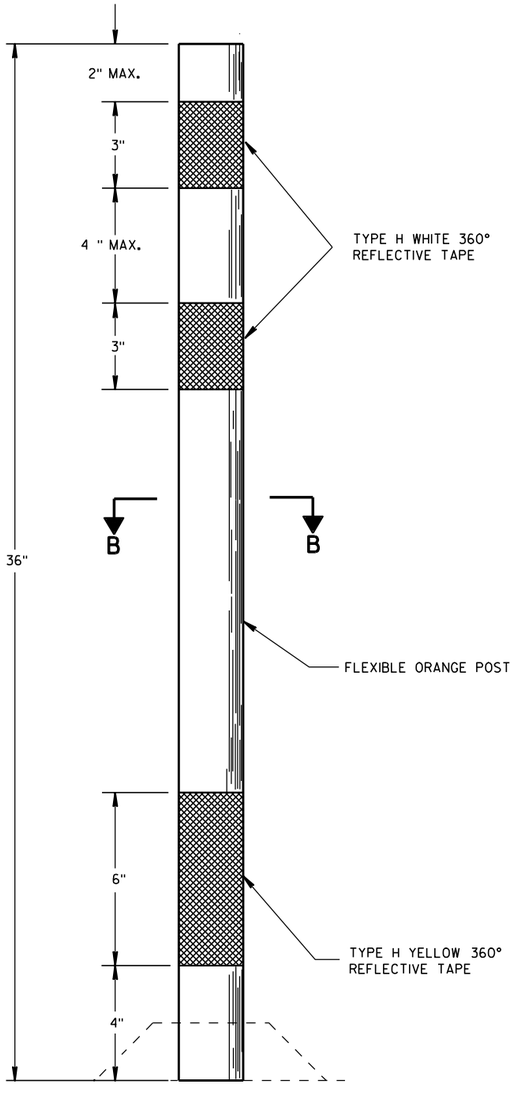
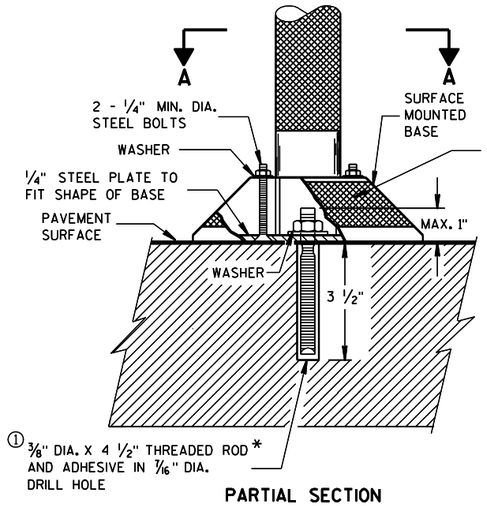
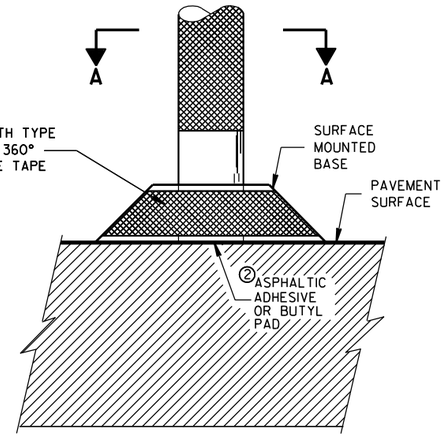


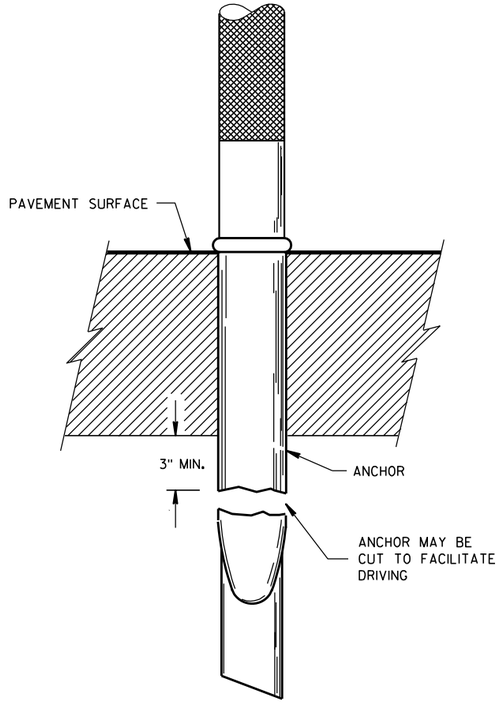
FLEXIBLE TUBULAR MARKER POST

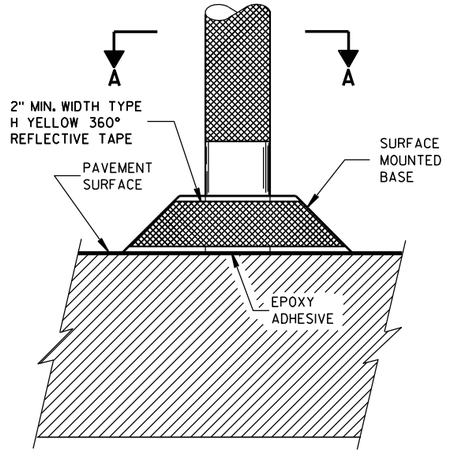


PARTIAL SECTION TO SHOW BOLTS



POST BASES ON NEW OR EXISTING PAVEMENT





POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

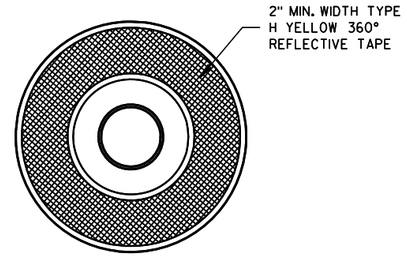
GENERAL NOTES

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.

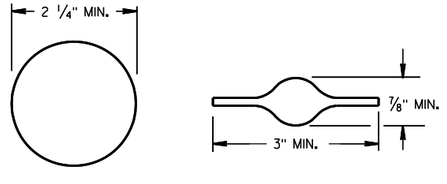
① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.

② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.



SECTION A-A

SURFACE MOUNTED BASE



SECTION B-B

ALTERNATIVE SHAPES

FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2/17/94
DATE

/S/ Chester J. [illegible]
DIRECTOR, OFFICE O

FHWA

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S.D.D. 15 C 11-5

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

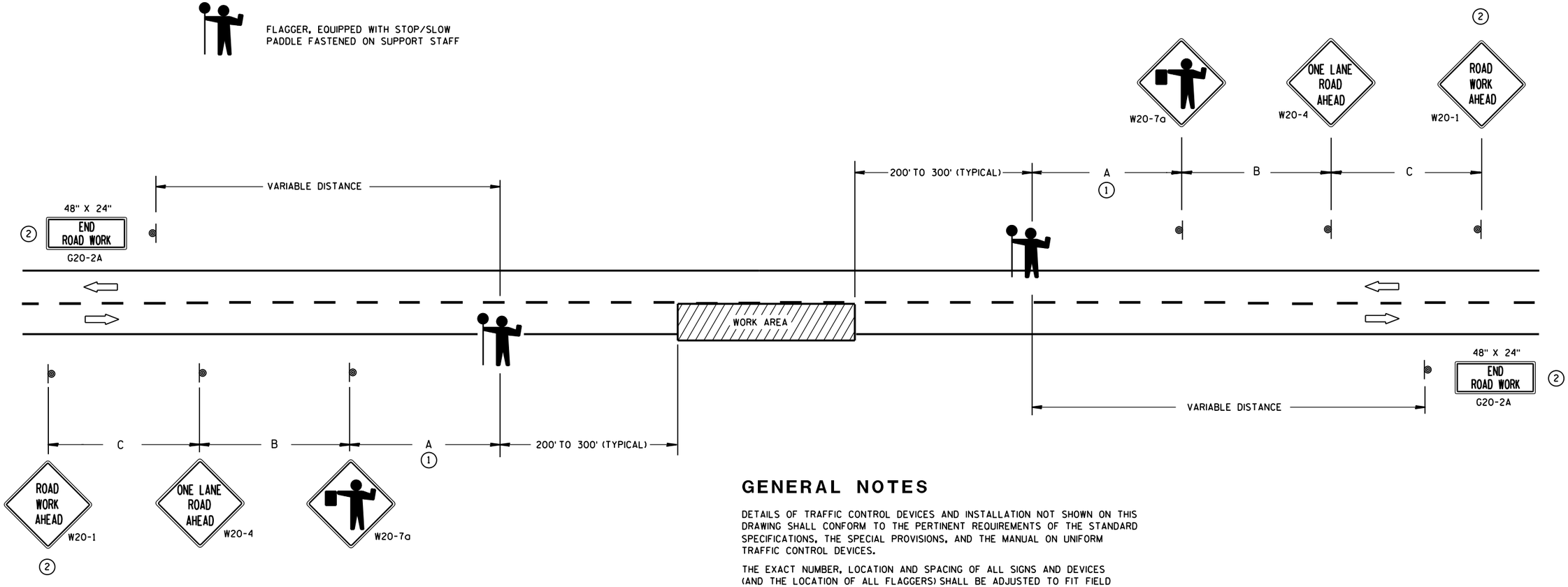
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

W3-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



(1) FOR A MOVING WORK OPERATION,
SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 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.

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.

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.

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, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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S.D.D. 15 C 12-4

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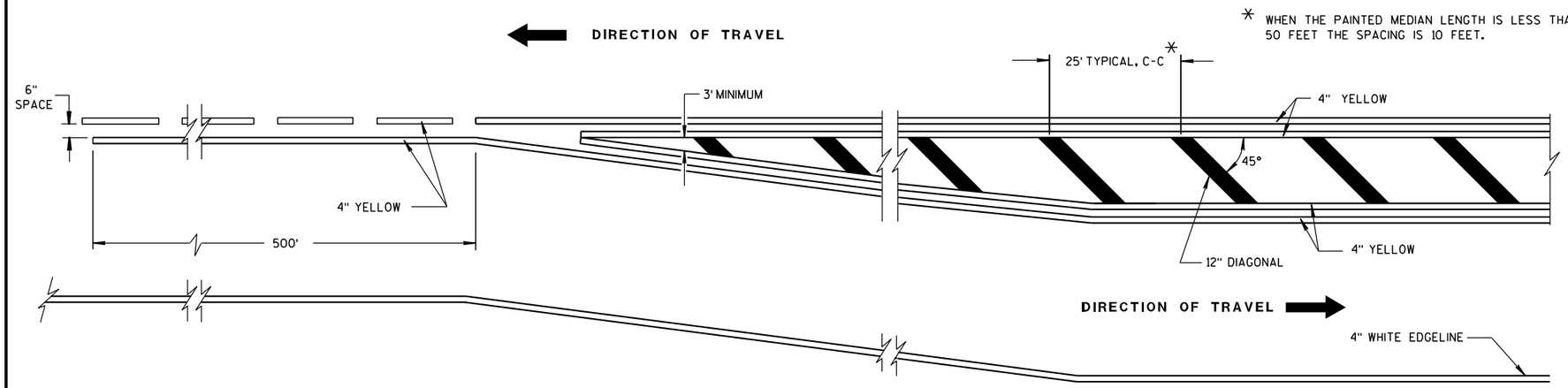
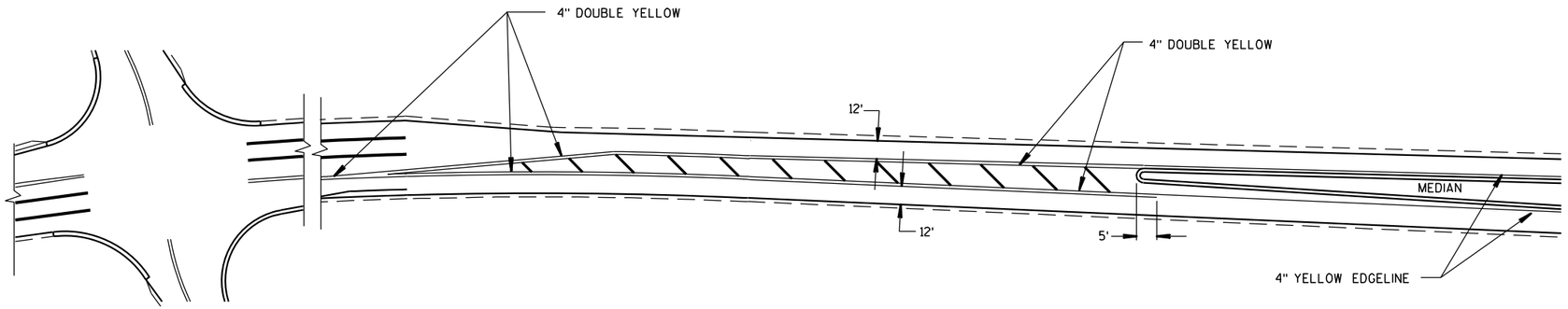
S.D.D. 15 C 12-4



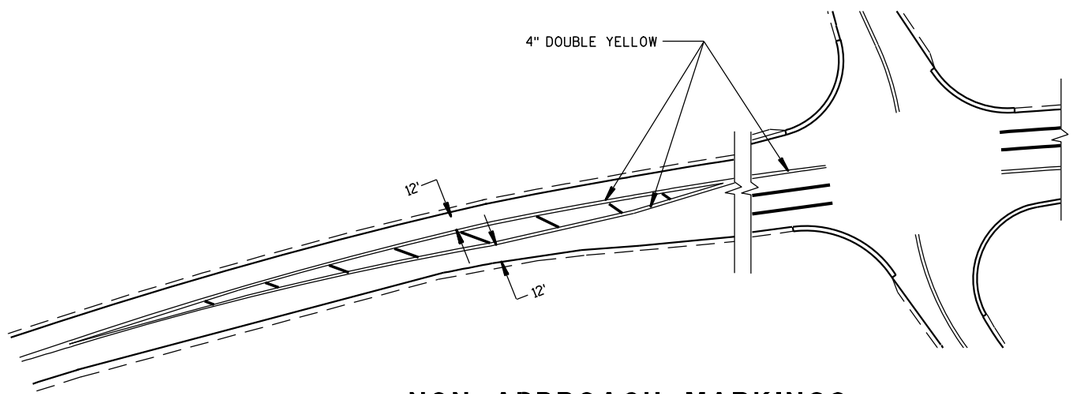
MEDIAN ISLAND DETAIL

GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-5-09 DATE	/S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER
FHWA	

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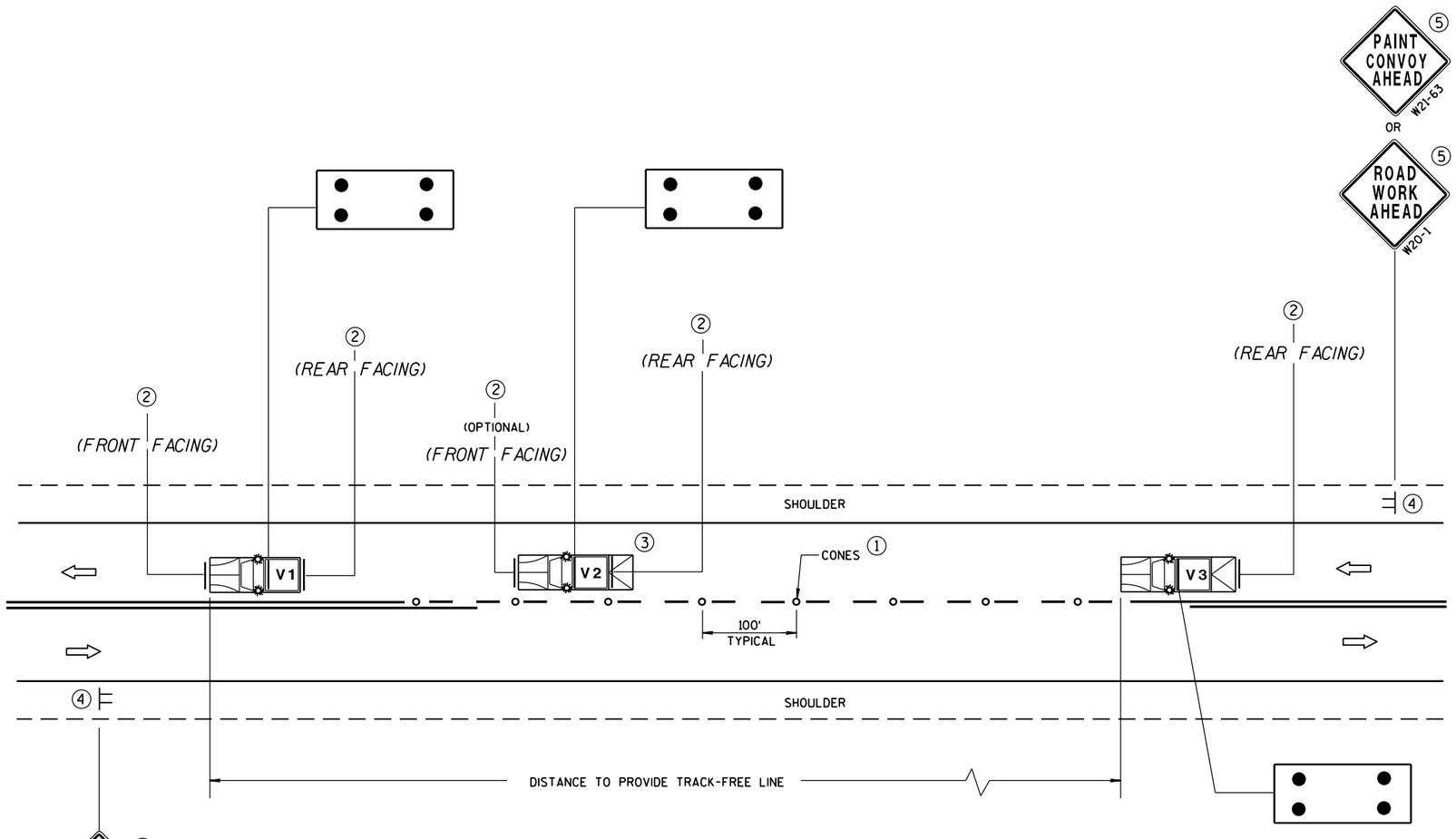
S.D.D. 15 C 18-3

S.D.D. 15 C 18-3



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY 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.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. 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.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

(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 (CAUTION)

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
5/3/2013 DATE	/S/ Travis Feltes STATE TRAFFIC E
FHWA	

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S.D.D. 15 C 19-2a

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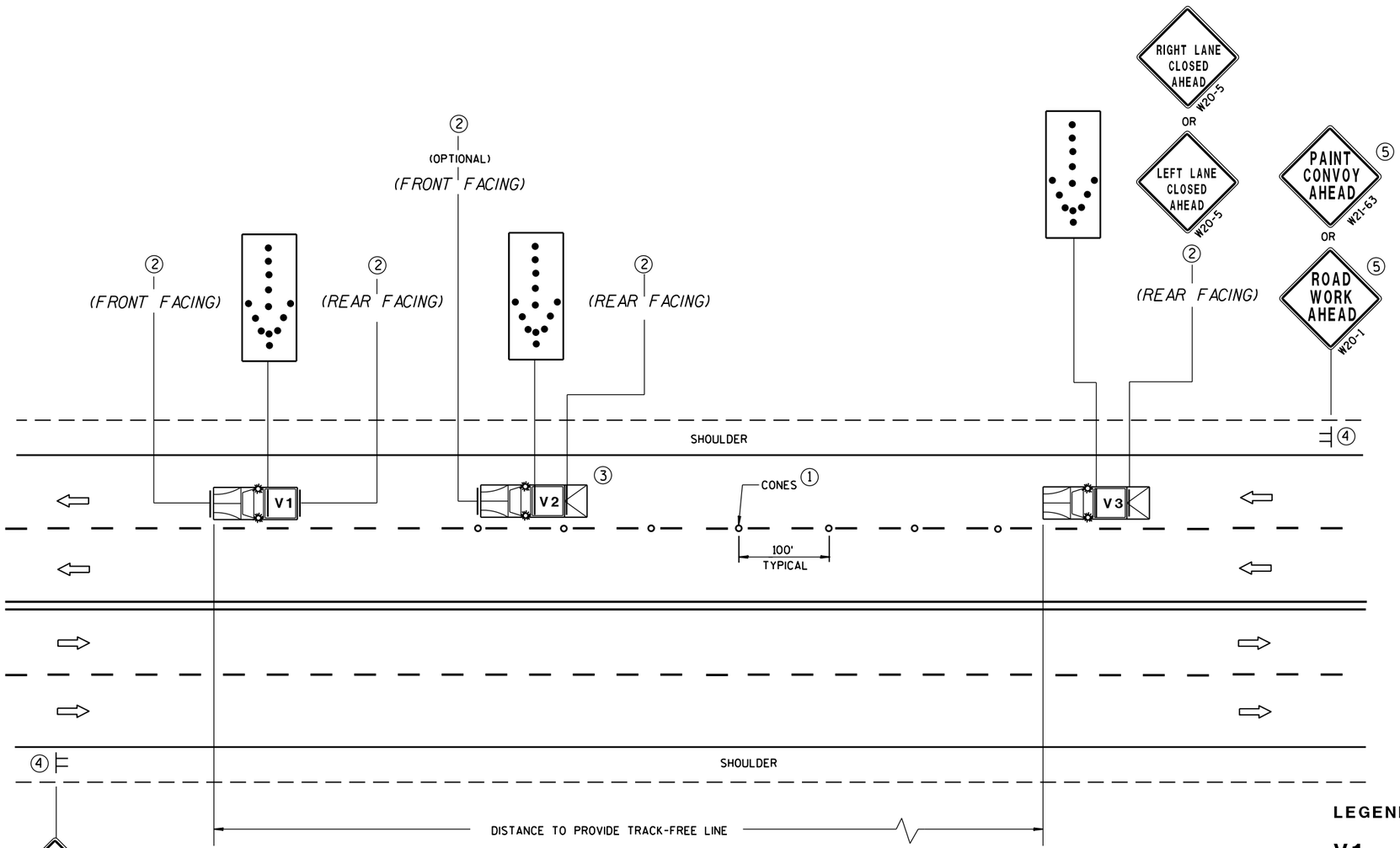
S.D.D. 15 C 19-2a



PAINT CONVOY AHEAD W21-63
OR
ROAD WORK AHEAD W20-1

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

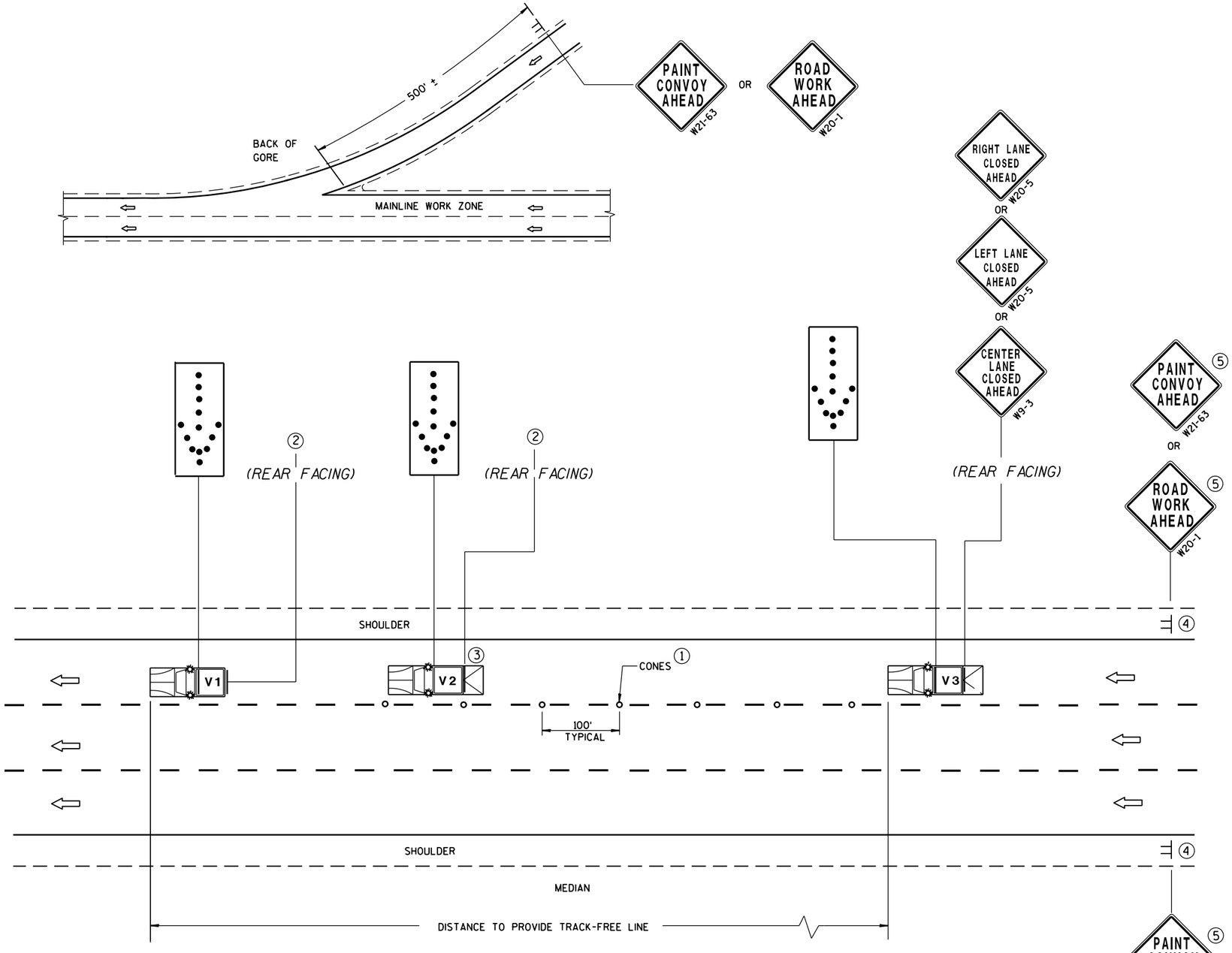
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/3/2013 DATE
/S/ Travis Feltes STATE TRAFFIC EN

FHWA

6

S.D.D. 15 C 19-2b



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 OPTIONAL TRUCK-MOUNTED ATTENUATOR.

④ SIGNS SHALL BE REPEATED AFTER EVERY ON RAMP OR 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 DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/3/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC EN

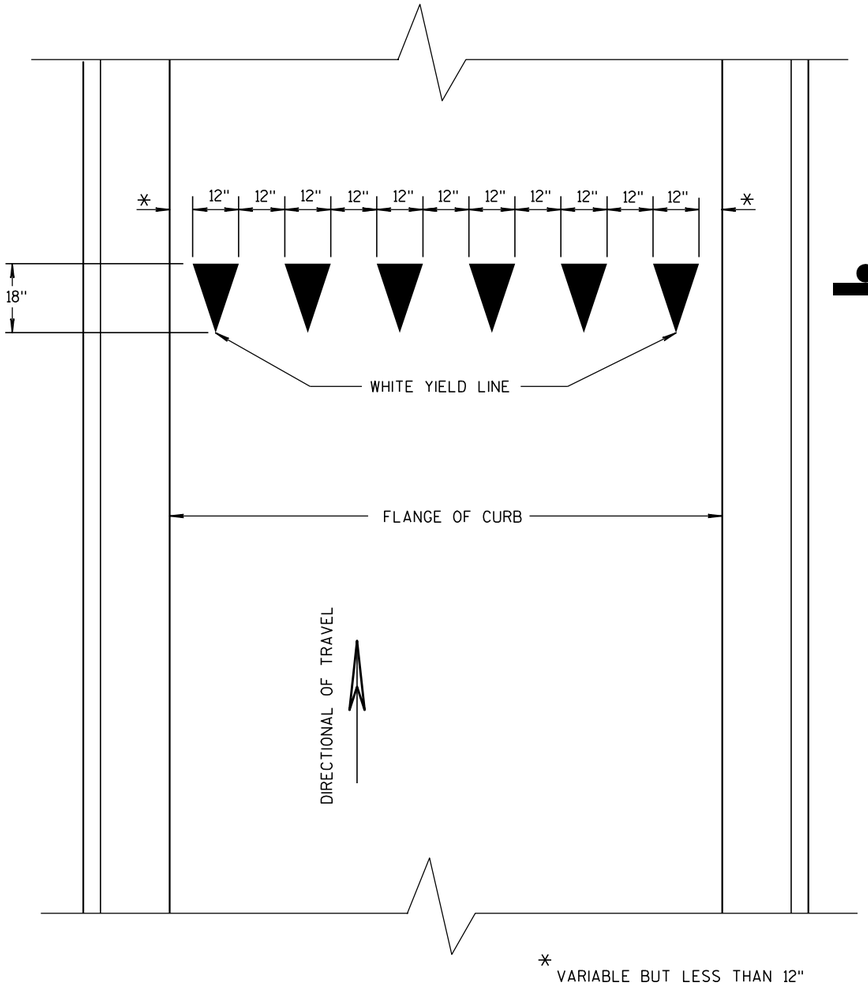
FHWA

6

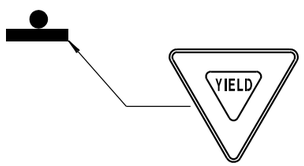
S.D.D. 15 C 19-2c

6

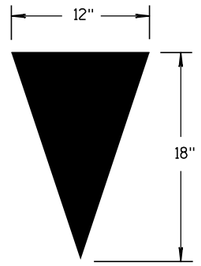
S.D.D. 15 C 19-2c



YIELD LINE



R1-2
36" X 31"



YIELD TRIANGLE

YIELD MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

1/28/05
DATE

/S/ Thomas N. Nothohm
STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 C 20-1

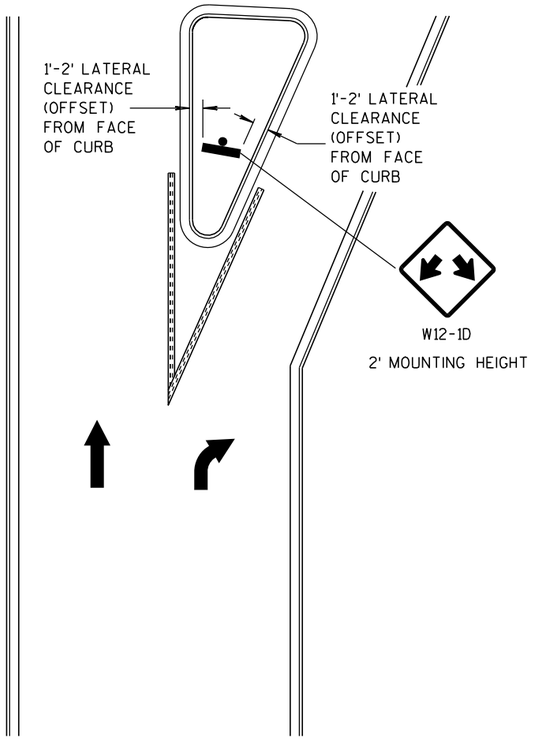
6

S.D.D. 15 C 20-1

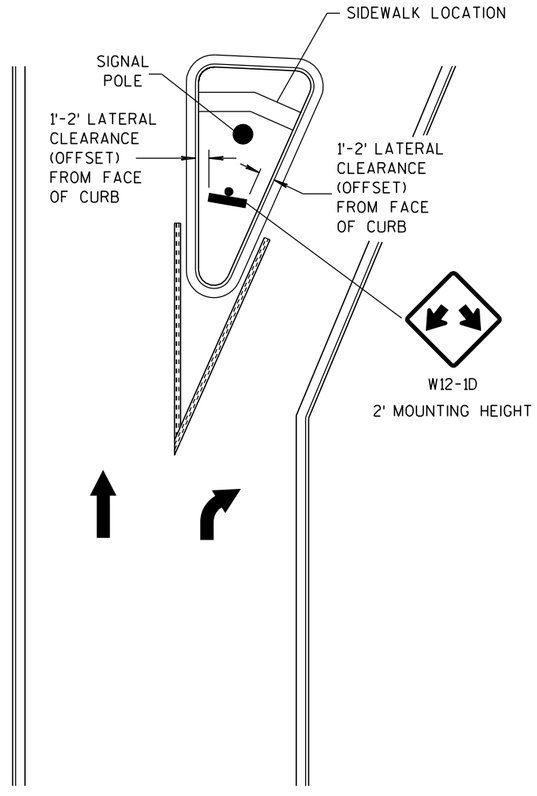
GENERAL NOTE

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

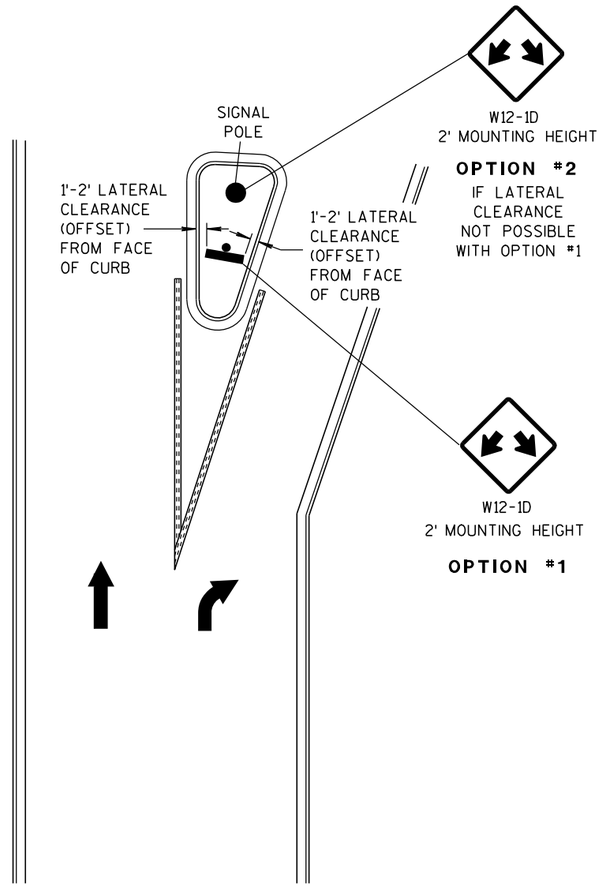
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.



LARGE RIGHT TURN ISLAND



LARGE RIGHT TURN ISLAND
WITH SIGNAL POLE



SMALL RIGHT TURN ISLAND

DOUBLE ARROW WARNING SIGN PLACEMENT

DOUBLE ARROW WARNING SIGN PLACEMENT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
10-22-08 DATE	/S/ Thomas N. Nothem STATE TRAFFIC ENGINEER 397 IGN
FHWA	

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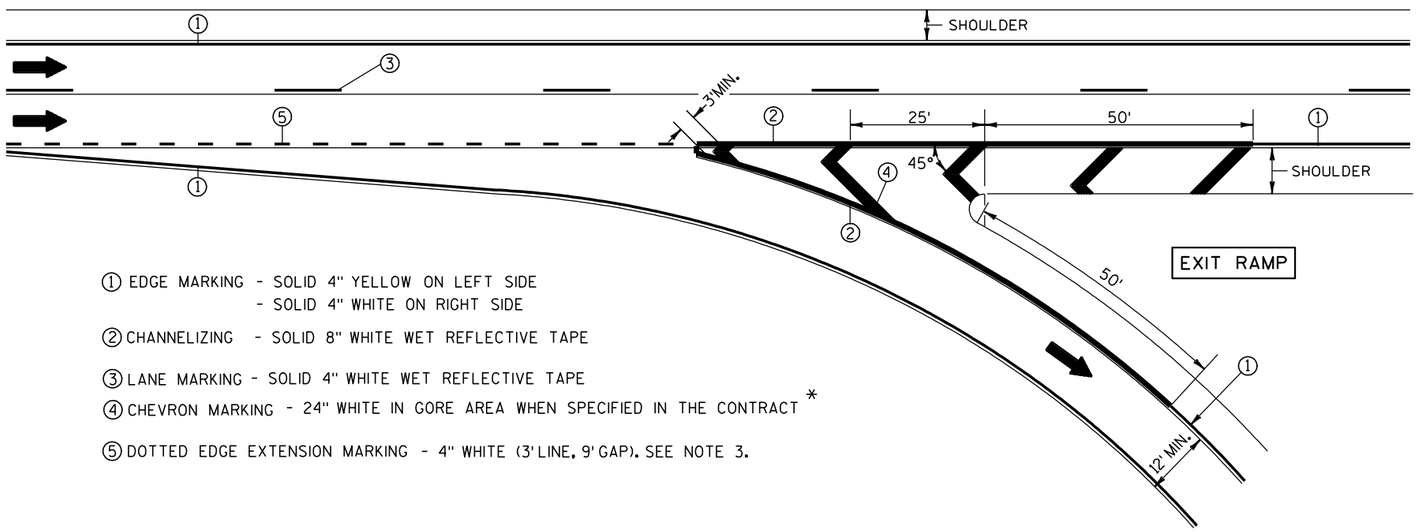
S.D.D. 15 C 27-1

6

S.D.D. 15 C 27-1



① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE

④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *

⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

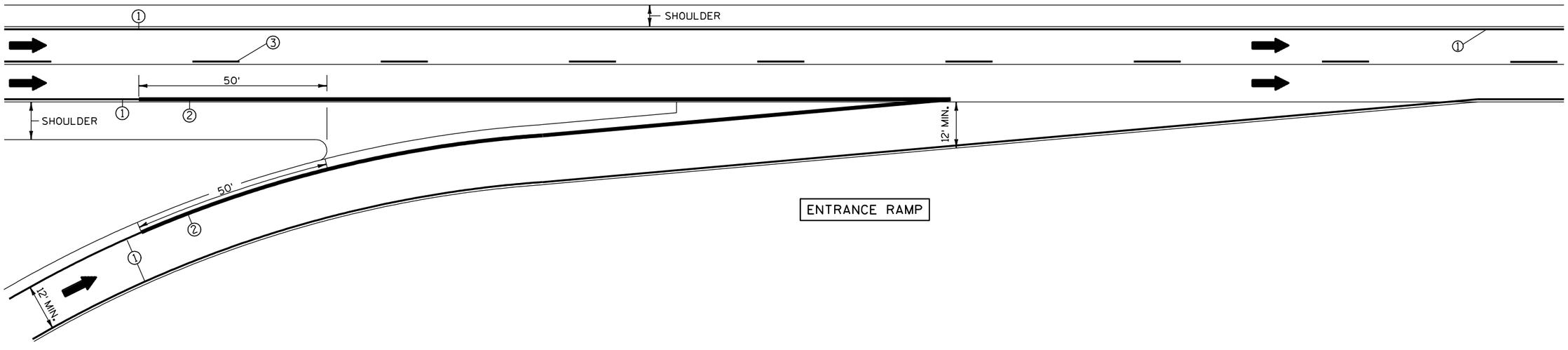
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.



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S.D.D. 15 C 31-1a

PAVEMENT MARKING
(RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 15 C 31-1a

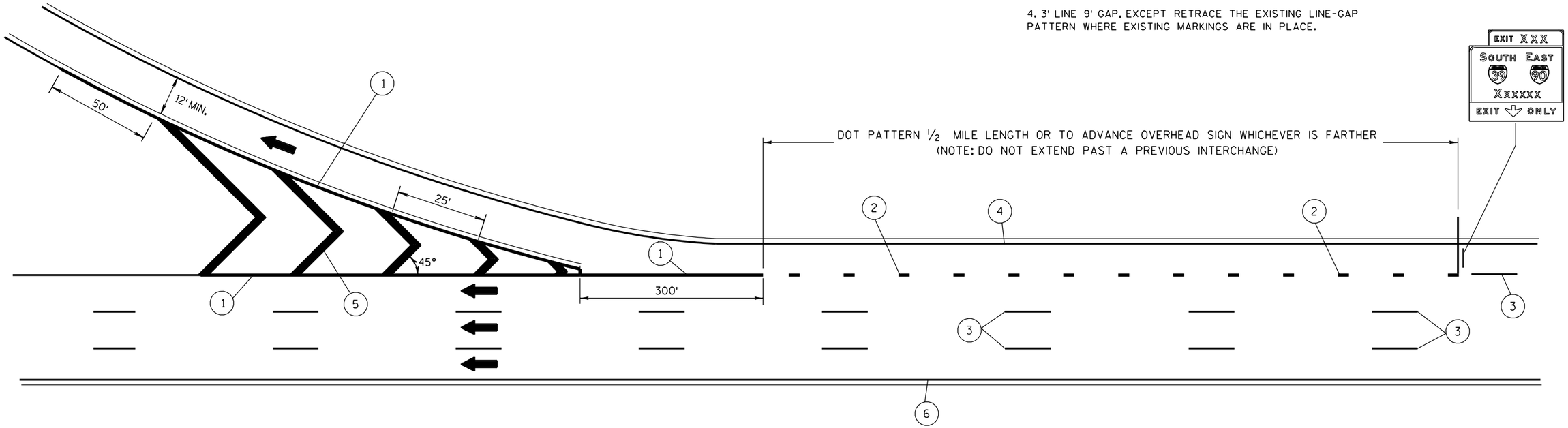
NOTES:

1. SEE STANDARD DETAIL DRAWING 15 C 10 FOR SPRAYED OR NON WET REFLECTIVE LINE SEGMENTS.

2. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

3. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

4. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.



1. CHANNELIZING - SOLID 8" WHITE WET RELECTIVE TAPE
2. 3' LINE, 9' GAP SOLID 8" WHITE WET REFLECTIVE TAPE. SEE NOTE 4.
3. SOLID 4" WHITE WET REFLECTIVE TAPE
4. 4" WHITE EDGELINE
5. CHEVRON MARKING - 24" WHITE WHEN SPECIFIED IN THE CONTRACT
6. 4" YELLOW EDGELINE

LANE DROP
PAVEMENT MARKING

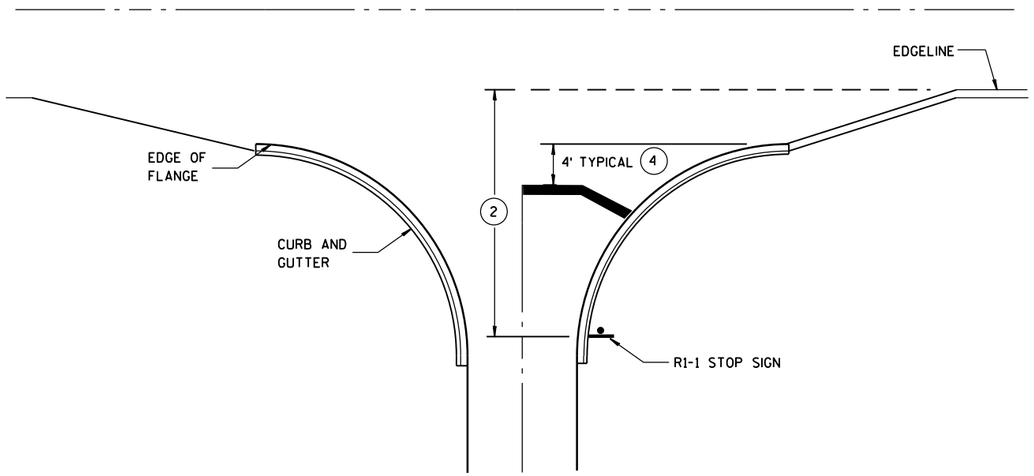
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

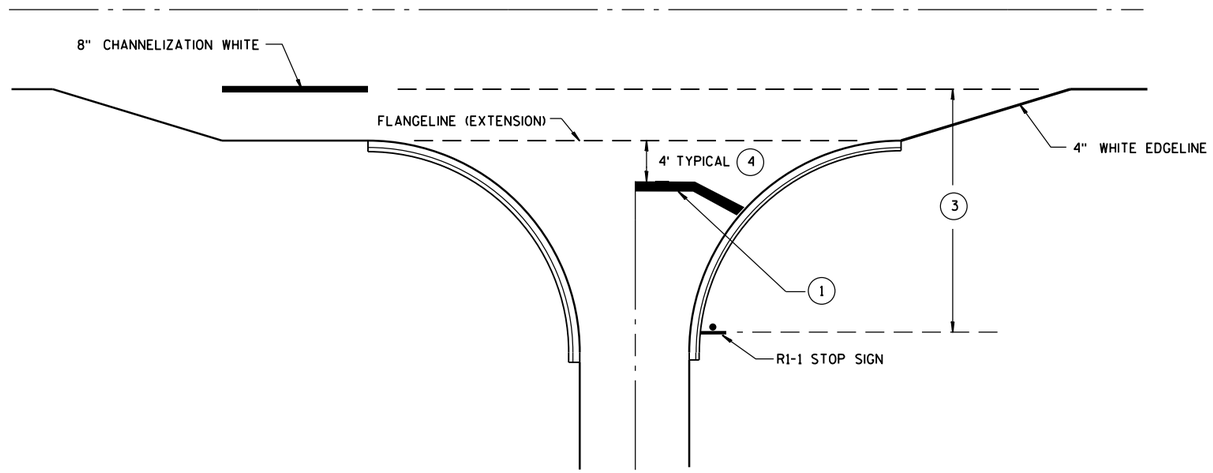
S.D.D. 15 C 31-1b

6

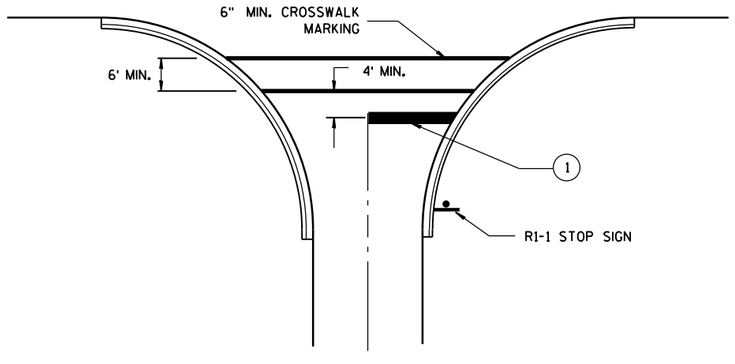
S.D.D. 15 C 31-1b



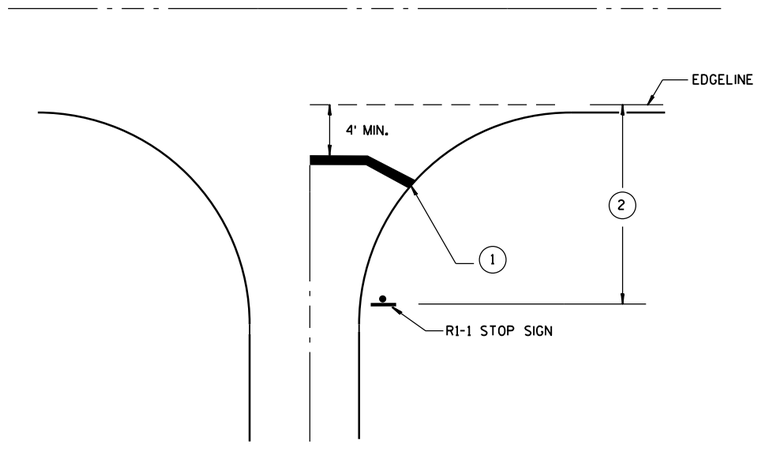
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



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.

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/30/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

FHWA

6

S.D.D. 15 C 33-1

LEGEND

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

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 TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

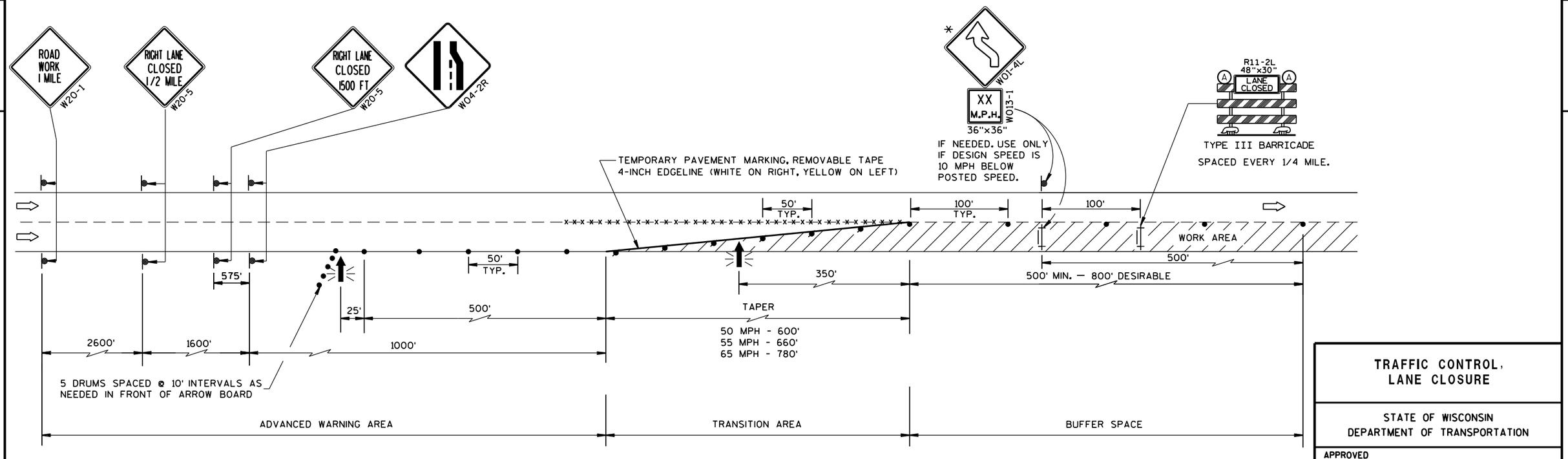
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Feb. 2015 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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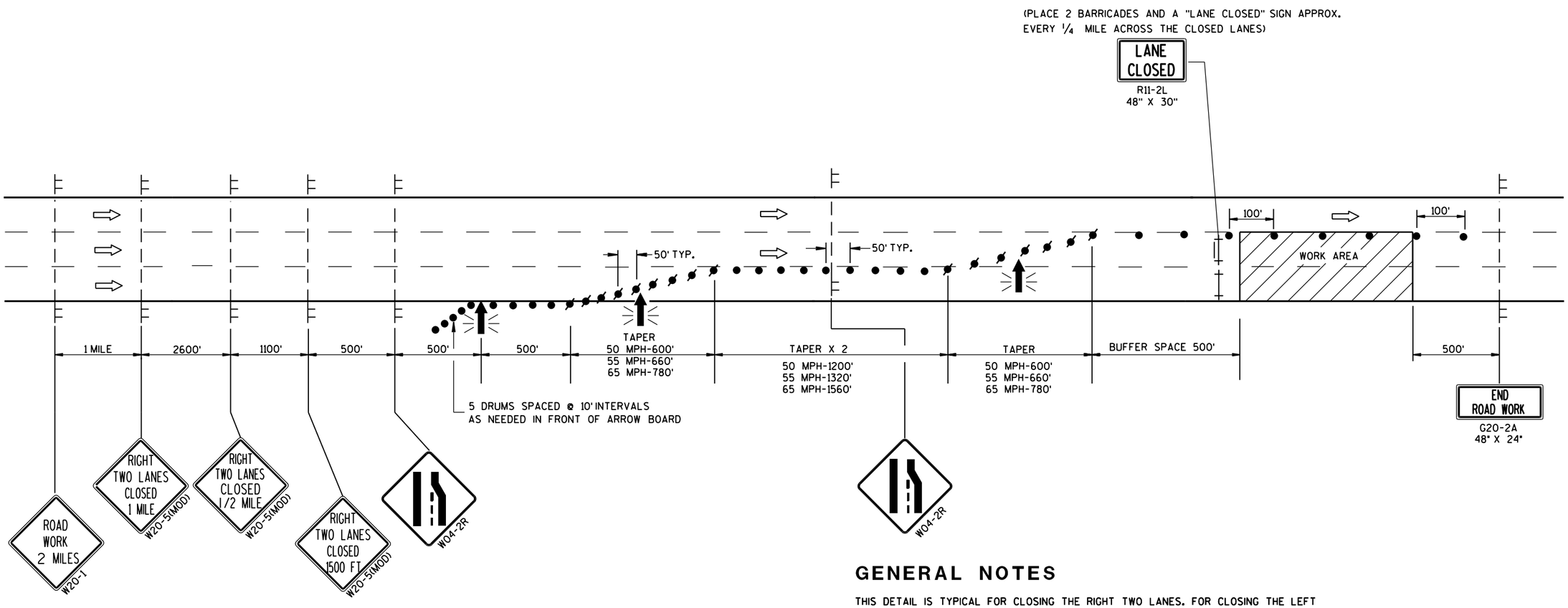
S.D.D. 15 D 12-5a



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- 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 TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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.

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

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

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.

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

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

TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

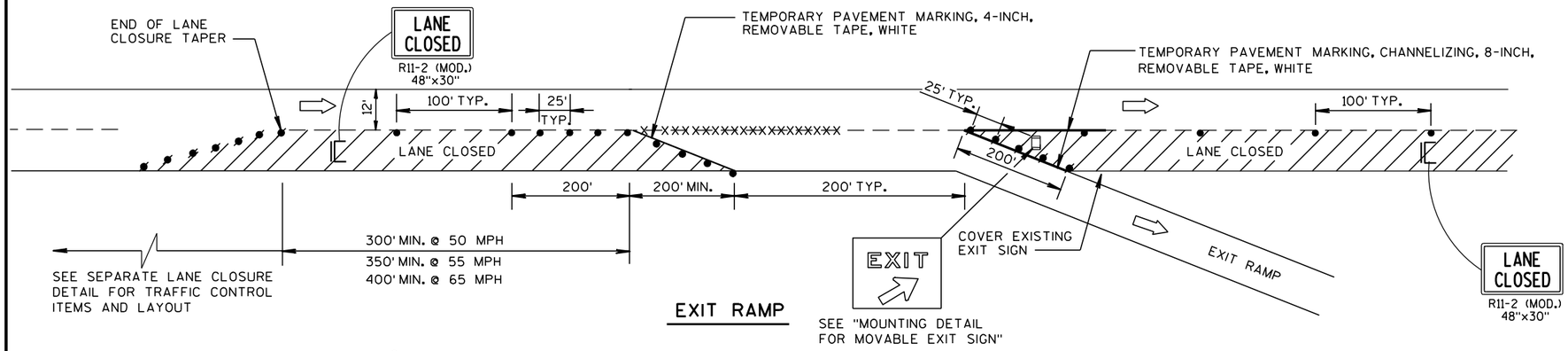
8/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

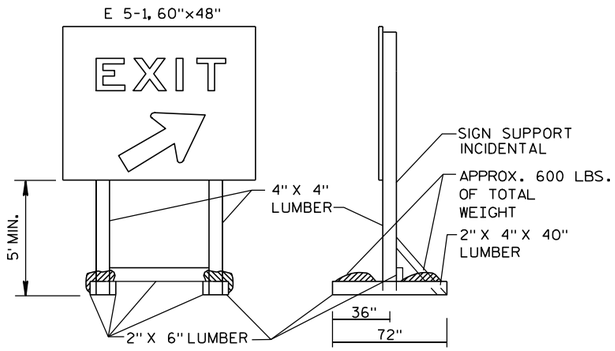
FHWA

6

S.D.D. 15 D 14-2

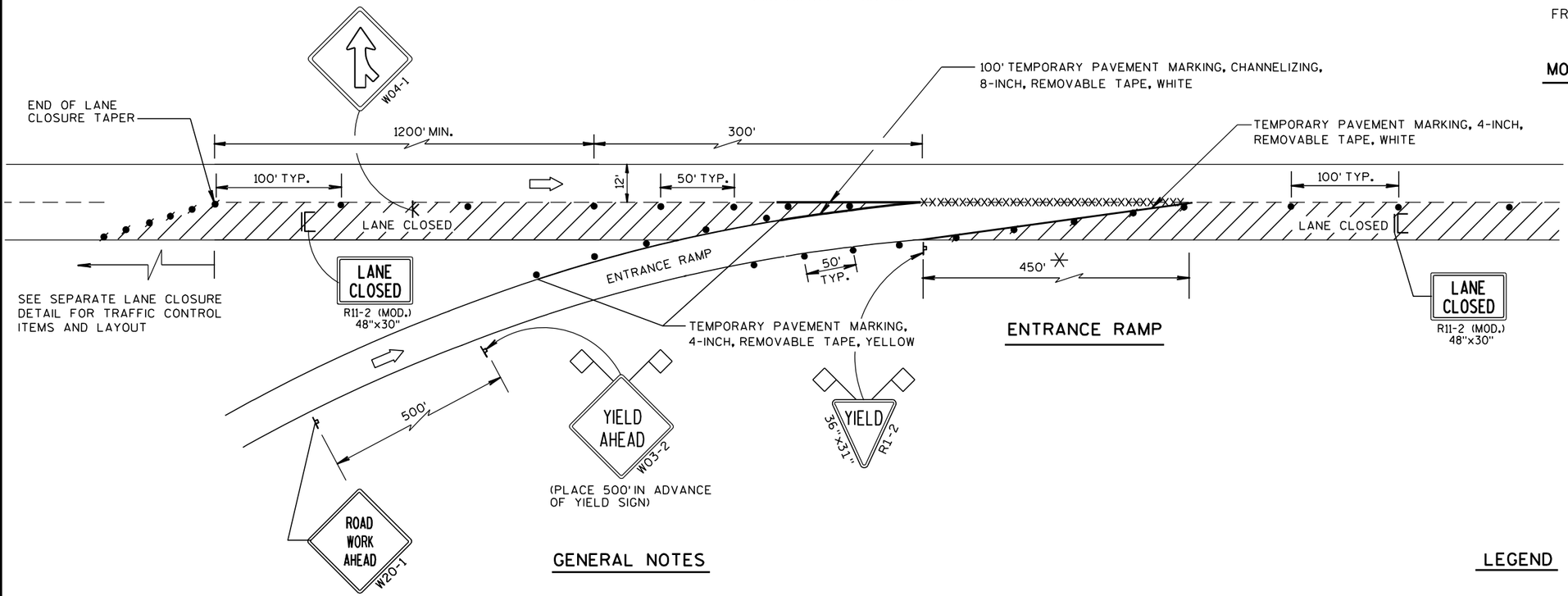


EXIT RAMP



NOTE: ALL LUMBER DIMENSIONS ARE NOMINAL

MOUNTING DETAIL FOR MOVABLE EXIT SIGN



ENTRANCE RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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 MINIMUM OF 200 FEET, (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2 (MOD.) "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

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.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

✳ LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

LEGEND

- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT
- TRAFFIC CONTROL, DRUM
- TRAFFIC CONTROL, DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE (8' EQUIVALENT) WITH SIGN
- FLAGS, 16"x16" MIN., ORANGE
- DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/24/2000 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARKING ENGINEER
FHWA

S.D.D. 15 D 15-1

LEGEND

TYPE III BARRICADE

TYPE III BARRICADE WITH ATTACHED SIGN

TRAFFIC CONTROL DRUM

SIGN ON PERMANENT SUPPORT

TYPE "A" WARNING LIGHT (FLASHING)

DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, 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 TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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.

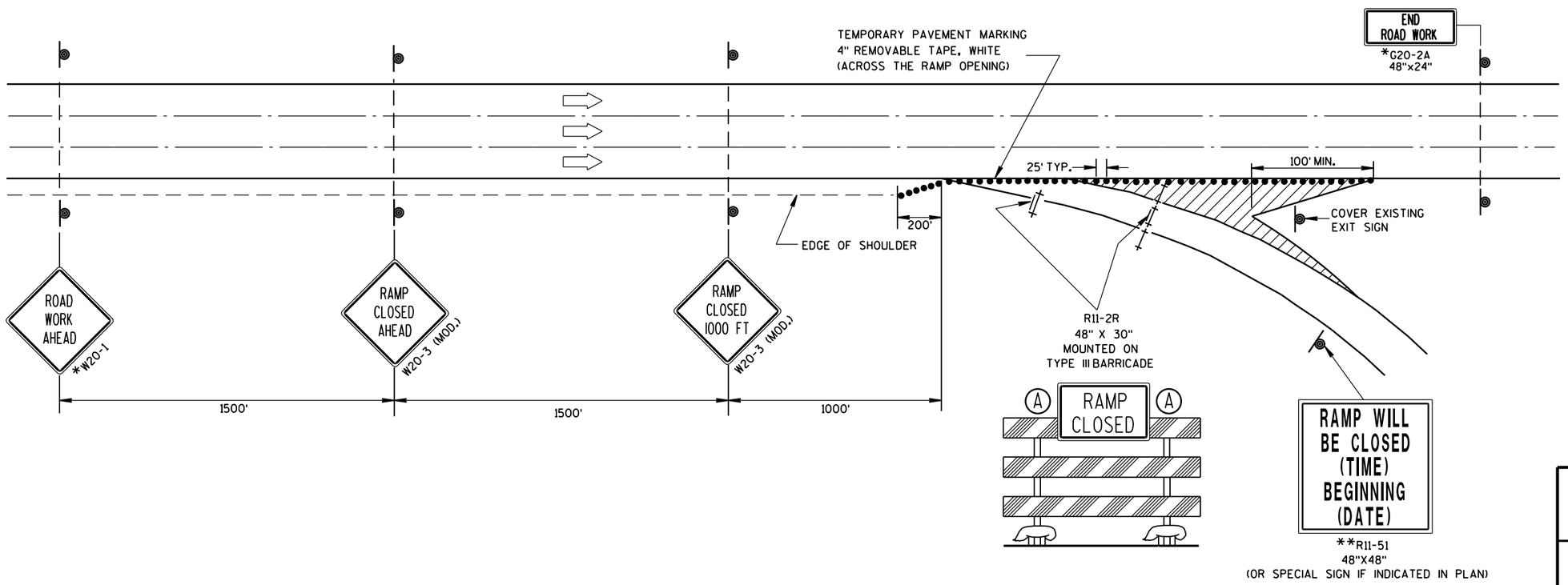
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

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

** PLACE "RAMP WILL BE CLOSED" SIGN 10 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



TRAFFIC CONTROL,
EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

DESIGN

FHWA

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S.D.D. 15 D 16-2

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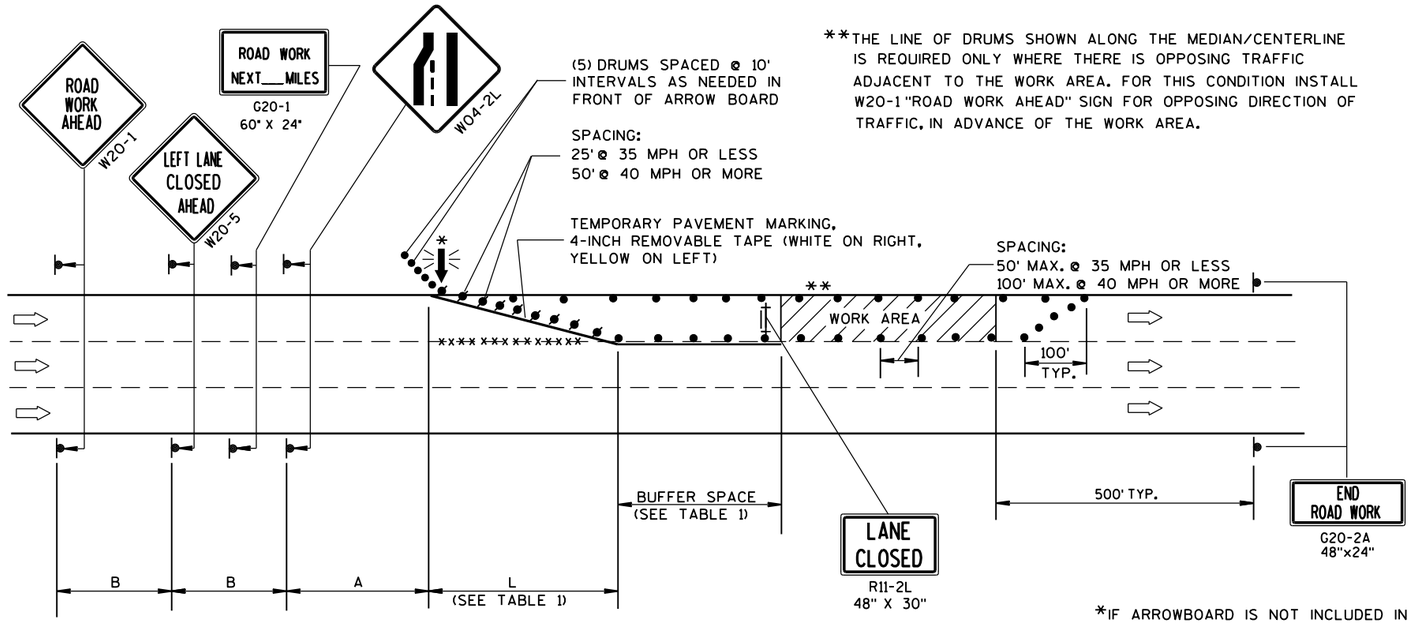
S.D.D. 15 D 16-2



**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"

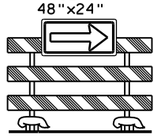


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

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.

W20-1, 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
Feb. 2015 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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S.D.D. 15 D 20-3

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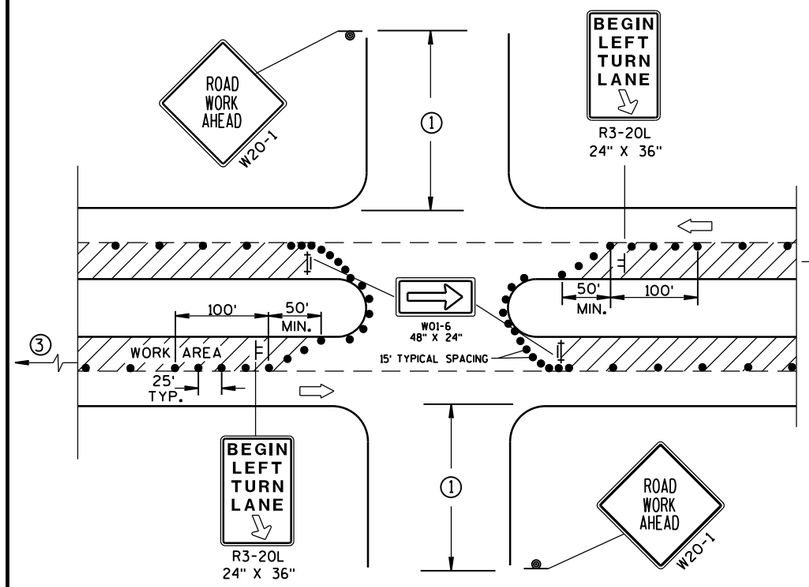
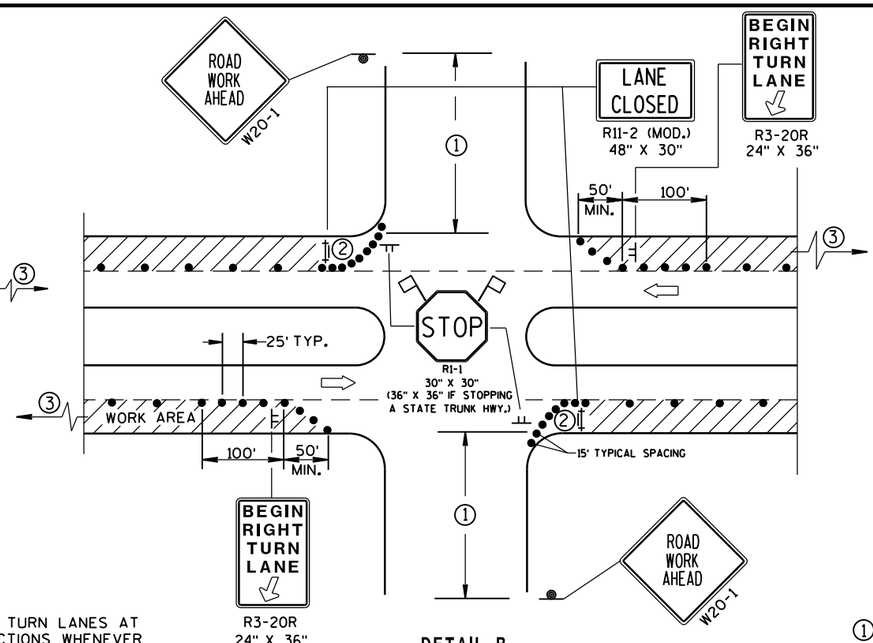
S.D.D. 15 D 20-3



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.

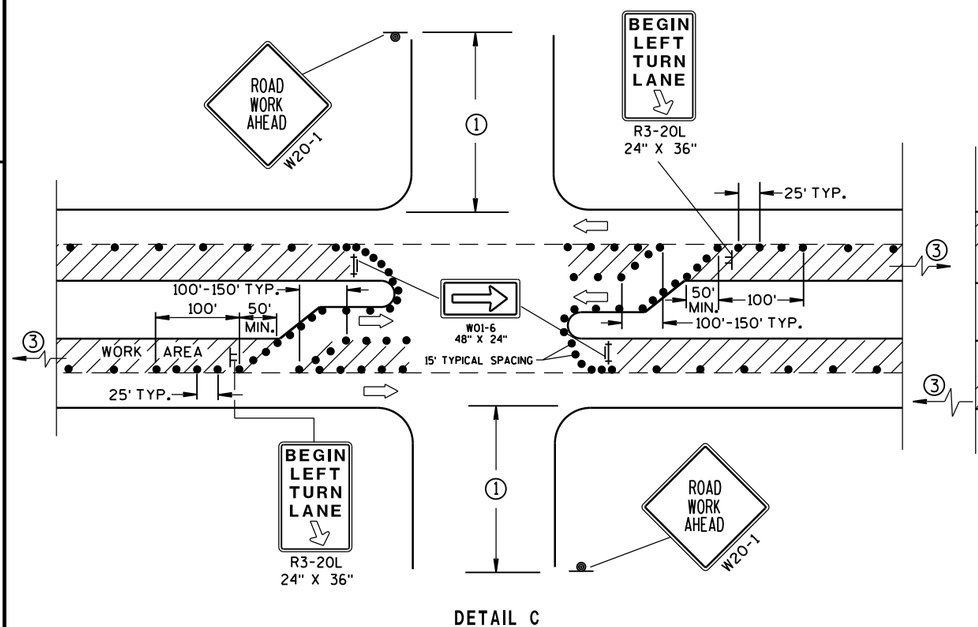
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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.

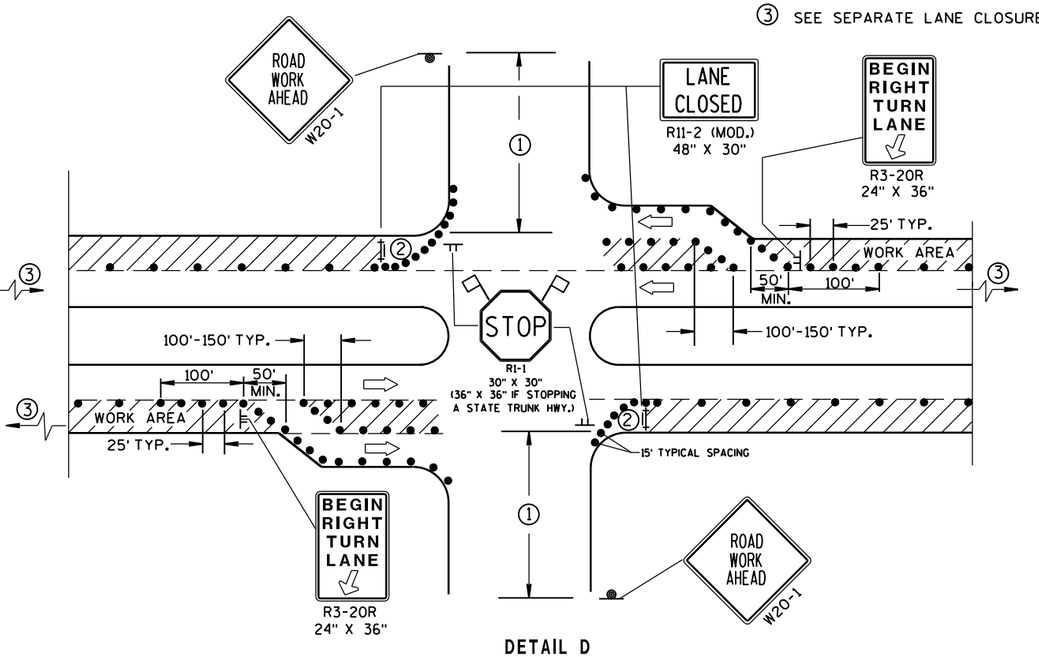
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

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
Nov. 2014 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 D 21-3

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

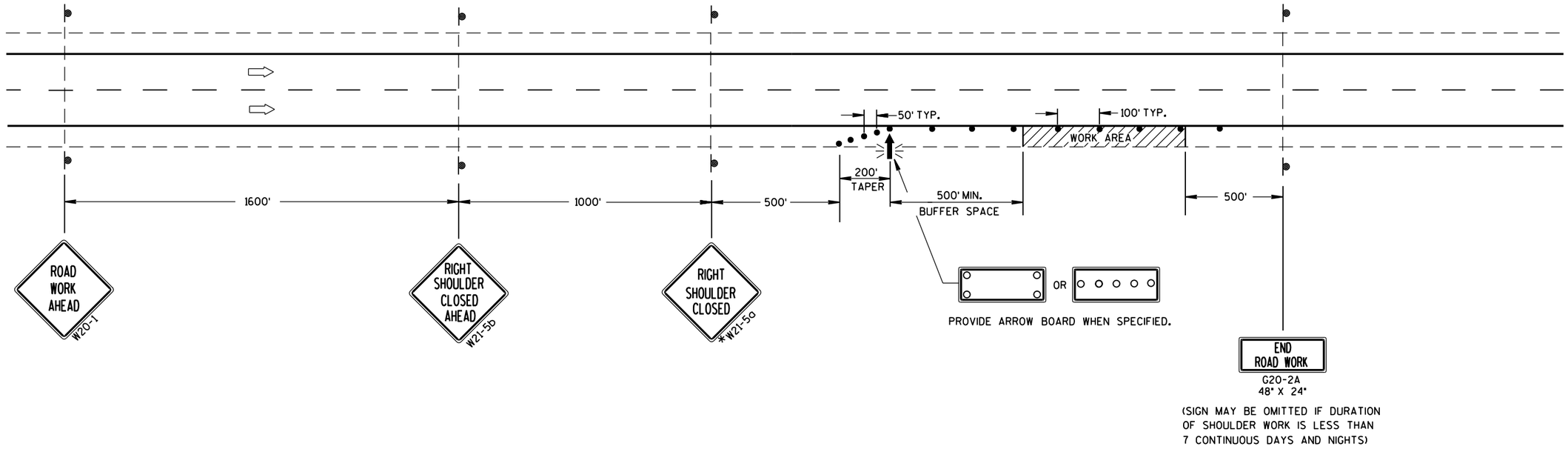
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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 THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A 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.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

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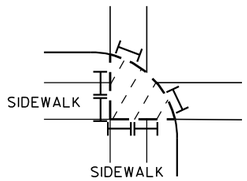
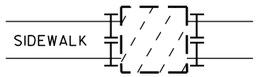
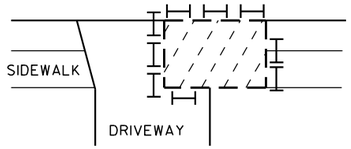
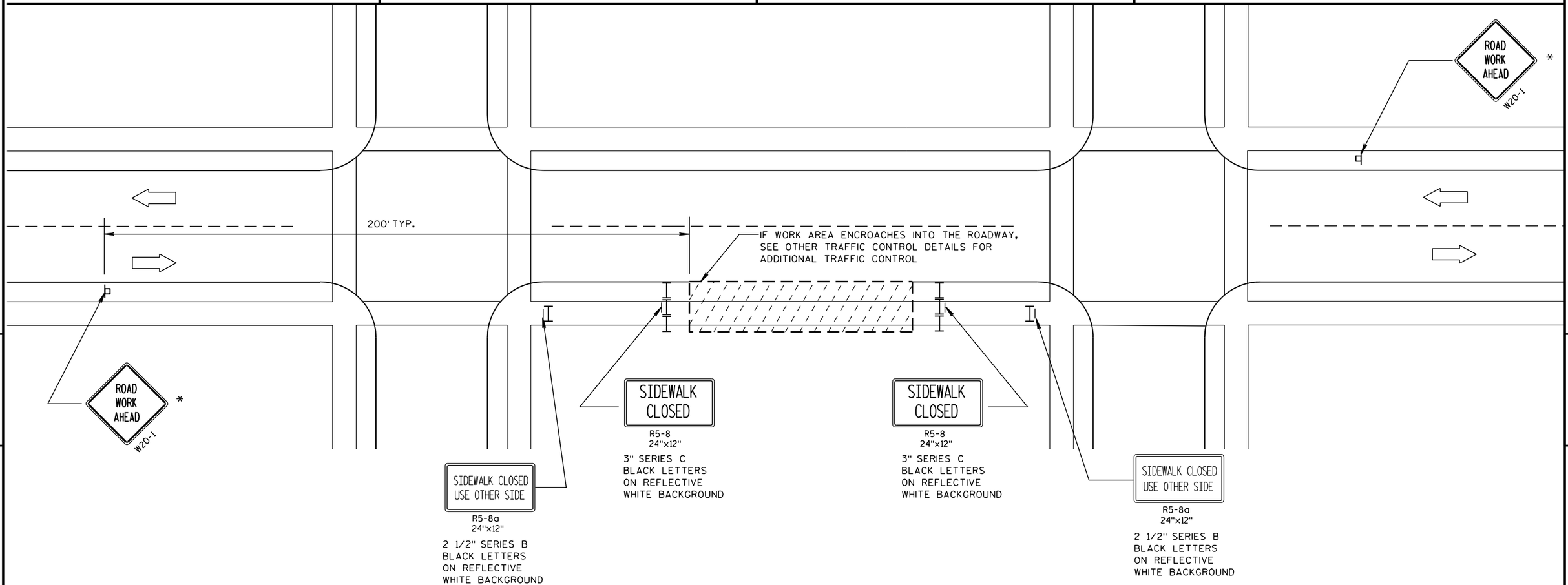
S.D.D. 15 D 27-2

WARNING OF LOCALIZED SIDEWALK WORK AREAS









LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

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, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

* "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.

