MAD

JANUARY 2024

PROJECT ID: 5992-07-19

WITH: N/A

COUNTY: DANE

ORDER OF SHEETS

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

TOTAL SHEETS = 114

28

N

DESIGN DESIGNATION 5992-07-18

A.A.D.T.	2013	=	39.300
A.A.D.T.	N/A	=	N/A
D.H.V.		=	N/A
D.D.		=	N/A
T.		=	N/A
DESIGN SPEED		=	30 M.P.H.
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- 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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

C MADISON, GAMMON ROAD

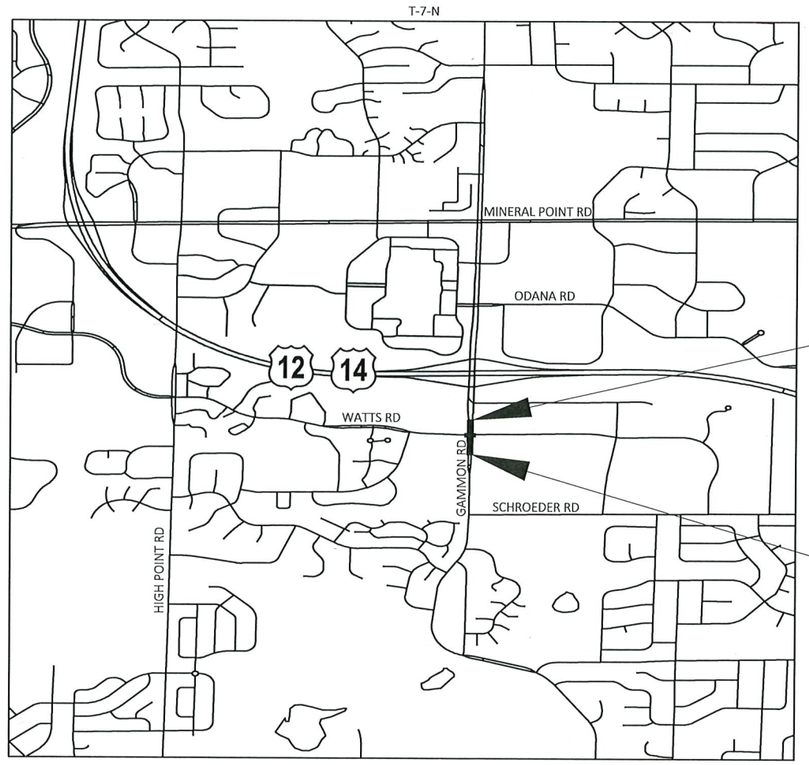
WATTS ROAD INTERSECTION

LOC STR

DANE COUNTY

STATE PROJECT NUMBER
5992-07-19

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5992-07-19	WISC 2024134	1



END PROJECT
STA 18+07.07
Y = 474,349.88
X = 789,383.52

BEGIN PROJECT
STA 10+26.23
Y = 473,569.40
X = 789,375.23

LAYOUT

SCALE 0 0.5 MI

TOTAL NET LENGTH OF CENTERLINE = 0.068

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), DANE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

ACCEPTED FOR

CITY OF MADISON

Date 9/27/2023 Traffic Engineer 4
(Signature and Title of Official)

ORIGINAL PLANS PREPARED BY

JT ENGINEERING, INC

WISCONSIN PROFESSIONAL ENGINEER JAMES R. PAVELSKI E-41421 FITCHBURG, WIS

DATE: 9/26/2023
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JT ENGINEERING, INC.
Designer	JT ENGINEERING, INC.
Project Manager	LORRAINE BETZEL, P.E.
Regional Examiner	SW REGION
Regional Supervisor	KYLE HEMP, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 9/28/23
(Signature)

E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\010101-TI.DWG

PLOT DATE : 9/26/2023 9:04 AM PLOT BY : RILEY SMEATON PLOT NAME :

GENERAL NOTES

THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

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

WHEN THE QUANTITY OF BASE AGGREGATE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

THE EXACT LOCATION OF EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY ARE TO BE REPLANTED WITH SALVAGED TOPSOIL, FERTILIZER TYPE B AND SEEDING MIXTURE NO. 40.

A VERTICAL SAWCUT WILL BE MADE THROUGH PAVEMENTS AT REMOVAL LIMITS.

LOCATION OF STRUCTURES REFER TO CENTER OF STRUCTURE. RIM ELEVATIONS ARE GIVEN AT THE FLOWLINE OF INLET OR AT THE CENTER OF MANHOLE.

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.

5.75 INCH HMA PAVEMENT SHALL BE CONSTRUCTED WITH A 1.75 INCH UPPER LAYER OF 4 HT 58-28 H AND A 4.00 INCH LOWER LAYER OF 3 HT 58-28 H.

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTRIBUTED BY THEIR OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

UTILITY CONTACTS

COMMUNICATIONS:

CHARTER COMMUNICATIONS
ATTN: MIKE TRANKLE
2701 DANIELS ST.
MADISON, WI 53718
PHONE: (608) 220-3025
E-MAIL: MIKE.TRANKLE@CHARTERCOM.COM

TDS METROCOM
ATTN: JERRY MYERS
525 JUNCTION ROAD
MADISON, WI 53717
E-MAIL: JERRY.MYERS@TDSTELECOM.COM

ELECTRIC:

ALLIANT ENERGY
TESS SCHOBER
4902 N. BILTMORE LANE
MADISON, WI 53718
PHONE: (608) 458-3162
E-MAIL: TESSSCHOBER@ALLIANTENERGY.COM

GAS:

MADISON GAS & ELECTRIC
ATTN: ROGER AHLES
623 RAILROAD STREET
MADISON, WI 53701
PHONE: (608) 252-5682
E-MAIL: RAHLES@MGE.COM

SANITARY SEWER:

CITY OF MADISON ENGINEERING DIVISION
ATTN: MARK MODER
210 MARTIN LUTHER KING JR. BOULEVARD
CITY-COUNTY BUILDING, ROOM 115
MADISON, WI 53703
PHONE: (608) 261-9250
E-MAIL: MMODER@CITYOFMADISON.COM

TELEPHONE:

AT&T WISCONSIN
ATTN: MATTHEW VACHALIK
411 7TH STREET
RACINE, WI 53403
PHONE: (262) 707-6216

WATERMAIN:

CITY OF MADISON WATER UTILITY
ATTN: ADAM WIEDERHOEFT
119 E. OLIN AVENUE
MADISON, WI 53713
PHONE: (608) 266-9121
E-MAIL: AWIEDERHOEFT@MADISONWATER.ORG

ORDER OF SECTION 2 SHEETS

DESIGNER CONTACT

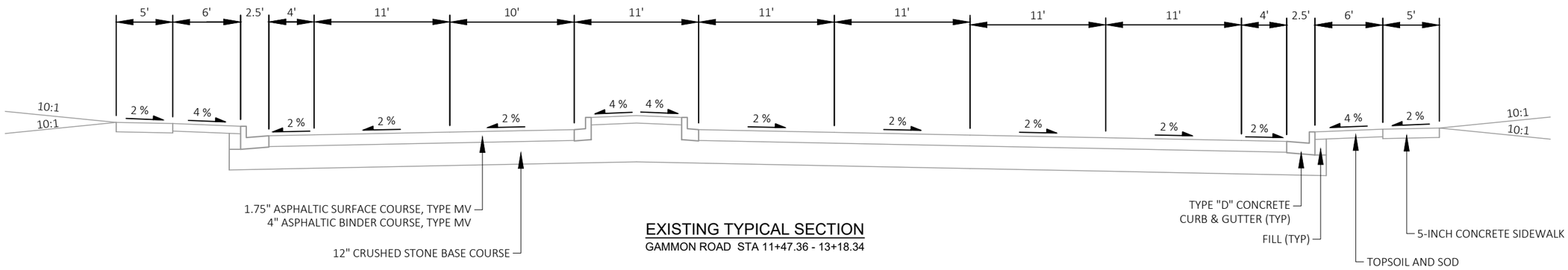
JT ENGINEERING, INC.
ATTN: JIM PAVELSKI, P.E., P.T.O.E
281 W. NETHERWOOD ROAD, SUITE 1
OREGON, WI 53575
PHONE: (608) 515-5365
EMAIL: JIMP@JT-ENGINEERING.COM

LOCAL PROGRAM CONTACT

WISCONSIN DOT, SOUTHWEST REGION
ATTN: LORRAINE BETZEL, P.E.
2101 WRIGHT STREET
MADISON, WI
PHONE: (608) 246-3279
EMAIL: LORRAINE.BETZEL@DOT.WI.GOV

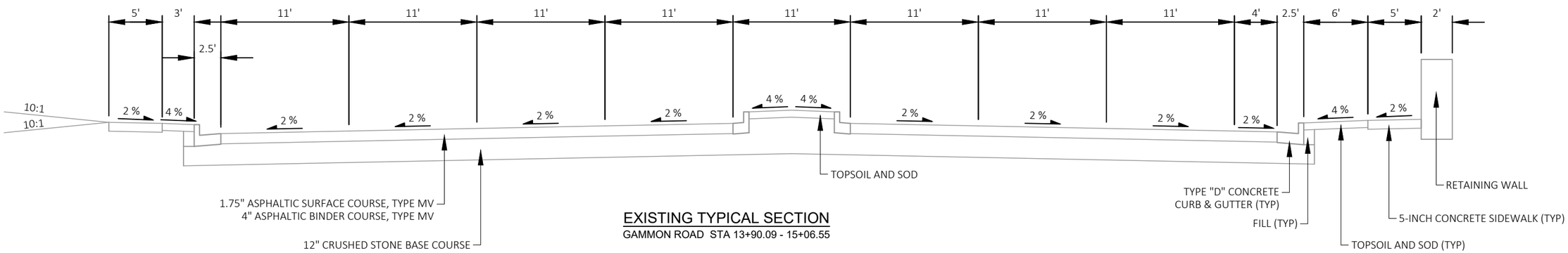
DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

2



EXISTING TYPICAL SECTION

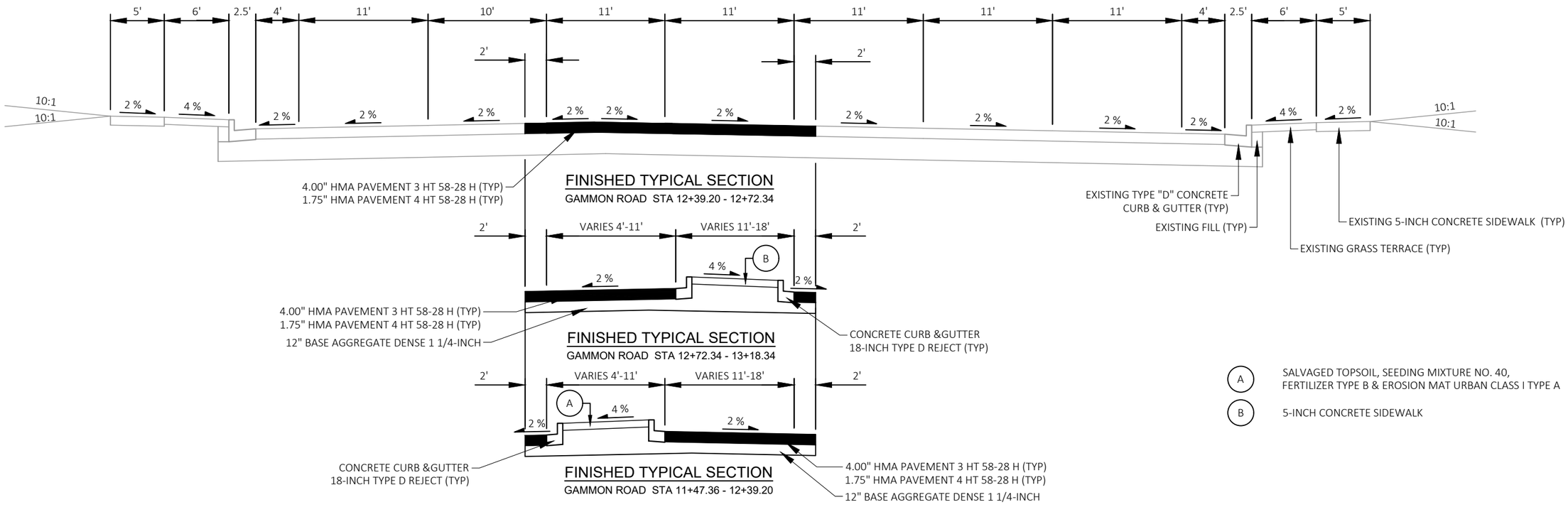
GAMMON ROAD STA 11+47.36 - 13+18.34

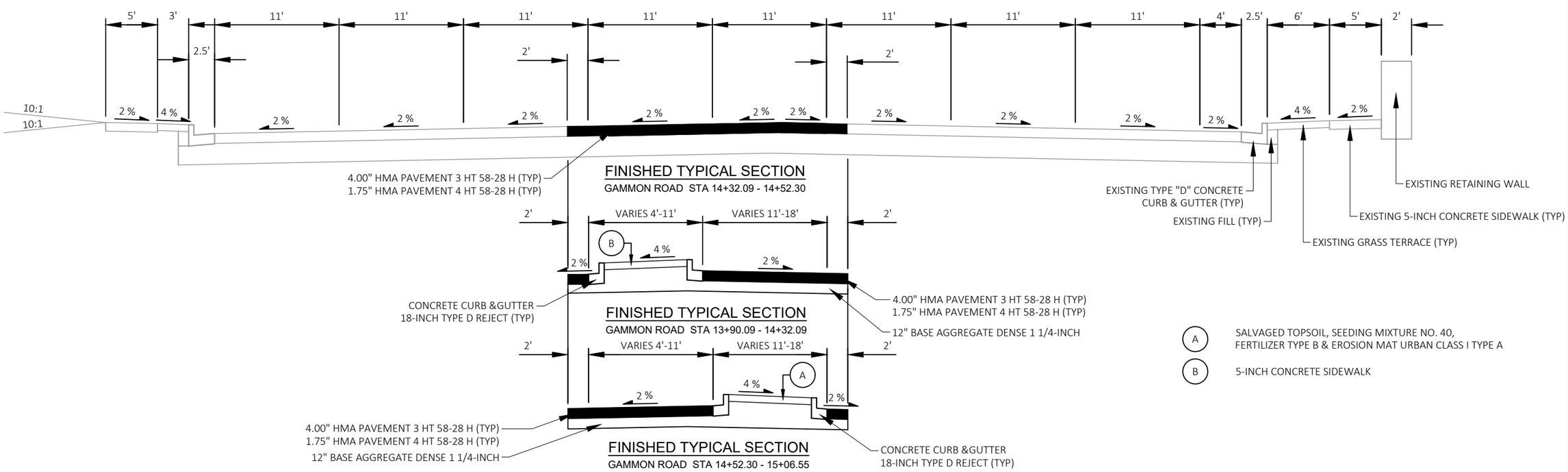


EXISTING TYPICAL SECTION

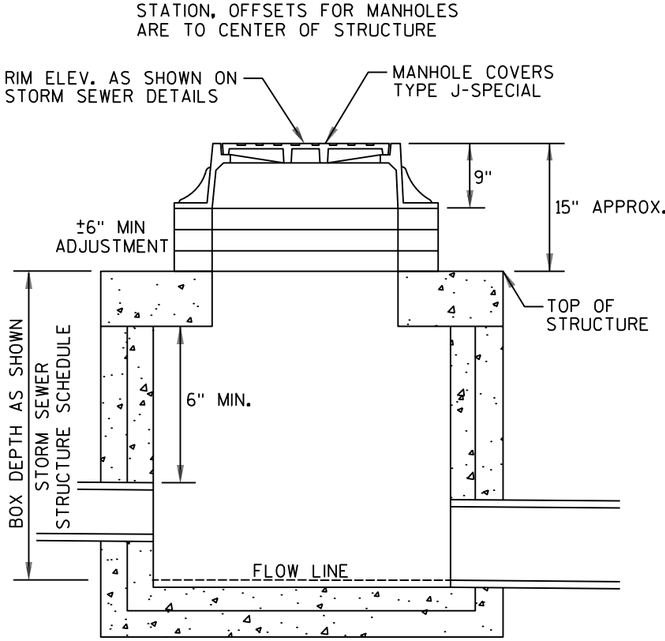
GAMMON ROAD STA 13+90.09 - 15+06.55

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	TYPICAL SECTIONS	SHEET 3	E

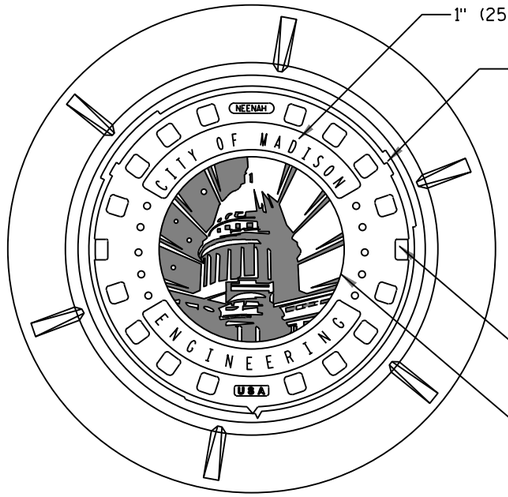




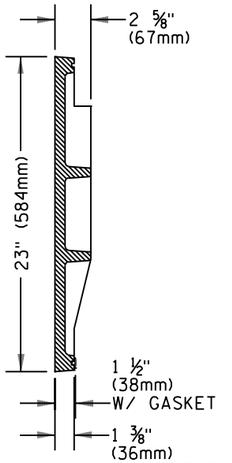
PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	TYPICAL SECTIONS	SHEET 4	E

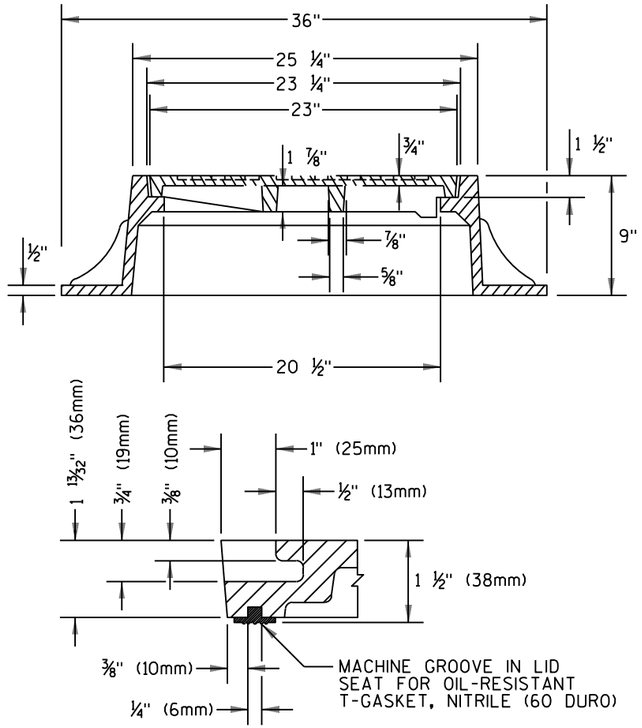


DETAIL FOR COMPUTING MANHOLE ELEVATIONS



LOGO DETAIL
SCALE: NONE





T-SEAL GASKET/CONCEALED PICK DETAIL

1. FRAME AND COVER SHALL BE MACHINED AND FITTED SO THAT ROCKING AND CHATTERING WILL BE ELIMINATED.
2. ALL LIDS SHALL BE SELF-SEALING EXCEPT FOR STORM SEWER.
3. ALL LIDS SHALL HAVE CITY OF MADISON LOGO AS SHOWN IN DETAIL (R-1550-0054 OR EQUIV.)

LID NOTES: ALL DIMENSIONS SHOWN ARE IN ENGLISH AND (METRIC)
MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B

NOTES:

APPROXIMATE TOTAL WEIGHTS:
R-1550 w/ LOGO LID 1550-0054, 9" FRAME AND LID = 265 LBS.
R-1689 w/ LOGO LID 1550-0054, 4" FRAME AND LID = 279 LBS.

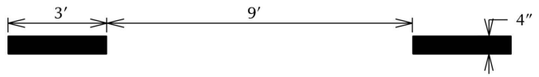
IF LOCKABLE LID IS NECESSARY, R-1920, 8 ¾" FRAME AND LID = 300 LBS
THERE IS NO CITY OF MADISON LOGO LID AVAILABLE FOR THIS
FRAME AND CASTING.

THE FOLLOWING NEENAH FOUNDRY CASTINGS (OR EQUAL CASTINGS)
SHALL BE ACCEPTABLE:

1. R-1550, 9" NON-ROCKING ACCESS STRUCTURE FRAME.
2. R-1689, 4" NON-ROCKING ACCESS STRUCTURE FRAME (WHEN REQUESTED BY THE CITY CONSTRUCTION ENGINEER).
3. R-1920, 8 ¾" ACCESS STRUCTURE FRAME WITH LOCKING LID, TYPE 'F' LOCKS, AND CONCEALED PICK HOLES. TO BE USED IN GREENWAYS AND EASEMENTS.

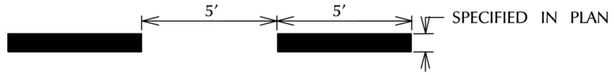
MANHOLE COVERS TYPE J-SPECIAL

2



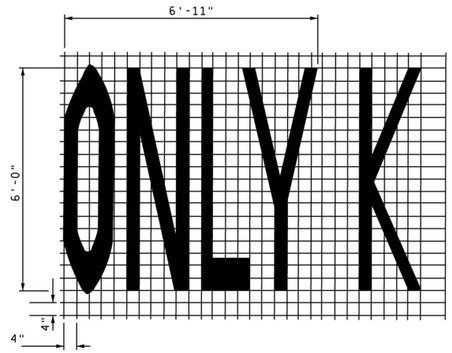
BIKE PATH 9′ GAP X 3′ DASH
(YELLOW ONLY)

DOTTED LINE 6′ GAP X 2′ DASH
(WHITE OR YELLOW)

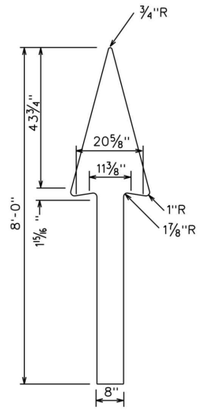


DOTTED LINE 5′ GAP X 5′ DASH
(WHITE OR YELLOW)

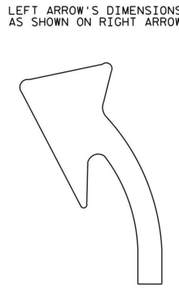
LANE LINE OR CENTERLINE
(WHITE OR YELLOW)



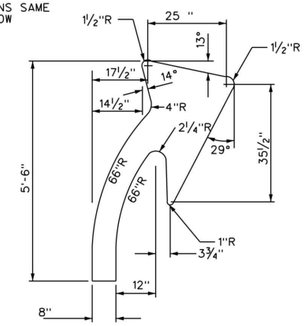
WORD LEGEND



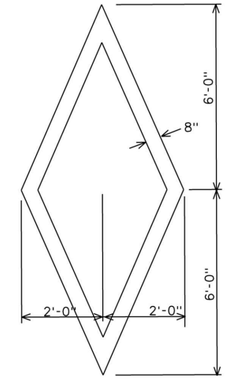
STRAIGHT ARROW



LEFT ARROW

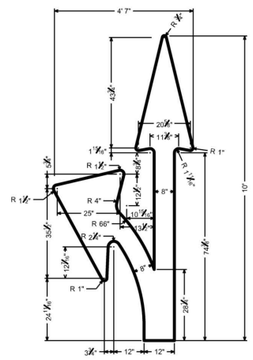


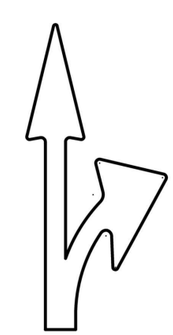
RIGHT ARROW

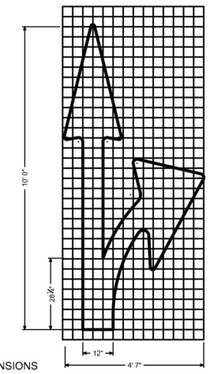


RESTRICTED LANE SYMBOL

RESTRICTED TRAFFIC LANE MARKING DETAILS





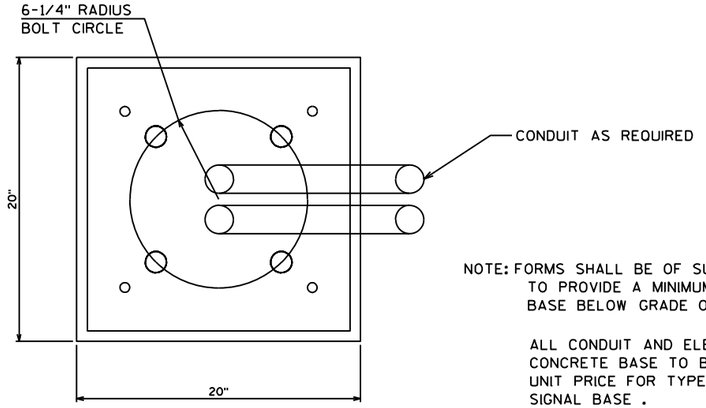


STRAIGHT/LEFT OR RIGHT PAVEMENT MARKING ARROW DETAIL

CITY OF MADISON PAVEMENT MARKINGS

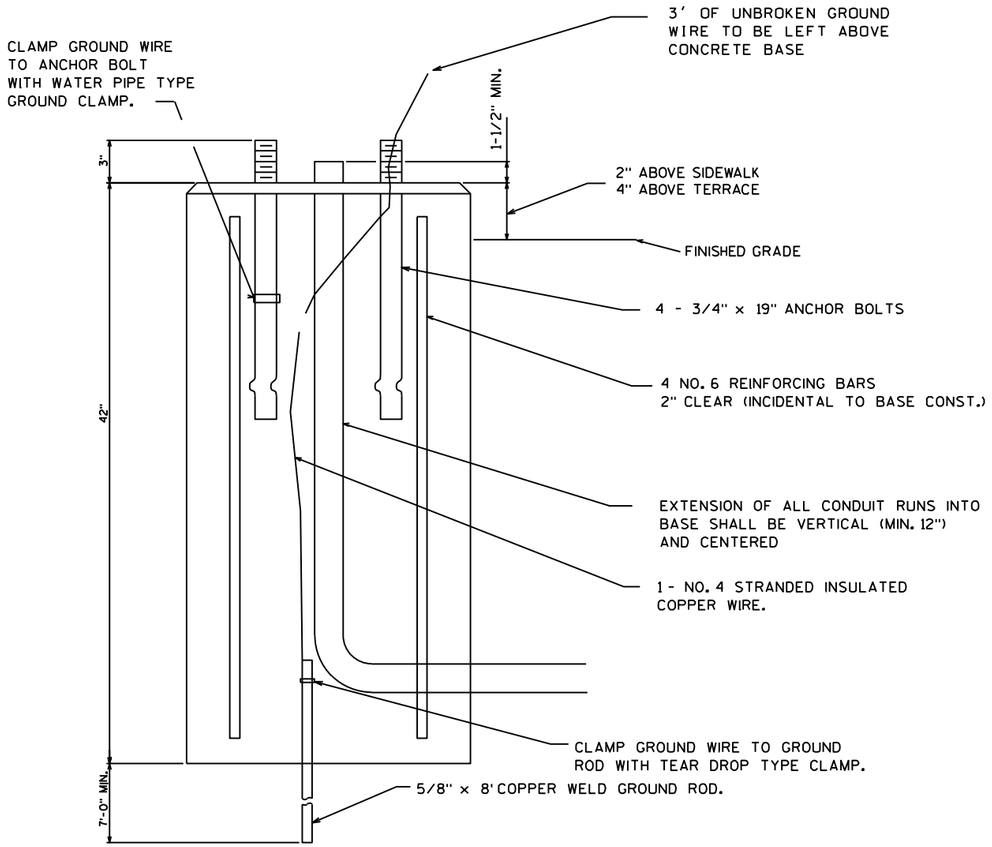
PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	CONSTRUCTION DETAILS	SHEET 6	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\021001-CD.DWG
LAYOUT NAME - 021001-cd
PLOT DATE : 9/24/2023 12:33 PM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : 1:1