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

TRAFFIC CONTROL, SIDEWALK CLOSURE

TRAFFIC CONTROL, SIDEWALK CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2000 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARK 408 NEER
FHWA

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S.D.D. 15 D 30-1

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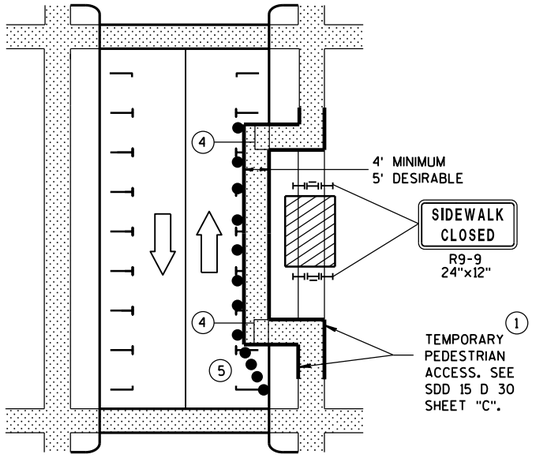
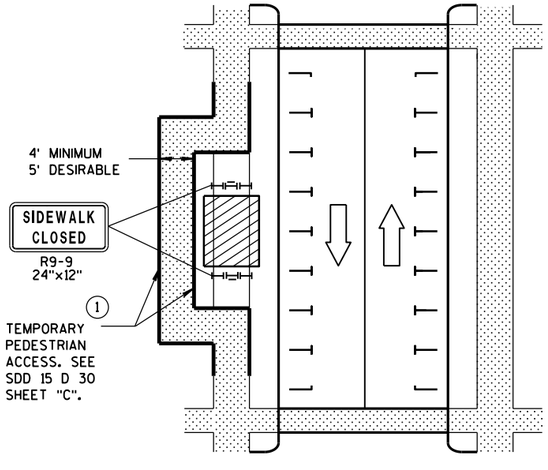
S.D.D. 15 D 30-1

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

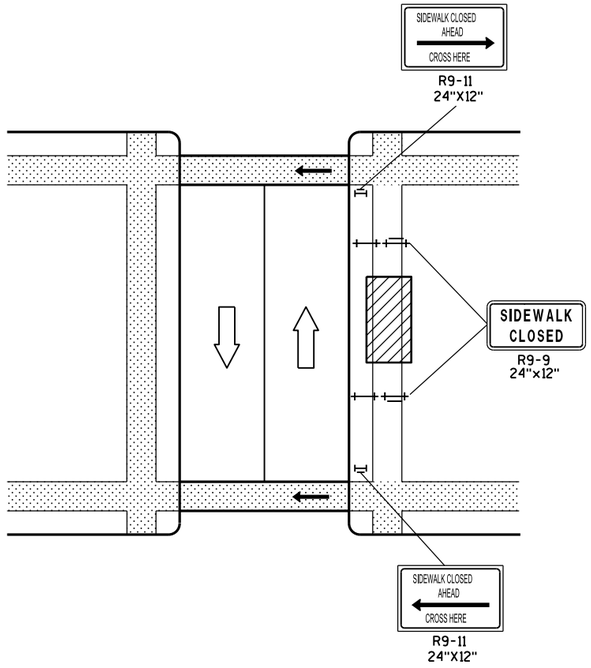


MID-BLOCK SIDEWALK CLOSURE IN PARKING LANE

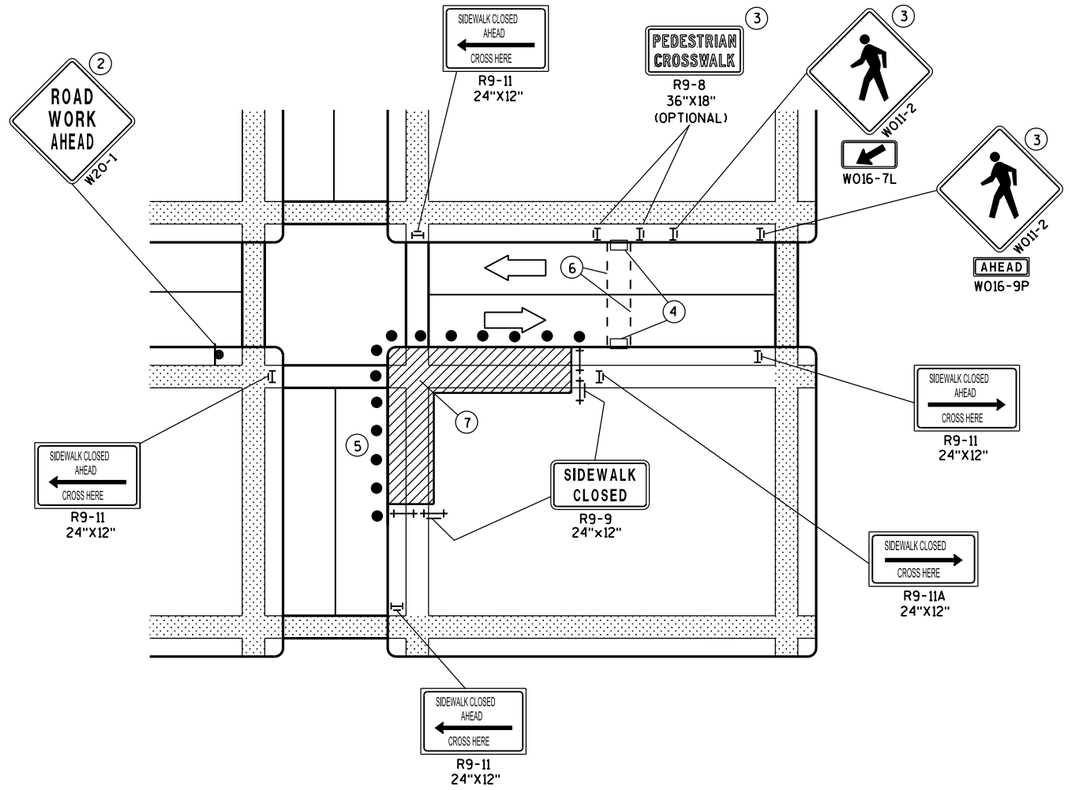
NOTE: LAYOUT SAME AS ABOVE.



SIDEWALK DIVERSION



MID-BLOCK SIDEWALK CLOSURE



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

(6) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

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

LEGEND

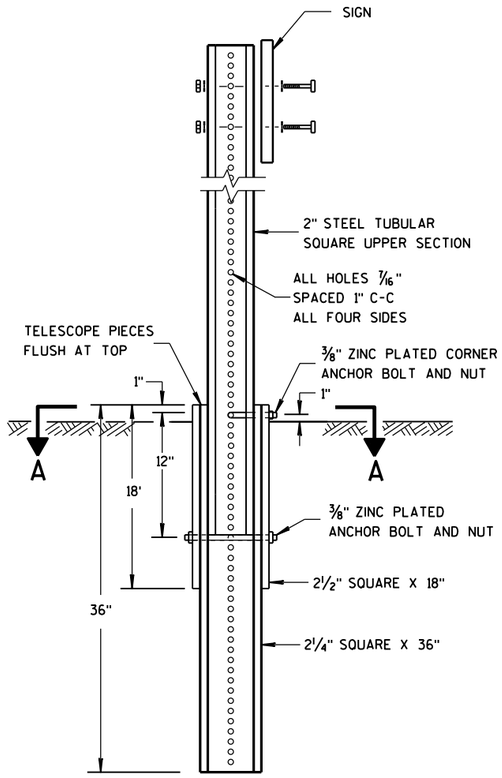
- SIGN ON PERMANENT SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)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

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

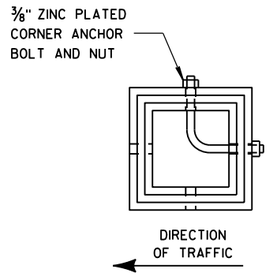
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

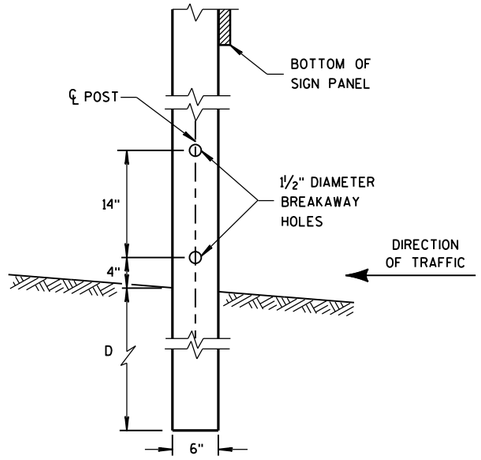
S.D.D. 15 D 30-2a



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



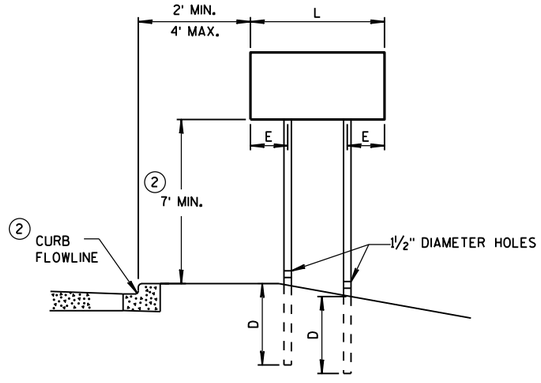
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

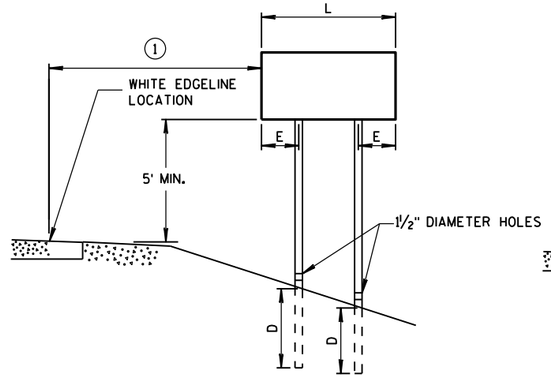
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

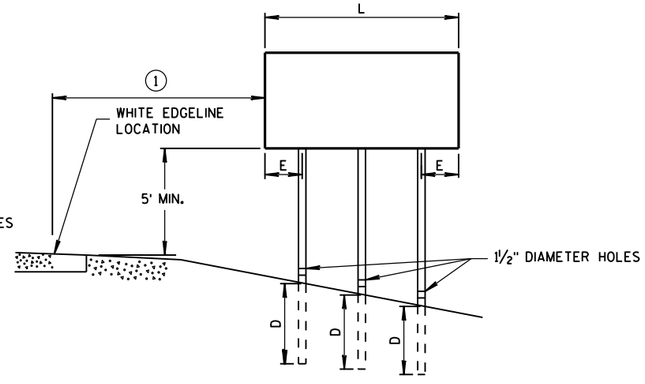
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

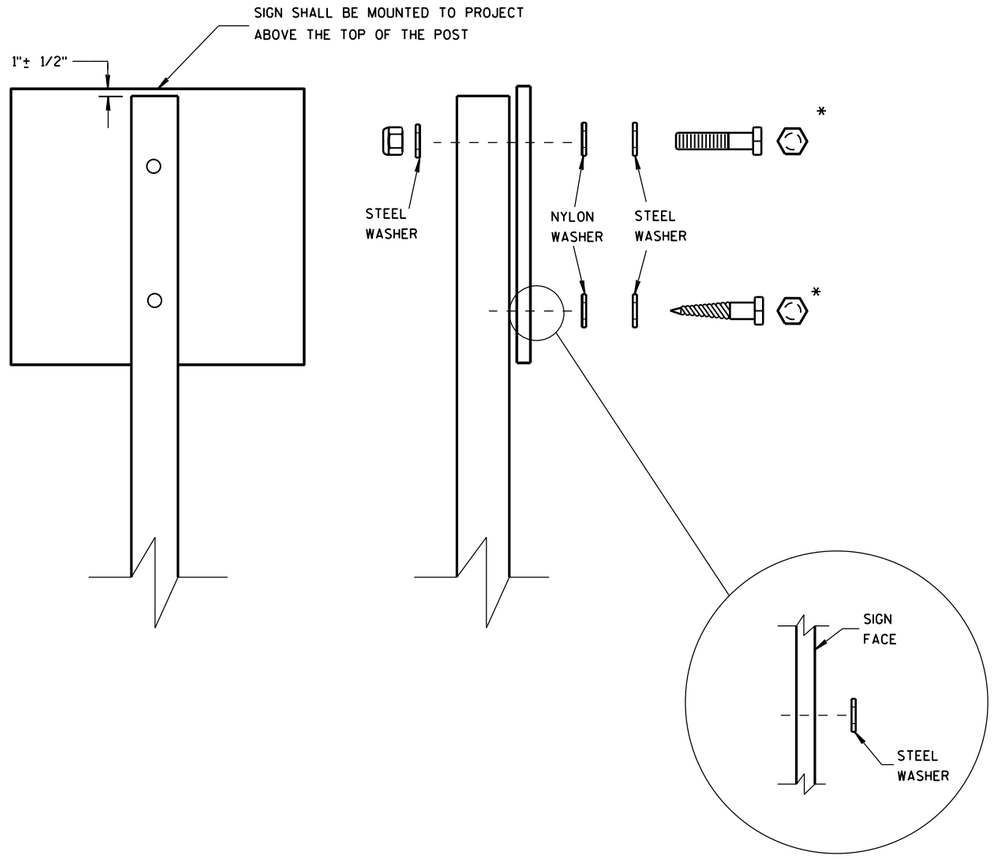
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 38-1a



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.

6

6

S.D.D. 15 D 38-1b

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

GENERAL NOTES:

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

2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE I".

3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.

4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.

6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"

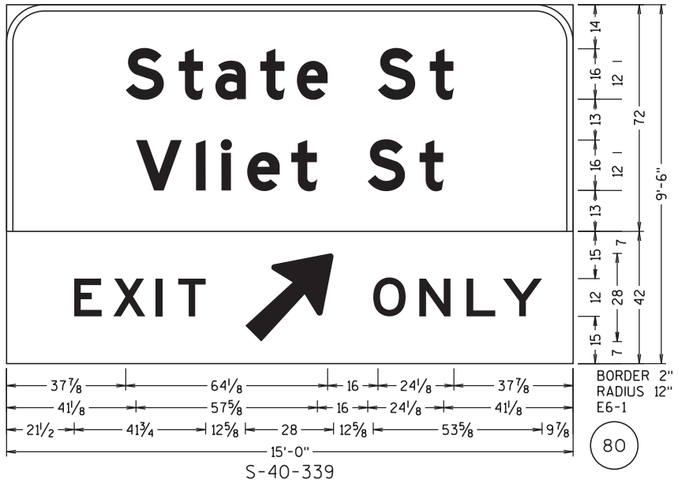
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.

8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

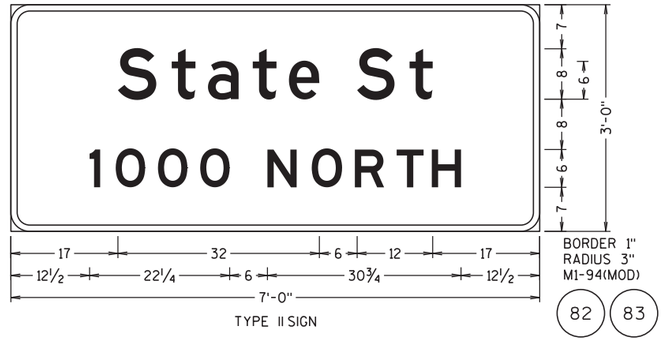
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

11. DO NOT SCALE.

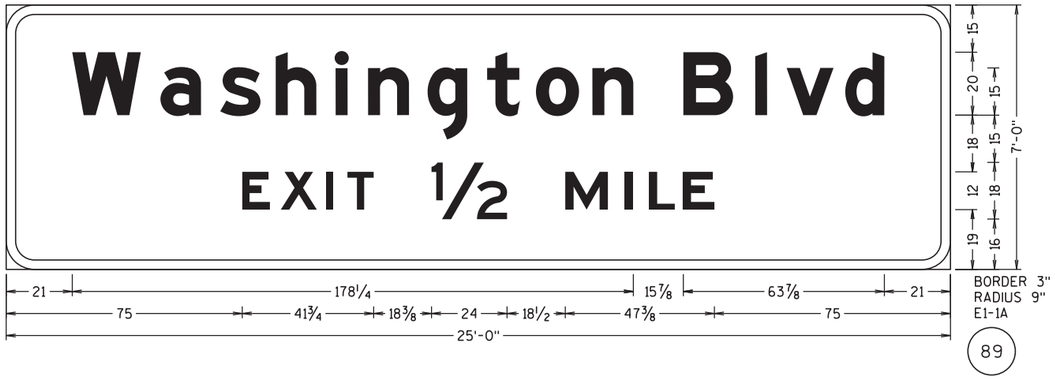


S-40-339

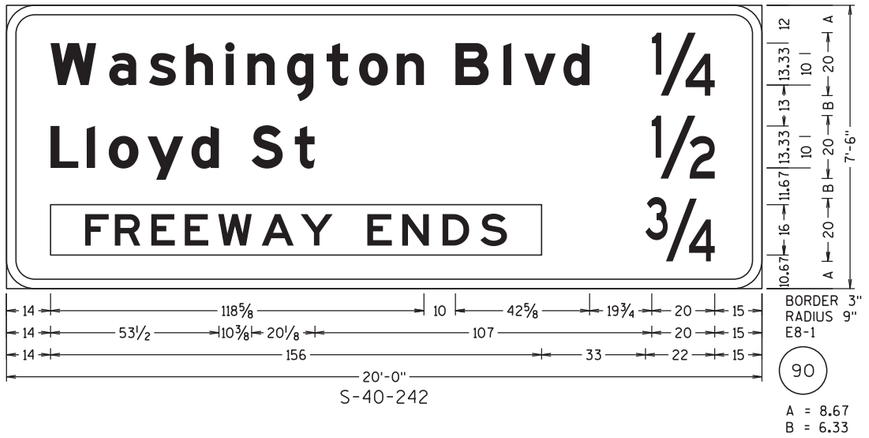
EXIT PANEL E11-1A
MESSAGE: NON-REFLECTIVE BLACK
BACKGROUND: YELLOW



TYPE II SIGN



MESSAGE: NON-REFLECTIVE BLACK
BACKGROUND: TYPE SH REFLECTIVE YELLOW
.063 MIN. THICKNESS, NON-CORROSIVE SHEET



S-40-242

GENERAL NOTES:

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

2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE I".

3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.

4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.

6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"

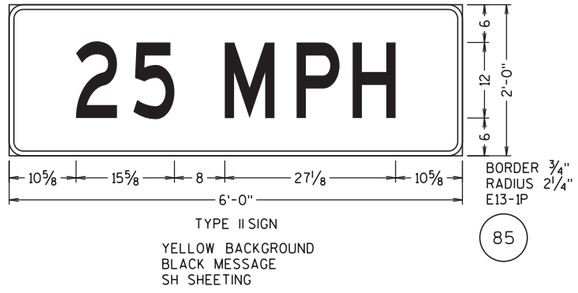
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.

8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

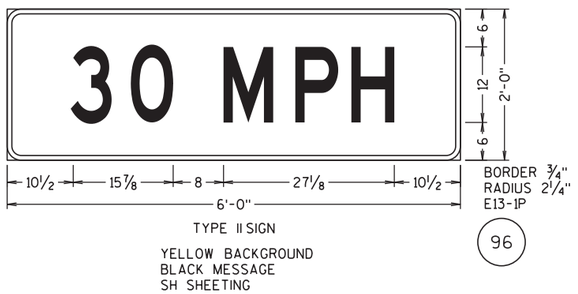
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

11. DO NOT SCALE.



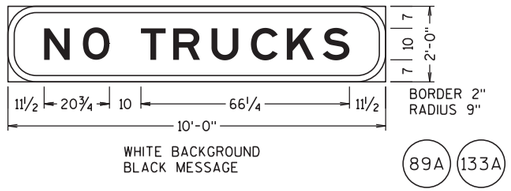
TYPE II SIGN

YELLOW BACKGROUND
BLACK MESSAGE
SH SHEETING

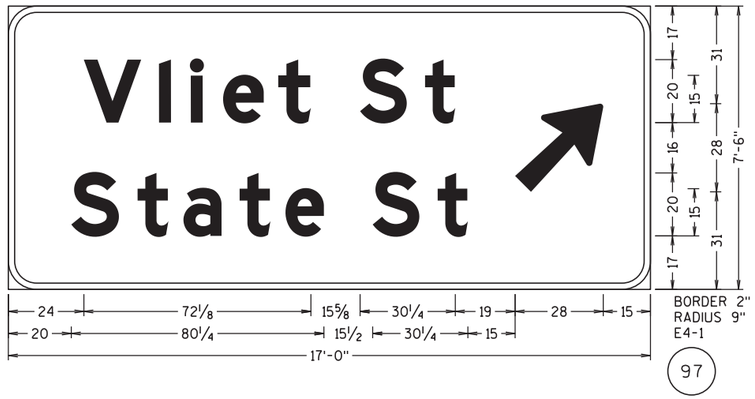


TYPE II SIGN

YELLOW BACKGROUND
BLACK MESSAGE
SH SHEETING



WHITE BACKGROUND
BLACK MESSAGE

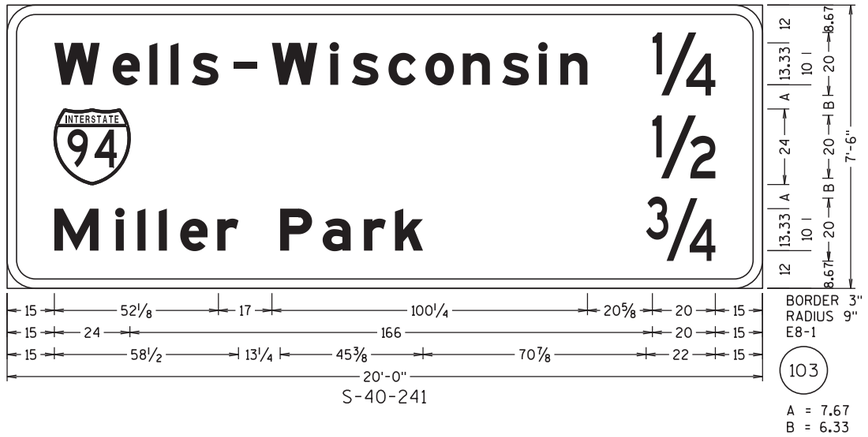


SHEET 2 OF 6

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	SIGNING DETAIL - TYPE I & II SIGNS	SCALE: 0 1/2" 1"	SHEET 413	E

FILE NAME : J:\projects\D2_13500941\70\Signs\070101_ms.dgn PLOT DATE : 15-APR-2015 09:14 PLOT BY : mscppl PLOT NAME : PLOT SCALE : 48.125:1

WISDOT/CADDS SHEET 47



GENERAL NOTES:

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8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
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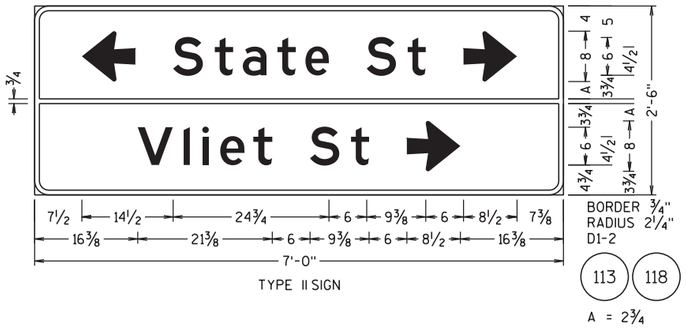
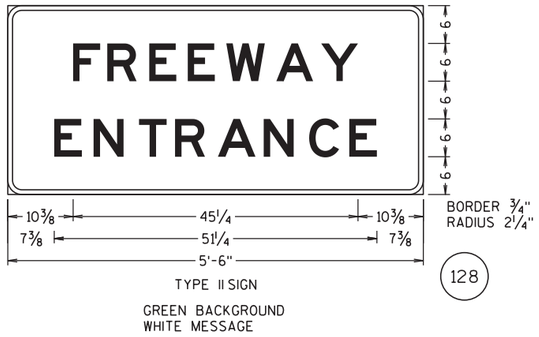
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10
11. DO NOT SCALE.

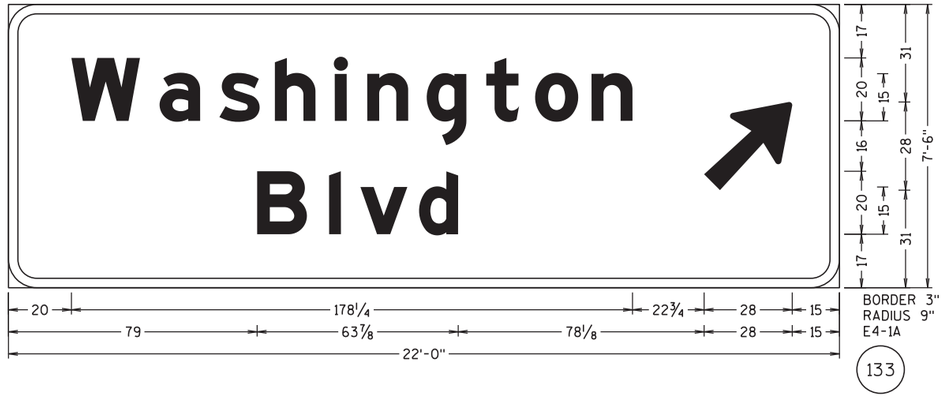
EXIT PANEL E11-1
MESSAGE: NON-REFLECTIVE BLACK
BACKGROUND: YELLOW

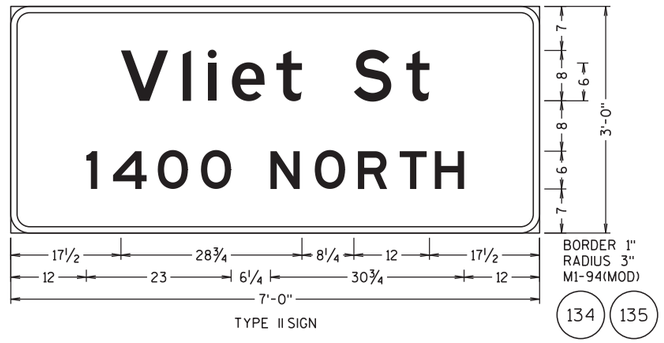




TYPE II SIGN

GREEN BACKGROUND
WHITE MESSAGE





TYPE II SIGN

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8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
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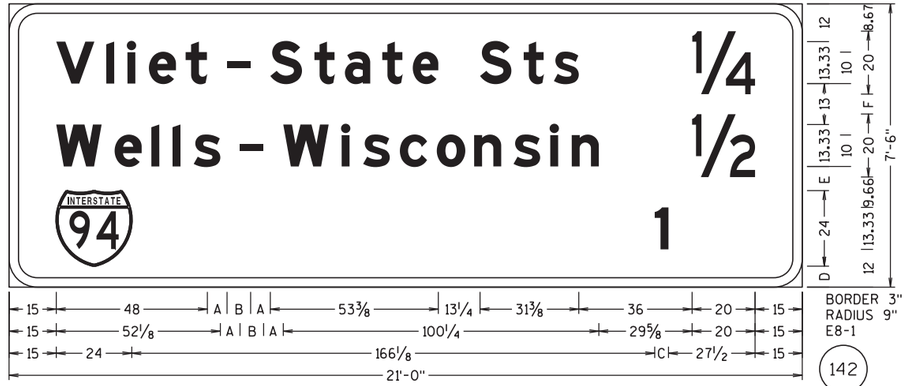
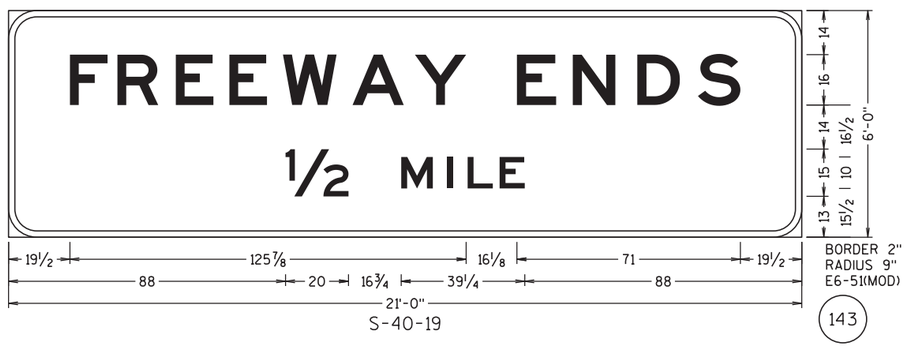
11. DO NOT SCALE.





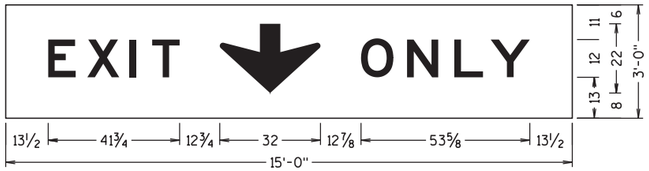
MESSAGE: NON-REFLECTIVE BLACK
BACKGROUND: TYPE SH REFLECTIVE YELLOW
.063 MIN. THICKNESS, NON-CORROSIVE SHEET

7

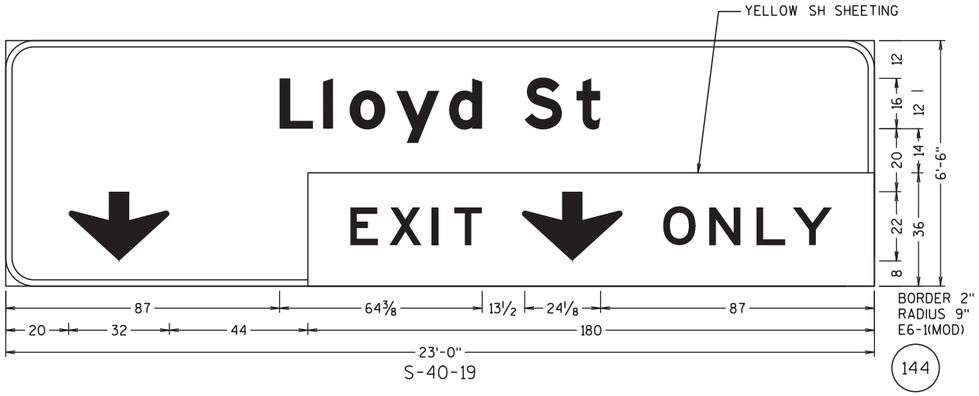
7

SHEET 4 OF 6

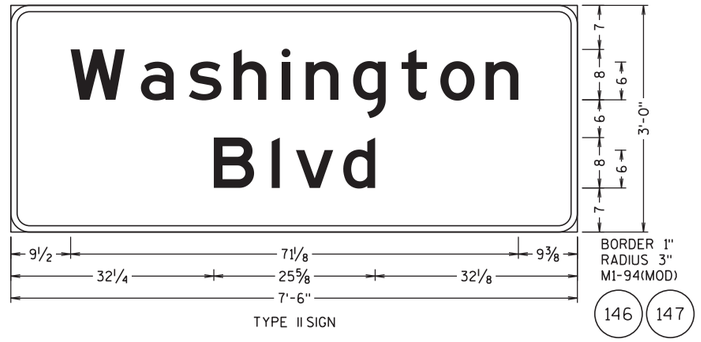
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	SIGNING DETAIL - TYPE I & II SIGNS	SCALE: 0 1/2" 1"	SHEET 415	E



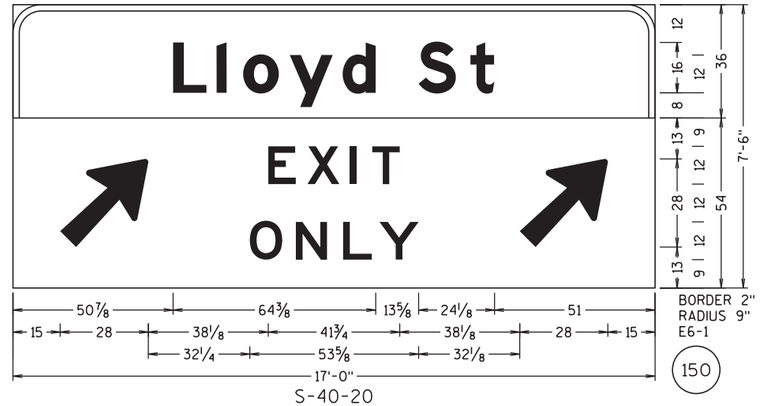
E11-1 EXIT PANEL
MESSAGE: NON-REFLECTIVE BLACK
BACKGROUND: TYPE SH REFLECTIVE YELLOW
.063 MIN. THICKNESS, NON-CORROSIVE SHEET



S-40-19



TYPE II SIGN



S-40-20

GENERAL NOTES:

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4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.

6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"

7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.

8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

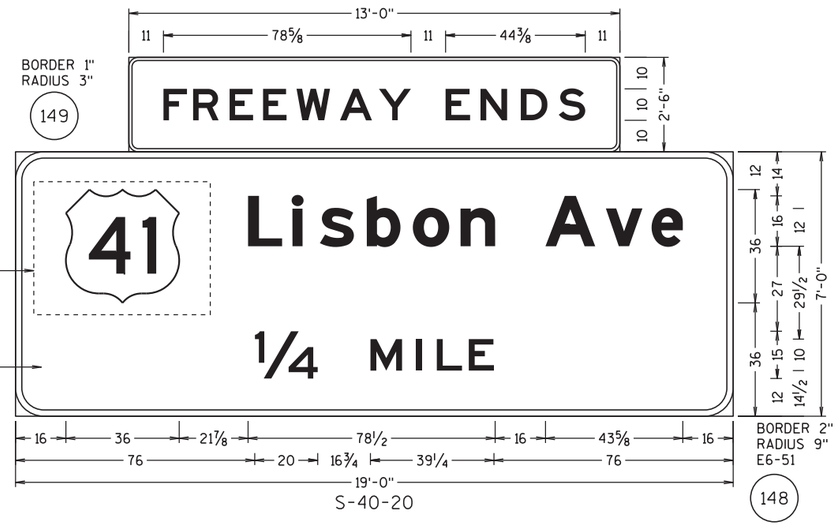
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

11. DO NOT SCALE.

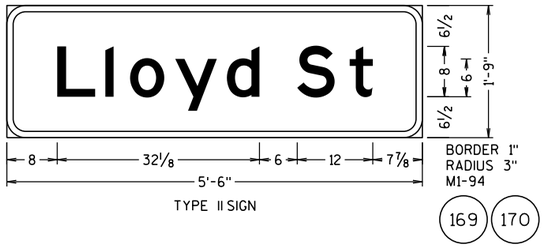
M1-56
COVER PLAQUE
148a

MESSAGE: NON-REFLECTIVE BLACK
BACKGROUND: TYPE SH REFLECTIVE YELLOW
.063 MIN. THICKNESS, NON-CORROSIVE SHEET



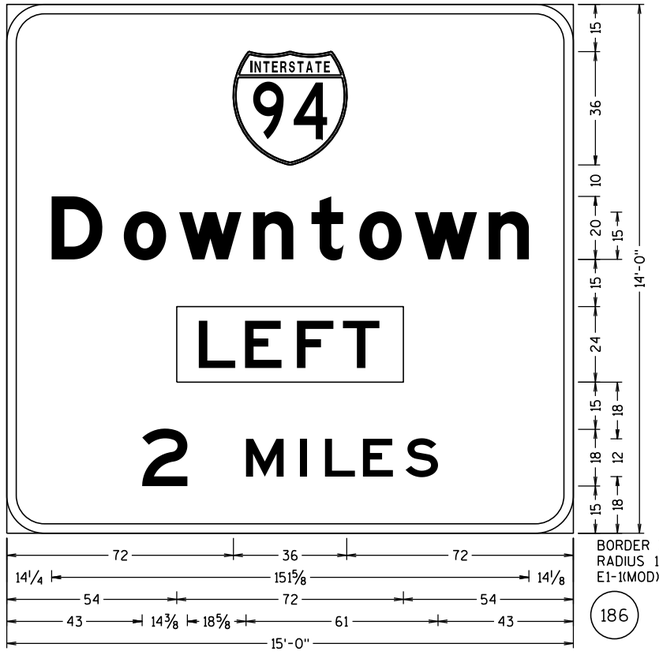
S-40-20

EXIT PANEL E11-1
MESSAGE: NON-REFLECTIVE BLACK
BACKGROUND: TYPE SH REFLECTIVE YELLOW
.063 MIN. THICKNESS, NON-CORROSIVE SHEET



TYPE II SIGN

169 170

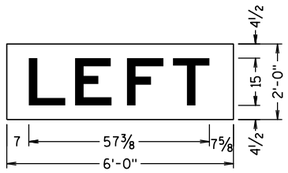


186

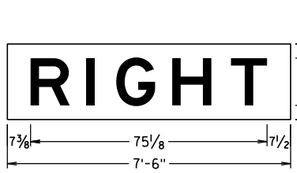
187

GENERAL NOTES:

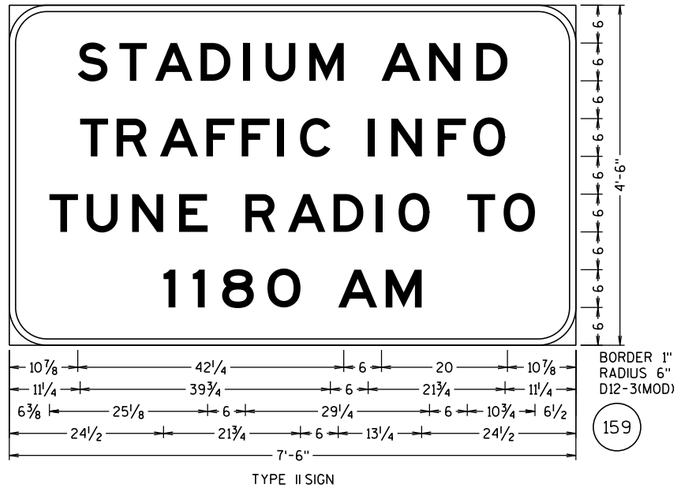
1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE I".
3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.
4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.
6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10
11. DO NOT SCALE.



MESSAGE: NON-REFLECTIVE BLACK
BACKGROUND: TYPE SH REFLECTIVE YELLOW
.063 MIN. THICKNESS, NON-CORROSIVE SHEET

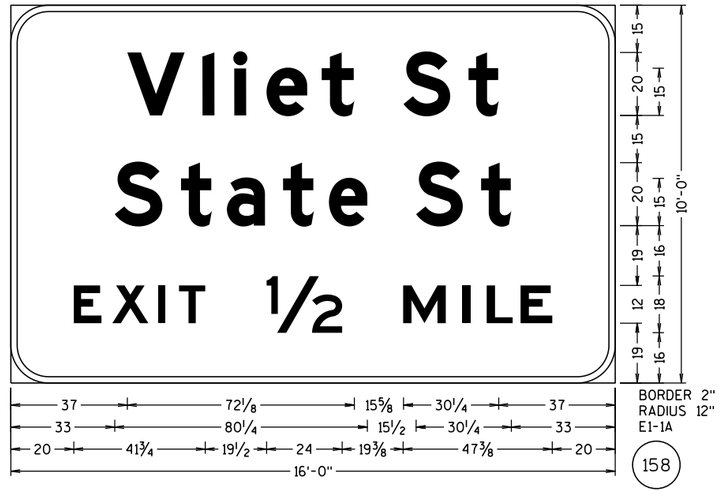


MESSAGE: NON-REFLECTIVE BLACK
BACKGROUND: TYPE SH REFLECTIVE YELLOW
.063 MIN. THICKNESS, NON-CORROSIVE SHEET



159

TYPE II SIGN
MESSAGE: WHITE
BACKGROUND: BLUE



158

SHEET 6 OF 6

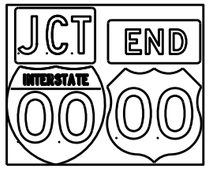
PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	SIGNING DETAIL - TYPE I & II SIGNS	SCALE: 0 ½" 1"	SHEET 417	E

FILE NAME : J:\projects\D2_13500941\70\Signs\070101_ms.dgn PLOT DATE : 24-JUN-2015 06:26 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 48.125:1

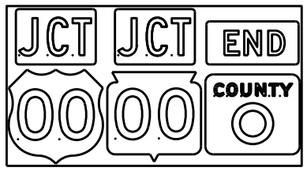
WISDOT/CADDS SHEET 47

TYPICAL ASSEMBLIES

J1-1

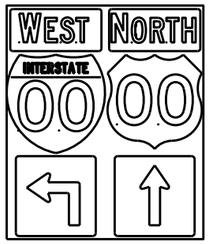


J1-2

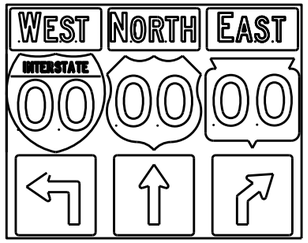


J1-3

J2-1



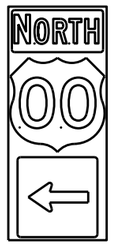
J2-2



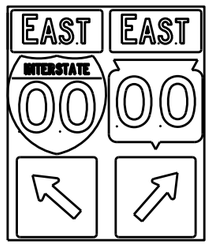
J2-3

JV

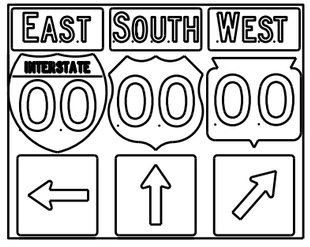
(Typical Vertical J-Assembly
See Note 10 and 11)



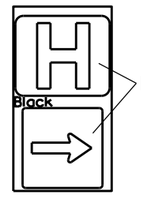
J3-1



J3-2



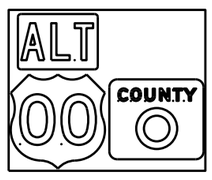
J3-3



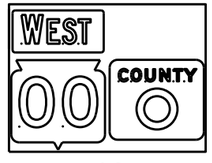
Blue Background

JH-1

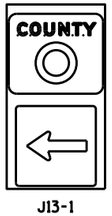
J4-1



J4-2



J4-2



J13-1

J12-1

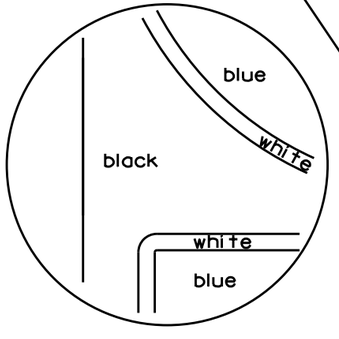
J32-1

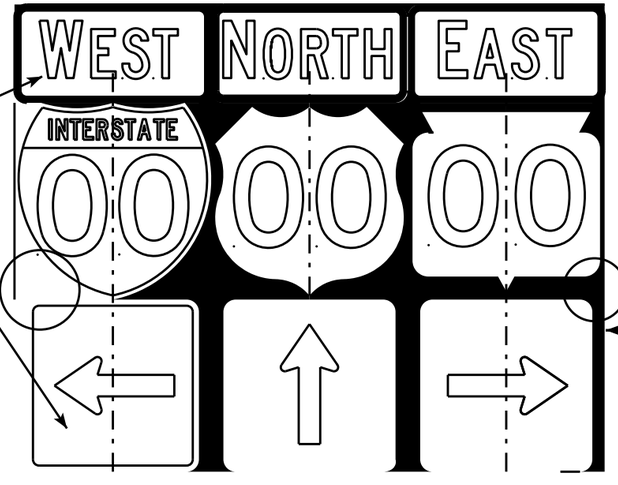
J33-1

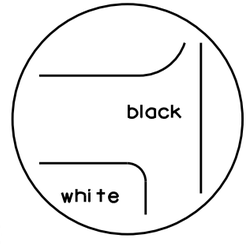
J23-1

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

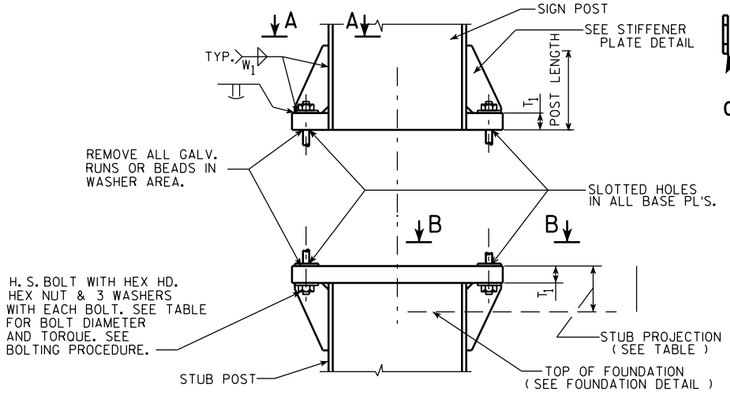
DATE 2/06/14 PL... A2-1S.8

PROJECT NO:

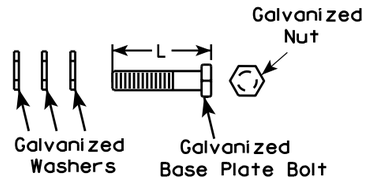
SHEET NO: E

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

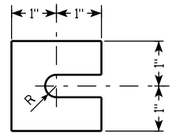


SIGN POST AND STUB POST ELEVATION



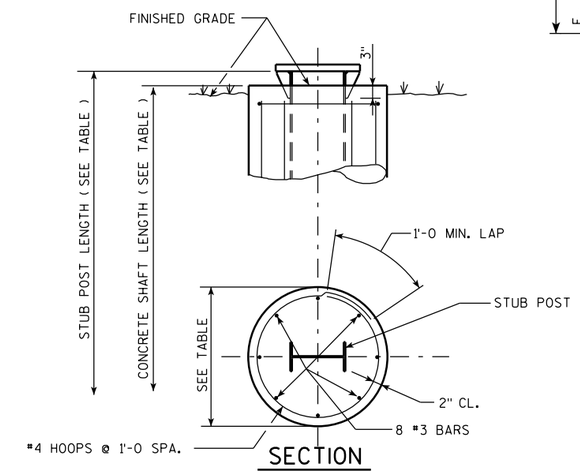
STIFFENER PLATE DETAIL

(SEE TABLE FOR DIMENSIONS)

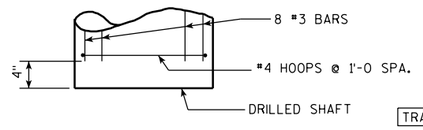


FURNISH 2 @ .012" ± THICK AND 2 @ .032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M.- B36.

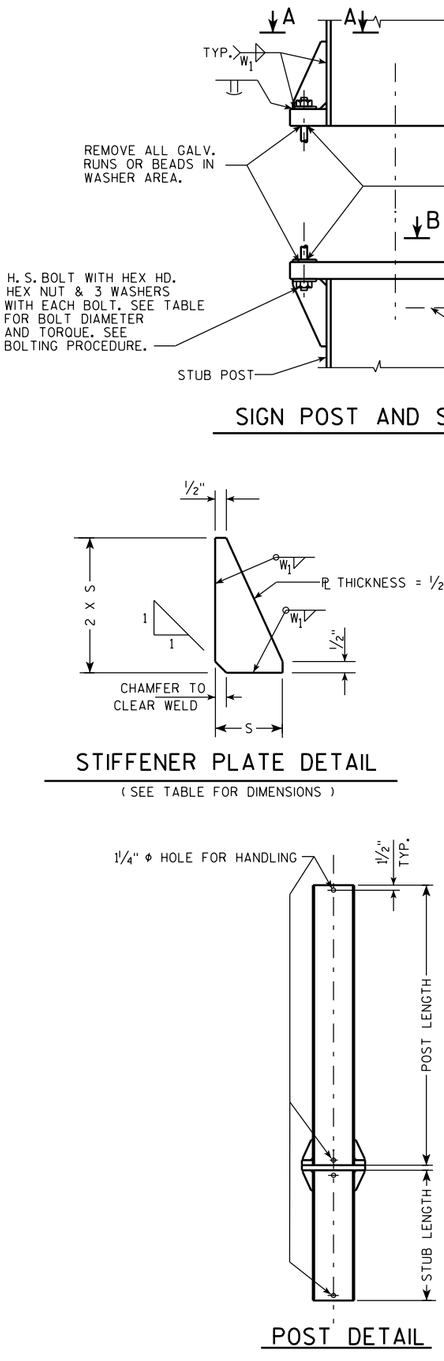
SHIM DETAIL



SECTION



FOUNDATION DETAIL



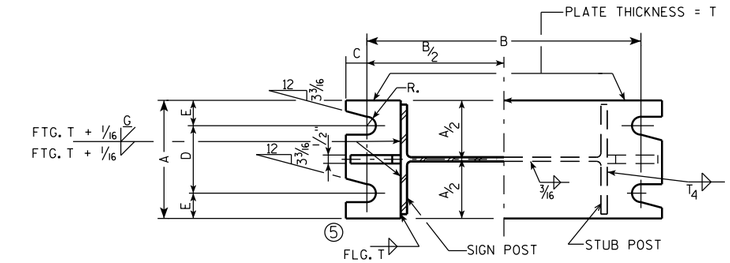
POST DETAIL

QUANTITIES FOR 1 FOOTING		
	CONC. MASONRY C.Y.	REINF. STEEL LBS.
A	0.6	34
B	0.8	49
C	0.9	50
D	0.9	56
E	1.0	62

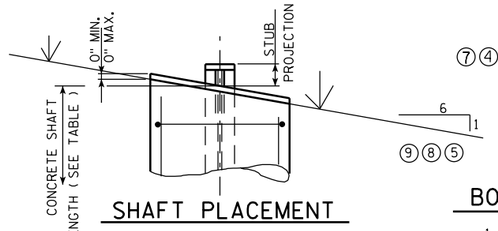
⑦

REINF.	TYPE	#3	#4
	A	8 @ 4'-5	5 @ 6'-3
	B	8 @ 6'-5	7 @ 6'-3
	C	8 @ 6'-11	7 @ 6'-3
	D	8 @ 7'-5	8 @ 6'-3
	E	8 @ 7'-11	9 @ 6'-3

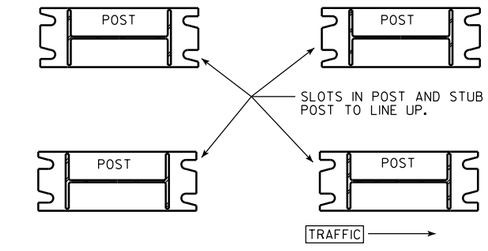
⑦



SECTION A-A SECTION B-B



SHAFT PLACEMENT



POST SLOT ORIENTATION ⑦

DESIGN DATA

WIND PRESSURE = 75 M.P.H.
WIND COMPONENTS - NORMAL = 1.0 TRANSVERSE = 0.0
ICE LOAD = 3 P.S.F.

GROUP LOADS	PERCENT OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD & WIND	140
3. DEAD, ICE & ½ WIND[4]	140 [4]25 P.S.F. MIN.

ALLOWABLE SOIL PRESSURE = 1½T / SQ. FT.
WIND LOAD WAS APPLIED TO THE AREA OF THE SIGN AND TO THE SUPPORTING MEMBERS.
ICE LOAD WAS APPLIED TO ONE FACE OF THE SIGN AND AROUND THE SURFACE OF THE SUPPORTING MEMBERS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DESIGN CONFORMS WITH A.A.S.H.T.O. SPECIFICATIONS 1985.
ALL POSTS, POST STUBS & ATTACHMENTS SHALL BE A.S.T.M. A709 GRADE 50.
⑨ THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.
H.S. BOLTS, WASHERS & NUTS SHALL BE A325 GALVANIZED WHEN POSTS, POST STUBS AND ATTACHMENTS ARE A709 GRADE 50 AND GALVANIZED.

BOLTING PROCEDURE - BASE CONNECTION

1. ASSEMBLE SIGN POST TO STUB POST WITH BOLTS AND ONE OF THE FLAT WASHERS ON EACH BOLT BETW. PLATES.
2. SHIM AS REQ'D. TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. (SEE TABLE)
5. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NOTE:
TIGHTEN THE HIGH STRENGTH BOLTS TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.

BASE CONNECTION DATA TABLE														FOUNDATION DATA				②
L	X	TYPE	DIMENSION / POST SIZE	BOLT SIZE & TORQUE	A	B	C	D	E	T_1	T_4	W_1	R	S	STUB LENGTH	STUB PROJECTION	SHAFT DIAMETER	SHAFT LENGTH	K	
3 ¾	④	A	W10"X12.0 #/FT.	¾" Φ @ 75#-FT.	5¼"	1'-0⅜	⅞"	3½"	⅞"	1"	3/16"	5/16"	13/32"	2⅛"	3'-6	3"	2'-0 Φ	5'-0	76.0#	④
4 ¾	④	B	W12"X16.0 #/FT.	⅞" Φ @ 85#-FT.	5½"	1'-4¼	1"	3½"	1"	1¼"	¼"	5/16"	15/32"	3"	5'-6	3"	2'-0 Φ	7'-0	146.5#	④
5		C	W12"X19.0 #/FT.	⅞" Φ @ 85#-FT.	5½"	1'-4¼	1"	3½"	1"	1½"	5/16"	5/16"	15/32"	3"	6'-0	3"	2'-0 Φ	7'-6	182.1#	
5		D	W12"X22.0 #/FT.	⅞" Φ @ 85#-FT.	5½"	1'-4¼	1"	3½"	1"	1½"	⅜"	5/16"	15/32"	3"	6'-6	3"	2'-0 Φ	8'-0	210.5#	
5	③	E	W12"X26.0 #/FT.	1" Φ @ 90#-FT.	7"	1'-4¼	1¼"	4"	1½"	1½"	⅜"	5/16"	11/32"	3"	7'-0	3"	2'-0 Φ	8'-6	293.0#	③

① ⑥ ①

STRUCTURAL CARBON STEEL PAY WTS. (1 POST) = K+ (POST LENGTH X POST WT.)
" K " INCLUDES STUB, BASE PLATES, STIFFS., BOLTS, AND WASHERS.

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/30/14 PLATE NO. A3-1.15

NO.	DATE	REVISION
⑩	1-21-14	LUBRICATION OF BASE BOLTS
⑨	4-26-11	REMOVE NON-GALVANIZED
⑧	10-30-96	NOT GALVANIZED/GALVANIZED
⑦	10-30-92	QUANT., A588 EXCEPT., ADD SLOT VIEW
⑥	8-24-87	BASE CONN. WELD
⑤	10-13-81	BASE CONN. WELD & FUSE PL WASHERS
④	10-19-79	POST A & B, A572 GR. 50, & K
②	11-28-78	"K" ③ 4-23-79 TYPE "E"
①	5-4-78	T_1 , T_2 & W_1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

TYPE A, B, C, D, & E

CONST. SPEC. 2011	DRAWN BY JPH	PLANS CK'D.

FTG. & SIGN SUPPORT DETAILS GROUND MOUNT BREAK-AWAY SIGNS

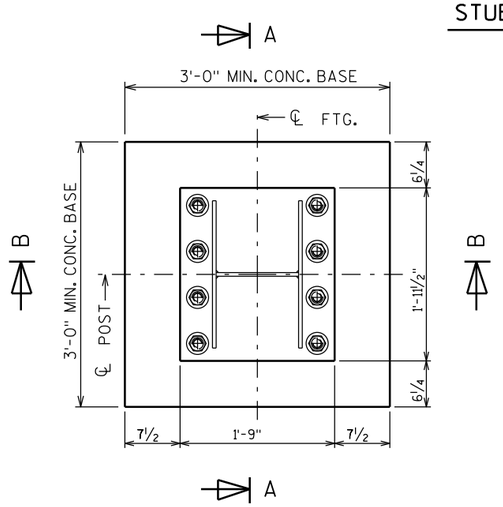
SHEET 419

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

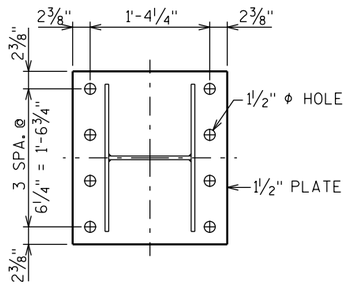
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A31.DGN PLOT DATE : 30-JUN-2014 10:43 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.351066:1.000000

WISDOT/CADDS SHEET 42

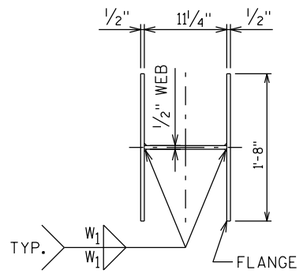
STUB AND MASONRY ANCHOR DETAILS



STUB SECTION



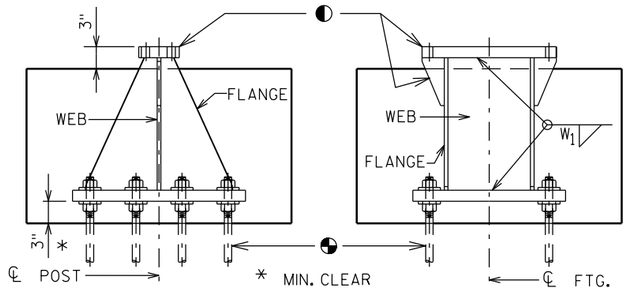
BASE PLATE



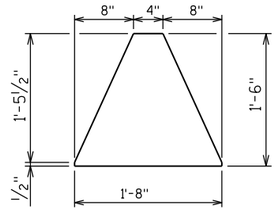
STUB

◐ SEE PLATE NO. A3-1 FOR DETAILS

◒ MASONRY ANCHORS TYPE S 1¼-INCHES (ADHESIVE). ALLOWABLE PULL OUT CAPACITY 14,995 KIPS. EMBED 1'-3" IN ROCK.



SECTION A SECTION B



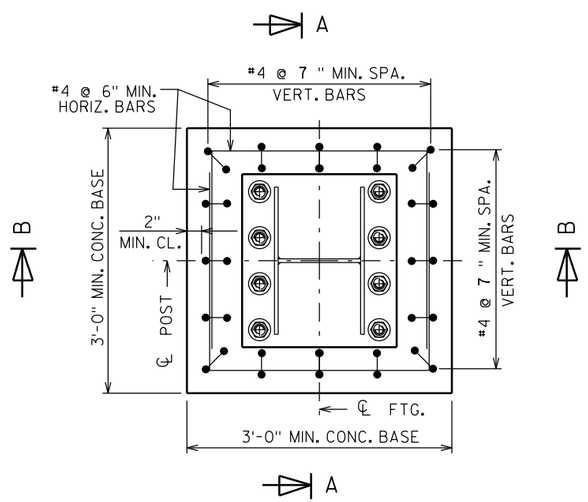
FLANGE

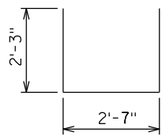
GENERAL NOTES

1. Quantities per Base:
   - REINFORCING BAR STEEL = 62 LBS
   - CONCRETE = 0.6 C.Y.
   - STEEL WEIGHT = 335 LBS
2. All materials, except anchor rod, nuts and washers, are to be A.S.T.M. A709 grade 50. All materials to be galvanized after fabrication.
3. If the contractor encounters rock before reaching the footing depth, per the A3-1 Sign Detail, determine the pull-out capacity of a test adhesive anchor installed in the rock. If the test result equals or exceeds the pull-out capacity of 14,995 KIPS, the contractor may install the breakaway stub for rock, according to this detail.

CONCRETE BASE AND REINFORCING STEEL DETAILS

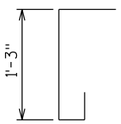
CONCRETE BASE SECTION





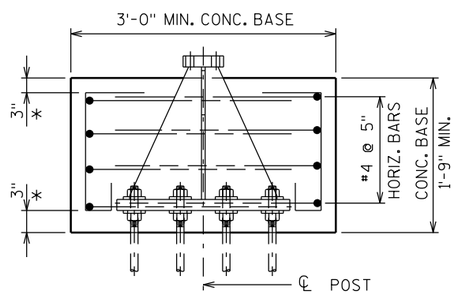
HORIZONTAL BAR

8 BARS @ 6'-11" LENGTH



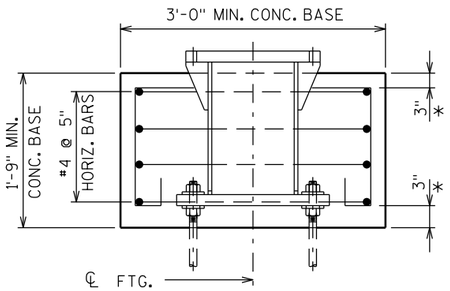
VERTICAL BARS

16 BARS @ 2'-4" LENGTH
MAY BE PLACED IN SKEW
FOR CLEARANCE NEED



SECTION A

* MIN. CLEAR



SECTION B

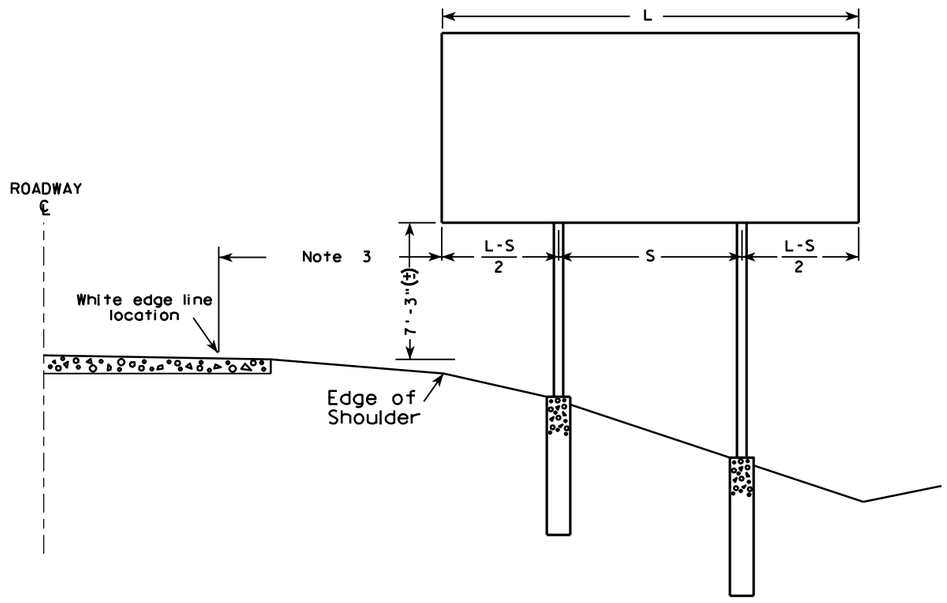
ALTERNATE BREAK-AWAY BASE ON ROCK
A3-1M

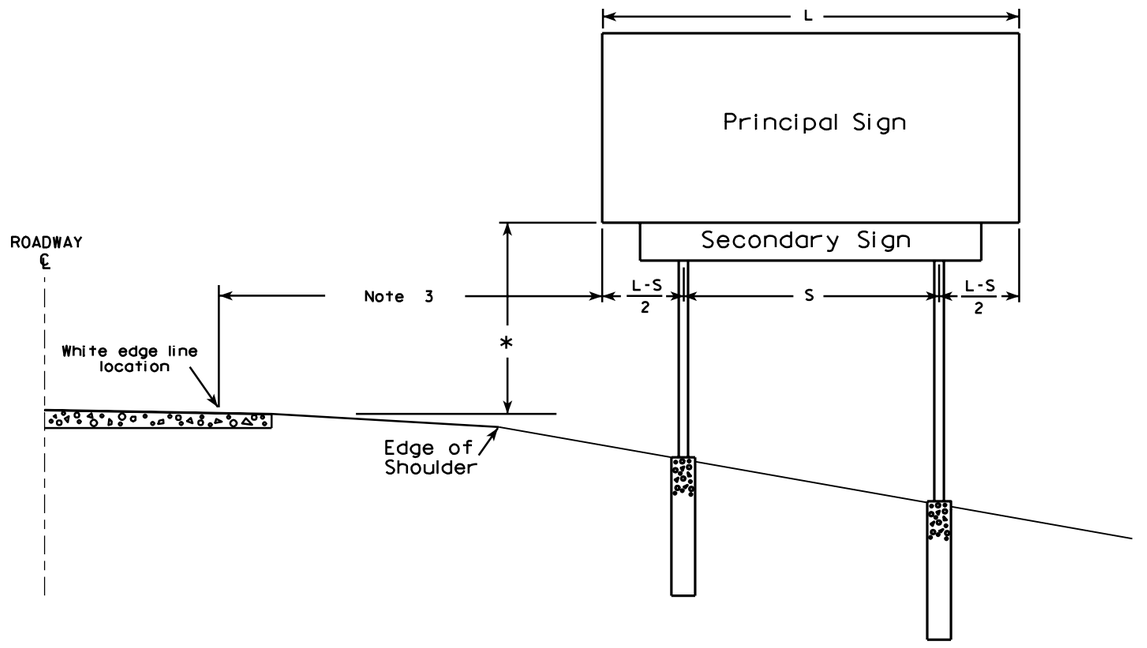
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/2014 PLAN 420 A3-1M.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E





GENERAL NOTES

1. For a 2 post installation, S equals 3L/5, but shall not be less than 9 ft.
2. For a 3 post installation, S equals 5L/7, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3"(±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3"(±).

7

7

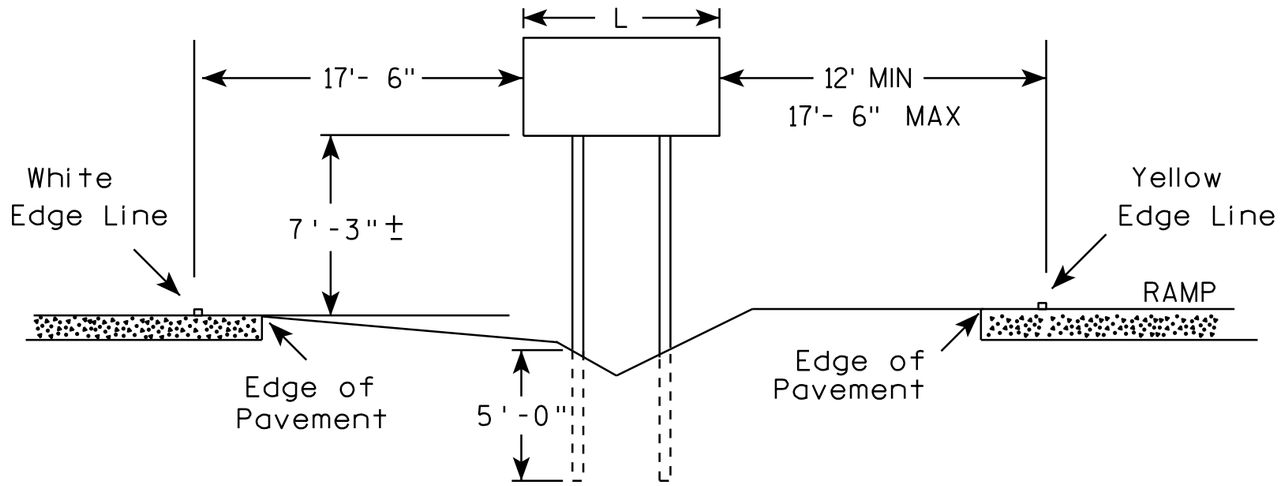
TYPICAL INSTALLATION
OF TYPE I SIGNS

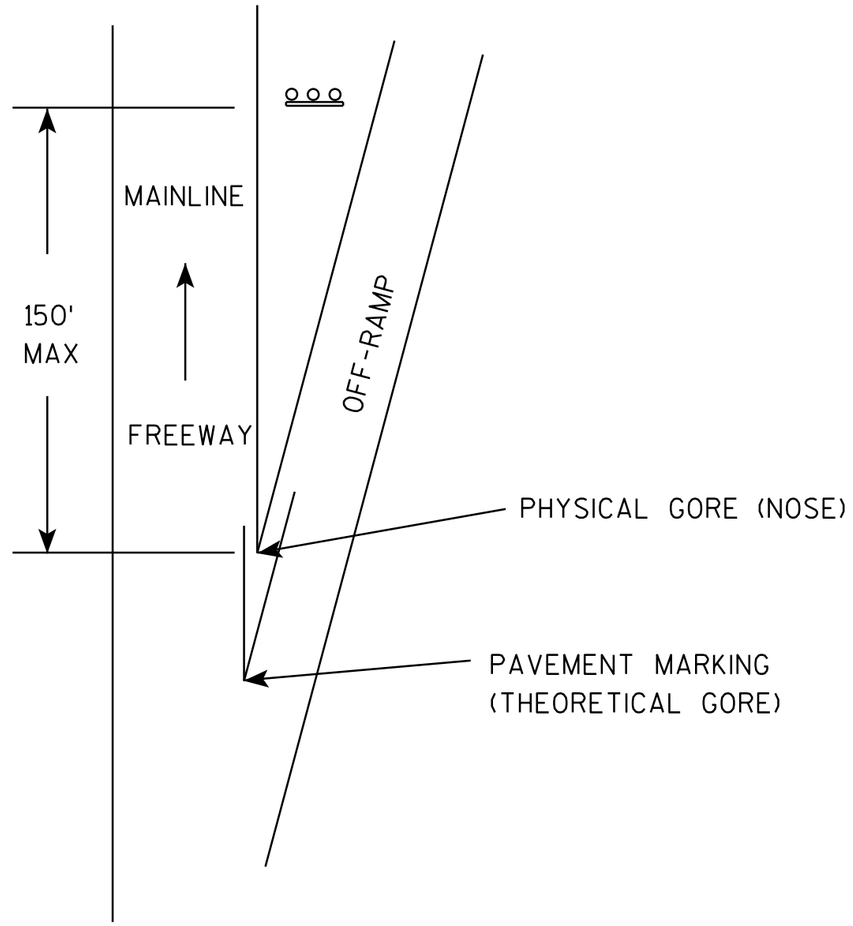
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/02/08 PLATE NO. A4-1.9

PROJECT NO:				SHEET NO: 421	E





GENERAL NOTES

1. The 150 foot distance from the physical gore (where pavement ends) will normally provide the offsets as shown.
2. If roadway geometrics permit, the sign may be closer than the 150 foot distance as long as the offsets are maintained.
3. At no time shall the location be greater than 150 feet. If the normal offsets cannot be maintained, they can be reduced to 6 feet from the edge of the paved shoulder (both freeway and ramp).
4. The offset from edge of sign to the yellow edge line on the ramp is shown as a minimum of 12 feet and a maximum of 17 feet, 6 inches. Preference is adhering to the maximum rather than the minimum dimension.
5. When L is equal to or exceeds 10 feet, use 3 posts as per A4-4.
6. The (∓) tolerance for the mounting height is 3 inches.

7

7

TYPICAL INSTALLATION
OF TYPE II SIGNS ON
WOOD POSTS IN GORE

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

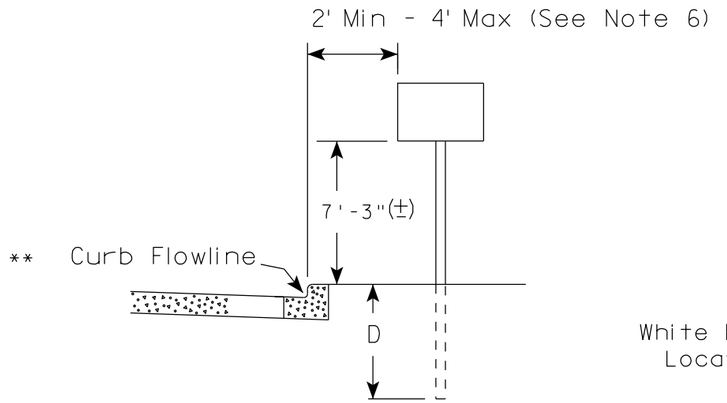
DATE 2/06/14 PLA 422 A4-2.3

PROJECT NO: | SHEET NO: E

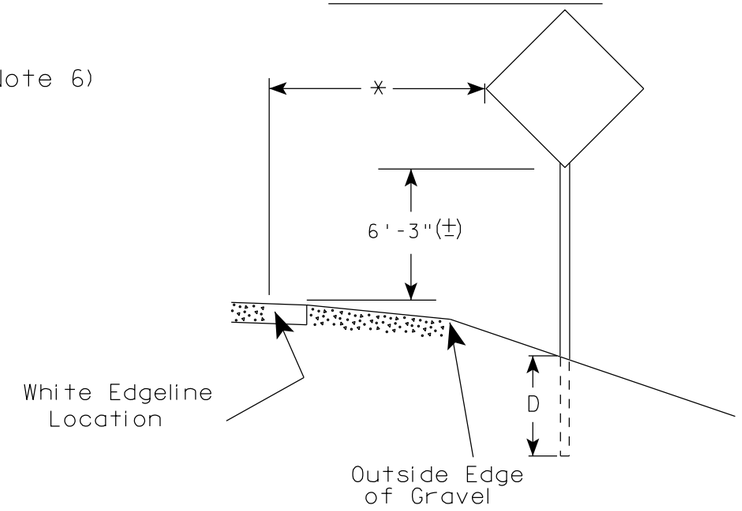
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A42.DGN PLOT DATE : 06-FEB-2014 12:36 PLOT BY : mscsja

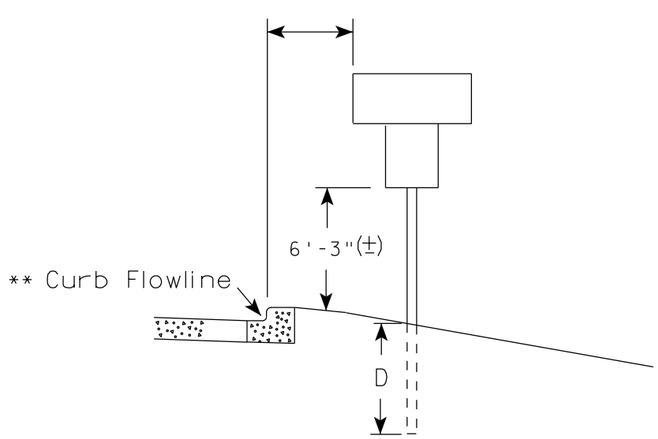
WISDOT/CADDS SHEET 42

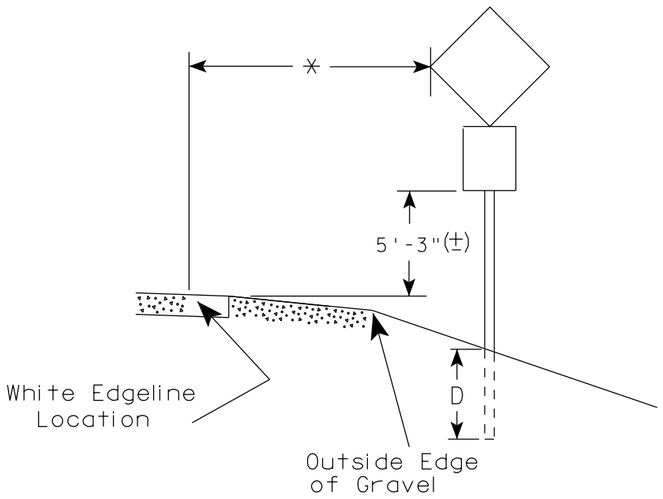
URBAN AREA



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, 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" (±).

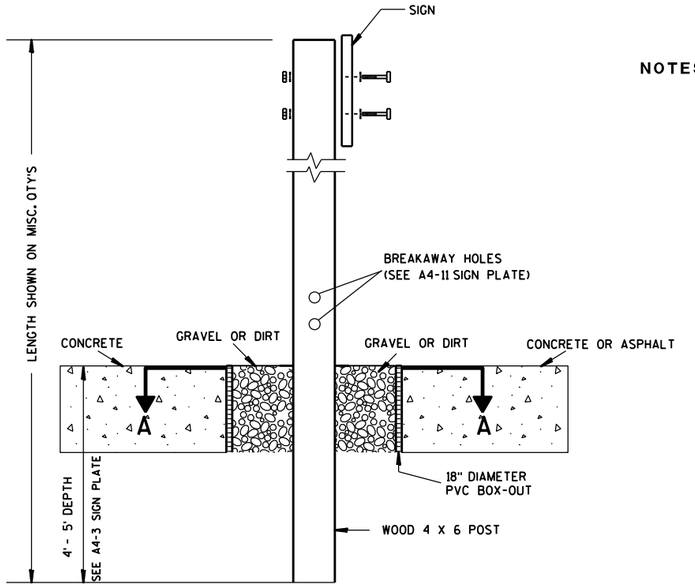
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-3.19

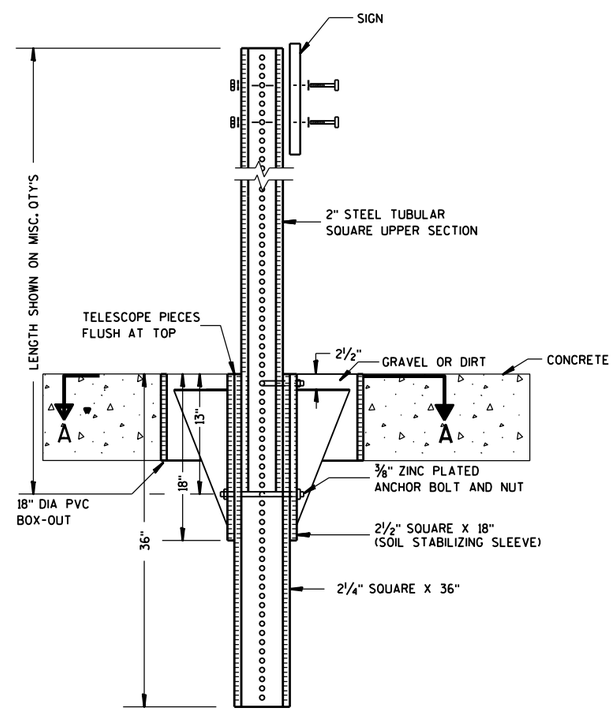
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

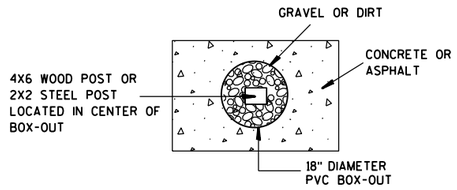
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

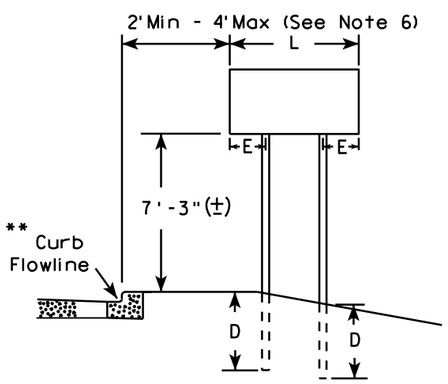
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

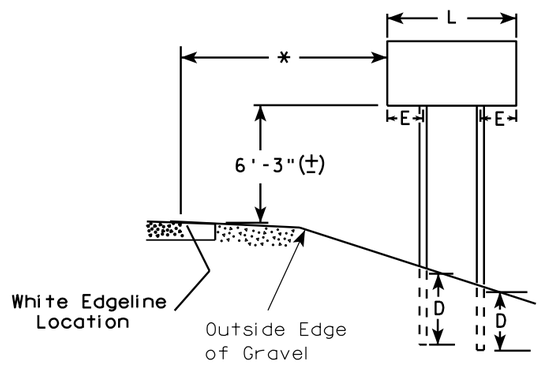
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

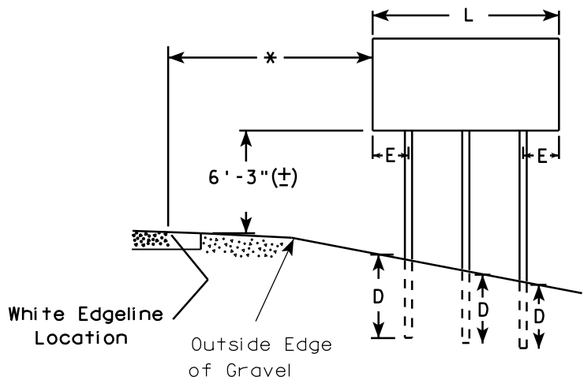
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

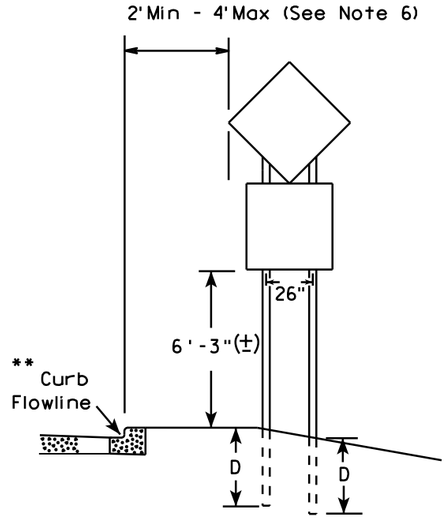
URBAN AREA



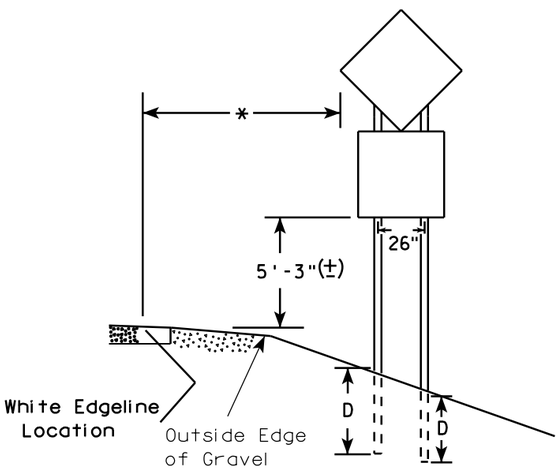
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

***	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"

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 or less than 20 S.F. in area.

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

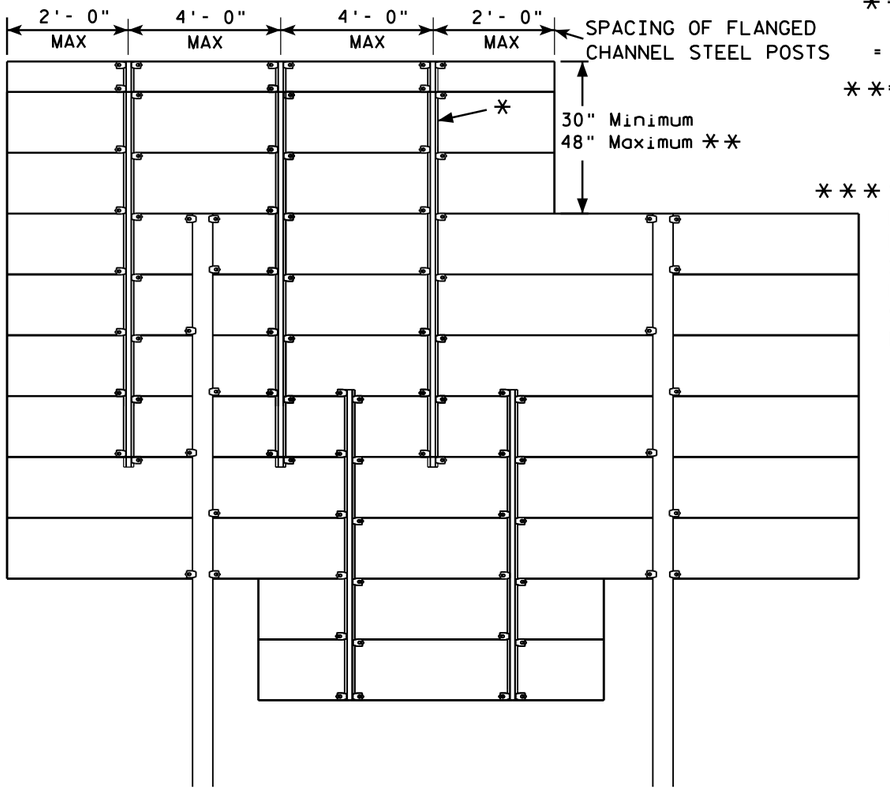
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-4 425 13

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

GROUND MOUNTED SIGN

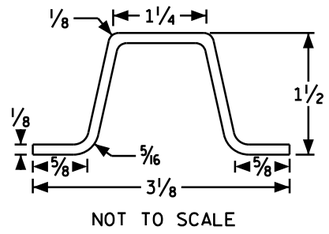


* =2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

** =FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

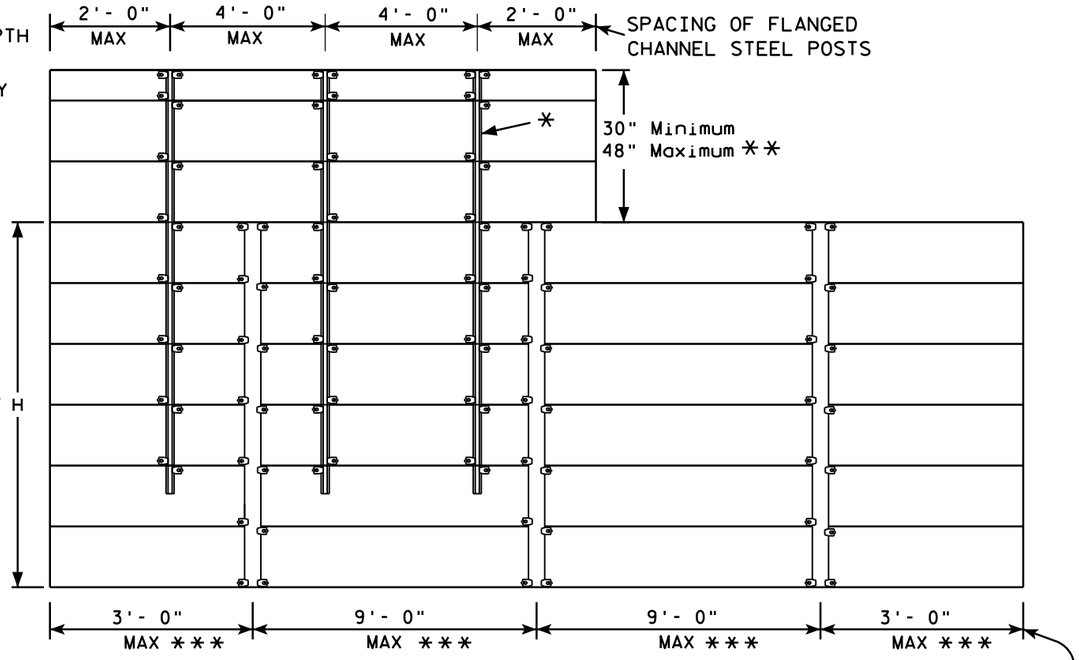
*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAIL



NOT TO SCALE

SIGN BRIDGE MOUNTED SIGN



GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

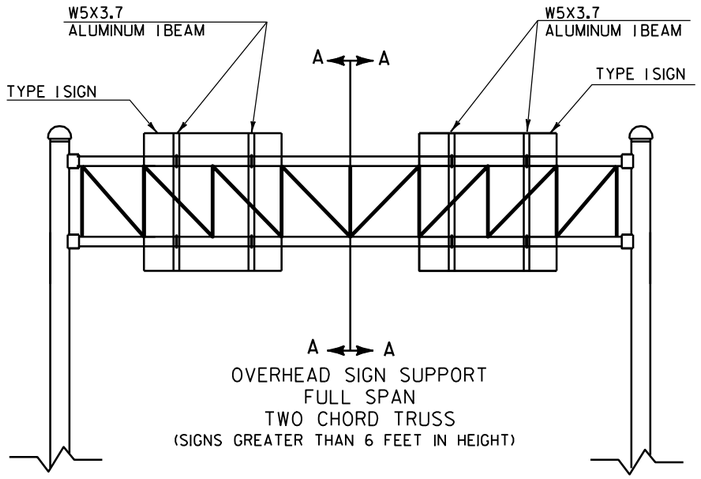
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

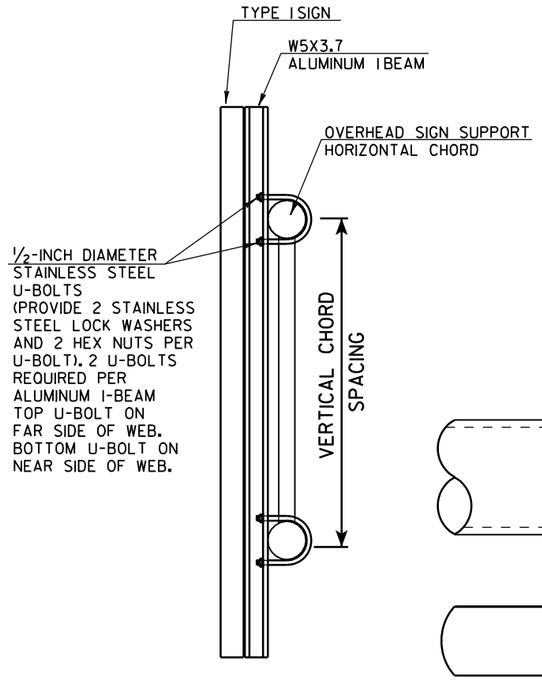
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/05/13 PLAT 426 A4-6.12

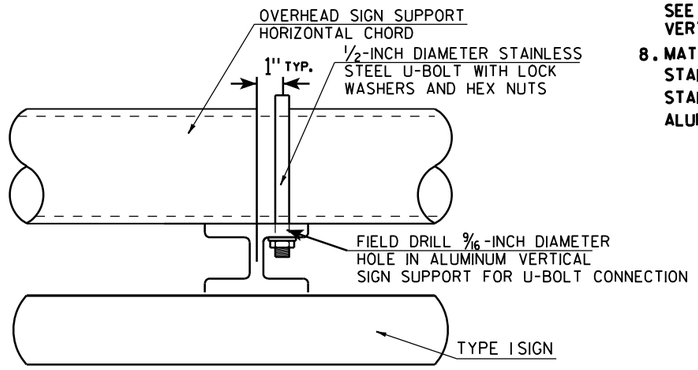
PROJECT NO: | SHEET NO: E



OVERHEAD SIGN SUPPORT
FULL SPAN
TWO CHORD TRUSS
(SIGNS GREATER THAN 6 FEET IN HEIGHT)



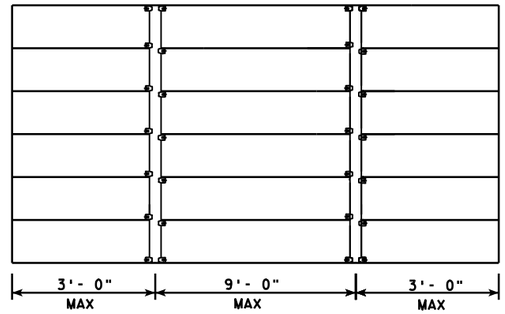
CUT SECTION A-A



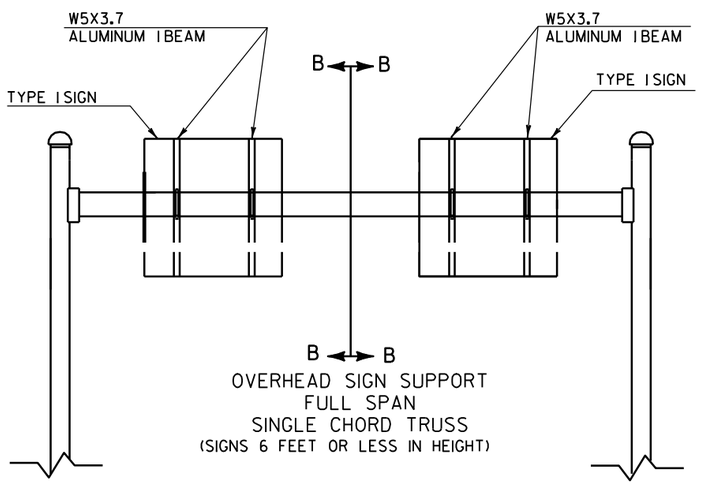
TYPICAL SIGN CONNECTION FOR
TWO CHORD TRUSS
PLAN VIEW

GENERAL NOTES

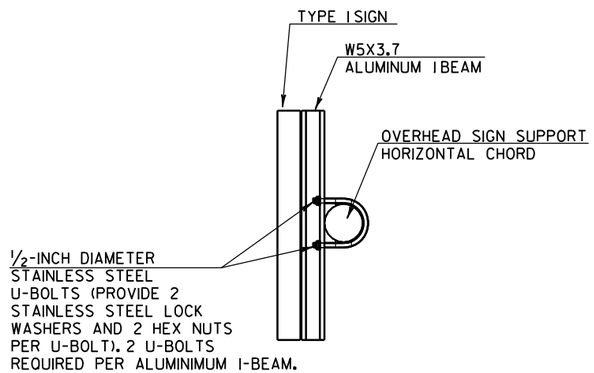
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:
   STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.
   STAINLESS STEEL HEX NUTS ASTM A276.
   ALUMINUM I-BEAMS ARE 6061-T6.



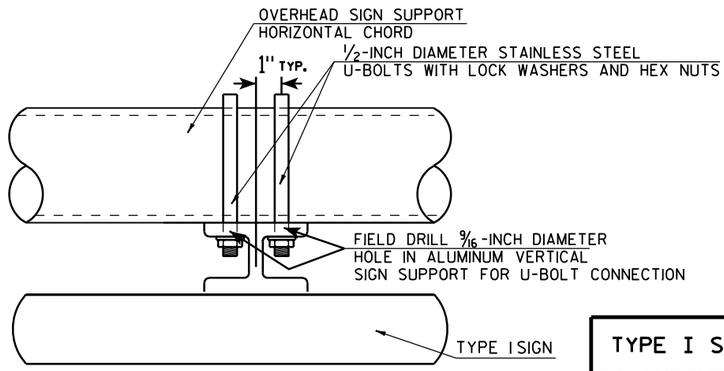
SPACING OF W5X3.7 ALUMINUM
VERTICAL SIGN SUPPORT



OVERHEAD SIGN SUPPORT
FULL SPAN
SINGLE CHORD TRUSS
(SIGNS 6 FEET OR LESS IN HEIGHT)



CUT SECTION B-B



TYPICAL SIGN CONNECTION FOR
SINGLE CHORD TRUSS
PLAN VIEW

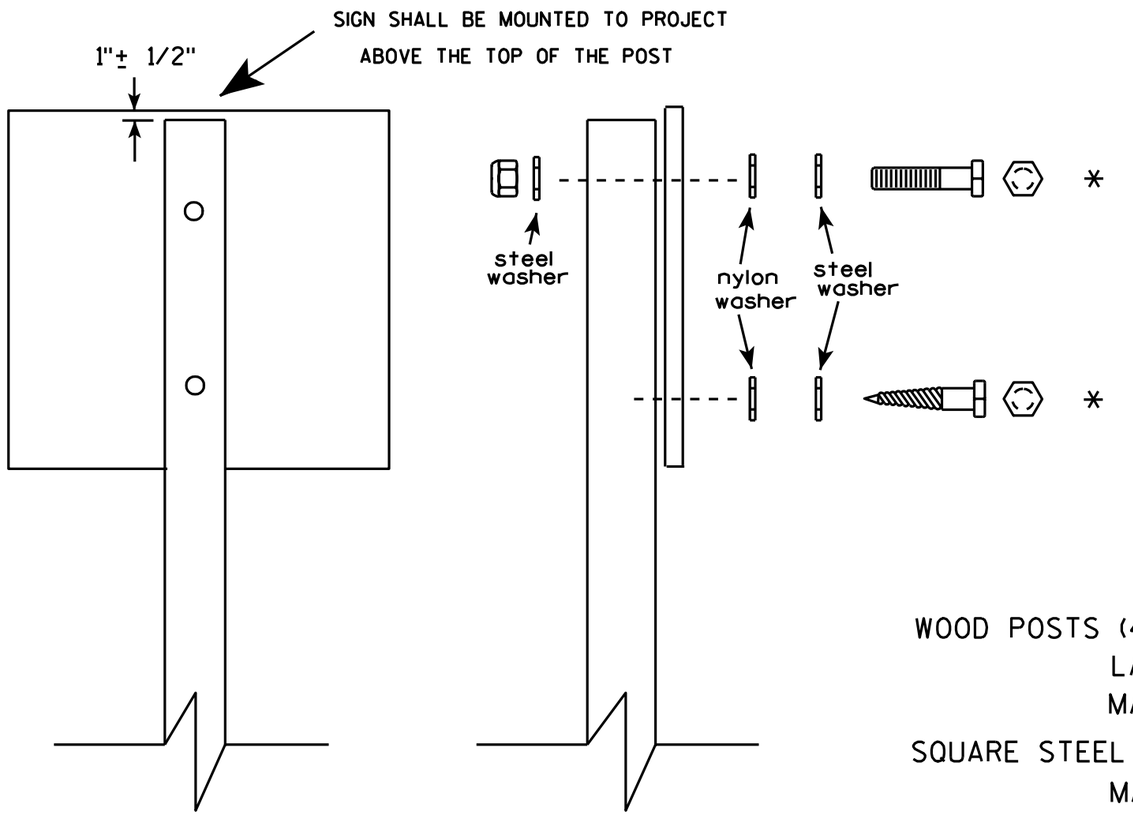
TYPE I SIGN CONNECTION TO OVERHEAD SIGN SUPPORT

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/12/12 PLATE NO. A4-7.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 427	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

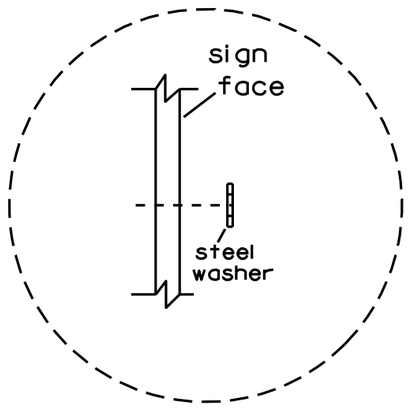
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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.

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.



Washer Placement when Sign Has Other Than Type H or Type F Face

* 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 3/23/10 PLATE NO. A4-8.7

7

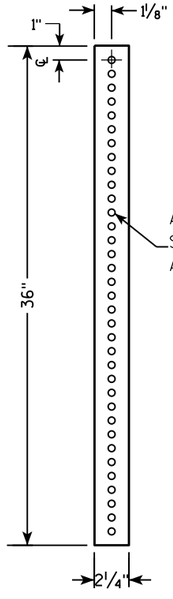
7

PROJECT NO:

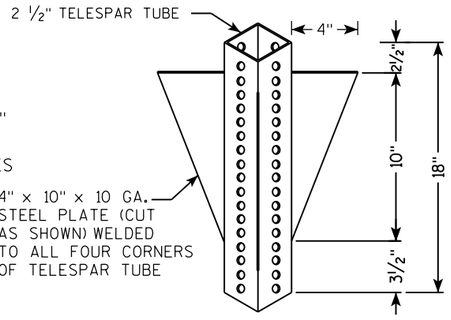
SHEET NO: 428 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

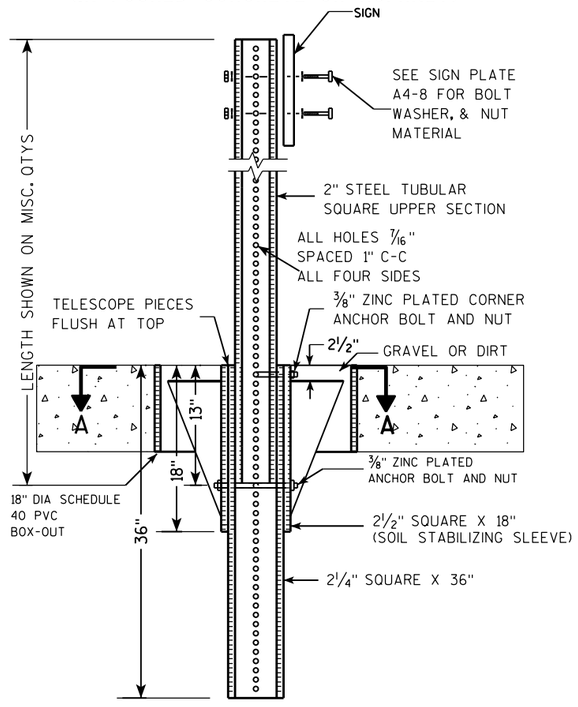
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



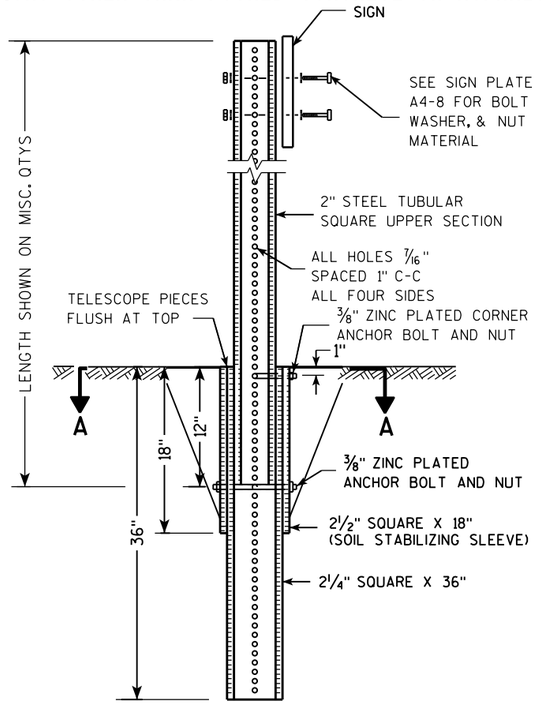
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

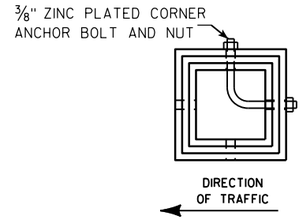


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

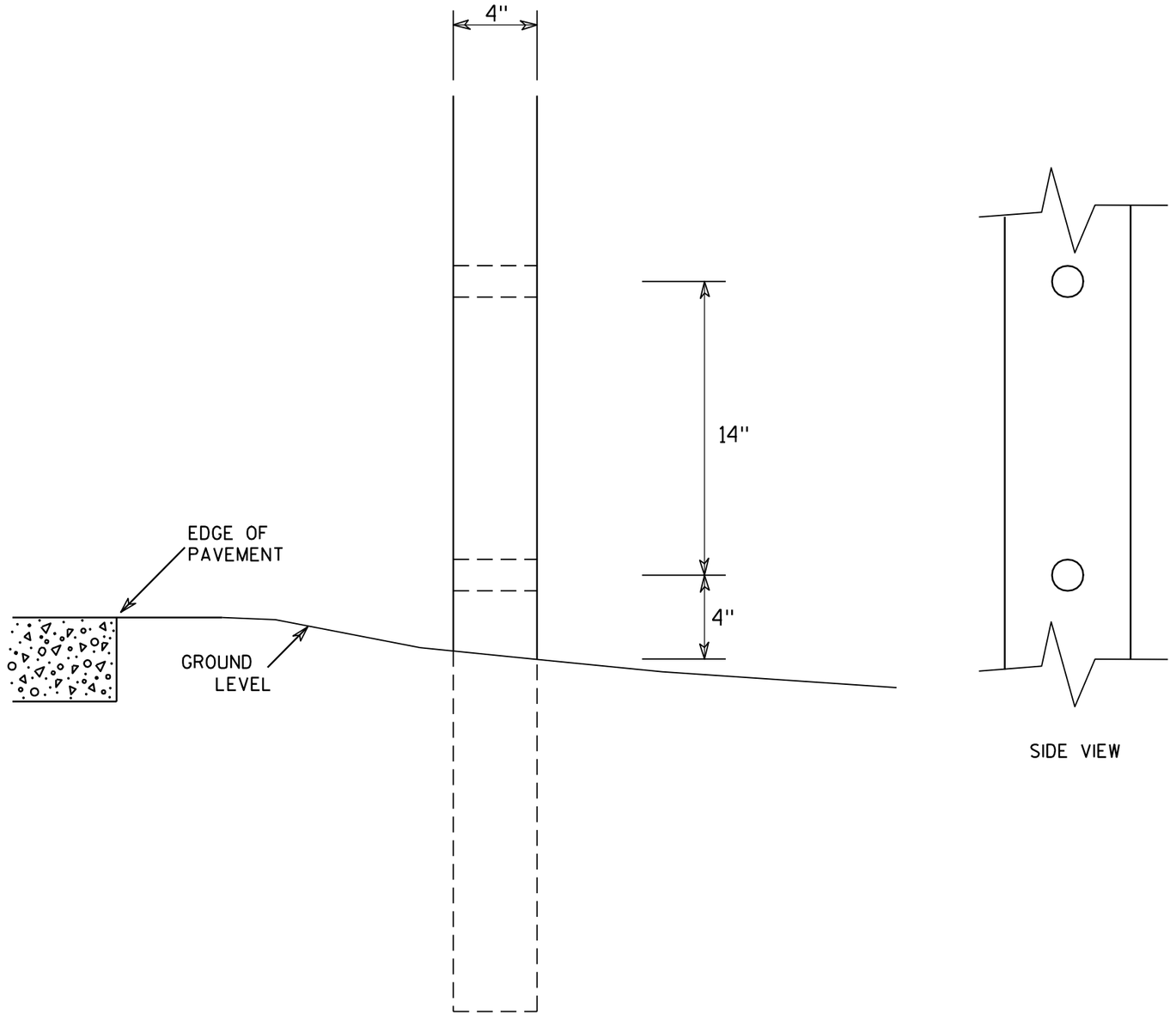
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 429 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000

WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

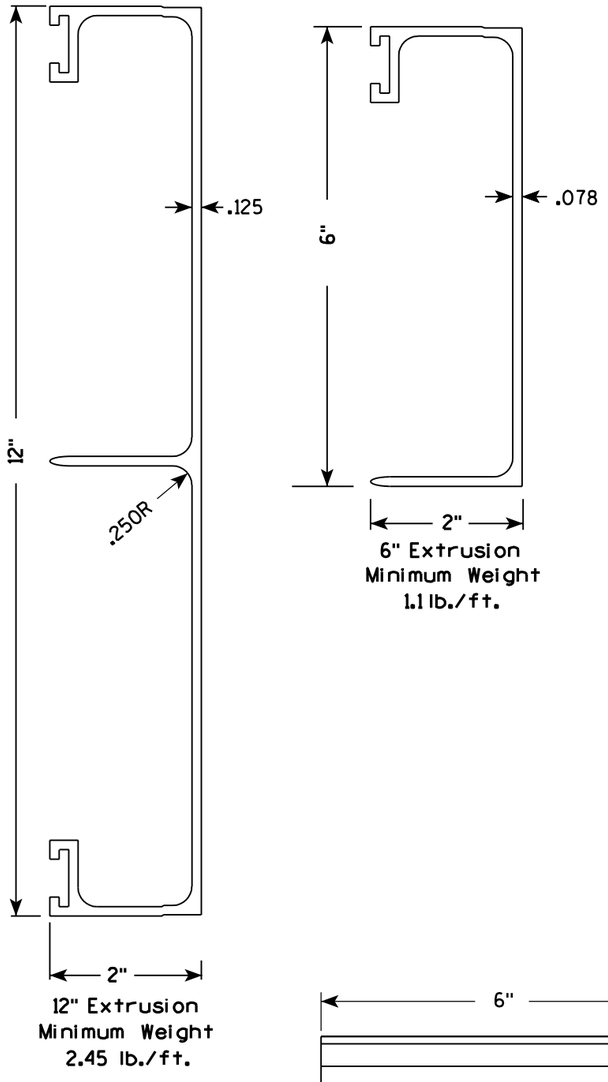
WISCONSIN DEPT OF TRANSPORTATION

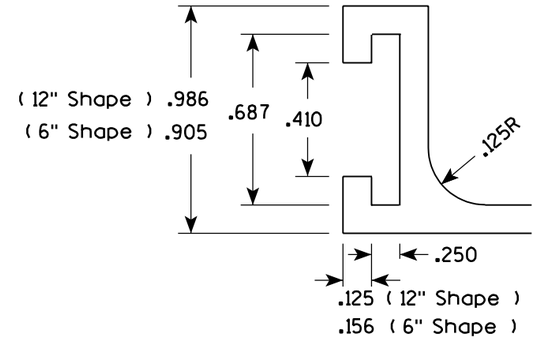
APPROVED Chester J Spang
for State Traffic Engineer

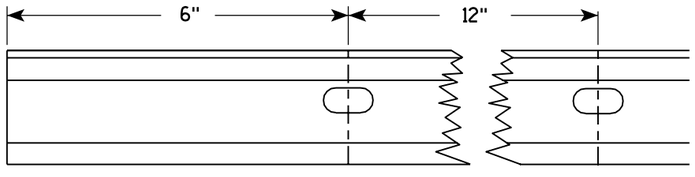
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 430	E

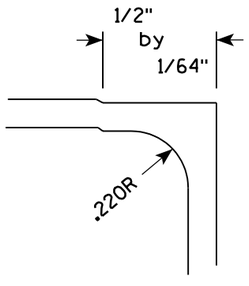
Extruded Shape







Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

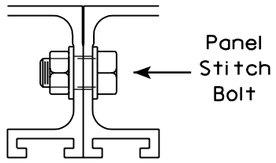


Hardware

STITCH BOLT, WASHER & NUT

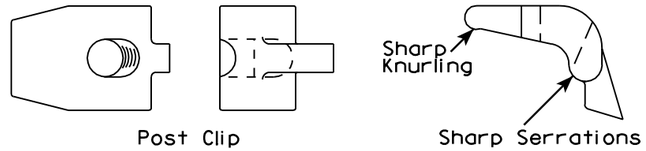
The hardware includes:

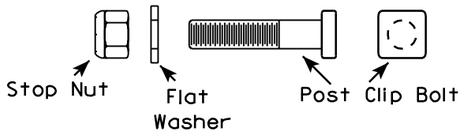
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spagg
for State Traffic Engineer

DATE 11/18/99 PLATE NO. A5-2.9

PROJECT NO:

SHEET NO: 431 E

FILE NAME : C:\Users\Projects\tr_stdplate\A52.DGN PLOT DATE : 28-SEP-2005 07:20 PLOT BY : DOTDZK

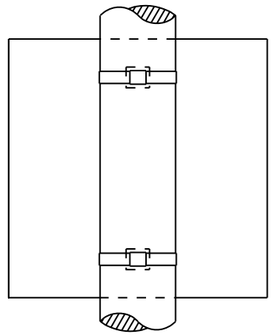
WISDOT/CADDS SHEET 42

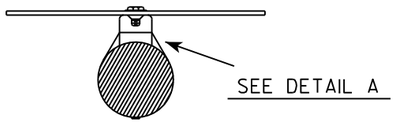
7

7

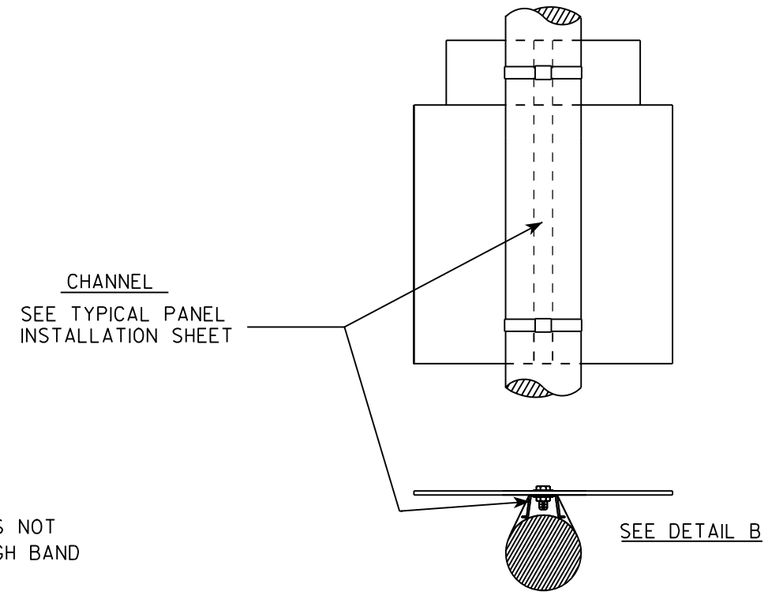
BANDING

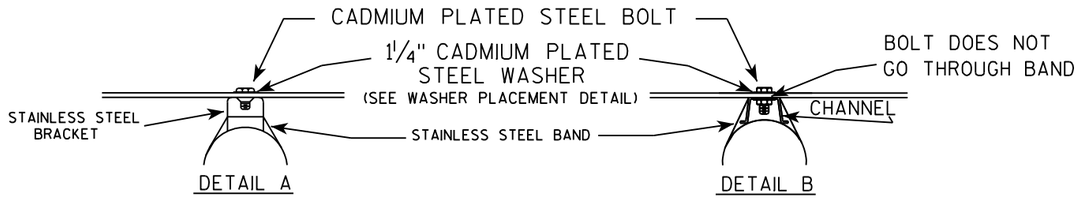
SINGLE SIGN



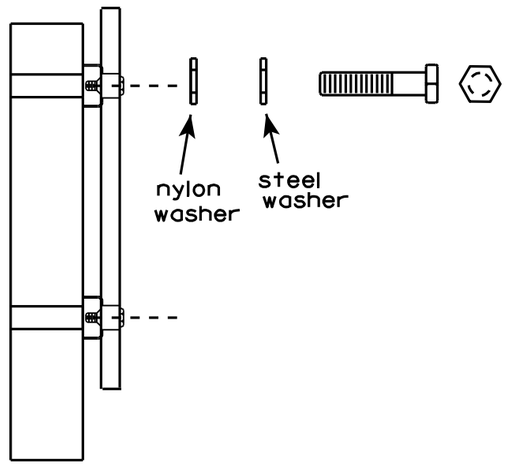


"J" ASSEMBLY





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.

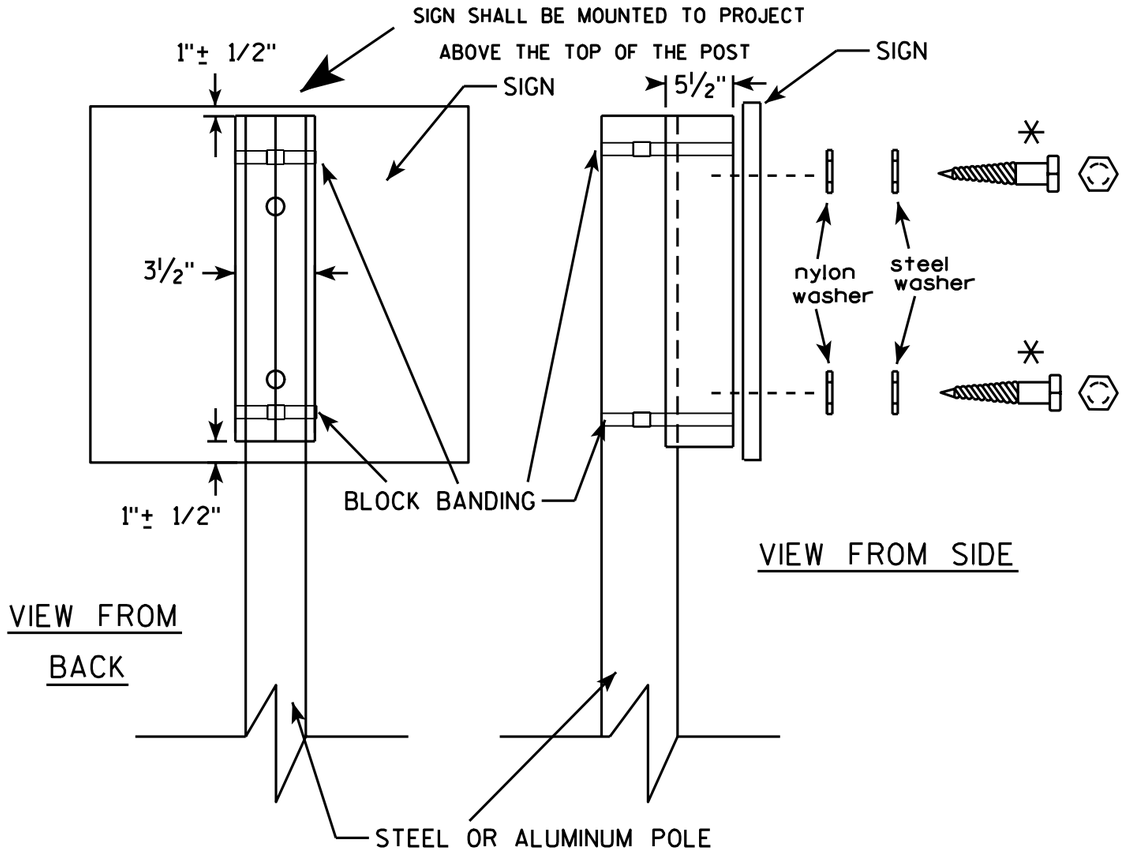
STANDARD SIGN
SIGN BANDING DETAILS

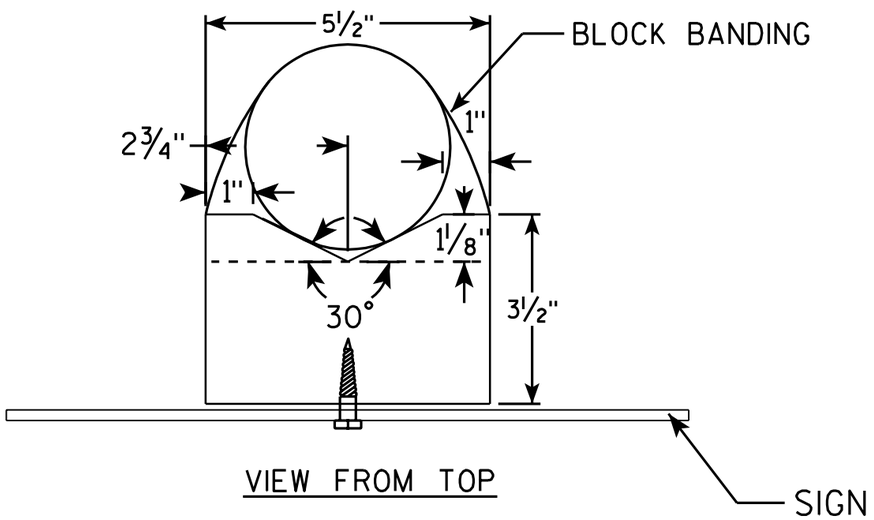
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 432	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)

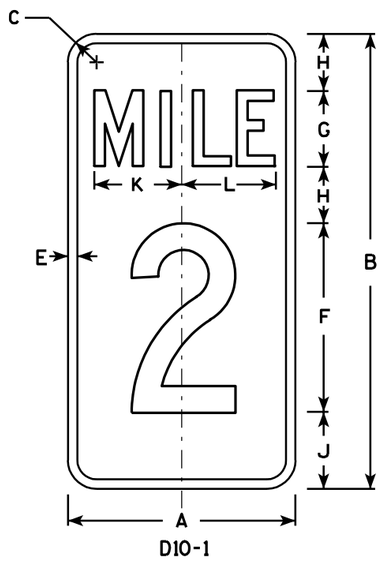
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

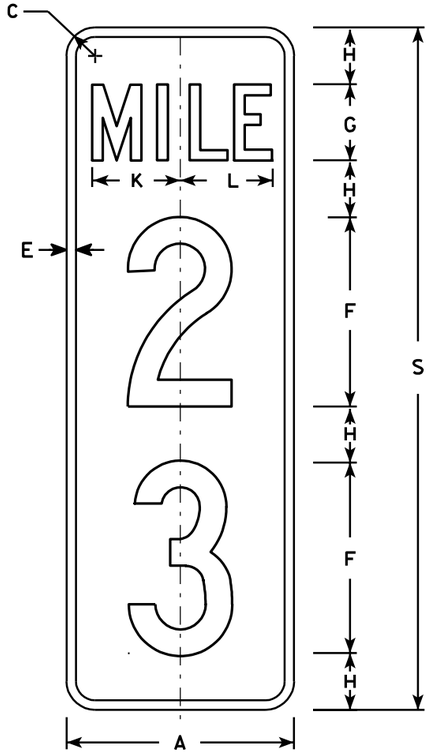
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

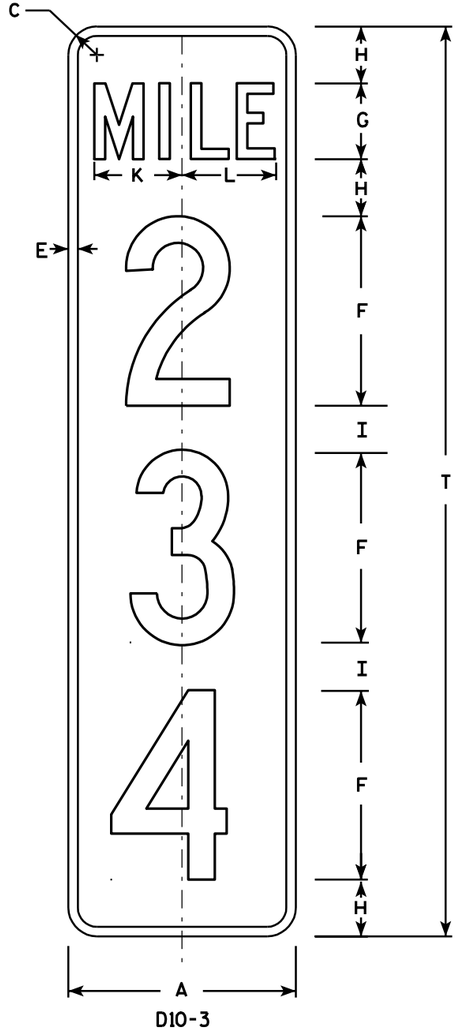
SHEET NO: 433 E



D10-1



D10-2



D10-3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White - Type H Reflective
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. Optically adjust numerals about the centerline of the sign to achieve proper balance.

Metric equivalent for this sign is:

PHY. SIZE	
12 X 24	300 mm X 600 mm
12 X 36	300 mm X 900 mm
12 X 48	300 mm X 1200 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
1																										
2																										
3																										
4	12	24	1 ½		½	10	4	3	2 ½	4	4 ⅝	4 ⅞							36	48						
5	12	24	1 ½		½	10	4	3	2 ½	4	4 ⅝	4 ⅞							36	48						

D10-1	D10-2	D10-3
Area sq. ft.	Area sq. ft.	Area sq. ft.
2.0	3.0	4.0
Area m2	Area m2	Area m2
.19	.28	.38

STANDARD SIGN
D10-1 , D10-2 & D10-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for Director, Office of Traffic

DATE 1/16/02 PLATE NO. D10-3.2

PROJECT NO:

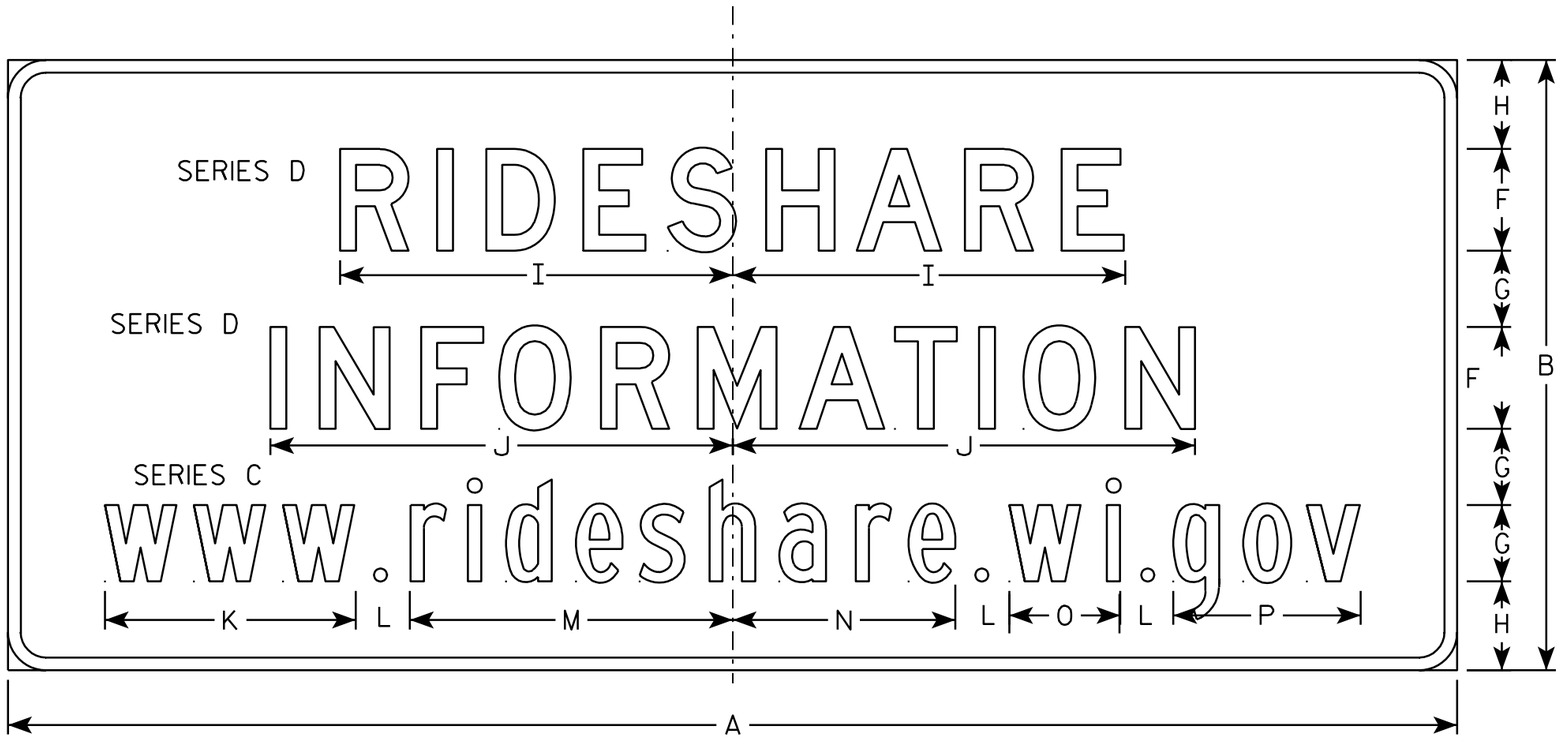
SHEET NO: 434 E

FILE NAME : C:\Users\Projects\tr_stdplate\D103.DGN PLOT DATE : 28-SEP-2005 08:20 PLOT BY : DOTDZK

WISDOT/CADDS SHEET 42

7

7



D12-2B

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Blue
   Message - White
3. Message Series - Lines 1 & 2 are Series D and Line 3 is 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	
2	2100 mm X 900 mm
3	
4	2850 mm X 1200 mm
5	2850 mm X 1200 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	84	36	2 1/4		3/4	6	4 1/2	5 1/4	24 1/4	28 5/8	14 3/4	3	19	13 1/8	6 1/2	11											21.0	1.90
3																												
4	114	48	3		1	8	6	7	30 7/8	36 3/8	19 3/4	4 1/4	25 3/8	17 1/2	8 3/4	14 3/4											38.0	3.42
5	114	48	3		1	8	6	7	30 7/8	36 3/8	19 3/4	4 1/4	25 3/8	17 1/2	8 3/4	14 3/4											38.0	3.42

STANDARD SIGN
D12-2B

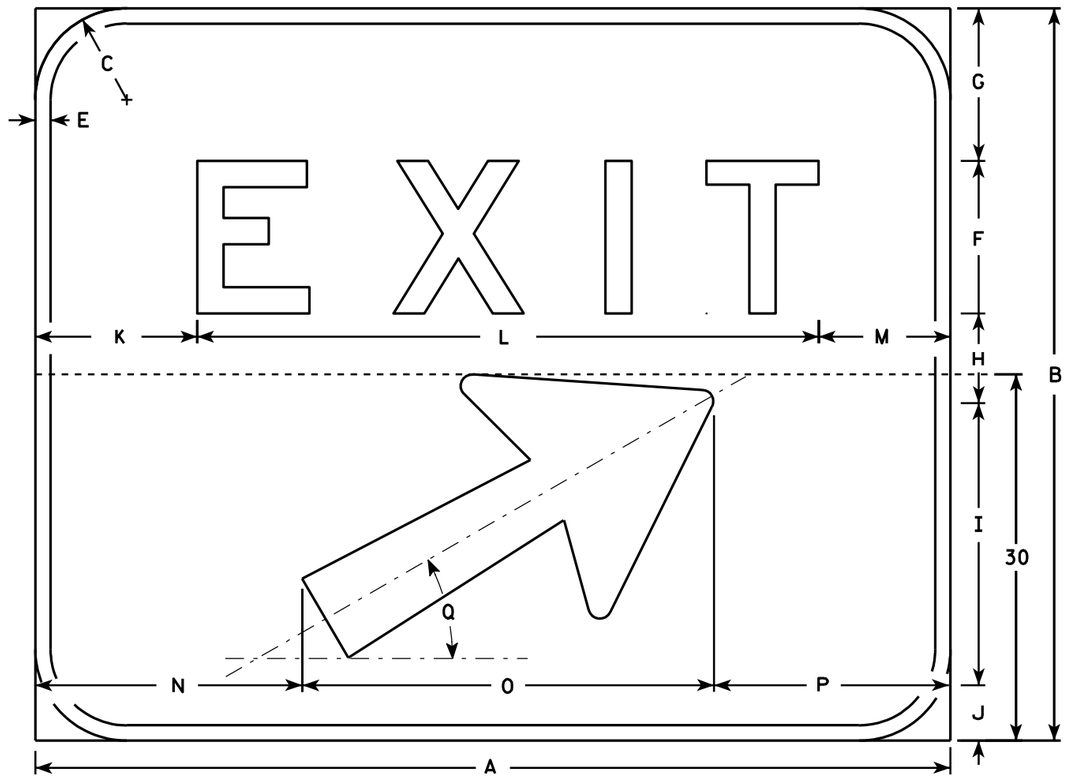
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/04/08 PLATE NO D12-2B.2

PROJECT NO:

SHEET NO: 435 E



E5-1

NOTES

1. Sign is Type II - Type H reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White (Type H reflective)
3. Message Series - E
4. Corners may be square or rounded but borders shall be rounded as shown.
5. Base material for this sign shall be plywood and shall be split into two seperate pieces for the 72 x 60 size as shown on the detail by the dashed line (----------).
6. Arrow is Type "A" from sign plate A1-1.
7. As per the Standard Spec's, this sign shall not have a vertical joint.

Metric equivalent for this sign is:

SIZE	
1	
2	
3	
4	1500 mm X 1200 mm
5	1800 mm X 1500 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																												
3																												
4	60	48	6		1	10	10	5 7/8	18 1/2	3 5/8	10 5/8	40 3/4	8 5/8	17 1/2	27	15 1/2	30°										20.0	1.80
5	72	60	6		1	12	12	10	18 1/2	7 1/2	13 1/4	48 1/2	10 1/4	23 1/2	27	21 1/2	30°										30.0	2.70

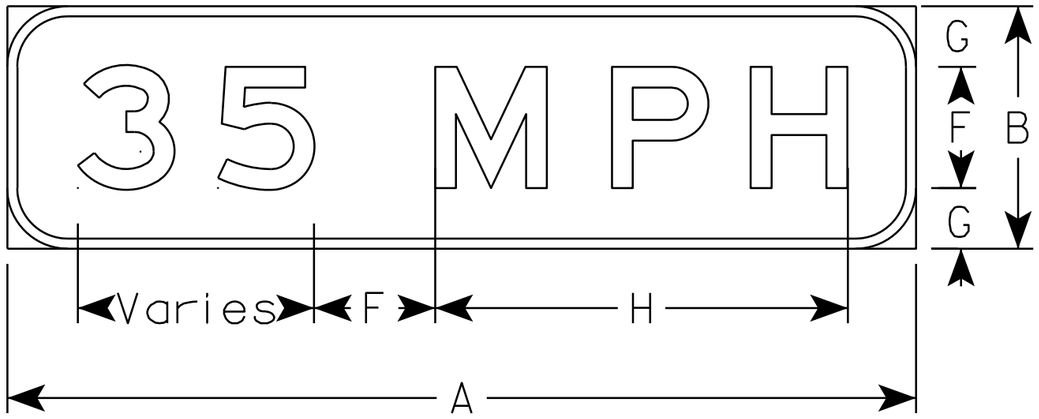
STANDARD SIGN
E5 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

DATE 6/22/00 PLATE NO. E5-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 436	E



E13-1P

NOTES

1. Panel is - Type F reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - E
4. The panel shown on this plate is for use with E5-1A.
5. Width, Radius and Border thickness shall match the E5-1A.
6. Substitute appropriate numerals and adjust placement to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	VARIES	24				12	6	40 7/8																			VARIES
2M																											
3																											
4																											
5																											

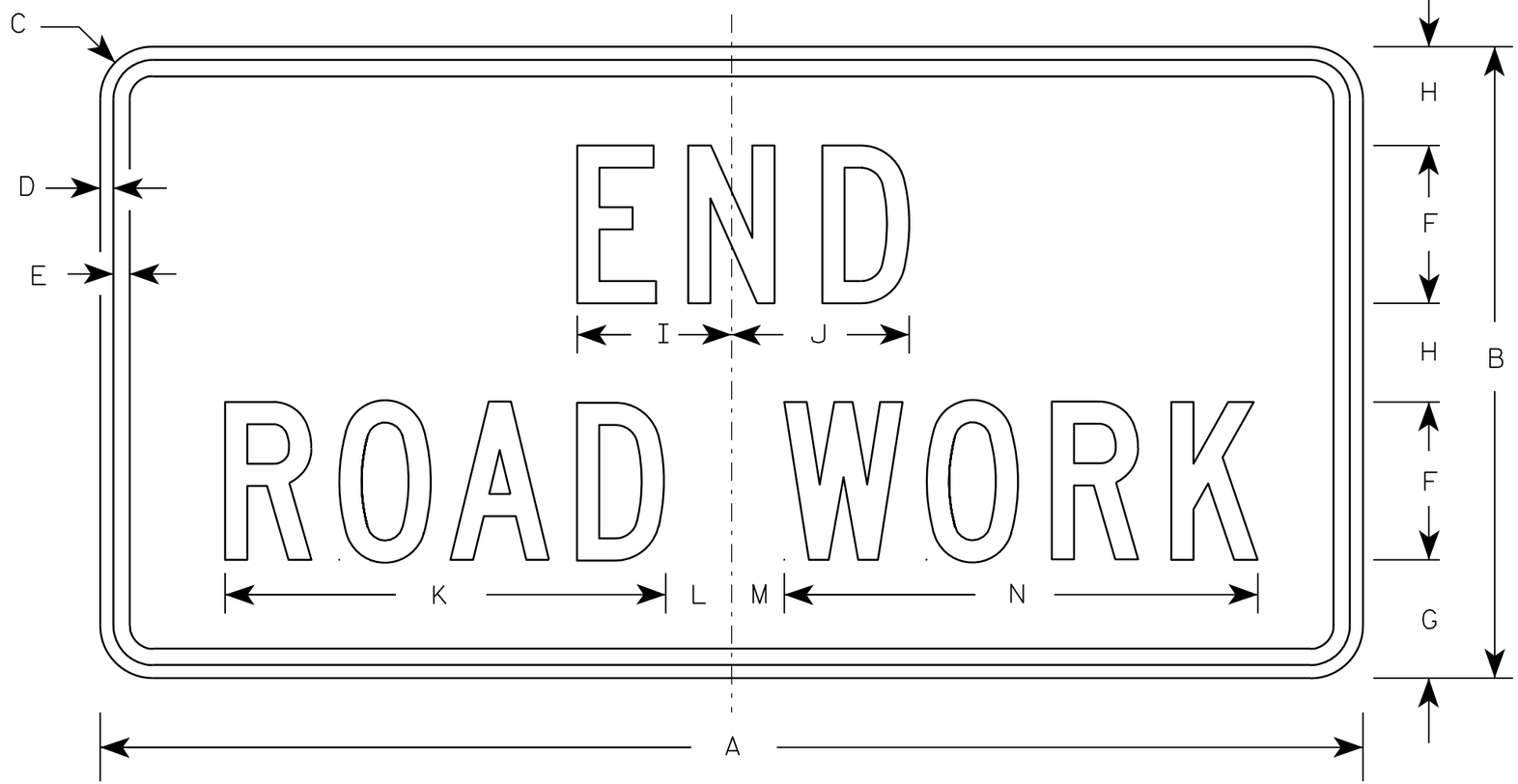
STANDARD SIGN
E13-1P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/5/2012 PLATE NO. E13-1P.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 437	E



G20-2A

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

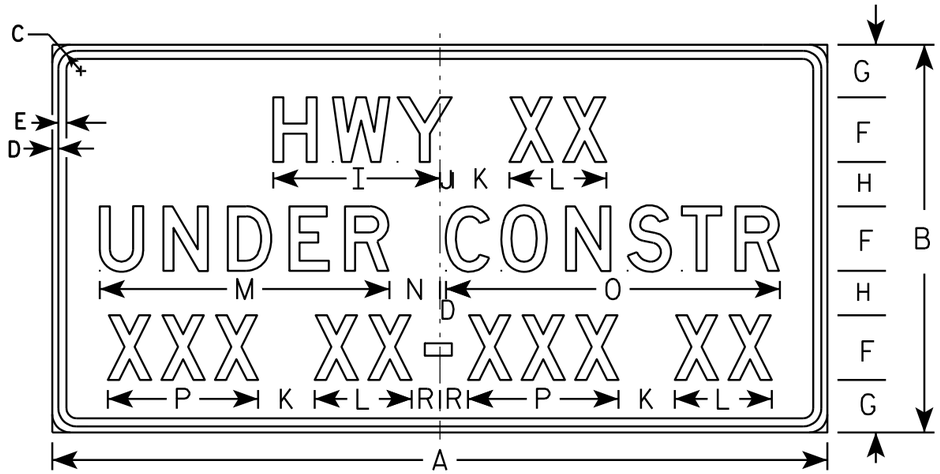
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 438	E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Substitute appropriate numeral and adjust spacing to achieve proper balance.



G20-57

Metric equivalent for this sign is:

SIZE	
1	
2	
3	
4	2400 mm X 1200 mm
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.	Area m2
1																												
2																												
3																												
4	96	48	2 1/4	3/4	1	8	6 1/2	5 1/2	20 5/8	1 5/8	7	12	35 7/8	6 1/4	41 3/8	18 5/8		3 1/2									32.0	2.88
5																												

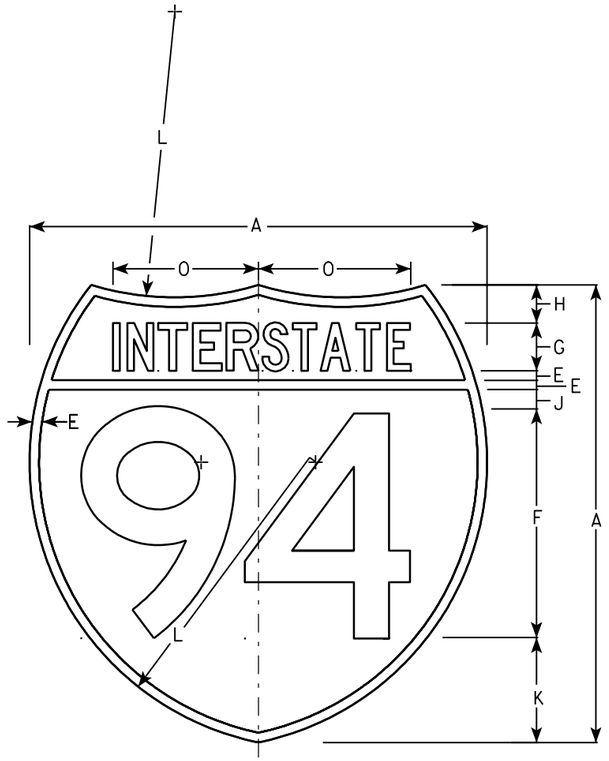
STANDARD SIGN
G20-57

WISCONSIN DEPT OF TRANSPORTATION

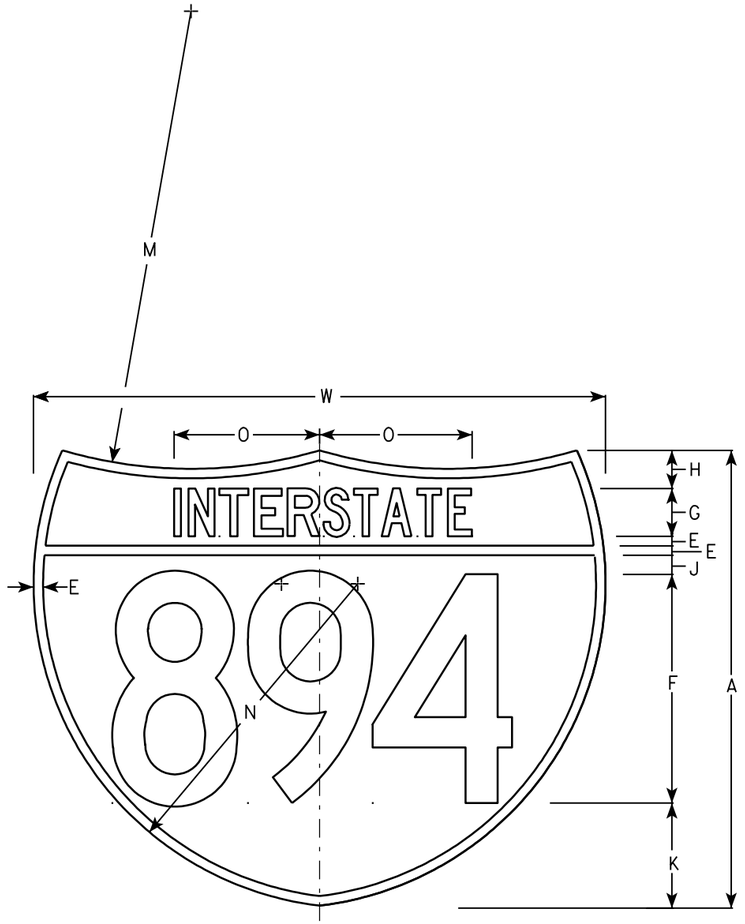
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/13/09 PLATE NO. G20-57.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 439	E



M1-1



M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 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	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

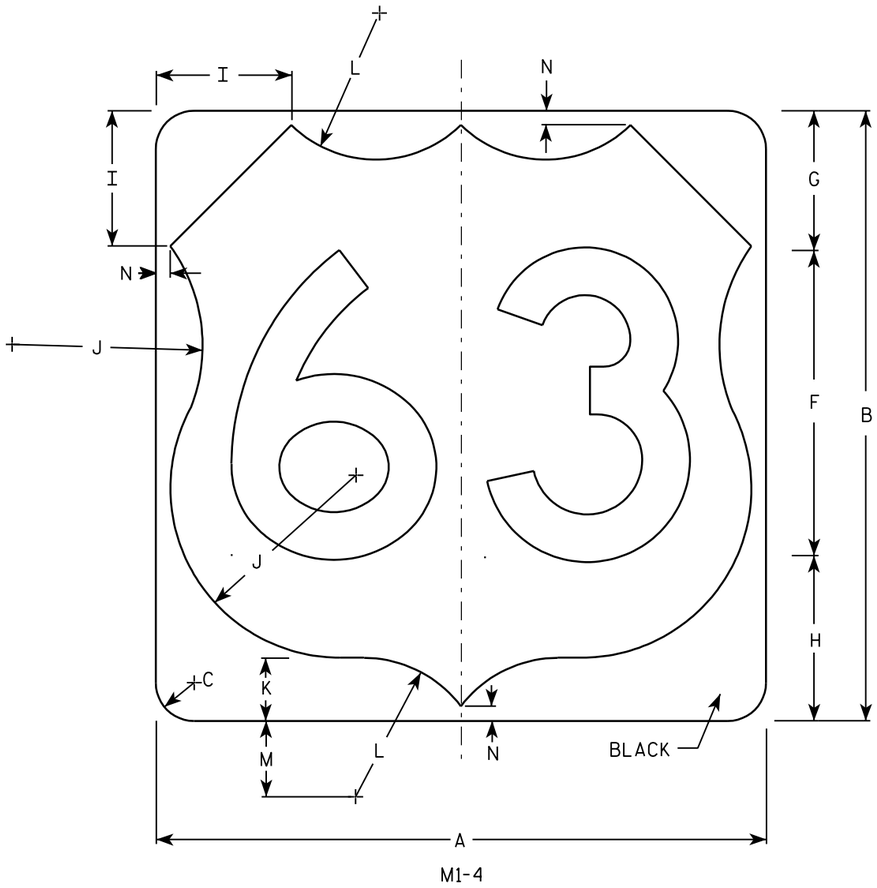
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

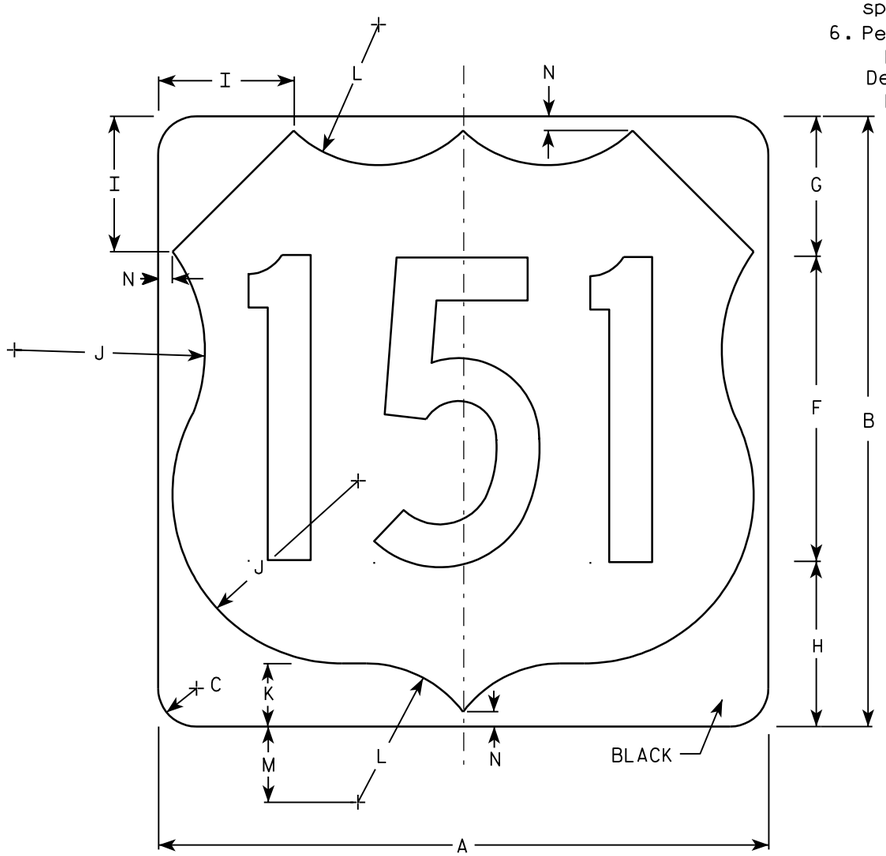
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 440	E

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

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	Areq. 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

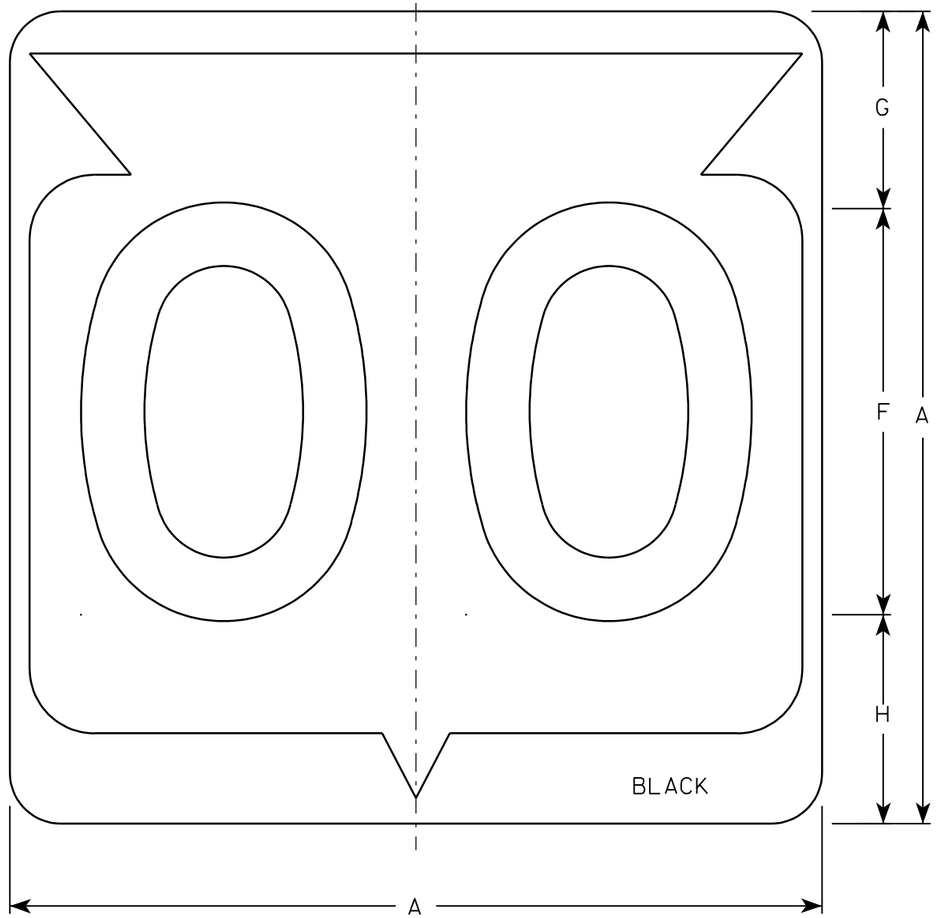
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/25/05 PLATE NO. M1-4.9

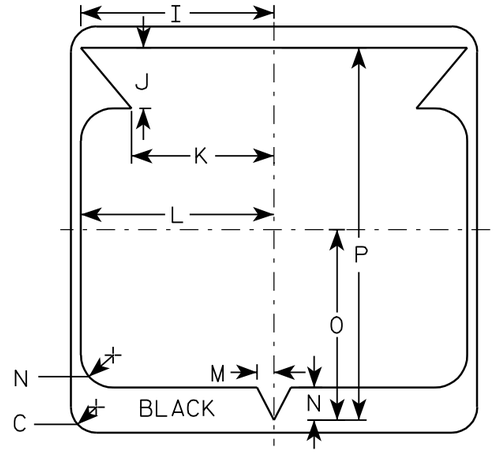
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 441 | E



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

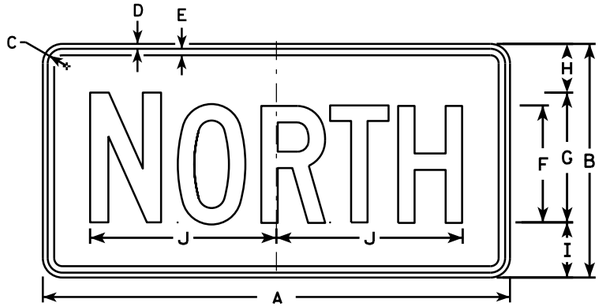
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

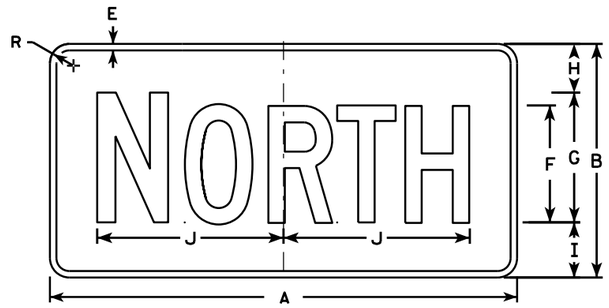
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 442	E

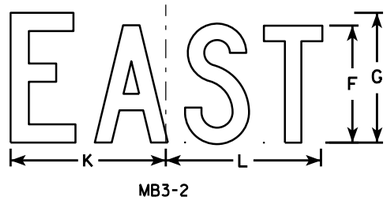


M3-1
MK3-1
MM3-1
MN3-1

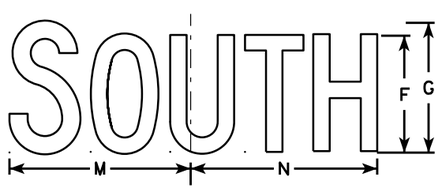


MB3-1

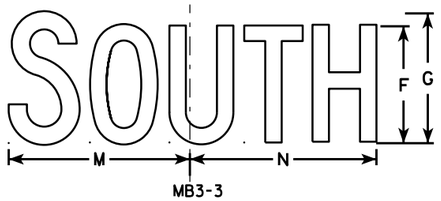
M3-2
MK3-2
MM3-2
MN3-2



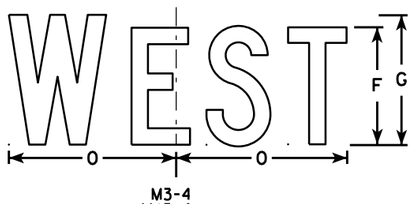
MB3-2



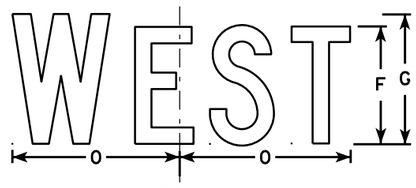
M3-3
MK3-3
MM3-3
MN3-3



MB3-3



M3-4
MK3-4
MM3-4
MN3-4



MB3-4

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
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

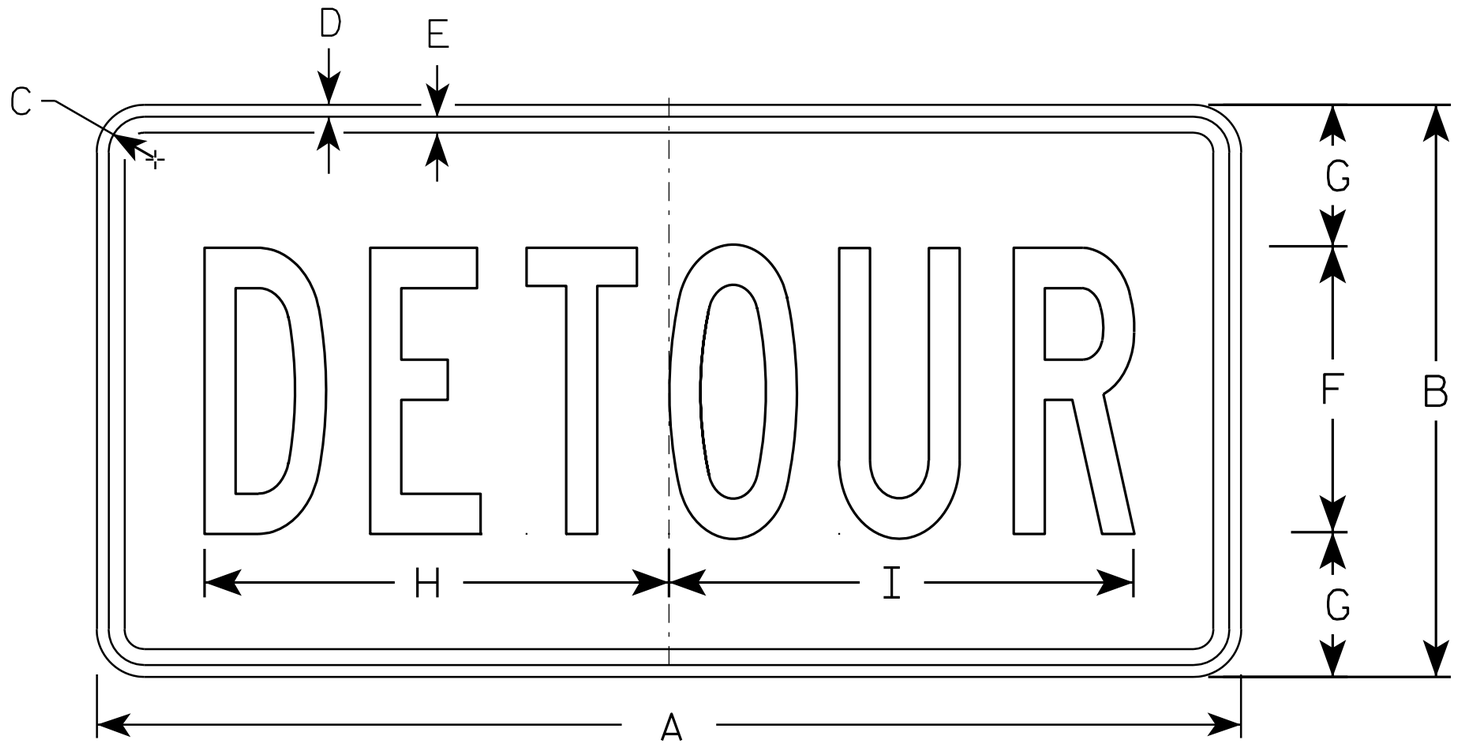
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/30/14 PLATE NO M3-1.13

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

7



M4-8

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

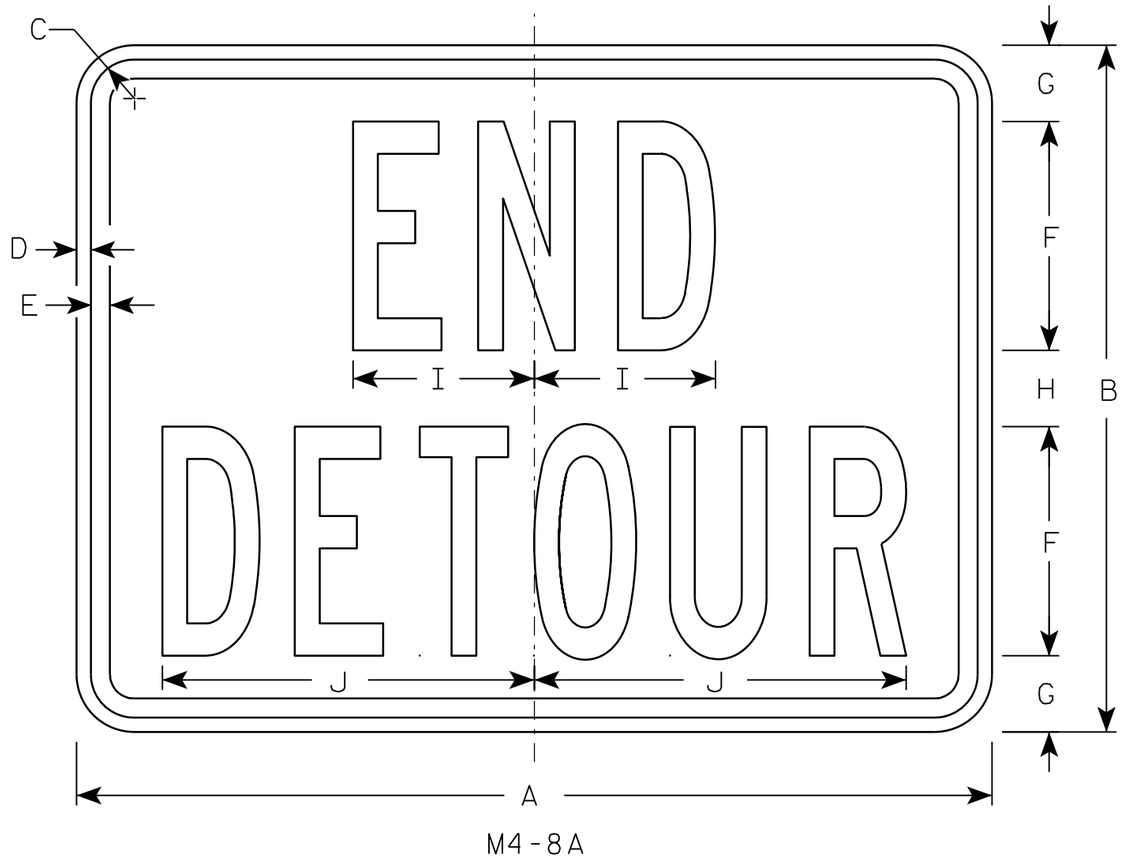
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 444	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																											

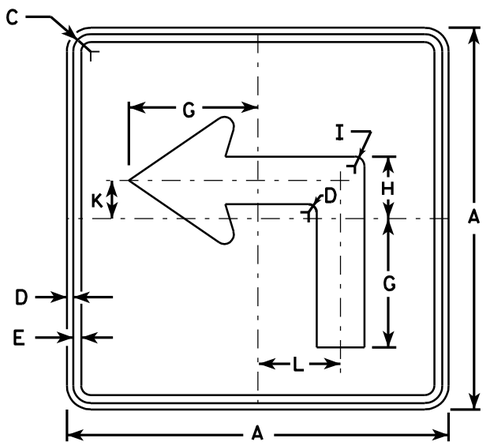
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

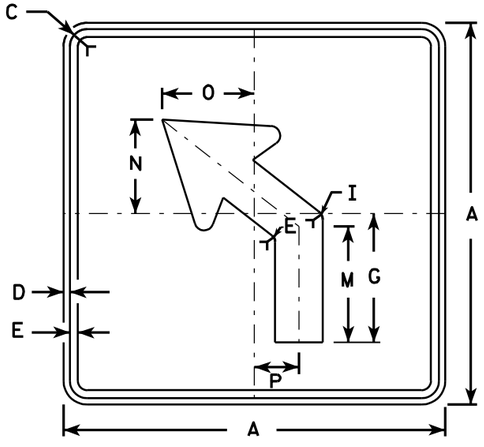
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

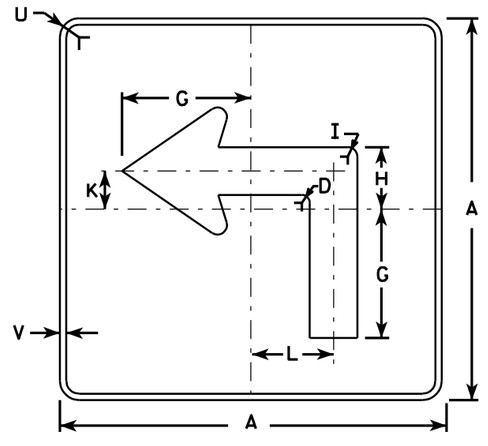
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 445	E



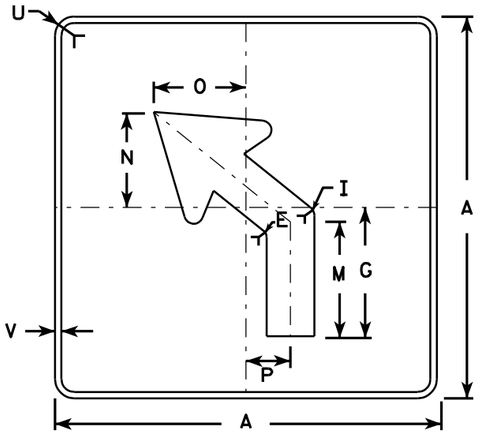
M5-1L
MK5-1L
MM5-1L
MO5-1L
MP5-1L
MR5-1L



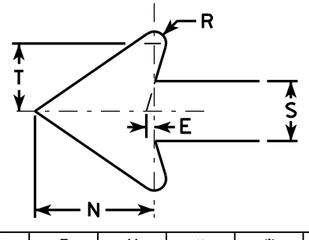
M5-2L
MK5-2L
MM5-2L
MO5-2L
MP5-2L
MR5-2L



MB5-1L
MG5-1L
MN5-1L



MB5-2L
MG5-2L
MN5-2L



NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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 - Type H Reflective
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White - Type H Reflective
   MG5-1 and MG5-2 Background - Green
   Message - White - Type H Reflective
   MK5-1 and MK5-2 Background - Green
   Message - White Type H Reflective
   MM5-1 and MM5-2 Background - White - Type H Reflective
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White - Type H Reflective
   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 - Type H Reflective
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 1/8	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 1/8	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 1/8	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