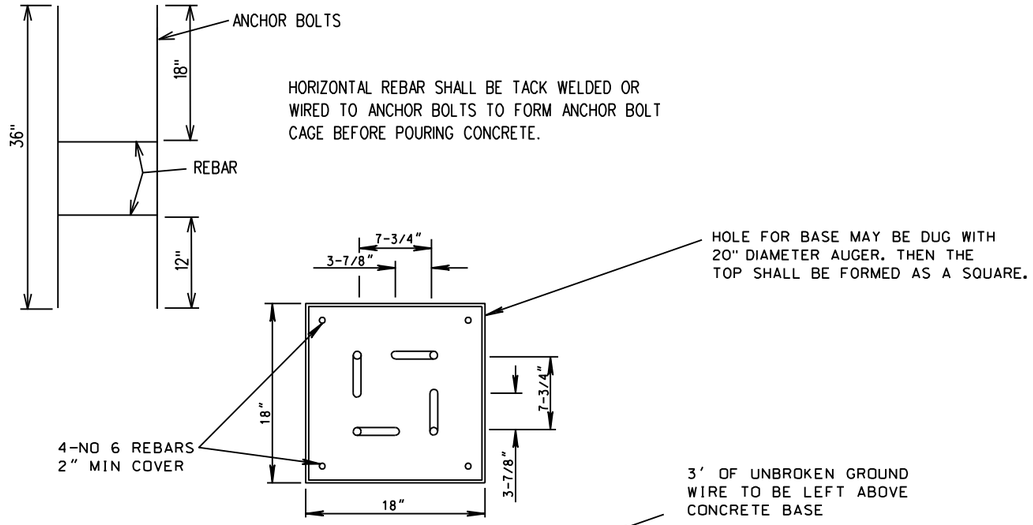


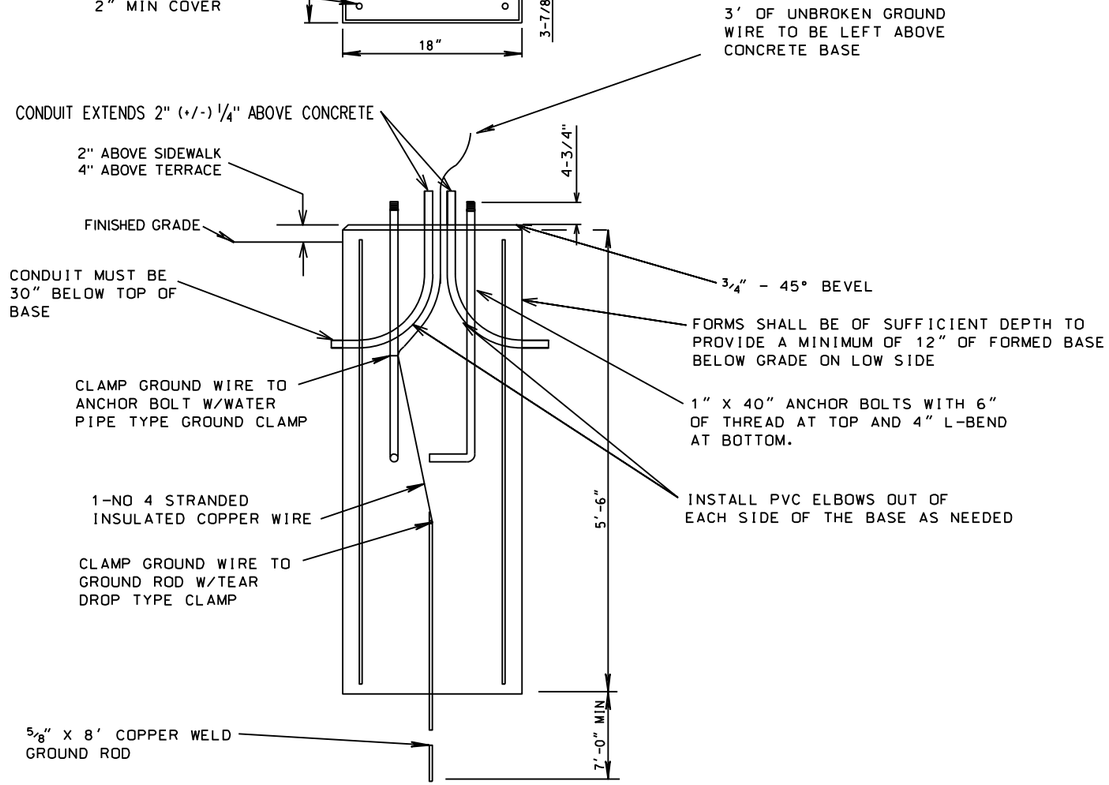
NOTE: FORMS SHALL BE OF SUFFICIENT DEPTH TO PROVIDE A MINIMUM OF 12" OF FORMED BASE BELOW GRADE ON THE LOW SIDE.

ALL CONDUIT AND ELBOWS SHOWN IN CONCRETE BASE TO BE INCLUDED IN UNIT PRICE FOR TYPE "G" TRAFFIC SIGNAL BASE .



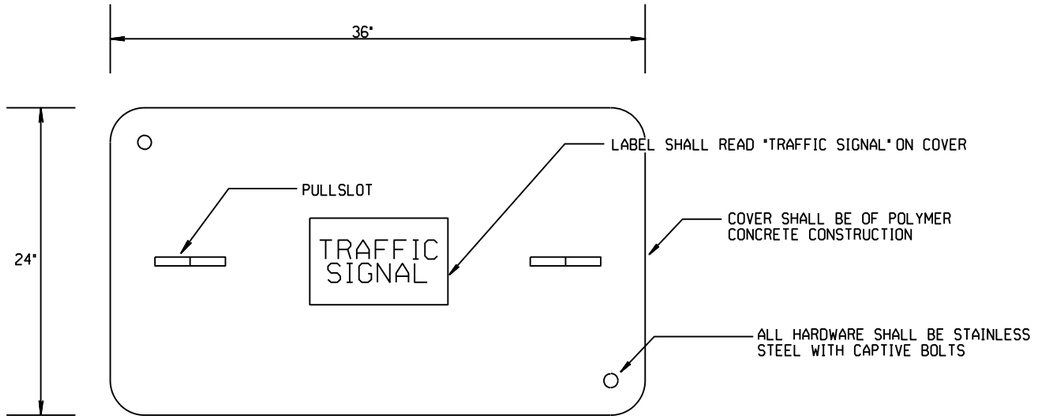
TYPE "G" BASE DETAIL

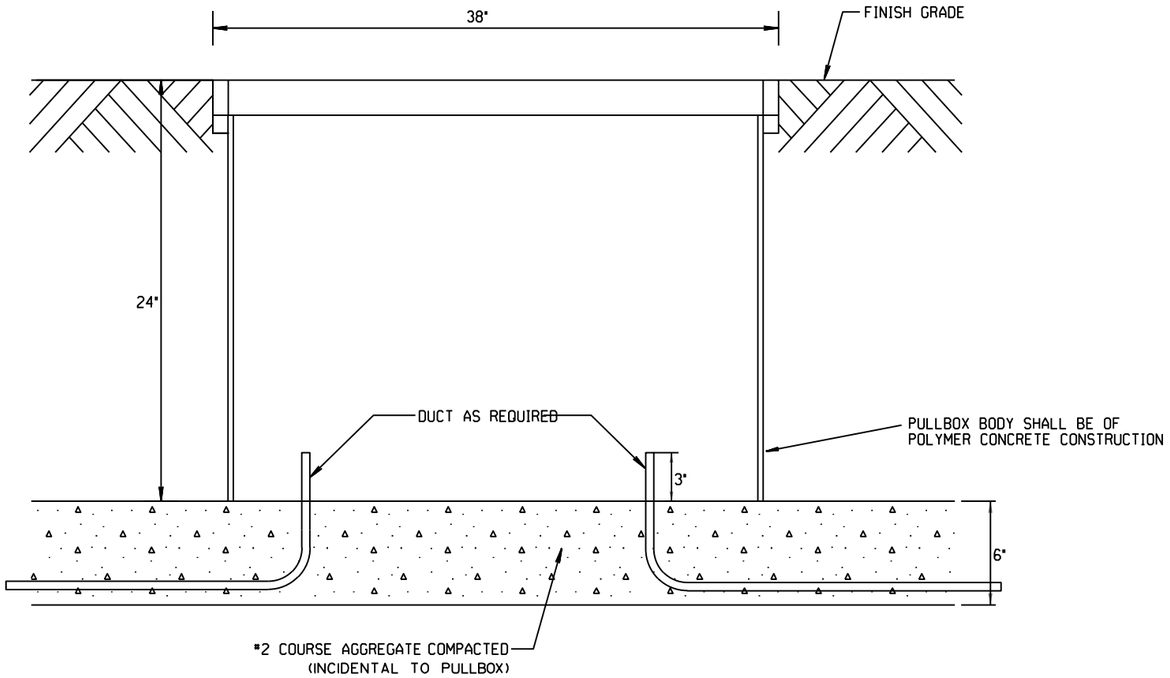




LB-3 BASE DETAIL

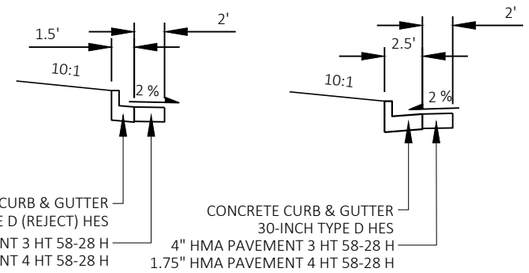
2





TYPE V PULLBOX DETAIL

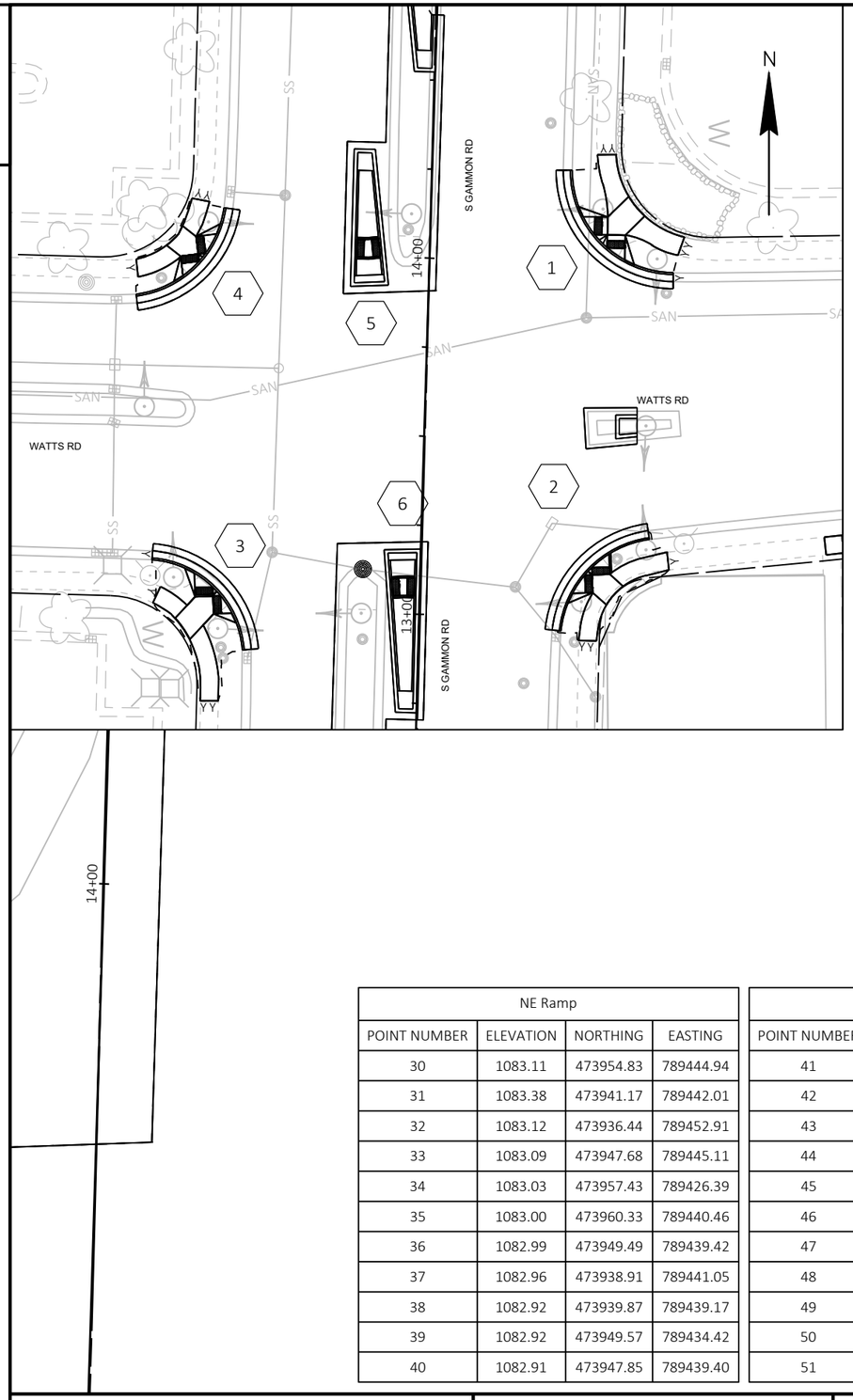
PROPOSED TYPICAL SECTIONS

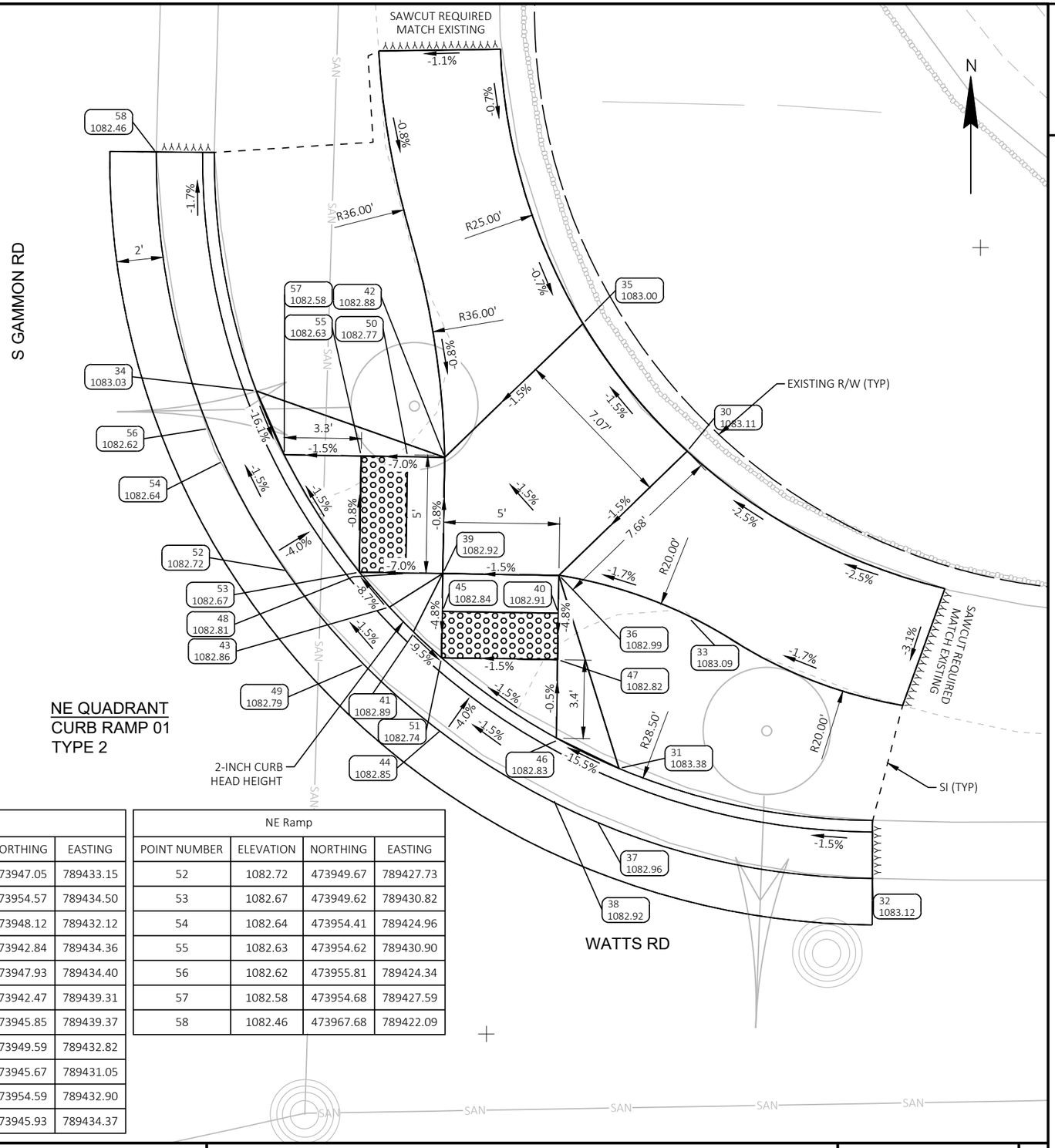


LEGEND

SW-5	CONCRETE SIDEWALK 5-INCH HES
18-D(R)	CONCRETE CURB & GUTTER 18-INCH TYPE D (REJECT) HES
30-D	CONCRETE CURB & GUTTER 30-INCH TYPE D HES
CCP	CONCRETE CURB PEDESTRIAN HES
N-S	CONCRETE MEDIAN SLOPED NOSE
	PROPOSED MANHOLE
	SLOPE INTERCEPT

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	PLAN DETAILS	SHEET 9	E





NE QUADRANT
CURB RAMP 01
TYPE 2

NE Ramp			
POINT NUMBER	ELEVATION	NORTHING	EASTING
30	1083.11	473954.83	789444.94
31	1083.38	473941.17	789442.01
32	1083.12	473936.44	789452.91
33	1083.09	473947.68	789445.11
34	1083.03	473957.43	789426.39
35	1083.00	473960.33	789440.46
36	1082.99	473949.49	789439.42
37	1082.96	473938.91	789441.05
38	1082.92	473939.87	789439.17
39	1082.92	473949.57	789434.42
40	1082.91	473947.85	789439.40

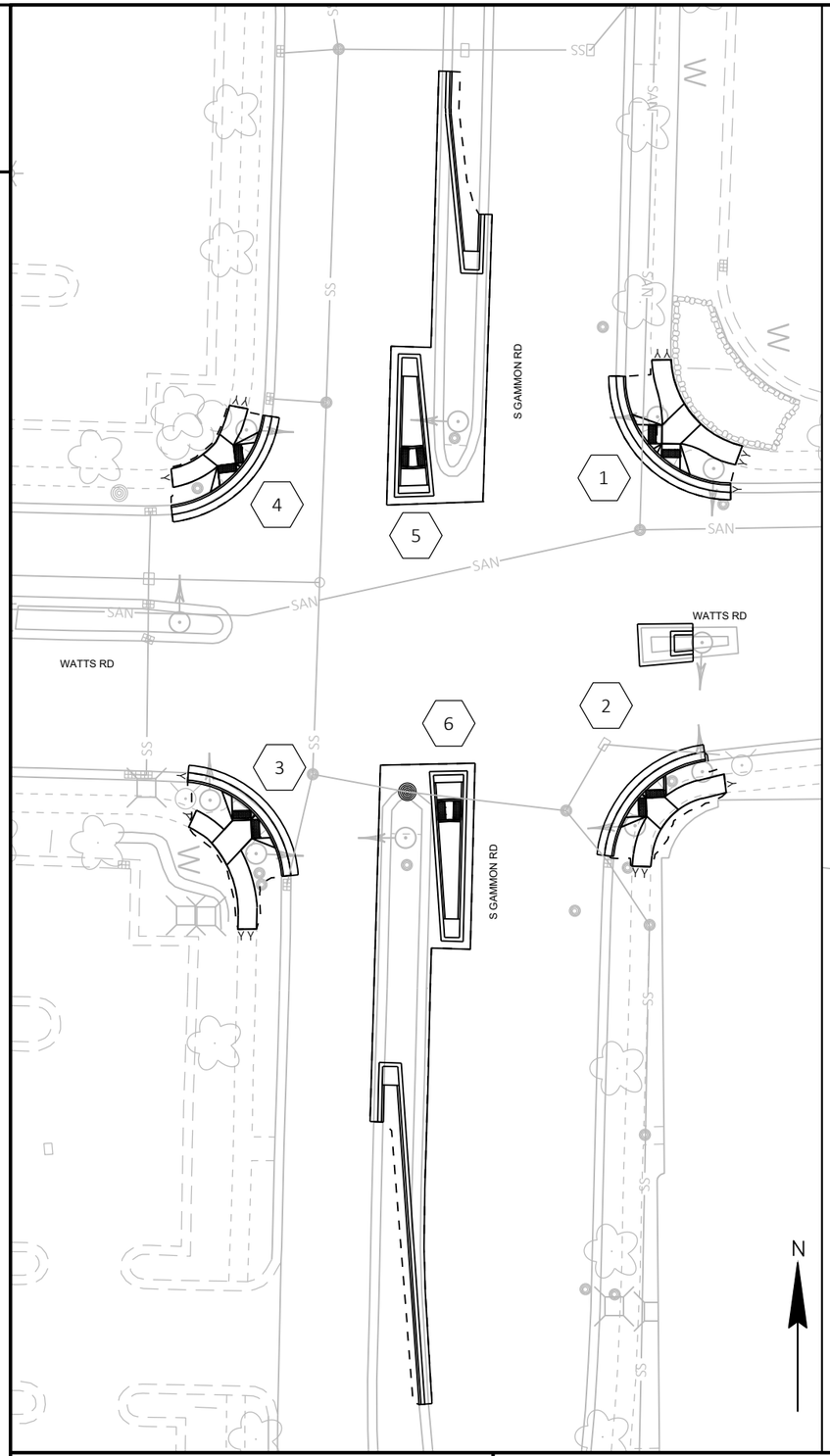
NE Ramp			
POINT NUMBER	ELEVATION	NORTHING	EASTING
41	1082.89	473947.05	789433.15
42	1082.88	473954.57	789434.50
43	1082.86	473948.12	789432.12
44	1082.85	473942.84	789434.36
45	1082.84	473947.93	789434.40
46	1082.83	473942.47	789439.31
47	1082.82	473945.85	789439.37
48	1082.81	473949.59	789432.82
49	1082.79	473945.67	789431.05
50	1082.77	473954.59	789432.90
51	1082.74	473945.93	789434.37

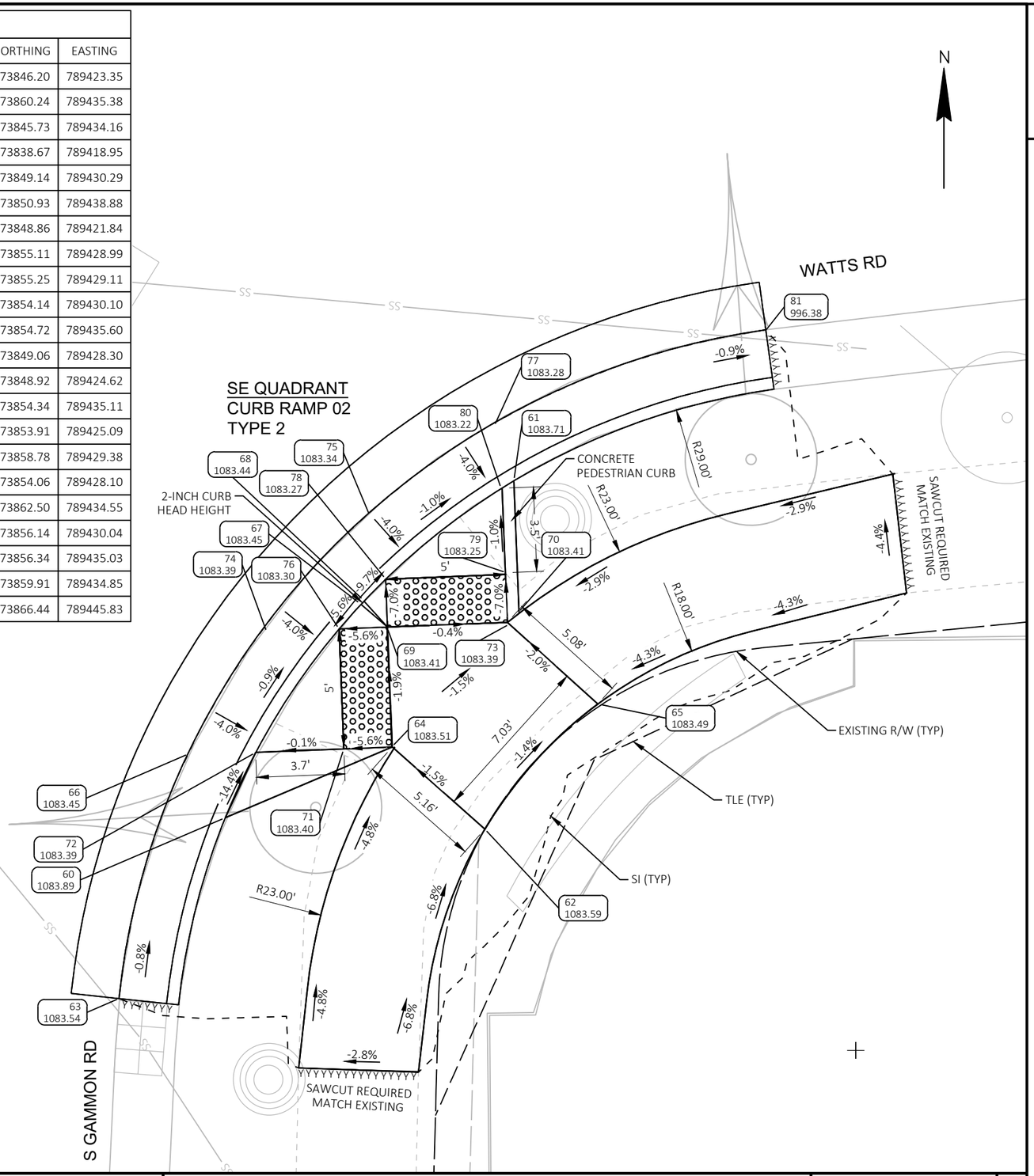
NE Ramp			
POINT NUMBER	ELEVATION	NORTHING	EASTING
52	1082.72	473949.67	789427.73
53	1082.67	473949.62	789430.82
54	1082.64	473954.41	789424.96
55	1082.63	473954.62	789430.90
56	1082.62	473955.81	789424.34
57	1082.58	473954.68	789427.59
58	1082.46	473967.68	789422.09