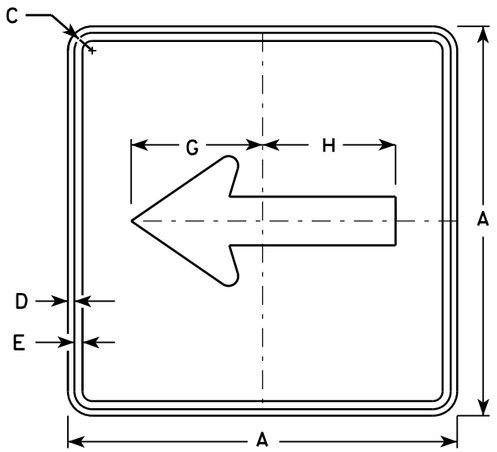
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

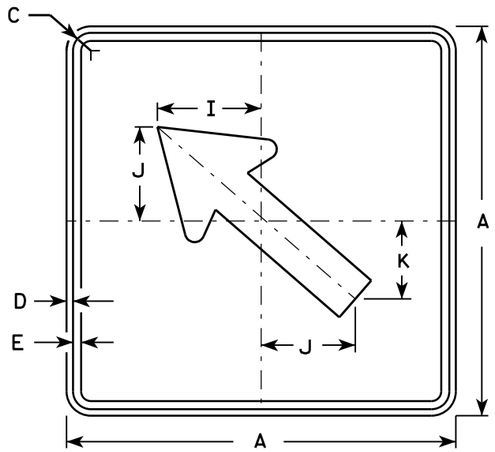
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M5-1.12

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 446 | E



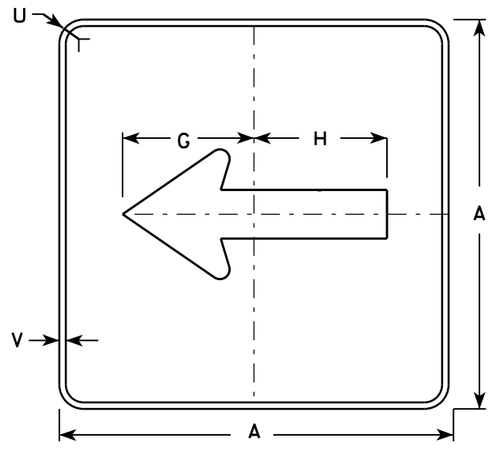
M6-1
MK6-1
MM6-1
MN6-1
MO6-1
MP6-1
MR6-1



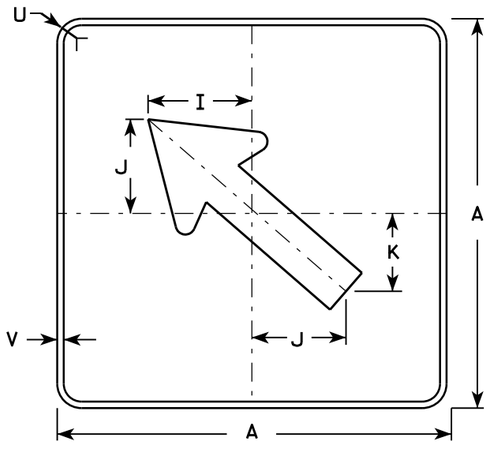
M6-2
MK6-2
MM6-2
MN6-2
MO6-2
MP6-2
MR6-2

NOTES

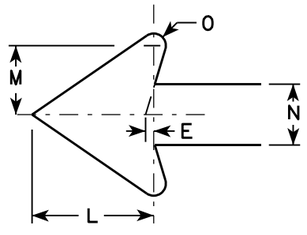
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MG6-1 and MG6-2 Background - Green
   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



MB6-2



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

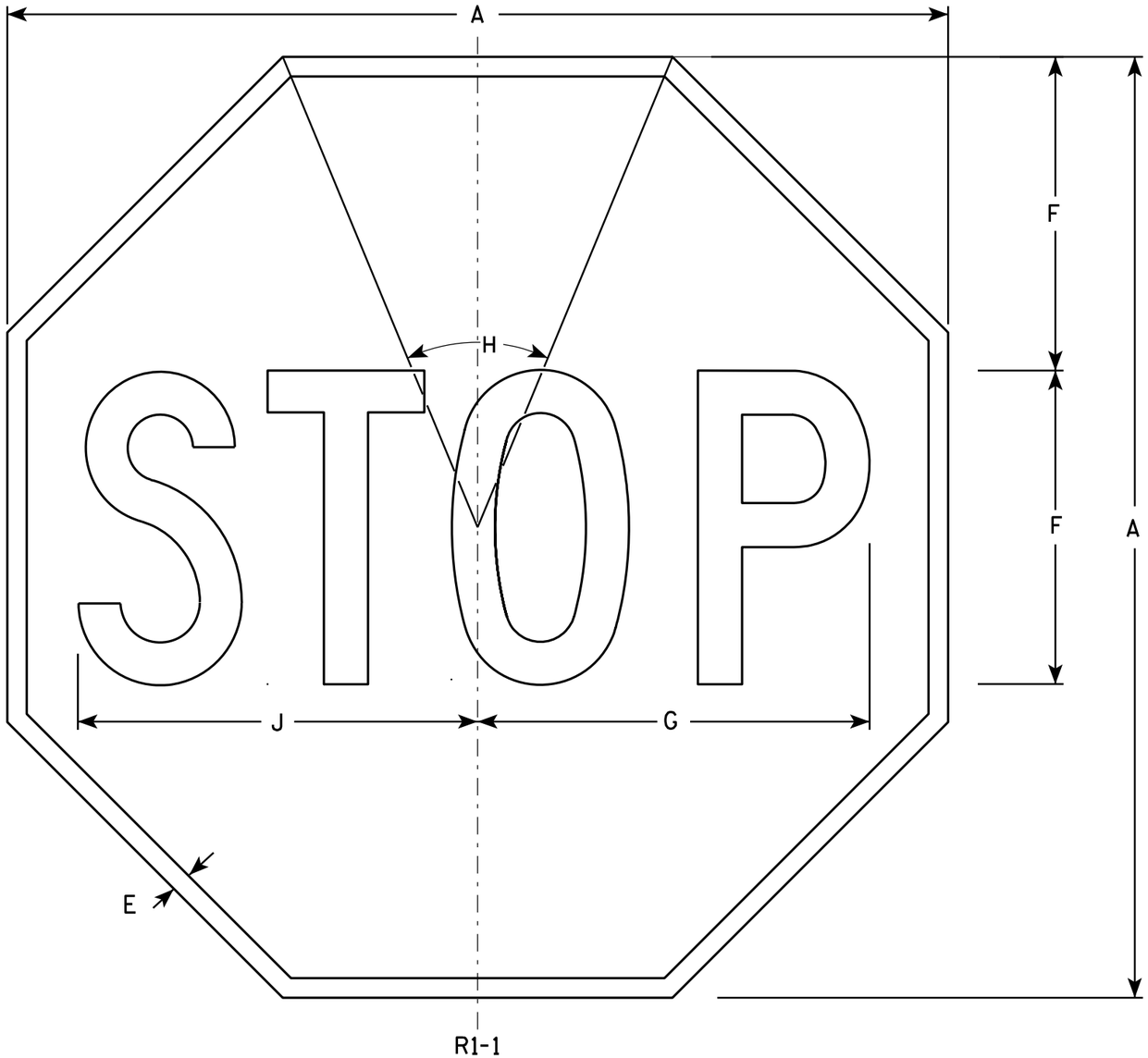
STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/03/14 PLATE 447 M6-1.14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

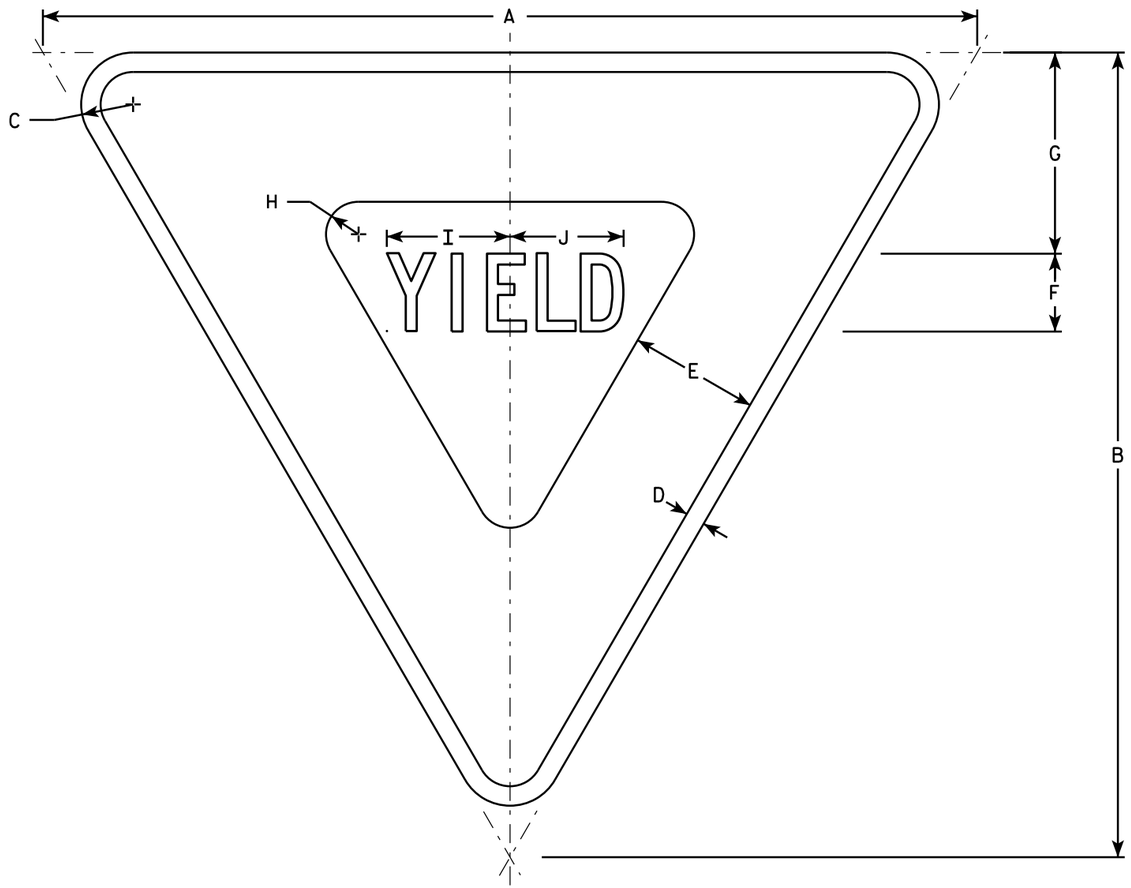
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 448	E



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

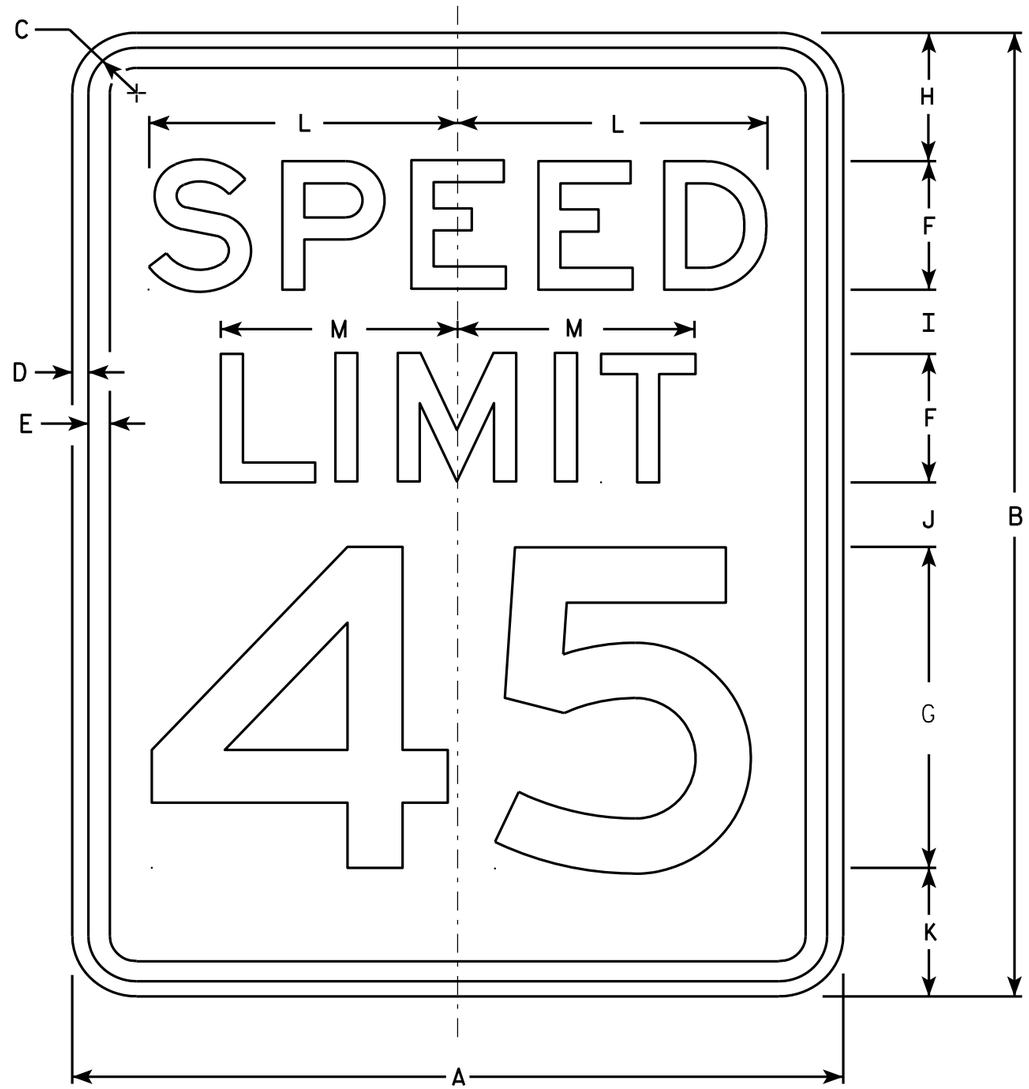
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE P1-2.12

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



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

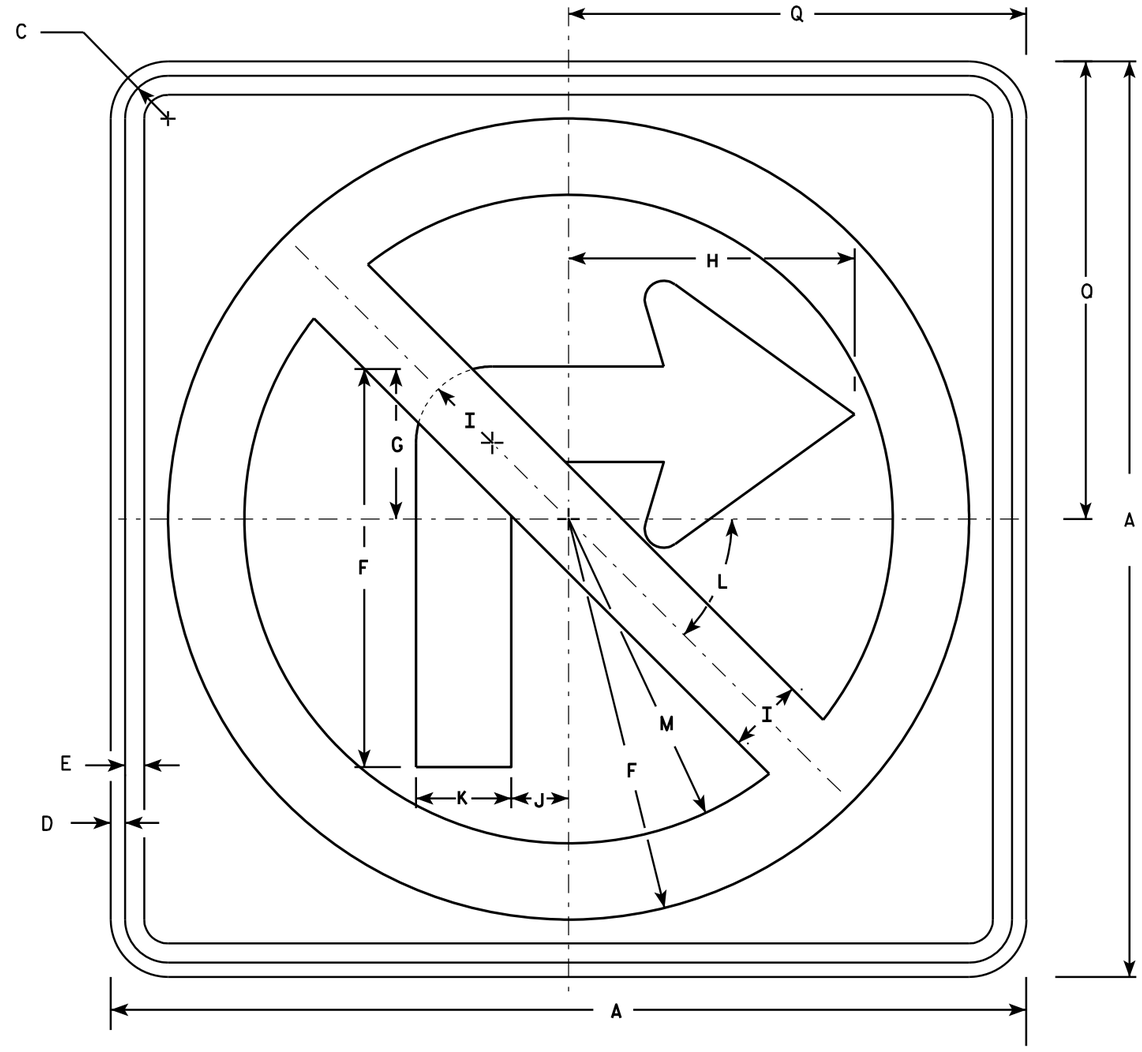
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

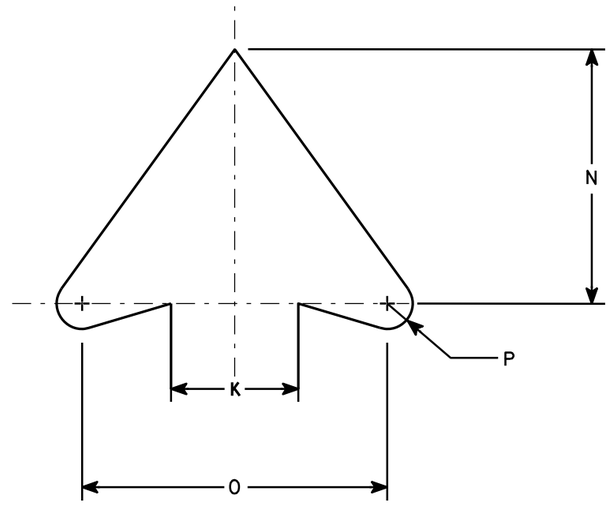
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 450	E



R3-1

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 - 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	12										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	12										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	18										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	18										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	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

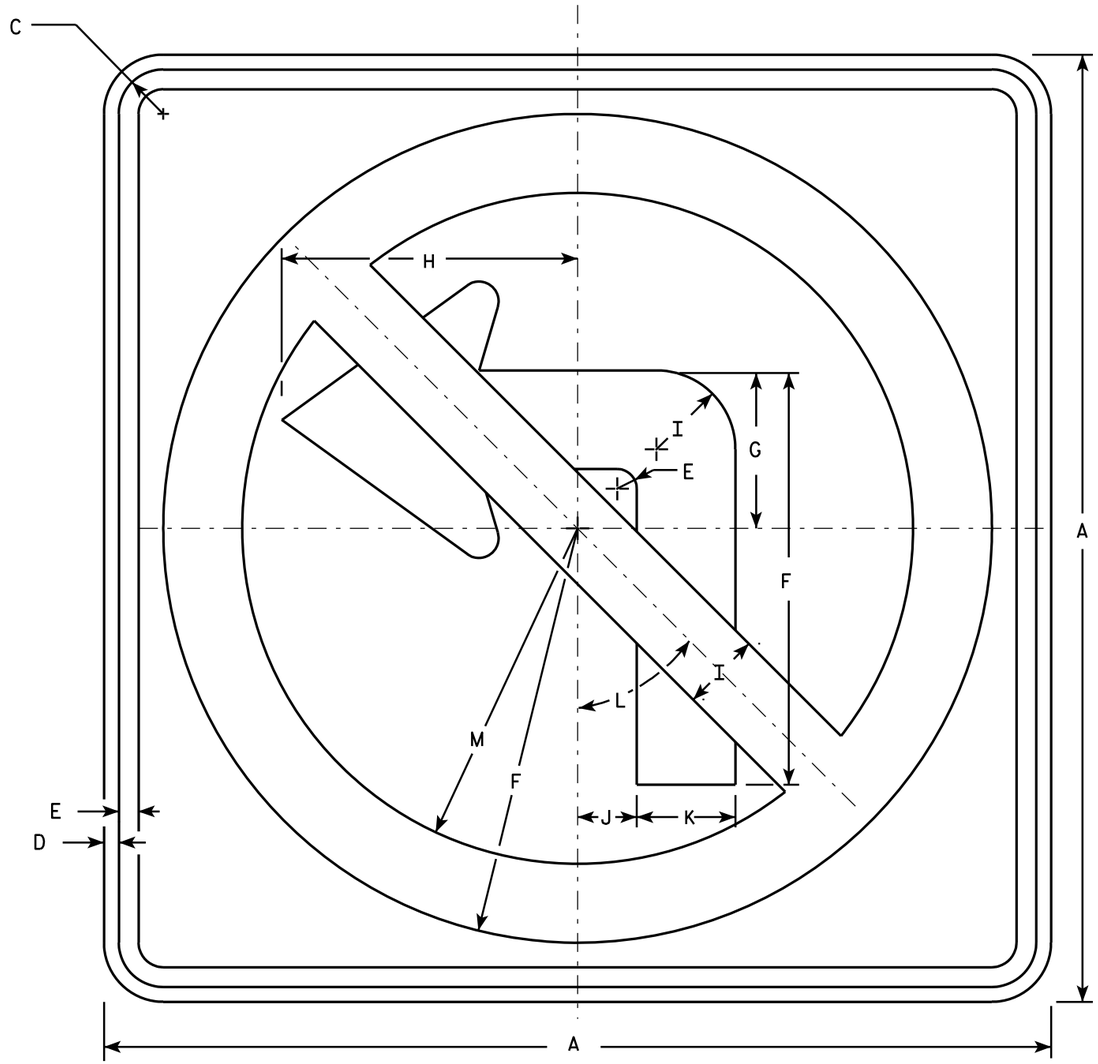
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

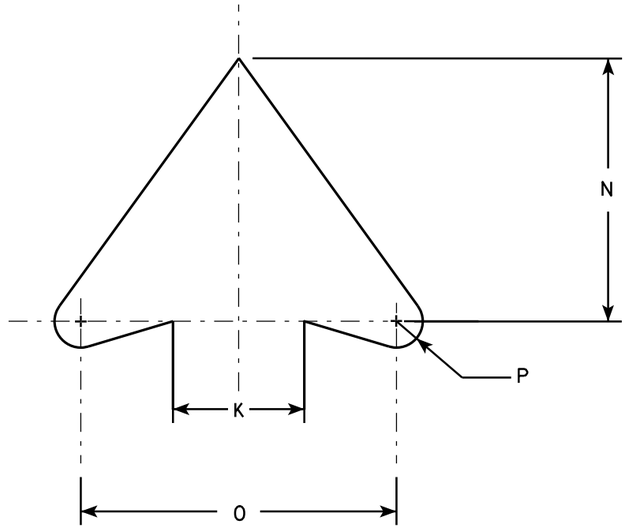
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 451	E



R3-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

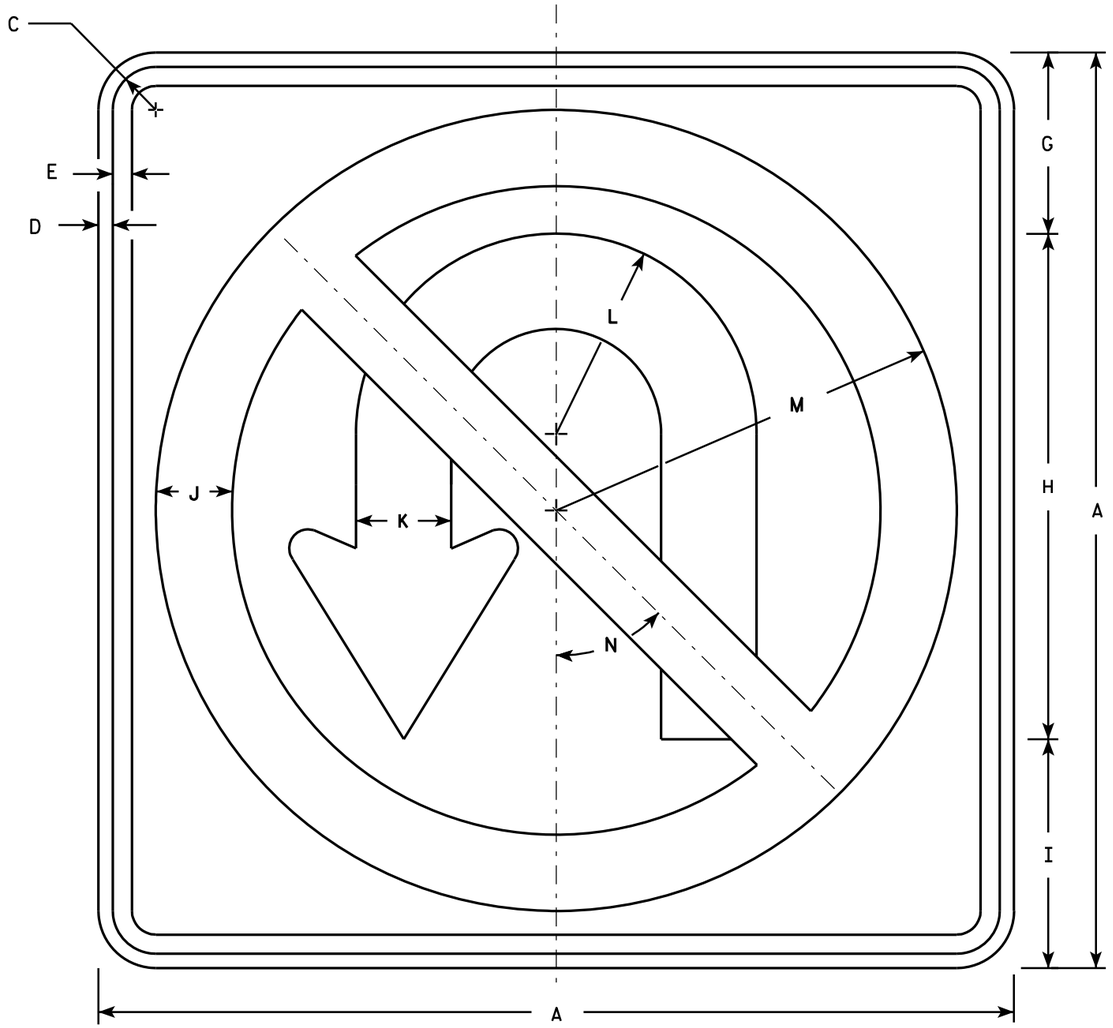
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 452	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R32.DGN PLOT DATE : 08-DEC-2010 14:41 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 5.760408:1.000000

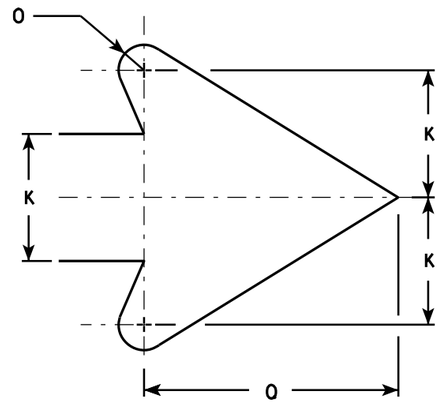
WISDOT/CADDS SHEET 42



R3-4

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2		4 3/4	13 1/4	6	2	2 1/2	5 1/4	10 1/2	45°	1/2		5										4.0
2M	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
3	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
4	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
5	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0

STANDARD SIGN
R3-4

WISCONSIN DEPT OF TRANSPORTATION

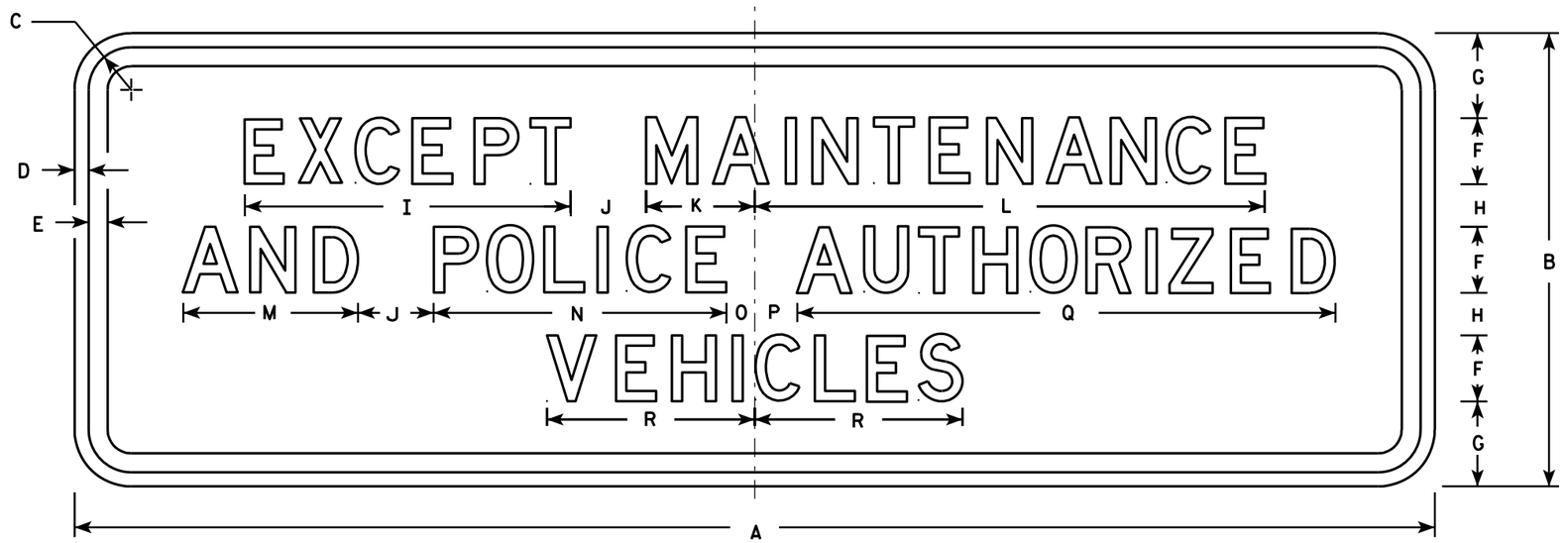
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-4.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 453	E

NOTES

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



R3-4A

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S																											
2M																											
3																											
4	36	12	1 3/8	1/2	3/8	1 3/4	2 1/4	1 1/8	8 5/8	2	2 7/8	13 1/2	4 5/8	7 3/4	3/4	1 1/8	14 1/4	5 1/2									3.0
5	36	12	1 3/8	1/2	3/8	1 3/4	2 1/4	1 1/8	8 5/8	2	2 7/8	13 1/2	4 5/8	7 3/4	3/4	1 1/8	14 1/4	5 1/2									3.0

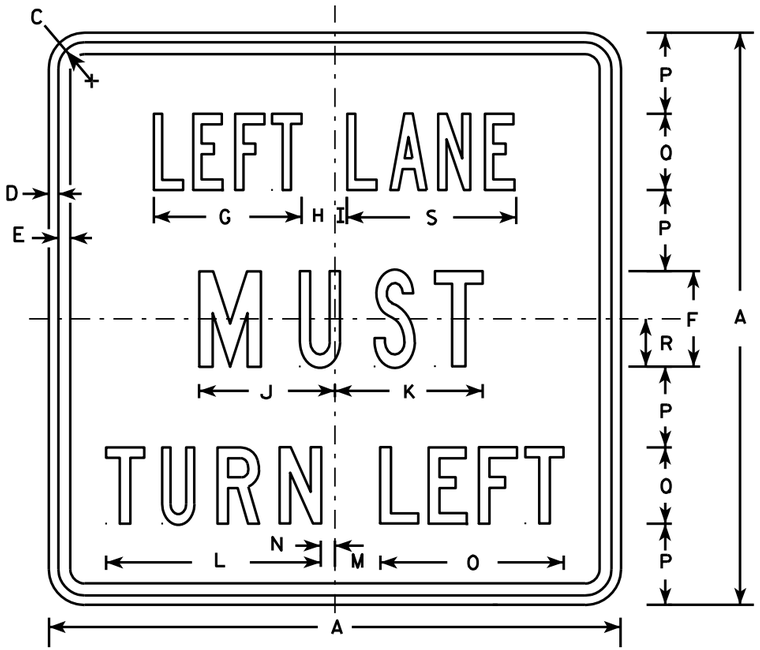
STANDARD SIGN
R3-4A

WISCONSIN DEPT OF TRANSPORTATION

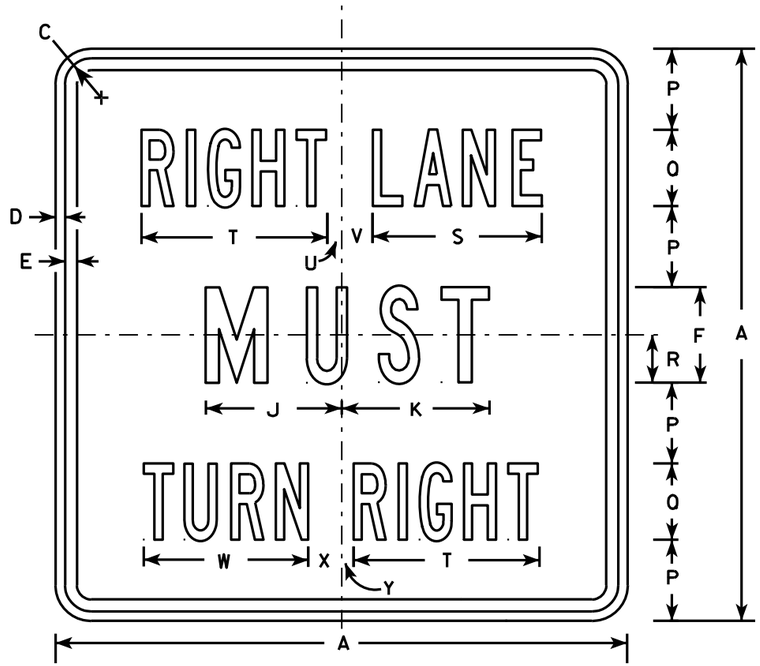
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/17/2011 PLATE NO. R3-4A.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 454	E



R3-7L



R3-7R

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 - Line 1 is Series B.
   Line 2 is Series C.
   Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
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	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2S	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2M	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
3	36		1 5/8	5/8	3/4	6	9 5/8	2	1 1/8	8 3/4	9	13 1/2	3 7/8	1 1/2	12 1/2	5	5	3	10 5/8	12	7/8	2 1/4	10 5/8	2 1/8	1		9.00
4	48		2 1/4	3/4	1	8	13 1/2	2 3/8	1 1/2	11 1/2	11 7/8	17 3/4	3 5/8	2 1/2	16 3/8	6 1/2	7	4	14 3/8	16 7/8	5/8	3 1/4	15 1/8	2 3/4	1 1/8		16.00
5																											

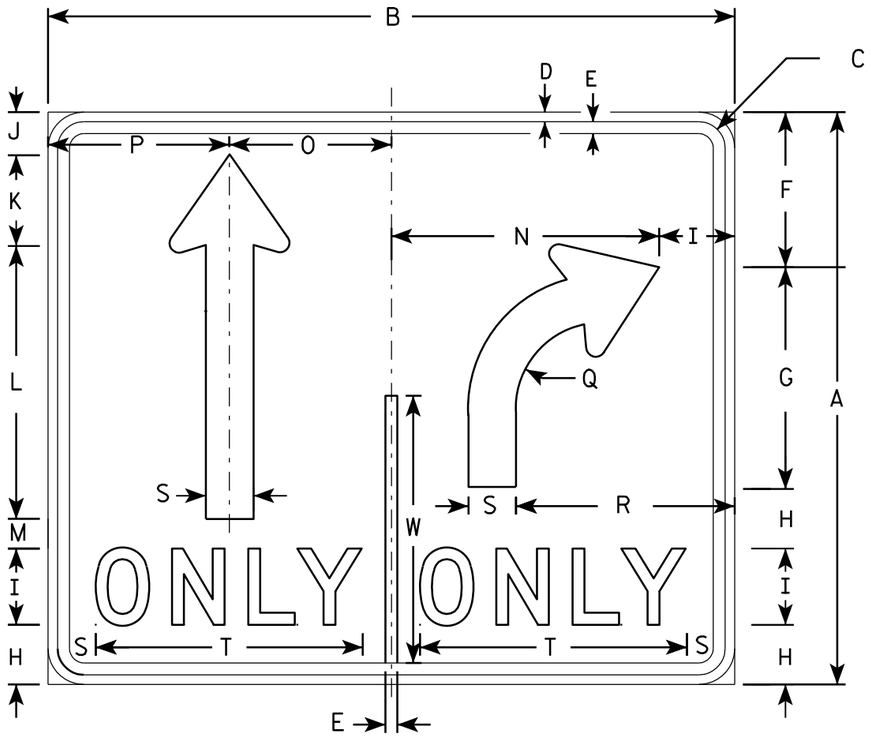
STANDARD SIGN
R3-7L & R3-7R

WISCONSIN DEPT OF TRANSPORTATION

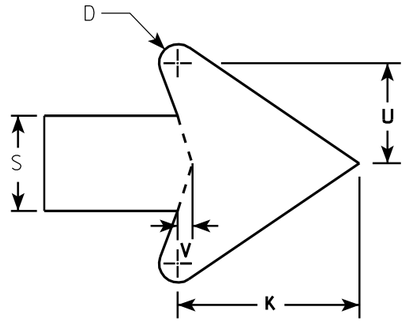
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-7.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 455 | E



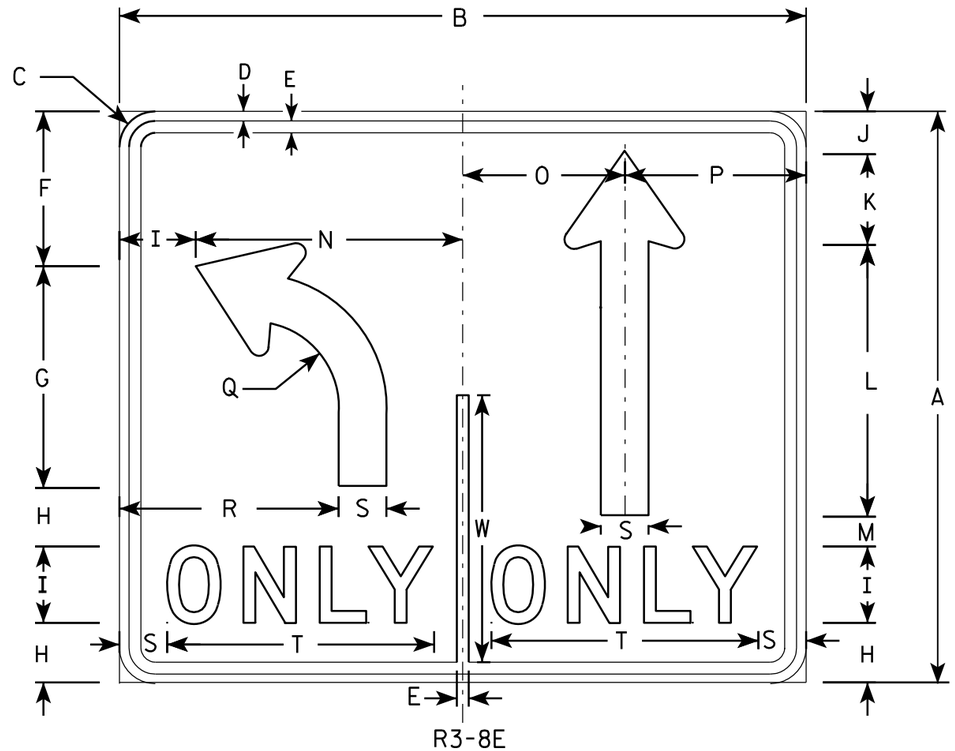
R3-8D



ARROW DETAIL

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.



R3-8E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	14	8 1/2	9 1/2	4 1/2	11 1/2	2 1/2	14	2 5/8	3/8	14				7.5
2M	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	14	8 1/2	9 1/2	4 1/2	11 1/2	2 1/2	14	2 5/8	3/8	14				7.5
3																											
4	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	3 1/2	7 1/8	21 1/2	4 3/4	21	12 3/4	14 1/4	7 1/4	17 1/8	3 3/4	20 5/8	4	5/8	22 3/8				18.0
5	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	3 1/2	7 1/8	21 1/2	4 3/4	21	12 3/4	14 1/4	7 1/4	17 1/8	3 3/4	20 5/8	4	5/8	22 3/8				18.0

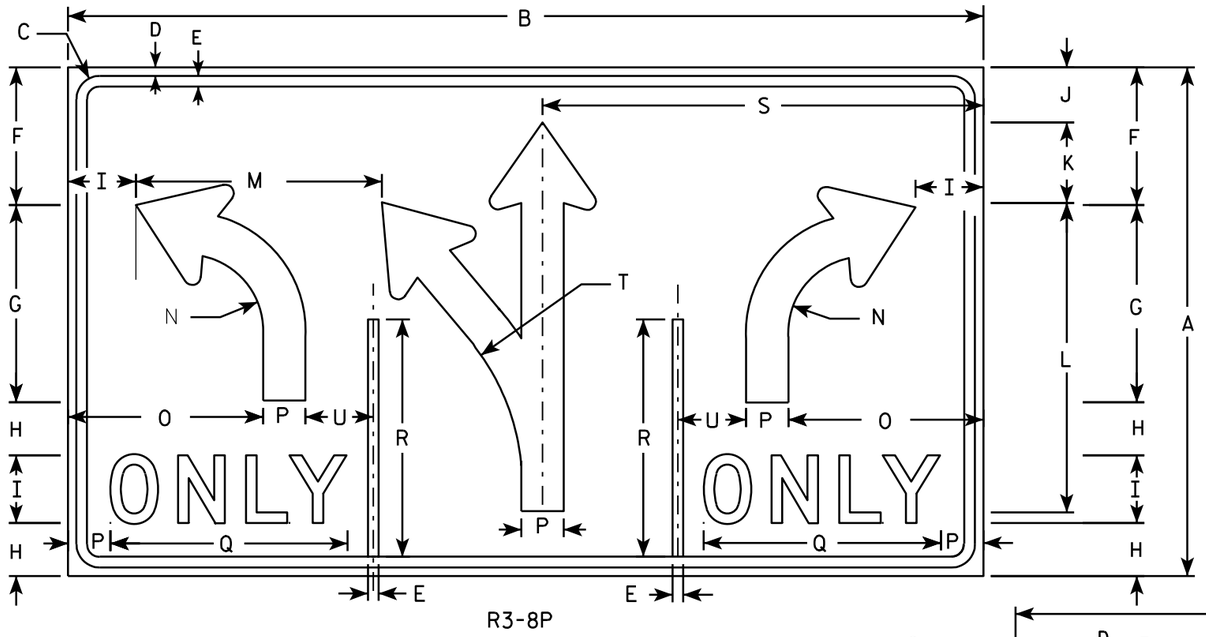
STANDARD SIGN
R3-8D & R3-8E

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-8D.2

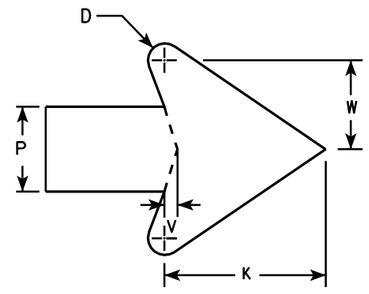
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 456	E



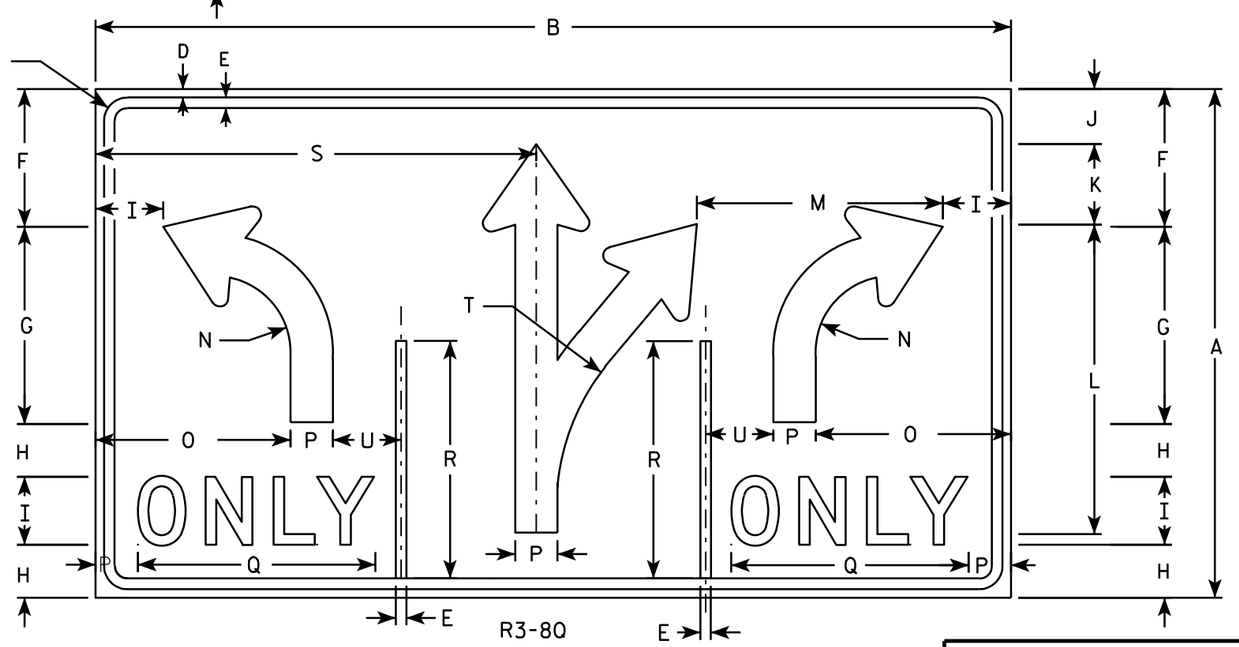
R3-8P

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.



ARROW DETAIL



R3-8Q

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	3 1/4	4 3/4	18 1/4	14 1/2	4 1/2	11 1/2	2 1/2	14	14	26	13 1/4	4	3/8	2 5/8				11.25
2M	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	3 1/4	4 3/4	18 1/4	14 1/2	4 1/2	11 1/2	2 1/2	14	14	26	13 1/4	4	3/8	2 5/8				11.25
3																											
4	48	84	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	5 1/4	7 1/8	29 1/8	22 5/8	7 1/4	17 1/4	3 3/4	20 5/8	22 3/8	40 3/4	21 7/8	7	5/8	4				28.0
5	48	84	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	5 1/4	7 1/8	29 1/8	22 5/8	7 1/4	17 1/4	3 3/4	20 5/8	22 3/8	40 3/4	21 7/8	7	5/8	4				28.0

STANDARD SIGN
R3-8P & R3-8Q

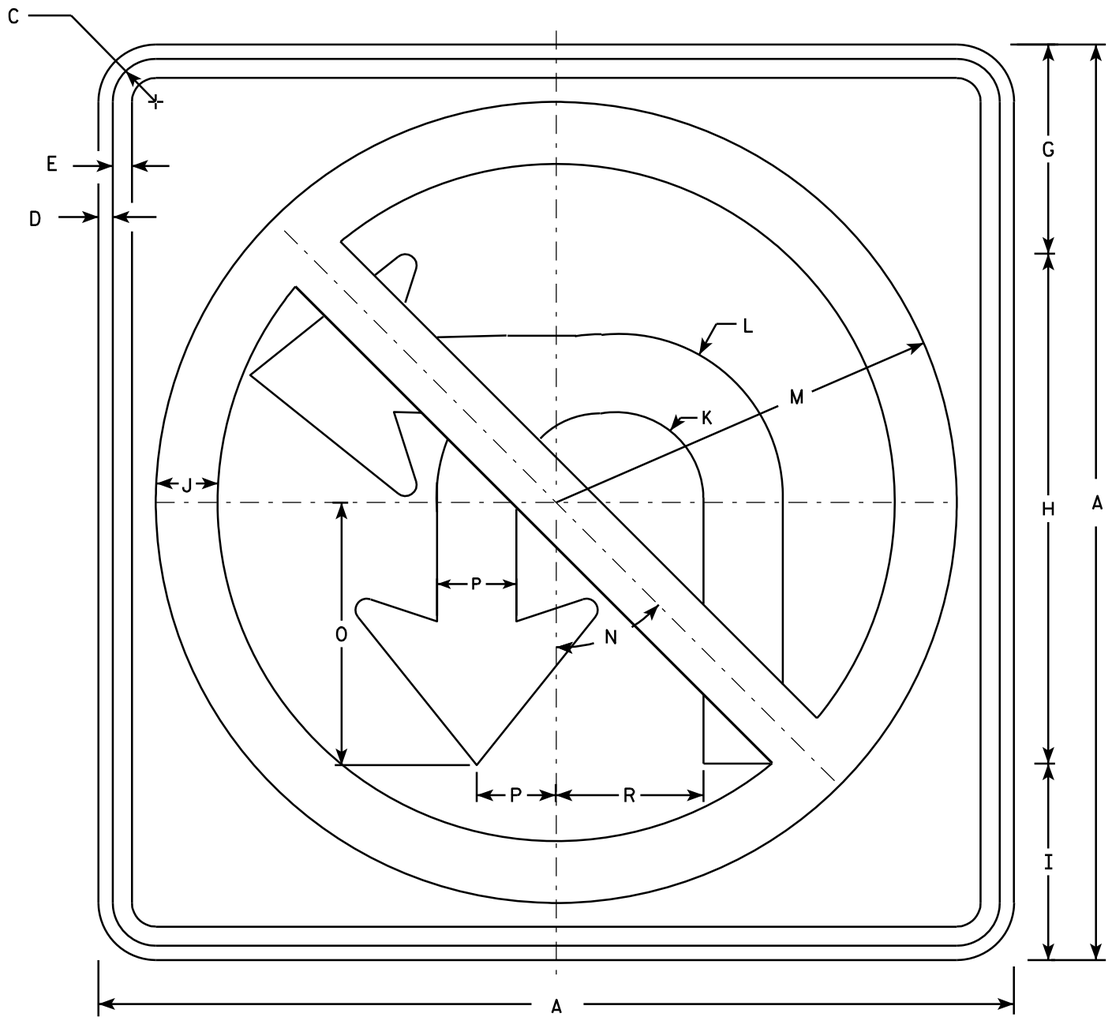
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-8P.2

PROJECT NO:

SHEET NO: 457 E



R3-18

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.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2		5 1/2	13 3/8	5 1/8	1 5/8	2 1/4	4 1/4	10 1/2	45°	6 7/8	2 1/8		3 7/8									4.0
2M	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45°	10 3/8	3 1/8		5 3/4									9.0
3	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45	10 3/8	3 1/8		5 3/4									9.0
4	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45	10 3/8	3 1/8		5 3/4									9.0
5	48		2 1/4	3/4	1		11	26 3/4	10 1/4	3 1/4	4 5/8	8 5/8	21	45°	13 3/4	4 1/8		7 3/4									16.0

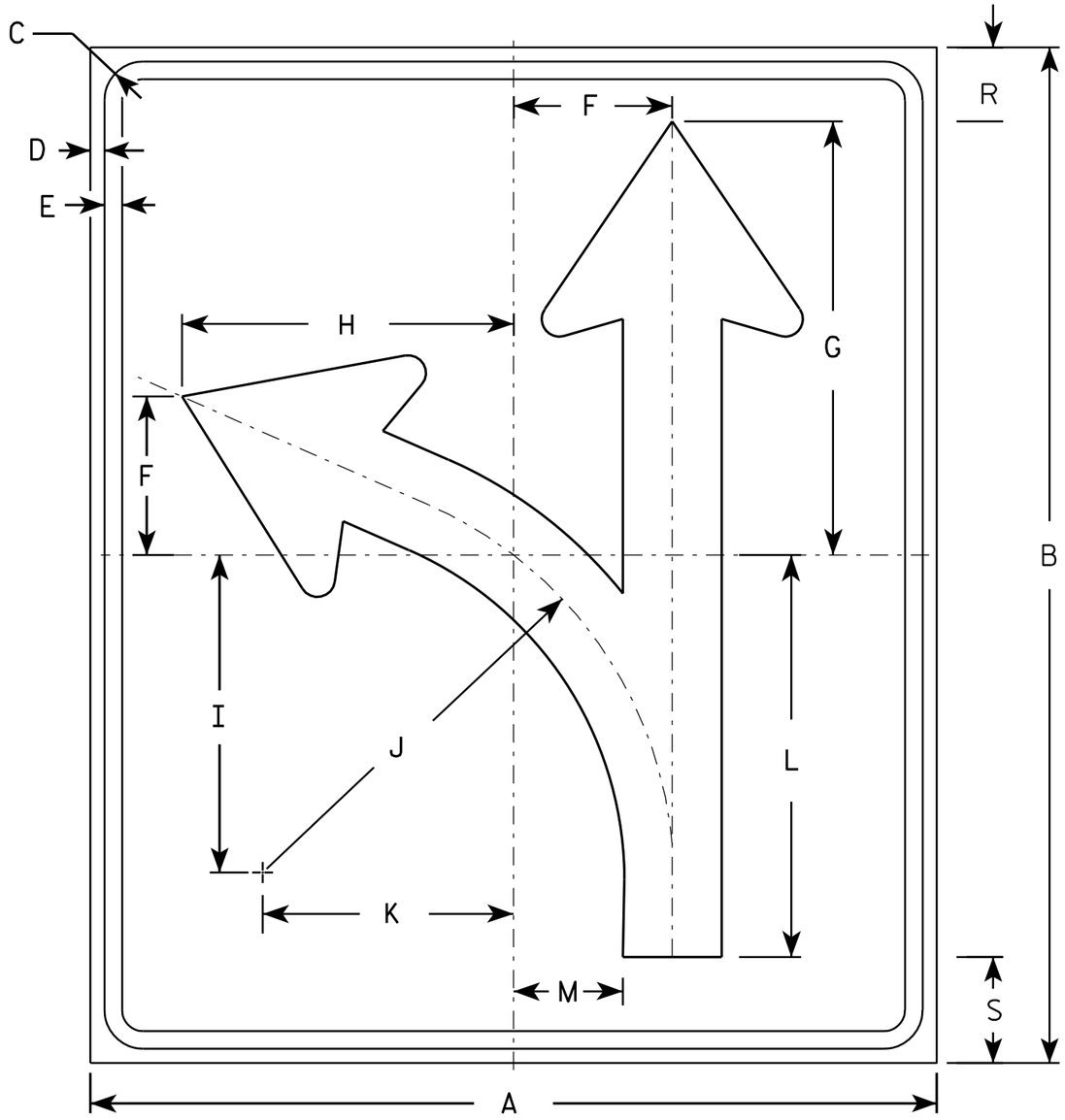
STANDARD SIGN
R3-18

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/21/10 PLATE NO. R3-18.2

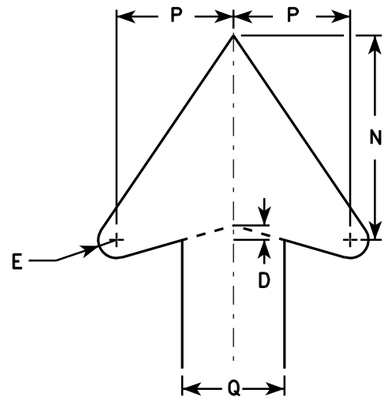
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 458	E



R3-60L

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. 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. R3-60R is the same as R3-60L except curved portion of arrow points to right.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	5 5/8	15 3/8	11 1/4	5 3/8	14 1/2	8 7/8	14 1/4	3 7/8	7		4	3 1/2	2 5/8	3 3/4								7.5
2M	30	36	1 3/8	1/2	5/8	5 5/8	15 3/8	11 1/4	5 3/8	14 1/2	8 7/8	14 1/4	3 7/8	7		4	3 1/2	2 5/8	3 3/4								7.5
3																											
4																											
5																											

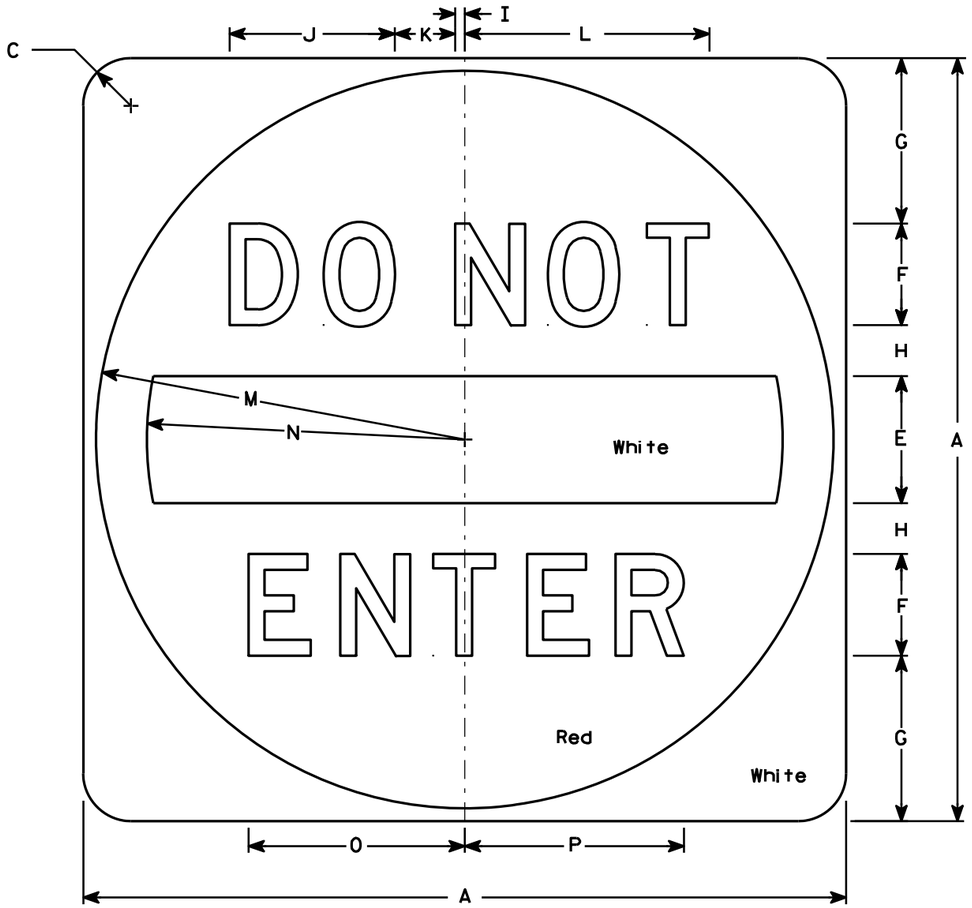
STANDARD SIGN
R3-60

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R3-60.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 459	E



R5-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See detail
   Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but when base material is metal, the cornors shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

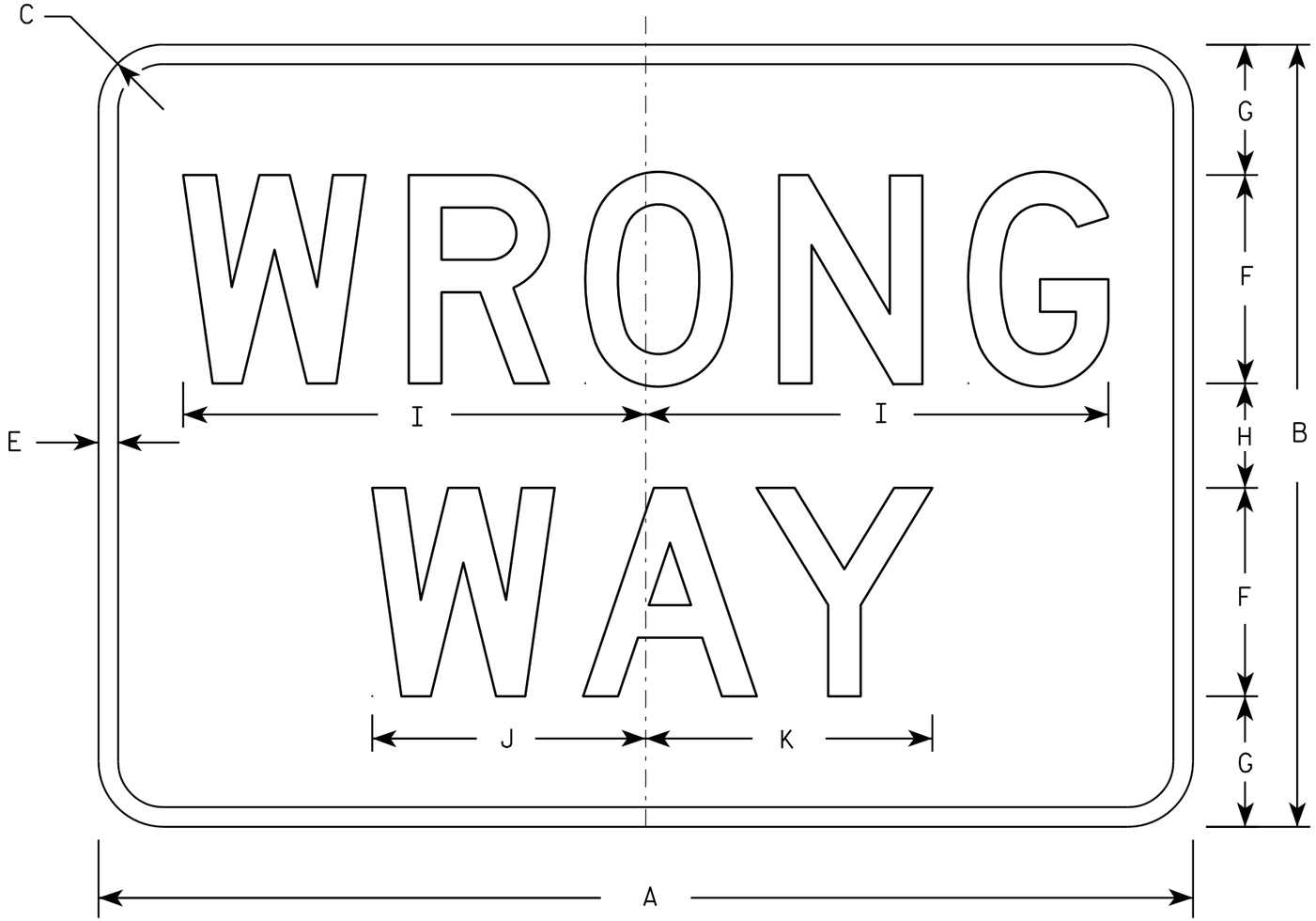
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 460 | E



R5-1A

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - 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	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 461 | E

R5-57

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 - Lines 1, 2, and 5 are Series C.
   Lines 3 and 4 are 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																											
2S																											
2M																											
3																											
4	36		1 5/8	5/8	3/4	4	3	2	3 1/2	14 1/4	14 7/8	11	11 1/2	4 3/4	1 3/4	9		1 3/8	10	11	2 1/2	1 3/4	15 1/2	13	13 5/8		9.0
5	36		1 5/8	5/8	3/4	4	3	2	3 1/2	14 1/4	14 7/8	11	11 1/2	4 3/4	1 3/4	9		1 3/8	10	11	2 1/2	1 3/4	15 1/2	13	13 5/8		9.0

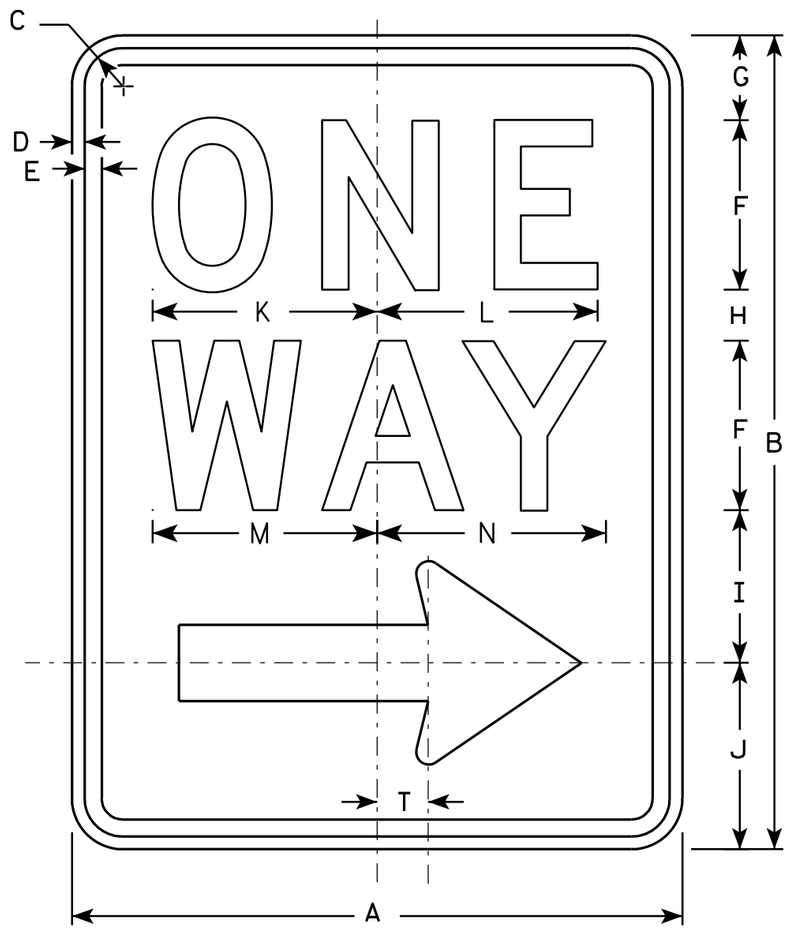
STANDARD SIGN
R5-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-57.10

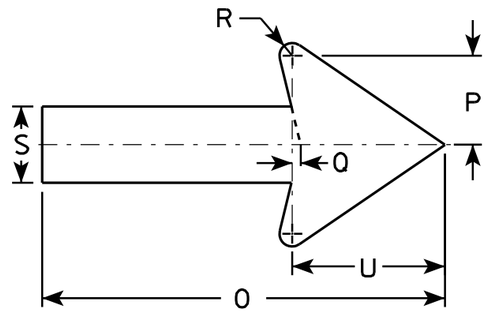
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 462 | E



R6-2R

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. R6-2L same as R6-2R except arrow points to the left.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 463	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.

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

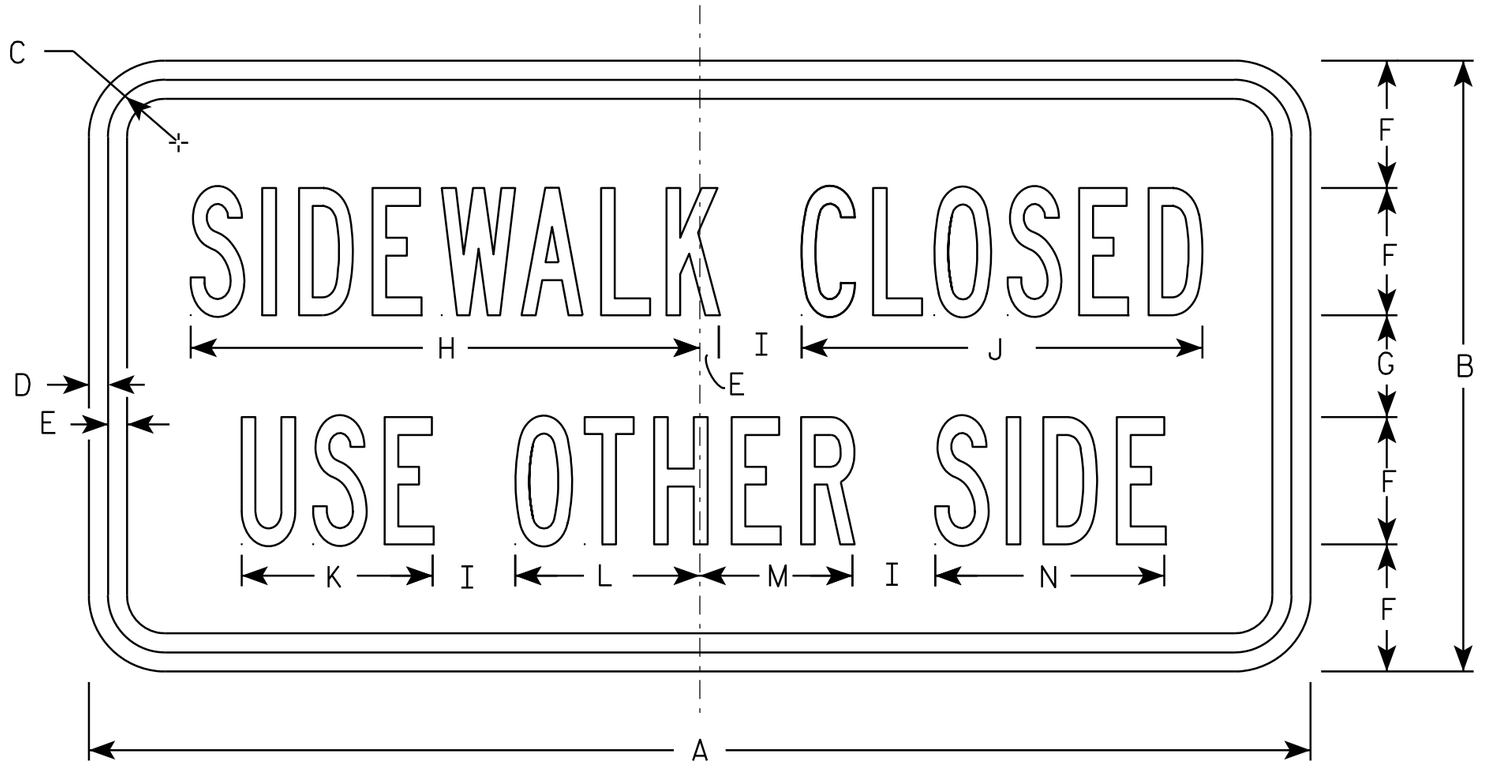
STANDARD SIGN
R9-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/2011 PLATE NO. R9-9.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 464	E



R9-10

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 - 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	24	12	1 1/8	3/8	3/8	2 1/2	2	10	1 5/8	7 7/8	3 3/4	3 5/8	3	4 1/2													2.0
2S	48	24	2 3/4	3/4	3/4	5	4	20	3 1/4	15 3/4	7 1/2	7 1/4	6	9													8.0
2M	48	24	2 3/4	3/4	3/4	5	4	20	3 1/4	15 3/4	7 1/2	7 1/4	6	9													8.0
3																											
4																											
5																											

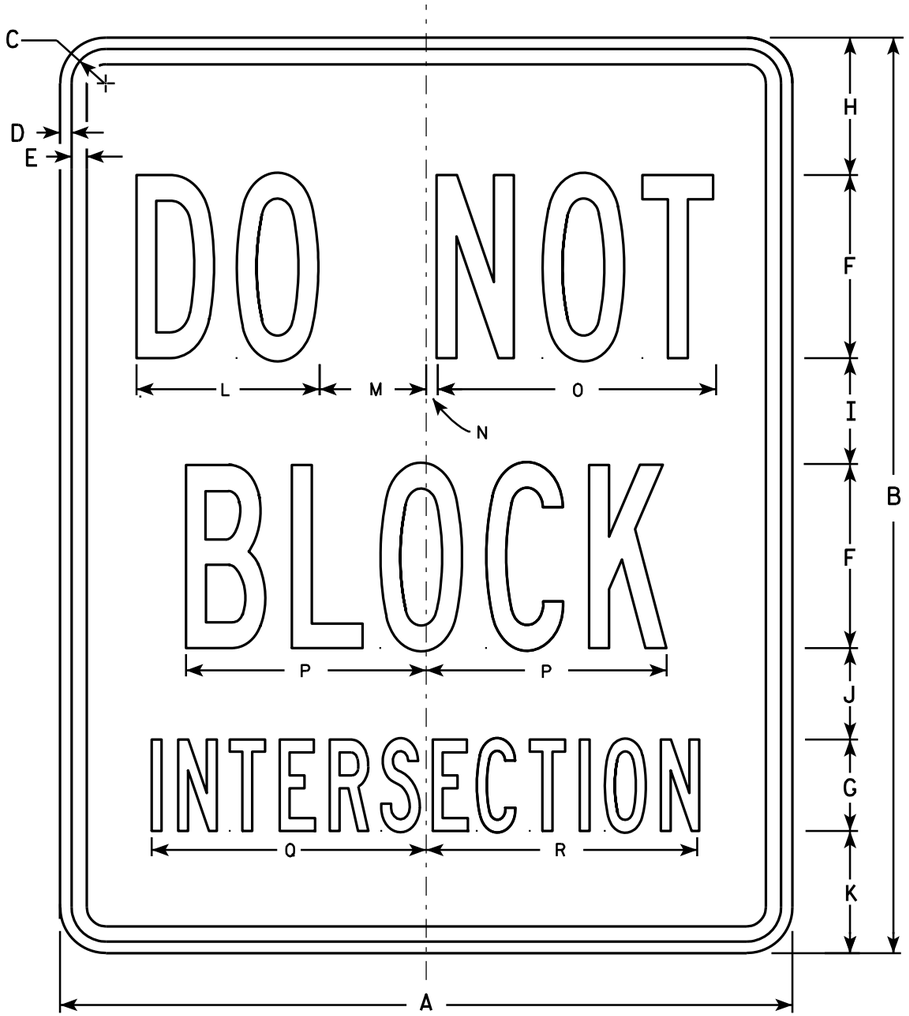
STANDARD SIGN
R9-10

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/2012 PLATE NO. R9-10.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 465	E



R10-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   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																											
2S	24	30	1 1/8	3/8	1/2	6	3	4 1/2	3 1/2	3	4	6	3 1/2	3/8	9 1/8	7 7/8	9	8 7/8									5.0
2M	24	30	1 1/8	3/8	1/2	6	3	4 1/2	3 1/2	3	4	6	3 1/2	3/8	9 1/8	7 7/8	9	8 7/8									5.0
3	36	48	1 3/8	1/2	5/8	10	5	7	5 1/4	4 1/2	6 1/4	10	5 5/8	1/2	15 1/8	13 1/8	15	14 7/8									12.0
4																											
5																											

STANDARD SIGN
R10-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-7.5

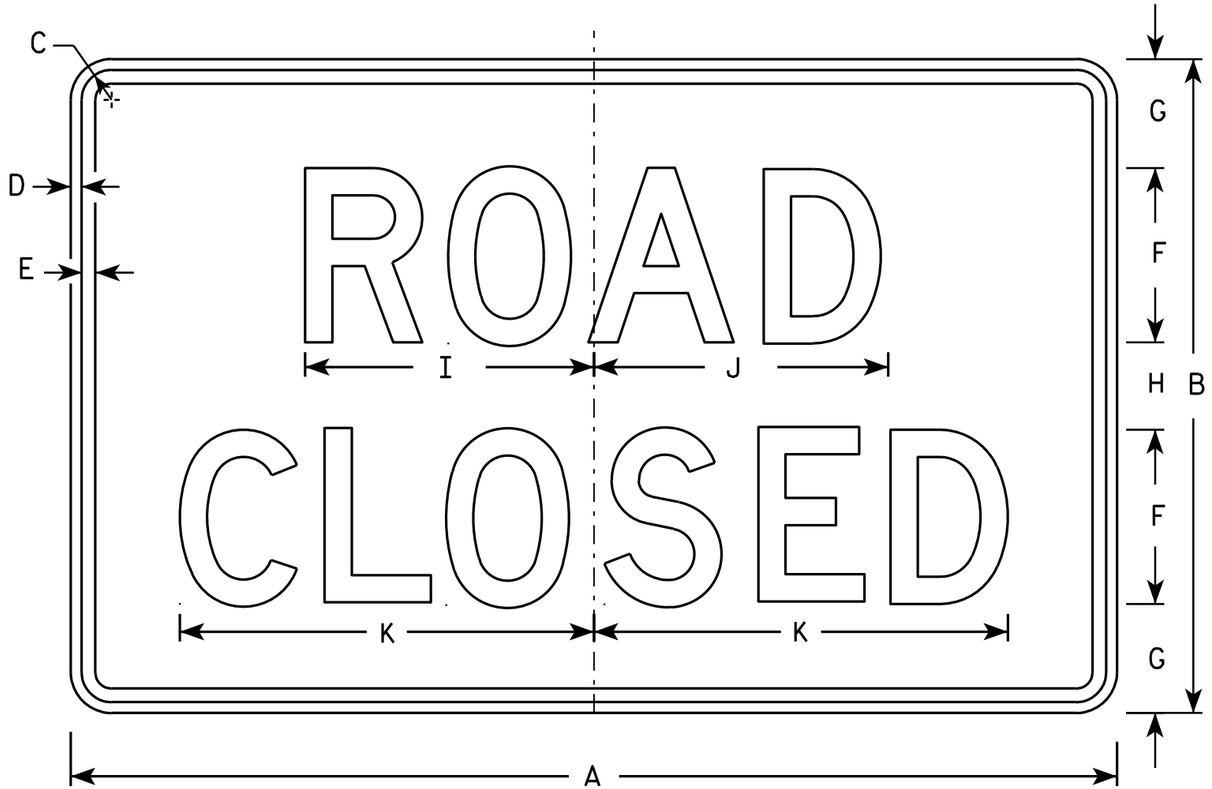
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 466 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R107.DGN PLOT DATE : 05-APR-2011 09:44 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 4.965868:1.000000

WISDOT/CADDS SHEET 42

7

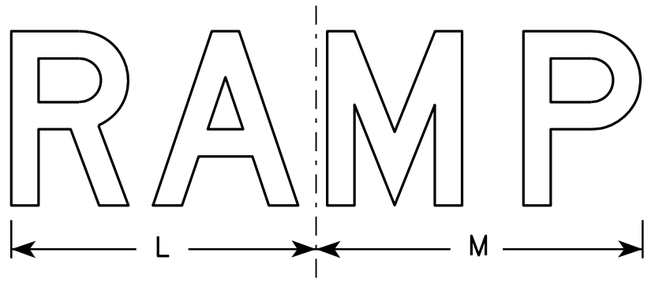
7



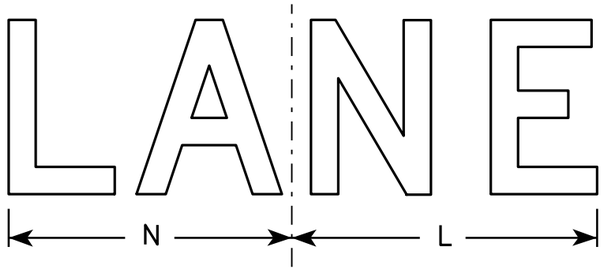
R11-2

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

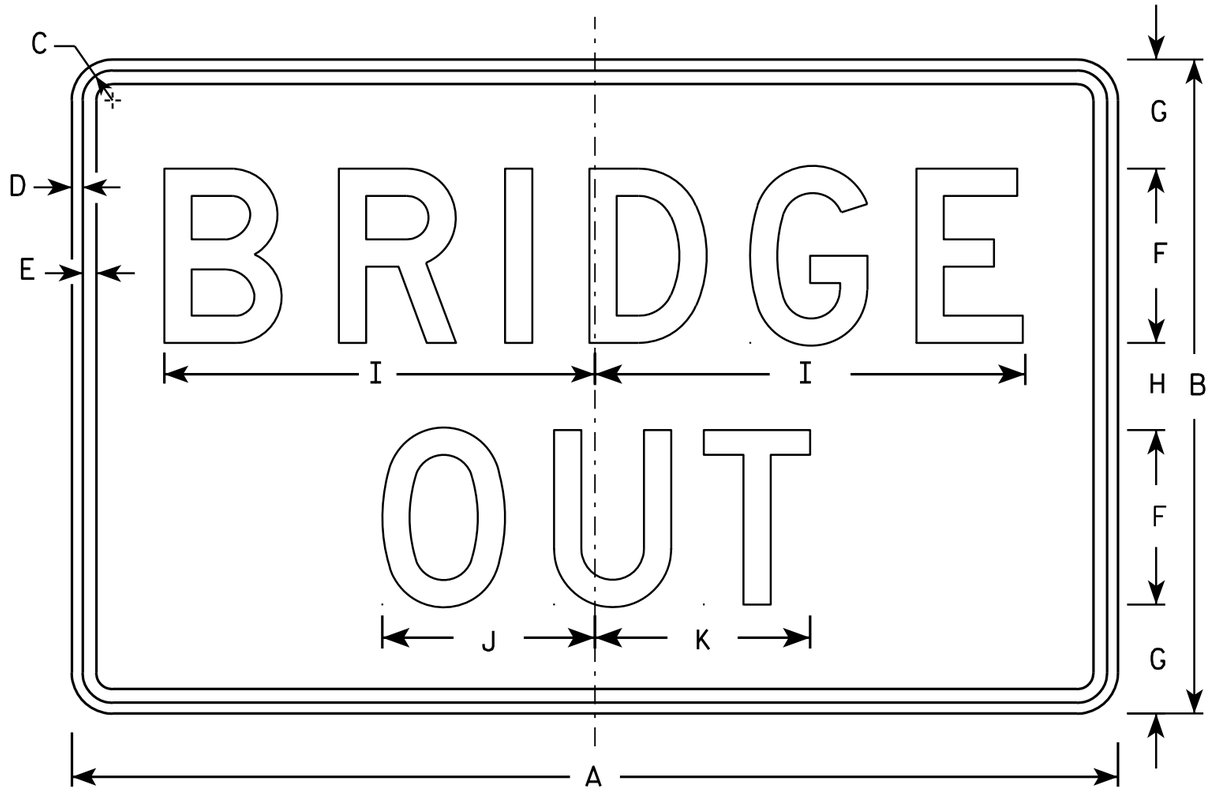
STANDARD SIGN
R11-2

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: 467	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

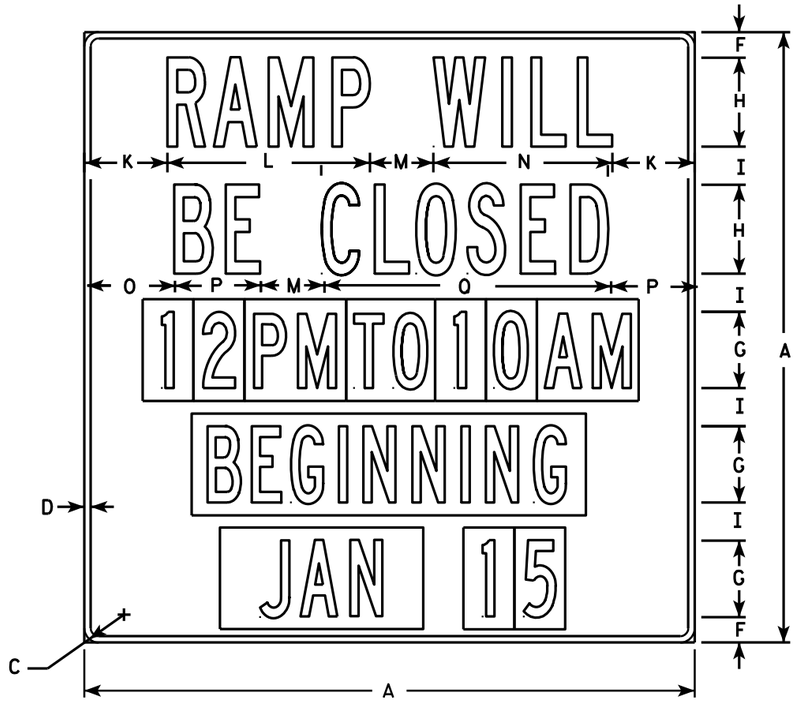
WISCONSIN DEPT OF TRANSPORTATION

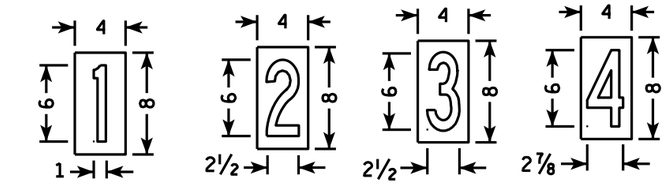
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

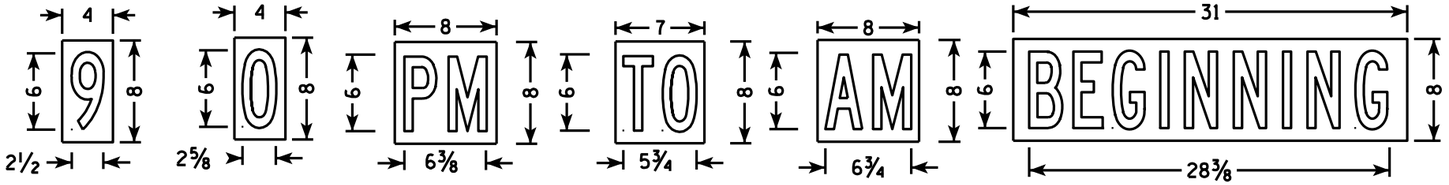
SHEET NO: 468 E

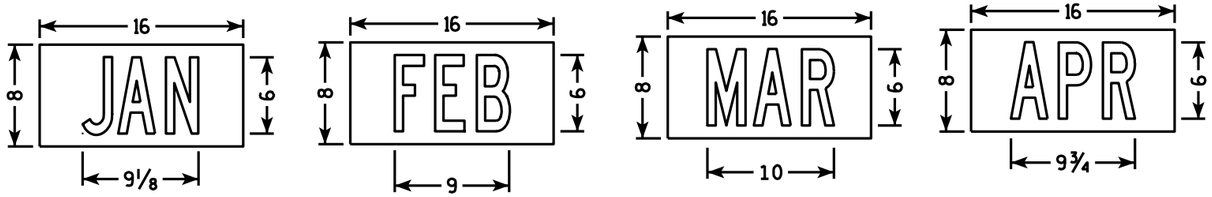


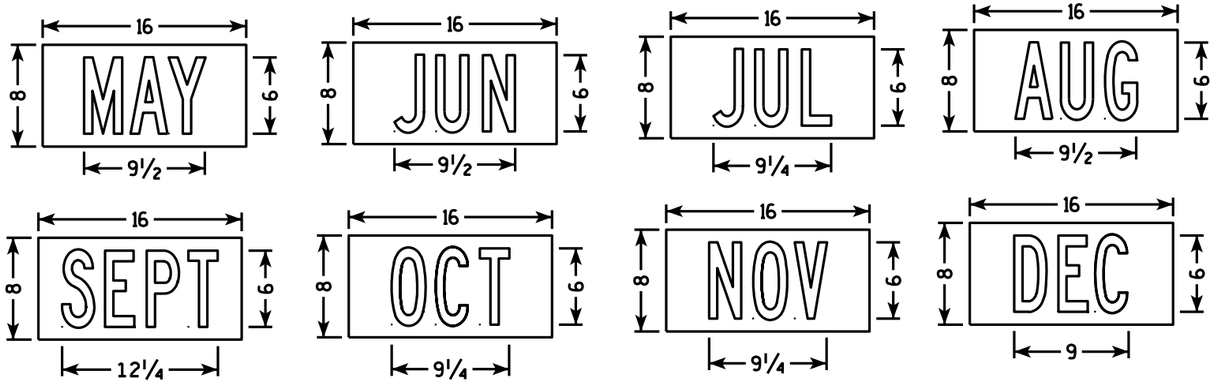


NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - B
4. Message plaques consist of Type H Reflective sheeting with the appropriate non-reflective black message applied to .040 aluminum and screwed to the base sign.







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		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
2M	48		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
3																											
4																											
5																											

STANDARD SIGN
R11-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-51.4

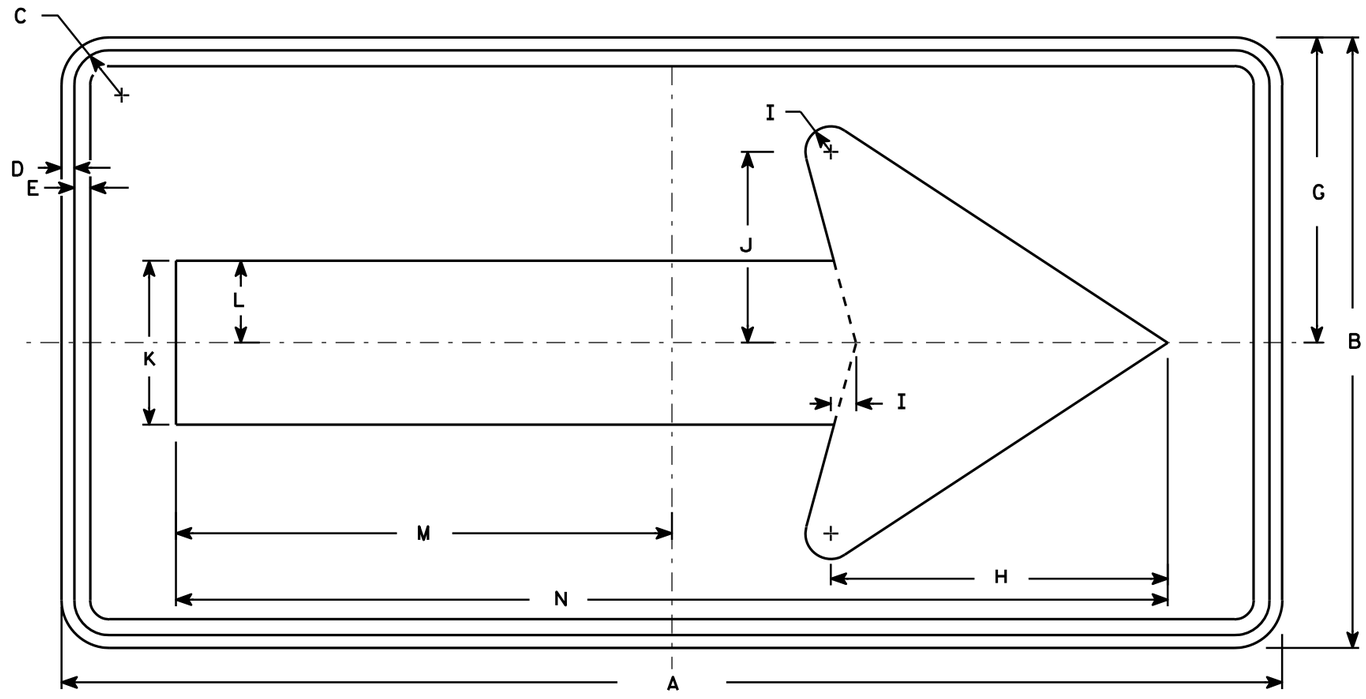
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 469	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R1151.DGN PLOT DATE : 01-APR-2011 14:07 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000

WISDOT/CADDS SHEET 42

7

7



W1-6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - 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.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
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	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

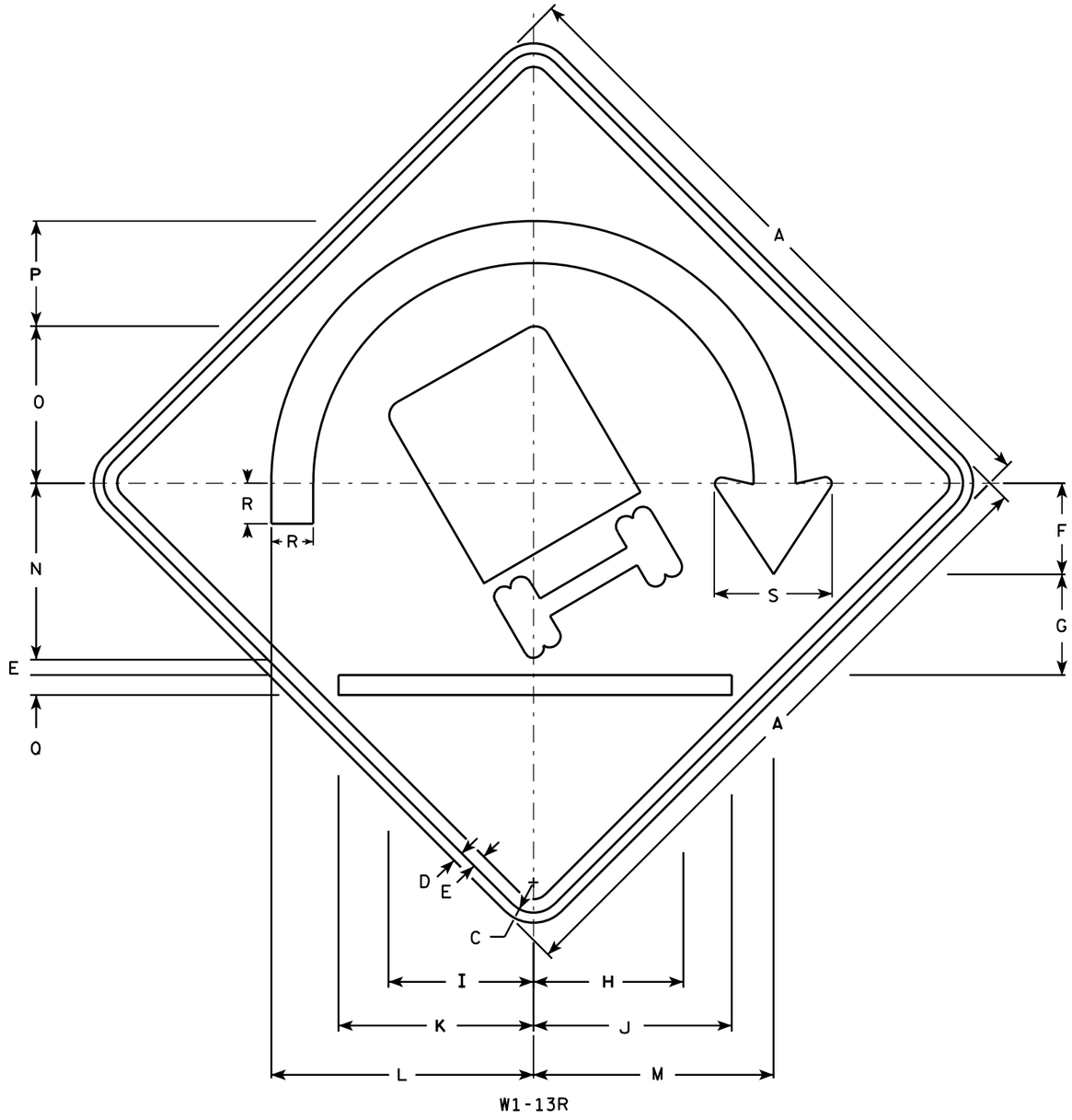
STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-6.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 470



W1-13R

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. W1-13L is the same as W1-13R except the arrow points to the left and the trucks tips to the 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																											
2M																											
3																											
4	48		2 1/4	3/4	1	6 3/4	7 1/2	11 1/8	10 3/4	14 3/4	14 1/2	19 1/2	22 1/4	13 1/8	11 3/4	7 3/4	1 1/2	3	8 3/4								16.00
5	48		2 1/4	3/4	1	6 3/4	7 1/2	11 1/8	10 3/4	14 3/4	14 1/2	19 1/2	22 1/4	13 1/8	11 3/4	7 3/4	1 1/2	3	8 3/4								16.00

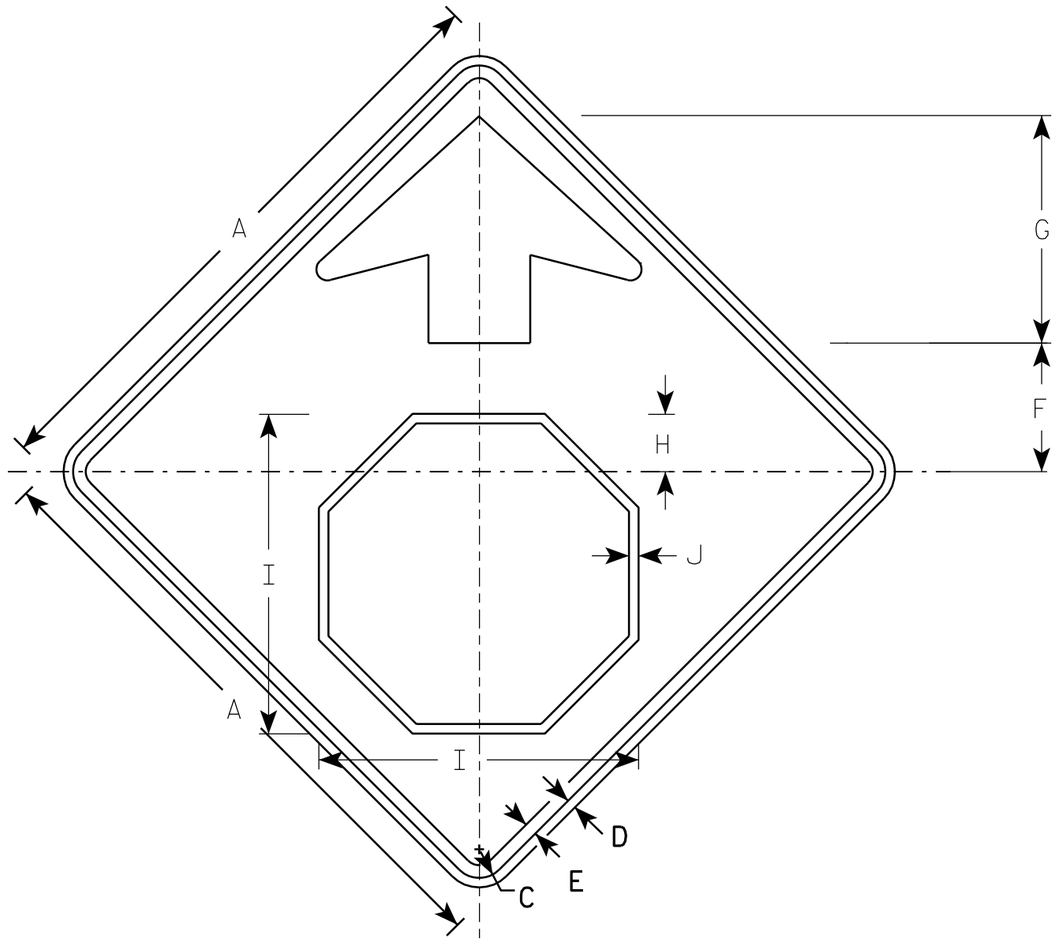
STANDARD SIGN
W1-13

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/18/12 PLATE NO. W1-13RL.3

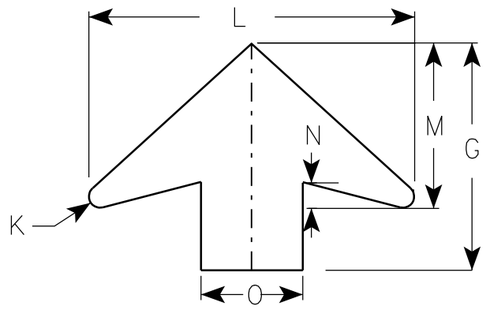
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 471	E



W3-1

NOTES

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



ARROW DETAIL

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

STANDARD SIGN
W3-1

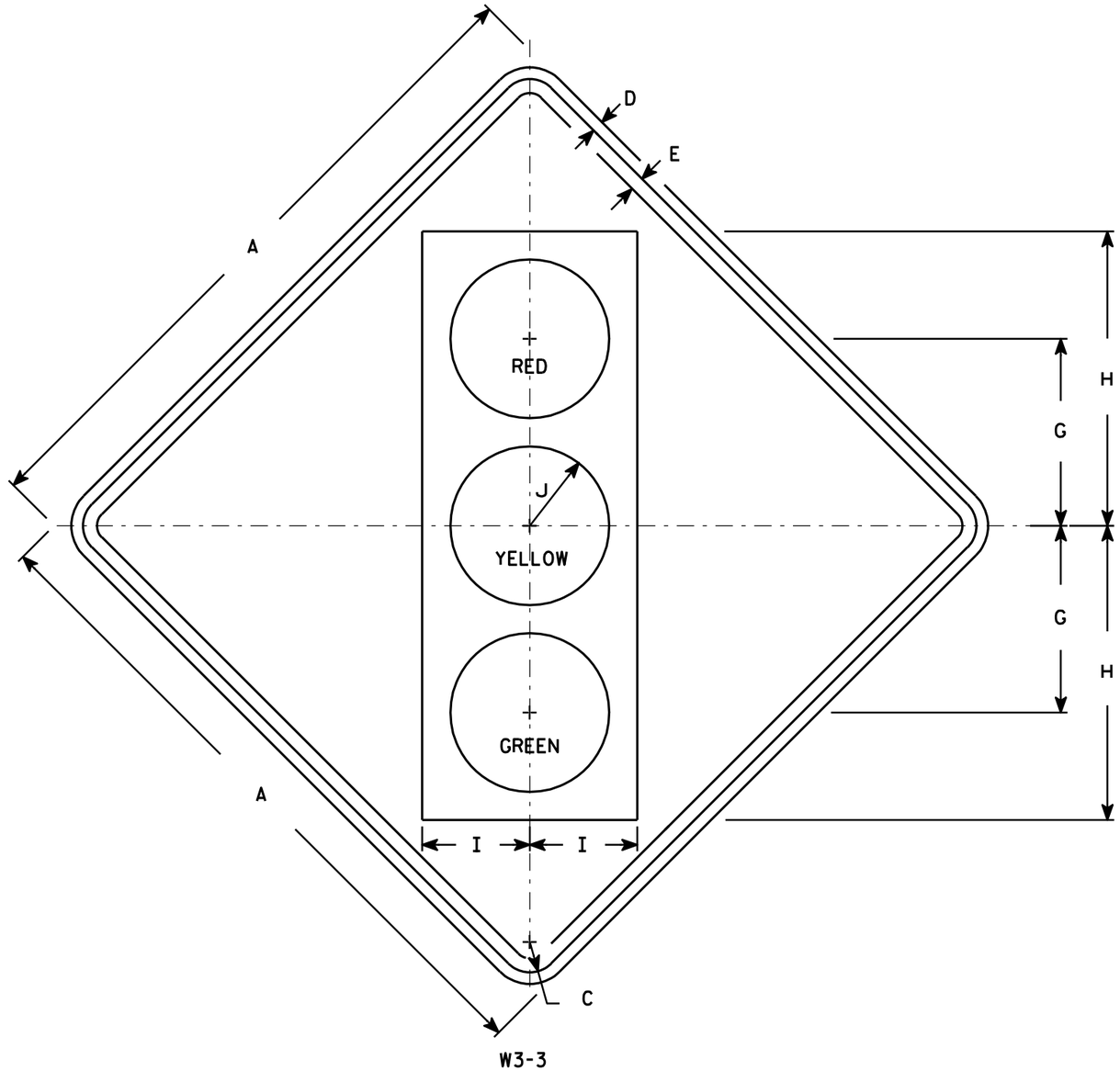
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-1.12

PROJECT NO:

SHEET NO: 472 E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

STANDARD SIGN
W3-3

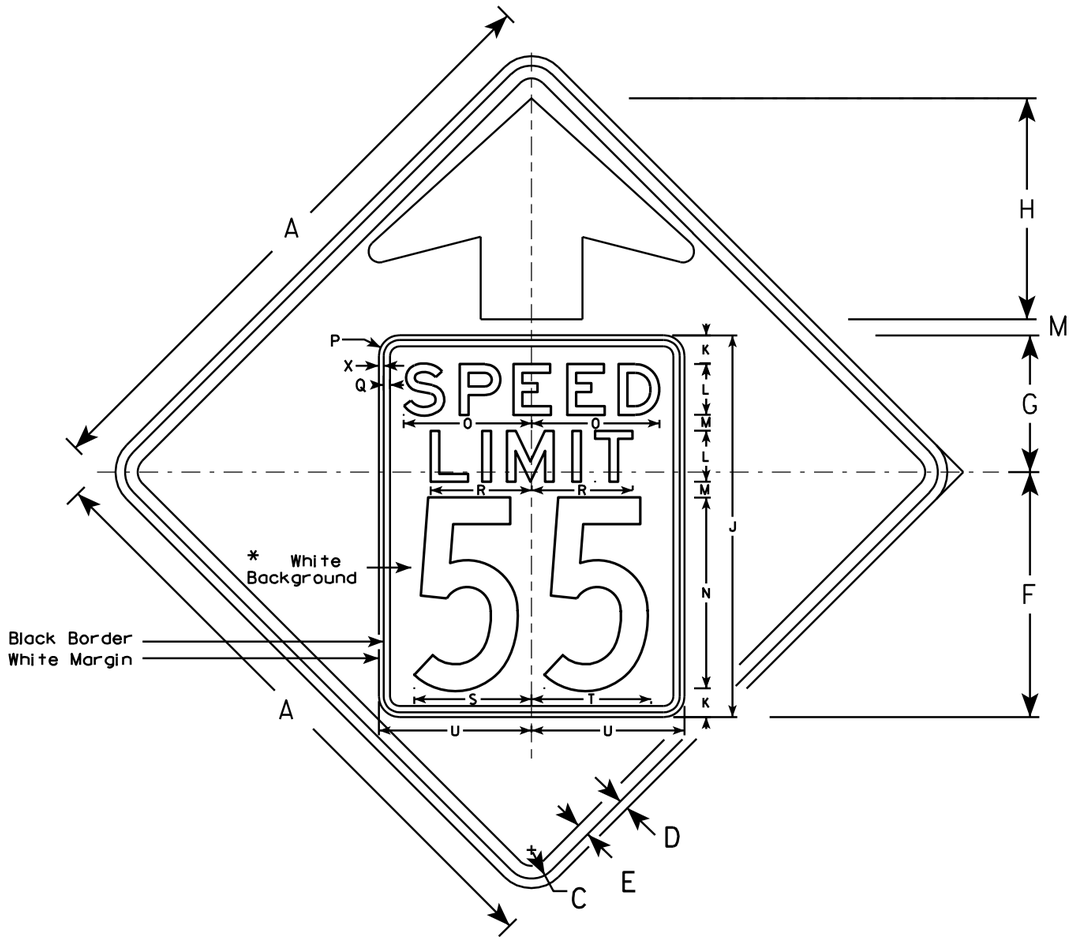
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 473 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W33.DGN PLOT DATE : 07-JUN-2010 13:07 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 7.448805:1.000000
WISDOT/CADDS SHEET 42

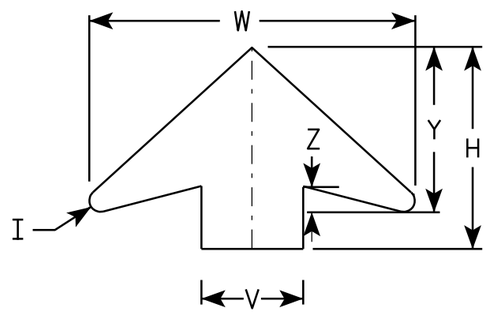


W3-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - YELLOW*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W3-5

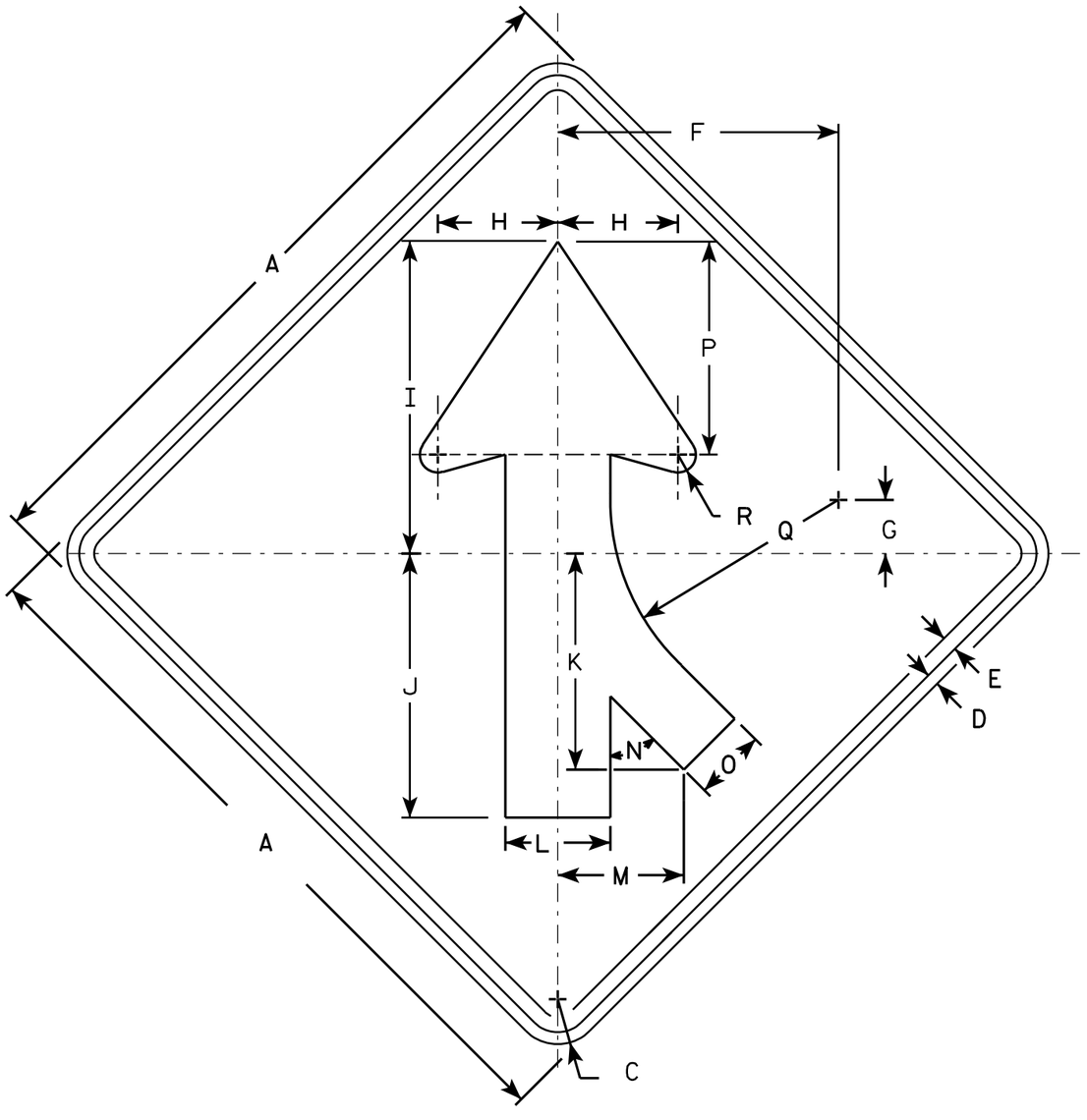
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W3-5.5

PROJECT NO:

SHEET NO: 474 E



W4-1 R

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. W4-1L is the same as W4-1R 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	30		1 3/8	1/2	5/8	11 5/8	2 1/2	5	13	11	9	4 3/8	5 1/4	45°	3	8 7/8	9 1/2	3/4									6.25
2S	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2M	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
3	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

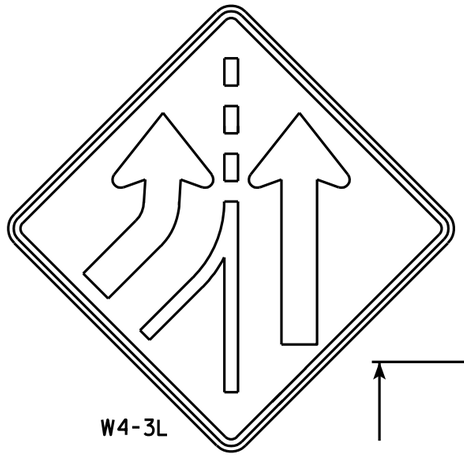
STANDARD SIGN
W4-1

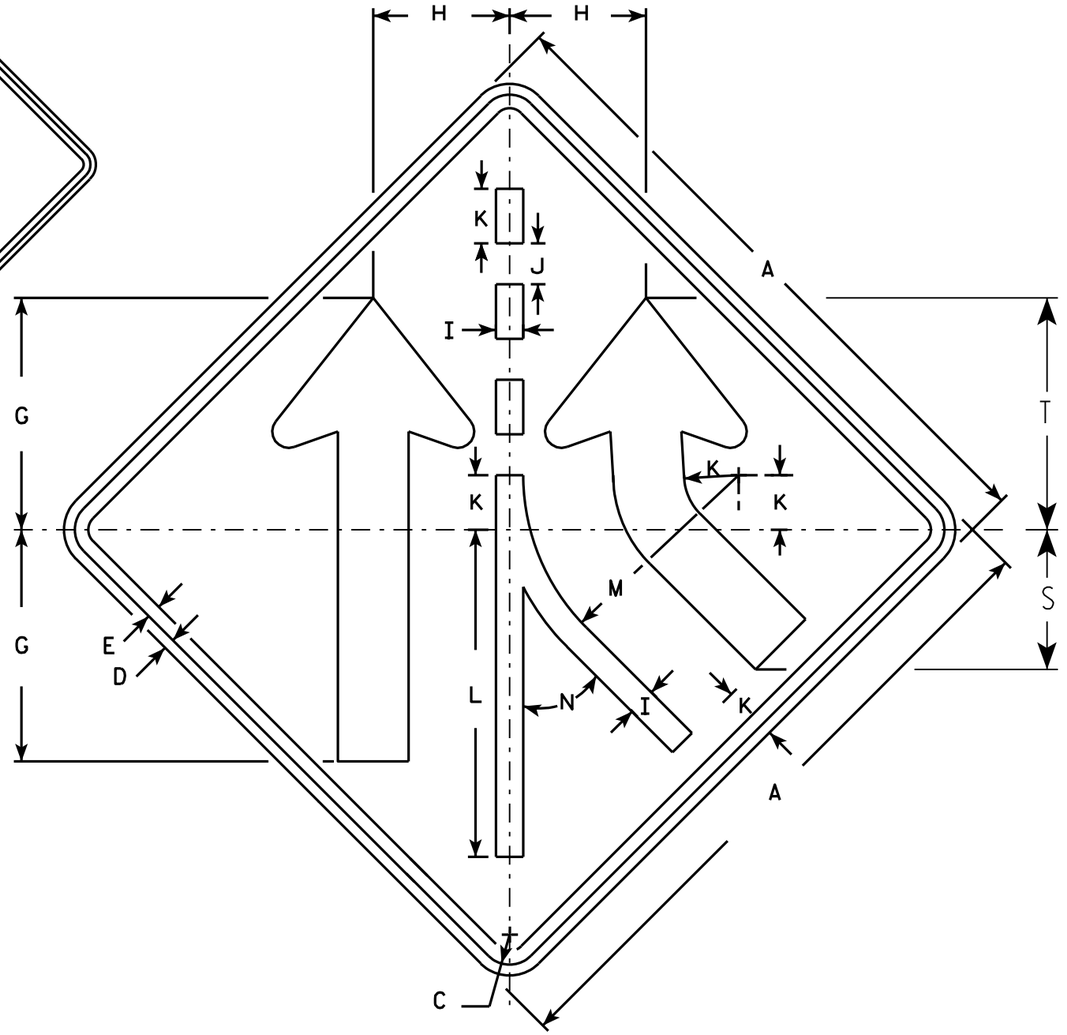
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rausch for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-1.14

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 475	E

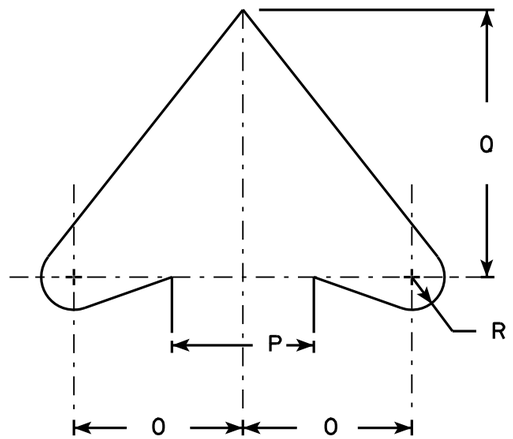




W4-3R

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. W4-3 L is the same as W4-3 R except the arrow is reversed along the vertical centerline.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		10 5/8	6 1/4	1 1/4	1 7/8	2 1/2	15	9 7/8	45°	3 7/8	3 1/4	6 1/8	3/4	6 3/8	10 5/8							6.25
2S	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
2M	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
3																											
4	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
5	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0

STANDARD SIGN
W4-3

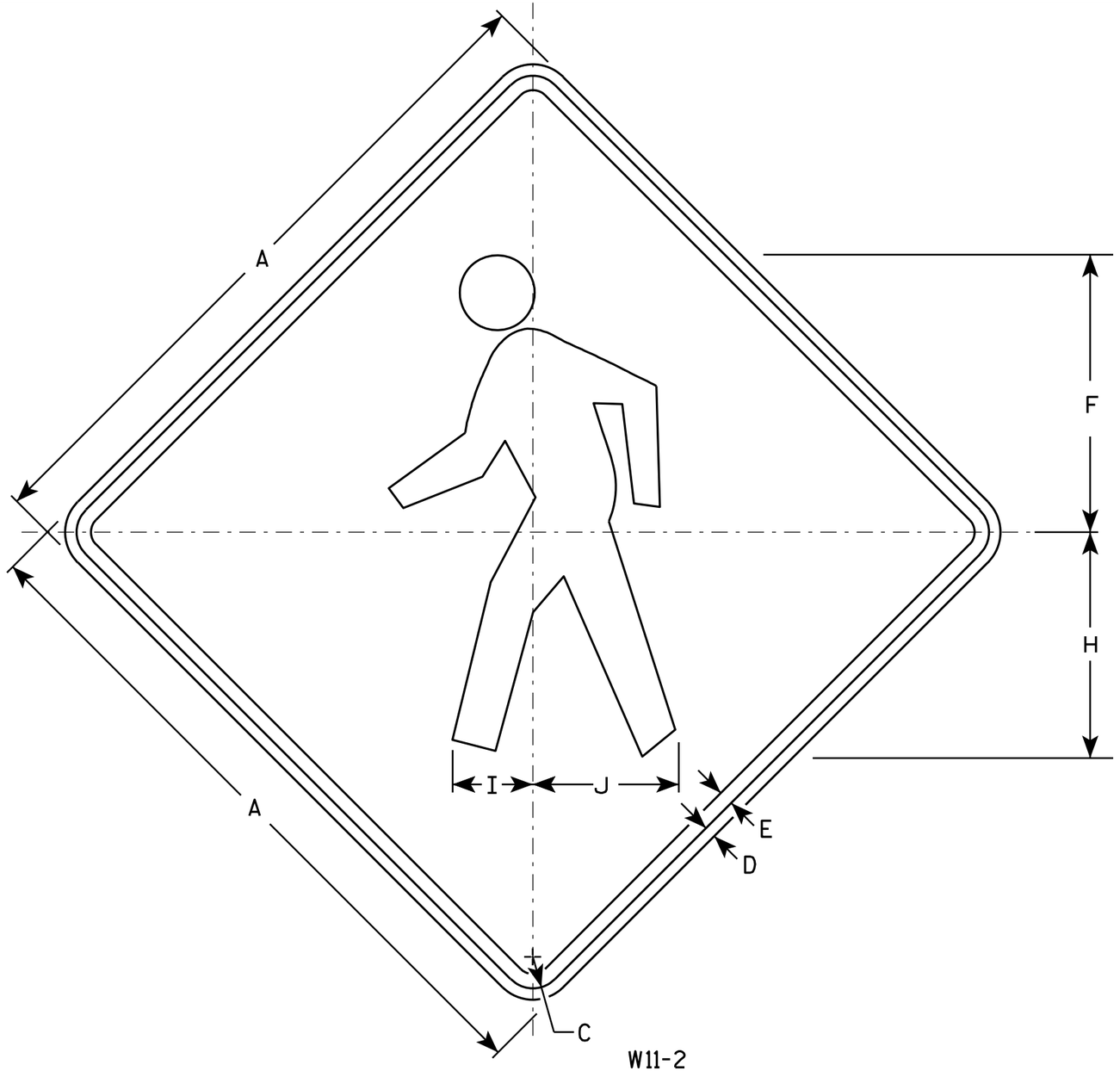
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-3.8

PROJECT NO:

SHEET NO: 476 E



W11-2

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	9 3/4		7 7/8	2 7/8	5 1/8																	4.0
2S	30		1 3/8	1/2	5/8	12 1/8		9 7/8	3 1/2	6 3/8																	6.25
2M	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
3	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
4	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
5																											

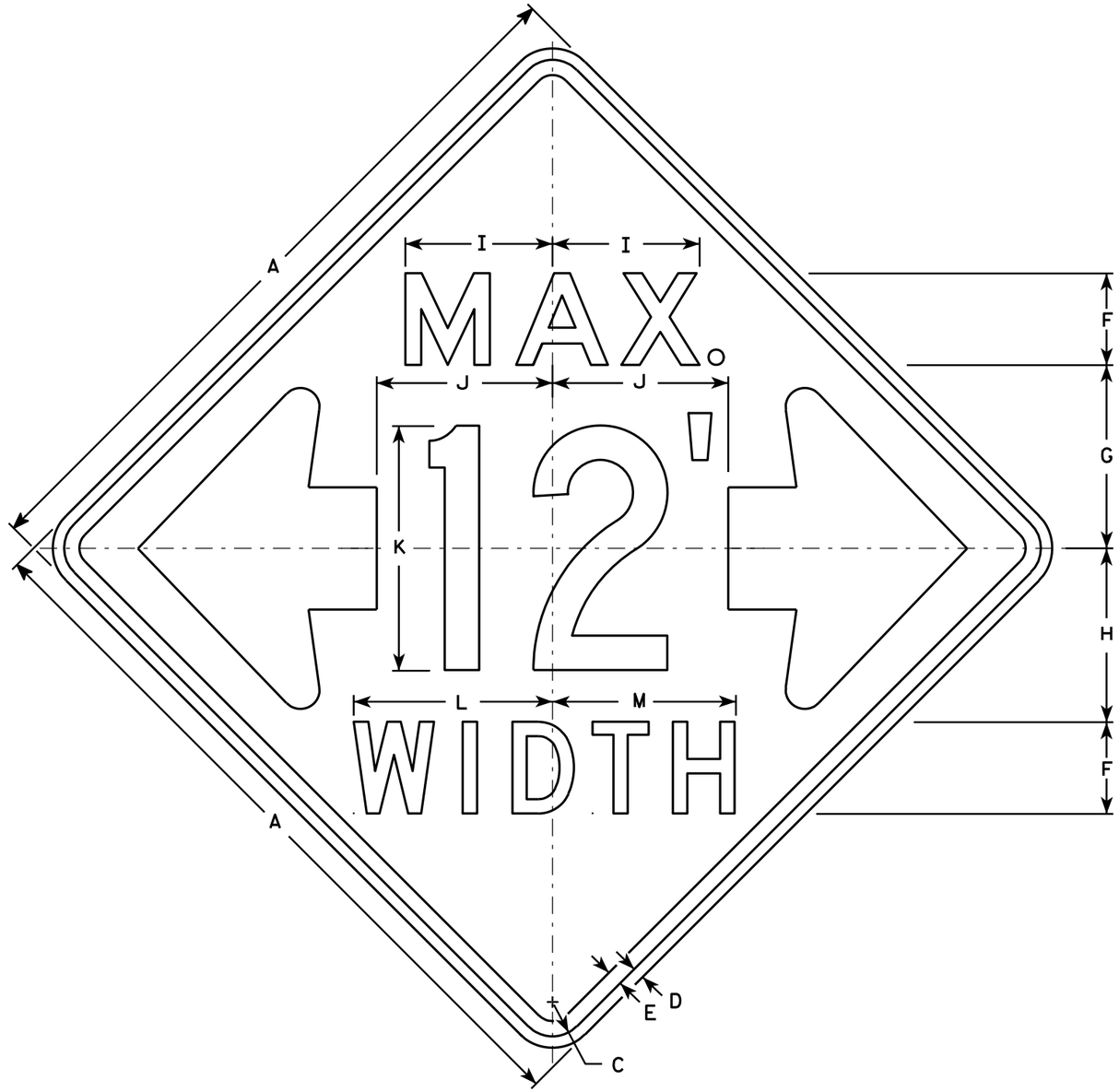
STANDARD SIGN
W11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W11-2.7

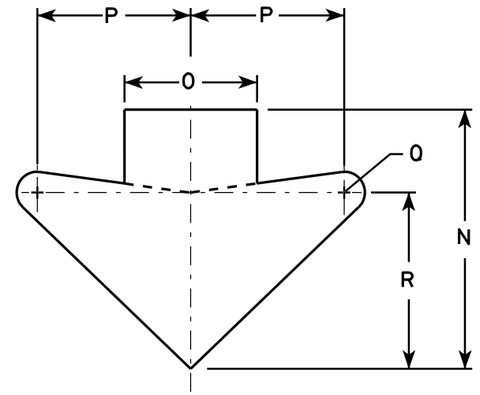
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 477	E



W12-52

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. The top line is series E, the numerals are series C, and the bottom line is series D.
6. Substitute appropriate numerals and adjust spacing as required.



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	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
2M	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
3																											
4																											
5																											

STANDARD SIGN
W12-52

WISCONSIN DEPT OF TRANSPORTATION

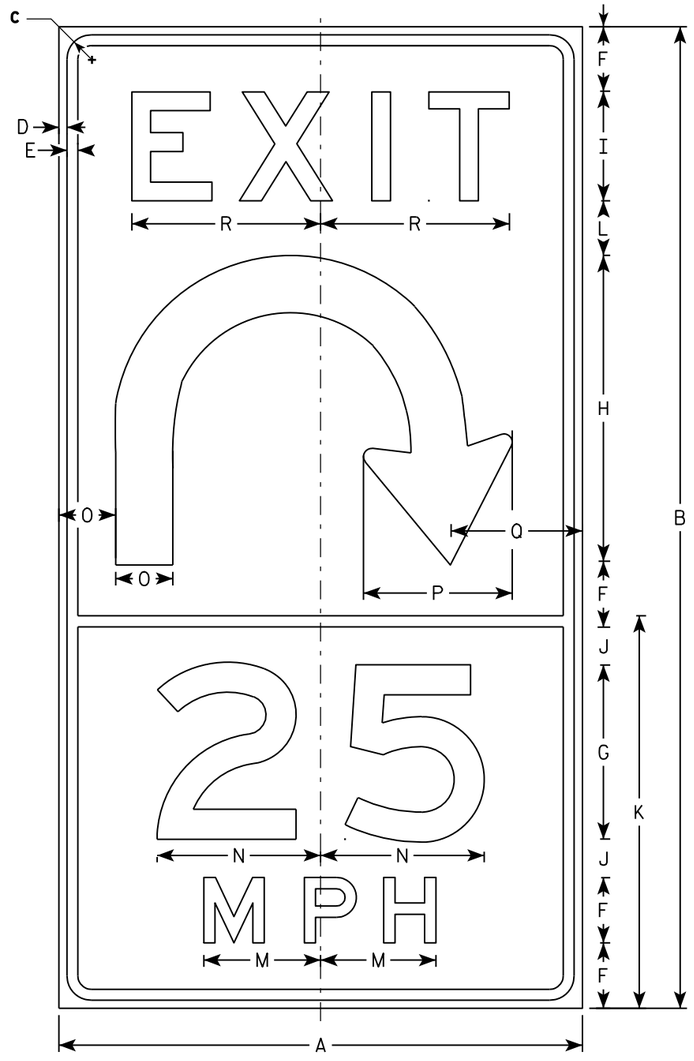
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 478 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W1252.DGN PLOT DATE : 16-MAR-2011 14:45 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.137199:1.000000
WISDOT/CADDS SHEET 42



W13-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   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.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	90	2 1/4	3/4	1	6	16	28	10	3 1/2	36	5	10 3/4	15	5 1/4	13 5/8	12	17 3/8									30
2M	48	90	2 1/4	3/4	1	6	16	28	10	3 1/2	36	5	10 3/4	15	5 1/4	13 5/8	12	17 3/8									30
3																											
4																											
5																											

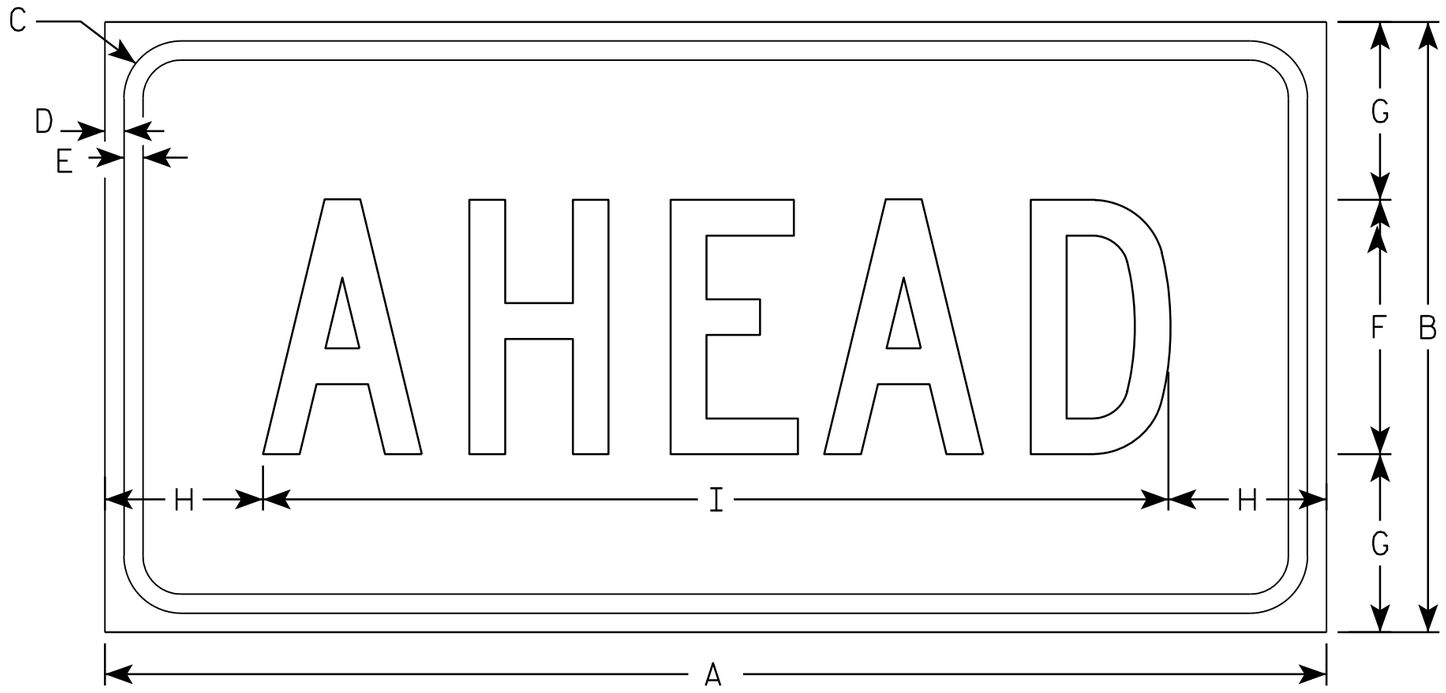
STANDARD SIGN
W13-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-2A.3

PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 479 | E



W16-9P

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	5	3 1/2	3 1/8	17 3/4																		2.0
2M	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
3	30	18	1 1/8	3/8	1/2	7	3 1/2	2 3/4	24 1/2																		3.75
4	48	24	1 3/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
5																											

STANDARD SIGN
W16-9P

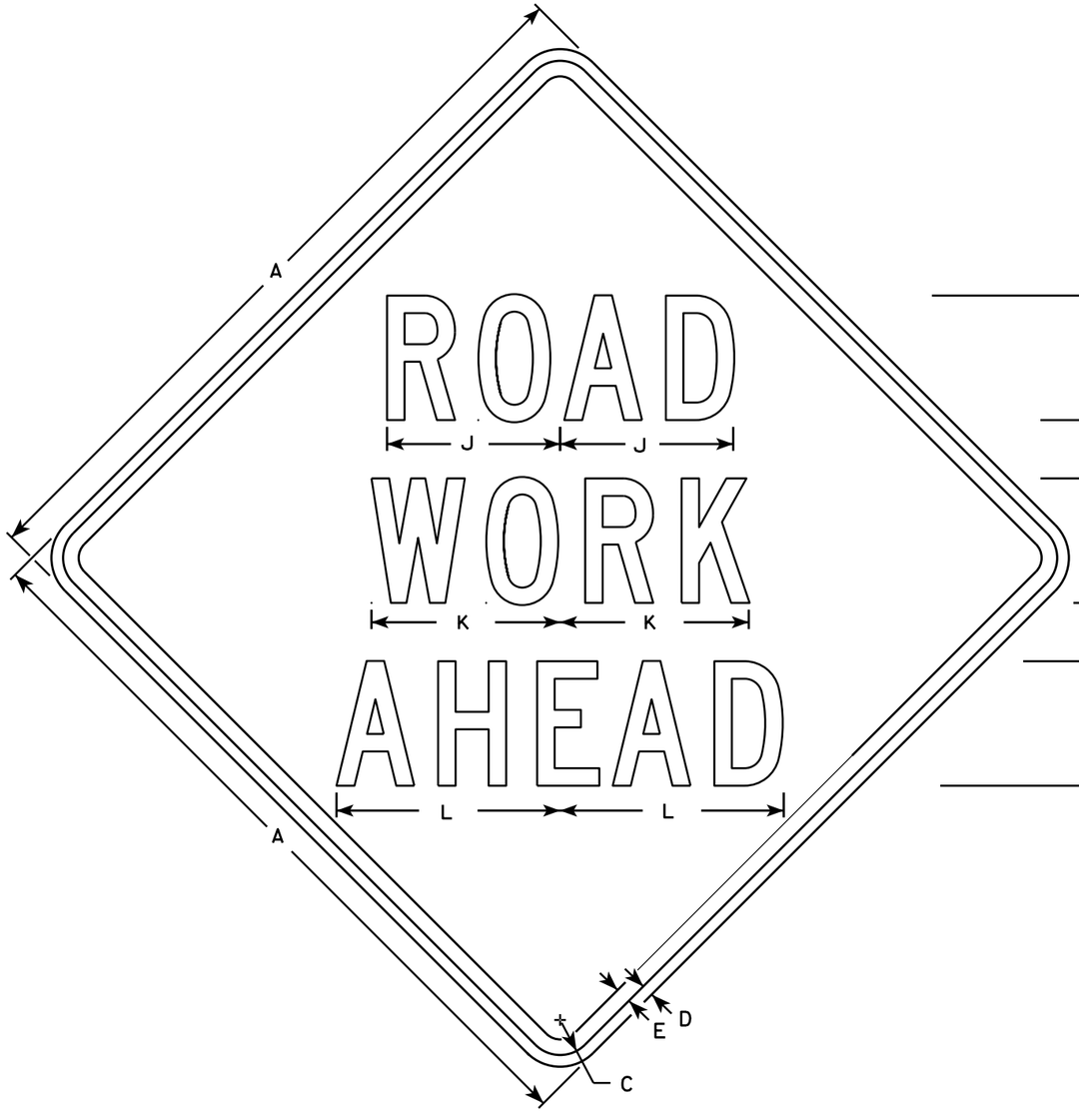
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

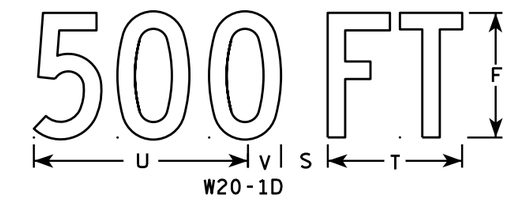
DATE 12/28/10 PLATE NO. W16-9P.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 480 | E

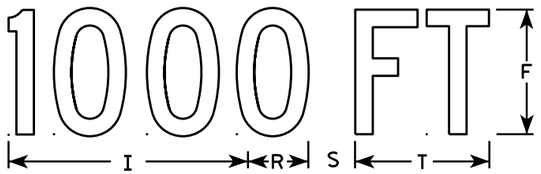
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W169P.DGN PLOT DATE : 28-DEC-2010 13:39 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 2.979524:1.000000



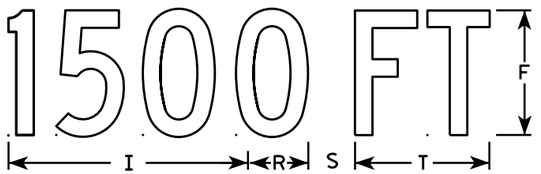
W20-1A



W20-1D



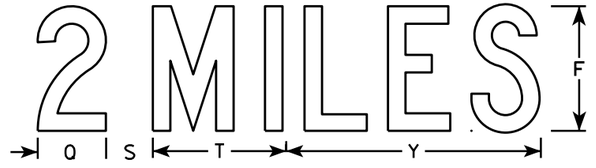
W20-1C



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

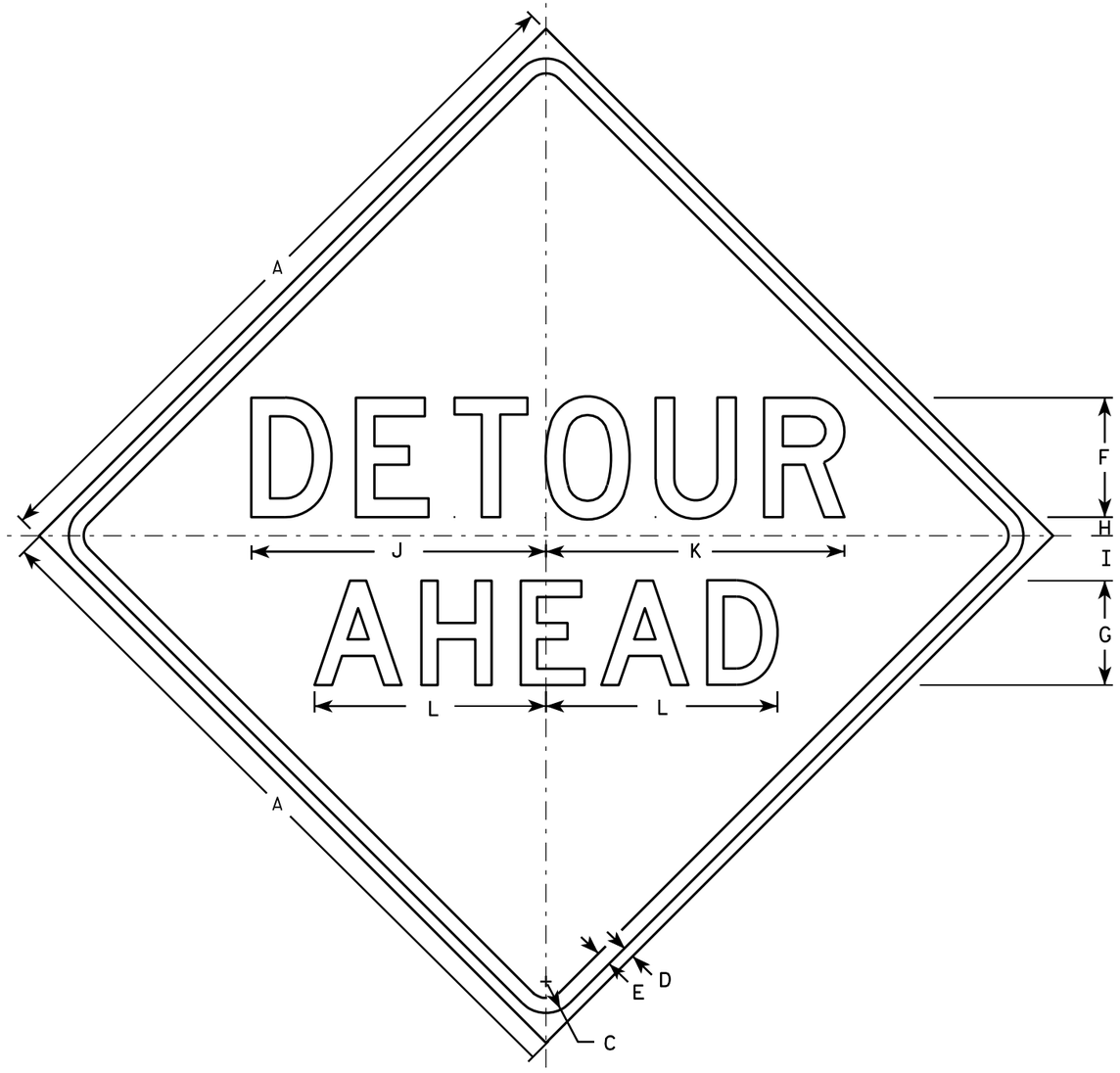
APPROVED

State Traffic Engineer

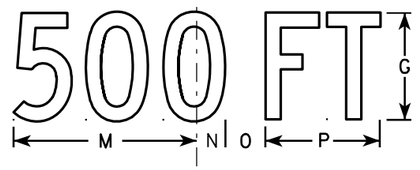
DATE 5/07/15 PLATE NO. W20-1.10

PROJECT NO:

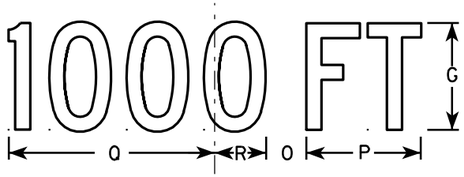
SHEET NO: E



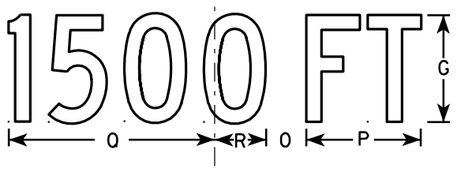
W20-2A



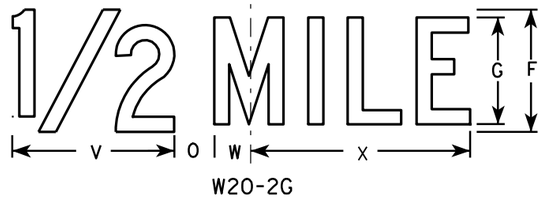
W20-2D



W20-2C



W20-2B



W20-2G

W20-2F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

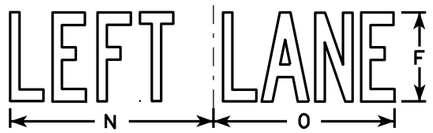
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

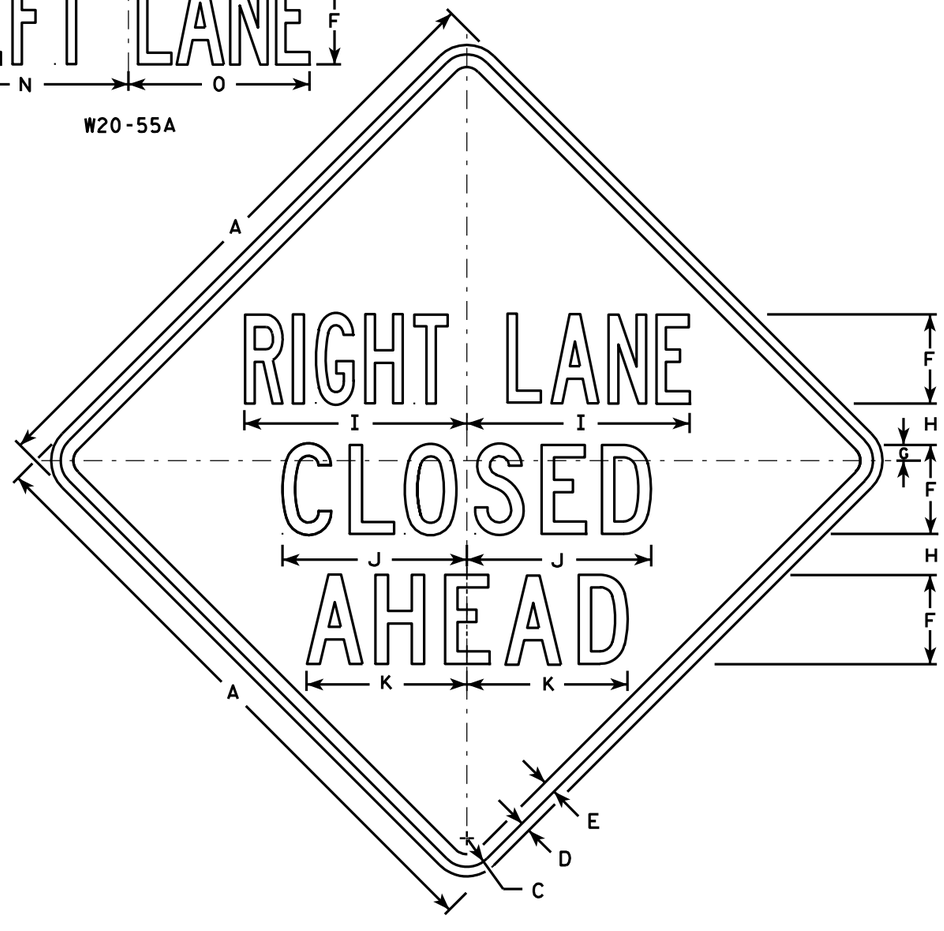
DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 482	E

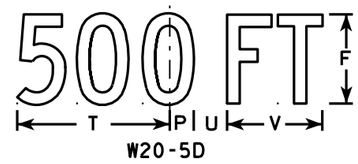
W20-56A



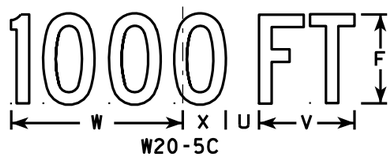
W20-55A



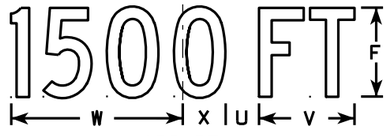
W20-5A



W20-5D



W20-5C



W20-5B

W20-5G

W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
   All other copy is Series C.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

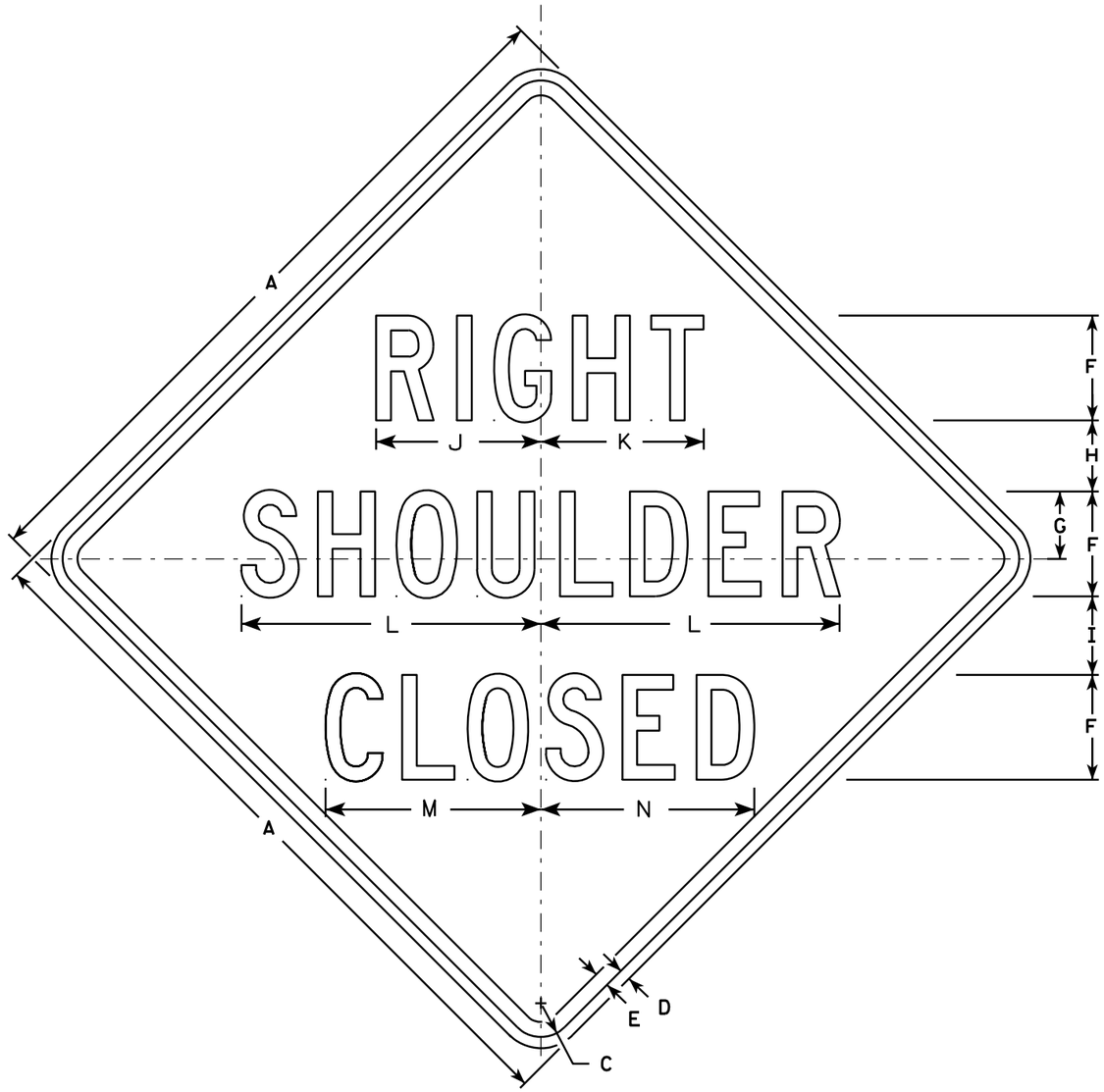
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 483 | E

7

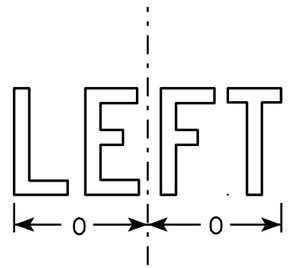
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



W21-5A

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.



W21-5AL

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	4	7 7/8	7 3/4	14 1/4	10 1/4	10 1/8	6 1/4												9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0

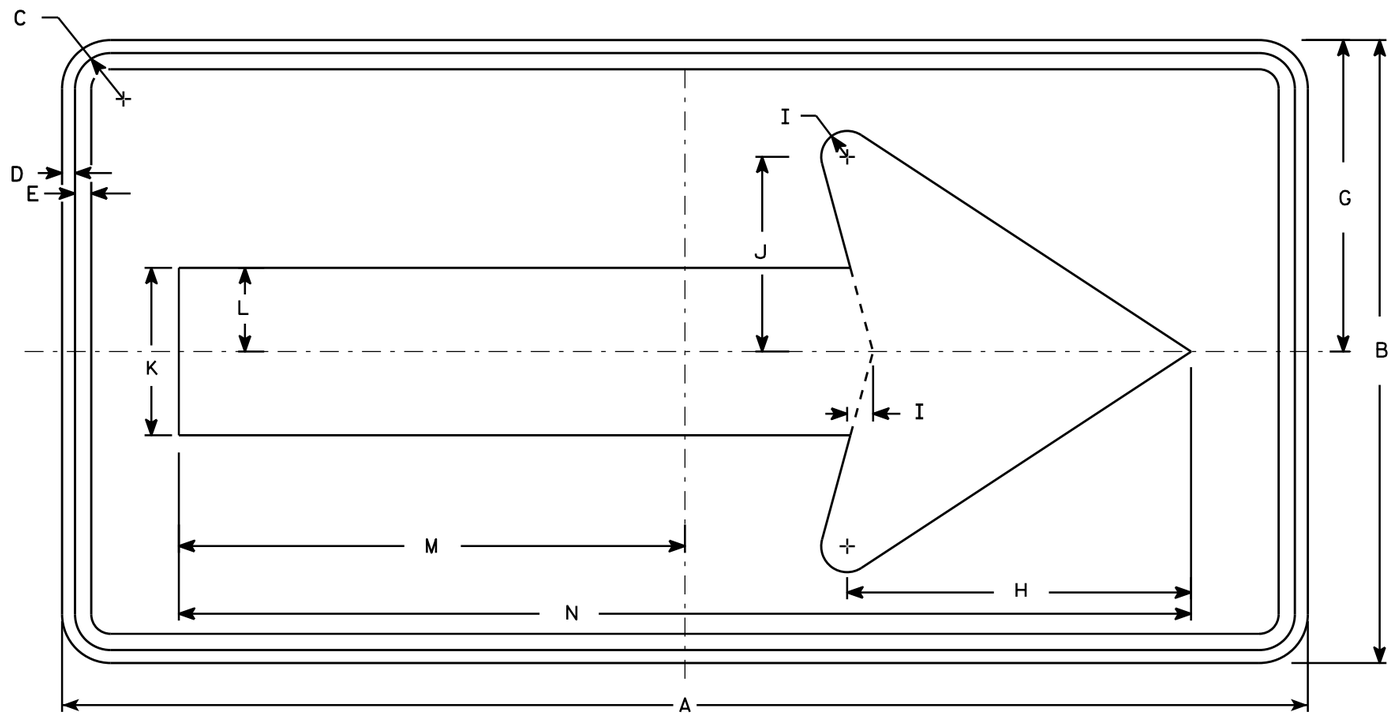
STANDARD SIGN
W21-5A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5A.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 484	E



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

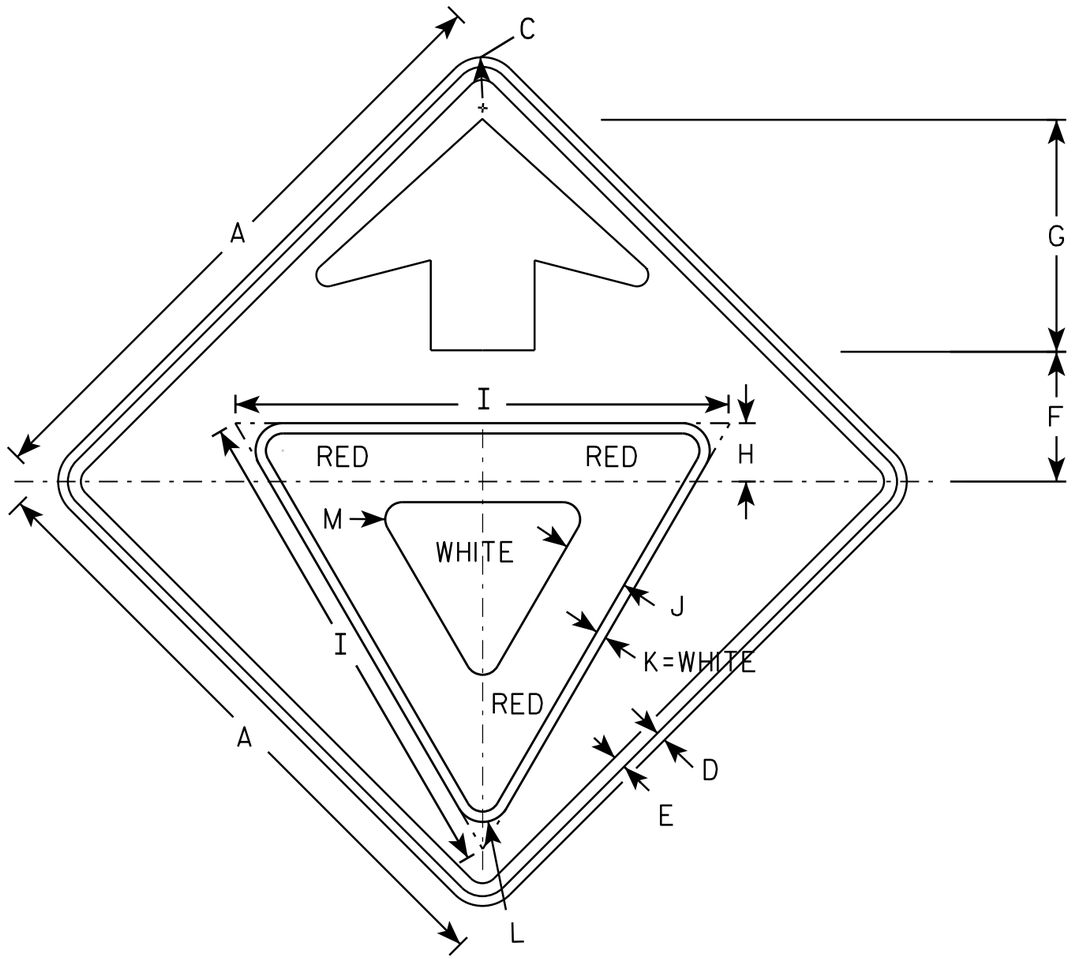
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

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

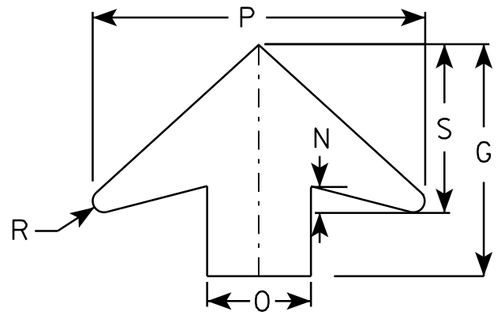
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000 WISDOT/CADDS SHEET 42



W03-2

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2S	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
2M	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
3	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

STANDARD SIGN
W03-2

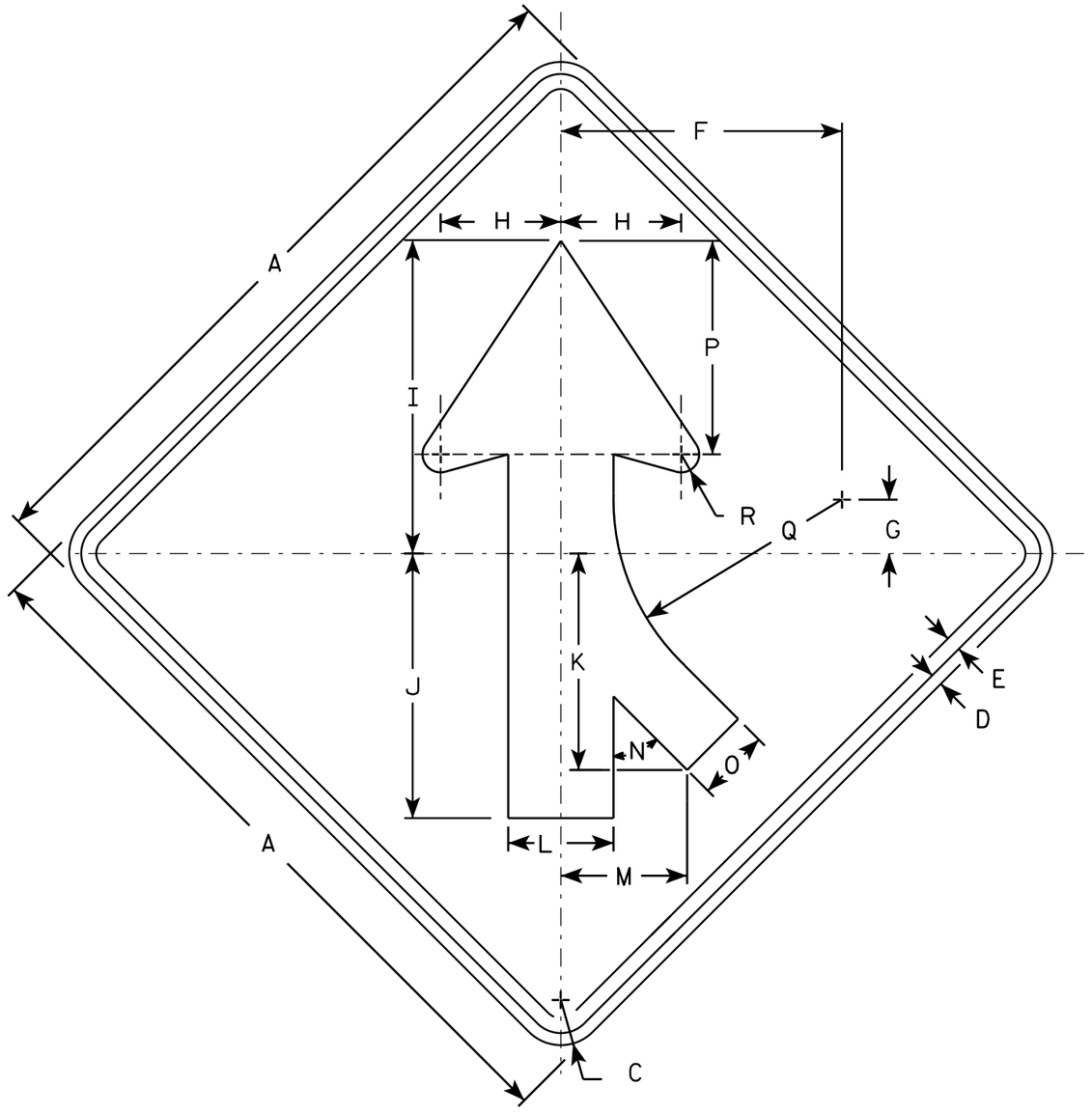
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W03-2.1

PROJECT NO:

SHEET NO: E



W04-1R

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. W4-1L is the same as W4-1R 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	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2S	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
2M	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
3	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

STANDARD SIGN
W04-1

WISCONSIN DEPT OF TRANSPORTATION

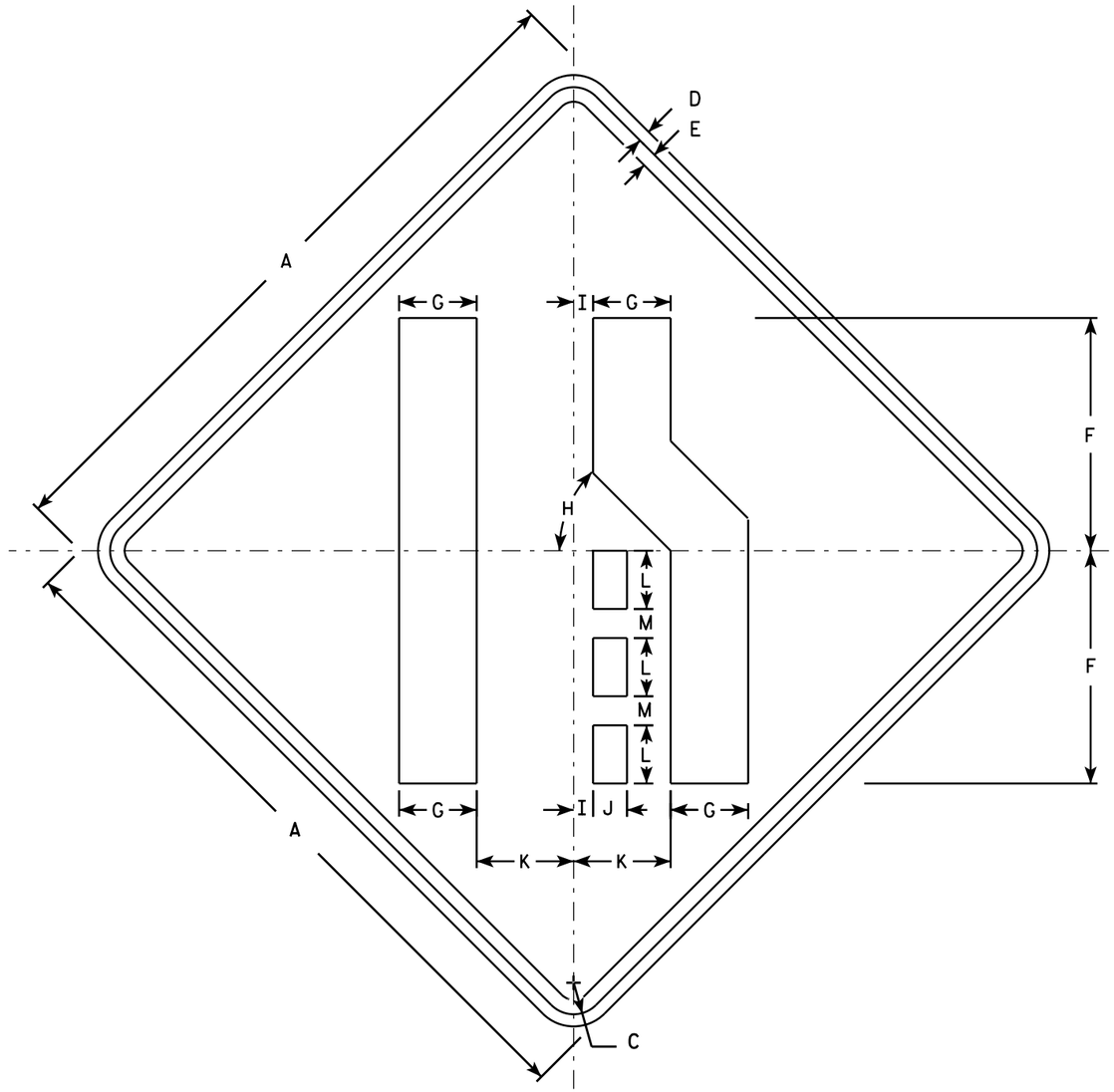
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W04-1.1

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

7

7



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

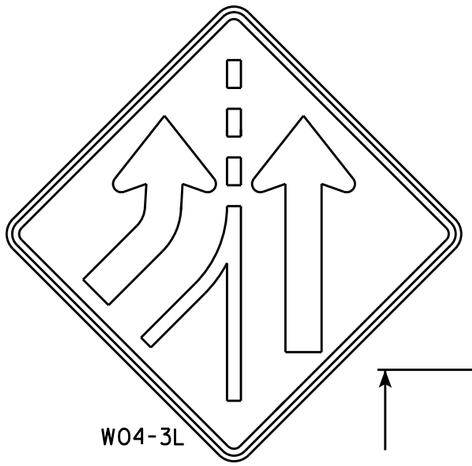
STANDARD SIGN
W04-2

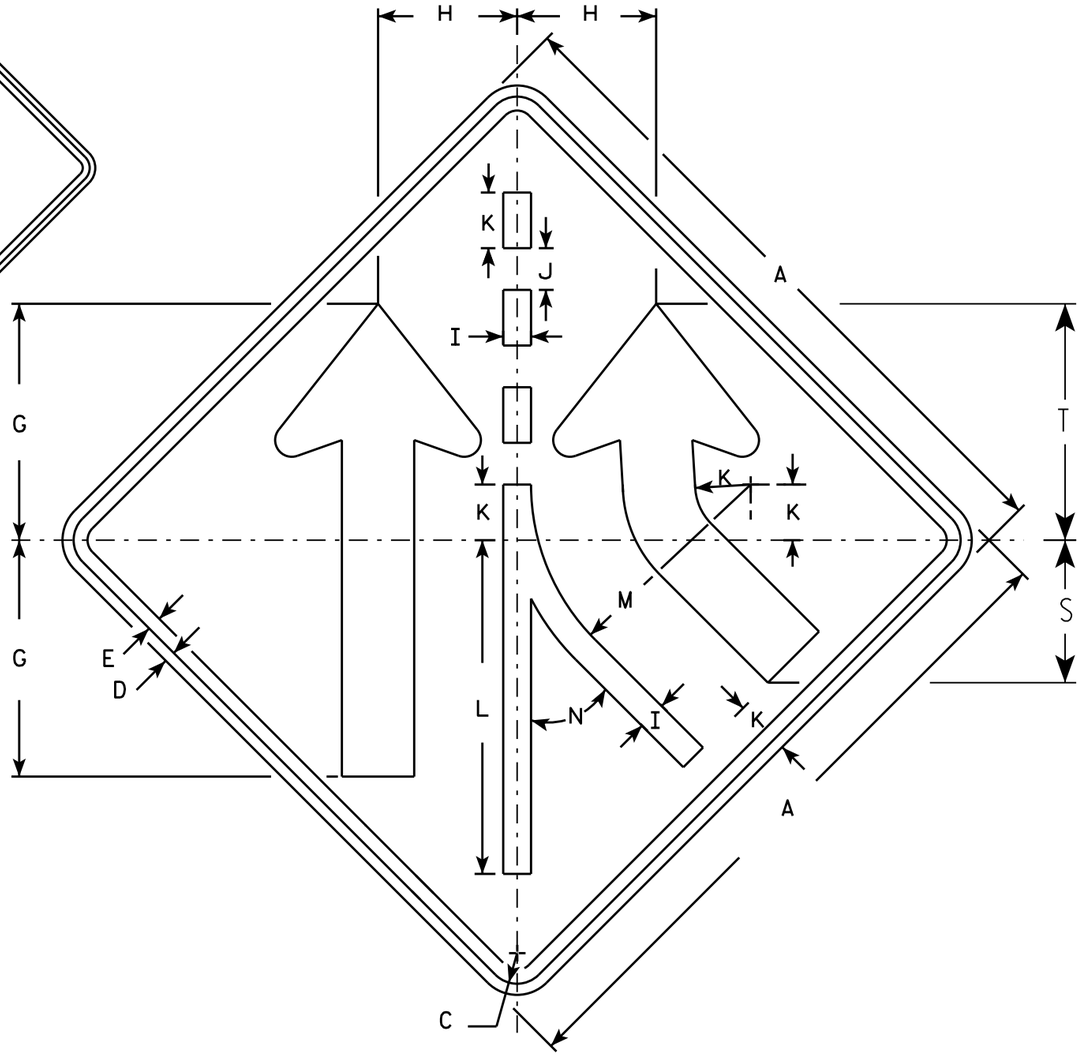
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 488 W04-2.1

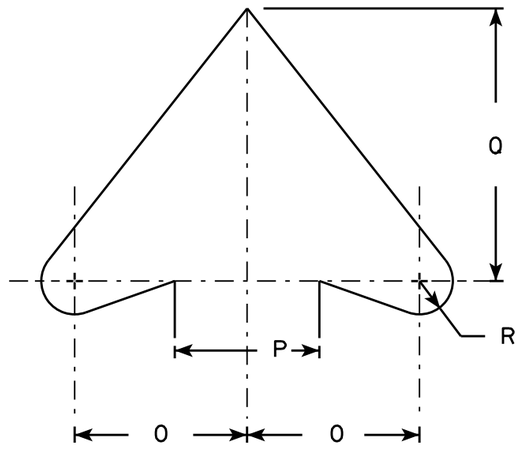
PROJECT NO: | SHEET NO: E





NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - 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. W04-3 L is the same as W04-3 R except the arrow is reversed along the vertical centerline.