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	CURB RAMP DETAILS - GAMMON & WATTS RD INTERSECTION	SHEET 10	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\021301-CR.DWG
LAYOUT NAME - 021301-cr
PLOT DATE : 9/25/2023 3:39 PM
PLOT BY : RILEY SMEATON
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

SE Ramp			
POINT NUMBER	ELEVATION	NORTHING	EASTING
60	1083.89	473846.20	789423.35
61	1083.71	473860.24	789435.38
62	1083.59	473845.73	789434.16
63	1083.54	473838.67	789418.95
64	1083.51	473849.14	789430.29
65	1083.49	473850.93	789438.88
66	1083.45	473848.86	789421.84
67	1083.45	473855.11	789428.99
68	1083.44	473855.25	789429.11
69	1083.41	473854.14	789430.10
70	1083.41	473854.72	789435.60
71	1083.40	473849.06	789428.30
72	1083.39	473848.92	789424.62
73	1083.39	473854.34	789435.11
74	1083.39	473853.91	789425.09
75	1083.34	473858.78	789429.38
76	1083.30	473854.06	789428.10
77	1083.28	473862.50	789434.55
78	1083.27	473856.14	789430.04
79	1083.25	473856.34	789435.03
80	1083.22	473859.91	789434.85
81	996.38	473866.44	789445.83

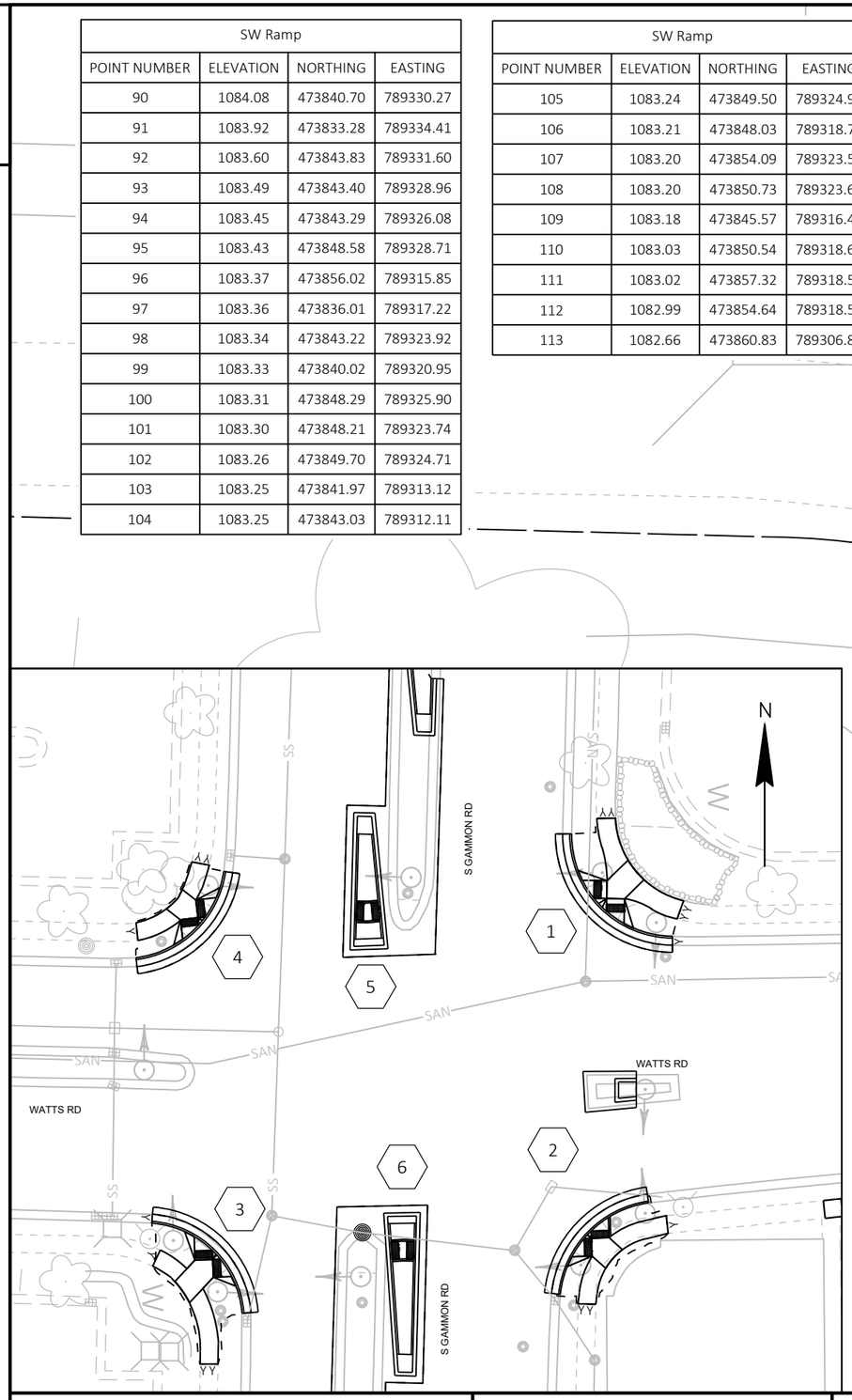


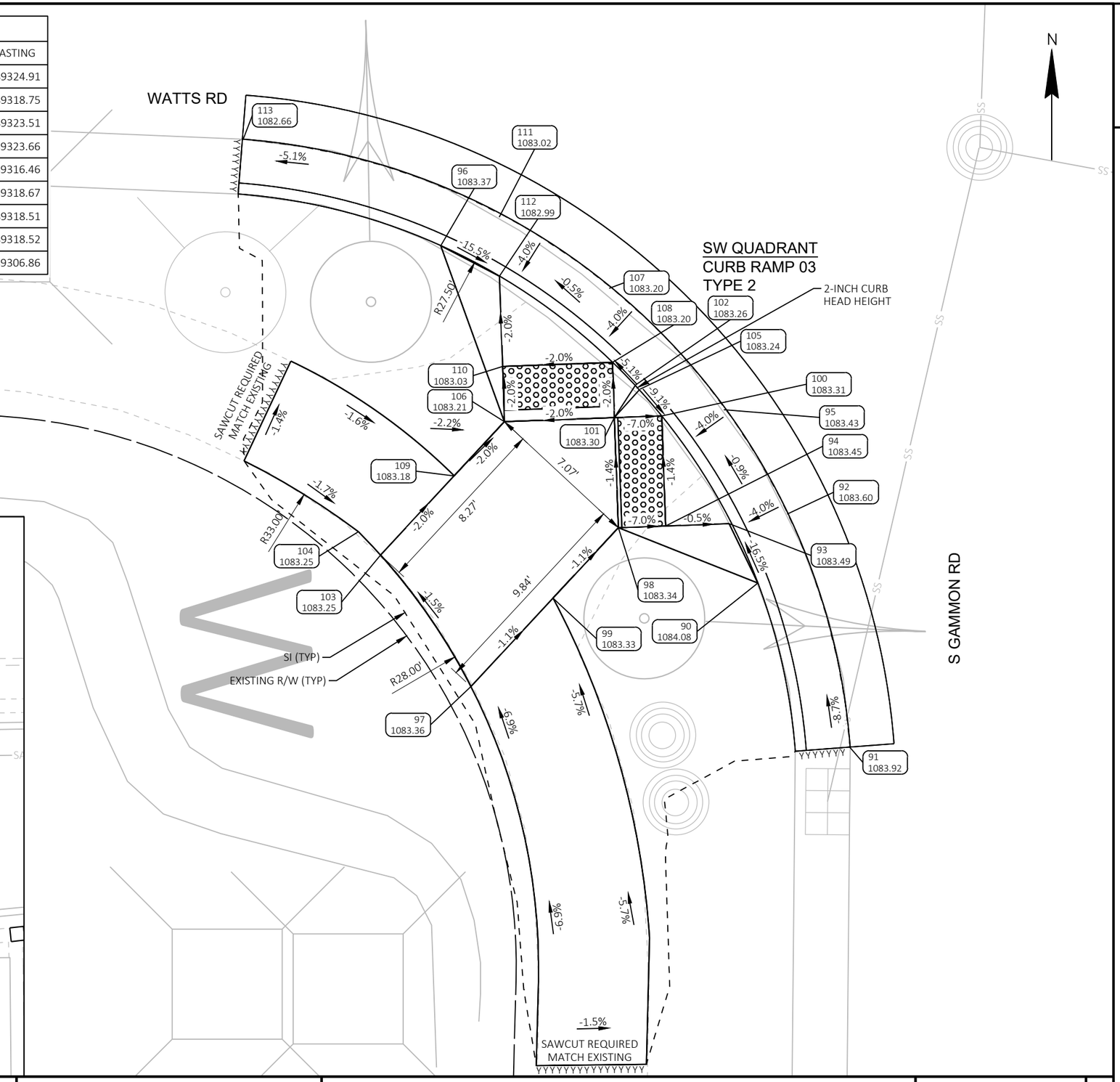


PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	CURB RAMP DETAILS - GAMMON & WATTS RD INTERSECTION	SHEET 11	E

SW Ramp			
POINT NUMBER	ELEVATION	NORTHING	EASTING
90	1084.08	473840.70	789330.27
91	1083.92	473833.28	789334.41
92	1083.60	473843.83	789331.60
93	1083.49	473843.40	789328.96
94	1083.45	473843.29	789326.08
95	1083.43	473848.58	789328.71
96	1083.37	473856.02	789315.85
97	1083.36	473836.01	789317.22
98	1083.34	473843.22	789323.92
99	1083.33	473840.02	789320.95
100	1083.31	473848.29	789325.90
101	1083.30	473848.21	789323.74
102	1083.26	473849.70	789324.71
103	1083.25	473841.97	789313.12
104	1083.25	473843.03	789312.11

SW Ramp			
POINT NUMBER	ELEVATION	NORTHING	EASTING
105	1083.24	473849.50	789324.91
106	1083.21	473848.03	789318.75
107	1083.20	473854.09	789323.51
108	1083.20	473850.73	789323.66
109	1083.18	473845.57	789316.46
110	1083.03	473850.54	789318.67
111	1083.02	473857.32	789318.51
112	1082.99	473854.64	789318.52
113	1082.66	473860.83	789306.86

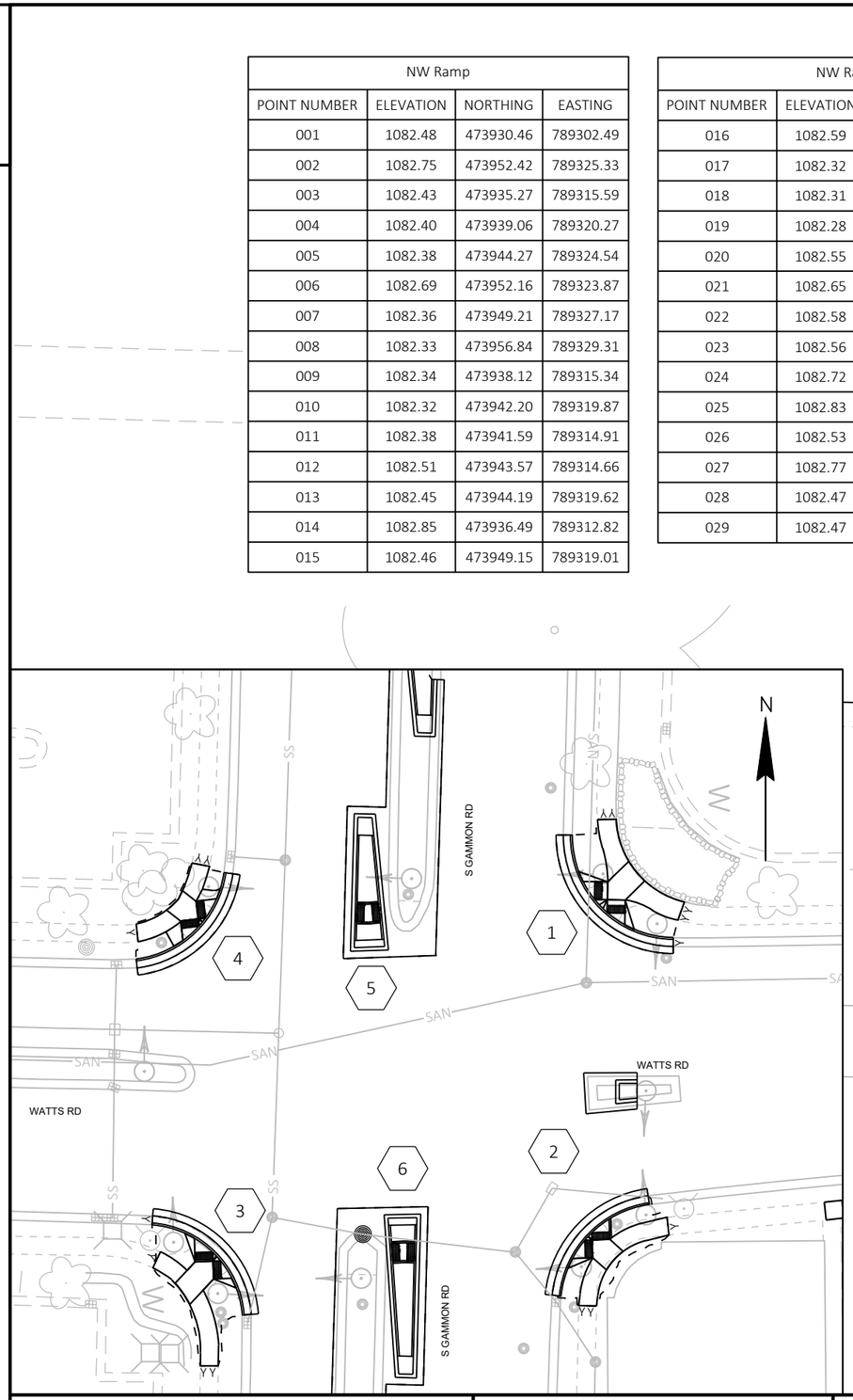


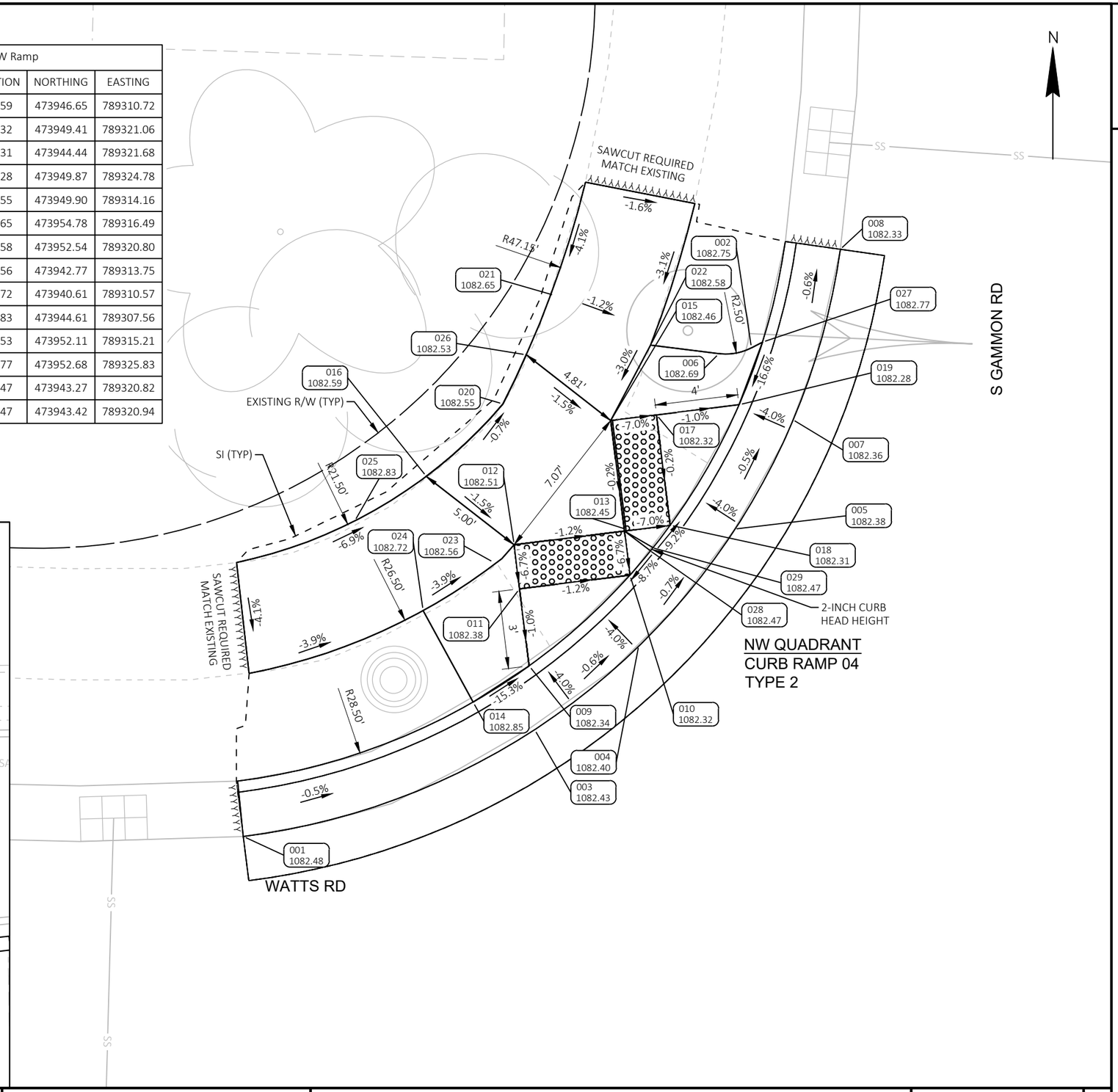


PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	CURB RAMP DETAILS - GAMMON & WATTS RD INTERSECTION	SHEET 12	E

NW Ramp			
POINT NUMBER	ELEVATION	NORTHING	EASTING
001	1082.48	473930.46	789302.49
002	1082.75	473952.42	789325.33
003	1082.43	473935.27	789315.59
004	1082.40	473939.06	789320.27
005	1082.38	473944.27	789324.54
006	1082.69	473952.16	789323.87
007	1082.36	473949.21	789327.17
008	1082.33	473956.84	789329.31
009	1082.34	473938.12	789315.34
010	1082.32	473942.20	789319.87
011	1082.38	473941.59	789314.91
012	1082.51	473943.57	789314.66
013	1082.45	473944.19	789319.62
014	1082.85	473936.49	789312.82
015	1082.46	473949.15	789319.01

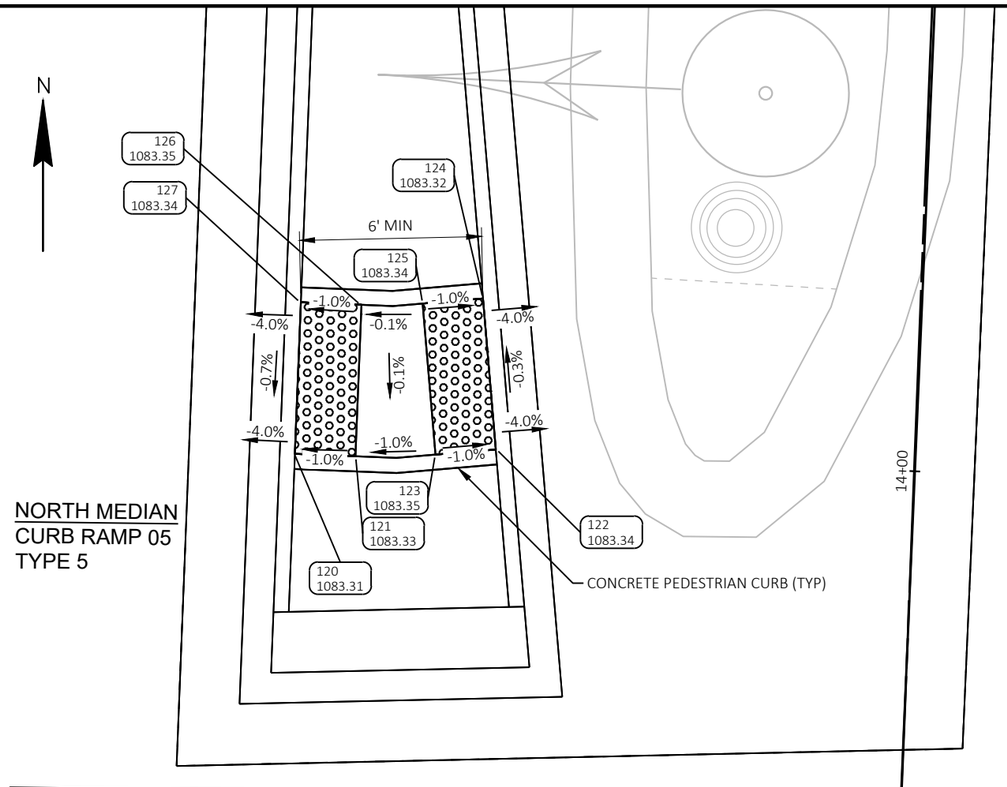
NW Ramp			
POINT NUMBER	ELEVATION	NORTHING	EASTING
016	1082.59	473946.65	789310.72
017	1082.32	473949.41	789321.06
018	1082.31	473944.44	789321.68
019	1082.28	473949.87	789324.78
020	1082.55	473949.90	789314.16
021	1082.65	473954.78	789316.49
022	1082.58	473952.54	789320.80
023	1082.56	473942.77	789313.75
024	1082.72	473940.61	789310.57
025	1082.83	473944.61	789307.56
026	1082.53	473952.11	789315.21
027	1082.77	473952.68	789325.83
028	1082.47	473943.27	789320.82
029	1082.47	473943.42	789320.94





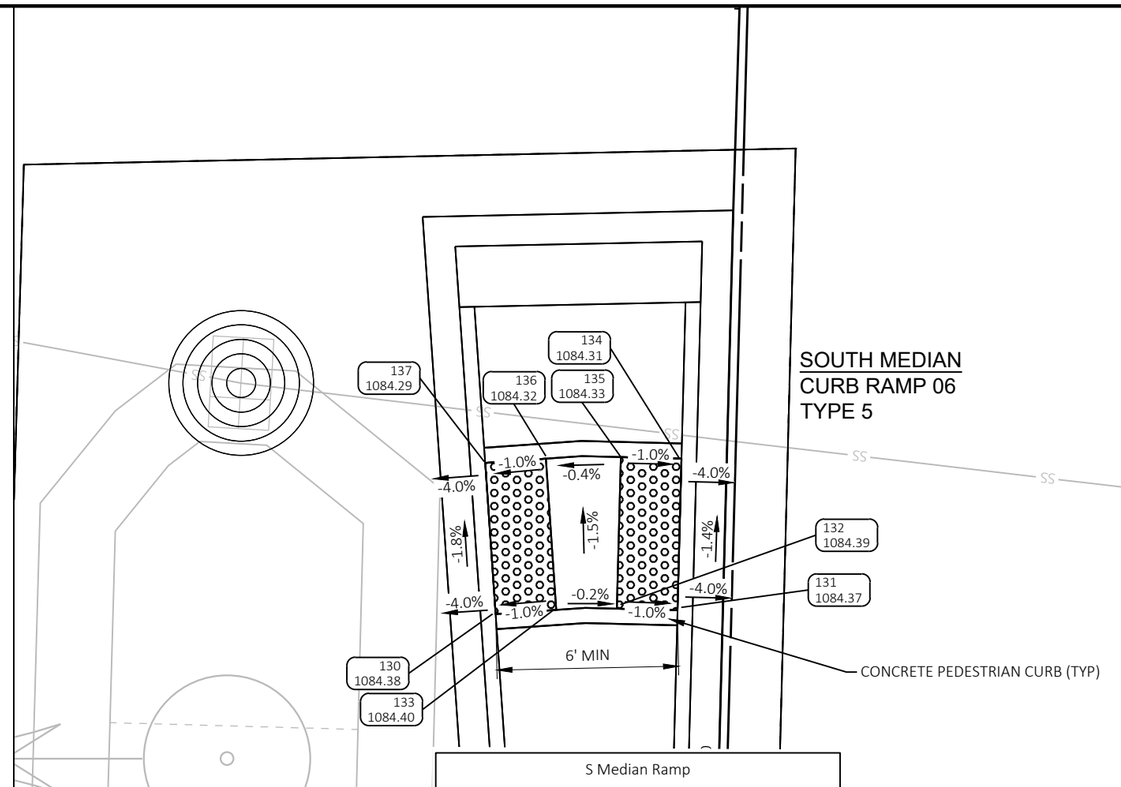
PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	CURB RAMP DETAILS - GAMMON & WATTS RD INTERSECTION	SHEET 13	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\021301-CR.DWG
LAYOUT NAME - 021304-cr
PLOT DATE : 11/3/2023 11:16 AM PLOT BY : RILEY SMEATON PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42



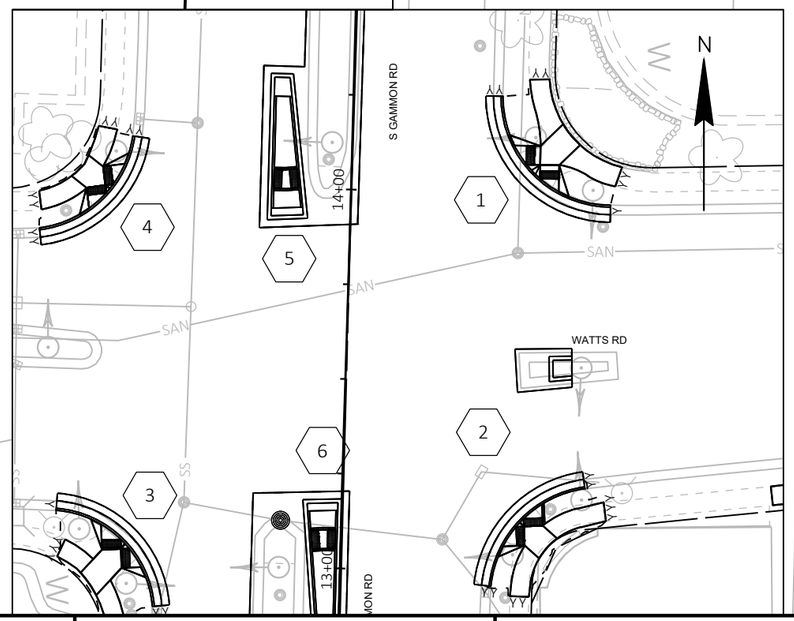
NORTH MEDIAN
CURB RAMP 05
TYPE 5

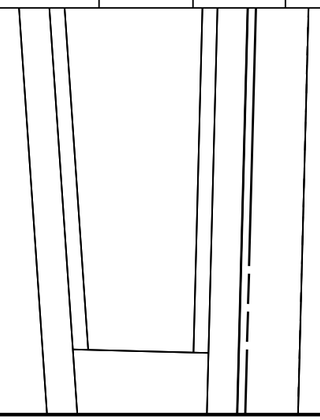
N Median Ramp			
POINT NUMBER	ELEVATION	NORTHING	EASTING
120	1083.31	473943.43	789364.08
121	1083.33	473943.35	789366.08
122	1083.34	473943.63	789370.70
123	1083.35	473943.43	789368.71
124	1083.32	473948.55	789370.23
125	1083.34	473948.36	789368.24
126	1083.35	473948.30	789366.22
127	1083.34	473948.35	789364.22



SOUTH MEDIAN
CURB RAMP 06
TYPE 5

S Median Ramp			
POINT NUMBER	ELEVATION	NORTHING	EASTING
130	1084.38	473848.19	789374.20
131	1084.37	473848.31	789380.20
132	1084.39	473848.39	789378.20
133	1084.40	473848.31	789376.19
134	1084.31	473853.15	789380.33
135	1084.33	473853.20	789378.33
136	1084.32	473853.20	789375.86
137	1084.29	473853.04	789373.90





PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	CURB RAMP DETAILS - GAMMON & WATTS RD INTERSECTION	SHEET 14	E

2

2

WATTS RD

ONLY

GAMMON RD

12+00

13+00

14+00

15+00

16+00

17+00

MATCHLINE 17+25

N

WATTS RD

ONLY

ONLY

MATCHLINE 17+25

GAMMON RD

18+00

GAMMON RD

SEYBOLD RD

N

LEGEND

EROSION MAT URBAN CLASS I, TYPE A

INLET PROTECTION

INLET PROTECTION TYPE

SURFACE WATER FLOW

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	EROSION CONTROL	SHEET 15	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022001-ec

PLOT DATE : 11/16/2023 3:05 PM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

LEGEND

EXISTING SIGN MOUNTED ON TRAFFIC SIGNAL TO BE MOVED

M-01 DENOTES SIGN NUMBER

N

ONLY

M-06

M-07

M-08

Watts Rd

M-04

NO TURN ON RED 3-6 PM

M-05

M-10

M-11

M-12

M-02

M-03

M-01

M-15

M-16

M-09

S Gammon Rd

M-13

Watts Rd

M-17

S Gammon Rd

M-14

POST

ONLY

ONLY

2

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	SIGNING REMOVAL	SHEET 16	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\023201-PS.DWG
LAYOUT NAME - 023201-ps

PLOT DATE : 7/31/2023 5:23 PM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

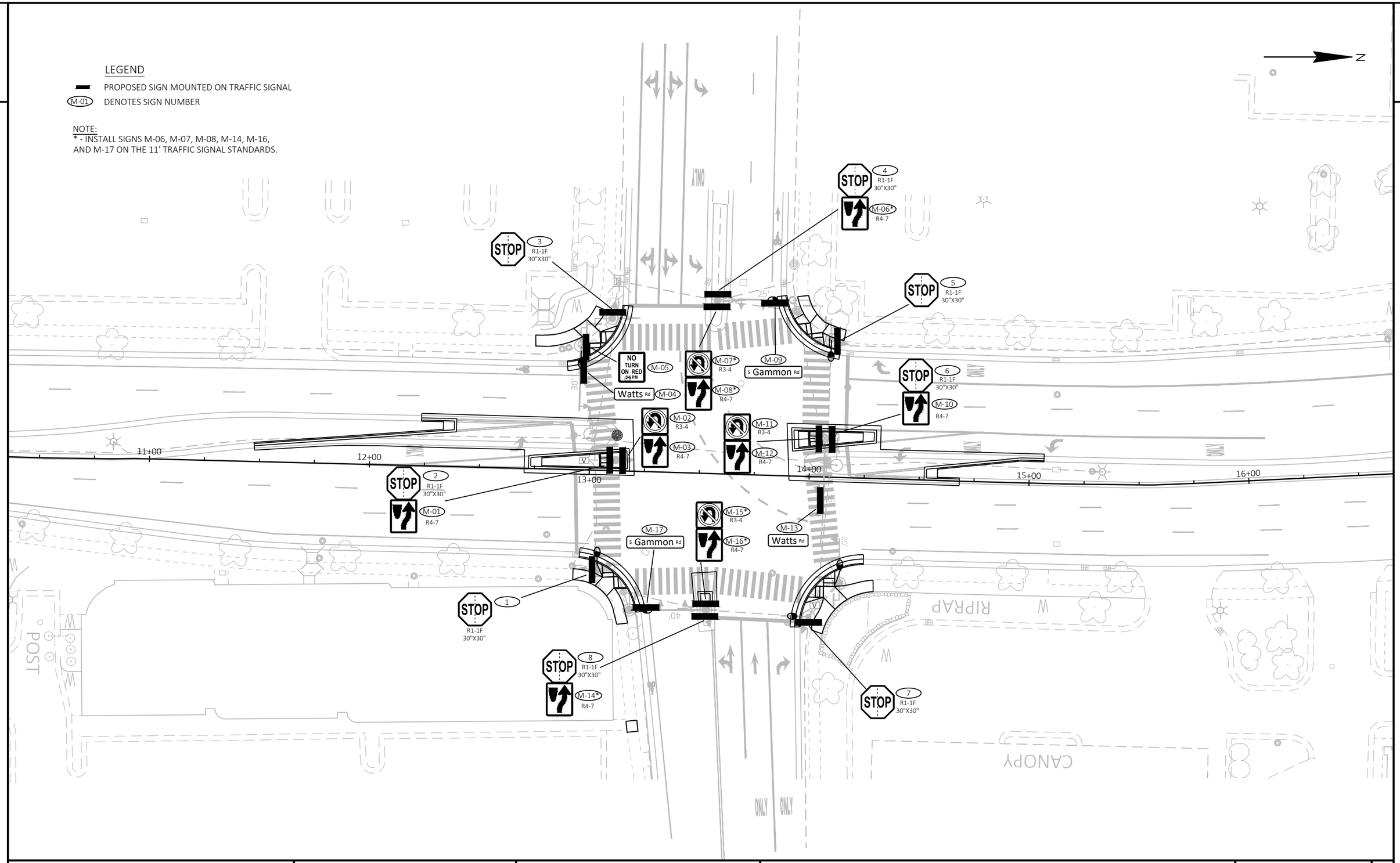
2

LEGEND

PROPOSED SIGN MOUNTED ON TRAFFIC SIGNAL

M-01 DENOTES SIGN NUMBER

NOTE:
* - INSTALL SIGNS M-06, M-07, M-08, M-14, M-16, AND M-17 ON THE 11' TRAFFIC SIGNAL STANDARDS.



PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	PERMANENT SIGNING	SHEET 17	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\023202-PS.DWG
LAYOUT NAME - 023201-ps

PLOT DATE : 11/3/2023 2:39 PM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N

GAMMON RD

ONLY

ONLY

REMOVE TRAFFIC SIGNAL EQUIPMENT AND HPS LUMINAIRE. LUMINAIRE ARM, POLE, TRANSFORMER BASE, AND CONCRETE BASE TO REMAIN.

REMOVE POLE AND CONCRETE BASE

REMOVE POLE AND CONCRETE BASE

REMOVE PULL BOX

REMOVE TRAFFIC SIGNAL EQUIPMENT AND HPS LUMINAIRE. LUMINAIRE ARM, POLE, AND CONCRETE BASE TO REMAIN.

REMOVE TRAFFIC SIGNAL EQUIPMENT AND HPS LUMINAIRE. LUMINAIRE ARM, POLE, AND CONCRETE BASE TO REMAIN.

REMOVE TRAFFIC SIGNAL EQUIPMENT, TRAFFIC SIGNAL STANDARD, AND PEDESTAL BASE. CONCRETE BASE TO REMAIN.

REMOVE TRAFFIC SIGNAL EQUIPMENT, TRAFFIC SIGNAL STANDARD, AND PEDESTAL BASE. CONCRETE BASE TO REMAIN.

WATTS RD

25'

REMOVE POLE AND CONCRETE BASE

REMOVE POLE AND CONCRETE BASE

REMOVE POLE AND CONCRETE BASE

REMOVE TRAFFIC EQUIPMENT. TRAFFIC SIGNAL STANDARD, PEDESTAL BASE, AND CONCRETE BASE TO REMAIN.

REMOVE POLE AND CONCRETE BASE

ONLY

LEGEND

- CONTROL CABINET
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- 15' SIGNAL HEAD, TROMBONE ARM, TRAFFIC SIGNAL POLE
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE

NOTES:

- GRAYSHADE REPRESENTS EXISTING

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	TRAFFIC SIGNAL REMOVAL	SHEET 18	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\024001-SR.DWG
LAYOUT NAME - 024001-sr

PLOT DATE : 10/19/2023 9:00 AM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

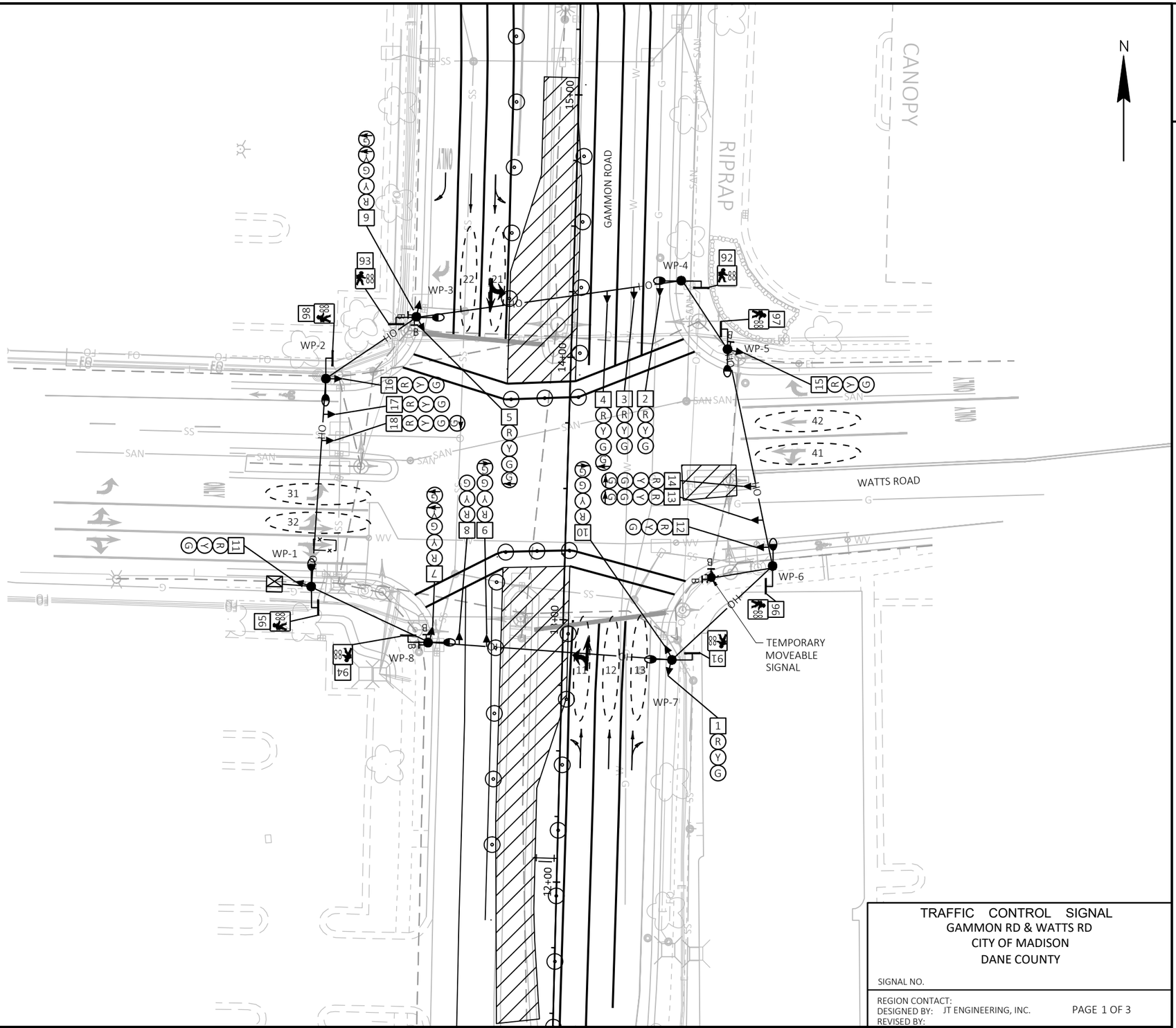
2

2

LEGEND

- TEMPORARY TRAFFIC SIGNAL CONTROL CABINET
- OVERHEAD TEMPORARY SIGNAL CABLE
- TEMPORARY WOOD POLE
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- VIDEO DETECTION ZONE
- SIGNAL HEAD NUMBER
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW
- PEDESTRIAN INDICATOR 16" COUNTDOWN TIMER
- LANE DESIGNATION FOR INFO ONLY
- WORK AREA

NOTES:
- ALL LENSES ARE 12-INCH
- GRAYSHADE REPRESENTS EXISTING



TRAFFIC CONTROL SIGNAL
GAMMON RD & WATTS RD
CITY OF MADISON
DANE COUNTY

SIGNAL NO.

REGION CONTACT:
DESIGNED BY: JT ENGINEERING, INC.
REVISED BY:

PAGE 1 OF 3

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	TRAFFIC SIGNAL TEMPORARY - STAGE 1	SHEET 19	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\024100-ST.DWG
LAYOUT NAME - 024100-st
PLOT DATE : 7/31/2023 5:26 PM
PLOT BY : JIM PAVELSKI
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

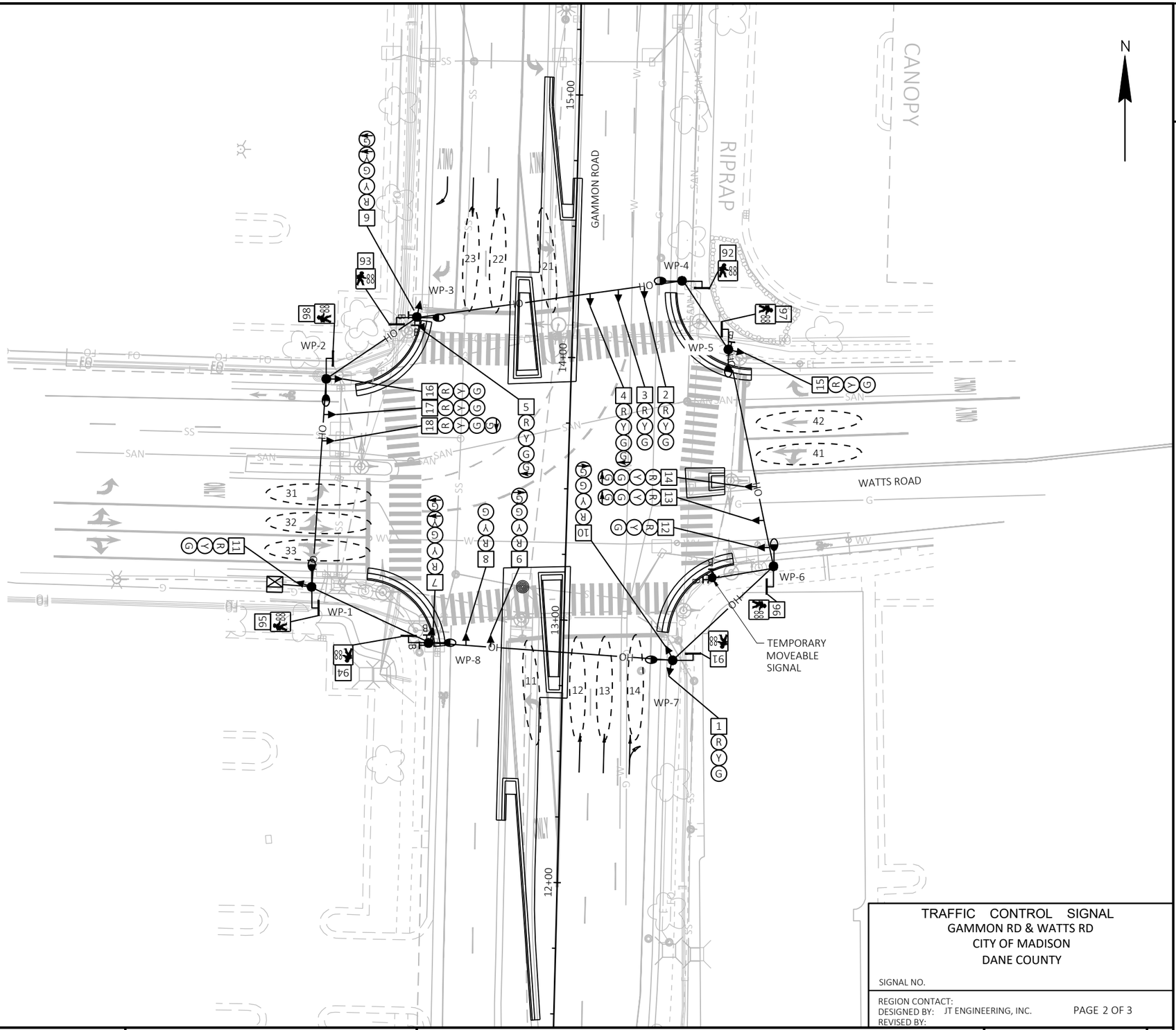
2

LEGEND

- TEMPORARY TRAFFIC SIGNAL CONTROL CABINET
- OVERHEAD TEMPORARY SIGNAL CABLE
- TEMPORARY WOOD POLE
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- VIDEO DETECTION ZONE
- SIGNAL HEAD NUMBER
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW
- PEDESTRIAN INDICATOR 16" COUNTDOWN TIMER
- LANE DESIGNATION FOR INFO ONLY
- WORK AREA

NOTES:

- ALL LENSES ARE 12-INCH
- GRAYSHADE REPRESENTS EXISTING
- SWITCH TO PERMANENT TRAFFIC SIGNAL OPERATIONS UPON COMPLETION OF TRAFFIC SIGNAL WORK AND PRIOR TO COMPLETION OF STAGE 2



TRAFFIC CONTROL SIGNAL
GAMMON RD & WATTS RD
CITY OF MADISON
DANE COUNTY

SIGNAL NO.

REGION CONTACT:
DESIGNED BY: JT ENGINEERING, INC.
REVISED BY:

PAGE 2 OF 3

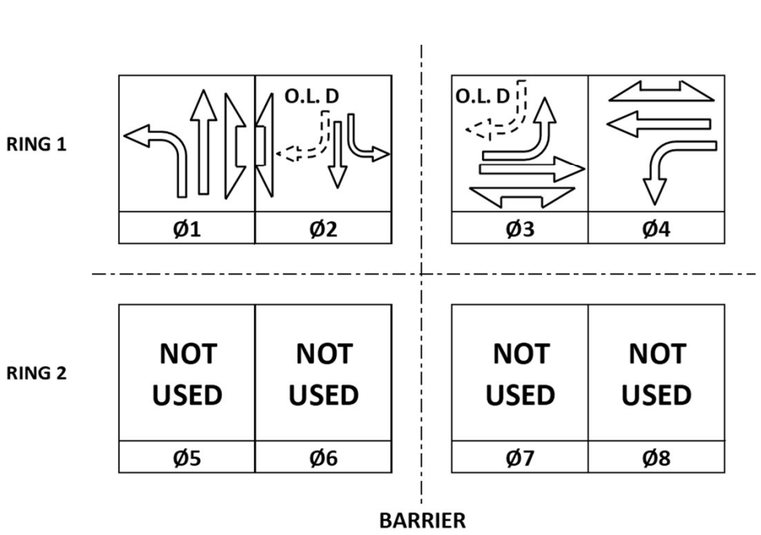
PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	TRAFFIC SIGNAL TEMPORARY - STAGE 2	SHEET 20	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\024101-ST.DWG
LAYOUT NAME - 024101-st

PLOT DATE : 7/31/2023 5:27 PM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
Ø1	1-5	R
Ø2	6-10	R
Ø3	11-14	R
Ø4	15-18	R
Ø5		
Ø6		
Ø7		
Ø8		
Ø1P	91,92	
Ø2P	93,94	
Ø3P	95,96	
Ø4P	97,98	
O.L. D	6,7	



CONTROLLER LOGIC

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

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

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

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

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

DETECTOR LOGIC

DETECTOR INPUT	VIDEO	VIDEO	VIDEO	VIDEO	VIDEO	VIDEO	VIDEO	VIDEO
PLAN LOOP DETECTOR*(S)	11	13	21	23	31	33	41	43
CALLED PHASE	1	1	2	2	3	3	4	4
CALL OPTION	X	X	X	X	X	X	X	X
DELAY TIME								
EXTENSION OPTION	X	X	X	X	X	X	X	X
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

19	17	23	21	27	25	31	29	DETECTOR INPUT
								PLAN LOOP DETECTOR*(S)
								CALLED PHASE
								CALL OPTION
								DELAY TIME
								EXTENSION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

DETECTOR INPUT	VIDEO	VIDEO	VIDEO		VIDEO		VIDEO	VIDEO
PLAN LOOP DETECTOR*(S)	12	14	22		32		42	44
CALLED PHASE	1	1	2		3		4	4
CALL OPTION	X	X	X		X		X	X
DELAY TIME								
EXTENSION OPTION	X	X	X		X		X	X
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

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

GENERAL NOTES:

1. PROVIDE FOR HAND OPERATED CONTROL.
2. O.L. D SHALL START AFTER TERMINATION OF PHASE 2 PEDESTRIAN MOVEMENT.
3. DETECTION ZONES 14, 23, AND 33 ARE NOT USED IN STAGE 1.
4. TRAFFIC CONTROL SHALL BE SWITCHED TO PERMANENT TRAFFIC SIGNAL UPON COMPLETION OF TRAFFIC SIGNAL WORK AND PRIOR TO THE END OF STAGE 2.

GAMMON ROAD & WATTS RD (TEMPORARY)
CITY OF MADISON
DANE COUNTY

SIGNAL NO:	CABINET TYPE: TS2
	CONTROLLER TYPE:
DATE: 12/2022	PAGE NO. 3 OF 3

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	SEQUENCE OF OPERATIONS – STAGES 1 & 2	SHEET NO: 21	E

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

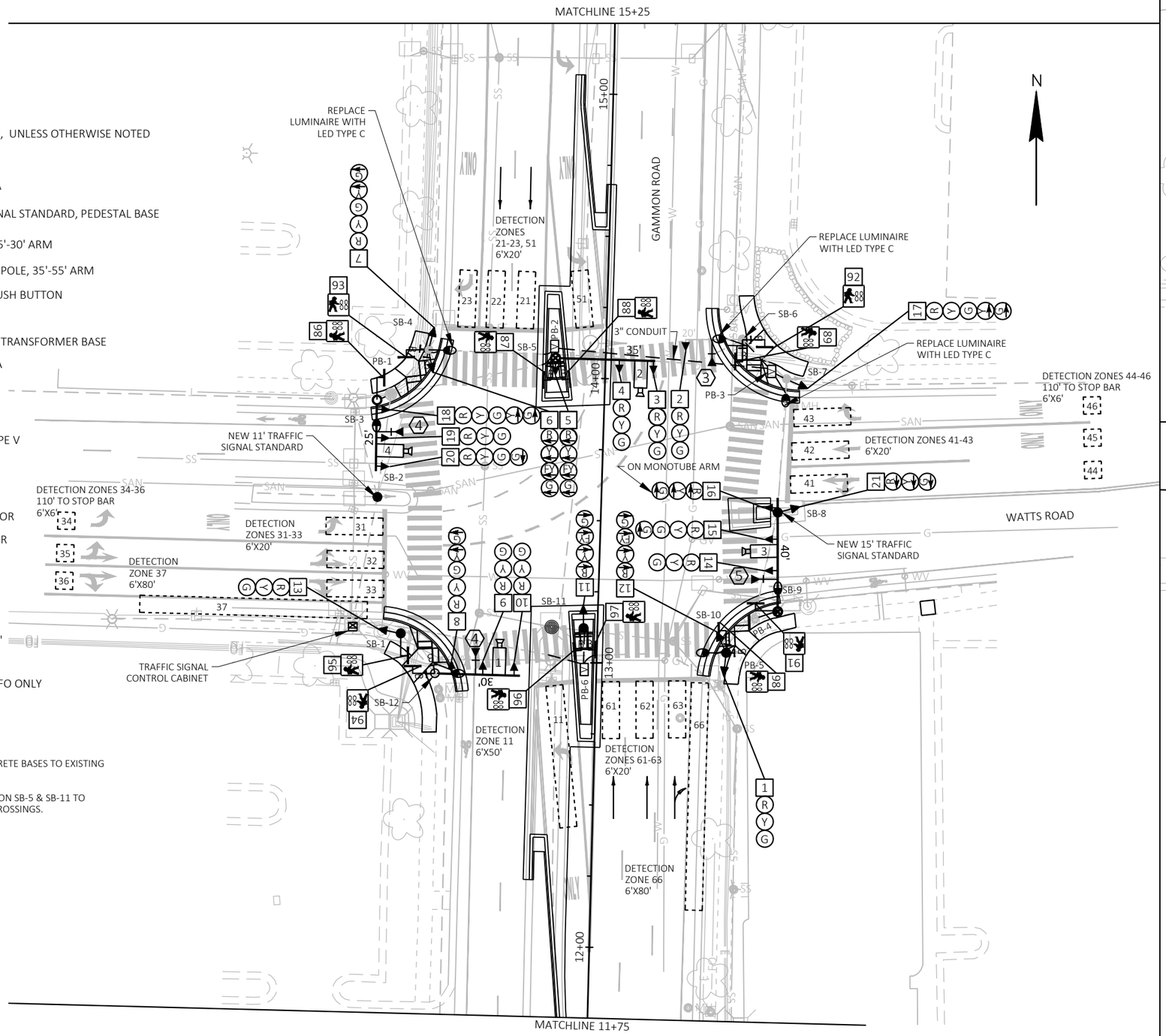
2

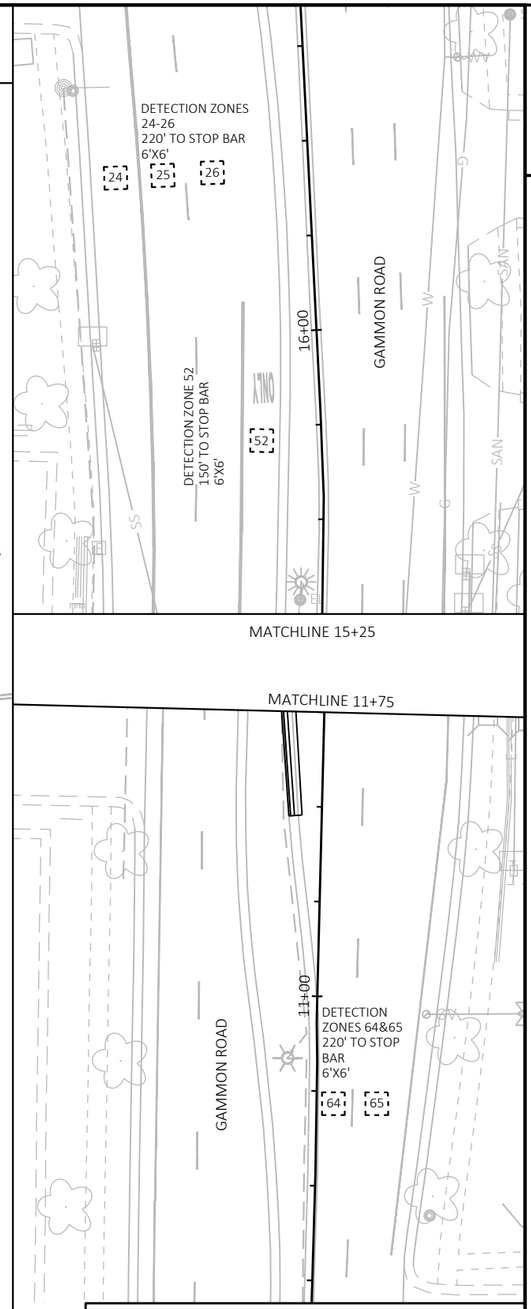
LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- VIDEO DETECTION ZONES
- VIDEO DETECTION CAMERA
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- MONOTUBE BASE, POLE, 15'-30' ARM
- MONOTUBE SPECIAL BASE, POLE, 35'-55' ARM
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- VIDEO DETECTION CAMERA
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- ELECTRICAL PULL BOXES TYPE V
- SIGNAL HEAD NUMBER
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW
- PEDESTRIAN INDICATOR 16" COUNTDOWN TIMER
- LANE DESIGNATION FOR INFO ONLY

NOTES:

- ALL LENSES ARE 12-INCH.
- GRAYSHADE REPRESENTS EXISTING.
- RECONNECT NEW PULL BOXES AND CONCRETE BASES TO EXISTING CONDUIT.
- ALL LUMINAIRES SHALL BE LED TYPE C.
- INSTALL TWO PEDESTRIAN PUSH BUTONS ON SB-5 & SB-11 TO SEPARATE EAST AND WEST PEDESTRIAN CROSSINGS.