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 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
2S	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
2M	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
3	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
4	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
5	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0

STANDARD SIGN

W0433

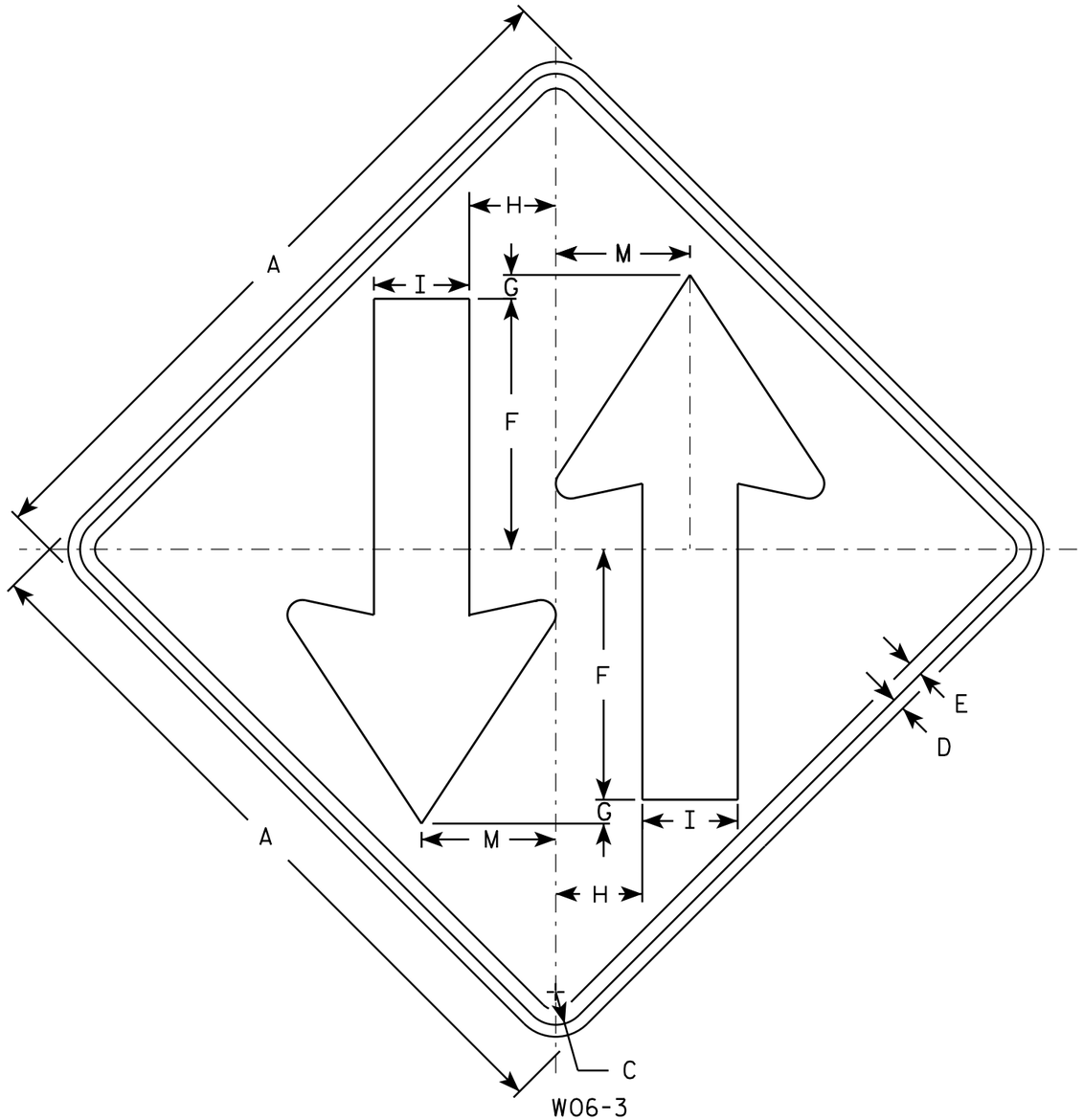
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/20/13 PLATE W04-3.1

PROJECT NO:

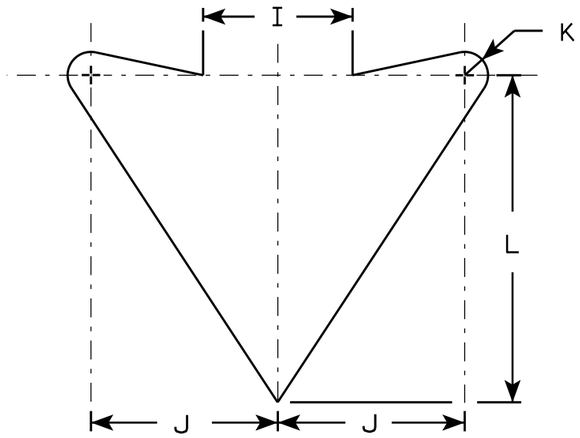
SHEET NO: E



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

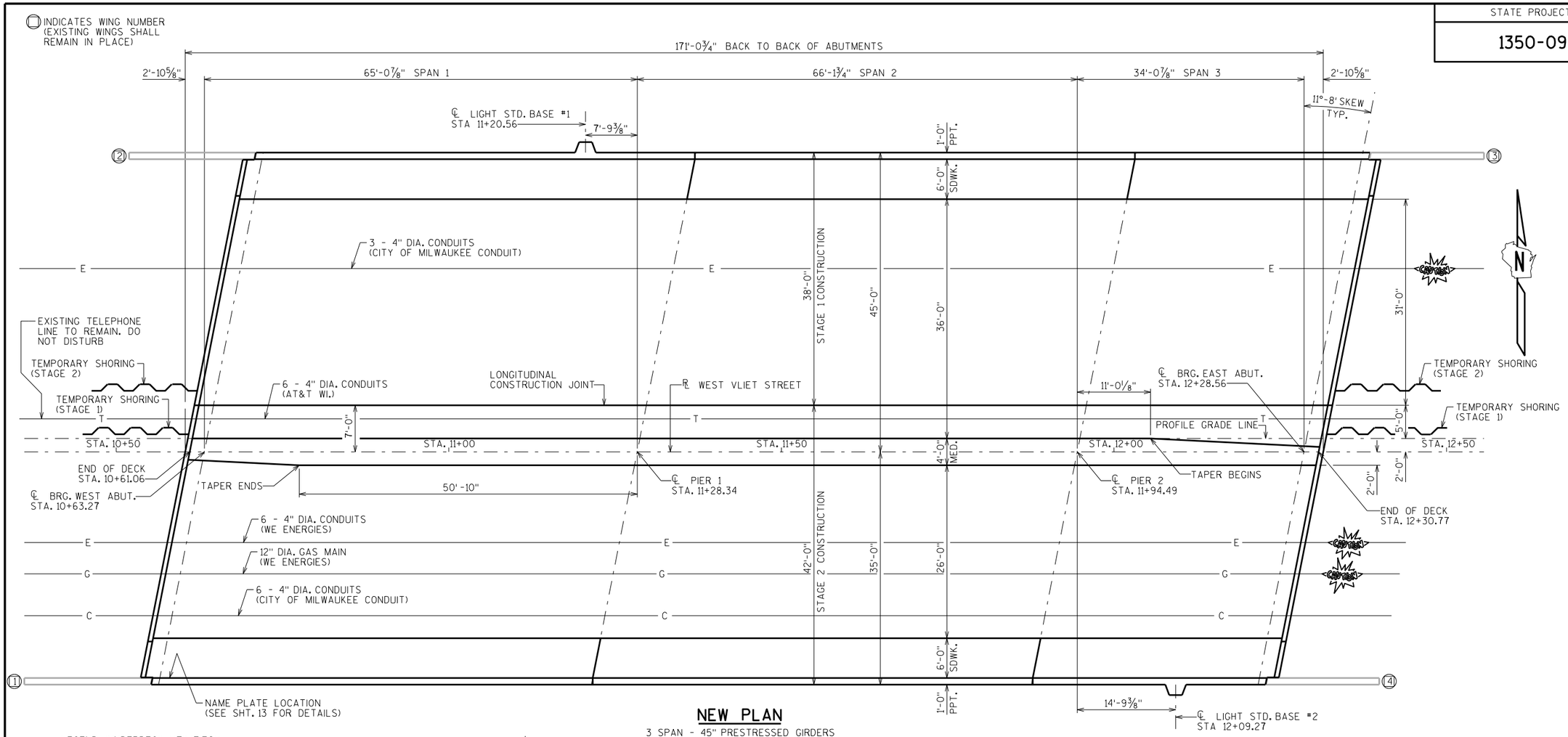
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 490 W06-3.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

STATE PROJECT NUMBER

1350-09-70



NEW PLAN

3 SPAN - 45" PRESTRESSED GIRDERS

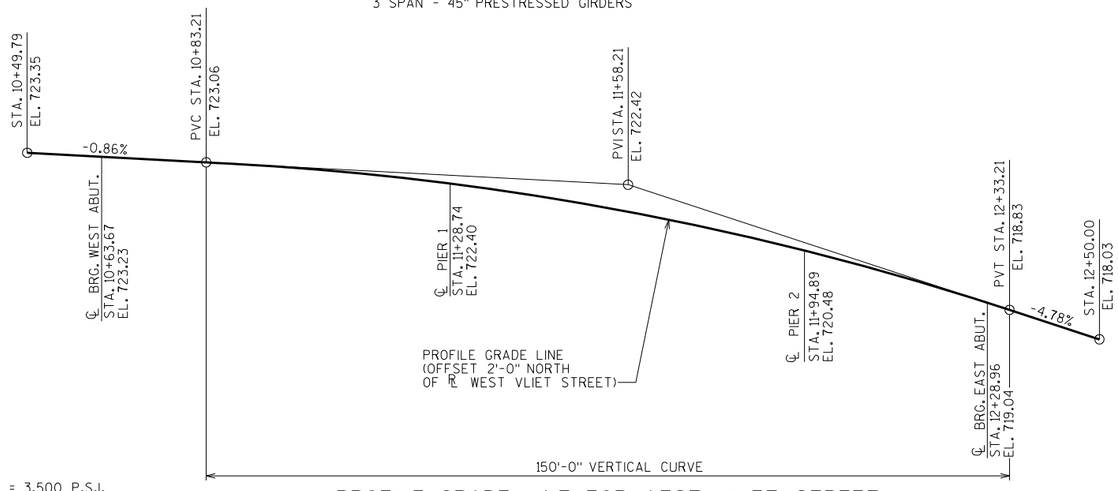
LEGEND (UNDERDECK UTILITIES):

E = ELECTRICAL

C = COMMUNICATION

G = GAS

T = TELEPHONE



PROFILE GRADE LINE FOR WEST VILET STREET

DESIGN DATA

LIVE LOAD:

INVENTORY RATING FACTOR: RF=1.09
OPERATING RATING FACTOR: RF=1.42
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 240 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY DECK — f'c = 4,000 P.S.I. ALL OTHER — f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT, GRADE 60 ——————— fy = 60,000 P.S.I.

LIST OF DRAWINGS

1. NEW DECK
2. QUANTITIES & GENERAL NOTES
3. CROSS SECTIONS & STAGING
4. WEST ABUTMENT DETAILS
5. EAST ABUTMENT DETAILS
6. PIER DETAILS
7. STEEL DIAPHRAGM
8. SUPERSTRUCTURE PLAN
9. SUPERSTRUCTURE CROSS SECTION
10. CONCRETE DIAPHRAGMS
11. SUPERSTRUCTURE DETAILS
12. TOP OF DECK ELEVATIONS
13. VERTICAL FACE PARAPET 'A'
14. PARAPET "A" ELECTRICAL WORK
15. CHAIN LINK FENCE DETAILS 1
16. CHAIN LINK FENCE DETAILS 2
17. MEDIAN DETAILS
18. BILL OF BARS & BAR DETAILS
19. CATHODIC PROTECTION

STRUCTURES DESIGN CONTACTS:
NICK RICE: (608) 266-5092
AARON BONK: (608) 261-0261

NO.	DATE	REVISION	BY

Plans Prepared By WISDOT
BUREAU OF STRUCTURES

ACCEPTED William C. Duchac 4/29/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-53

WEST VLIET STREET OVER U.S.H. 41

COUNTY	CITY
MILWAUKEE	MILWAUKEE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
NAR	AMB	JPH	DDS

NEW DECK

SHEET 1 OF 19

491

I.D. 1350-09-00B

DATE: APR. 2015

SCALE = 8

8

8

STATE PROJECT NUMBER
1350-09-70

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

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

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

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP OF EXPOSED DECK SURFACES, EXPOSED MEDIAN SURFACES, EXPOSED SIDEWALK SURFACES AND THE FRONT FACE AND TOP OF PARAPETS ON SUPERSTRUCTURE.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

REMOVE ANY/ALL LOOSE CONCRETE AT ABUTMENTS, PIERS, MEDIAN AND GIRDERS UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSH CLEANED PRIOR TO THE SURFACE REPAIRS BEING COMPLETED. REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

REMOVE EXISTING APPROACHES AS NECESSARY TO COMPLETE THE NEW DECK WORK. APPROACH REMOVAL EXTENTS SHALL NOT EXCEED 12' BEYOND THE BACKFACE OF EXISTING ABUTMENT BODIES. THE WORK SHALL BE CONSIDERED INCIDENTAL TO "EXCAVATION FOR STRUCTURES BRIDGES B-40-53".

UNDERDECK UTILITY NOTES

GENERAL UTILITY NOTES

THE EXACT SIZE, LOCATION, AND ELEVATION OF THE BOXOUTS THROUGH BOTH THE ABUTMENT AND PIER DIAPHRAGMS FOR THE NEW CONDUITS SHALL BE DETERMINED AND AGREED UPON BY BOTH THE UTILITY OWNERS (CITY OF MILWAUKEE CONDUIT, AT&T WISCONSIN, & WE ENERGIES) AND THE FIELD ENGINEER PRIOR TO INSTALLATION.

AFTER THE CONDUITS HAVE BEEN INSTALLED, THE BOXOUTS NEED TO BE GROUTED CLOSED UNLESS OTHERWISE NOTED. A PIECE OF 18" RUBBERIZED MEMBRANE WATERPROOFING SHALL BE APPLIED TO THE BACK FACE OF THE ABUTMENT DIAPHRAGMS AT THE BOXOUT LOCATIONS.

THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNERS (CITY OF MILWAUKEE CONDUIT, AT&T WISCONSIN, & WE ENERGIES) AS TO WHEN THEY WILL BE POURING THE BRIDGE DECK, SO THAT THE UTILITY OWNERS CAN PROVIDE A REPRESENTATIVE TO SUPERVISE THE INSTALLATION OF THE INSERTS, HANGERS, AND CONDUITS.

UNDERDECK UTILITY NOTES (CONT.)

WE ENERGIES GAS NOTES

THE EXISTING GAS MAIN IS TO BE SUPPORTED & PROTECTED DURING DECK REMOVAL AND THROUGHOUT CONSTRUCTION BY THE CONTRACTOR.

INSTALLATION AND REMOVAL OF TEMPORARY PROTECTION WILL BE INCIDENTAL TO "REMOVING OLD STRUCTURE STA. 11+45.92".

PRIOR TO STAGE 2 DECK REMOVAL AND INSTALLATION OF PROTECTION MATERIAL, THE CONTRACTOR SHALL INSTALL 3 SPECIALLY DESIGNED AND FABRICATED DIAPHRAGMS, ATTACH THE PIPE HANGER ASSEMBLIES TO PERMANENTLY SUPPORT THE PIPE, AND INSTALL ROLLER SUPPORTS AT EACH PIER. AFTER DECK CONSTRUCTION, THE CONTRACTOR SHALL INSTALL HANGER BRACKETS ABOVE THE PIPE AND ATTACH TO THE CONCRETE DIAPHRAGMS. THE PIPE ROLLER ASSEMBLIES SHALL THEN BE ATTACHED TO THE BRACKETS AND UNDER THE PIPE FOR SUPPORT BY THE CONTRACTOR.

ALL MATERIALS FOR WE ENERGIES GAS MAIN SUPPORT SYSTEM WILL BE PROVIDED BY WE ENERGIES. INSTALLATION OF GAS MAIN SUPPORT SYSTEM WILL BE PAID FOR UNDER THE BID ITEM "GAS MAIN SUPPORT SYSTEM, B-40-53".

AT EACH PIER, THE CONTRACTOR SHALL BOX OUT THE OPENING AROUND THE PIPE WITH A 4-INCH CLEARANCE. THE OPENING SHALL NOT BE GROUTED CLOSED.

WE ENERGIES ELECTRIC NOTES

WE ENERGIES EXISTING 6-DUCT CONDUIT PACKAGE DOES CONTAIN ASBESTOS. WE ENERGIES WILL BE RESPONSIBLE FOR DE-ENERGIZING THE ELECTRICAL CABLES AND THE REMOVAL OF THEIR TRANSITE DUCTS, INCLUDING ASBESTOS, UNDERNEATH THE BRIDGE DECK BETWEEN ABUTMENTS DURING STAGE 1. DURING STAGE 2, WE ENERGIES WILL REMOVE THE DUCT TRANSITION COUPLINGS, INCLUDING ASBESTOS, IN THE ABUTMENTS ONCE DEMOLITION OF THE ABUTMENTS HAS BEGUN.

THE CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING ALL EXISTING HARDWARE NOT CONTAINING ASBESTOS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO "REMOVING OLD STRUCTURE STA. 11+45.92".

WE ENERGIES (6 - 4"Φ CONDUIT PACKAGE) SHALL SUPPLY INSERTS, HANGERS, CONDUITS, AND ALL THE NECESSARY HARDWARE REQUIRED FOR THE CONTRACTOR TO INSTALL THE INSERTS, HANGERS & CONDUIT FOR THEIR UTILITIES. THE HANGER SPACING AND QUANTITIES SHALL ALSO BE PROVIDED BY WE ENERGIES. CONTACT WE ENERGIES FOR SPACING AND QUANTITIES PRIOR TO PREPARING FINAL BID. THE CONTACT FOR WE ENERGIES IS LEONARD WILSON (PHONE 414-944-5690).

UNDERDECK UTILITY NOTES (CONT.)

AT&T WISCONSIN NOTES

AT&T WISCONSIN'S EXISTING 6-DUCT CONDUIT PACKAGE DOES CONTAIN ASBESTOS. AT&T WISCONSIN WILL BE RESPONSIBLE FOR THE REMOVAL OF THEIR FACILITIES, INCLUDING THE PORTIONS WITHIN EACH ABUTMENT.

AT&T WISCONSIN WILL REMOVE THE OLD HANGER SYSTEM, REPLACE WITH NEW, AND PLACE A SUPPORT FOR THE CABLES/CONDUIT WHEN THE OLD HANGER SYSTEM IS SEVERED FROM THE BRIDGE.

THE CONTRACTOR SHALL PROVIDE PROTECTION FOR THE AT&T WISCONSIN'S FACILITIES DURING DECK REMOVAL AND REPLACEMENT. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO "REMOVING OLD STRUCTURE STA. 11+45.92".

THE CONTRACTOR SHALL WORK AROUND THE 6 SPLAYED DUCTS AT THE BACK OF THE ABUTMENT WALLS WHEN PLACING TEMPORARY SHORING FOR STAGE 1 AND STAGE 2.

AT&T WISCONSIN (6 - 4"Φ CONDUIT PACKAGE) SHALL SUPPLY INSERTS AND ALL NECESSARY HARDWARE FOR THE CONTRACTOR TO INSTALL THEIR INSERTS. THE INSERT SPACING AND QUANTITIES SHALL ALSO BE PROVIDED BY AT&T WISCONSIN. CONTACT AT&T FOR SPACING AND QUANTITIES PRIOR TO PREPARING FINAL BID. THE CONTACTS FOR AT&T ARE DEAN HERRO (PHONE 262-352-0131) AND JAY BULANEK (PHONE 262-896-7669). THE INSTALLATION OF THE INSERTS SHALL BE CONSIDERED INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

AT&T WILL BE RESPONSIBLE FOR INSTALLING THE PROPOSED HANGER SYSTEM.

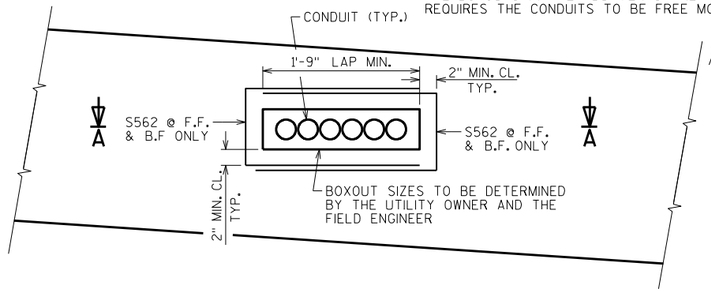
CITY OF MILWAUKEE CONDUIT NOTES

CITY OF MILWAUKEE FORCES WILL EITHER REMOVE OR CUT-OFF EXISTING CABLES FOR THEIR 3-DUCT ELECTRICAL PACKAGE PRIOR TO STAGE 1 DECK REMOVAL AND FOR THEIR 6-DUCT COMMUNICATIONS PACKAGE PRIOR TO STAGE 2 DECK REMOVAL.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE EXISTING 3-DUCT ELECTRICAL CONDUIT PACKAGE AND THE EXISTING 6-DUCT COMMUNICATIONS CONDUIT PACKAGE. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO "REMOVING OLD STRUCTURE STA. 11+45.92".

THE CONTRACTOR SHALL SUPPLY AND INSTALL INSERTS, HANGERS, CONDUIT AND ALL THE NECESSARY HARDWARE REQUIRED FOR THE CITY OF MILWAUKEE CONDUIT (6 - 4"Φ COMMUNICATIONS & 3-4"Φ ELECTRICAL CONDUIT PACKAGES). SEE CITY OF MILWAUKEE UNDERGROUND CONDUIT PLANS FOR DETAILED INSTALLATION PLANS. ALL MATERIALS AND WORK SHALL BE PAID FOR UNDER THE BID ITEM "UNDERDECK UTILITY STRUCTURE B-40-53 CITY OF MILWAUKEE ELECTRICAL CONDUIT" AND THE BID ITEM "UNDERDECK UTILITY STRUCTURE B-40-53 CITY OF MILWAUKEE COMMUNICATIONS CONDUIT".

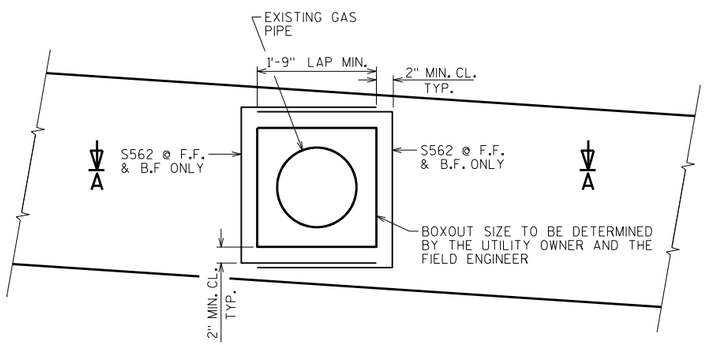
THE BOXOUTS IN THE ABUTMENTS ARE THE ONLY BOXOUTS TO BE SEALED. THE CITY OF MILWAUKEE REQUIRES THE CONDUITS TO BE FREE MOVING THROUGH THE PIER DIAPHRAGMS.



TYPICAL CONDUIT BOXOUT ELEVATION AT DIAPHRAGMS

THE CONTRACTOR SHALL ADJUST BAR S562 SIZE TO MAINTAIN 2" MINIMUM CLEAR OF THE AGREED UPON BOXOUT SIZE.

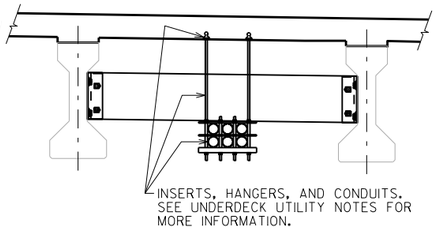
PLACE BAR S562 PARALLEL TO THE ℄ OF THE SUBSTRUCTURE.



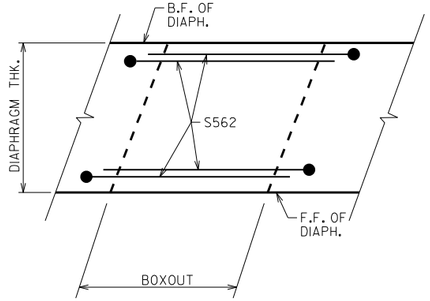
TYPICAL GAS PIPE BOXOUT ELEVATION AT DIAPHRAGMS

THE CONTRACTOR SHALL ADJUST BAR S562 SIZE TO MAINTAIN 2" MINIMUM CLEAR OF THE AGREED UPON BOXOUT SIZE.

PLACE BAR S562 PARALLEL TO THE ℄ OF THE SUBSTRUCTURE.



TYPICAL IN-SPAN UTILITY HANGER ELEVATION



SECTION A-A

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	WEST ABUT.	EAST ABUT.	PIER 1	PIER 2	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 11+45.92	LS	——	——	——	——	——	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-40-53	LS	——	——	——	——	——	1
210.0100	BACKFILL STRUCTURE	CY	——	80	80	——	——	160
502.0100	CONCRETE MASONRY BRIDGES	CY	705	——	——	——	——	705
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1660	——	——	——	——	1660
502.5005	MASONRY ANCHORS TYPE L NO.5 BARS	EACH	——	——	——	52	59	111
◪ 505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	127,260	——	——	165	185	127,610
506.4000	STEEL DIAPHRAGMS B-40-53	EACH	25	——	——	——	——	25
509.1500	CONCRETE SURFACE REPAIR	SF	105	30	10	5	20	170
511.1200	TEMPORARY SHORING B-40-53	SF	——	220	220	——	——	440
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	——	16	16	——	——	32
616.0204	FENCE CHAIN LINK 4-FT.	LF	——	39	34	——	——	73
616.0208	FENCE CHAIN LINK 8-FT.	LF	333	——	——	——	——	333
652.0230	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2½-INCH	LF	360	——	——	——	——	360
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	2	——	——	——	——	2
657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH	2	——	——	——	——	2
SPV.0060.700	CLEANING BEARINGS	EACH	——	——	——	22	20	42
SPV.0060.701	BEARING REPLACEMENT B-40-53	EACH	——	11	9	——	——	20
▶ SPV.0060.702	EMBEDDED GALVANIC ANODES	EACH	——	23	8	4	15	50
SPV.0165.700	CONCRETE CURE AND SEAL TREATMENT	SF	——	2590	285	1405	1265	5545
	NON-BID ITEMS							
	FILLER	SIZE	——	——	——	——	——	½",¾"&2¼"
	PLASTIC OR ZINC PLATE	SIZE	——	——	——	——	——	⅛"

ALL ITEMS ARE CATEGORY 0020

▶ THIS QUANTITY IS FOR INFORMATIONAL PURPOSES ONLY. FIELD ENGINEER TO VERIFY THE EXACT NUMBER OF ANODES REQUIRED AT EACH INDIVIDUAL SURFACE REPAIR LOCATION PRIOR TO ANODE INSTALLATION.

◪ THIS QUANTITY IS FOR INFORMATIONAL PURPOSES ONLY. QUANTITY WILL VARY SLIGHTLY DEPENDING ON SIZE OF S562 BARS USED BASED ON BOXOUT SIZES DETERMINED BY UTILITY OWNERS AND THE FIELD ENGINEER AT EACH UTILITY LOCATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

QUANTITIES & GENERAL NOTES

SHEET 2

492

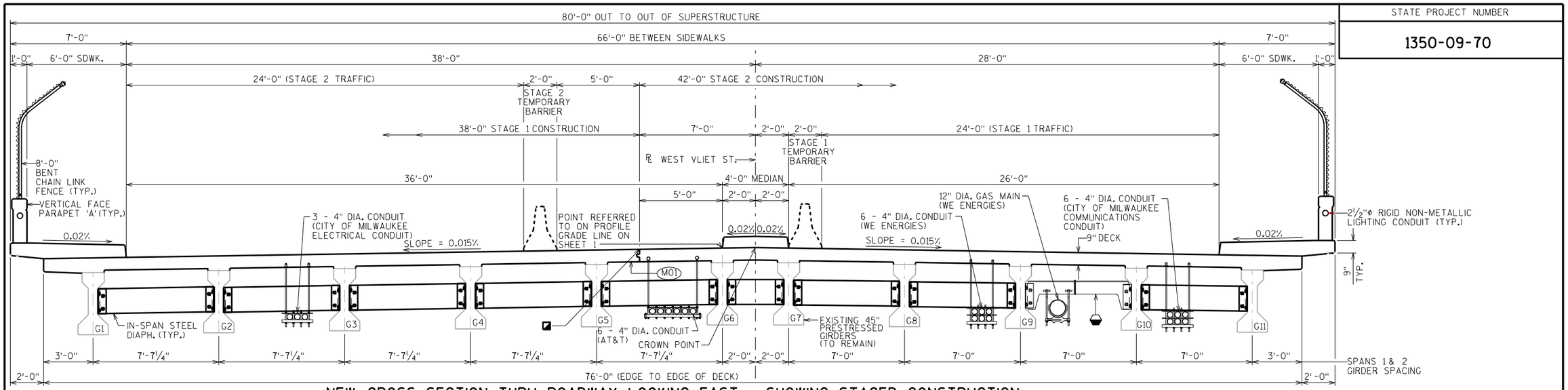
8

8

SCALE = 2

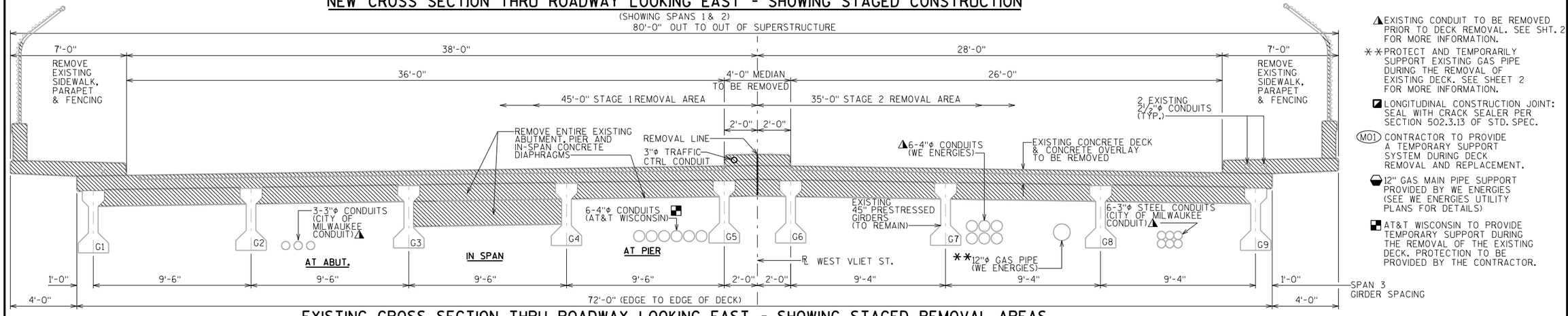
STATE PROJECT NUMBER

1350-09-70



NEW CROSS SECTION THRU ROADWAY LOOKING EAST - SHOWING STAGED CONSTRUCTION

(SHOWING SPANS 1 & 2)



EXISTING CROSS SECTION THRU ROADWAY LOOKING EAST - SHOWING STAGED REMOVAL AREAS

▲EXISTING CONDUIT TO BE REMOVED PRIOR TO DECK REMOVAL. SEE SHT. 2 FOR MORE INFORMATION.

**PROTECT AND TEMPORARILY SUPPORT EXISTING GAS PIPE DURING THE REMOVAL OF EXISTING DECK. SEE SHEET 2 FOR MORE INFORMATION.

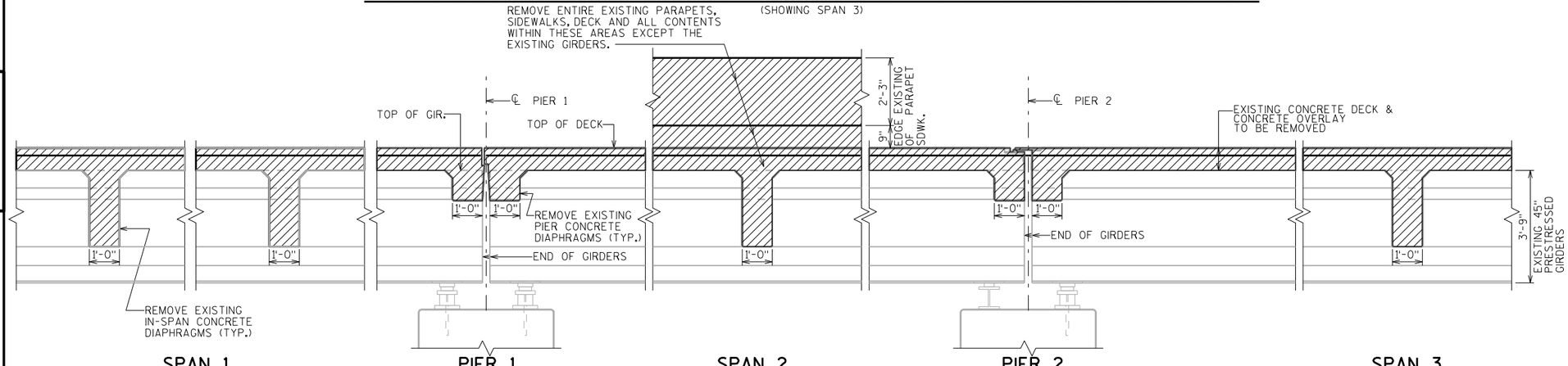
LONGITUDINAL CONSTRUCTION JOINT: SEAL WITH CRACK SEALER PER SECTION 502.3.13 OF STD. SPEC.

M01 CONTRACTOR TO PROVIDE A TEMPORARY SUPPORT SYSTEM DURING DECK REMOVAL AND REPLACEMENT.

12" GAS MAIN PIPE SUPPORT PROVIDED BY WE ENERGIES (SEE WE ENERGIES UTILITY PLANS FOR DETAILS)

AT&T WISCONSIN TO PROVIDE TEMPORARY SUPPORT DURING THE REMOVAL OF THE EXISTING DECK. PROTECTION TO BE PROVIDED BY THE CONTRACTOR.

(SHOWING SPAN 3)



EXISTING PARTIAL LONGITUDINAL SECTION LOOKING NORTH SHOWING REMOVAL AREAS

NOTE:
REMOVAL LINES SHALL BE DEFINED BY A 1" DEEP SAW-CUT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

CROSS SECTIONS & STAGING

SHEET 3

493

SCALE = 3

STATE PROJECT NUMBER

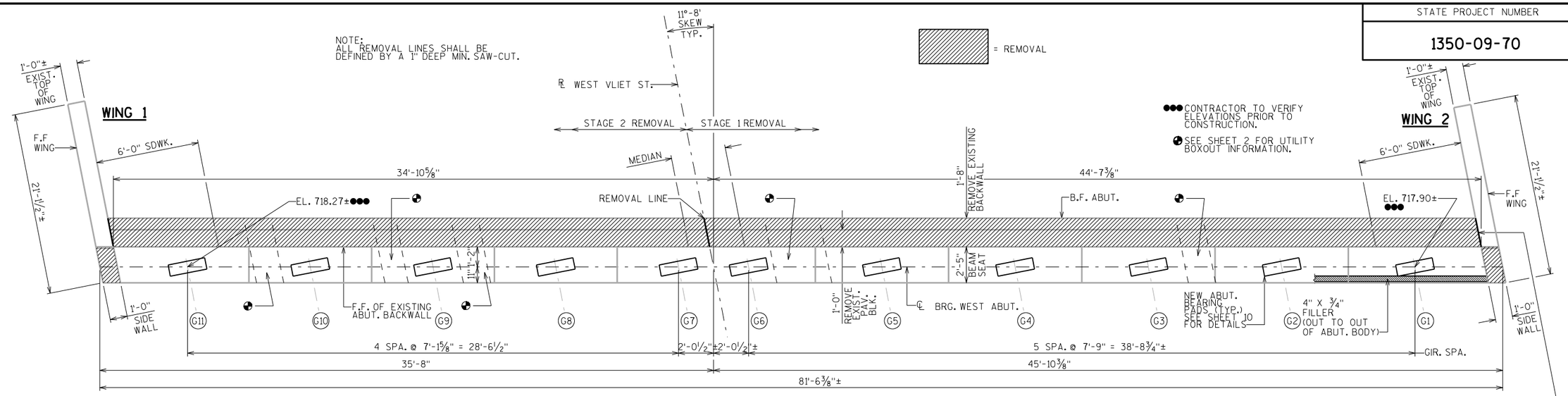
1350-09-70

NOTE:
ALL REMOVAL LINES SHALL BE DEFINED BY A 1" DEEP MIN. SAW-CUT.

= REMOVAL

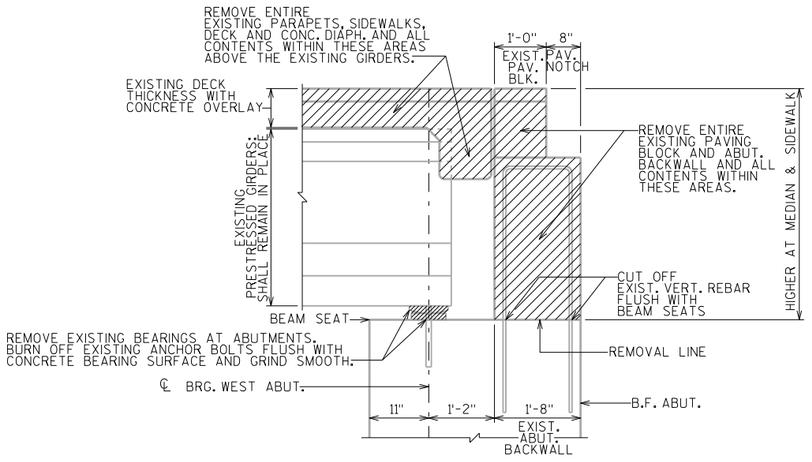
●●● CONTRACTOR TO VERIFY ELEVATIONS PRIOR TO CONSTRUCTION.

◕ SEE SHEET 2 FOR UTILITY BOXOUT INFORMATION.



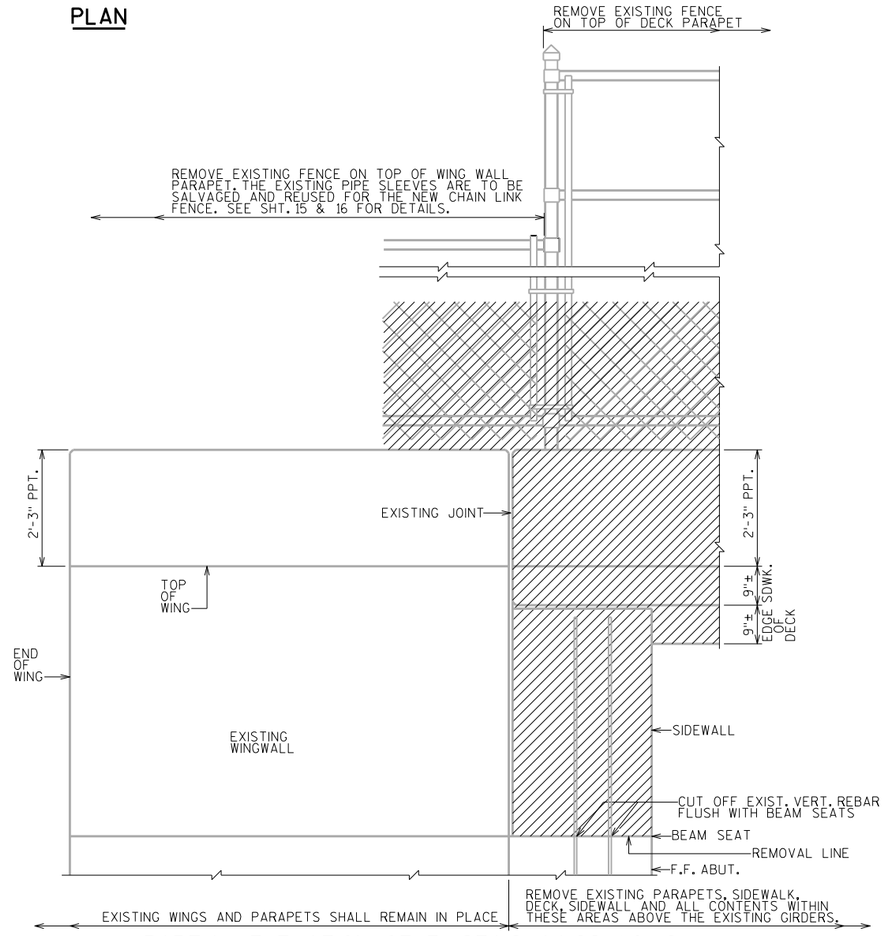
PLAN

REMOVAL LINE DOWN TO BEAM SEAT DEFINED BY A SMOOTH SAW-CUT AS NEEDED. (TYP.)



PARTIAL SECTION THRU EXISTING WEST ABUTMENT

(SHOWING REMOVAL AREAS)



PARTIAL ELEVATION OF EXISTING WINGS 1 & 2

(SHOWING REMOVAL AREAS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

WEST ABUTMENT DETAILS

SHEET 4

494

SCALE = 3

8

8

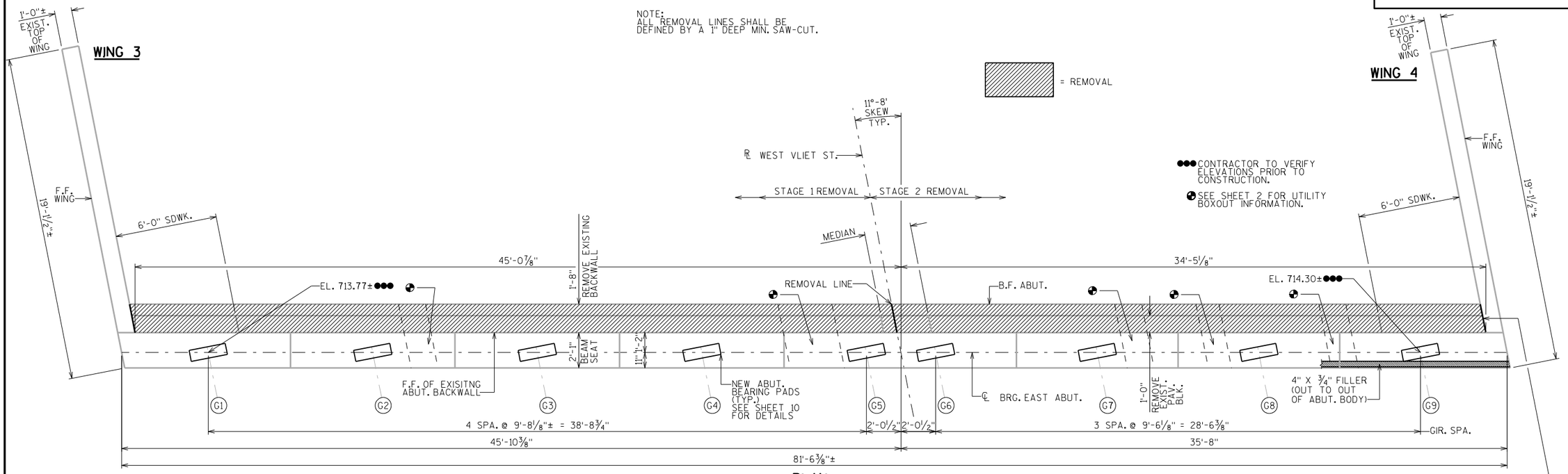
STATE PROJECT NUMBER
1350-09-70

NOTE:
ALL REMOVAL LINES SHALL BE DEFINED BY A 1" DEEP MIN. SAW-CUT.

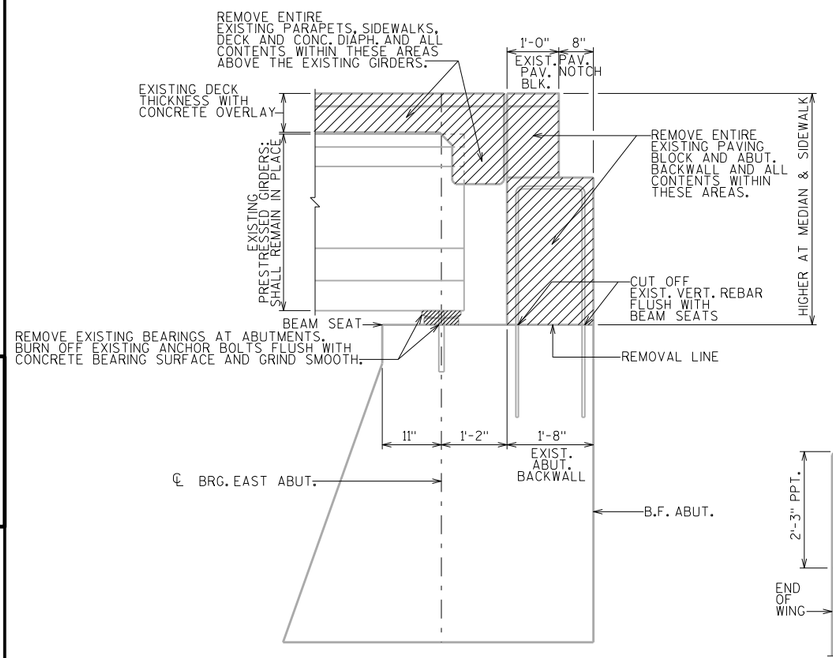
= REMOVAL

●●● CONTRACTOR TO VERIFY ELEVATIONS PRIOR TO CONSTRUCTION.

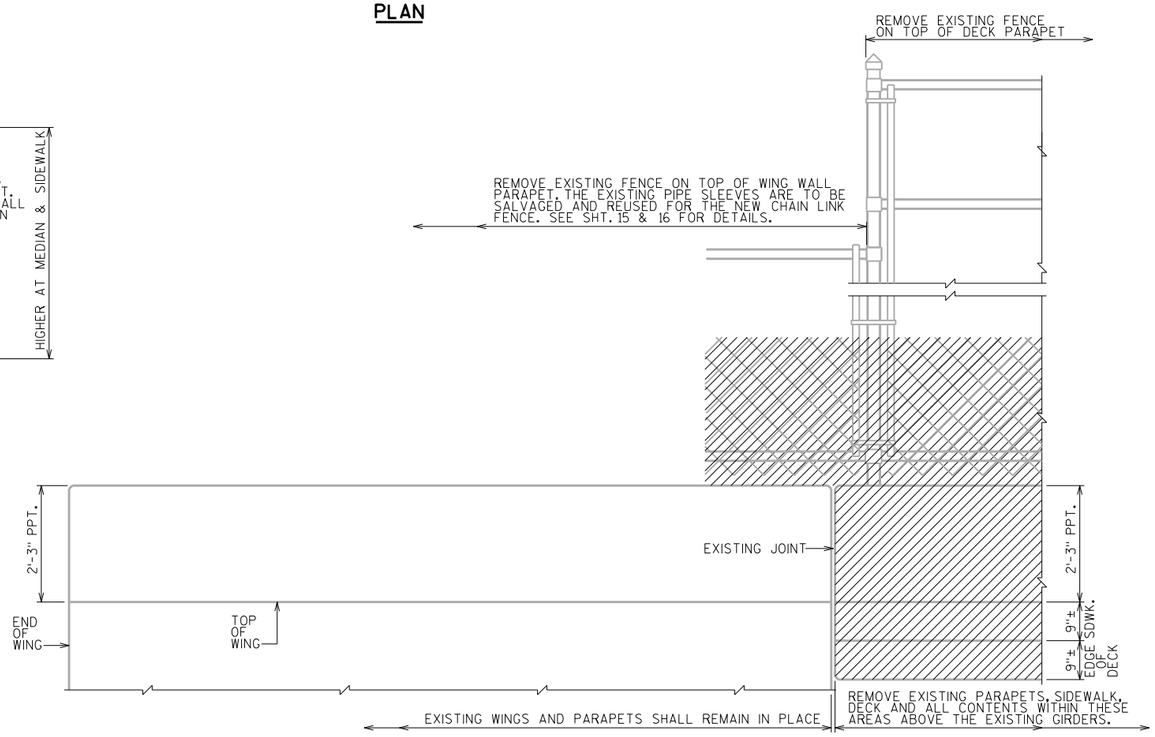
◕ SEE SHEET 2 FOR UTILITY BOXOUT INFORMATION.



PLAN



SECTION THRU
EXISTING EAST ABUTMENT
(SHOWING REMOVAL AREAS)



PARTIAL ELEVATION OF EXISTING WINGS 3 & 4
(SHOWING REMOVAL AREAS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

EAST ABUTMENT DETAILS

SHEET 5

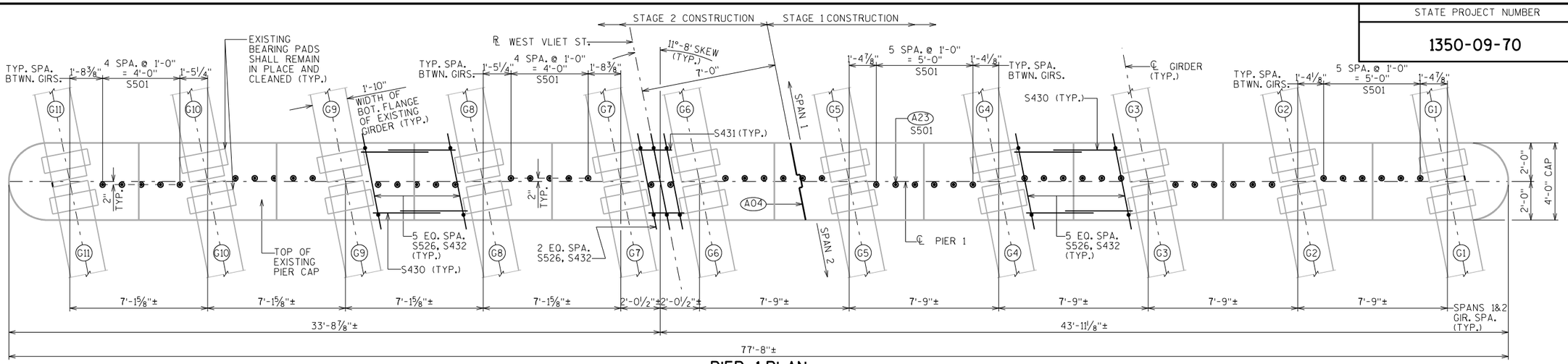
495

SCALE = 3

8

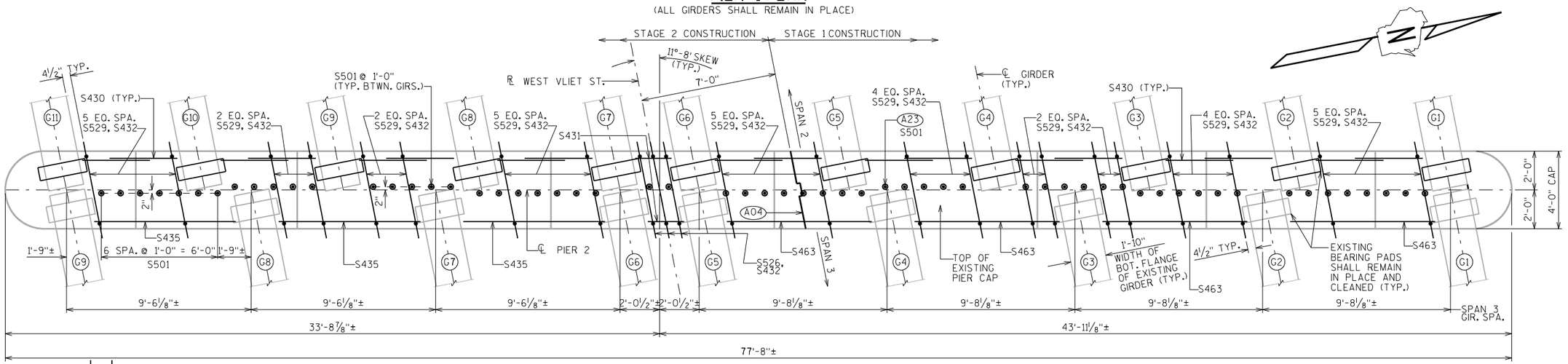
8

STATE PROJECT NUMBER
1350-09-70



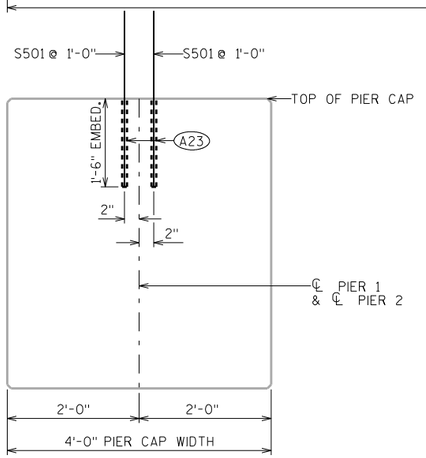
PIER 1 PLAN

(ALL GIRDERS SHALL REMAIN IN PLACE)



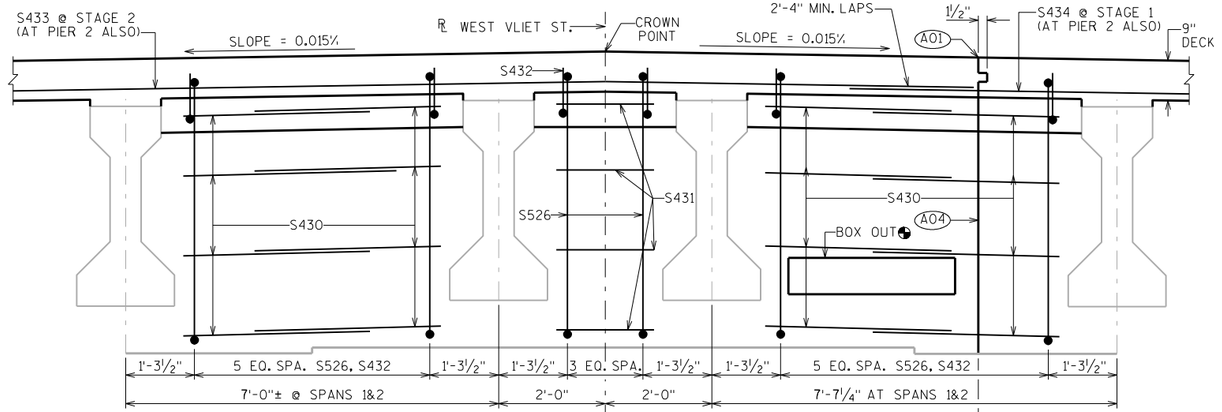
PIER 2 PLAN

(ALL GIRDERS SHALL REMAIN IN PLACE)



SECTION THRU EXISTING PIER CAP

ALTERNATE S501 BARS @ 2" OFF CENTER BETWEEN EVERY OTHER SPAN 2 GIRDER. (TYP.)



PARTIAL CROSS SECTION AT PIER 1 CONCRETE DIAPHRAGM LOOKING WEST

SEE SHEET 2 FOR UTILITY BOXOUT INFORMATION. NOTE: AT ALL UTILITY BOXOUTS, MOVE OR CUT REINFORCEMENT TO MAINTAIN 2" CLEAR.

(A01) LONGITUDINAL CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 1½" x 2". SEAL WITH CRACK SEALER PER SECTION 502.3.13 OF STD. SPEC.

(A04) VERT. CONSTRUCTION JOINT THRU CONCRETE DIAPHRAGM: KEYWAY FORMED BY A BEVELED 2" x 8". 3/4" "V" GROOVE @ EACH FACE.

(A23) MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED 1'-6" INTO EXIST. CONCRETE. EPOXY ANCHORED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

PIER DETAILS

SHEET 6

496

SCALE = 2.75

8

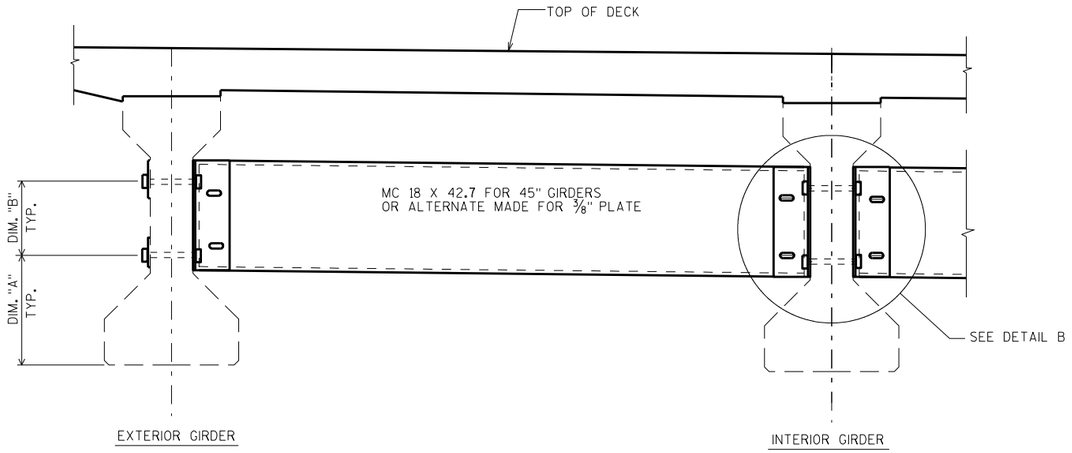
8

STATE PROJECT NUMBER

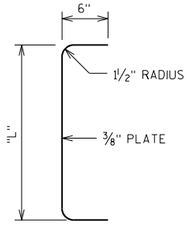
1350-09-70

TABLE

GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	* DIM. "X"
45"	1'-5 3/8"	1'-1 7/8"	1'-5 1/2"	2 1/4"



PART TRANSVERSE SECTION AT DIAPHRAGM



SECTION THRU ALTERNATE DIAPHRAGM

*DIM "X" = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM

NOTES

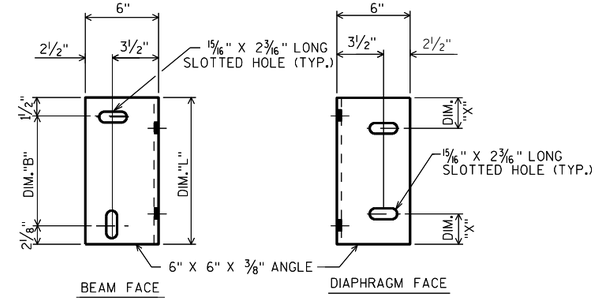
ALL DIAPHRAGM MATERIAL AND CORED HOLES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-40-53", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

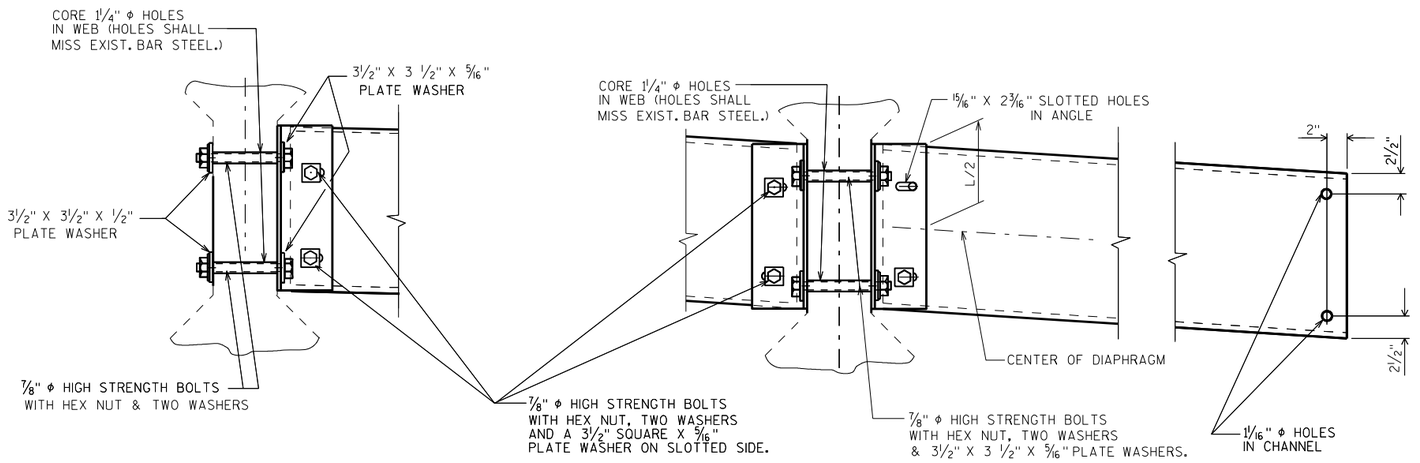
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

WE ENERGIES 12" GAS MAIN PIPE SUPPORT SHALL BE PROVIDED BY WE ENERGIES BETWEEN GIRDERS 9 & 10 OF SPANS 1 & 2 AND GIRDERS 7 & 8 OF SPAN 3. THE PIPE SUPPORTS SHALL REPLACE THE STEEL IN-SPAN DIAPHRAGMS AT THESE LOCATIONS. SEE WE ENERGIES UTILITY PLANS FOR DETAILS.



DIAPHRAGM SUPPORT



(FOR EXTERIOR GIRS. & STAGGERED DIAPHRAGMS)

(FOR CONTINUOUS LINE OF DIAPHRAGMS)

DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

STEEL DIAPHRAGM

SHEET 7

497

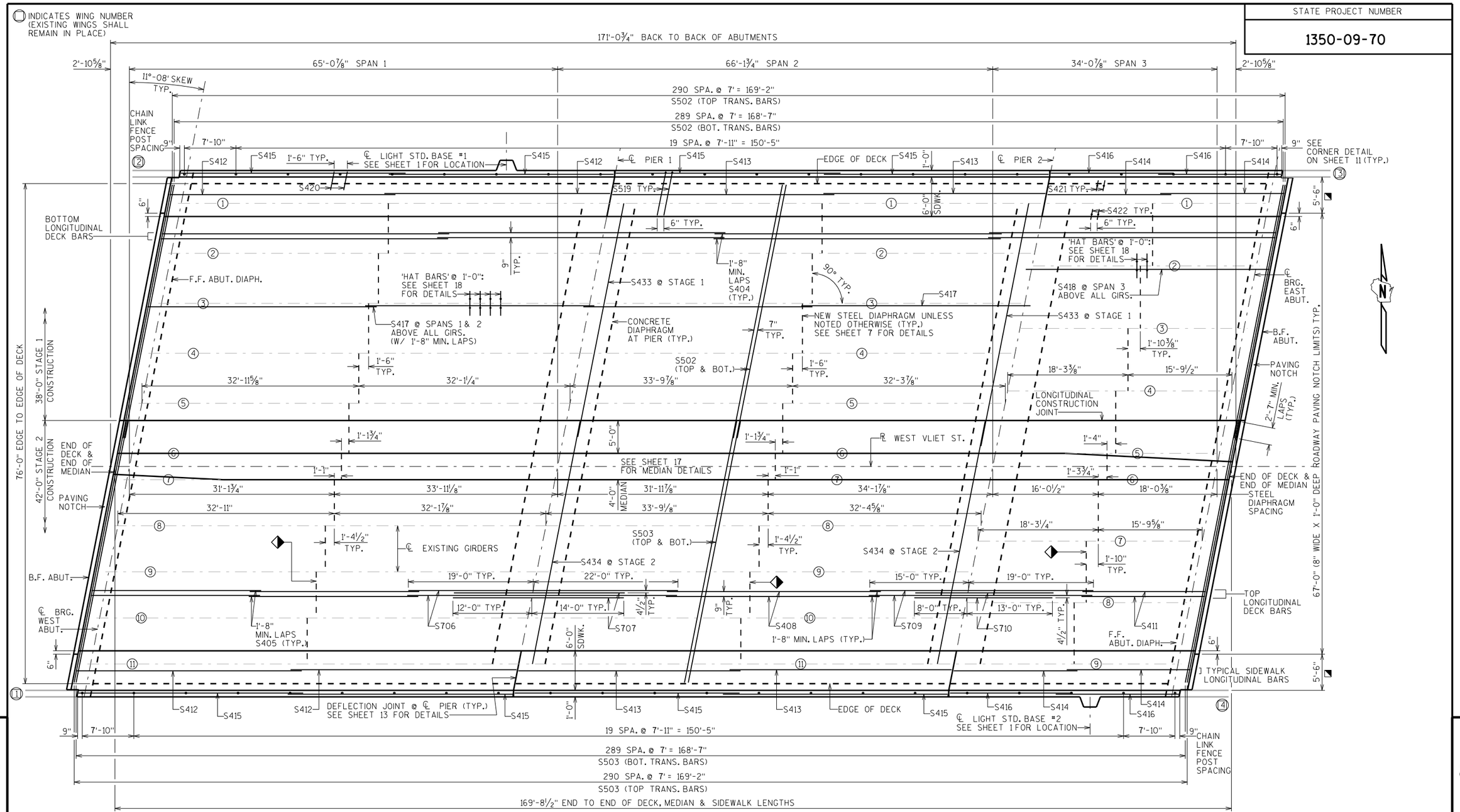
SCALE = 1

8

8

STATE PROJECT NUMBER

1350-09-70



NEW PLAN

THE EXISTING IN-SPAN CONCRETE DIAPHRAGM LOCATIONS DO NOT APPEAR ON THE ORIGINAL PLAN SET. THE CONTRACTOR SHALL VERIFY THAT THE NEW STEEL DIAPHRAGM LOCATIONS WILL CLEAR THE EXISTING IN-SPAN CONCRETE DIAPHRAGMS BY A MINIMUM OF 1'-0", PRIOR TO CORING HOLES IN THE EXISTING GIRDER WEBS (HOLES SHALL MISS EXISTING BAR STEEL) FOR THE NEW STEEL DIAPHRAGMS. SEE SHEET 7 FOR DETAILS.

◆ 12" GAS MAIN PIPE SUPPORT (SEE WE ENERGIES UTILITY PLANS FOR DETAILS)

◥ LIMITS OF 8" WIDE X 9" MIN. DEEP SIDEWALK PAVING NOTCH (TYP. AT BOTH ENDS OF DECK)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

SUPERSTRUCTURE PLAN

SHEET 8

498

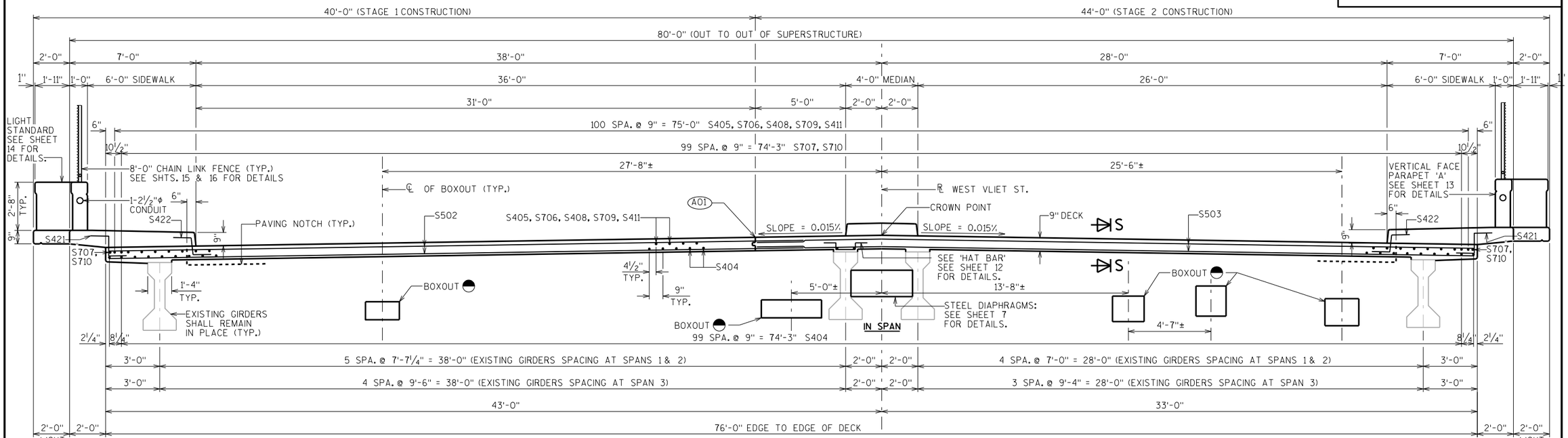
SCALE = 7

8

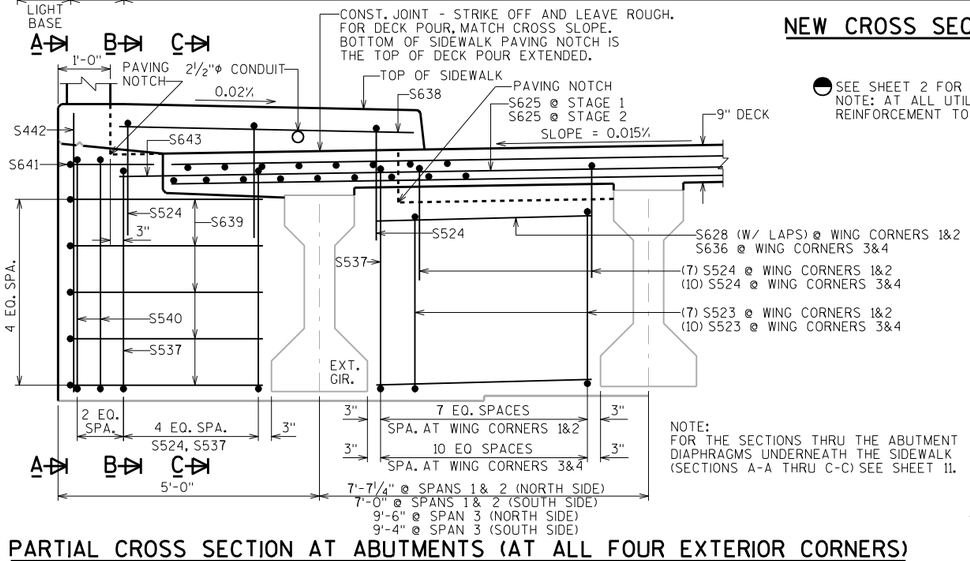
8

STATE PROJECT NUMBER

1350-09-70

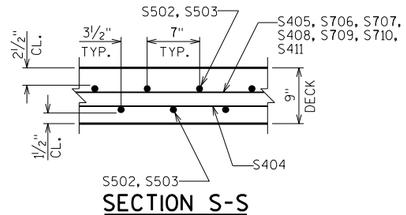


NEW CROSS SECTION THRU SUPERSTRUCTURE LOOKING EAST



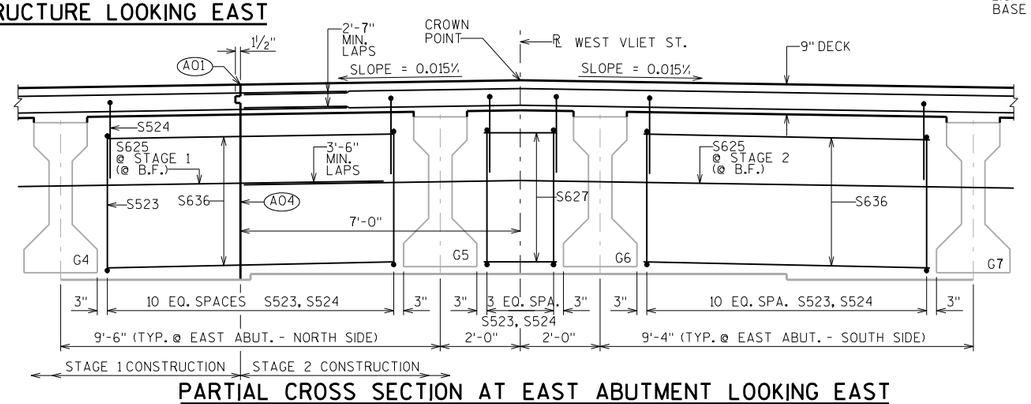
PARTIAL CROSS SECTION AT ABUTMENTS (AT ALL FOUR EXTERIOR CORNERS)

NOTE:
FOR THE SECTIONS THRU THE ABUTMENT DIAPHRAGMS UNDERNEATH THE SIDEWALK (SECTIONS A-A THRU C-C) SEE SHEET 11.