TRAFFIC CONTROL SIGNAL
GAMMON ROAD & WATTS RD
CITY OF MADISON
DANE COUNTY

SIGNAL NO.

CITY CONTACT: JERRY SCHIPPA, PE
DESIGNED BY:
REVISED BY: JT ENGINEERING, INC.

PAGE 1 OF 4

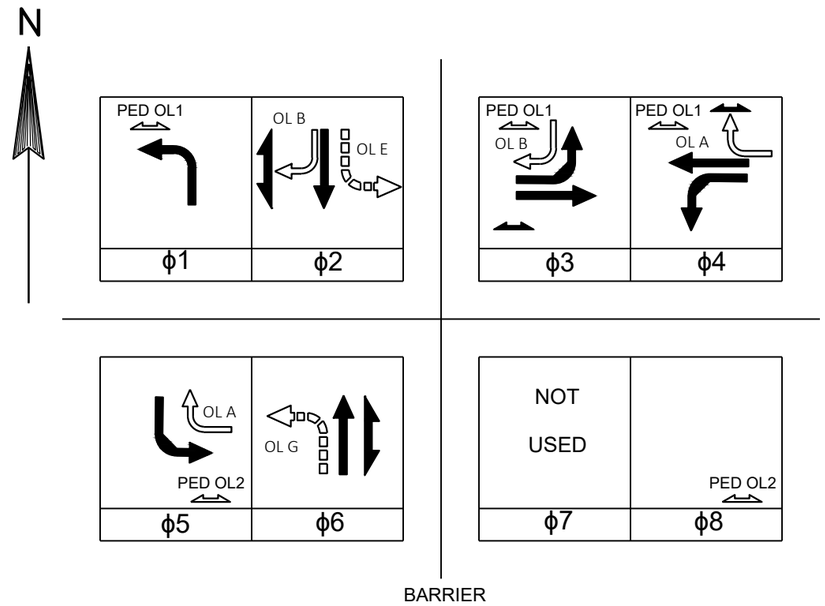
PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	TRAFFIC SIGNAL PLAN	SHEET 22	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\024201-SP.DWG
LAYOUT NAME - Plan 1 IN 40 FT

PLOT DATE : 11/16/2023 3:50 PM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH	O.L. ASSIGNMENTS
ϕ1	5, 6	R	
ϕ2	7, 8, 9, 10	R	
ϕ3	13, 14, 15, 16	R	
ϕ4	17, 18, 19, 20, 21	R	
ϕ5	11, 12	R	
ϕ6	1, 2, 3, 4	R	
ϕ7	---		
ϕ8	---		
ϕ2 PED	93, 94		PROT ϕ1, FYA ϕ2
ϕ4 PED	88, 89		
ϕ6 PED	91, 92		PROT ϕ5, FYA ϕ6
ϕ3 PED	95, 96		
PED OL 1	86, 87		ϕ3 + ϕ4 + ϕ1
PED OL 2	95, 96		ϕ8 + ϕ5
OLA	17, 18		ϕ4 + ϕ5 (PED PROT 4)
OLB	7, 8		ϕ2 + ϕ3 (PED PROT 2)



PREEMPTION ASSIGNMENTS			
PREEMPTION DESIGNATION	PREEMPTION TYPE	EVP CHANNEL	PHASE(S) CALLED
1	RESERVED		
2	RESERVED		
3	NB	3	1 + 6
4	SB	4	5 + 2
5	EB	5	3
6	WB	6	4
7	NOT USED		
8	NOT USED		
9	NOT USED		
10	NOT USED		


FLASHING YELLOW ARROW OVERLAP


OVERLAP


PHASE

CONTROLLER LOGIC

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

TYPE OF INTERCONNECT	
NONE	
TBC	
CLOSED LOOP TWISTED PAIR	
CLOSED LOOP FIBER OPTIC	X
RADIO	

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

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

TYPE OF REMOTE COMMUNICATION	
NONE	
FIBER	X
CELL MODEM	
PHONE	

PED BUTTON OPERATIONS:

PED CALL FROM NW CORNER CALLS PED3 THEN PED4.
PED CALL FROM NE CORNER CALLS PED4 THEN PED1
PED CALL FROM SW CORNER CALLS PED3 AND LONG PED8 OR PED 5 IF NO VEHICLE CALL ON PHASE 4.
PED CALL FROM SE CORNER CALLS PED3 AND SHORT PED8

PC1 = NW CORNER CROSSING GAMMON
PC3 = N MEDIAN WEST BUTTON
PC5 = N MEDIAN EAST BUTTON
PC7 = NE CORNER

PC2 = WEST CROSSWALK BUTTONS
PC4 = SW CORNER CROSSING GAMMON
PC6 = S MEDIAN
PC8 = SE CORNER CROSSING GAMMON

PC9 = EAST CROSSWALK BUTTONS

GENERAL OPERATION NOTES:
1. SIGNAL TO RUN FREE FROM 6:30 AM TO 8:00 PM.
2. SIGNAL TO RUN FREE WITH RED REST FROM 8:00 PM TO 6:30 AM.
3. PROGRAM SIGNAL TO RUN RED-RED FLASH DURING EMERGENCIES ONLY.

TRAFFIC CONTROL SIGNAL
GAMMON ROAD & WATTS RD
CITY OF MADISON
DANE COUNTY

SIGNAL NO.

CITY CONTACT: JERRY SCHIPPA, PE
DESIGNED BY:
REVISED BY: JT ENGINEERING, INC.

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	TRAFFIC SIGNAL PHASING	SHEET 23	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\024201-SP.DWG
LAYOUT NAME - SOO
PLOT DATE : 9/26/2023 11:04 AM
PLOT BY : JIM PAVELSKI
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

DETECTOR LOGIC

DETECTOR RACK 1
NB CAMERA

DETECTOR INPUT	3	1	7	5	11	9	15	13
DETECTOR #(S)		52	24	25	26			
PHASE CALLED		5	2	2	2			
PHASE EXTENDED		5	2	2	2			
DISCONNECT TIME		---	---	---	---			
CALLING DELAY		---	---	---	---			
EXTENSION STRETCH		3.5	4.0	4.0	4.0			
LOOP FUNCTION		ADD INITIAL	COUNT	COUNT	COUNT			

DETECTOR INPUT	4	2	8	6	12	10	16	14
DETECTOR #(S)		51	23	22	21			
PHASE CALLED		5	2	2	2			
PHASE EXTENDED		5	2	2	2			
DISCONNECT TIME		---	---	---	---			
CALLING DELAY		---	---	---	---			
EXTENSION STRETCH		---	---	---	---			
LOOP FUNCTION								

DETECTOR RACK 2
SB CAMERA

DETECTOR INPUT	19	17	23	21	27	25	31	29
DETECTOR #(S)		11		65	64			
PHASE CALLED		1		6	6			
PHASE EXTENDED		1		6	6			
DISCONNECT TIME		---		---	---			
CALLING DELAY		---		---	---			
EXTENSION STRETCH		---		4.0	4.0			
LOOP FUNCTION		ADD INITIAL		COUNT	COUNT			

DETECTOR INPUT	20	18	24	22	28	26	32	30
DETECTOR #(S)		66	63	62	61			
PHASE CALLED		6	6	6	6			
PHASE EXTENDED		6	6	6	6			
DISCONNECT TIME		---	---	---	---			
CALLING DELAY		---	---	---	---			
EXTENSION STRETCH		---	---	---	---			
LOOP FUNCTION		BIKE						

DETECTOR RACK 3
WB CAMERA

DETECTOR INPUT	35	33	39	37	43	41	47	45
DETECTOR #(S)		37	36	35	34			
PHASE CALLED		3	3	3	3			
PHASE EXTENDED		3	3	3	3			
DISCONNECT TIME		---	---	---	---			
CALLING DELAY		---	---	---	---			
EXTENSION STRETCH		---	3.5	3.5	3.5			
LOOP FUNCTION		BIKE	COUNT	COUNT	COUNT			

DETECTOR INPUT	36	34	40	38	44	42	48	46
DETECTOR #(S)			33	32	31			
PHASE CALLED			3	3	3			
PHASE EXTENDED			3	3	3			
DISCONNECT TIME			---	---	---			
CALLING DELAY			---	---	---			
EXTENSION STRETCH			---	---	---			
LOOP FUNCTION								

DETECTOR RACK 4
EB CAMERA

DETECTOR INPUT	51	49	55	53	59	57	63	61
DETECTOR #(S)			46	45	44			
PHASE CALLED			4	4	4			
PHASE EXTENDED			4	4	4			
DISCONNECT TIME			---	---	---			
CALLING DELAY			---	---	---			
EXTENSION STRETCH			3.0	3.0	3.0			
LOOP FUNCTION			COUNT	COUNT	COUNT			

DETECTOR INPUT	52	50	56	54	60	58	64	62
DETECTOR #(S)			41	42	43			
PHASE CALLED			4	4	4			
PHASE EXTENDED			4	4	4			
DISCONNECT TIME			---	---	---			
CALLING DELAY			---	---	---			
EXTENSION STRETCH			---	---	---			
LOOP FUNCTION								

ALL DETECTION ZONES LISTED ABOVE ARE ITERIS VIDEO DETECTION.
EACH CAMERA USES A DIFFERENT DETECTOR RACK FOR TROUBLESHOOTING PURPOSES.
FOUR DETECTOR RACKS REQUIRED FROM CABINET MANUFACTURER.

TRAFFIC CONTROL SIGNAL
GAMMON ROAD & WATTS RD
CITY OF MADISON
DANE COUNTY

SIGNAL NO.

CITY CONTACT: JERRY SCHIPPA, PE
DESIGNED BY:
REVISED BY: JT ENGINEERING, INC.

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	TRAFFIC SIGNAL PHASING	SHEET 24	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\024201-SP.DWG
LAYOUT NAME - SOO-2
PLOT DATE : 9/26/2023 11:03 AM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

CABLE ROUTING CHART

TC1 TO	# OF COND. AWG 14	HEAD NO.	SIGNAL INDICATION WIRE COLOR									
			RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING YELLOW>	D/WALK	WALK	PED BUTTON
SB-1	7	13	RED	ORG	GRN							
		95								BLK	BLU	
SB-3	12	18	RED	ORG	GRN		ORG/BLK	GRN/BLK				
		19	RED	ORG	GRN							
		20	RED	ORG	GRN							
		86								BLK	BLU	
SB-4	15	7	RED	ORG	GRN		WHT/BLK	BLU/BLK				
		6				RED/BLK	ORG/BLK	GRN/BLK	BLU/WHT			
		93								BLK	BLU	
		O.L. 1 P										BLK/WHT
		PH 2 P										RED/WHT
SB-5	15	3	RED	ORG	GRN							
		4	RED	ORG	GRN							
		5				RED/BLK	ORG/BLK	GRN/BLK	WHT/BLK			
		87								BLK	BLU	
		88								GRN/WHT	RED/WHT	
		O.L. 1 P										BLK/WHT
		PH 4 P										BLU/BLK
SB-6	12	2	RED	ORG	GRN							
		89								BLK	BLU	
		92								GRN/BLK	RED/BLK	
		PH 4 P										BLK/WHT
		PH 6 P										BLU/BLK
SB-7	7	17	RED	ORG	GRN		BLK	BLU				
SB-9	7	14	RED	ORG	GRN							
		15	RED	ORG	GRN			GRN				
		16				RED	ORG	GRN				
		98								BLK	BLU	
SB-10	15	1	RED	ORG	GRN							
		12				RED/BLK	ORG/BLK	GRN/BLK	BLU/WHT			
		93								BLK	BLU	
		PH 6 P										BLK/WHT
		O.L. 2 P										BLU/BLK
SB-11	12	11				RED	ORG	GRN	ORG/BLK			
		97								BLK	BLU	
		96								RED/BLK	GRN/BLK	
		O.L. 2 P										BLK/WHT
		PH 3 P										BLU/BLK
SB-12	12	8	RED	ORG	GRN		ORG/BLK	GRN/BLK				
		9	RED	ORG	GRN							
		10	RED	ORG	GRN							
		94								BLK	BLU	
		PH 2 P										BLK/WHT
		PH 3 P										BLU/BLK

SIGNAL WIRE COLOR CODING			
	BLK - BLACK	RED - RED	GRN - GREEN
	WHT - WHITE	BLU - BLUE	ORG - ORANGE

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP	
FROM	TO
CABINET	SB-1
CABINET	SB-2
SB-2	SB-3
SB-3	SB-4
SB-4	SB-5
SB-5	SB-6
SB-6	SB-7
SB-7	SB-8
SB-8	SB-9
SB-9	SB-10
SB-10	SB-11
SB-11	CABINET
CABINET	SB-12

LIGHTING WIRE TYPE UF 2 - 10 AWG GROUNDED	
FROM	TO
CABINET	SB-3
SB-3	SB-4
CABINET	SB-12
CABINET	SB-10
SB-10	SB-9
SB-9	SB-7
SB-7	SB-6

EVP DETECTOR CABLE		
DESIGNATION	FROM	TO
3	CABINET	SB-6
4	CABINET	SB-12
5	CABINET	SB-9
6	CABINET	SB-3

NOTES:

1. USE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS.
2. AT THE SIGNAL BASES, CONNECT ONE TERMINAL FROM THE PEDESTRIAN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.
3. EACH PEDESTRIAN BUTTON SHALL BE LANDED ONTO ITS OWN INPUT IN THE CABINET.
4. ALL OTHER WIRING TO REMAIN IN PLACE.

TRAFFIC CONTROL SIGNAL
GAMMON ROAD & WATTS RD
CITY OF MADISON
DANE COUNTY

SIGNAL NO.

CITY CONTACT: JERRY SCHIPPA, PE
DESIGNED BY:
REVISED BY: JT ENGINEERING, INC.

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\024201-SP.DWG
LAYOUT NAME - Cable Routing
PLOT DATE : 10/19/2023 12:28 PM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2

LEGEND

REMOVE PAVEMENT MARKING

GAMMON RD

11+00

12+00

13+00

14+00

MATCHLINE 14+50

WATTS RD

ONLY

ONLY

MATCHLINE 14+50

15+00

16+00

17+00

18+00

GAMMON RD

WATTS RD

2

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	PAVEMENT MARKING REMOVAL	SHEET 26	E

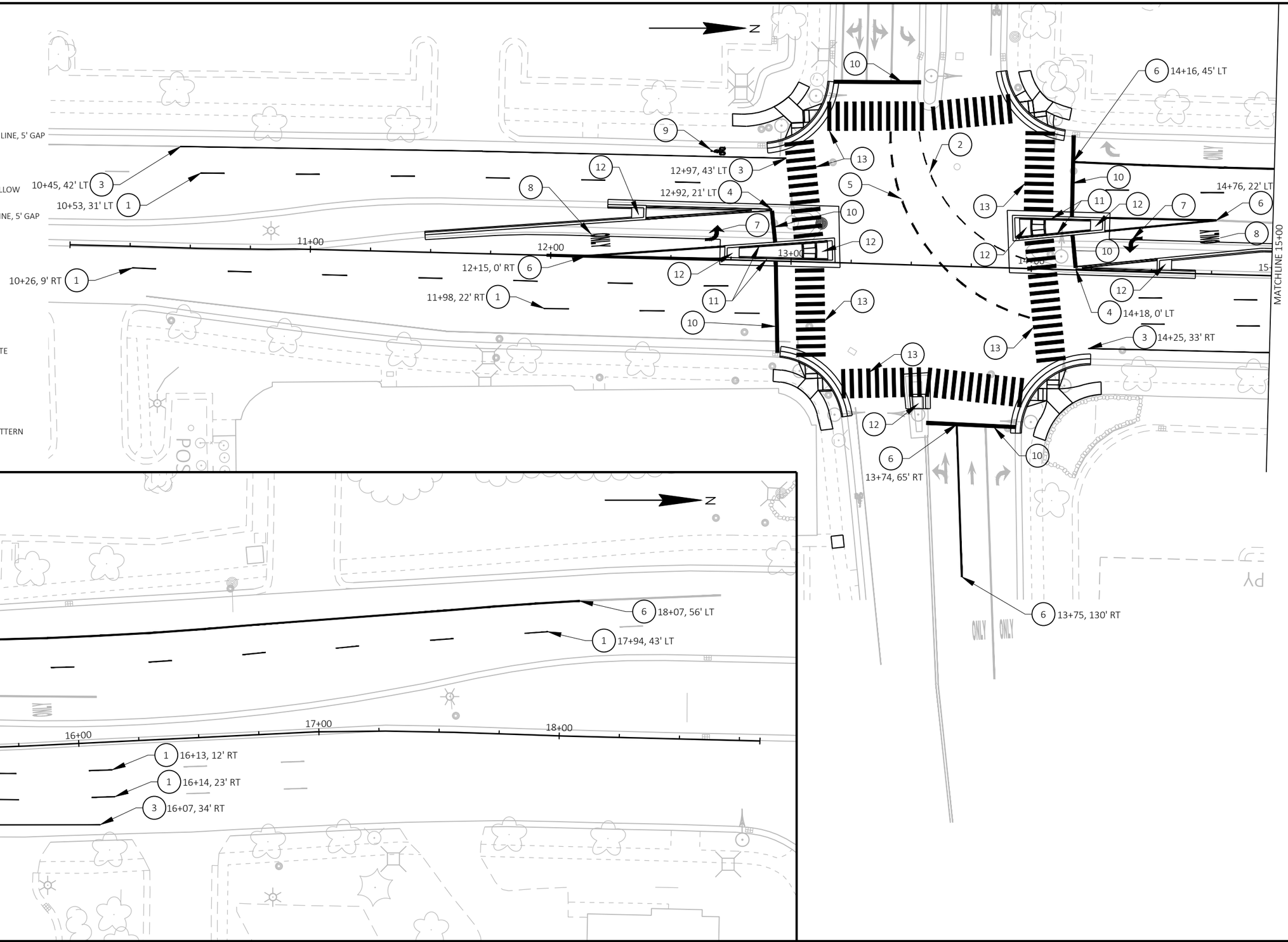
FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - Plan Dbl 1 IN 40 FT

PLOT DATE : 9/30/2023 4:32 PM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

LEGEND

1. MARKING LINE EPOXY 4-INCH WHITE SKIPS (10' LINE, 30' GAP)
2. MARKING LINE EPOXY 4-INCH YELLOW, 5' LINE, 5' GAP
3. MARKING LINE EPOXY 4-INCH WHITE
4. MARKING LINE EPOXY 4-INCH DOUBLE YELLOW
5. MARKING LINE EPOXY 8-INCH WHITE, 5' LINE, 5' GAP
6. MARKING LINE EPOXY 8-INCH WHITE
7. MARKING ARROW EPOXY WHITE
8. MARKING WORD EPOXY WHITE
9. MARKING SYMBOL EPOXY WHITE
10. MARKING STOP LINE EPOXY 18-INCH WHITE
11. MARKING CURB EPOXY YELLOW
12. MARKING ISLAND NOSE EPOXY YELLOW
13. MARKING CROSSWALK EPOXY LADDER PATTERN 18-INCH (12-FOOT WIDTH, 24-INCH GAP)



PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	PAVEMENT MARKING	SHEET 27	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\024502-PM.DWG
LAYOUT NAME - Plan Dbl 1 IN 40 FT

PLOT DATE : 9/30/2023 4:45 PM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

LEGEND

- III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL 42" CONE
- TEMPORARY PEDESTRIAN BARRICADE
- WORK AREA
- DIRECTION OF TRAFFIC
- REMOVE / COVER PAVEMENT MARKING
- (A) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- (B) TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH (WHITE)
- (C) TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)
- (D) TEMPORARY MARKING ARROW REMOVABLE TAPE

ADVANCED SIGNING PER SDD 15D50A TRAFFIC CONTROL, ADDED LANE CLOSURE WITHOUT LANE SHIFT

FOR ADDITIONAL LANE CLOSURES OF GAMMON ROAD AND THE WESTBOUND APPROACH OF WATTS ROAD DURING OFF PEAK HOURS, SEE THE SPECIAL PROVISIONS.

COVER AND INSTALL RIGHT ONLY ON R3-8 SIGN ROUGHLY 100' SHORT OF EXISTING EASTBOUND STOP BAR

ADVANCED SIGNING PER SDD 15C05 TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH. OR LESS, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC

COVER EXISTING THROUGH RIGHT ARROW (2 LOCATIONS) LEAVING RIGHT ARROW VISIBLE.

5' SHIFT, TAPER OVER 100'

2' SHIFT, TAPER OVER 100'

25' TYP

11+00 12+00 13+00 14+00

6' (TYPICAL)

2' (TYPICAL)

TEMPORARY PEDESTRIAN BARRICADE

MATCHLINE 14+50

R11-2L 48" X 30" LANE CLOSED

TYPE III BARRICADE

ISLAND WORK SHALL BE COMPLETED WITH OFF-PEAK WESTBOUND INSIDE LANE CLOSURE WITH TRAFFIC CONTROL PER SDD 15D50A TRAFFIC CONTROL, ADDED LANE CLOSURE WITHOUT LANE SHIFT. PRIOR TO ASPHALT PAVING, BACKFILL WITH CRUSH AGGREGATE BASE COURSE FLUSH WITH ADJACENT PAVEMENT BEFORE THE END OF THE DAY.

VARIABLE SHIFT, TAPER OVER 100'

ADVANCED SIGNING PER SDD 15C05 TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH. OR LESS, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC

ADVANCED SIGNING PER SDD 15C05 TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH. OR LESS, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC

25' TYP

15+00 16+00 17+00 18+00

MATCHLINE 14+50

6' SHIFT, TAPER OVER 100'

R11-2L 48" X 30" LANE CLOSED

TYPE III BARRICADE

NOTE: FOR SEVEN (7) DAYS PRIOR TO CONSTRUCTION PLACE PCMS BOARDS ON ALL FOUR APPROACHES TO THE INTERSECTION.

PANEL 1	PANEL 2
ROAD WORK BEGINS	XXXDAY XX/XX

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	TRAFFIC CONTROL - STAGE 1	SHEET 28	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\025100-TC.DWG
LAYOUT NAME - 025100-TC

PLOT DATE : 9/30/2023 4:50 PM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44

2

2

LEGEND

TYPE III BARRICADE WITH ATTACHED SIGN

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT

WORK AREA

PEDESTRIAN DETOUR ROUTE

NOTE:
ONLY ONE QUADRANT MAY BE UNDER CONSTRUCTION AT ONE TIME. MUST COMPLETE CURB RAMP WORK PRIOR TO STARTING CONFLICTING RAMPS. ADVANCED LANE CLOSURE WORK BARRICADE, BARREL, & SIGNING PLACEMENT PER SDD 15D20B TRAFFIC CONTROL, SINGLE LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY. SEE PEDESTRIAN DETOUR PLAN FOR ADDITIONAL TRAFFIC CONTROL ITEMS.

N

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

25' TYP

WO1-6
48" X 24"
TYPE III BARRICADE

ADVANCED SIGNING PER
SDD 15D20-07B
TRAFFIC CONTROL, SINGLE RIGHT
LANE CLOSURE, UNDIVIDED
NON-FREEWAY/EXPRESSWAY

GAMMON ROAD

WATTS ROAD

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2A	SHEET 29	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\025101-TC.DWG
LAYOUT NAME - 025101-TC NWA

PLOT DATE : 9/30/2023 3:02 PM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : Custom

2

N

LEGEND

WORK AREA

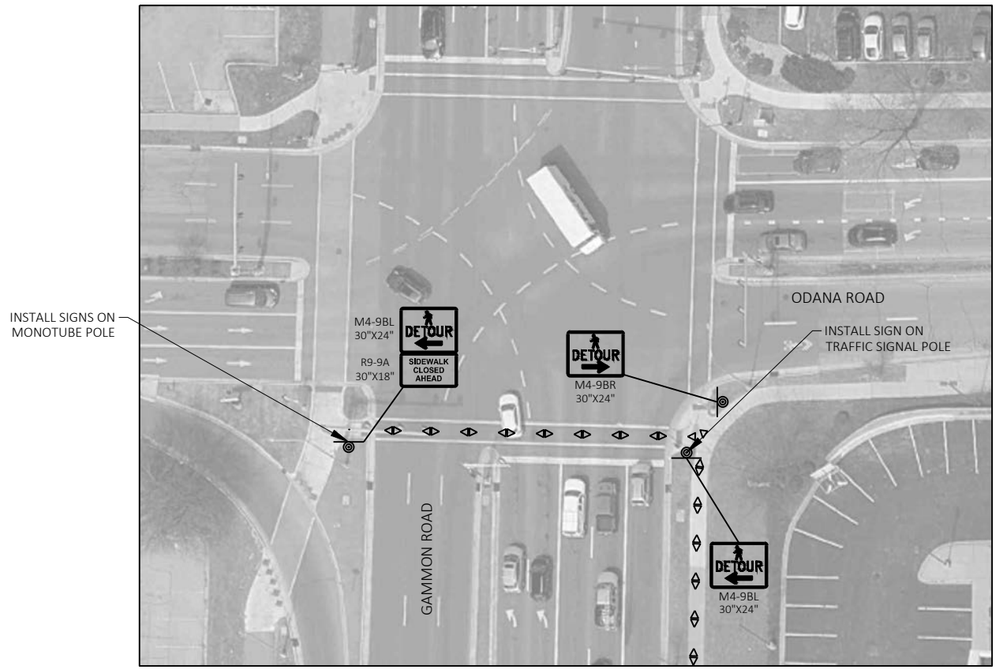
SIGN ON PERMANENT SUPPORT

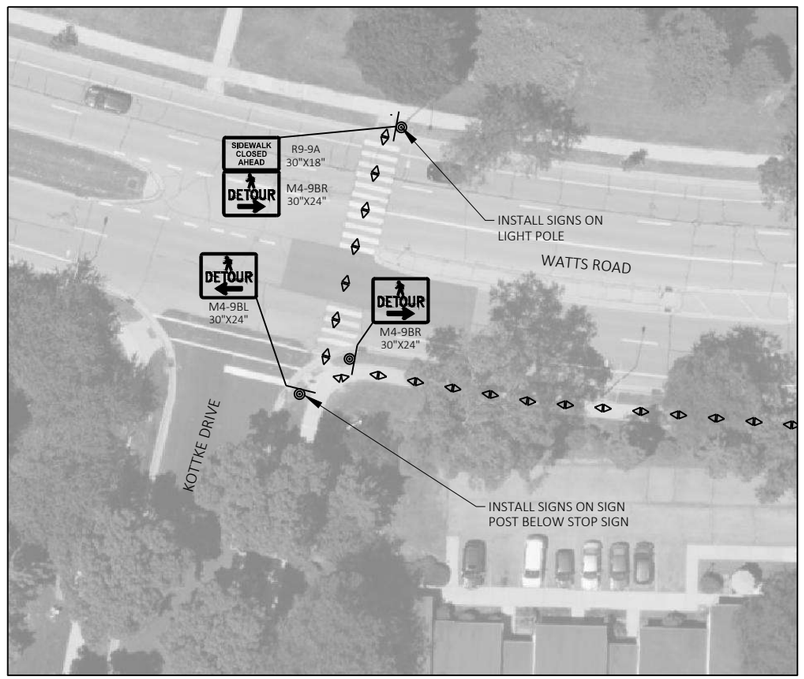
SIGN ON TEMPORARY SUPPORT

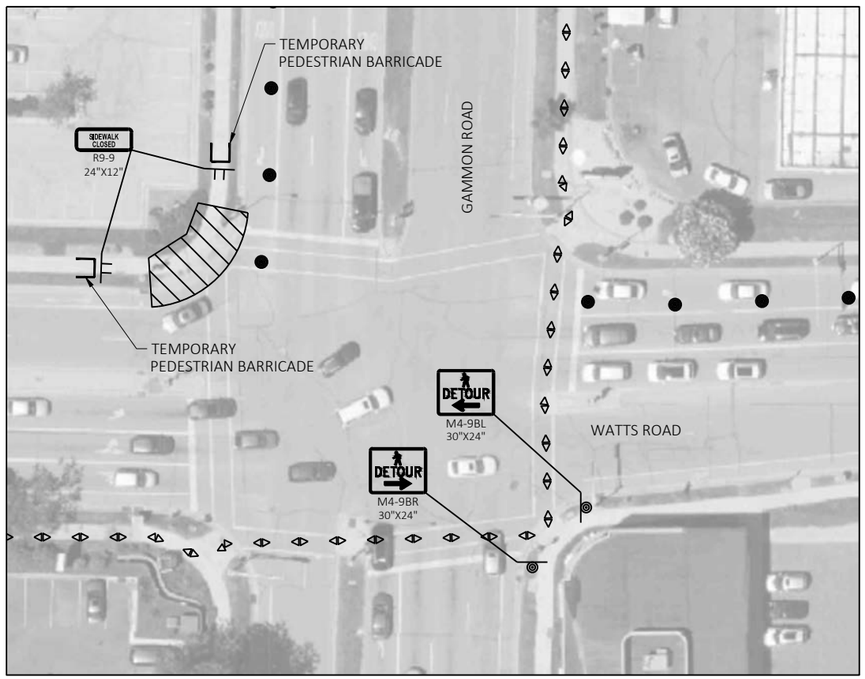
PEDESTRIAN DETOUR ROUTE

TEMPORARY PEDESTRIAN BARRICADE

NOTE:
ONLY ONE QUADRANT MAY BE UNDER CONSTRUCTION AT ONE TIME. MUST COMPLETE CURB RAMP WORK PRIOR TO STARTING CONFLICTING RAMPS.
SEE TRAFFIC CONTROL - STAGE 2A FOR ADDITIONAL TRAFFIC CONTROL ITEMS.







PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	TRAFFIC CONTROL - PEDESTRIAN DETOUR - STAGE 2A	SHEET 30	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\025101-TC.DWG
LAYOUT NAME - 025101-TC NW
PLOT DATE : 9/26/2023 11:39 AM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42

2

LEGEND

TYPE III BARRICADE WITH ATTACHED SIGN

TRAFFIC CONTROL DRUM

WORK AREA

PEDESTRIAN DETOUR ROUTE

NOTE:
ONLY ONE QUADRANT MAY BE UNDER CONSTRUCTION AT ONE TIME. MUST COMPLETE CURB RAMP WORK PRIOR TO STARTING CONFLICTING RAMPS.
ADVANCED LANE CLOSURE WORK BARRICADE, DRUM, & SIGNING PLACEMENT PER SDD 15D50 TRAFFIC CONTROL, ADDED LANE CLOSURE WITHOUT LANE SHIFT.
SEE PEDESTRIAN DETOUR PLAN FOR ADDITIONAL TRAFFIC CONTROL ITEMS.

N

GAMMON ROAD

R11-2L
48" X 30"
LANE CLOSED

TYPE III BARRICADE

15' TYP

25' TYP

ADVANCED SIGNING PER SDD 15D50A TRAFFIC CONTROL, ADDED LANE CLOSURE WITHOUT LANE SHIFT

WATTS ROAD

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	TRAFFIC CONTROL - STAGE 2B	SHEET 31	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\025101-TC.DWG
LAYOUT NAME - 025101-TC NEA

PLOT DATE : 11/3/2023 2:47 PM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : Custom

WISDOT/CADDS SHEET 42

2

N

LEGEND

WORK AREA

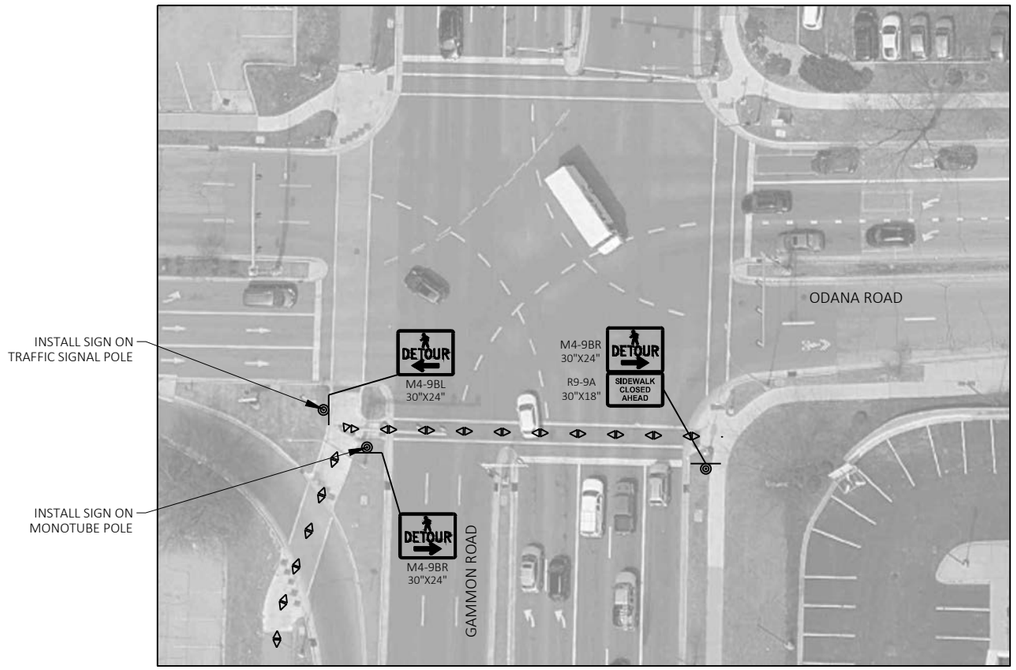
SIGN ON PERMANENT SUPPORT

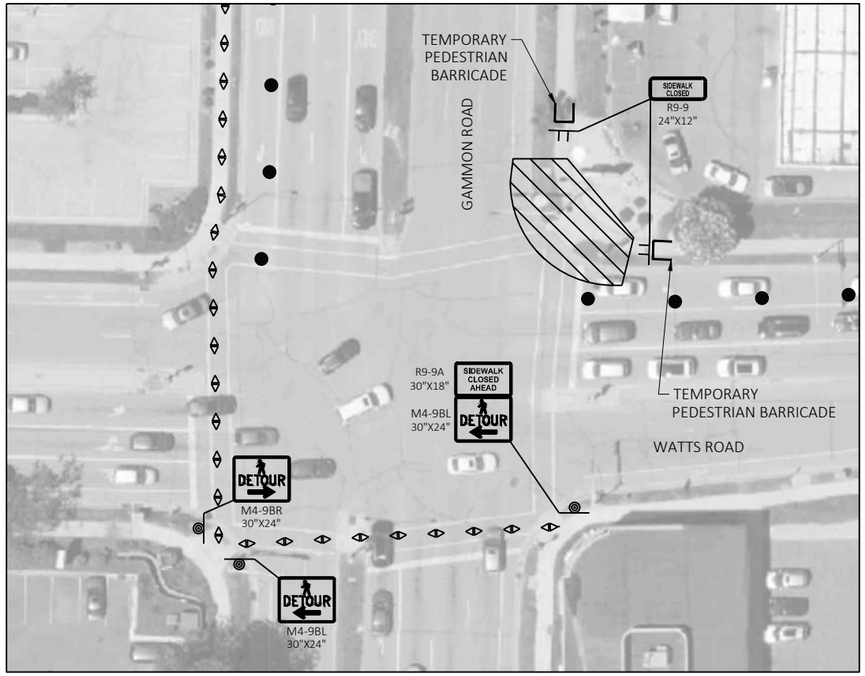
SIGN ON TEMPORARY SUPPORT

PEDESTRIAN DETOUR ROUTE

TEMPORARY PEDESTRIAN BARRICADE

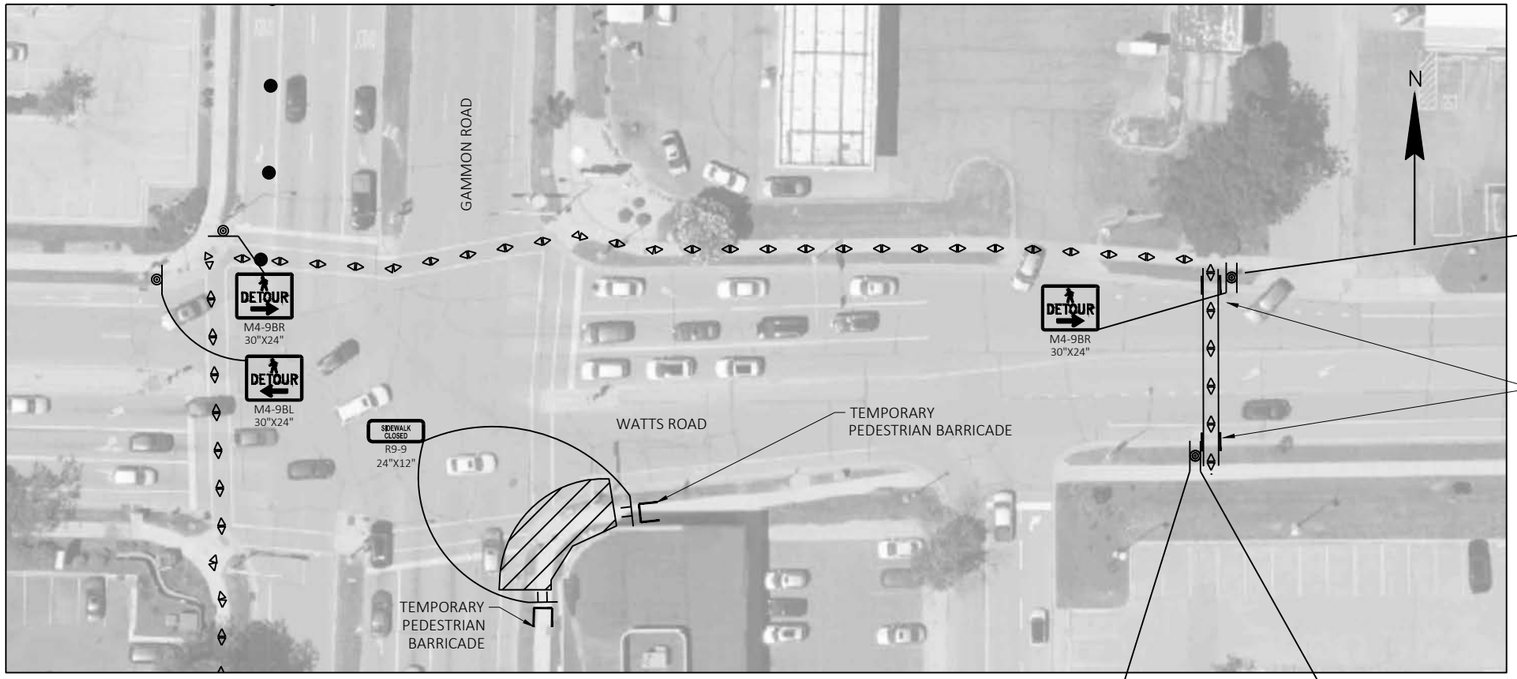
NOTE:
ONLY ONE QUADRANT MAY BE UNDER CONSTRUCTION AT ONE TIME. MUST COMPLETE CURB RAMP WORK PRIOR TO STARTING CONFLICTING RAMPS.
SEE TRAFFIC CONTROL - STAGE 2B FOR ADDITIONAL TRAFFIC CONTROL ITEMS.





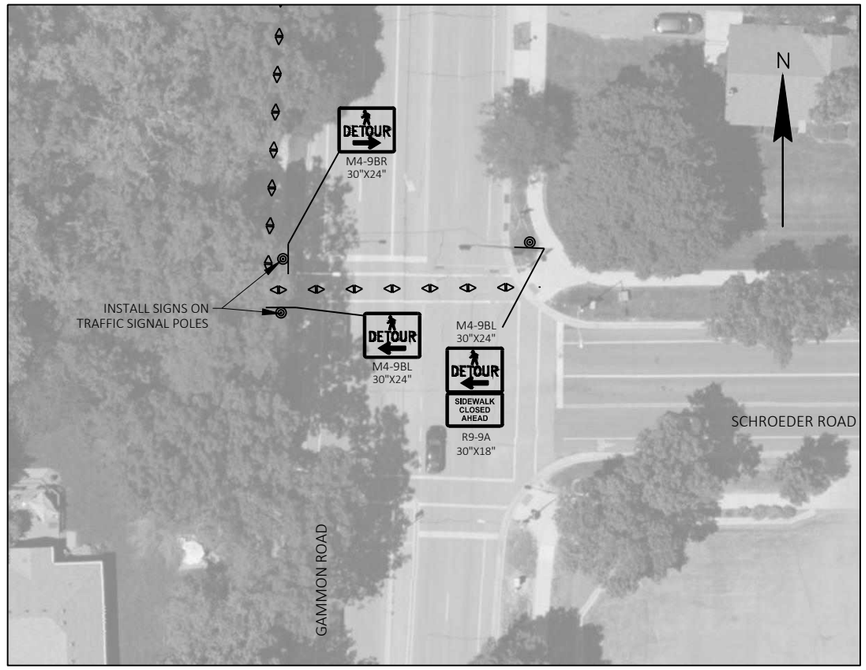
PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	TRAFFIC CONTROL - PEDESTRIAN DETOUR - STAGE 2B	SHEET 32	E

2



COVER BIKE LANE ENDS SIGN

INSTALL TEMPORARY CURB RAMPS PERPENDICULAR TO CURB, SIGNING, DRUMS, TEMPORARY PEDESTRIAN BARRICADES, AND TEMPORARY PAVEMENT MARKING PER SDD 15D30C AND 15D30L, TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION. RESTORE AS NEEDED USING SEED, FERTILIZER, AND WATER UNDER UNDISTRIBUTED QUANTITY.

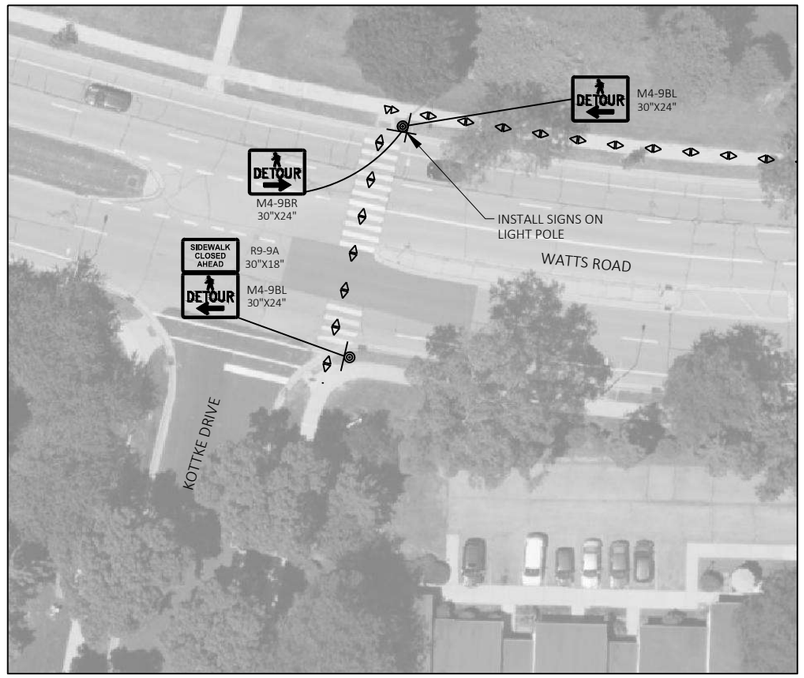


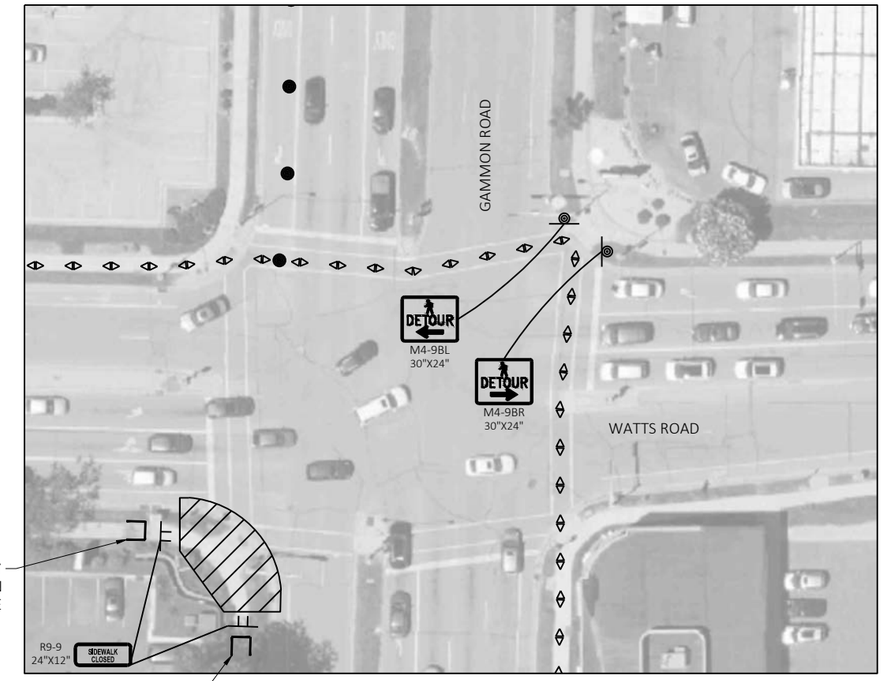
LEGEND

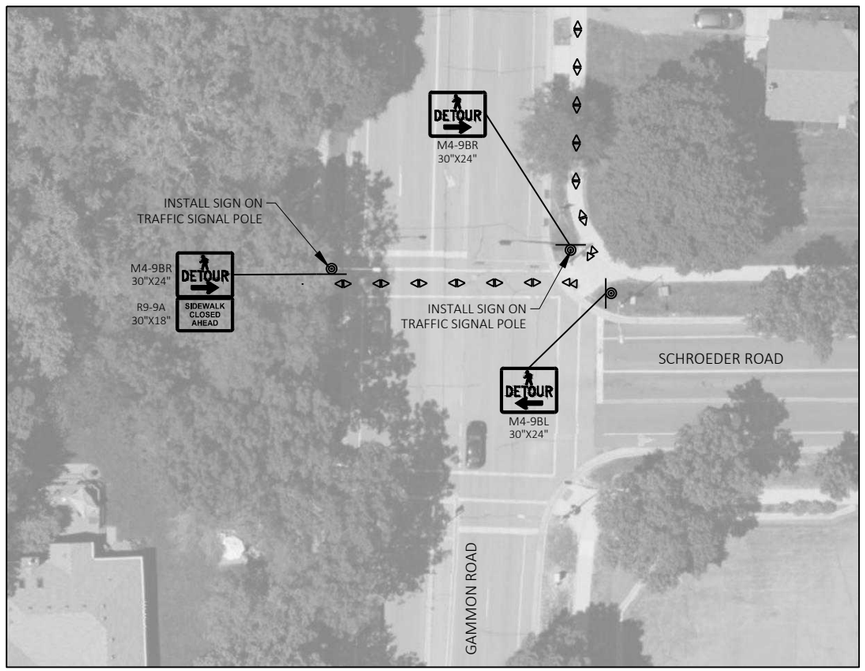
- WORK AREA
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- PEDESTRIAN DETOUR ROUTE
- TEMPORARY PEDESTRIAN BARRICADE

NOTE:
ONLY ONE QUADRANT MAY BE UNDER CONSTRUCTION AT ONE TIME. MUST COMPLETE CURB RAMP WORK PRIOR TO STARTING CONFLICTING RAMPS.
ADVANCED SHOULDER WORK CONE & SIGNING PLACEMENT PER SDD 15D28, TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY.
SIDEWALK CLOSURE ADVANCE WARNING PER 15D30-09K, TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION.

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	TRAFFIC CONTROL - PEDESTRIAN DETOUR - STAGE 2C	SHEET 33	E







LEGEND

- WORK AREA
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- PEDESTRIAN DETOUR ROUTE
- TEMPORARY PEDESTRIAN BARRICADE

NOTE:
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SIDEWALK CLOSURE ADVANCE WARNING PER 15D30-09K, TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION.

N

2

PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	TRAFFIC CONTROL - PEDESTRIAN DETOUR - STAGE 2D	SHEET 34	E

FILE NAME : X:\PROJECTS\DANE\220064 GAMMON AND WATTS RD, MADISON\DESIGN\C3D\SHEETSPLAN\025101-TC.DWG
LAYOUT NAME - 025101-TC SW
PLOT DATE : 9/26/2023 11:39 AM PLOT BY : JIM PAVELSKI PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42

Estimate Of Quantities

5992-07-19

Line	Item	Item Description	Unit	Total	Qty
0002	204.0110	Removing Asphaltic Surface	SY	290.000	290.000
0004	204.0150	Removing Curb & Gutter	LF	630.000	630.000
0006	204.0155	Removing Concrete Sidewalk	SY	123.000	123.000
0008	204.0220	Removing Inlets	EACH	1.000	1.000
0010	204.0245	Removing Storm Sewer (size) 01. 15-Inch	LF	8.000	8.000
0012	204.0245	Removing Storm Sewer (size) 02. 18-Inch	LF	4.000	4.000
0014	205.0100	Excavation Common	CY	180.000	180.000
0016	213.0100	Finishing Roadway (project) 5992-07-19	EACH	1.000	1.000
0018	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	394.000	394.000
0020	455.0605	Tack Coat	GAL	21.700	21.700
0022	460.2000	Incentive Density HMA Pavement	DOL	110.000	110.000
0024	460.7423	HMA Pavement 3 HT 58-28 H	TON	44.000	44.000
0026	460.7424	HMA Pavement 4 HT 58-28 H	TON	120.000	120.000
0028	520.8000	Concrete Collars for Pipe	EACH	2.000	2.000
0030	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	120.000	120.000
0032	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	8.000	8.000
0034	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	4.000	4.000
0036	611.2004	Manholes 4-FT Diameter	EACH	1.000	1.000
0038	619.1000	Mobilization	EACH	1.000	1.000
0040	620.0300	Concrete Median Sloped Nose	SF	300.000	300.000
0042	624.0100	Water	MGAL	6.000	6.000
0044	625.0100	Topsoil	SY	160.000	160.000
0046	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0048	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0050	628.2006	Erosion Mat Urban Class I Type A	SY	160.000	160.000
0052	628.7010	Inlet Protection Type B	EACH	3.000	3.000
0054	628.7020	Inlet Protection Type D	EACH	14.000	14.000
0056	629.0210	Fertilizer Type B	CWT	0.100	0.100
0058	630.0140	Seeding Mixture No. 40	LB	3.000	3.000
0060	630.0500	Seed Water	MGAL	13.000	13.000
0062	637.2215	Signs Type II Reflective H Folding	SF	41.440	41.440
0064	638.2102	Moving Signs Type II	EACH	17.000	17.000
0066	642.5201	Field Office Type C	EACH	1.000	1.000
0068	643.0300	Traffic Control Drums	DAY	900.000	900.000
0070	643.0420	Traffic Control Barricades Type III	DAY	110.000	110.000
0072	643.0705	Traffic Control Warning Lights Type A	DAY	220.000	220.000
0074	643.0715	Traffic Control Warning Lights Type C	DAY	70.000	70.000
0076	643.0900	Traffic Control Signs	DAY	810.000	810.000
0078	643.0920	Traffic Control Covering Signs Type II	EACH	1.000	1.000
0080	643.1050	Traffic Control Signs PCMS	DAY	56.000	56.000
0082	643.1070	Traffic Control Cones 42-Inch	DAY	1,800.000	1,800.000
0084	643.3150	Temporary Marking Line Removable Tape 4-Inch	LF	1,565.000	1,565.000
0086	643.3180	Temporary Marking Line Removable Tape 6-Inch	LF	435.000	435.000
0088	643.3250	Temporary Marking Line Removable Tape 8-Inch	LF	475.000	475.000
0090	643.3550	Temporary Marking Arrow Removable Tape	EACH	4.000	4.000
0092	643.3970	Temporary Marking Removable Mask Out Tape 10-Inch	LF	40.000	40.000
0094	643.5000	Traffic Control	EACH	1.000	1.000
0096	644.1430	Temporary Pedestrian Surface Plate	SF	50.000	50.000
0098	644.1601	Temporary Pedestrian Curb Ramp	DAY	20.000	20.000
0100	644.1605	Temporary Pedestrian Detectable Warning Field	SF	20.000	20.000