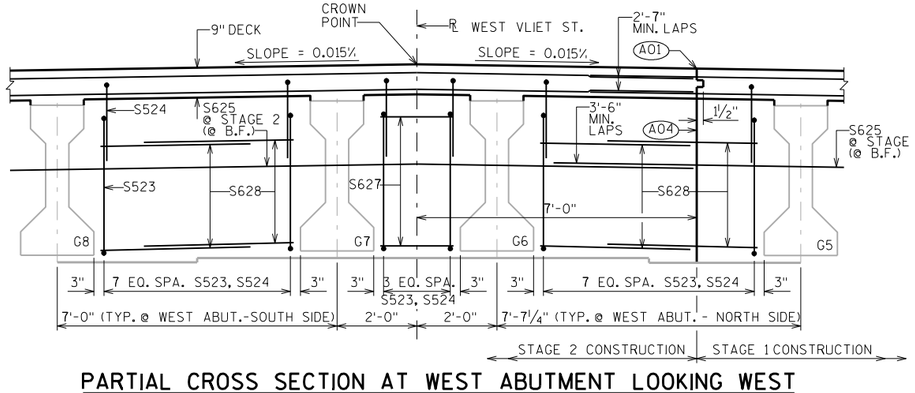


SECTION S-S

SEE SHEET 2 FOR UTILITY BOXOUT INFORMATION.
NOTE: AT ALL UTILITY BOXOUTS, MOVE OR CUT REINFORCEMENT TO MAINTAIN 2" CLEAR.



PARTIAL CROSS SECTION AT EAST ABUTMENT LOOKING EAST



PARTIAL CROSS SECTION AT WEST ABUTMENT LOOKING WEST

A01 LONGITUDINAL CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 1½" x 2". SEAL WITH CRACK SEALER PER SECTION 502.3.13 OF STD. SPEC.

A04 VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2" x 8". 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

SUPERSTRUCTURE CROSS SECTION

SHEET 9

499

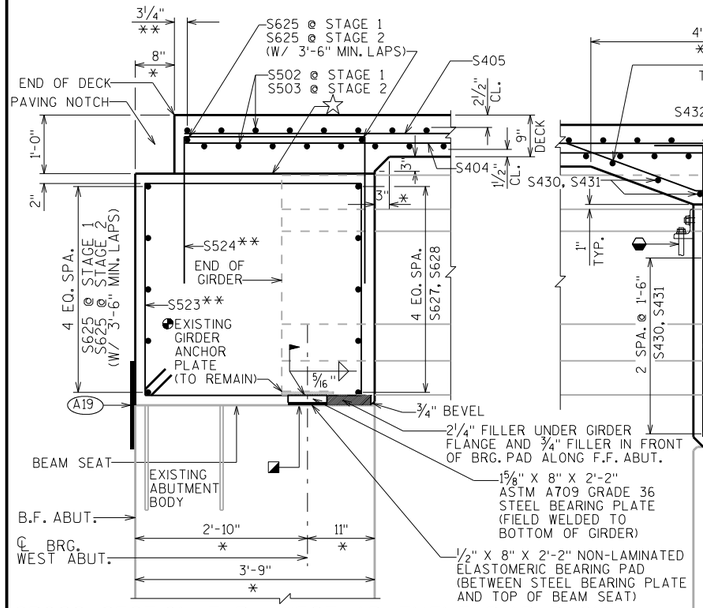
SCALE = 2.75

8

8

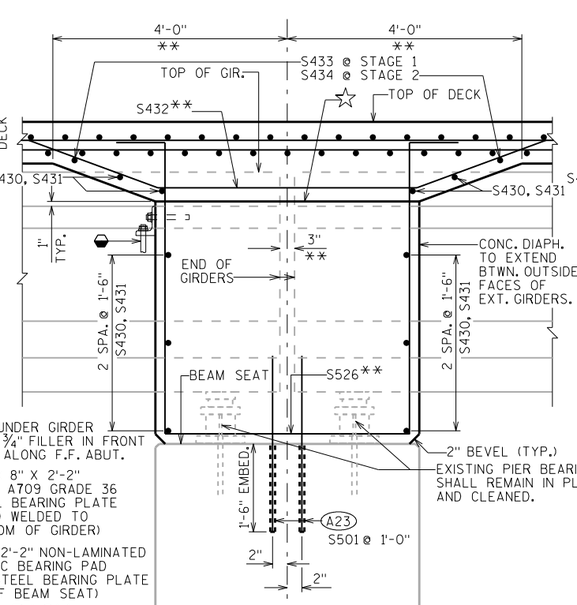
STATE PROJECT NUMBER

1350-09-70

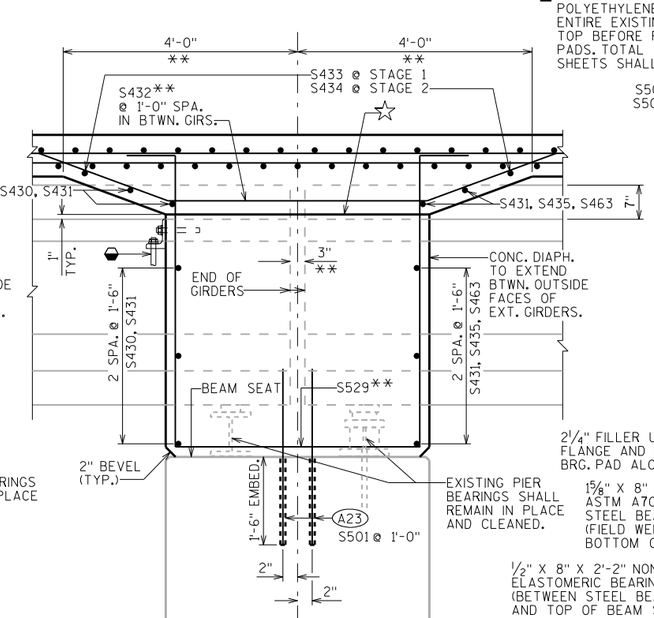


CROSS SECTION THRU WEST ABUTMENT DIAPHRAGM

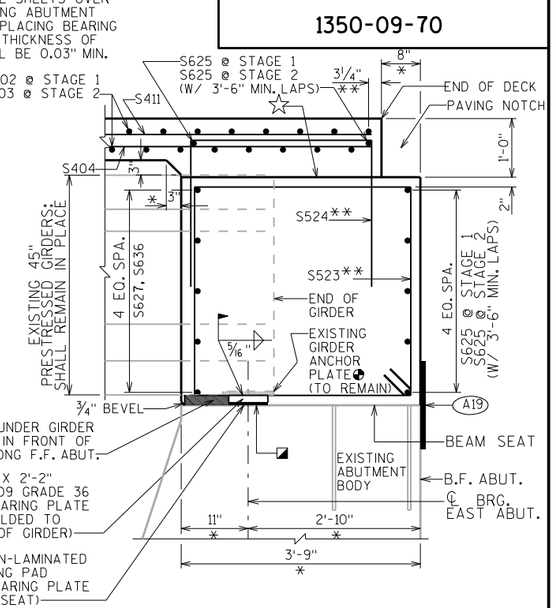
(BETWEEN EXTERIOR GIRDERS)



CROSS SECTION THRU PIER 1 DIAPHRAGM

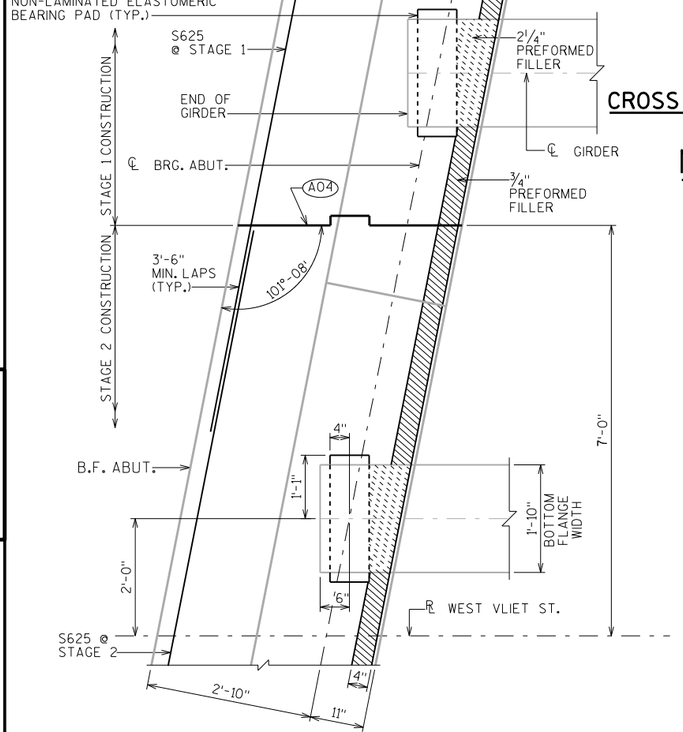


CROSS SECTION THRU PIER 2 DIAPHRAGM



CROSS SECTION AT EAST ABUTMENT DIAPHRAGM

(BETWEEN EXTERIOR GIRDERS)



BEARING PAD DETAIL AT ABUTMENTS

NEW PARTIAL LONGITUDINAL SECTION LOOKING NORTH

TYPICAL SECTIONS THRU ABUTMENT DIAPHRAGMS BETWEEN SIDEWALKS. FOR SECTIONS THRU ABUTMENT DIAPHRAGMS UNDER SIDEWALKS SEE SHEET 11.

NOTES:

AT ALL UTILITY BOX OUTS, MOVE OR CUT REINFORCEMENT TO MAINTAIN 2" CLEAR OF BOX OUT OPENINGS.

REMOVAL OF EXISTING BEARING INCLUDING EXISTING TOP PLATE, FURNISHING AND REPLACEMENT WITH NEW STEEL BEARING PLATE AND NON-LAMINATED ELASTOMERIC PAD TO BE PAID FOR UNDER BID ITEM "BEARING REPLACEMENT STRUCTURE B-40-53".

◒ 12" GAS MAIN HANGER SUPPORT (SEE WE ENERGIES UTILITY PLAN FOR DETAILS

◔ GRIND EXISTING WELD THAT ATTACHED EXISTING TOP PLATE TO EXISTING GIRDER ANCHOR PLATE. GRIND AFFECTED AREAS SMOOTH.

FINISH SMOOTH AND THOROUGHLY CLEAN ENTIRE TOP OF EXISTING ABUTMENTS AFTER REMOVAL OF EXISTING ABUTMENT BACKWALL, CONCRETE DIAPHRAGM & BEARING PADS AND BEFORE PLACEMENT OF POLYETHYLENE SHEETING, NEW BEARING PADS, 2¼" FILLER & NEW DIAPHRAGM CONCRETE.

☆ OPTIONAL CONSTRUCTION JOINT. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

* DIMENSION IS TAKEN PERPENDICULAR TO ℄ SUBSTRUCTURE UNITS.

** DIMENSION IS TAKEN PARALLEL TO ℄ GIRDERS. REINFORCEMENT IS PLACED PARALLEL TO ℄ GIRDERS

(A04) VERT. CONSTRUCTION JOINT THRU CONCRETE DIAPHRAGM: KEYWAY FORMED BY A BEVELED 2" x 8". 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE.

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

(A23) MASONRY ANCHORS TYPE L NO. 5 BARS, MIN. PULLOUT CAPACITY OF 19 KIPS. EMBED 1'-6" INTO EXIST. CONCRETE. EPOXY ANCHORED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

CONCRETE DIAPHRAGMS

SHEET 10

500

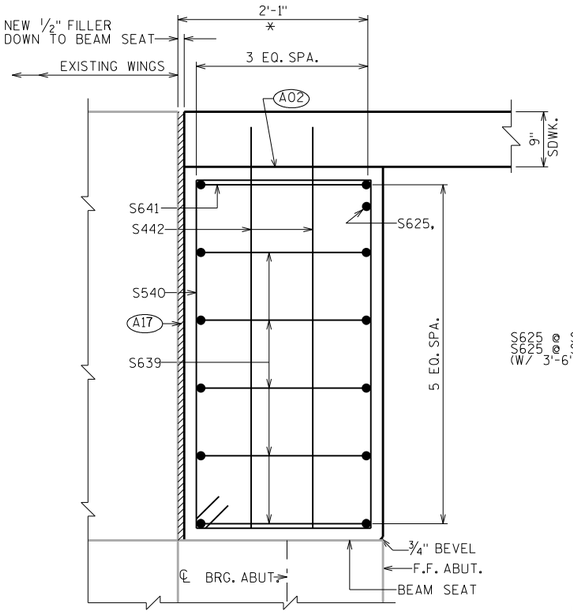
SCALE = 1.25

8

8

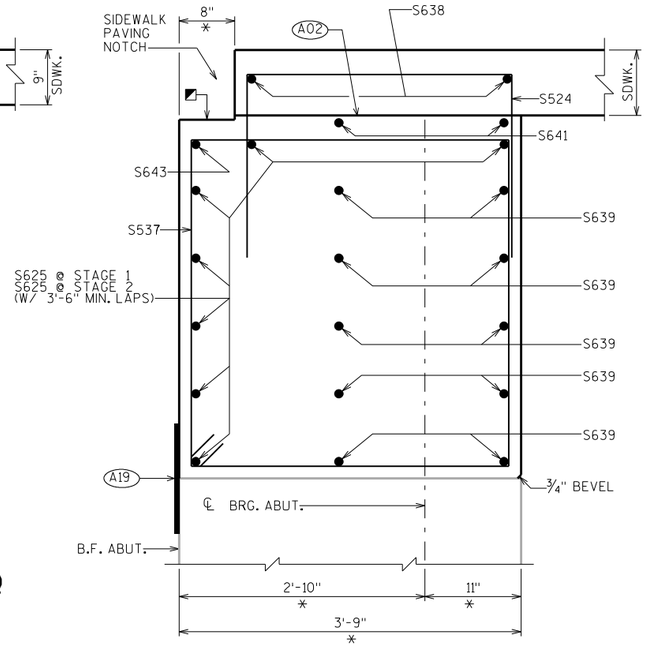
STATE PROJECT NUMBER

1350-09-70

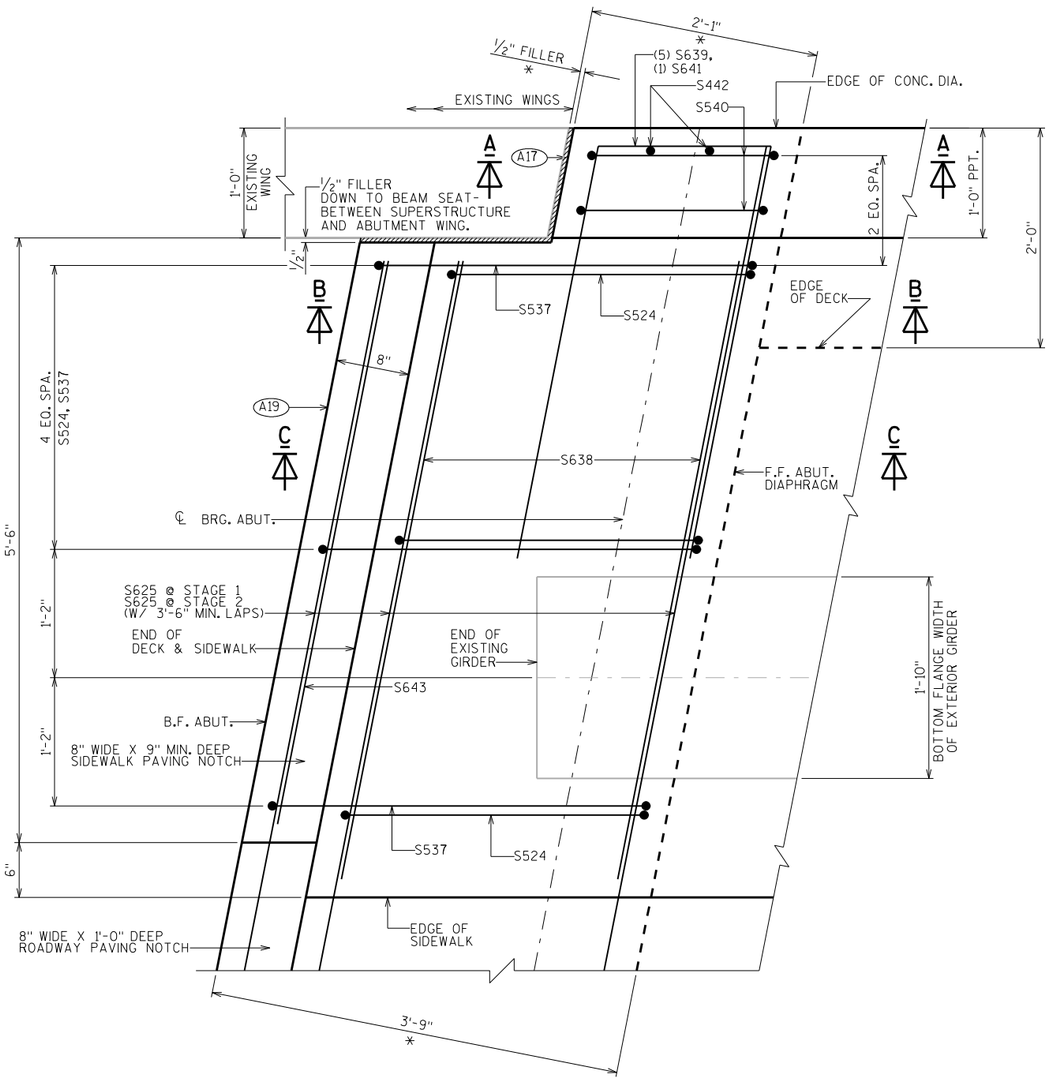


SECTION A-A (UNDERNEATH PARAPET)

(LOOKING AT OUTSIDE FACE)

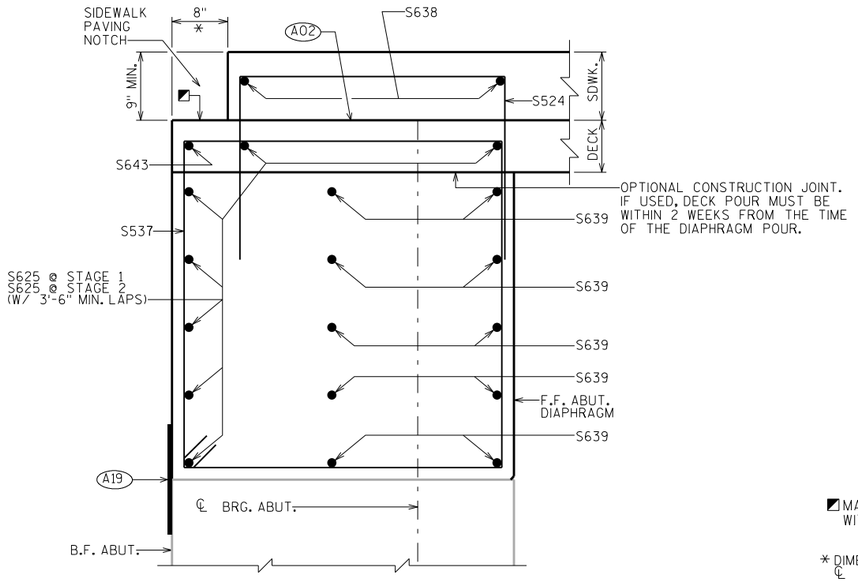


SECTION B-B (INSIDE OF PARAPET/ OUTSIDE OF EDGE OF DECK)



CORNER DETAIL

(TYPICAL REINFORCEMENT AT ALL 4 DECK CORNERS)



SECTION C-C (AT EDGE OF DECK)

◩ MATCH BOTTOM OF SIDEWALK PAVING NOTCH SLOPE WITH THE 0.015% SLOPE AT 'TOP OF DECK'

* DIMENSION IS TAKEN PERPENDICULAR TO ℄ SUBSTRUCTURE UNITS.

** DIMENSION IS TAKEN PARALLEL TO ℄ GIRDERS. REINFORCEMENT IS PLACED PARALLEL TO ℄ GIRDERS

(A02) CONSTRUCTION JOINT: POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

(A17) 1/2" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE. SEAL FILLER AT B.F. ABUT. WITH VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

SUPERSTRUCTURE DETAILS

SHEET 11

501

SCALE = 1

8

8

STATE PROJECT NUMBER

1350-09-70

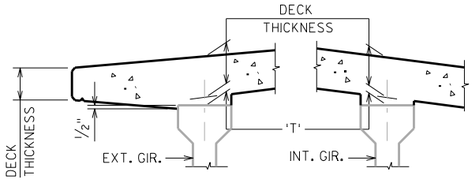
TOP OF DECK ELEVATIONS

SPAN 1	℄ BRG. W. ABUT	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ PIER 1
NORTH EOD	722.52	722.47	722.41	722.35	722.27	722.19	722.09	721.98	721.86	721.73	721.59
GIRDER 1	722.58	722.52	722.46	722.40	722.33	722.24	722.15	722.04	721.92	721.79	721.65
N. SIDEWALK CURB	722.61	722.55	722.50	722.44	722.36	722.28	722.18	722.08	721.96	721.83	721.69
GIRDER 2	722.71	722.65	722.60	722.53	722.46	722.38	722.29	722.18	722.07	721.94	721.80
GIRDER 3	722.84	722.78	722.73	722.67	722.60	722.52	722.43	722.33	722.21	722.09	721.95
GIRDER 4	722.97	722.91	722.86	722.80	722.73	722.66	722.57	722.47	722.36	722.24	722.10
GIRDER 5	723.10	723.05	722.99	722.93	722.87	722.79	722.71	722.61	722.50	722.38	722.25
GIRDER 6	723.23	723.18	723.12	723.07	723.00	722.93	722.85	722.75	722.65	722.53	722.40
℄ W. VILET ST.	723.27	723.21	723.16	723.10	723.04	722.97	722.88	722.79	722.69	722.57	722.44
GIRDER 7	723.24	723.18	723.13	723.07	723.01	722.94	722.86	722.77	722.66	722.55	722.42
GIRDER 8	723.14	723.09	723.03	722.97	722.92	722.85	722.77	722.68	722.57	722.46	722.34
GIRDER 9	723.05	722.99	722.93	722.88	722.82	722.75	722.68	722.59	722.49	722.38	722.26
GIRDER 10	722.95	722.89	722.84	722.78	722.72	722.66	722.58	722.50	722.40	722.29	722.17
S. SIDEWALK CURB	722.88	722.82	722.77	722.71	722.65	722.59	722.52	722.43	722.34	722.23	722.11
GIRDER 11	722.85	722.79	722.74	722.68	722.63	722.56	722.49	722.41	722.31	722.21	722.09
SOUTH EOD	722.81	722.75	722.70	722.64	722.58	722.52	722.45	722.37	722.28	722.17	722.05

SPAN 2	℄ PIER 1	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ PIER 2
NORTH EOD	721.59	721.43	721.27	721.09	720.90	720.70	720.49	720.26	720.03	719.78	719.52
GIRDER 1	721.65	721.50	721.33	721.15	720.96	720.76	720.55	720.33	720.10	719.85	719.59
N. SIDEWALK CURB	721.69	721.54	721.37	721.19	721.01	720.81	720.60	720.37	720.14	719.90	719.64
GIRDER 2	721.80	721.65	721.49	721.31	721.13	720.93	720.72	720.50	720.27	720.02	719.77
GIRDER 3	721.95	721.80	721.64	721.47	721.29	721.09	720.89	720.67	720.44	720.20	719.95
GIRDER 4	722.10	721.96	721.80	721.63	721.45	721.26	721.05	720.84	720.61	720.37	720.12
GIRDER 5	722.25	722.11	721.95	721.79	721.61	721.42	721.22	721.01	720.78	720.55	720.30
GIRDER 6	722.40	722.26	722.11	721.94	721.77	721.58	721.38	721.17	720.95	720.72	720.48
℄ W. VILET ST.	722.44	722.30	722.15	721.99	721.81	721.62	721.43	721.22	721.00	720.76	720.52
GIRDER 7	722.42	722.28	722.13	721.96	721.79	721.60	721.41	721.20	720.98	720.75	720.50
GIRDER 8	722.34	722.20	722.05	721.89	721.72	721.54	721.34	721.13	720.92	720.69	720.45
GIRDER 9	722.26	722.12	721.97	721.82	721.65	721.47	721.27	721.07	720.85	720.63	720.39
GIRDER 10	722.17	722.04	721.90	721.74	721.57	721.39	721.20	721.00	720.79	720.57	720.33
S. SIDEWALK CURB	722.11	721.98	721.84	721.69	721.52	721.34	721.16	720.96	720.74	720.52	720.29
GIRDER 11	722.09	721.96	721.82	721.66	721.50	721.32	721.14	720.94	720.73	720.50	720.27
SOUTH EOD	722.05	721.92	721.78	721.63	721.47	721.29	721.11	720.91	720.70	720.48	720.25

SPAN 3	℄ PIER 2	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ BRG. E. ABUT
NORTH EOD	719.52	719.38	719.24	719.10	718.95	718.80	718.65	718.50	718.34	718.18	718.01
GIRDER 1	719.59	719.46	719.32	719.17	719.03	718.88	718.73	718.57	718.41	718.25	718.09
N. SIDEWALK CURB	719.64	719.50	719.36	719.22	719.07	718.93	718.77	718.62	718.46	718.30	718.14
GIRDER 2	719.81	719.68	719.54	719.40	719.26	719.11	718.96	718.80	718.65	718.49	718.33
GIRDER 3	720.04	719.90	719.77	719.63	719.48	719.34	719.19	719.04	718.88	718.72	718.56
GIRDER 4	720.26	720.12	719.99	719.85	719.71	719.57	719.42	719.27	719.12	718.96	718.80
GIRDER 5	720.48	720.34	720.21	720.08	719.94	719.79	719.65	719.50	719.35	719.19	719.04
℄ W. VILET ST.	720.52	720.39	720.26	720.12	719.98	719.84	719.70	719.55	719.40	719.24	719.09
GIRDER 6	720.50	720.38	720.24	720.11	719.97	719.83	719.68	719.53	719.38	719.23	719.07
GIRDER 7	720.43	720.30	720.17	720.03	719.90	719.76	719.61	719.47	719.32	719.17	719.01
GIRDER 8	720.35	720.22	720.09	719.96	719.83	719.69	719.55	719.40	719.25	719.10	718.95
S. SIDEWALK CURB	720.29	720.16	720.03	719.90	719.77	719.63	719.49	719.35	719.20	719.05	718.90
GIRDER 9	720.27	720.15	720.02	719.89	719.75	719.62	719.48	719.33	719.19	719.04	718.89
SOUTH EOD	720.25	720.12	719.99	719.86	719.73	719.59	719.46	719.31	719.17	719.02	718.87

EOD = EDGE OF DECK



DECK HAUNCH DETAIL

THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½".

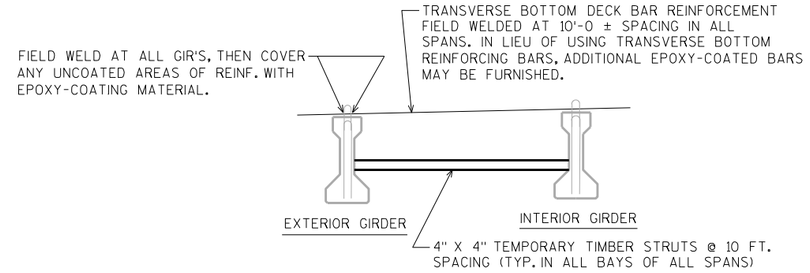
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

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

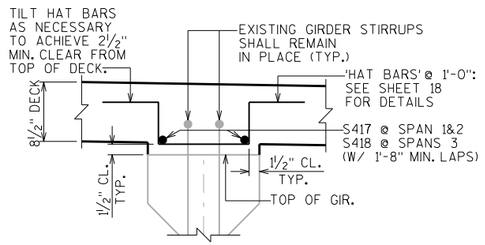
NOTES:

AN AVERAGE HAUNCH ('T') OF 4.72" WAS USED FOR COMPUTING THE QUANTITY "CONCRETE MASONRY BRIDGES".

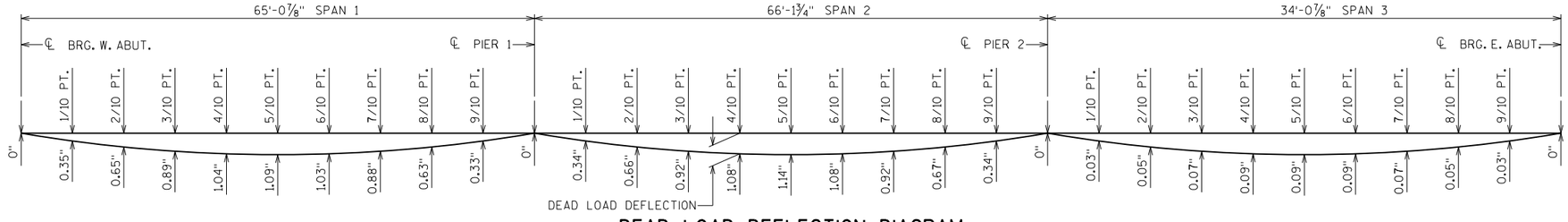
IT IS ANTICIPATED THAT HAUNCH HEIGHTS WILL BE LESS THAN 1¼" IN SPAN 3, TOWARDS THE EAST ABUTMENT. ALTERNATE DECKING MAY BE REQUIRED AND SHALL BE CONSIDERED INCIDENTAL TO "CONCRETE MASONRY BRIDGES".



TEMPORARY BRACING DETAIL

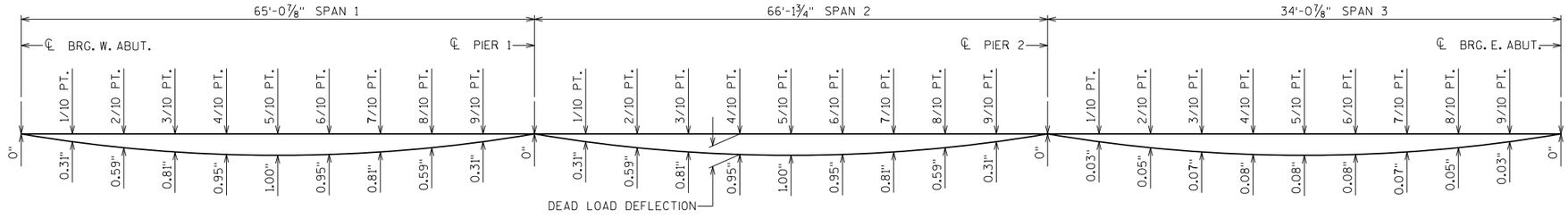


'HAT BAR' DETAIL



DEAD LOAD DEFLECTION DIAGRAM

NORTH OF MEDIAN



DEAD LOAD DEFLECTION DIAGRAM

SOUTH OF MEDIAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

TOP OF DECK ELEVATIONS

SHEET 12

502

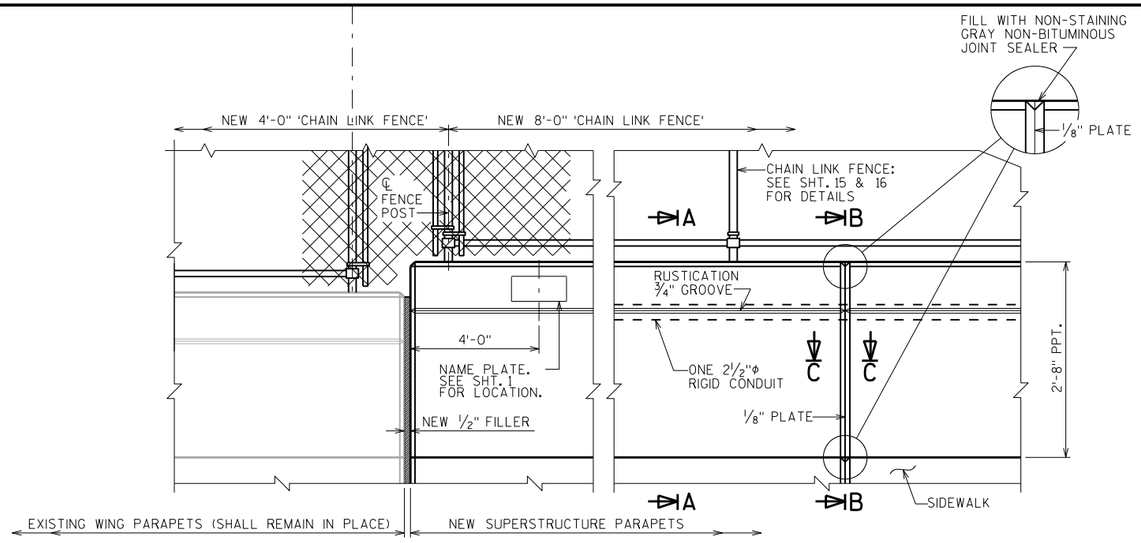
8

8

SCALE = 1

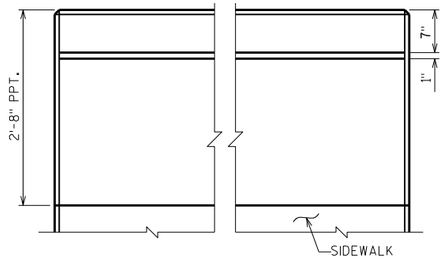
STATE PROJECT NUMBER

1350-09-70

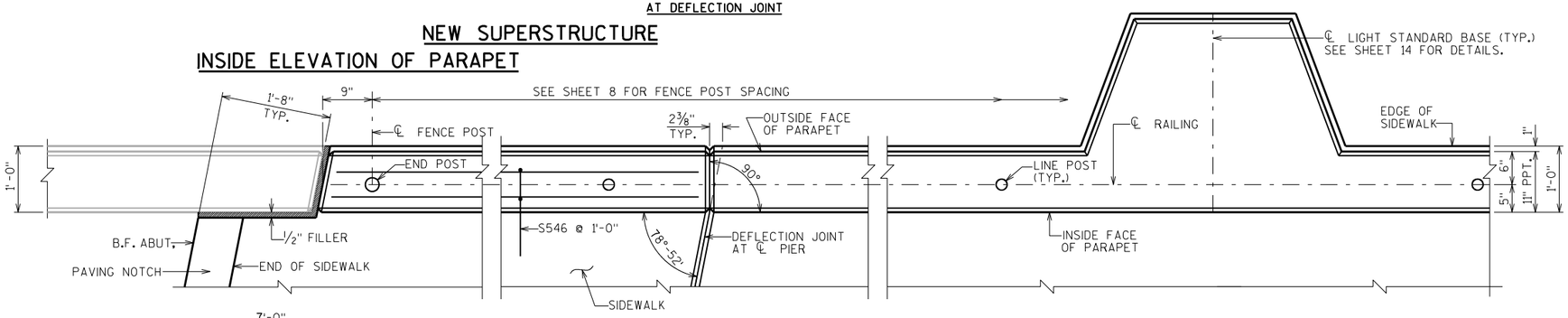


AT DEFLECTION JOINT

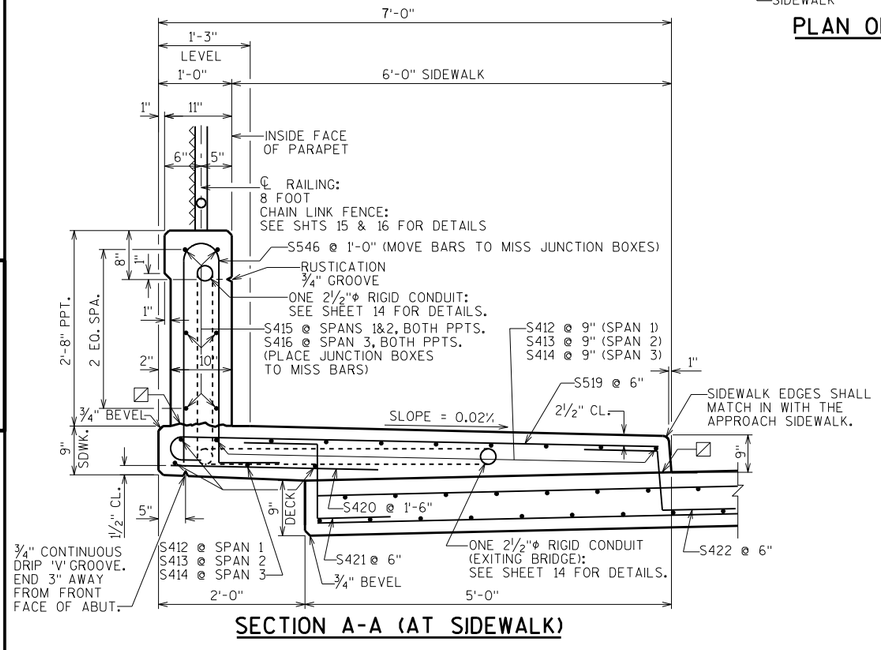
NEW SUPERSTRUCTURE
INSIDE ELEVATION OF PARAPET



OUTSIDE FACE OF PARAPET

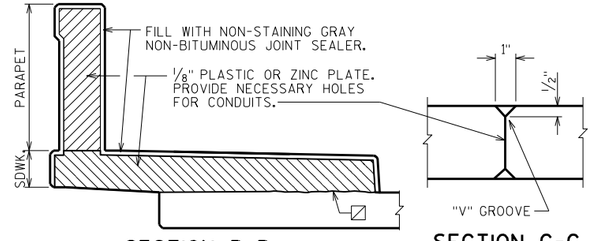


PLAN OF PARAPET



SECTION A-A (AT SIDEWALK)

☒ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE X-SLOPE.



SECTION B-B

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. DO NOT RUN BAR STEEL THRU THE DEFLECTION JOINT.

NOTE:
SEE SHEET 18 FOR THE BILL OF BARS AND BAR DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

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VERTICAL FACE PARAPET 'A'

SHEET 13

503

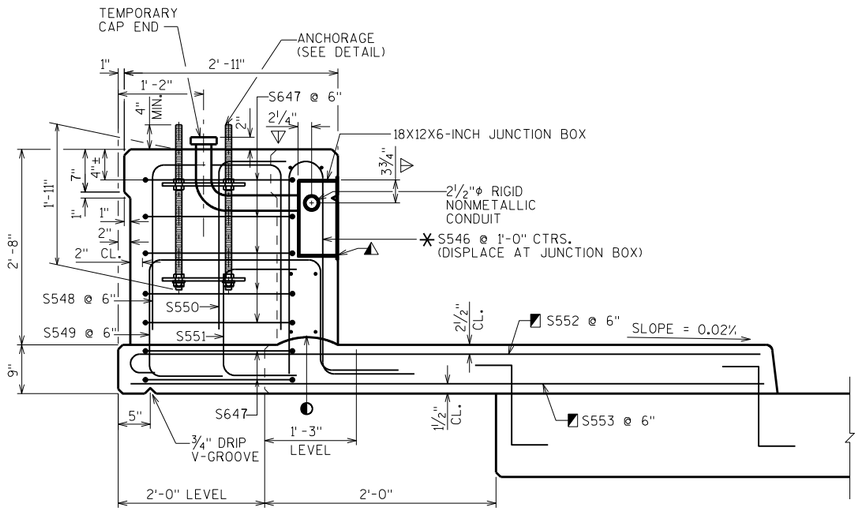
SCALE = 1

8

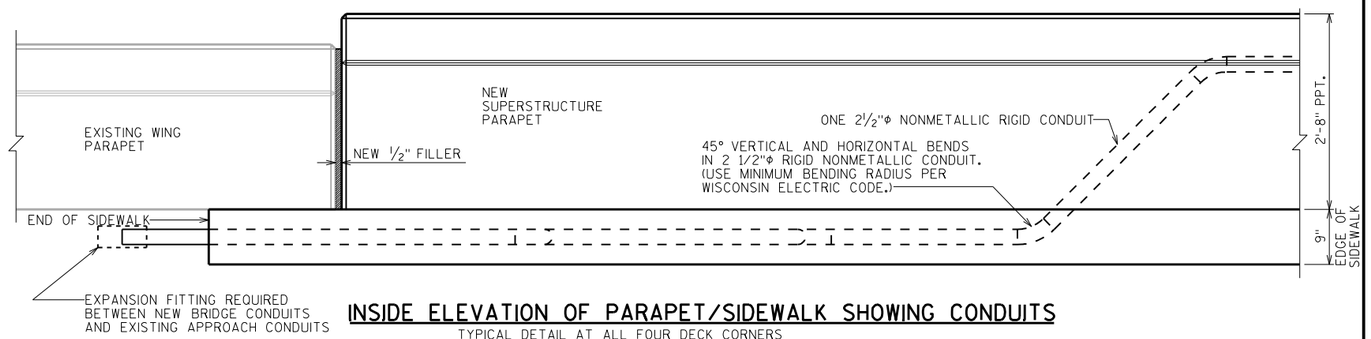
8

STATE PROJECT NUMBER

1350-09-70

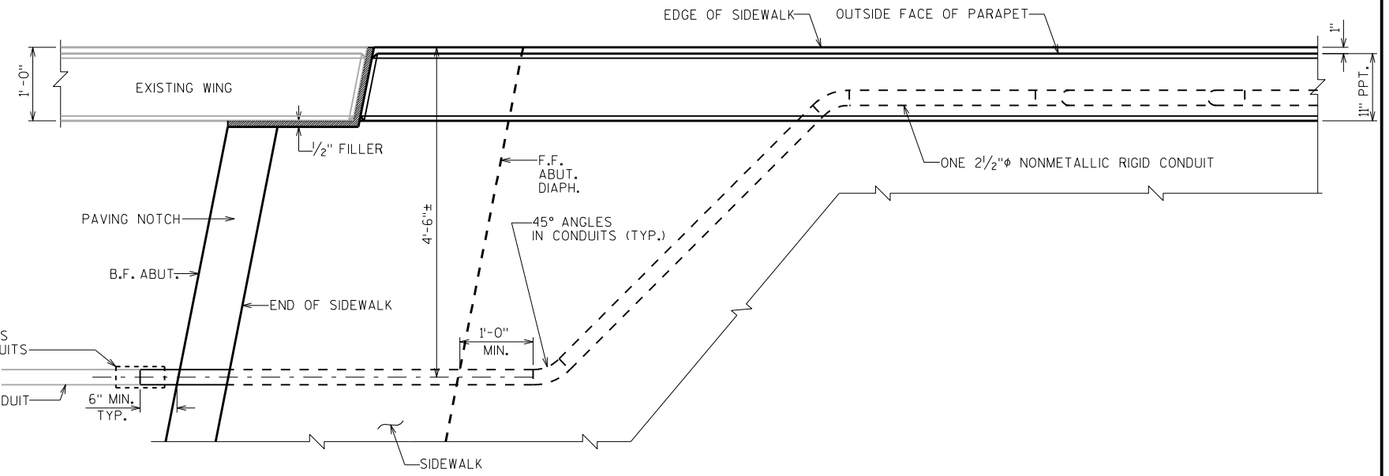


SECTION A-A



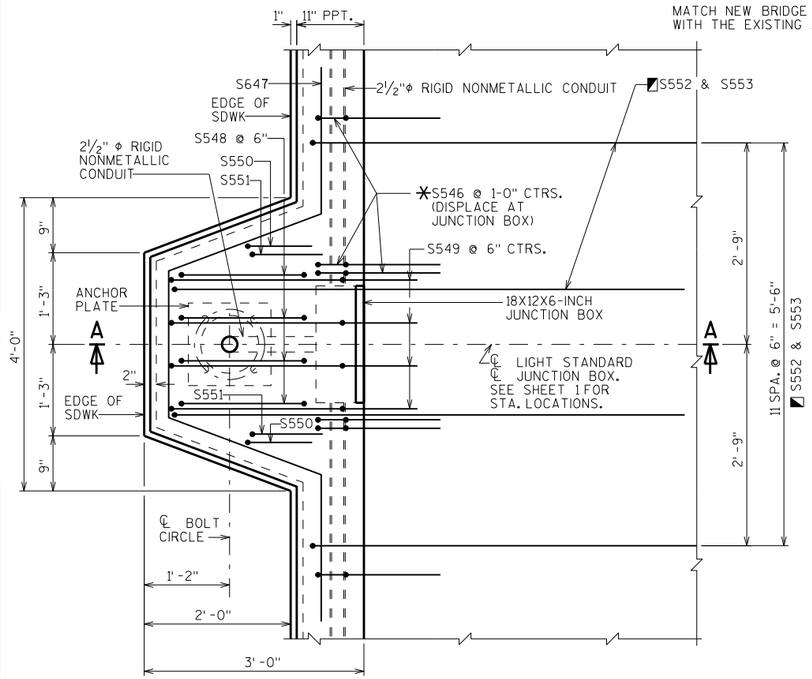
INSIDE ELEVATION OF PARAPET/SIDEWALK SHOWING CONDUITS

TYPICAL DETAIL AT ALL FOUR DECK CORNERS



PLAN OF PARAPET/SIDEWALK SHOWING CONDUITS

NOTE:
CONDUIT MUST BE PLACED AND LOCATED IN SIDEWALK FOR CONNECTION IN PARAPET PRIOR TO POURING CONCRETE FOR SIDEWALK AND PARAPET.



PLAN AT LIGHT STANDARD

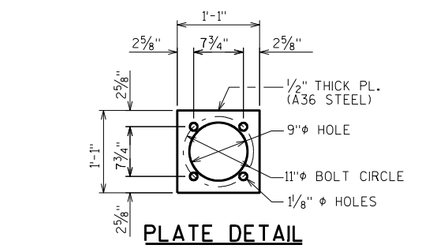
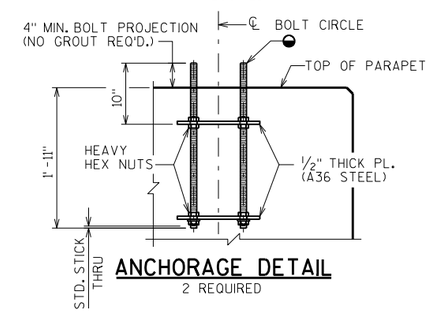


PLATE DETAIL
4 REQUIRED



ANCHORAGE DETAIL
2 REQUIRED

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X12X6-INCH", EACH.
"ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2½-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST. THE JUNCTION BOX SHALL BE OUTSIDE FLANGED WITH A RECESSED COVER AND MUST HAVE A NEMA 4 RATING.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
CARLON E945K OR EQUAL (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS AND ANGLES TO BE INCIDENTAL TO BID ITEM "CONDUIT RIGID NONMETALLIC SCHEDULE 40 2½-INCH"

⅜" NYLON PULL WIRE/ROPE IS REQUIRED FOR ALL RIGID NON-METALLIC CONDUIT AND SHALL BE INCIDENTAL TO "CONDUIT RIGID NONMETALLIC SCHEDULE 40 2½-INCH"

ANCHOR BOLTS FOR ANCHOR ASSEMBLIES MUST BE INSTALLED PERPENDICULAR TO THE HORIZON.

THE TOP OF THE LIGHT STANDARD SHALL HAVE A ⅛" PITCH FROM THE OUTSIDE FACE OF PARAPET TO THE OUTSIDE EDGE OF THE LIGHT STANDARD.

NOTE:
SEE SHEET 18 FOR THE BILL OF BARS AND BAR DETAILS.

◐ CONSTR. 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.

◒ 1"φ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153, CLASS C, UPPER 8" OF BOLT INCLUDING NUTS & WASHERS. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.

✳ SEE VERTICAL FACE PARAPET "A", SHEET 13 FOR ADDITIONAL BAR STEEL DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

PARAPET "A" ELECTRICAL WORK

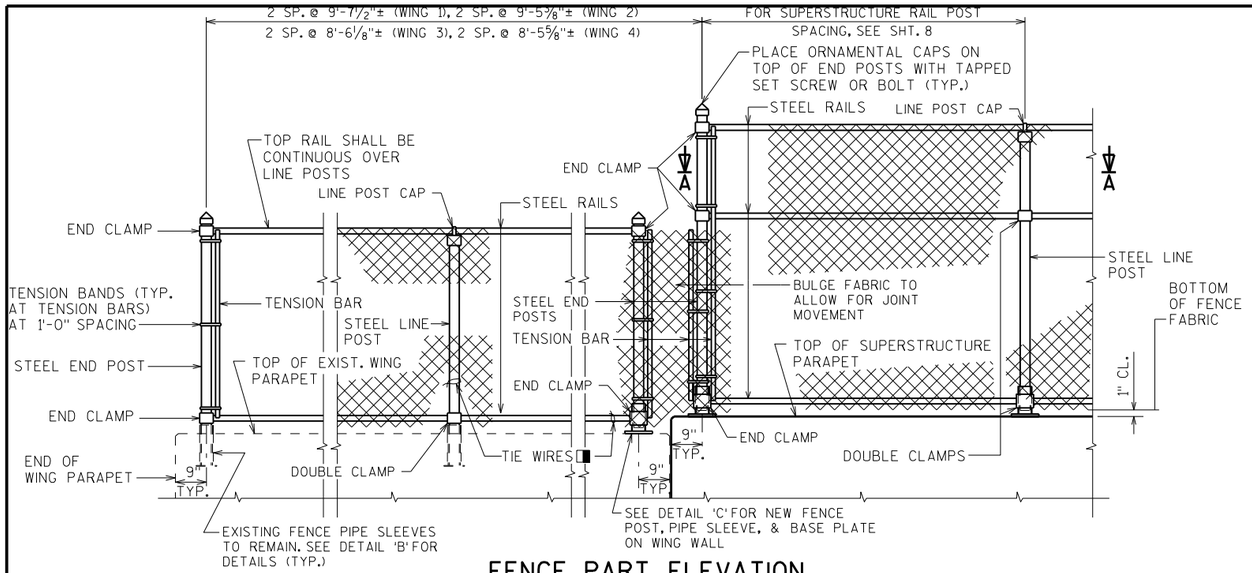
SHEET 14

504

8

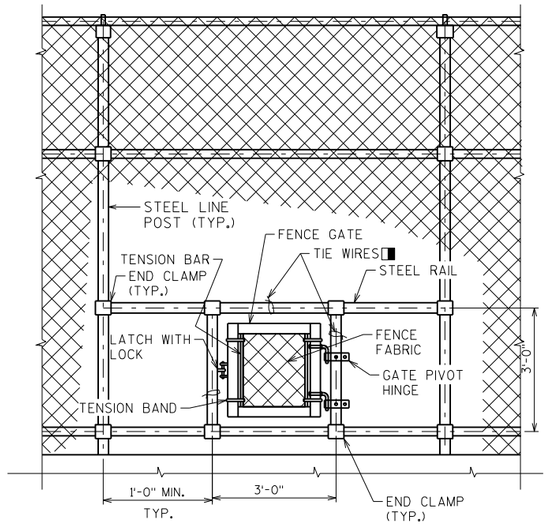
8

SCALE = 1



FENCE PART ELEVATION

VIEWING FABRIC SIDE



GATE DETAIL

TYPICAL AT LIGHT STANDARD BASES (2 REQUIRED)

GATE ASSEMBLY & ALL REQUIRED HARDWARE TO BE INCLUDED IN THE BID ITEM "FENCE CHAIN LINK 8-FT"

GATE ASSEMBLY TO BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION

STATE PROJECT NUMBER

1350-09-70

GENERAL NOTES

POSTS ARE TO BE SET VERTICAL.

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

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

THE BID ITEM SHALL BE "FENCE CHAIN LINK 8-FT.", LF. FOR THE FENCING ON THE SUPERSTRUCTURE.

THE BID ITEM SHALL BE "FENCE CHAIN LINK 4-FT.", LF FOR THE FENCING ON THE WING WALLS.

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

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

BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

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

▪ CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

✳ ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.

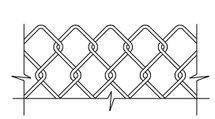
◭ ½" DIA. X 6⅞" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. TYPE "S", ½" DIA. CONCRETE MASONRY ANCHORS MAY BE SUBSTITUTED FOR ½" DIA. BOLTS. ANCHOR PLATE NOT REQUIRED WHEN TYPE "S" ANCHORS ARE USED. SEE

☆ ½" DIA. CONCRETE MASONRY ANCHOR, TYPE "S", 6" MIN. EMBEDMENT (EPOXY ANCHORED) INTO CONCRETE. ANCHOR, WASHER AND NUT SHALL BE GALVANIZED.

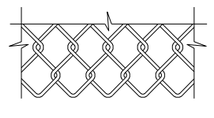
◨ ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".

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

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



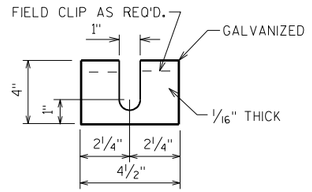
TOP DETAIL



BOTTOM DETAIL

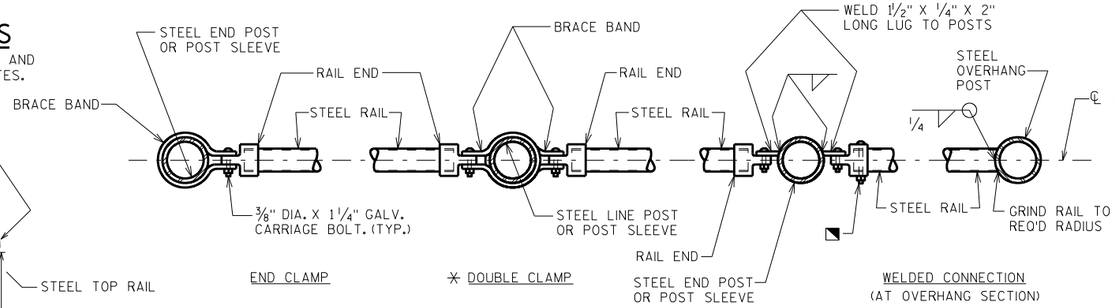
FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 1" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

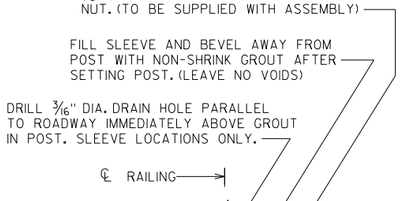


POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.



END CLAMP ✳ DOUBLE CLAMP WELDED CONNECTION (AT OVERHANG SECTION)



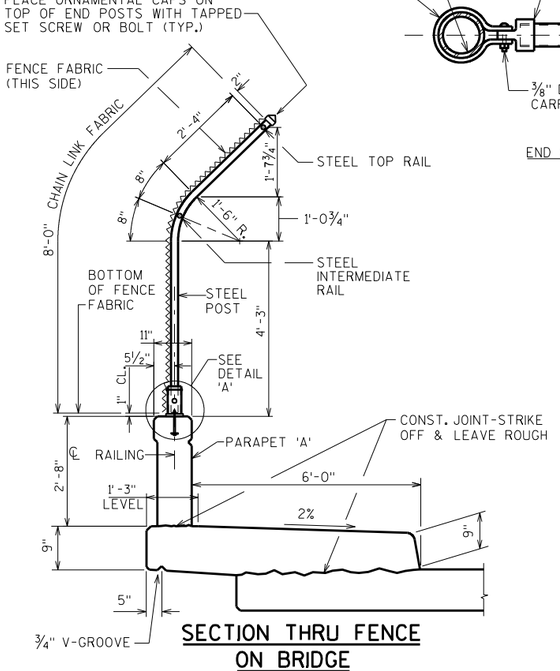
DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION

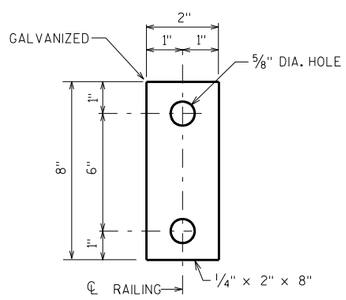
NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

SECTION A-A

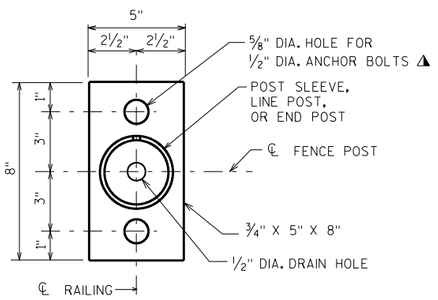
NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS



SECTION THRU FENCE ON BRIDGE



ANCHOR PLATE



BASE PLATE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

CHAIN LINK FENCE DETAILS 1

SHEET 15

505

SCALE = 5.3333

8

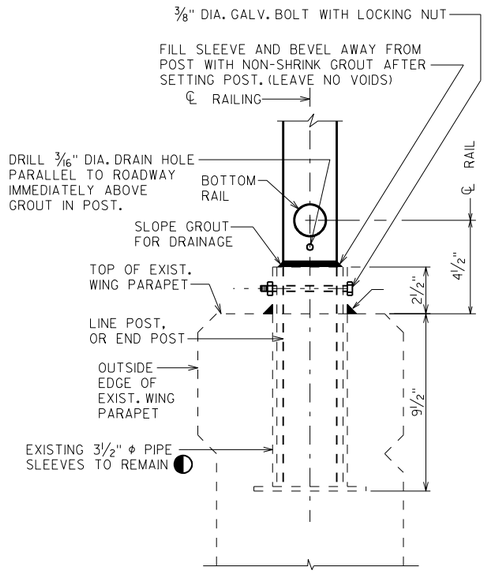
8

STATE PROJECT NUMBER

1350-09-70

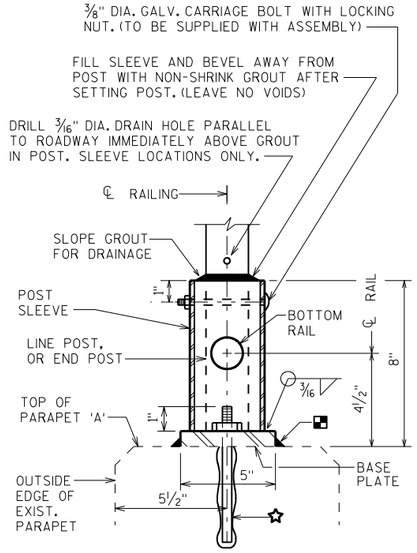
FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE & GATE POST	2.375	3.65
POST SLEEVE	4.000	9.12



DETAIL 'B'

◐ REMOVE EXISTING GROUT FROM PIPE SLEEVE. AFTER GROUT HAS BEEN REMOVED, CLEAN THE SURFACES OF THE PIPE SLEEVE ABOVE THE TOP OF PARAPET AS DIRECTED BY THE FIELD ENGINEER AND IN ACCORDANCE WITH 517.3.1.3 OF THE STANDARD SPECIFICATION. AFTER THE SURFACE IS FREE OF ALL RUST, MILL SCALE, DIRT, OIL, GREASE, AND OTHER FOREIGN SUBSTANCES, APPLY A ZINC-RICH PAINT TO THE NEWLY CLEANED STEEL SURFACES AS DIRECTED BY THE FIELD ENGINEER. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "FENCE CHAIN LINK 4-FT".

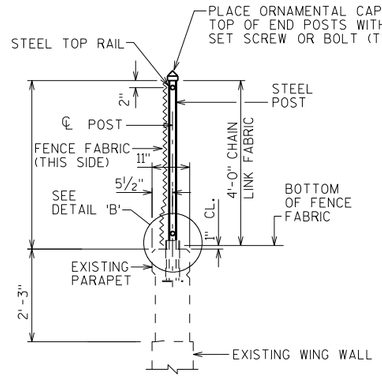


DETAIL 'C'

UNIT SHALL BE GALVANIZED AFTER FABRICATION

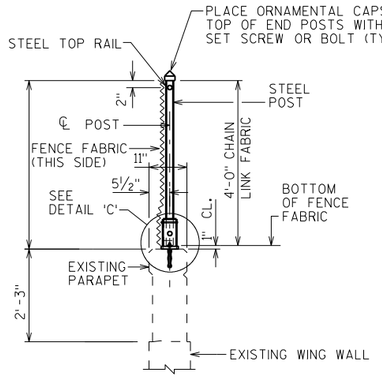
NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

☆ 1/2" DIA. CONCRETE MASONRY ANCHOR, TYPE "S", 6" MIN. EMBEDMENT (EPOXY ANCHORED) INTO CONCRETE. ANCHOR, WASHER AND NUT SHALL BE GALVANIZED.



SECTION THRU FENCE ON WINGS

(AT EXISTING FENCE POSTS LOCATIONS ON WINGS)



SECTION THRU FENCE ON WINGS

(AT NEW FENCE POST LOCATIONS ON WINGS)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

CHAIN LINK FENCE DETAILS 2

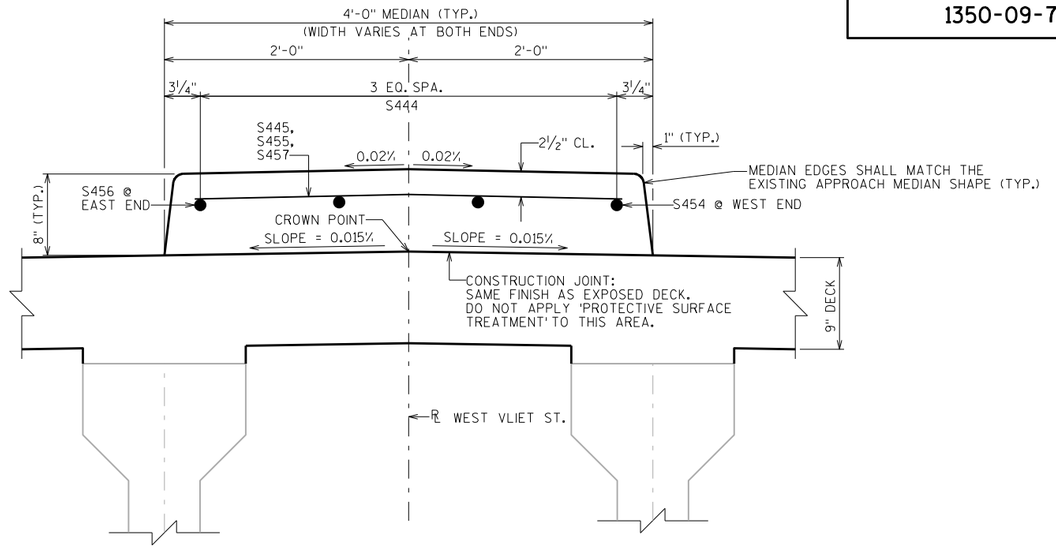
SHEET 16

506

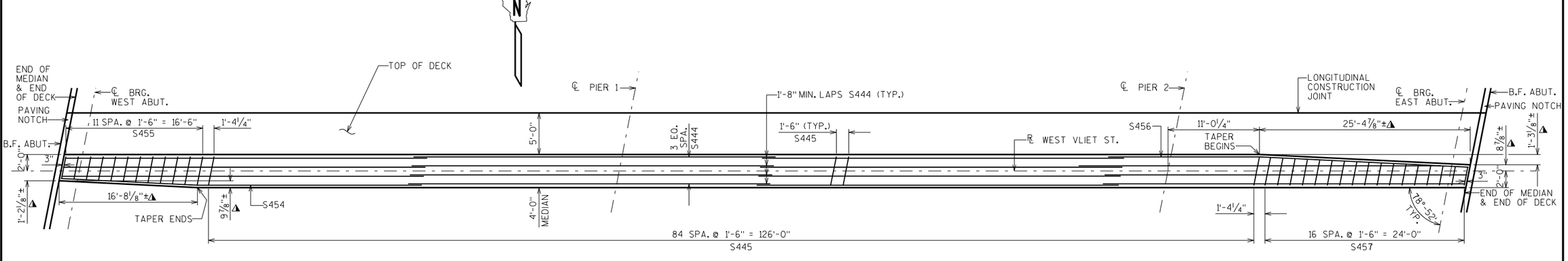
SCALE = 5.3333

STATE PROJECT NUMBER
1350-09-70

NOTE:
CLEAN ALL LOOSE MATERIAL ON THE DECK AT THE MEDIAN LOCATION PRIOR TO MEDIAN PLACEMENT USING HIGH PRESSURE WATER ON AIR ENSURING ALL FREE-STANDING WATER IS REMOVED PRIOR TO MEDIAN PLACEMENT. NEAT CEMENT IS REQUIRED AS PER 509.3.8.2 OF THE STANDARD SPECIFICATIONS UNLESS THE MEDIAN IS POURED WITHIN 45 DAYS OF COMPLETING THE DECK POUR.



CROSS SECTION THRU MEDIAN LOOKING EAST



MEDIAN PLAN

ΔFIELD VERIFY DIMENSIONS PRIOR TO DECK REMOVAL. NEW MEDIAN SHALL MATCH THE SIZE OF THE EXISTING MEDIAN.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

MEDIAN DETAILS

SHEET 17

507

SCALE = 6

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	111	3-0			PIERS 1&2-TOP-VERTICAL-DOWEL BARS-AT CENTER
S502	X	581	39-3			DECK-TRANS.-HORIZ.-TOP & BOT.-NORTH SIDE-STAGE 1
S503	X	581	40-6			DECK-TRANS.-HORIZ.-TOP & BOT.-SOUTH SIDE-STAGE 2
S404	X	408	43-8			DECK-LONGIT.-HORIZ.-BOT.-BOTH STAGES
S405	X	202	25-9			DECK-LONGIT.-HORIZ.-TOP-WEST END-BOTH STAGES
S706	X	101	41-0			DECK-LONGIT.-HORIZ.-TOP-OVER PIER 1-BOTH STAGES
S707	X	102	26-0			DECK-LONGIT.-HORIZ.-TOP-OVER PIER 1-BOTH STAGES
S408	X	101	32-6			DECK-LONGIT.-HORIZ.-TOP-SPAN 2-BOTH STAGES
S709	X	101	34-0			DECK-LONGIT.-HORIZ.-TOP-OVER PIER 2-BOTH STAGES
S710	X	102	21-0			DECK-LONGIT.-HORIZ.-TOP-OVER PIER 2-BOTH STAGES
S411	X	101	18-9			DECK-LONGIT.-HORIZ.-TOP-EAST END-BOTH STAGES
S412	X	52	34-4			SIDEWALKS-LONGIT.-HORIZ.-SPAN 1-BOTH STAGES
S413	X	52	33-9			SIDEWALKS-LONGIT.-HORIZ.-SPAN 2-BOTH STAGES
S414	X	52	18-10			SIDEWALKS-LONGIT.-HORIZ.-SPAN 3-BOTH STAGES
S415	X	48	34-2			BOTH PARAPETS-LONGIT.-HORIZ.-SPANS 1&2
S416	X	24	18-8			BOTH PARAPETS-LONGIT.-HORIZ.-SPAN 3
S417	X	88	34-10			GIRDER HAUNCH-LONGIT.-HORIZ.-BOT.-SPANS 1&2
S418	X	18	37-0			GIRDER HAUNCH-LONGIT.-HORIZ.-BOT.-SPAN 3
S519	X	680	7-4	X		SIDEWALK-TRANS.-VERT.-TOP
S420	X	228	2-11			SIDEWALK-TRANS.-HORIZ.-BOT.-AT EDGES
S421	X	680	3-0	X		SDWK. & DECK-TRANS.-VERT.-AT OUTSIDE EDGE
S422	X	680	2-10	X		SDWK. & DECK-TRANS.-VERT.-AT INSIDE FACE
S523	X	153	14-6	X		ABUT DIAPH.-VERT.-BTWN. EXT. GIRS.-STIRRUP
S524	X	177	7-7	X		ABUT. DIAPH./DECK/SDWK.-VERT.-BTWN. GIRS.
S625	X	56	23-1			ABUT. DIAPH. B.F. & DECK-HORIZ.-AT BOTH STAGES
S526	X	57	16-1	X		PIER 1 DIAPH. & DECK-VERT.-BTWN. GIRS.
S627	X	10	1-11			ABUT. DIAPH.-F,F,-HORIZ.-AT VERT. CONST. JT.-BTWN. GIRS.
S628	X	90	4-0			WEST ABUT. DIAPH.-HORIZ.-F.F.-BTWN. EXT. GIRS.
S529	X	49	15-3	X		PIER 2 DIAPH. & DECK-VERT.-BTWN. GIRS.
S430	X	270	3-6			PIER DIAPH. & HAUNCH-HORIZ.-BTWN. GIRS.-AT SPANS 1& 2
S431	X	20	1-10			PIER DIAPH. & HAUNCH-BOTH FACES-HORIZ.-AT ℄-BTWN. GIRS.
S432	X	106	9-5	X		PIER HAUNCH-VERT.-BTWN. GIRS.
S433	X	4	36-2			PIER HAUNCH-HORIZ.-ABOVE GIRS.-STAGE 1
S434	X	4	37-7			PIER HAUNCH-HORIZ.-ABOVE GIRS.-STAGE 2
S435	X	15	7-4			PIER 2 DIAPH. & HAUNCH-HORIZ.-BTWN. GIRS.-SPAN 3-STAGE 2
S636	X	35	7-4			EAST ABUT. DIAPH.-HORIZ.-F.F.-BTWN. EXT. GIRS.
S537	X	24	16-2	X		ABUT. DIAPH. & DECK-VERT.-AT EXT. GIRS.-STIRRUP
S638	X	8	5-9			SIDEWALK-HORIZ.-ABOVE ABUT. DIAPH.
S639	X	20	9-0	X		ABUT. DIAPH.-HORIZ.-AT EXT. GIRS.
S540	X	8	13-2	X		ABUT. DIAPH.-VERT.-AT EXT. GIRS.-STIRRUP
S641	X	4	4-9	X		ABUT. DIAPH.-HORIZ.-AT EXT. GIRS.
S442	X	8	5-3			ABUT. DIAPH. & SDWK.-VERT.-AT EXT. GIRS.-OUTSIDE FACE
S643	X	4	5-3			ABUT. DIAPH.-B.F.-HORIZ.-TOP-UNDER SIDEWALKS
S444	X	14	43-8			MEDIAN-LONGIT.-HORIZ.-TOP
S445	X	85	3-7			MEDIAN-TRANS.-HORIZ.-TOP
S546	X	336	7-3	X		PARAPET & SIDEWALK-TRANS.-VERT.
S647	X	14	10-0	X		LIGHT STD. BASE & PPT. & DECK-HORIZ.
S548	X	8	6-0	X		LIGHT STD. BASE & PPT.-TRANS.-VERT.
S549	X	8	6-9	X		LIGHT STD. BASE & PPT. & SDWK.-TRANS.-VERT.
S550	X	4	3-0	X		LIGHT STD. BASE & PPT.-TRANS.-VERT.
S551	X	4	3-4	X		LIGHT STD. BASE & PPT. & SDWK.-TRANS.-VERT.
S552	X	24	7-3	X		LIGHT STD. BASE & SDWK.-TRANS.-VERT.-TOP
S553	X	24	6-8			LIGHT STD. BASE & SDWK.-TRANS.-HORIZ.-BOT.
S454	X	1	43-7	X		MEDIAN-LONGIT.-HORIZ.-TOP-WEST END/SOUTH SIDE
⚠ S455	X	12	3-2		X	MEDIAN-TRANS.-HORIZ.-TOP-WEST END
S456	X	1	43-6	X		MEDIAN-LONGIT.-HORIZ.-TOP-EAST END/NORTH SIDE
⚠ S457	X	17	2-11		X	MEDIAN-TRANS.-HORIZ.-TOP-EAST END
S458	X	798	3-8	X		GIRDER HAUNCH & DECK-TRANS.-VERT.-BOT.
S459	X	665	3-6	X		GIRDER HAUNCH & DECK-TRANS.-VERT.-BOT.
S460	X	180	2-9	X		GIRDER HAUNCH & DECK-TRANS.-VERT.-BOT.
S461	X	144	2-11	X		GIRDER HAUNCH & DECK-TRANS.-VERT.-BOT.
◪ S562	X	80	8-3	X		PIER & ABUT. DIAPHRAGMS-F.F.&B.F.-VERT.-AT BOXOUTS
S463	X	20	7-6			PIER 2 DIAPH. & HAUNCH-HORIZ.-BTWN. GIRS.-SPAN 3-STAGE 1

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

◪ LENGTH SHOWN FOR BAR IS AN ESTIMATED AVERAGE.

BAR SERIES TABLE

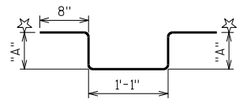
MARK	NO. REQD.	LENGTH
S455	1 SERIES OF 12 BARS	2'-9" TO 3'-7"
S457	1 SERIES OF 17 BARS	2'-4" TO 3'-6"

BUNDLE AND TAG EACH SERIES SEPARATELY.

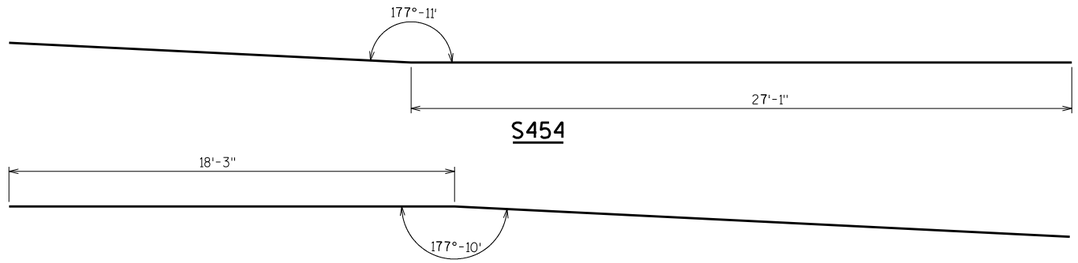
'HAT BAR' TABLE

BAR MARK	DIMENSION "A"	SPAN NUMBER	GIRDER NUMBER
S458	9¼"	1 & 2	1 THRU 6
S459	8½"	1 & 2	7 THRU 11
S460	3¾"	3	1 THRU 5
S461	4¾"	3	6 THRU 9

☆IF 3" EMBEDMENT OF 'HAT BAR' INTO DECK CANNOT BE OBTAINED, CONTACT THE BUREAU OF STRUCTURES.



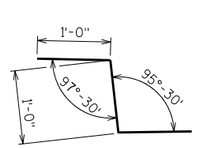
'HAT BAR'



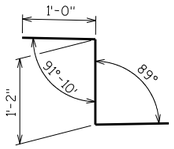
S454 S456

S562

THE CONTRACTOR SHALL ADJUST BAR S562 SIZE TO MAINTAIN 2" MINIMUM CLEAR OF THE AGREED UPON BOXOUT SIZE.



S422



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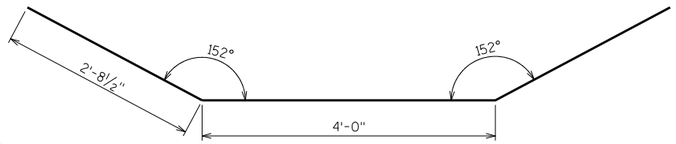

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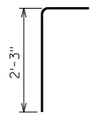

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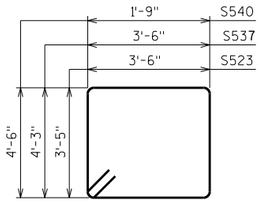
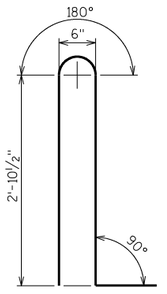


S523 S537 S540



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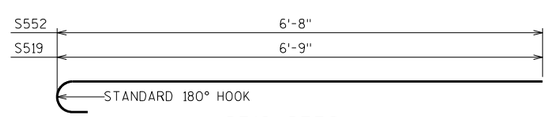
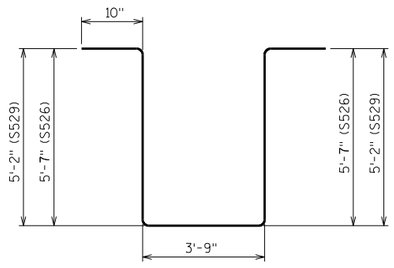
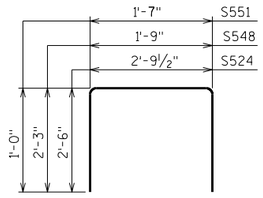


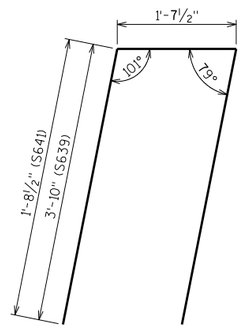
S519 S552



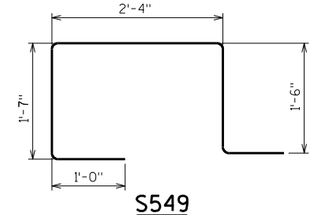
S526 S529



S524 S548 S551



S639 S641



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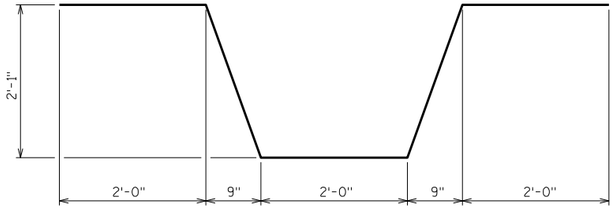


S647

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

BILL OF BARS & BAR DETAILS

SHEET 18

508

STATE PROJECT NUMBER

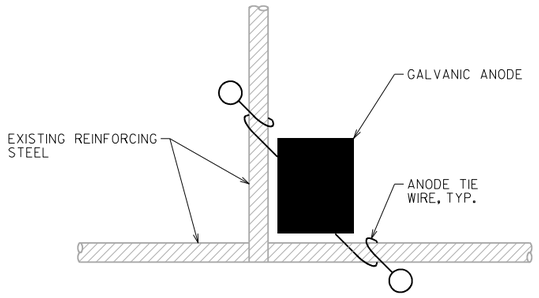
1350-09-70

8

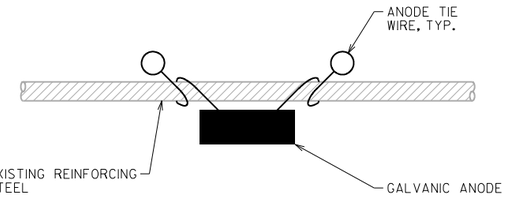
8

SCALE = 1

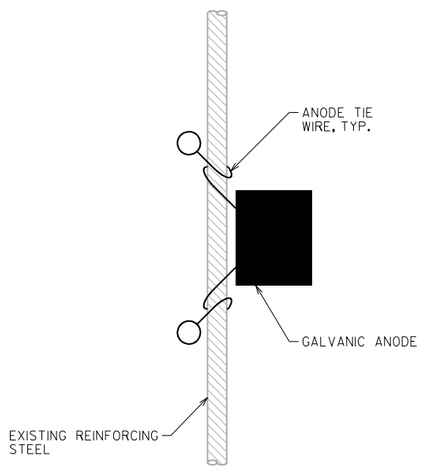
STATE PROJECT NUMBER
1350-09-70



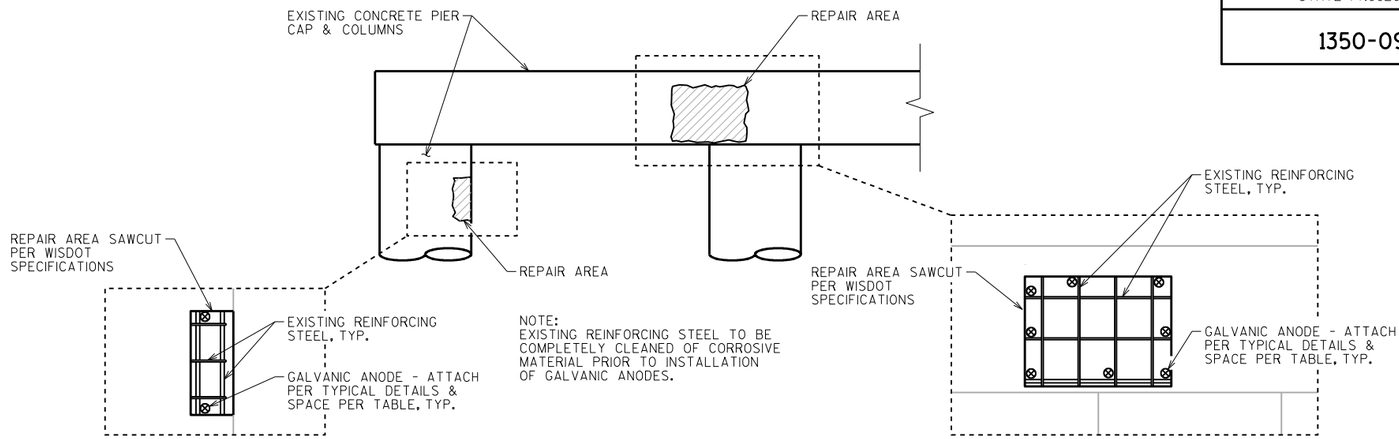
TYPICAL INSTALLATION AT BAR STEEL INTERSECTION



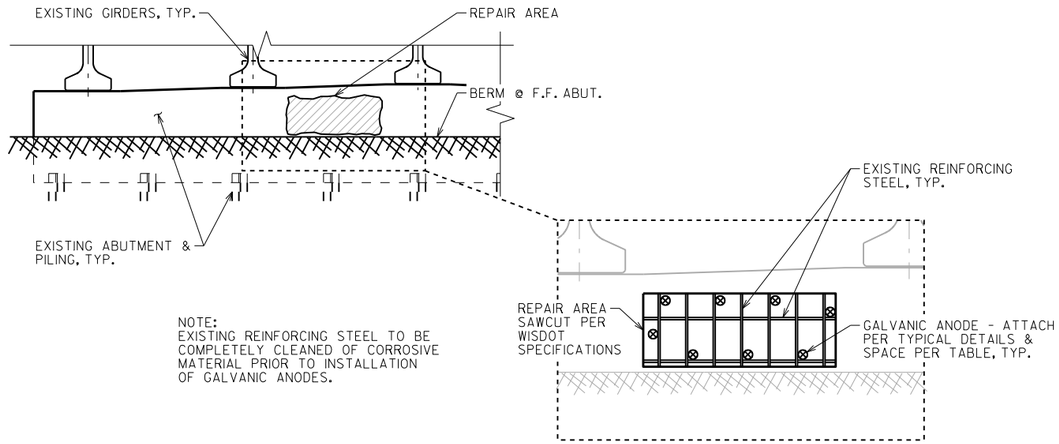
TYPICAL INSTALLATION BELOW BAR STEEL



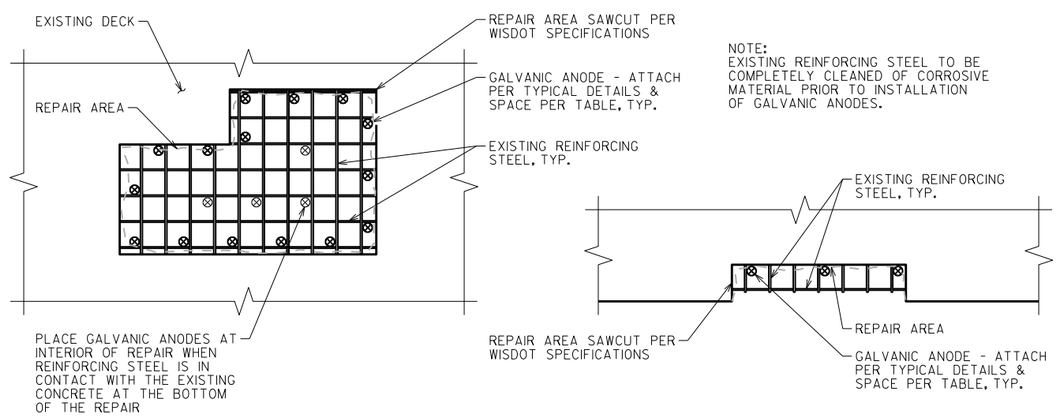
TYPICAL INSTALLATION BESIDE BAR STEEL



TYPICAL PIER & COLUMN REPAIR DETAIL



TYPICAL ABUTMENT REPAIR DETAIL



TYPICAL DECK REPAIR DETAIL

GENERAL NOTES

SEE SPECIAL PROVISION "EMBEDDED GALVANIC ANODES" FOR DESCRIPTION, MATERIALS, CONSTRUCTION, MEASUREMENT, AND PAYMENT INFORMATION.