5992-07-19

Line	Item	Item Description	Unit	Total	Qty
0102	644.1810	Temporary Pedestrian Barricade	LF	168.000	168.000
0104	646.1020	Marking Line Epoxy 4-Inch	LF	1,145.000	1,145.000
0106	646.3020	Marking Line Epoxy 8-Inch	LF	670.000	670.000
0108	646.5020	Marking Arrow Epoxy	EACH	3.000	3.000
0110	646.5120	Marking Word Epoxy	EACH	2.000	2.000
0112	646.5220	Marking Symbol Epoxy	EACH	1.000	1.000
0114	646.6120	Marking Stop Line Epoxy 18-Inch	LF	134.000	134.000
0116	646.8120	Marking Curb Epoxy	LF	130.000	130.000
0118	646.8220	Marking Island Nose Epoxy	EACH	7.000	7.000
0120	646.9000	Marking Removal Line 4-Inch	LF	1,315.000	1,315.000
0122	646.9100	Marking Removal Line 8-Inch	LF	655.000	655.000
0124	646.9200	Marking Removal Line Wide	LF	135.000	135.000
0126	646.9300	Marking Removal Special Marking	EACH	6.000	6.000
0128	650.4000	Construction Staking Storm Sewer	EACH	1.000	1.000
0130	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	485.000	485.000
0132	650.8501	Construction Staking Electrical Installations (project) 5992-07-19	EACH	1.000	1.000
0134	650.9000	Construction Staking Curb Ramps	EACH	12.000	12.000
0136	650.9500	Construction Staking Sidewalk (project) 5992-07-19	EACH	1.000	1.000
0138	650.9911	Construction Staking Supplemental Control (project) 5992-07-19	EACH	1.000	1.000
0140	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	185.000	185.000
0142	652.0615	Conduit Special 3-Inch	LF	75.000	75.000
0144	654.0110	Concrete Bases Type 10	EACH	2.000	2.000
0146	654.0120	Concrete Bases Type 10-Special	EACH	2.000	2.000
0148	655.0230	Cable Traffic Signal 5-14 AWG	LF	975.000	975.000
0150	655.0240	Cable Traffic Signal 7-14 AWG	LF	745.000	745.000
0152	655.0260	Cable Traffic Signal 12-14 AWG	LF	690.000	690.000
0154	655.0270	Cable Traffic Signal 15-14 AWG	LF	575.000	575.000
0156	655.0320	Cable Type UF 2-10 AWG Grounded	LF	1,050.000	1,050.000
0158	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	1,255.000	1,255.000
0160	657.0100	Pedestal Bases	EACH	5.000	5.000
0162	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	1.000	1.000
0164	657.0315	Poles Type 4	EACH	1.000	1.000
0166	657.0347	Poles Type 9-Special	EACH	1.000	1.000
0168	657.0350	Poles Type 10	EACH	2.000	2.000
0170	657.0352	Poles Type 10-Special	EACH	1.000	1.000
0172	657.0415	Traffic Signal Standards Aluminum 11-FT	EACH	1.000	1.000
0174	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	4.000	4.000
0176	657.0525	Monotube Arms 25-FT	EACH	1.000	1.000
0178	657.0530	Monotube Arms 30-FT	EACH	1.000	1.000
0180	657.0536	Monotube Arms 35-FT-Special	EACH	1.000	1.000
0182	657.0541	Monotube Arms 40-FT-Special	EACH	1.000	1.000
0184	657.0614	Luminaire Arms Single Member 4-Inch Clamp 8-FT	EACH	1.000	1.000
0186	657.0808	Luminaire Arms Steel 8-FT	EACH	3.000	3.000
0188	658.0173	Traffic Signal Face 3S 12-Inch	EACH	11.000	11.000
0190	658.0174	Traffic Signal Face 4S 12-Inch	EACH	6.000	6.000
0192	658.0175	Traffic Signal Face 5S 12-Inch	EACH	4.000	4.000
0194	658.0416	Pedestrian Signal Face 16-Inch	EACH	12.000	12.000
0196	658.5070	Signal Mounting Hardware (location) 01. Gammon Road & Watts Road	EACH	1.000	1.000
0198	659.1125	Luminaires Utility LED C	EACH	8.000	8.000
0200	661.0201	Temporary Traffic Signals for Intersections (location) 01. Gammon Road & Watts Road	EACH	1.000	1.000

5992-07-19

Line	Item	Item Description	Unit	Total	Qty
0202	690.0150	Sawing Asphalt	LF	790.000	790.000
0204	690.0250	Sawing Concrete	LF	90.000	90.000
0206	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0208	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	200.000	200.000
0210	SPV.0060	Special 01. Manhole Covers Type "J" Special	EACH	1.000	1.000
0212	SPV.0060	Special 02. Electrical Pull Box Type V	EACH	3.000	3.000
0214	SPV.0060	Special 03. Concrete Bases Type "G"	EACH	2.000	2.000
0216	SPV.0060	Special 04. Concrete Bases Type "LB-3"	EACH	1.000	1.000
0218	SPV.0060	Special 05. Retroreflective Backplates 3S	EACH	11.000	11.000
0220	SPV.0060	Special 06. Retroreflective Backplates 4S	EACH	6.000	6.000
0222	SPV.0060	Special 07. Retroreflective Backplates 5S	EACH	4.000	4.000
0224	SPV.0060	Special 08. Removing Traffic Signal - Gammon Rd & Watts Rd	EACH	1.000	1.000
0226	SPV.0060	Special 09. Audible-Tactile Pedestrian Push Button Unit	EACH	1.000	1.000
0228	SPV.0060	Special 10. NEMA TS2 Type 1 Traffic Signal Control Cabinet	EACH	1.000	1.000
0230	SPV.0060	Special 11. Video Detection System	EACH	1.000	1.000
0232	SPV.0060	Special 12. Optical Signal Preempt	EACH	1.000	1.000
0234	SPV.0090	Special 01. Marking Crosswalk Epoxy Ladder Pattern 18-Inch	LF	480.000	480.000
0236	SPV.0090	Special 02. Concrete Curb & Gutter 18-Inch Type D HES	LF	290.000	290.000
0238	SPV.0090	Special 03. Concrete Curb & Gutter 30-Inch Type D HES	LF	165.000	165.000
0240	SPV.0090	Special 04. Concrete Curb Pedestrian HES	LF	30.000	30.000
0242	SPV.0165	Special 01. Concrete Sidewalk 5-Inch HES	SF	1,420.000	1,420.000

REMOVALS

CATEGORY	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	205.0100 EXCAVATION COMMON CY	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF	COMMENTS
0010	SOUTH MEDIAN	137	260	8	82	310	5	
	SW QUADRANT	9	40	27	7	50	15	
	SE QUADRANT	9	40	27	7	50	25	
	EAST MEDIAN	7	25	4	7	55	10	
	NW QUADRANT	9	40	21	7	55	15	
	NE QUADRANT	10	45	33	8	35	15	
	NORTH MEDIAN	109	180	3	63	235	5	
	TOTAL	**290**	**630**	**123**	**180**	**790**	**90**	

BASE AGGREGATE SUMMARY

CATEGORY	LOCATION	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	COMMENTS
0010	SOUTH MEDIAN	174	
	SW QUADRANT	17	
	SE QUADRANT	17	
	EAST MEDIAN	16	
	NW QUADRANT	17	
	NE QUADRANT	19	
	NORTH MEDIAN	133	
	TOTAL	**394**	

ASPHALT PAVEMENT SUMMARY

CATEGORY	LOCATION	AREA SY	LOWER LAYER DEPTH IN	UPPER LAYER DEPTH IN	455.0605 TACK COAT GAL	460.7423 HMA PAVEMENT 3 HT 58-28 H TON	460.7424 HMA PAVEMENT 4 HT 58-28 H TON	213.0100 FINISHING ROADWAY (PROJECT) 5992-07-19 EACH	COMMENTS
0010	SOUTH MEDIAN	193	4.00	1.75	9.7	19	43	--	
	SW QUADRANT	18	4.00	1.75	0.9	2	6	--	
	SE QUADRANT	18	4.00	1.75	0.9	2	6	--	
	EAST MEDIAN	16	4.00	1.75	0.8	2	5	--	
	NW QUADRANT	18	4.00	1.75	0.9	2	6	--	
	NE QUADRANT	20	4.00	1.75	1.0	2	6	--	
	NORTH MEDIAN	149	4.00	1.75	7.5	15	48	--	
	UNDISTRIBUTED	--	--	--	--	--	--	1	
	TOTAL				**21.7**	**44**	**120**	**1**	

CURB & GUTTER

CATEGORY	LOCATION	SPV.0090.02 CONCRETE CURB & GUTTER 18-INCH TYPE D HES LF	SPV.0090.03 CONCRETE CURB & GUTTER 30-INCH TYPE D HES LF	SPV.0090.04 CONCRETE CURB PEDESTRIAN HES LF	COMMENTS
0010	SOUTH MEDIAN	95	--	--	
	SOUTH PEDESTRIAN ISLAND	75	--	12	
	SW QUADRANT	--	40	--	
	SE QUADRANT	--	40	5	
	NW QUADRANT	--	40	--	
	NE QUADRANT	--	45	--	
	NORTH MEDIAN	60	--	--	
	NORTH PEDESTRIAN ISLAND	60	--	13	
	TOTAL	**290**	**165**	**30**	

3

STORM SEWER PIPE SCHEDULE

CATEGORY	FROM	-	TO	LOCATION	INLET ELEV.	OUTLET ELEV.	204.0245 REMOVING STORM SEWER (SIZE) 01. 15-INCH LF	204.0245 REMOVING STORM SEWER (SIZE) 02. 18-INCH LF	520.8000 CONCRETE COLLARS FOR PIPE EACH	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH LF	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	COMMENTS
0010	EXIST		2.1	SOUTH MEDIAN	EXIST	1078.87	8	--	1	8	--	RECONNECT AT EXISTING BELL IF POSSIBLE
	2.1		EXIST	SOUTH MEDIAN	1078.63	EXIST	--	4	1	--	4	RECONNECT AT EXISTING BELL IF POSSIBLE
				TOTAL			8	4	2	8	4	

STORM SEWER STRUCTURE SCHEDULE

CATEGORY	STRUCTURE	STATION	OFFSET	CASTING HEIGHT INCHES	ADJUSTING RINGS HEIGHT INCHES	RIM ELEVATION	TOP OF STRUCTURE ELEVATION	BOTTOM OF STRUCTURE ELEVATION	DEPTH OF STRUCTURE FT	204.0220 REMOVING INLETS EACH	611.2004 MANHOLES 4-FT DIAMETER EACH	SPV.0060.01 MANHOLE COVERS TYPE J SPECIAL EAC	COMMENTS
0010	2.1	13+12	16' LT	9	6	1084.20	1082.95	1078.63	4.32	1	1	1	SOUTHEAST INVERT ELEV 1078.87
								TOTAL		1	1	1	

CONCRETE SIDEWALK

CATEGORY	LOCATION	SPV.0165.01 CONCRETE SIDEWALK 5-INCH HES SF	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA SF	COMMENTS
0010	SOUTH PEDESTRIAN ISLAND	210	20	
	SW QUADRANT	240	20	
	SE QUADRANT	265	20	
	NW QUADRANT	225	20	
	NE QUADRANT	305	20	
	NORTH PEDESTRIAN ISLAND	175	20	
	TOTAL	1,420	120	

CONCRETE MEDIAN NOSE ITEMS

CATEGORY	LOCATION	620.0300 CONCRETE MEDIAN SLOPED NOSE SF	COMMENTS
0010	SOUTH MEDIAN	60	TYPE 1
	SOUTH PEDESTRIAN ISLAND	40	TYPE 1
	SOUTH PEDESTRIAN ISLAND	30	TYPE 2
	EAST MEDIAN	40	TYPE 1
	NORTH PEDESTRIAN ISLAND	30	TYPE 2
	NORTH PEDESTRIAN ISLAND	40	TYPE 1
	NORTH MEDIAN	60	TYPE 1
	TOTAL	300	

PERMANENT SIGNING

CATEGORY	LOCATION	SIGN NO	SIGN CODE	SIZE	MESSAGE	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING SF	638.2102 MOVING SIGNS TYPE II EACH	COMMENTS
0010	SB-10	1	R1-1F	30" X 30"	STOP (FOLDING)	5.18	--	
	SB-11	2	R1-1F	30" X 30"	STOP (FOLDING)	5.18	--	
	SB-11	M-01	R4-7	--	KEEP RIGHT	--	1	
	SB-11	M-02	R3-4	--	NO U-TURNS	--	1	
	SB-11	M-03	R4-7	--	KEEP RIGHT	--	1	
	SB-12	M-04	--	--	WATTS RD	--	1	
	SB-12	M-05	--	--	NO TURN ON RED 3-6 PM	--	1	
	SB-1	3	R1-1F	30" X 30"	STOP (FOLDING)	5.18	--	
	SB-2	4	R1-1F	30" X 30"	STOP (FOLDING)	5.18	--	
	SB-2	M-06	R4-7	--	KEEP RIGHT	--	1	
	SB-2	M-07	R3-4	--	NO U-TURNS	--	1	
	SB-2	M-08	R4-7	--	KEEP RIGHT	--	1	
	SB-3	M-09	--	--	S GAMMON RD	--	1	
	SB-4	5	R1-1F	30" X 30"	STOP (FOLDING)	5.18	--	
	SB-5	6	R1-1F	30" X 30"	STOP (FOLDING)	5.18	--	
	SB-5	M-10	R4-7	--	KEEP RIGHT	--	1	
	SB-5	M-11	R3-4	--	NO U-TURNS	--	1	
	SB-5	M-12	R4-7	--	KEEP RIGHT	--	1	
	SB-5	M-13	--	--	WATTS RD	--	1	
	SB-7	7	R1-1F	30" X 30"	STOP (FOLDING)	5.18	--	
	SB-8	8	R1-1F	30" X 30"	STOP (FOLDING)	5.18	--	
	SB-8	M-14	R4-7	--	KEEP RIGHT	--	1	
	SB-8	M-15	R3-4	--	NO U-TURNS	--	1	
	SB-8	M-16	R4-7	--	KEEP RIGHT	--	1	
	SB-9	M-17	--	--	S GAMMON RD	--	1	
					TOTAL	41.44	17	

WATER SUMMARY

CATEGORY	LOCATION	624.0100 WATER MGAL	COMMENTS
0010	UNDISTRIBUTED	6	
	TOTAL	6	

FIELD OFFICE

CATEGORY	PROJECT	642.5201 FIELD OFFICE TYPE C EACH	COMMENTS
0010	5235-03-70	1	
	TOTAL	1	

EROSION CONTROL SUMMARY

CATEGORY	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.7010 INLET PROTECTION TYPE B EACH	628.7020 INLET PROTECTION TYPE D EACH	COMMENTS
0010	10+26 - 18+07	1	2	160	3	14	
	TOTAL	1	2	160	3	14	

LANDSCAPING SUMMARY

CATEGORY	LOCATION	625.0500 SALVAGED TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB	630.0500 SEED WATER MGAL	COMMENTS
0010	10+26 - 18+07	160	0.10	3	13	
	TOTAL	160	0.10	3	13	

TRAFFIC CONTROL

CATEGORY	STAGE	DESCRIPTION	EST. SERVICE PERIOD DAYS	643.0300 TRAFFIC CONTROL DRUMS NO	643.0300 DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III NO	643.0420 DAYS	643.1070 TRAFFIC CONTROL CONES 42-INCH NO	643.1070 DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A NO	643.0705 DAYS	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C NO	643.0715 DAYS	643.0900 TRAFFIC CONTROL SIGNS NO	643.0900 DAYS	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II CYCLE	643.0920 EACH	643.1050 TRAFFIC CONTROL SIGNS PCMS NO	643.1050 DAYS	643.5000 TRAFFIC CONTROL EACH	COMMENTS
0010	PRE-1	PRE-WARN MESSAGE BOARDS	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4	56	--	
	1	MEDIAN WORK	45	--	--	2	90	40	1,800	4	180	--	--	--	--	1	1	--	--	0.2	
		SDD 15C05	45	--	--	--	--	--	--	--	--	--	--	4	180	--	--	--	--	--	
		SDD 15D50 DETAIL A	45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2A	QUADRANT WORK	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2	
		LANE CLOSURE	10	30	300	2	20	--	--	2	20	7	70	5	50	--	--	--	--	--	
		PEDESTRIAN DETOUR	10	--	--	--	--	--	--	--	--	--	--	12	120	--	--	--	--	--	
	2B	QUADRANT WORK	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2	
		LANE CLOSURE	10	20	200	1	--	--	--	2	20	--	--	2	20	--	--	--	--	--	
		PEDESTRIAN DETOUR	10	--	--	--	--	--	--	--	--	--	--	10	100	--	--	--	--	--	
	2C	QUADRANT WORK	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2	
		SHOULDER CLOSURE	10	20	200	--	--	--	--	--	--	--	--	4	40	--	--	--	--	--	
		PEDESTRIAN DETOUR	10	--	--	--	--	--	--	--	--	--	--	14	140	--	--	--	--	--	
	2D	QUADRANT WORK	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2	
		SHOULDER CLOSURE	10	20	200	--	--	--	--	--	--	--	--	4	40	--	--	--	--	--	
		PEDESTRIAN DETOUR	10	--	--	--	--	--	--	--	--	--	--	12	120	--	--	--	--	--	
		TOTAL			900		110	40	1,800		220		70		810		1		56	1	

TRAFFIC CONTROL (CONTINUED)

CATEGORY	STAGE	DESCRIPTION	EST. SERVICE PERIOD DAYS	646.9000 MARKING REMOVAL LINE 4-INCH LF	646.9100 MARKING REMOVAL LINE 8-INCH LF	646.9200 MARKING REMOVAL LINE WIDE LF	646.9300 MARKING REMOVAL SPECIAL MARKING EACH	643.3150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) LF	644.1430 TEMPORARY PEDESTRIAN SURFACE PLATE SF	644.1601 TEMPORARY PEDESTRIAN CURB RAMP NO.	644.1601 EACH	644.1605 TEMPORARY PEDESTRIAN DETECTABLE WARNING FIELD SF	644.1810 TEMPORARY PEDESTRIAN BARRICADE LF	643.3180 TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH (WHITE) LF	643.3250 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE) LF	643.3550 TEMPORARY MARKING ARROW REMOVABLE TAPE EACH	643.3970 TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH LF	COMMENTS
0010	PRE-1	PRE-WARN MESSAGE BOARDS	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	1	MEDIAN WORK	45	1005	645	--	6	1,565	--	--	--	--	--	435	475	4	40	
		SDD 15C05	45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		SDD 15D50 DETAIL A	45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2A	QUADRANT WORK	10	310	10	135	--	--	--	--	--	--	36	--	--	--	--	
		SDD 15D28	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		PEDESTRIAN DETOUR	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2B	QUADRANT WORK	10	--	--	--	--	--	--	--	--	--	36	--	--	--	--	
		SDD 15D28	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		PEDESTRIAN DETOUR	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	2C	QUADRANT WORK	10	--	--	--	--	--	--	--	--	--	36	--	--	--	--	
		SDD 15D28	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		PEDESTRIAN DETOUR	10	--	--	--	--	--	50	2	20	20	24	--	--	--	--	
	2D	QUADRANT WORK	10	--	--	--	--	--	--	--	--	--	36	--	--	--	--	
		SDD 15D28	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		PEDESTRIAN DETOUR	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		TOTAL		1,315	655	135	6	1,565	50		20	20	168	435	475	4	40	

3

PAVEMENT MARKING SUMMARY

CATEGORY	STATION		STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH (WHITE) LF	646.1020 MARKING LINE EPOXY 4-INCH (YELLOW) LF	646.3020 MARKING LINE EPOXY 8-INCH (WHITE) LF	646.5020 MARKING ARROW EPOXY EACH	646.5120 MARKING WORD EPOXY EACH	646.5220 MARKING SYMBOL EPOXY (BIKE) EACH	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	SPV.0090.01 MARKING CROSSWALK EPOXY LADDER PATTERN 18-INCH LF	646.8120 MARKING CURB EPOXY (YELLOW) LF	646.8220 MARKING ISLAND NOSE EPOXY (YELLOW) EACH	COMMENTS
0010		-		SOUTH MEDIAN	--	195	--	1	1	--	--	--	--	1	
		-		SOUTH PEDESTRIAN ISLAND	--	--	140	--	--	--	--	--	70	2	
		-		SOUTH CROSSWALK	--	--	--	--	--	--	51	120	--	--	
		-		WEST CROSSWALK	--	--	--	--	--	--	--	114	--	--	
		-		EAST CROSSWALK	--	--	10	--	--	--	36	114	--	--	
		-		EAST MEDIAN	--	--	--	--	--	--	--	--	--	1	
		-		NORTH CROSSWALK	--	--	--	--	--	--	47	132	--	--	
		-		NORTH PEDESTRIAN ISLAND	--	--	120	--	--	--	--	--	60	2	
		-		NORTH MEDIAN	--	140	--	2	1	--	--	--	--	1	
	10+26	-	13+50	GAMMON RD SB	325	--	--	--	--	1	--	--	--	--	
	13+50	-	18+07	GAMMON RD SB	100	--	400	--	--	--	--	--	--	--	
	10+26	-	13+50	GAMMON RD NB	100	--	--	--	--	--	--	--	--	--	
	13+50	-	18+07	GAMMON RD NB	285	--	--	--	--	--	--	--	--	--	
				TOTAL	1,145	670	3	2	1	134	480	130	7		

CONSTRUCTION STAKING SUMMARY

CATEGORY	STATION		STATION	HWY	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	650.8501 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 5992-07-19 EACH	650.9000 CONSTRUCTION STAKING CURB RAMPS EACH	650.9500 CONSTRUCTION STAKING SIDEWALK (PROJECT) 5992-07-19 EACH	650.9911 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 5992-07-19 EACH	COMMENTS
0010	10+26	-	18+07	GAMMON RD	1	485	1	12	1	1	
				TOTAL	1	485	1	12	1	1	

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CONDUIT

CATEGORY	FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0615 CONDUIT SPECIAL 3-INCH LF	COMMENTS
0010	PB-1	SB-3	5	--	
	PB-2	PB-3	--	75	
	PB-2	EXISTING	15	--	TO PB-1
	PB-2	EXISTING	15	--	TO SB-4
	SB-5	PB-2	10	--	
	PB-3	EXISTING	15	--	TO SB-8
	SB-6	PB-3	40	--	
	SB-7	PB-3	15	--	
	SB-9	PB-4	10	--	
	SB-10	EXISTING	5	--	TO PB-4
	PB-6	EXISTING	15	--	TO PB-5
	PB-6	EXISTING	10	--	TO CABINET
	SB-11	PB-6	10	--	
	SB-12	EXISTING	20	--	TO SB-1
	TOTAL		185	75	

PULL BOXES

CATEGORY	LOCATION	SPV.0060.02 ELECTRICAL PULL BOXES TYPE V EACH	COMMENTS
0010	PB-2	1	
	PB-3	1	
	PB-6	1	
	TOTAL	3	

TRAFFIC SIGNAL CABLE

CATEGORY	FROM	TO	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG LF	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG LF	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG LF	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG LF	COMMENTS
0010	CABINET	SB-1	--	40	--	--	
	SB-1	HEAD 13	15	--	--	--	
	SB-1	HEAD 95	10	--	--	--	
	CABINET	SB-3	--	--	140	--	
	SB-3	HEAD 18	--	40	--	--	
	SB-3	HEAD 19	40	--	--	--	
	SB-3	HEAD 20	40	--	--	--	
	SB-3	HEAD 86	10	--	--	--	
	CABINET	SB-4	--	--	--	155	
	SB-4	HEAD 6	15	--	--	--	
	SB-4	HEAD 7	--	15	--	--	
	SB-4	HEAD 93	10	--	--	--	
	SB-4	PED BUTTON	5	--	--	--	
	SB-4	PED BUTTON	5	--	--	--	
	CABINET	SB-5	--	--	--	225	
	SB-5	HEAD 3	45	--	--	--	
	SB-6	HEAD 4	45	--	--	--	
	SB-5	HEAD 5	15	--	--	--	
	SB-5	HEAD 87	10	--	--	--	
	SB-5	HEAD 88	10	--	--	--	
	SB-5	PED BUTTON	5	--	--	--	
	SB-5	PED BUTTON	5	--	--	--	
	CABINET	SB-6	--	--	355	--	
	SB-6	HEAD 2	45	--	--	--	
	SB-7	HEAD 89	10	--	--	--	
	SB-6	HEAD 92	10	--	--	--	
	SB-6	PED BUTTON	5	--	--	--	
	SB-6	PED BUTTON	5	--	--	--	
	CABINET	SB-7	--	345	--	--	
	SB-7	HEAD 17	--	15	--	--	
	CABINET	SB-8	270				
	SB-8	HEAD 21	15	--	--	--	
	CABINET	SB-9	--	245	--	--	
	SB-9	HEAD 14	45	--	--	--	
	SB-9	HEAD 15	45	--	--	--	
	SB-9	HEAD 16	45	--	--	--	
	SB-9	HEAD 91	10	--	--	--	
	CABINET	SB-10	--	--	--	195	
	SB-10	HEAD 1	15	--	--	--	
	SB-10	HEAD 12	15	--	--	--	
	SB-10	HEAD 96	10	--	--	--	
	SB-10	PED BUTTON	5	--	--	--	
	SB-10	PED BUTTON	5	--	--	--	
	CABINET	SB-11	--	--	135	--	
	SB-11	HEAD 11	15	--	--	--	
	SB-11	PED BUTTON	5	--	--	--	
	SB-11	PED BUTTON	5	--	--	--	
	CABINET	SB-12	--	--	60	--	
	SB-12	HEAD 8	--	45	--	--	
	SB-12	HEAD 9	45	--	--	--	
	SB-12	HEAD 10	45	--	--	--	
	SB-12	HEAD 94	10	--	--	--	
	SB-12	PED BUTTON	5	--	--	--	
	SB-12	PED BUTTON	5	--	--	--	
		TOTAL	975	745	690	575	

TRAFFIC SIGNAL STRUCTURES

CATEGORY	LOCATION	SPV.0060.03 CONCRETE BASES TYPE "G" EACH	SPV.0060.04 CONCRETE BASES TYPE "LB-3" EACH	657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11-1/2-INCH BOLT CIRCLE EACH	657.0315 POLES TYPE 4 EACH	657.0415 TRAFFIC SIGNAL STANDARDS ALUMINUM 11-FT EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0614 LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 8-FT EACH	COMMENTS
0010	SB-1	--	--	1	--	--	--	1	--	ON EXISTING BASE
	SB-2	--	--	1	--	--	1	--	--	ON EXISTING BASE
	SB-5	1	--	1	--	--	--	1	--	
	SB-8	--	--	1	--	--	--	1	--	ON EXISTING BASE
	SB-10	--	1	--	1	1	--	--	1	
	SB-11	1	--	1	--	--	--	1	--	
	TOTAL	2	1	5	1	1	1	4	1	