LOCATIONS OF GALVANIC ANODES SHOULD BE WITHIN 6" OF THE EDGE OF THE REPAIR AREA.

AFTER PLACEMENT, GALVANIC ANODES SHOULD MAINTAIN A MINIMUM TOP COVER OF 1½" AND A MINIMUM BOTTOM COVER OF ¾".

MAXIMUM GALVANIC ANODE SPACING

STEEL DENSITY RATIO	MAXIMUM ANODE SPACING (INCHES)
≤ 0.30	24
0.31 → 0.50	20
0.51 → 0.60	18
0.61 → 0.80	16
0.81 → 0.90	15
0.91 → 1.00	14
1.01 → 1.20	12
≥ 1.20	*

NOTES:

1) *AT STEEL DENSITY RATIOS GREATER THAN 1.20, GENERAL CONTRACTOR TO CONSULT THE ENGINEER TO DETERMINE MAXIMUM ANODE SPACING AND ANODE LAYOUT.

2) STEEL DENSITY RATIO IS THE RATIO OF STEEL REINFORCING BAR SURFACE AREA TO EXPOSED CONCRETE SURFACE AREA WITHIN THE REPAIR AREA.

3) TABLE IS BASED ON HIGH CORROSION RISK WITHIN THE SURFACE REPAIR AREA, A MINIMUM ZINC MASS OF 38 GRAMS, AND AN APPROXIMATE SERVICE LIFE OF 10-20 YEARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-53

DRAWN BY JPH | PLANS CK'D. DDS

CATHODIC PROTECTION

SHEET 19

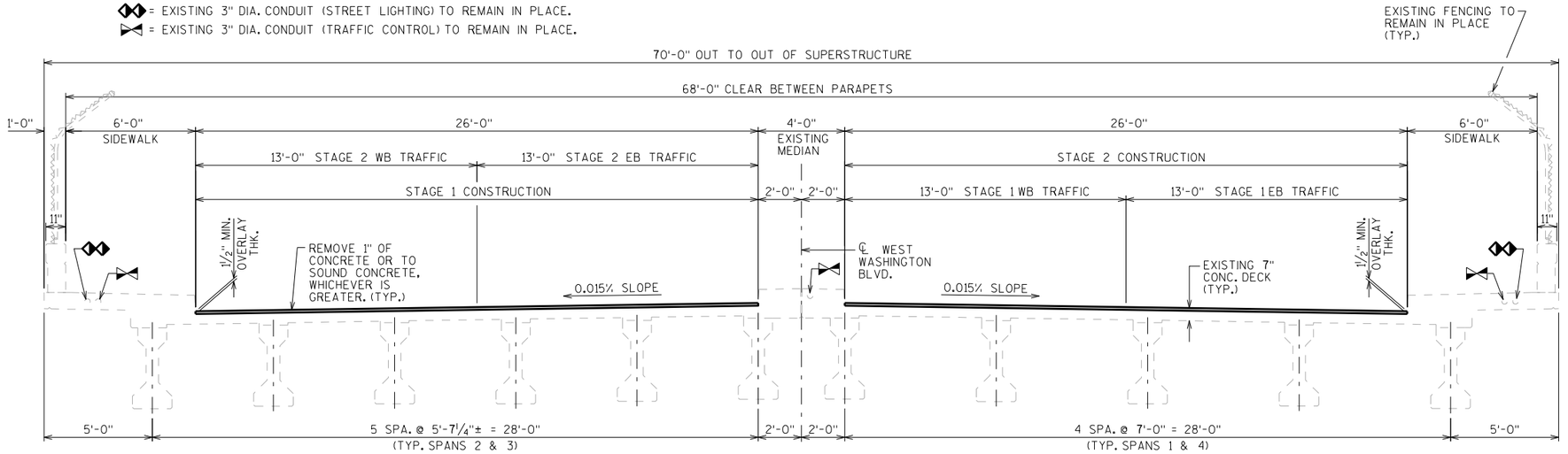
509

8

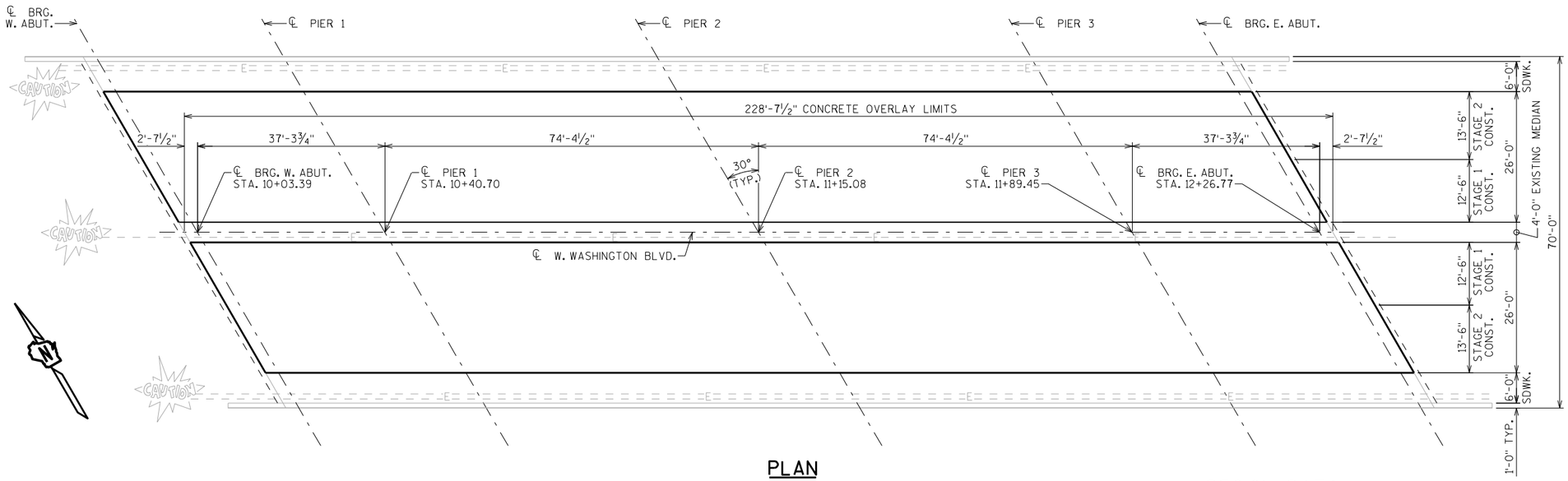
8

SCALE = 1.0

◆◆ = EXISTING 3" DIA. CONDUIT (STREET LIGHTING) TO REMAIN IN PLACE.
⋈ = EXISTING 3" DIA. CONDUIT (TRAFFIC CONTROL) TO REMAIN IN PLACE.



CROSS SECTION THRU ROADWAY
LOOKING EAST



PLAN

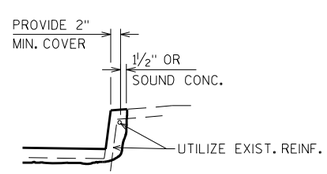
TOTAL ESTIMATED QUANTITIES

✳✳	502.0100	CONCRETE MASONRY BRIDGES	8	CY
	502.3200	PROTECTIVE SURFACE TREATMENT	1321	SY
	509.0301	PREPARATION DECKS TYPE 1	95	SY
	509.0302	PREPARATION DECKS TYPE 2	20	SY
	509.0500	CLEANING DECKS	1321	SY
	509.1200	CURB REPAIR	16	LF
	509.1500	CONCRETE SURFACE REPAIR	280	SF
	509.2000	FULL-DEPTH DECK REPAIR	3	SY
	509.2500	CONCRETE MASONRY OVERLAY DECKS	74	CY
▶	SPV.0060.702	EMBEDDED GALVANIC ANODES	265	EACH
	SPV.0165.700	CONCRETE CURE AND SEAL TREATMENT	5000	SF

ALL ITEMS ARE CATEGORY 0030

✳✳ BID ITEM ALSO INCLUDES CONCRETE FOR: PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CURB REPAIR AND FULL-DEPTH DECK REPAIR.

▶ THIS QUANTITY IS FOR INFORMATIONAL PURPOSES ONLY. FIELD ENGINEER TO VERIFY THE EXACT NUMBER OF ANODES REQUIRED AT EACH INDIVIDUAL SURFACE REPAIR LOCATION PRIOR TO ANODE INSTALLATION.



CURB REPAIR DETAIL

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-19
OPERATING RATING: HS-31
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 220 (KIPS)

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SUPERSTRUCTURE — f'c = 4,000 P.S.I.
CONCRETE MASONRY SUBSTRUCTURE — f'c = 3,500 P.S.I.

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. CATHODIC PROTECTION

STATE PROJECT NUMBER

1350-09-70

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN ½".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

REMOVE ANY/ALL LOOSE CONCRETE AT ABUMENTS, PIERS AND GIRDERS UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSH CLEANED PRIOR TO THE SURFACE REPAIRS BEING COMPLETED. REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

RE-APPLY PROTECTIVE SURFACE TREATMENT WHERE IT WAS REMOVED FROM DECK TO PREPARE THE SURFACE FOR ATTACHMENT OF FLEXIBLE TUBULAR MARKERS. INCIDENTAL TO FLEXIBLE TUBULAR MARKERS, SEE ROADWAY PLANS.

STRUCTURE DESIGN CONTACT:
ANDREW SMITH 608-266-0989
AARON BONK 608-261-0261

NO.	DATE	REVISION	BY

Plans Prepared By WISDOT
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 4/29/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-40-56

W. WASHINGTON BLVD. OVER USH 41

COUNTY MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~ MILWAUKEE
DESIGN SPEC. REHABILITATION	N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JJR	AMB	JJR/DDS	ADS

CONCRETE OVERLAY

SHEET 1 OF 2

510

I.D. 1350-09-00D

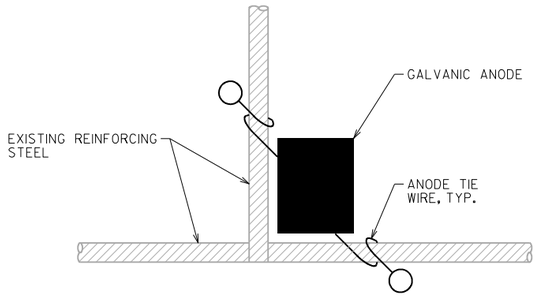
DATE: JAN. 2015

SCALE = 3.00

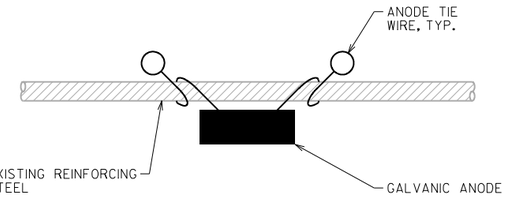
8

8

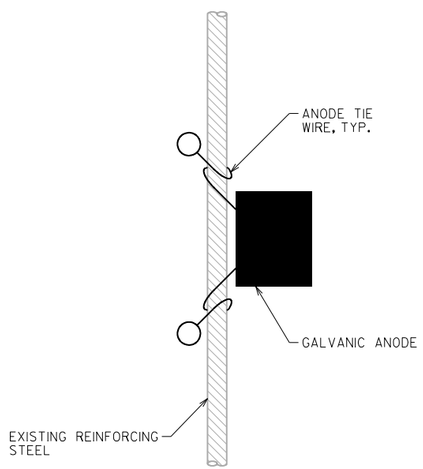
STATE PROJECT NUMBER
1350-09-70



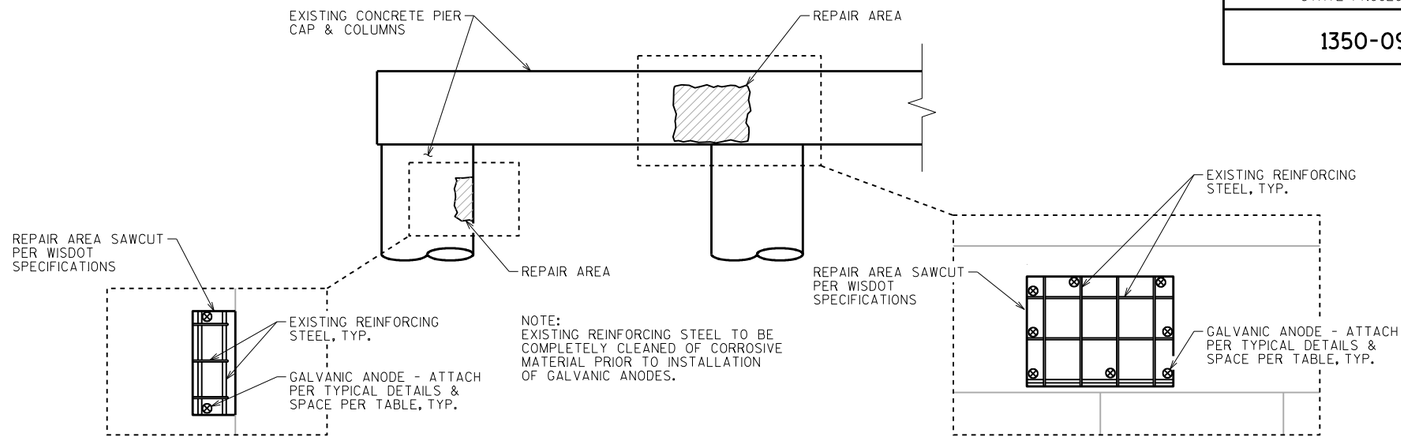
TYPICAL INSTALLATION AT BAR STEEL INTERSECTION



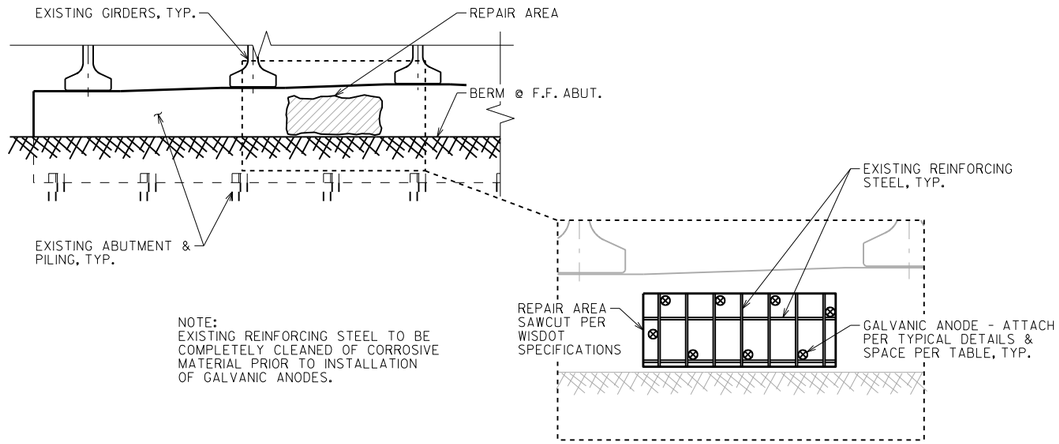
TYPICAL INSTALLATION BELOW BAR STEEL



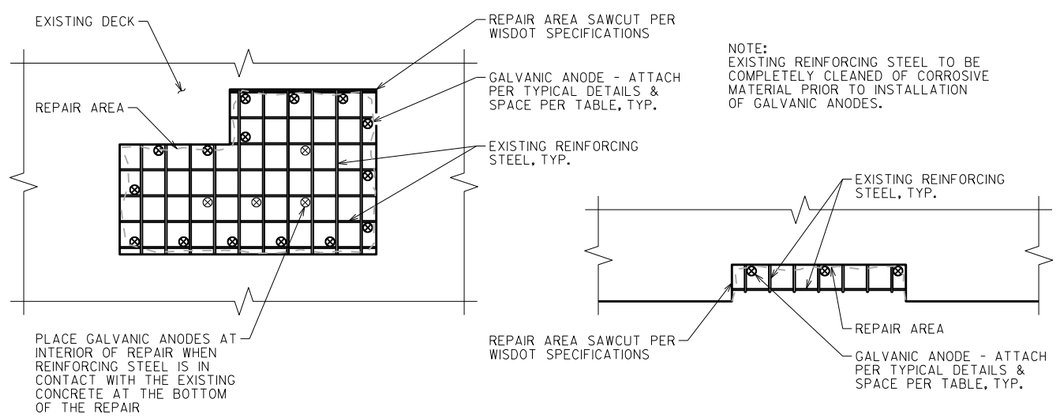
TYPICAL INSTALLATION BESIDE BAR STEEL



TYPICAL PIER & COLUMN REPAIR DETAIL



TYPICAL ABUTMENT REPAIR DETAIL



TYPICAL DECK REPAIR DETAIL

GENERAL NOTES

SEE SPECIAL PROVISION "EMBEDDED GALVANIC ANODES" FOR DESCRIPTION, MATERIALS, CONSTRUCTION, MEASUREMENT, AND PAYMENT INFORMATION.

LOCATIONS OF GALVANIC ANODES SHOULD BE WITHIN 6" OF THE EDGE OF THE REPAIR AREA.

AFTER PLACEMENT, GALVANIC ANODES SHOULD MAINTAIN A MINIMUM TOP COVER OF 1½" AND A MINIMUM BOTTOM COVER OF ¾".

MAXIMUM GALVANIC ANODE SPACING

STEEL DENSITY RATIO	MAXIMUM ANODE SPACING (INCHES)
≤ 0.30	24
0.31 → 0.50	20
0.51 → 0.60	18
0.61 → 0.80	16
0.81 → 0.90	15
0.91 → 1.00	14
1.01 → 1.20	12
≥ 1.20	*

NOTES:

1) *AT STEEL DENSITY RATIOS GREATER THAN 1.20, GC TO CONSULT THE ENGINEER TO DETERMINE MAXIMUM ANODE SPACING AND ANODE LAYOUT.
2) STEEL DENSITY RATIO IS THE RATIO OF STEEL REINFORCING BAR SURFACE AREA TO EXPOSED CONCRETE SURFACE AREA WITHIN THE REPAIR AREA.
3) TABLE IS BASED ON HIGH CORROSION RISK WITHIN THE SURFACE REPAIR AREA, A MINIMUM ZINC MASS OF 38 GRAMS, AND AN APPROXIMATE SERVICE LIFE OF 10-20 YEARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-56

DRAWN BY AMB | PLANS CK'D. ADS

CATHODIC PROTECTION

SHEET 2

511

SCALE = 1.0

8

8

EXISTING FENCING TO REMAIN IN PLACE, REUSE EXISTING FENCING @ JOINT REPAIR LOCATIONS (SEE SHEET 5).

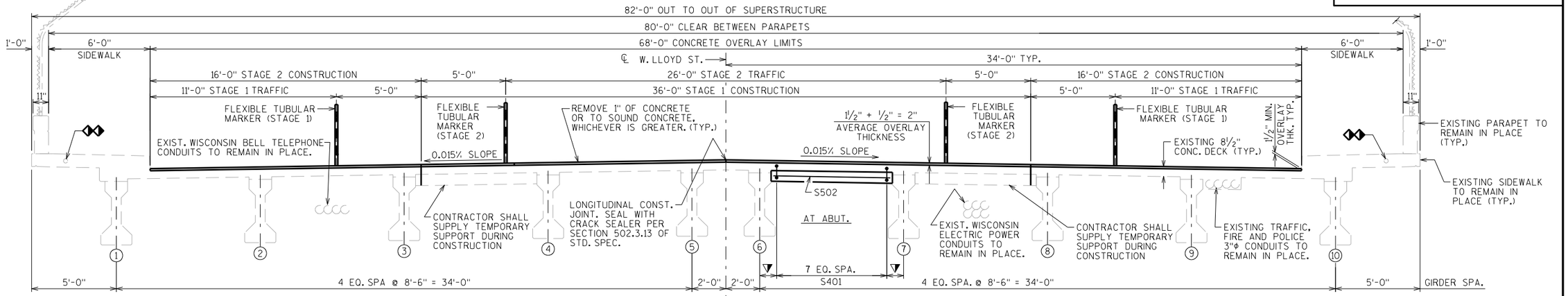
EXISTING 2½" Φ CONDUIT (STREET LIGHTING) TO REMAIN IN PLACE

▽ = 1'-0"

RE-APPLY PROTECTIVE SURFACE TREATMENT WHERE IT WAS REMOVED FROM DECK TO PREPARE THE SURFACE FOR ATTACHMENT OF FLEXIBLE TUBULAR MARKERS. INCIDENTAL TO FLEXIBLE TUBULAR MARKERS, SEE ROADWAY PLANS.

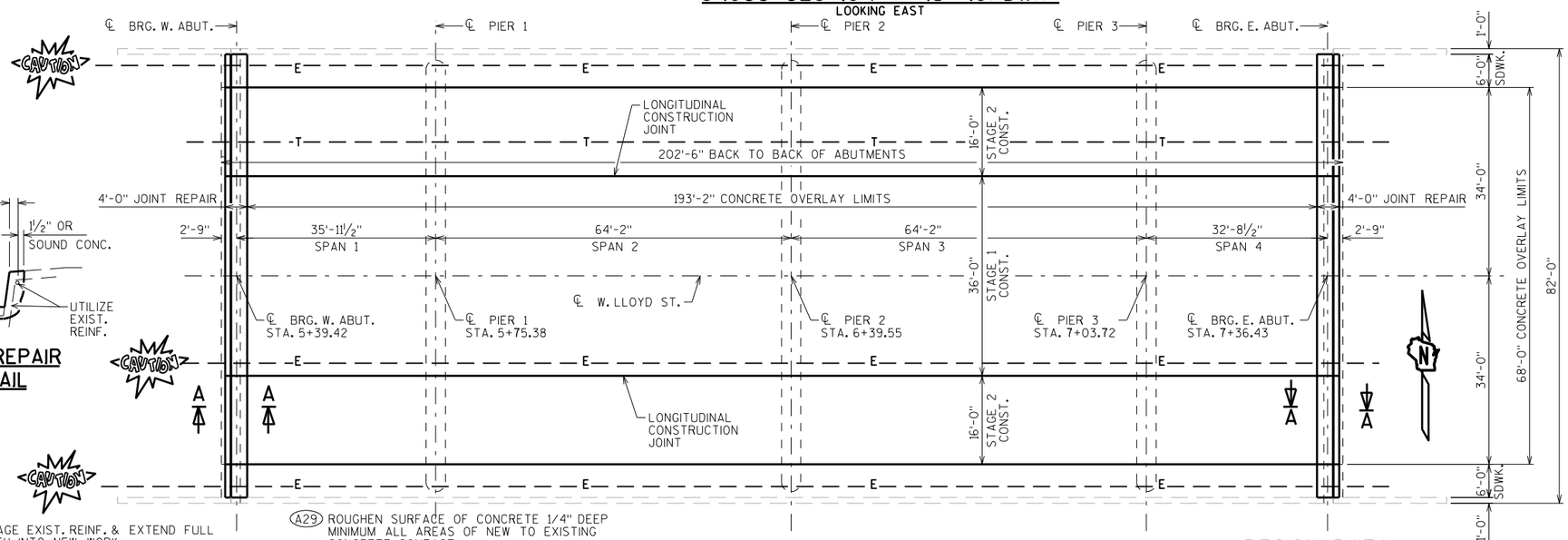
STATE PROJECT NUMBER

1350-09-70



CROSS SECTION THRU ROADWAY

LOOKING EAST



PROVIDE 2" MIN. COVER

1½" OR SOUND CONC.

UTILIZE EXIST. REINF.

CURB REPAIR DETAIL

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

(A29) ROUGHEN SURFACE OF CONCRETE 1/4" DEEP MINIMUM ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK, NEW SIDEWALK AND TOP AND ROADWAY FACE OF NEW PARAPET SURFACES.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF ALL ABUTMENTS BELOW EXPANSION DEVICES.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN ½".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

ALL LINES OF REMOVAL SHALL BE DEFINED BY A MIN. 1" DEEP SAW CUT.

REMOVE ANY/ALL LOOSE CONCRETE AT ABUMENTS, PIERS AND GIRDERS UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSH CLEANED PRIOR TO THE SURFACE REPAIRS BEING COMPLETED. REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

TOTAL ESTIMATED QUANTITIES

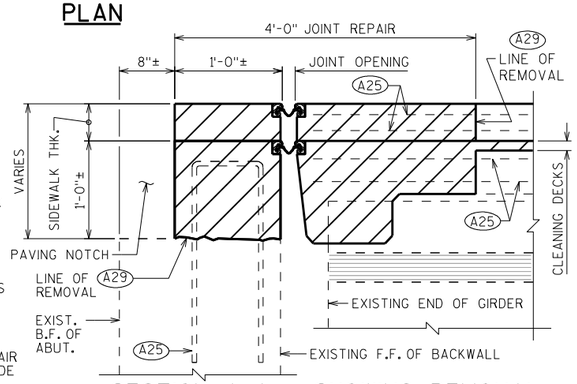
✳✳	502.0100	CONCRETE MASONRY BRIDGES	18	CY
	502.3100	EXPANSION DEVICE B-40-60	1	LS
	502.3200	PROTECTIVE SURFACE TREATMENT	1540	SY
	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	164	EACH
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	5735	LB
	505.0905	BAR COUPLERS NO. 5	12	EACH
	505.0906	BAR COUPLERS NO. 6	36	EACH
	509.0301	PREPARATION DECKS TYPE 1	73	SY
	509.0302	PREPARATION DECKS TYPE 2	15	SY
	509.0500	CLEANING DECKS	1460	SY
	509.1000	JOINT REPAIR	73	SY
	509.1200	CURB REPAIR	20	LF
	509.1500	CONCRETE SURFACE REPAIR	170	SF
	509.2000	FULL-DEPTH DECK REPAIR	2	SY
	509.2500	CONCRETE MASONRY OVERLAY DECKS	96	CY
	652.0230	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 1/2-INCH	16	LF
	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	32	LF
▶▶	SPV.0060.702	EMBEDDED GALVANIC ANODES	224	EACH
	SPV.0165.700	CONCRETE CURE AND SEAL TREATMENT	4705	SF

ALL ITEMS ARE CATEGORY 0040

✳✳ BID ITEM INCLUDES: PREPARATION DECK TYPE 1, PREPARATION DECKS TYPE 2, JOINT REPAIR, CURB REPAIR AND FULL-DEPTH DECK REPAIR

▶▶ THIS QUANTITY IS FOR INFORMATIONAL PURPOSES ONLY. FIELD ENGINEER TO VERIFY THE EXACT NUMBER OF ANODES REQUIRED AT EACH INDIVIDUAL SURFACE REPAIR LOCATION PRIOR TO ANODE INSTALLATION.

PLAN



SECTION A-A - SHOWING REMOVAL

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-19
OPERATING RATING: HS-37
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 215 (KIPS)

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SUPERSTRUCTURE — f'c = 4,000 P.S.I.
CONCRETE MASONRY SUBSTRUCTURE — f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

STRUCTURE DESIGN CONTACTS:

NICK RICE	(608) 266-5092
AARON BONK	(608) 261-0261

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. JOINT REPAIR DETAILS
3. EXPANSION DEVICE
4. COVER PLATE DETAILS
5. PARAPET DETAILS
6. CATHODIC PROTECTION

NO.	DATE	REVISION	BY

Plans Prepared By WISDOT
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 4/30/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-40-60

W. LLOYD ST. OVER USH 41

COUNTY: MILWAUKEE — ~~TOWN~~ CITY ~~VILLAGE~~: MILWAUKEE
DESIGN SPEC.: REHABILITATION — N/A
DESIGNED BY: ADS — DESIGN CK'D.: AMB — DRAWN BY: AMB/DDS — PLANS CK'D.: ADS

CONCRETE OVERLAY

SHEET 1 OF 6

512

SCALE = 3.0

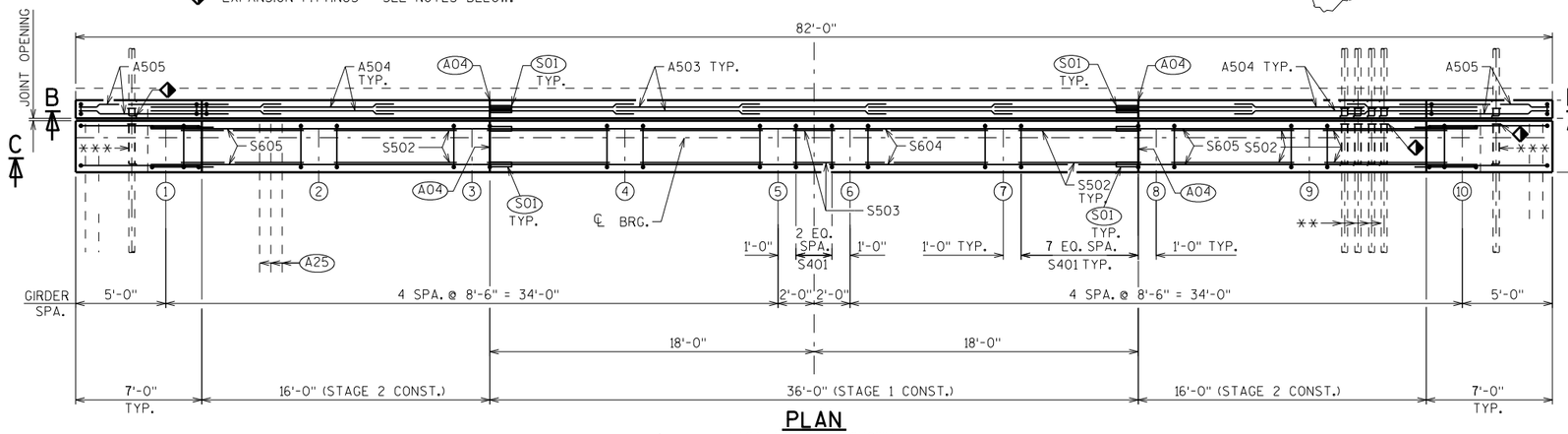
I.D. 1350-09-00E

DATE: MAY 2015

*** "CONDUIT RIGID NONMETALLIC SCHEDULE 40 2½-INCH" FOR DETAILS, SEE NOTES BELOW.

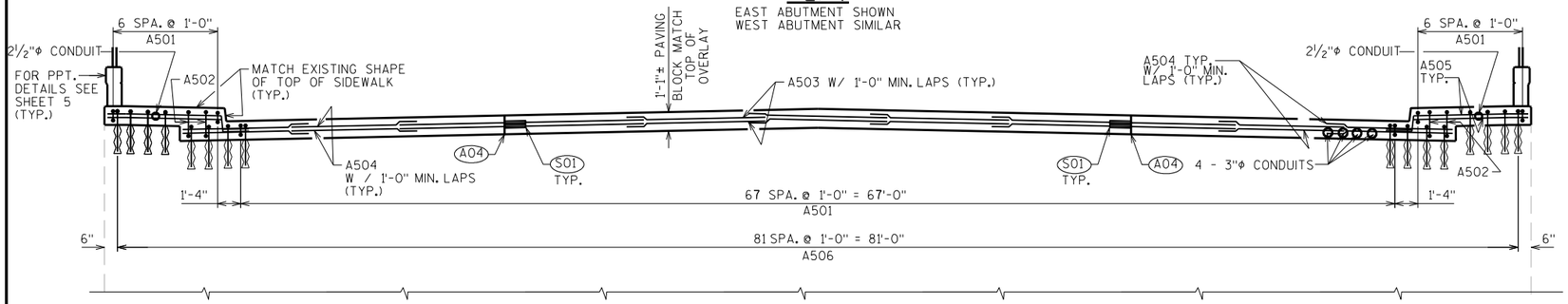
◆ EXPANSION FITTINGS - SEE NOTES BELOW.

** "CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH" FOR DETAILS, SEE NOTES BELOW.



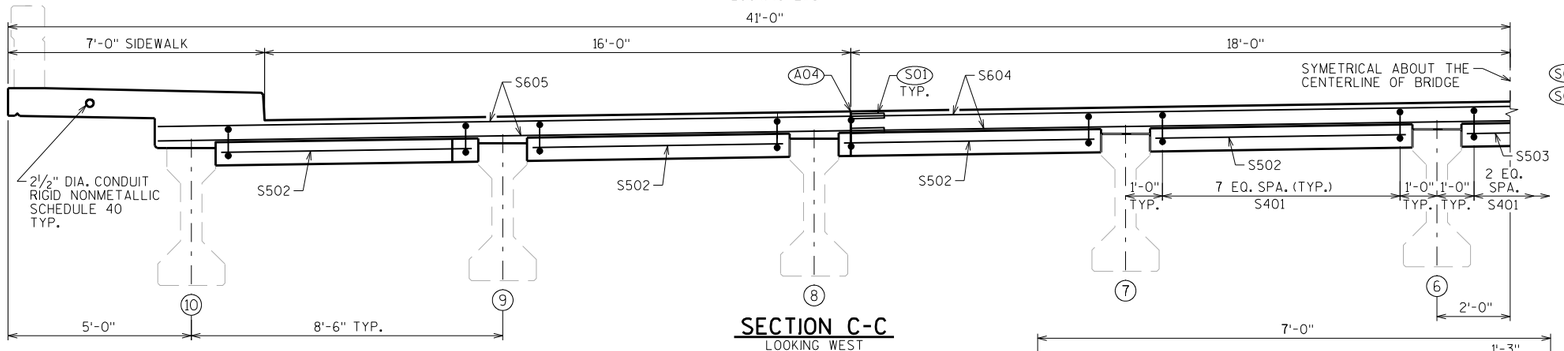
PLAN

EAST ABUTMENT SHOWN
WEST ABUTMENT SIMILAR



SECTION B-B

LOOKING EAST



SECTION C-C

LOOKING WEST

NOTES

(A04) VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE.

(A23) MASONRY ANCHORS TYPE L NO. 5 BARS, WITH A MIN. PULLOUT CAPACITY OF 19 KIPS. EMBED 1'-6" INTO EXISTING CONCRETE. EPOXY ANCHORED.

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

(S01) BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGIT. JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.

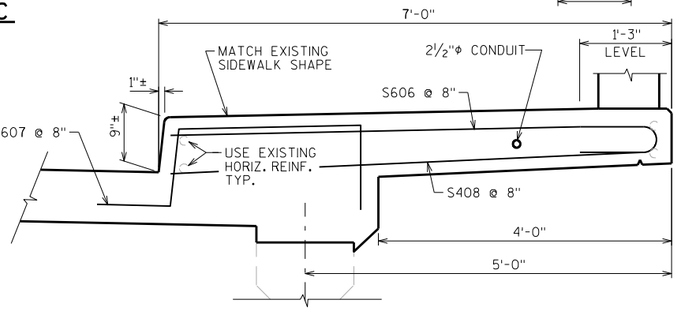
PROVIDE NEW RIGID NONMETALLIC CONDUIT AT THE JOINT REPAIR SECTION AS INDICATED IN PLAN.

BID ITEMS SHALL BE:
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2½-INCH"
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH"

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID NONMETALLIC SCHEDULE 40 2½-INCH" & "CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

USE APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTINGS:
CARLON E945K OR EQUIVALENT - 2½-INCH
CARLON E945L OR EQUIVALENT - 3-INCH



SIDEWALK REINFORCEMENT DETAIL

STATE PROJECT NUMBER

1350-09-70

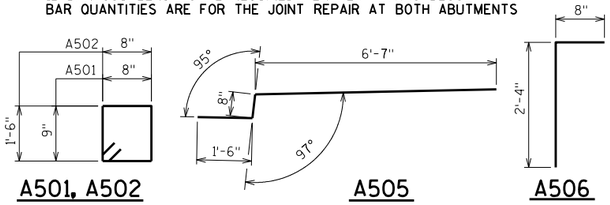
NOTE:
FOR SECTION THRU JOINT REPAIR SEE SHEET 3.

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	164	3'-6"	X		PAVING BLOCK - STIRRUPS
A502	X	8	5'-0"	X		PAVING BLOCK - STIRRUPS
(S01) A503	X	30	8'-0"			PAVING BLOCK - HORIZ.
(S01) A504	X	36	7'-3"			PAVING BLOCK - HORIZ.
A505	X	12	8'-6"	X		PAVING BLOCK - HORIZ. - AT SIDEWALK
(A23) A506	X	164	3'-0"	X		PAVING BLOCK - CONCRETE MASONRY ANCHORS

12 BAR COUPLERS TOTAL REQUIRED PER NEW PAVING BLOCK
BAR QUANTITIES ARE FOR THE JOINT REPAIR AT BOTH ABUTMENTS



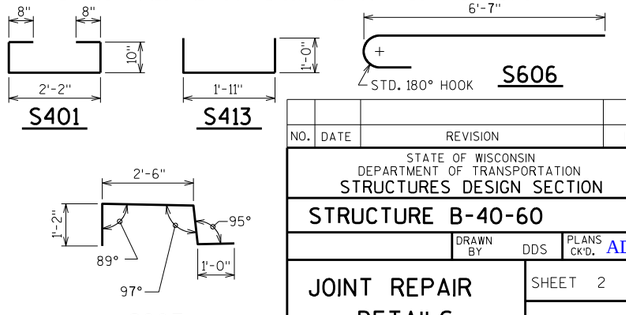
A501, A502 A505 A506

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	134	4'-10"	X		ABUT. DIAPH. - VERT.
S502	X	96	6'-10"			ABUT. DIAPH. - HORIZ.
S503	X	12	2'-4"			ABUT. DIAPH. - HORIZ. - BTWN. GIRS. 5&6
(S01) S604	X	18	36'-0"			JOINT REPAIR - HORIZ. (STAGE 1 CONST.)
(S01) S605	X	36	18'-10"			JOINT REPAIR - HORIZ. (STAGE 2 CONST.)
S606	X	20	7'-3"	X		SIDEWALK - VERT. - TOP OF SDWK.
S607	X	20	5'-1"	X		SIDEWALK - VERT.
S408	X	20	6'-7"			SIDEWALK - HORIZ. - BOTTOM OF SDWK.
S509		--	--			NOT USED
S510		--	--			NOT USED
S411	X	32	7'-6"			EXPANSION DEVICE - BETWEEN GIRDERS
S412	X	4	3'-0"			EXPANSION DEVICE - BETWEEN GIRDERS 5&6
S413	X	2	3'-9"	X		EXPANSION DEVICE - VERT. - AT CONDUITS
S414	X	6	2'-4"			EXPANSION DEVICE - HORIZ.- BOT.- AT CONDUITS

68 BAR COUPLERS TOTAL REQUIRED
BAR QUANTITIES ARE FOR THE JOINT REPAIR AT BOTH ABUTMENTS



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-60

DRAWN BY DDS | PLANS CK'D. ADS

JOINT REPAIR DETAILS

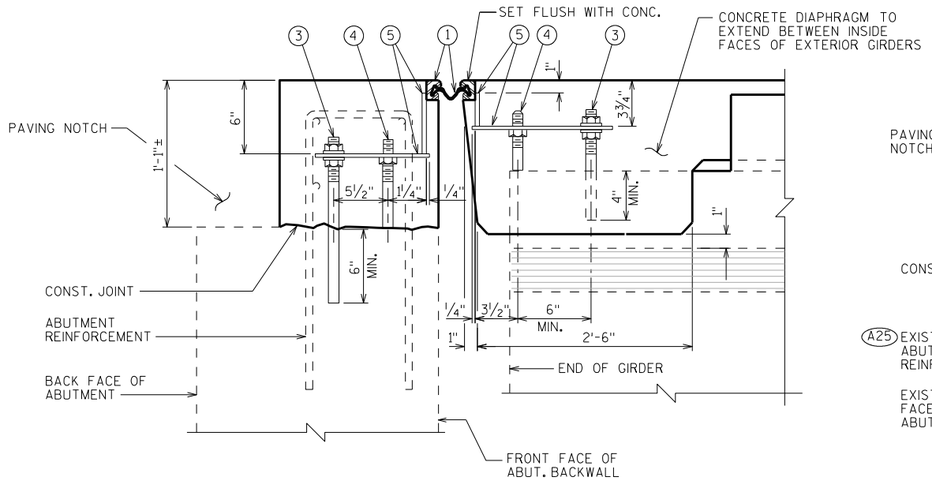
SHEET 2

513

SCALE = 4.0

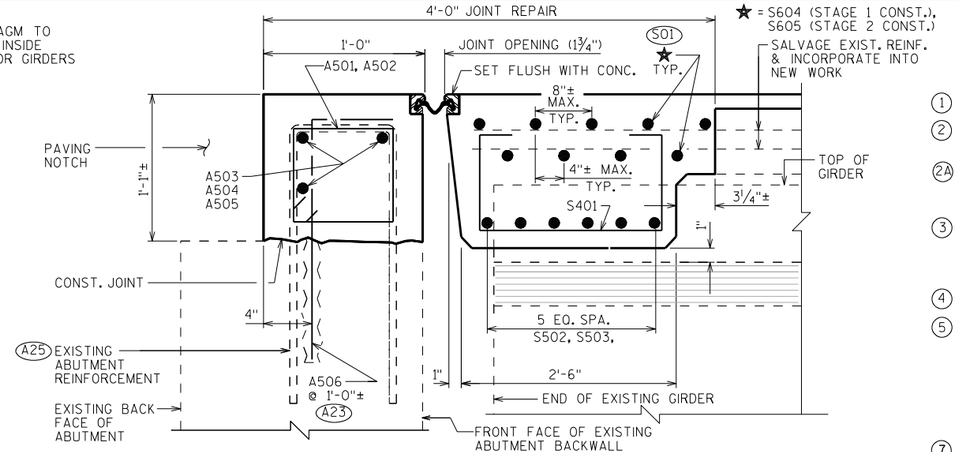
8

8



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



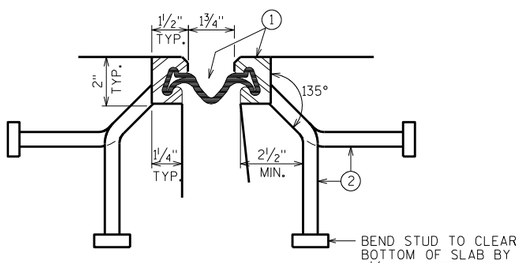
SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

A23 MASONRY ANCHORS TYPE L NO. 5 BARS, WITH A MIN. PULLOUT CAPACITY OF 19 KIPS EMBED 1'-6" MIN. INTO EXIST. CONCRETE. EPOXY ANCHORED.

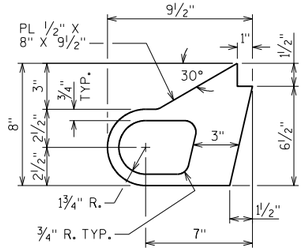
A25 SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

S01 BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGITUDINAL JOINTS & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.

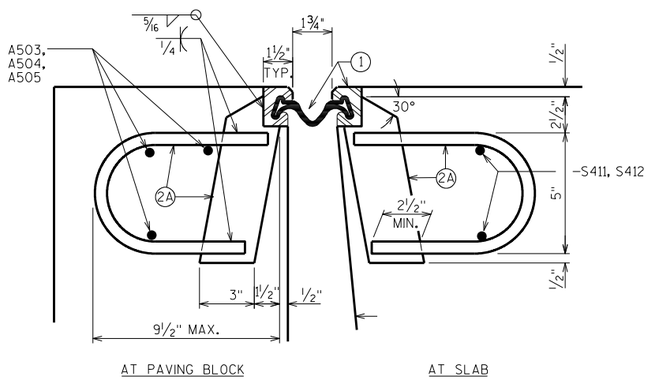


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB AND AT PARAPETS AND SIDEWALKS

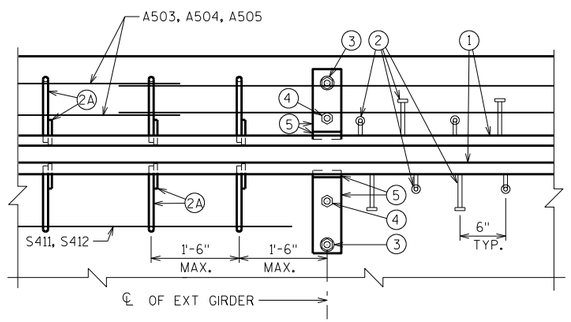


ALTERNATE STRIP SEAL ANCHOR

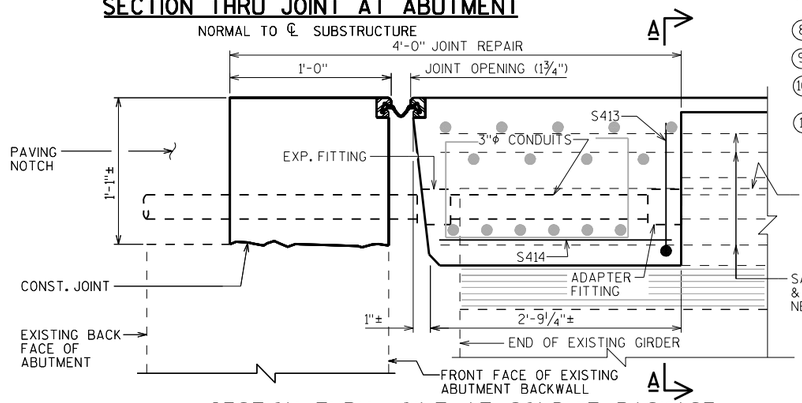


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

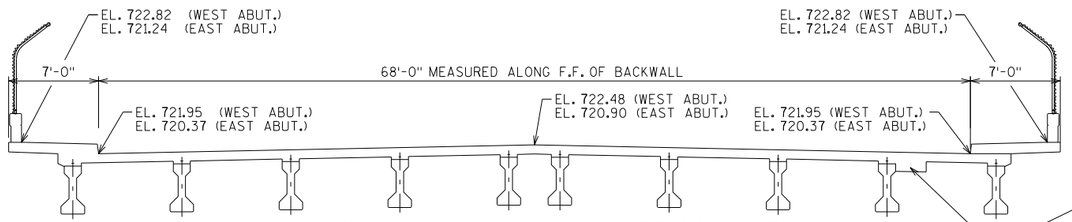


PART PLAN

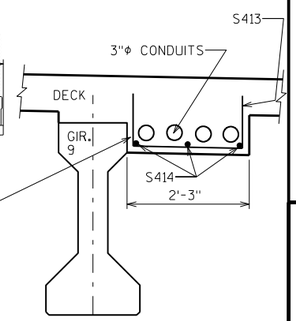


SECTION THRU JOINT AT CONDUIT PACKAGE

NORMAL TO ℄ SUBSTRUCTURE



SECTION THRU ROADWAY - LOOKING EAST



SECTION A-A

GENERAL NOTES

TWO FIELD SPLICES PERMITTED IN STEEL EXTRUSIONS. 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 & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPEDGALVANIZED. 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 & NO. 9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-40-60".

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LEGEND

1. NEOPRENE STRIP SEAL (4-INCH) & STEEL EXTRUSIONS.
2. STUDS ⅝"Φ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & 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. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER AND AS SHOWN IN ABUTMENT BACKWALL.
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. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" Φ HOLE FOR NO. 3 & 1" Φ HOLE FOR NO. 4.
7. ¾"Φ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. 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. 1" X 5" SLOTTED CSK. HOLE FOR NO. 7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.
11. SIDEWALK COVER PLATE ⅜" X LIMITS SHOWN. BEND DOWN FACE OF SDWK. WITH HOLES FOR NO. 7. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-60

DRAWN BY DDS | PLANS CK'D. ADS

EXPANSION DEVICE

SHEET 3

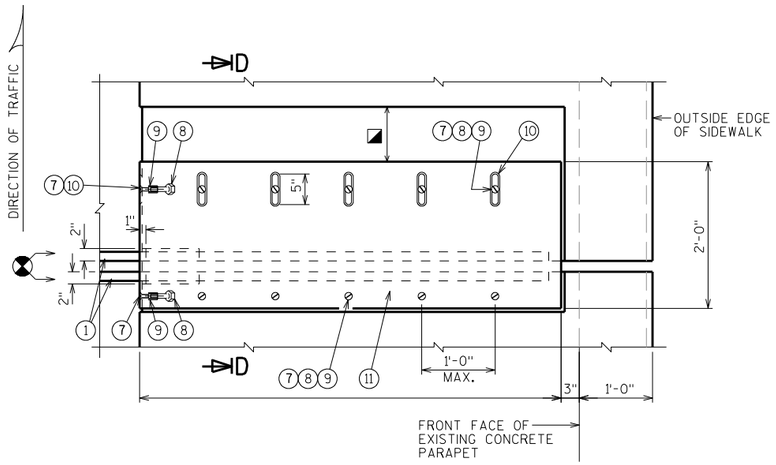
514

8

8

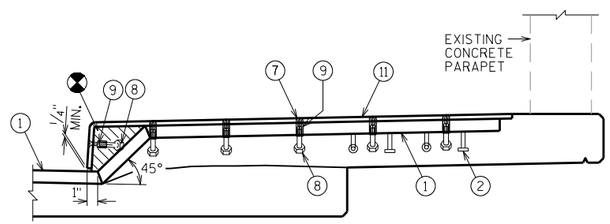
SCALE =

STATE PROJECT NUMBER
1350-09-70

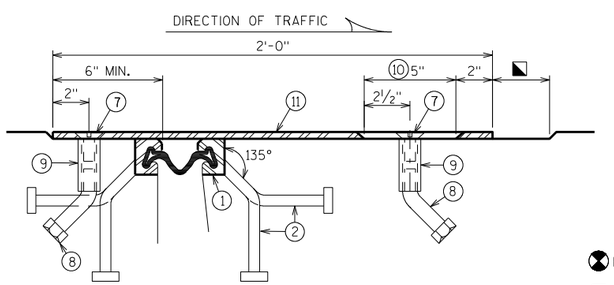


PLAN AT SIDEWALK

WINGS 1&3 SHOWN
WINGS 2&4 SIMILAR



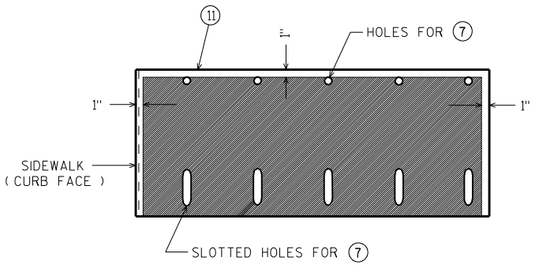
SECTION AT SIDEWALK



SECTION D-D

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIM. ALONG SKEW PLUS ½".



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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-60

DRAWN BY DDS | PLANS CK'D. ADS

COVER PLATE DETAILS

SHEET 4

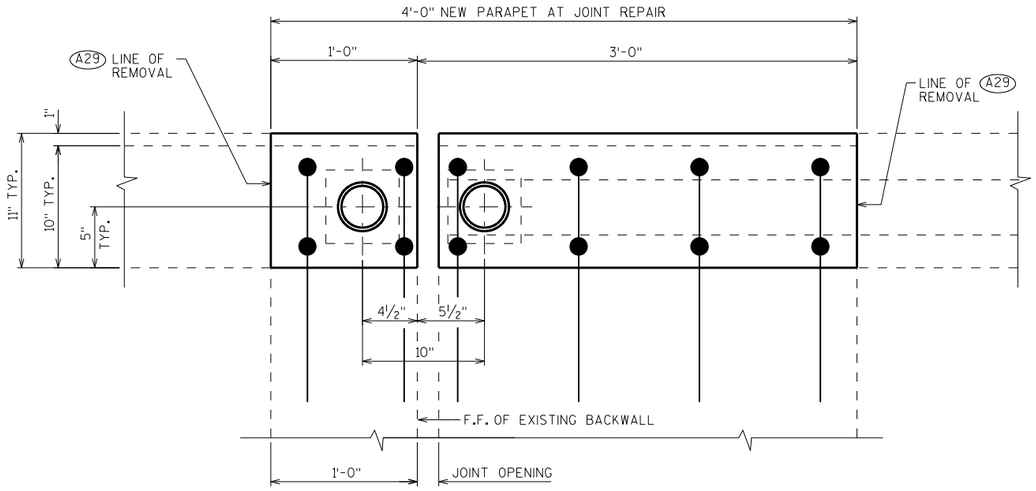
515

7-10

SCALE =

STATE PROJECT NUMBER

1350-09-70



PLAN

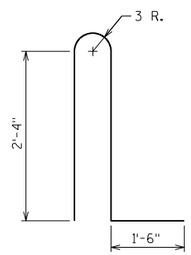
A25 SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

A29 ROUGHEN SURFACE OF CONCRETE 1/4" DEEP MINIMUM ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT.

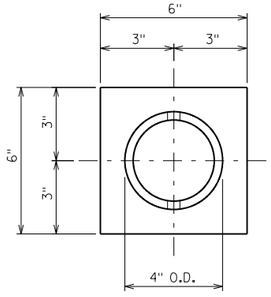
BILL OF BARS

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

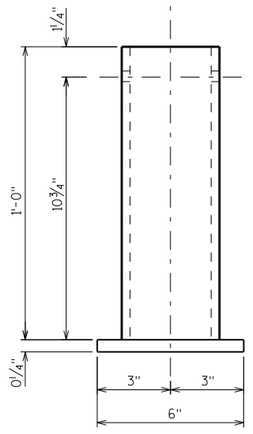
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	24	6'-10"	X		PARAPET - VERT.



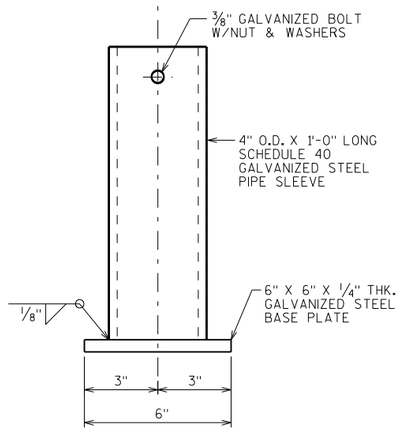
R501



PLAN

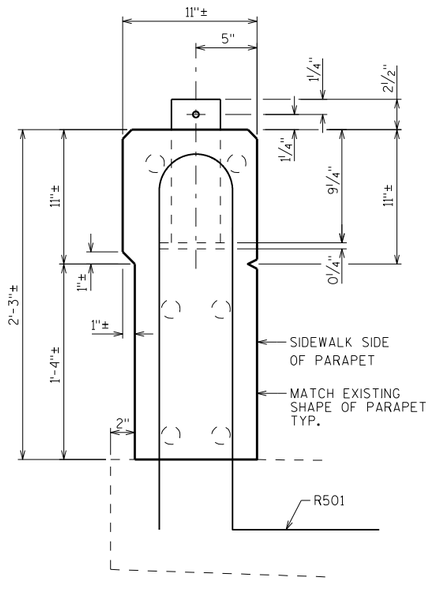


FRONT VIEW

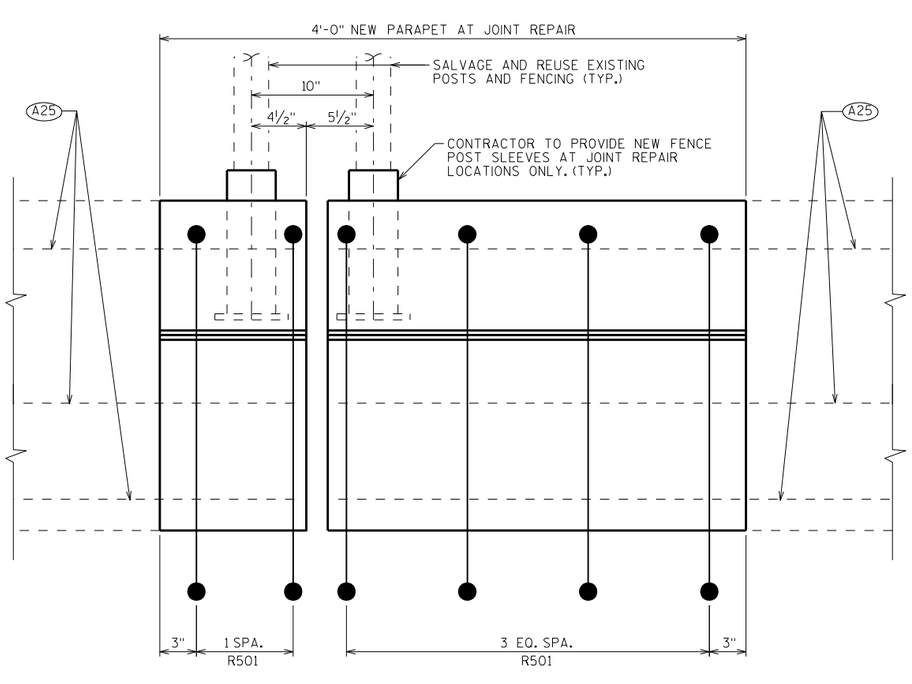


SIDE VIEW

FENCE POST SLEEVE DETAILS



SECTION PARAPET



INSIDE ELEVATION OF PARAPET

GENERAL NOTES

ALL PARTS LISTED ABOVE SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "JOINT REPAIR".

FENCE POST SLEEVES ARE TO BE SET VERTICAL.

ALL COMPONENTS SHALL BE GALVANIZED STEEL

STEEL PIPE SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40).

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

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.

BASE PLATES SHALL BE ASTM A709, GRADE 36.

ALL RAIL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE ℄ OF THE POST.

⅜" DIA. X 6⅞" LONG GALVANIZED HEX BOLT WITH NUT & WASHERS (2 WASHERS PER BOLT).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-60

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PARAPET DETAILS

SHEET 5

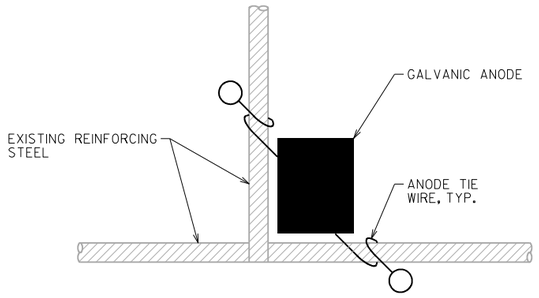
516

SCALE = 0.50

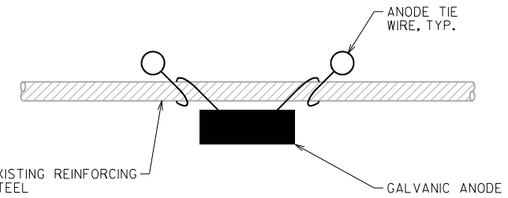
8

8

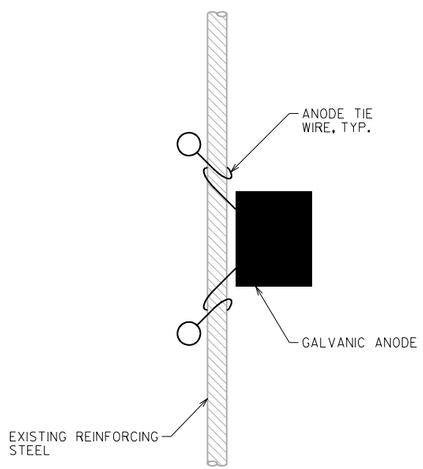
STATE PROJECT NUMBER
1350-09-70



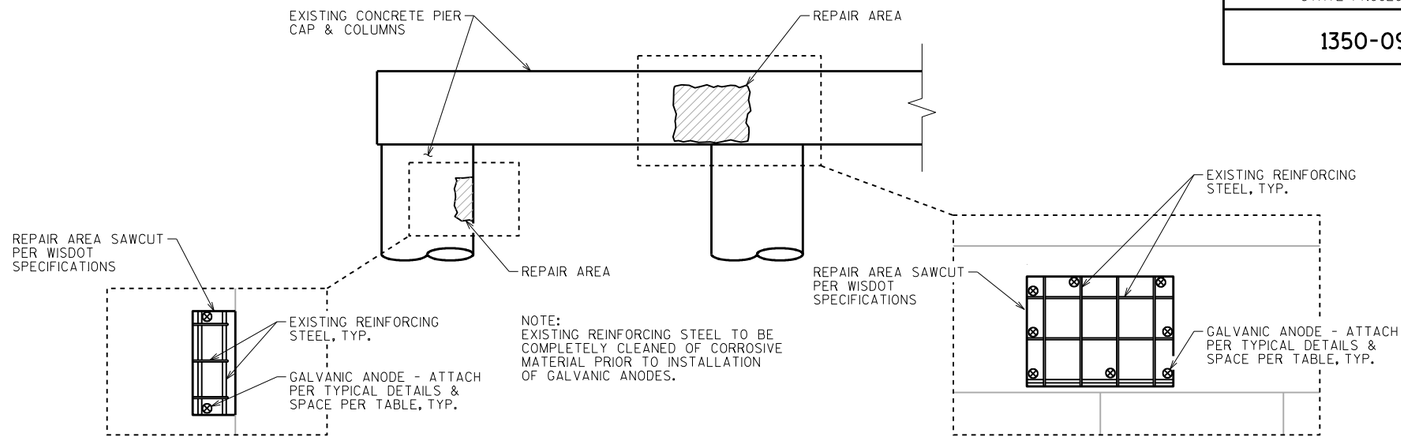
TYPICAL INSTALLATION AT BAR STEEL INTERSECTION



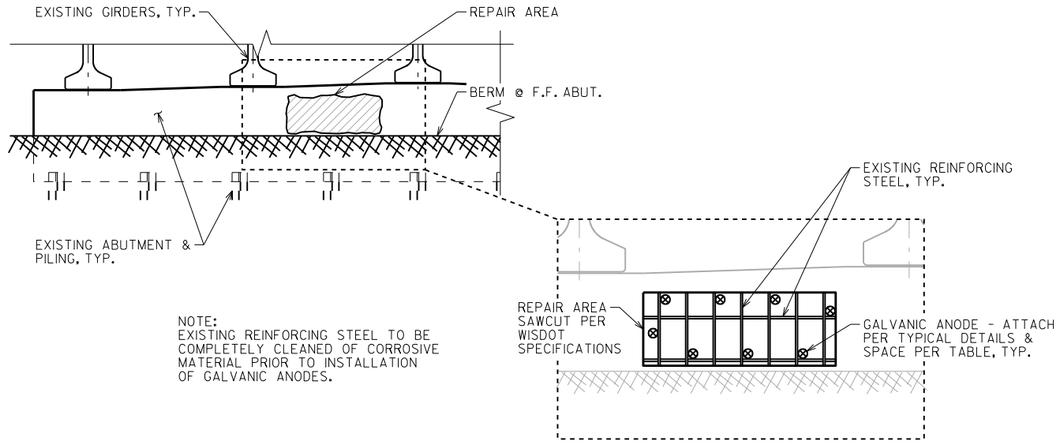
TYPICAL INSTALLATION BELOW BAR STEEL



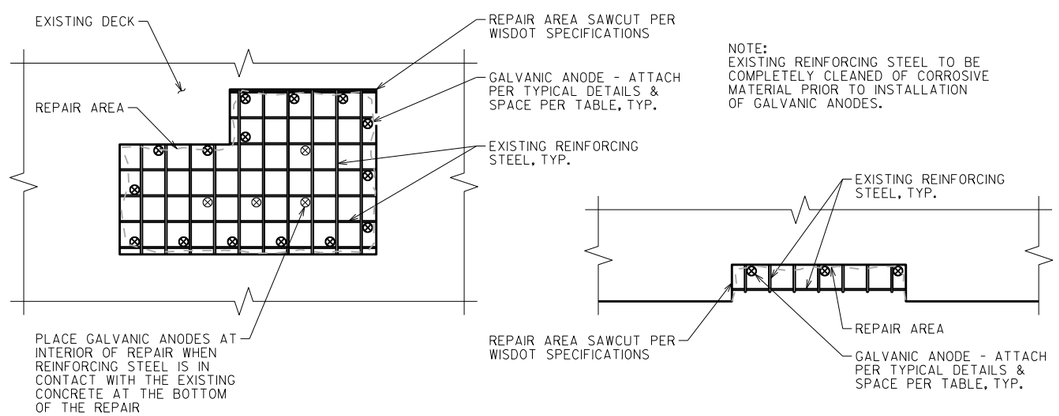
TYPICAL INSTALLATION BESIDE BAR STEEL



TYPICAL PIER & COLUMN REPAIR DETAIL



TYPICAL ABUTMENT REPAIR DETAIL



TYPICAL DECK REPAIR DETAIL

GENERAL NOTES

SEE SPECIAL PROVISION "EMBEDDED GALVANIC ANODES" FOR DESCRIPTION, MATERIALS, CONSTRUCTION, MEASUREMENT, AND PAYMENT INFORMATION.

LOCATIONS OF GALVANIC ANODES SHOULD BE WITHIN 6" OF THE EDGE OF THE REPAIR AREA.

AFTER PLACEMENT, GALVANIC ANODES SHOULD MAINTAIN A MINIMUM TOP COVER OF 1½" AND A MINIMUM BOTTOM COVER OF ¾".

MAXIMUM GALVANIC ANODE SPACING

STEEL DENSITY RATIO	MAXIMUM ANODE SPACING (INCHES)
≤ 0.30	24
0.31 → 0.50	20
0.51 → 0.60	18
0.61 → 0.80	16
0.81 → 0.90	15
0.91 → 1.00	14
1.01 → 1.20	12
≥ 1.20	*

NOTES:

1) *AT STEEL DENSITY RATIOS GREATER THAN 1.20, GC TO CONSULT THE ENGINEER TO DETERMINE MAXIMUM ANODE SPACING AND ANODE LAYOUT.

2) STEEL DENSITY RATIO IS THE RATIO OF STEEL REINFORCING BAR SURFACE AREA TO EXPOSED CONCRETE SURFACE AREA WITHIN THE REPAIR AREA.

3) TABLE IS BASED ON HIGH CORROSION RISK WITHIN THE SURFACE REPAIR AREA, A MINIMUM ZINC MASS OF 38 GRAMS, AND AN APPROXIMATE SERVICE LIFE OF 10-20 YEARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-60

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CATHODIC PROTECTION

SHEET 6

517

SCALE = 1.0

8

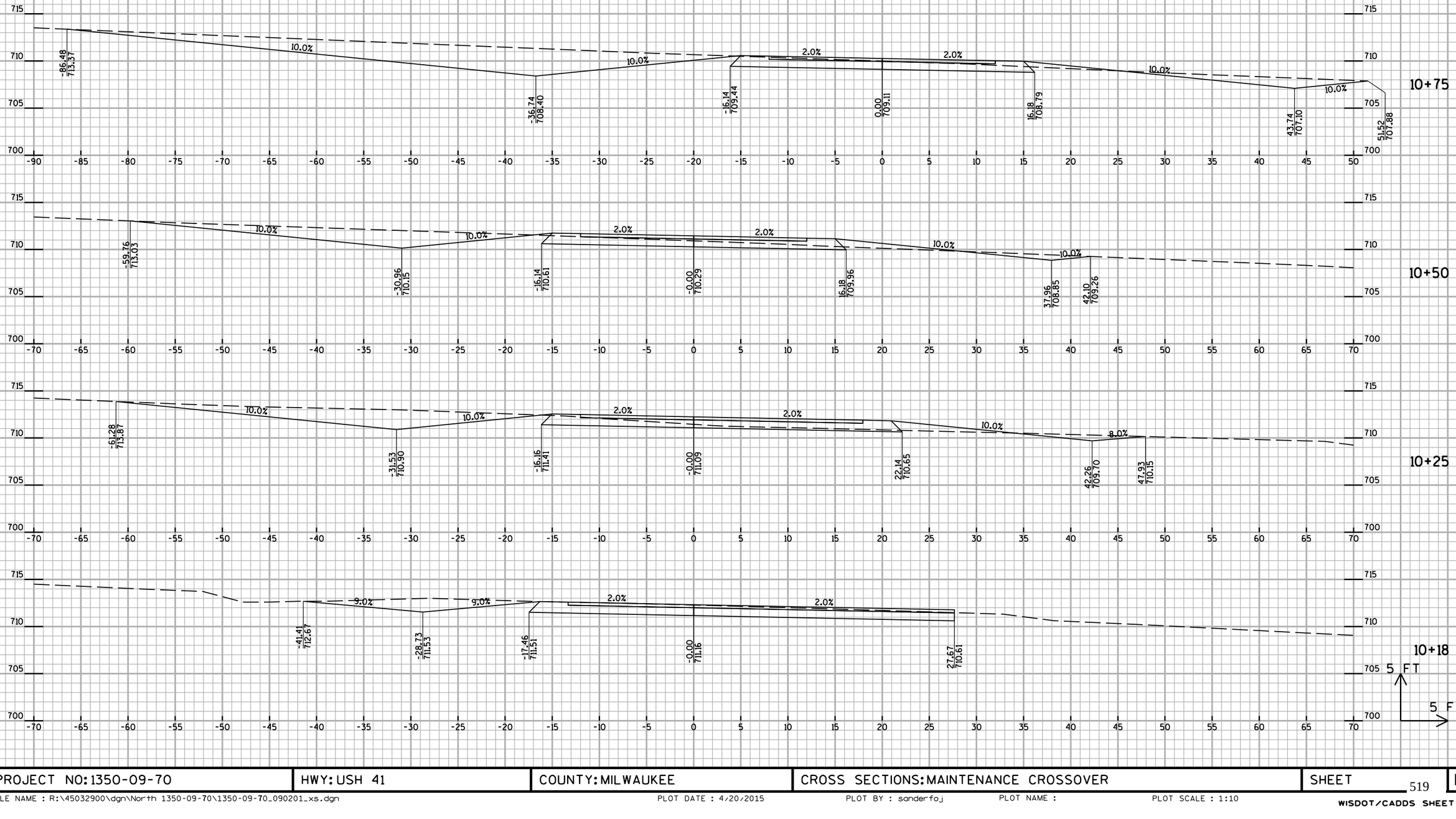
8

EARTHWORK STATION-BY-STATION

STATION	REAL STATION	Distance	AREA (SF) Cut	AREA (SF) Salvaged/ Unusable Pave. Mat.	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) Exp. Fill 1.3	Cumulative Vol (CY) Exp. EBS Backfill 1.30 Note 5	Cumulative Vol (CY) Red. EBS In Fill 0.80 Note 7	Mass Ordinate
MAINTENANCE CROSSOVER													
10+18	1018		65.2	0.0	0.0	0	0	0	0	0	0	0	0
10+25	1025	7	66.6	0.0	6.1	17	0	1	17	1	0	0	16
10+50	1050	25	68.8	0.0	5.4	63	0	5	80	8	0	0	72
10+75	1075	25	144.5	0.0	2.8	99	0	4	179	13	0	0	166
11+00	1100	25	37.4	0.0	0.5	84	0	2	263	15	0	0	248
11+05	1105	5	45.0	0.0	0.2	8	0	0	270	15	0	0	255
						270	0	12					

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

STA. 10+18 TO 10+75



PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: MAINTENANCE CROSSOVER	SHEET 519	E

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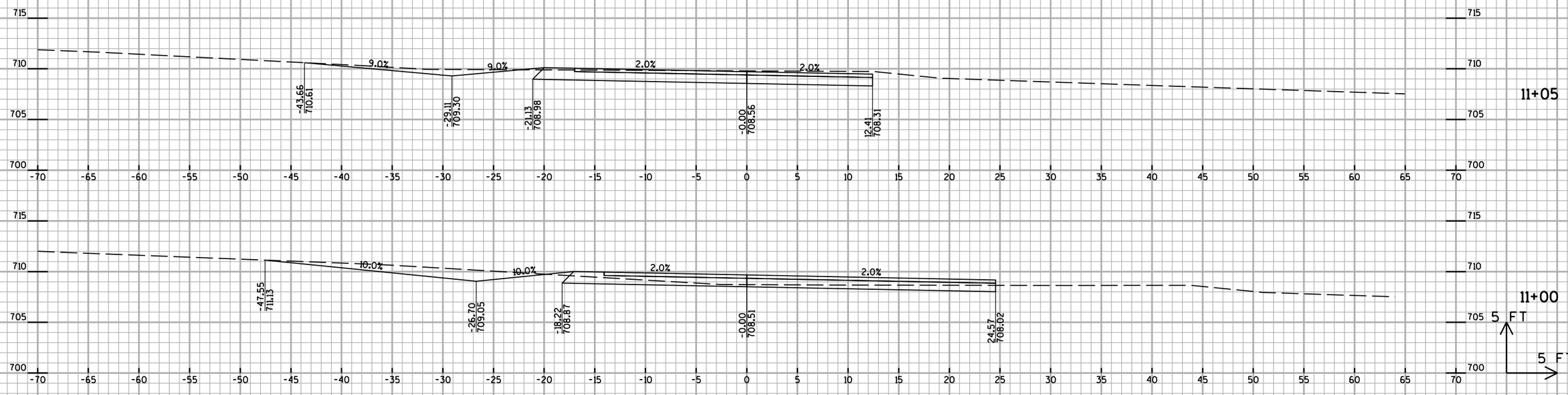
WISDOT/CADDS SHEET 21

STA. 11+00 TO 11+05



9

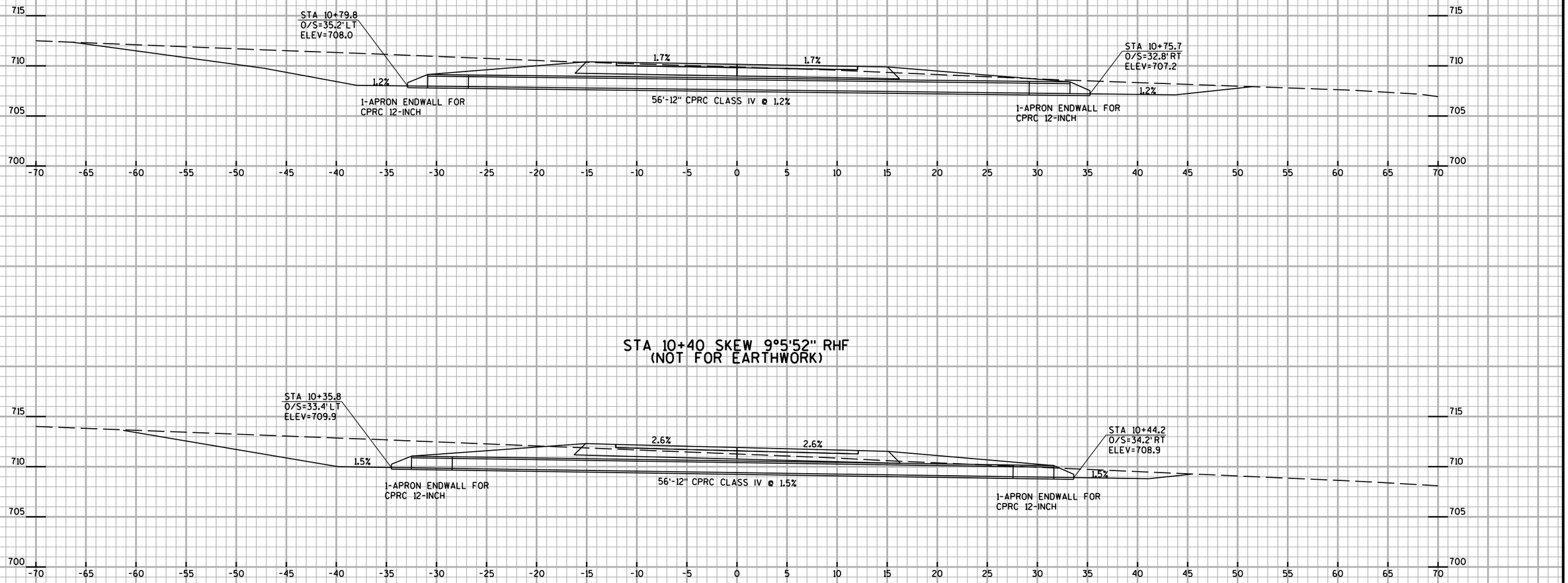
9

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: MAINTENANCE CROSSOVER	SHEET 520	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_090201_xs.dgn PLOT DATE : 4/20/2015 PLOT BY : sanderfoj PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA 10+78 SKEW 3°30'19" LHF
(NOT FOR EARTHWORK)



STA 10+40 SKEW 9°5'52" RHF
(NOT FOR EARTHWORK)

5 FT
5 FT

9 9

PROJECT NO: 1350-09-70	HWY: USH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: MAINTENANCE CROSSOVER	SHEET 521	E

FILE NAME : R:\45032900\dgn\North 1350-09-70\1350-09-70_090201_xs.dgn PLOT DATE : 4/20/2015 PLOT BY : sanderfoj PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

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