MONOTUBE STRUCTURES

CATEGORY	LOCATION	654.0110 CONCRETE BASES TYPE 10 EACH	654.0120 CONCRETE BASES TYPE 10 SPECIAL EACH	657.0347 POLES TYPE 9 SPECIAL EACH	657.0350 POLES TYPE 10 EACH	657.0352 POLES TYPE 10 SPECIAL EACH	657.0525 MONOTUBE ARMS 25-FT EACH	657.0530 MONOTUBE ARMS 30-FT EACH	657.0536 MONOTUBE ARMS 35-FT-SPECIAL EACH	657.0541 MONOTUBE ARMS 40-FT-SPECIAL EACH	657.0808 LUMINAIRE ARMS STEEL 8-FT EACH	COMMENTS
0010	SB-3	1	--	--	1	--	1	--	--	--	1	
	SB-5	--	1	1	--	--	--	--	1	--	--	
	SB-9	--	1	--	--	1	--	--	--	1	1	
	SB-12	1	--	--	1	--	--	1	--	--	1	
	TOTAL	2	2	1	2	1	1	1	1	1	3	

TRAFFIC SIGNAL AND LIGHTING HEADS

CATEGORY	LOCATION	658.0173 TRAFFIC SIGNAL FACE 3S 12-INCH EACH	658.0174 TRAFFIC SIGNAL 4S 12-INCH EACH	658.0175 TRAFFIC SIGNAL FACE 5S 12-INCH EACH	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH EACH	659.1125 LUMINAIRES UTILITY LED C EACH	SPV.0060.05 RETROREFLECTIVE BACKPLATES 3S EACH	SPV.0060.06 RETROREFLECTIVE BACKPLATES 4S EACH	SPV.0060.07 RETROREFLECTIVE BACKPLATES 5S EACH	COMMENTS
0010	SB-1	1	--	--	1	--	1	--	--	
	SB-3	1	1	1	1	1	1	1	1	
	SB-4	--	1	1	1	1	--	1	1	
	SB-5	2	1	--	2	--	2	1	--	
	SB-6	1	--	--	2	1	1	--	--	
	SB-7	--	--	1	--	1	--	--	1	
	SB-8	1	--	--	--	1	1	--	--	
	SB-9	2	1	--	1	1	2	1	--	
	SB-10	1	1	--	1	1	1	1	--	
	SB-11	--	1	--	2	--	--	1	--	
	SB-12	2	--	1	1	1	2	--	1	
	TOTAL	11	6	4	12	8	11	6	4	

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GROUNDING CONDUCTOR

655.0515
ELECTRICAL
WIRE TRAFFIC
SIGNALS 10 AWG

CATEGORY	FROM	TO	LF	COMMENTS
0010	CABINET	SB-1	40	
	CABINET	SB-2	55	
	SB-2	SB-3	75	
	SB-3	SB-4	55	
	SB-4	SB-5	145	
	SB-5	SB-6	150	
	SB-6	SB-7	55	
	SB-7	SB-8	105	
	SB-8	SB-9	75	
	SB-9	SB-10	100	
	SB-10	SB-11	120	
	SB-11	CABINET	125	
	CABINET	SB-12	155	
		TOTAL	1,255	

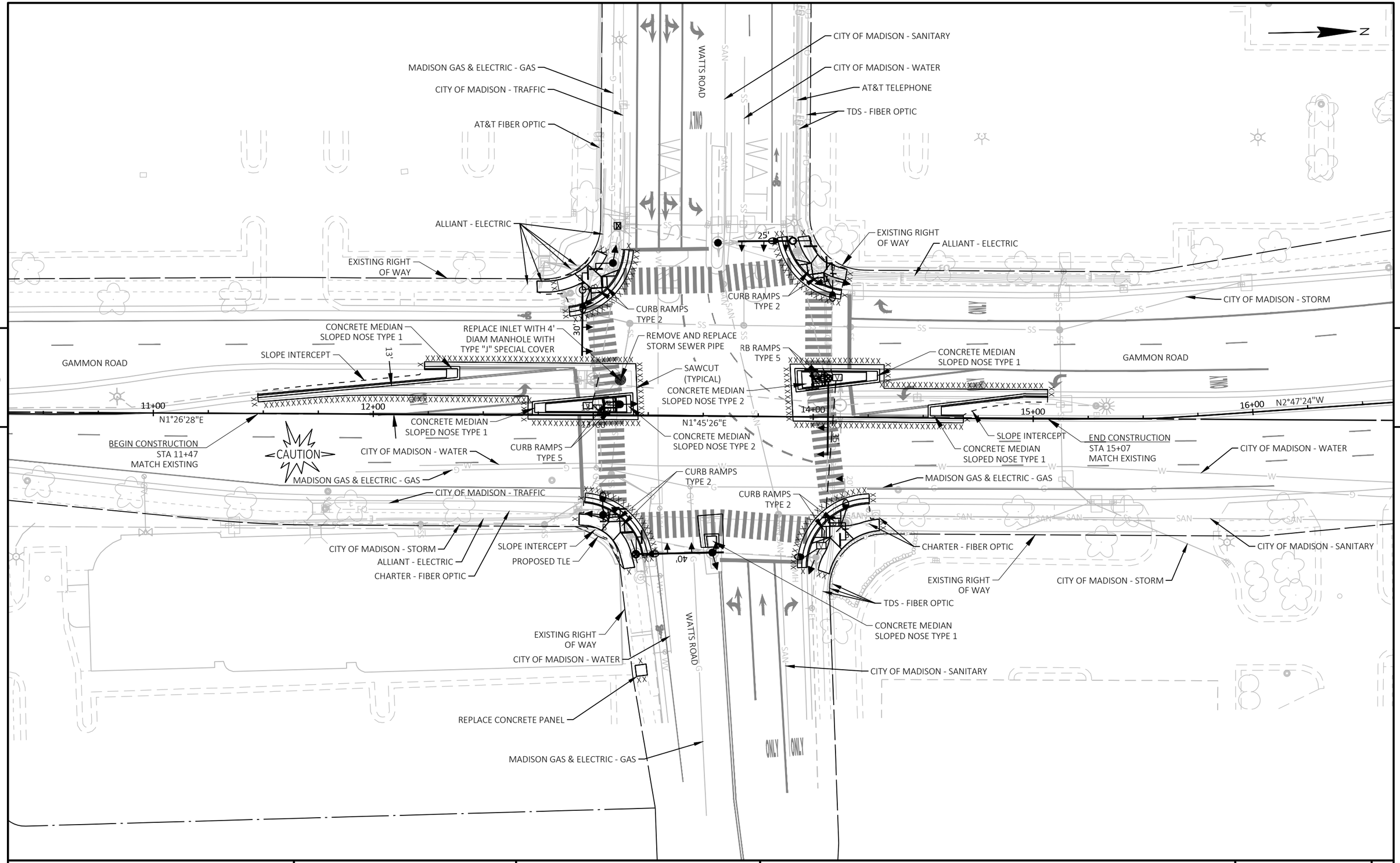
LIGHTING WIRE

655.0320
CABLE TYPE UF 2-10
AWG GROUNDED

CATEGORY	FROM	TO	LF	COMMENTS
0010	CABINET	SB-3	180	
	SB-3	SB-4	95	
	CABINET	SB-12	100	
	CABINET	SB-10	240	
	SB-10	SB-9	140	
	SB-9	SB-7	205	
	SB-7	SB-6	90	
		TOTAL	1,050	

TRAFFIC SIGNAL MISCELLANEOUS

CATEGORY	INTERSECTION	658.5070 SIGNAL MOUNTING HARDWARE (LOCATION) 01. GAMMON RD & WATTS RD EACH	661.0201 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 01. GAMMON RD & WATTS RD EACH	SPV.0060.08 REMOVING TRAFFIC SIGNAL - GAMMON RD & WATTS RD EACH	SPV.0060.09 AUDIBLE-TACTILE PEDESTRIAN PUSH BUTTON SYSTEM EACH	SPV.0060.10 NEMA TS2 TYPE 1 TRAFFIC SIGNAL CONTROL CABINET EACH	SPV.0060.11 VIDEO DETECTION SYSTEM EACH	SPV.0060.12 OPTICAL SIGNAL PREEMPT EACH	COMMENTS
0010	GAMMON RD & WATTS RD	1	1	1	1	1	1	1	
	TOTAL	1	1	1	1	1	1	1	

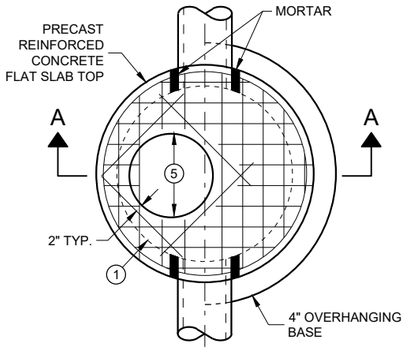


PROJECT NO: 5992-07-19	HWY: GAMMON ROAD	COUNTY: DANE	PLAN SHEETS	SHEET 46	E

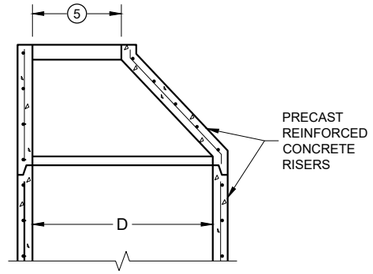
Standard Detail Drawing List

08B09-03	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-21A	CURB RAMPS TYPES 1 AND 1-A
08D05-21B	CURB RAMPS TYPES 2 AND 3
08D05-21C	CURB RAMPS TYPES 4A AND 4A1
08D05-21D	CURB RAMPS TYPE 4B AND 4B1
08D05-21E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-21F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-21G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-10	CONDUIT
09C03-04	TRANSFORMER/PEDESTAL BASES
09C11-10	CONCRETE BASE TYPE 10
09C15-01	CONCRETE BASE TYPE 10 SPECIAL
09E01-15C	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 4
09E01-15G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-06	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E08-09A	TYPE 9 POLE 15'-30' MONOTUBE ARM
09E08-09C	TYPE 9 SPECIAL POLE 40' MONOTUBE ARM
09E08-09D	TYPE 9 SPECIAL POLE 45' MONOTUBE ARM
09E08-09K	GENERAL NOTES,HARDWARE DETAILS FOR TYPE 9/10,9/10 SPECIAL,12 & 13 POLES W/MONOTUBE ARMS
09G01-04B	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04D	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04E	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04F	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04G	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
11B02-02	CONCRETE MEDIAN NOSE
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-15E	PAVEMENT MARKING FOR BIKE LANES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-23D	PAVEMENT MARKING (TURN LANES)
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C18-08A	MEDIAN ISLAND MARKING PAVEMENT MARKINGS
15C18-08B	MEDIAN ISLAND MARKING MEDIAN ISLAND NOSE
15C18-08C	MEDIAN PAVEMENT MARKINGS DOUBLE ARROW WARNING SIGN PLACEMENT
15D20-07B	TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY
15D21-07B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-09A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09B	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09K	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09L	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D50-03A	TRAFFIC CONTROL, ADDED LANE CLOSURE WITHOUT LANE SHIFT
15D50-03B	TRAFFIC CONTROL, ADDED LANE CLOSURE WITH LANE SHIFT

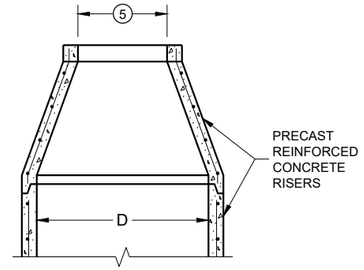
6



PLAN VIEW
CIRCULAR OPENING



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

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

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

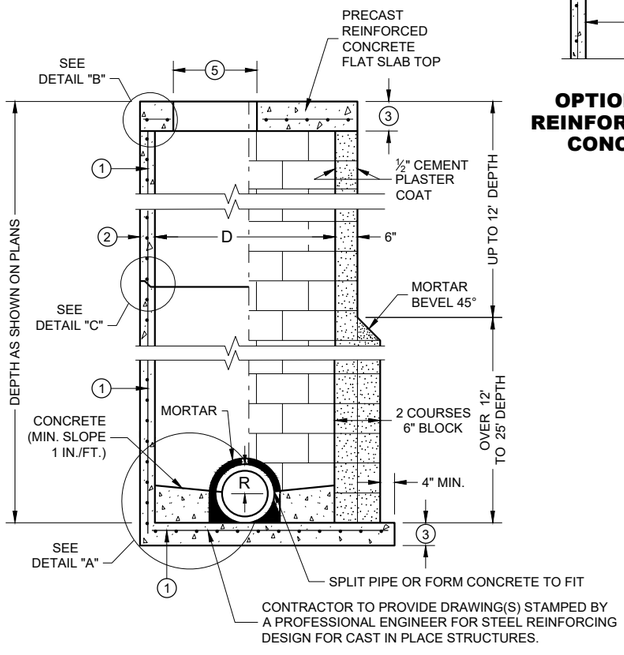
(1) FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

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

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

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

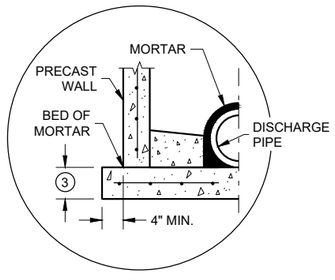
(5) SEE MANHOLE COVER OPENING MATRIX.



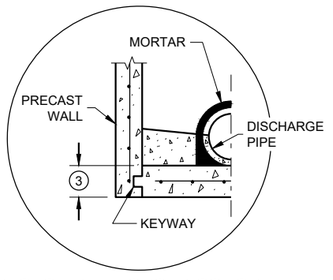
SECTION A - A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

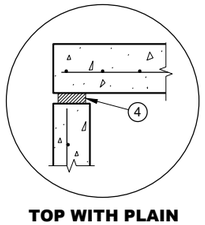


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

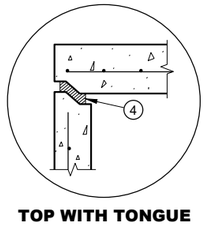


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

DETAIL "A"

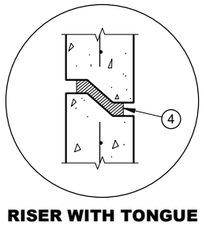


TOP WITH PLAIN END JOINT



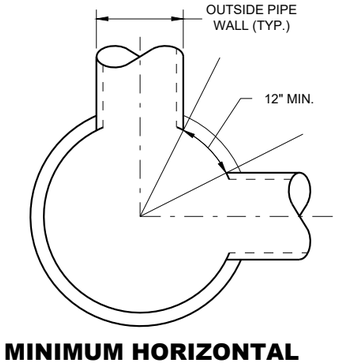
TOP WITH TONGUE AND GROOVE JOINT

DETAIL "B"



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "C"



MINIMUM HORIZONTAL PIPE SEPARATION

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

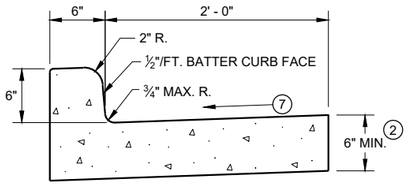
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

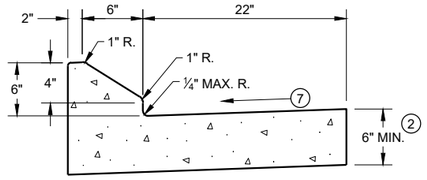
FHWA

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

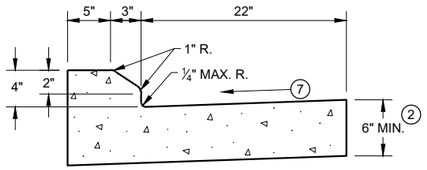
6
SDD 08B09 - 03



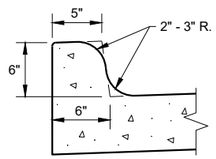
TYPES A (1) & D



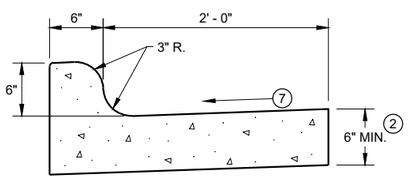
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

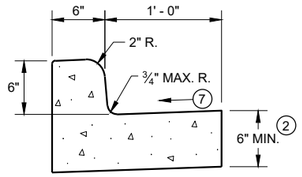


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



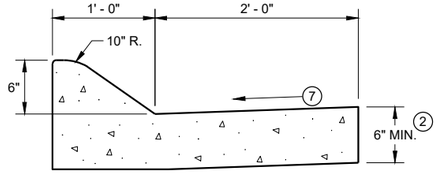
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

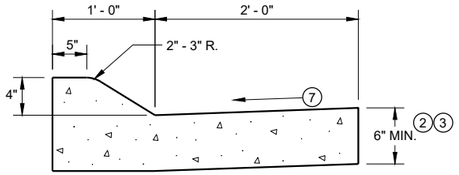


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

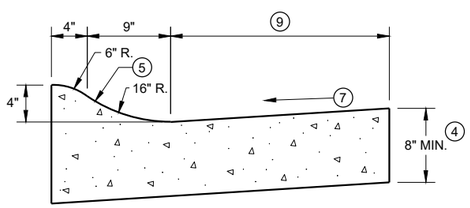


6" SLOPED CURB TYPES A (1) & D



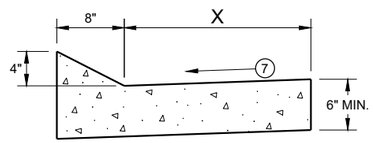
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

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

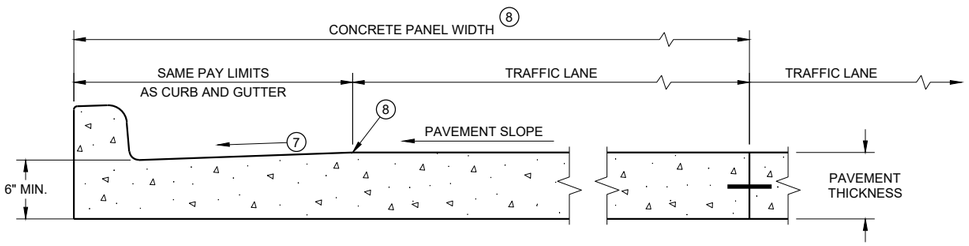


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

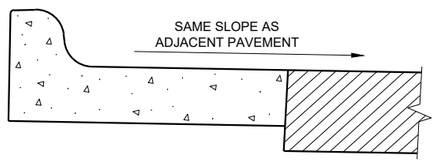
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

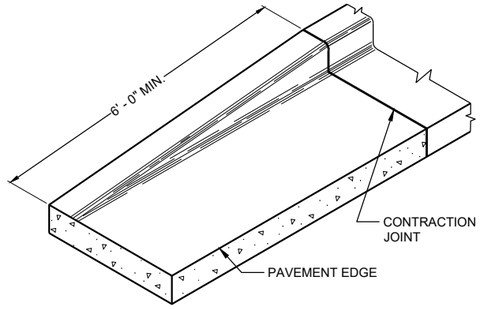
(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

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

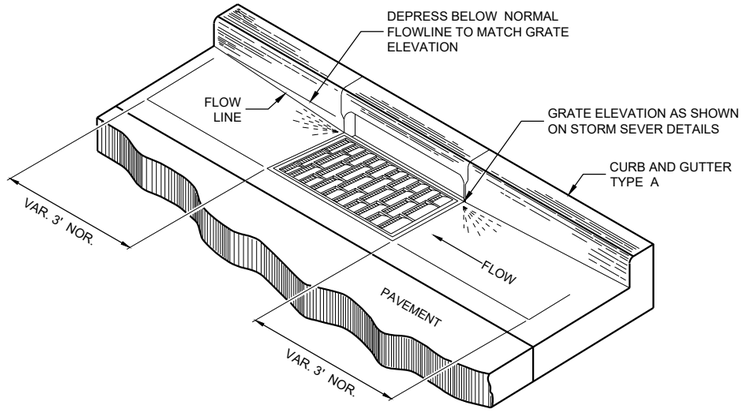
CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 08D01 - 23a



END SECTIONCURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

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

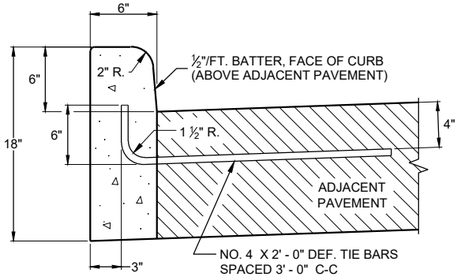
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

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

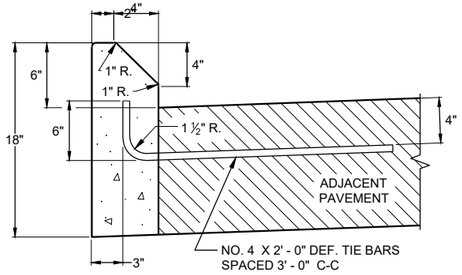
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

(11) PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

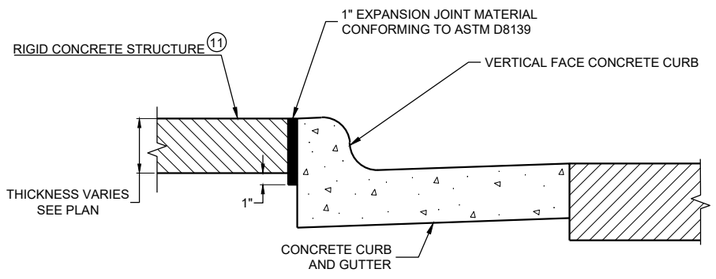


TYPES A (1) & D

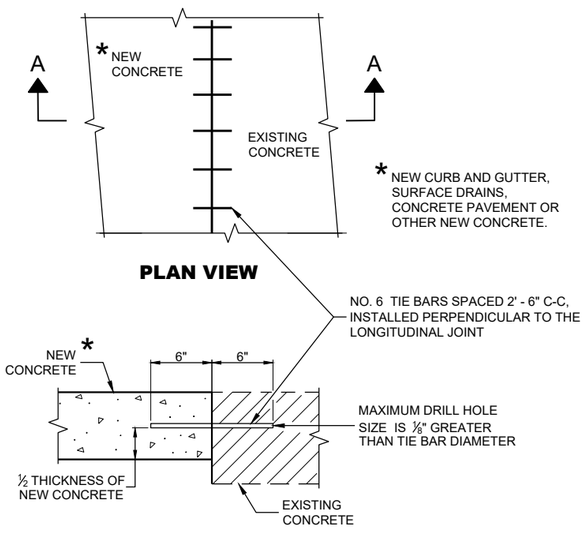


TYPES G (1) & J

CONCRETE CURB



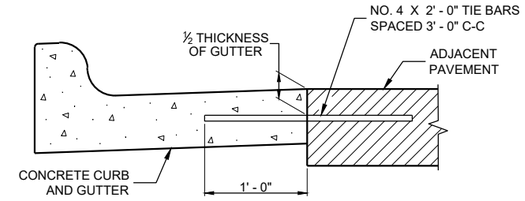
EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)



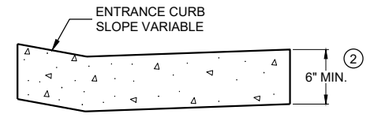
PLAN VIEW

SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (10)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

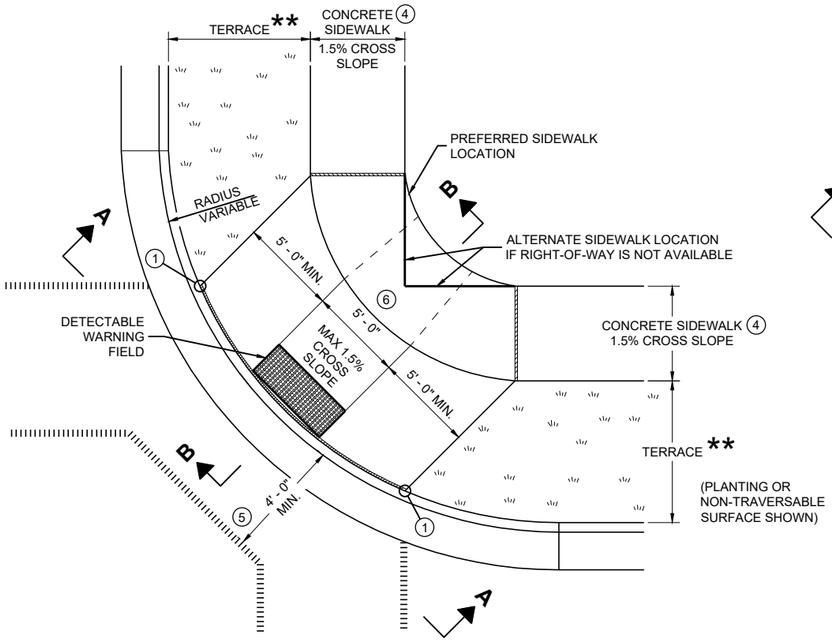
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

6

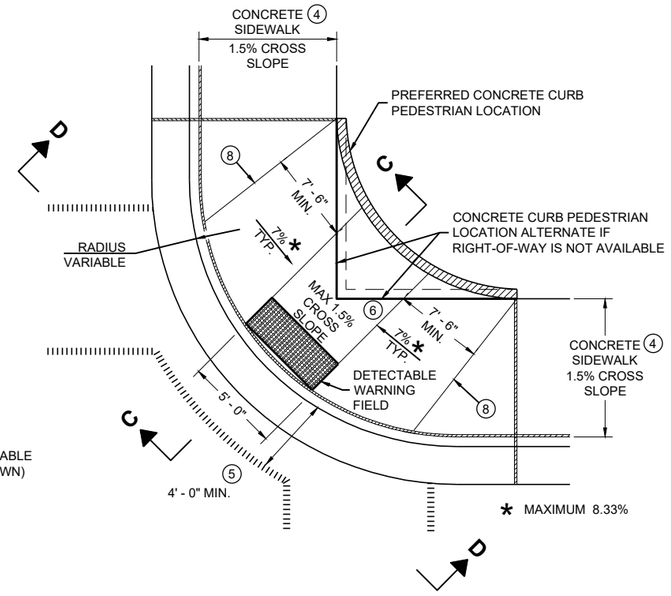
SDD08D01 - 23b



PLAN VIEW

CURB RAMP TYPE 1

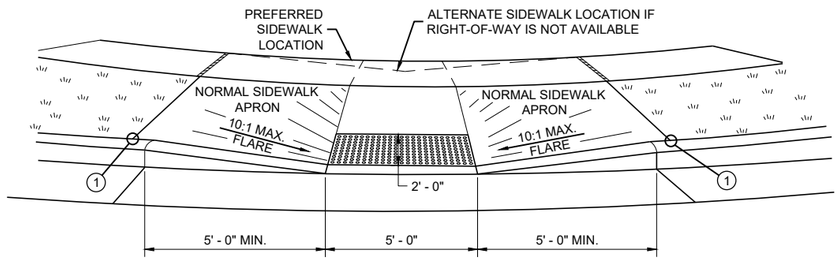
(CENTER OF CORNER RADIUS)



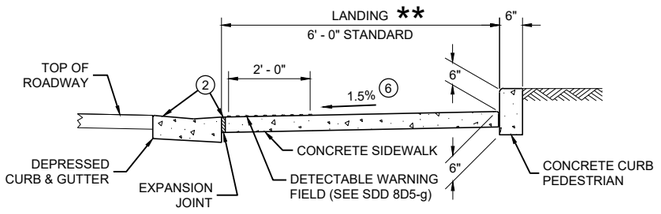
PLAN VIEW

CURB RAMP TYPE 1 - A

(NO TERRACE)

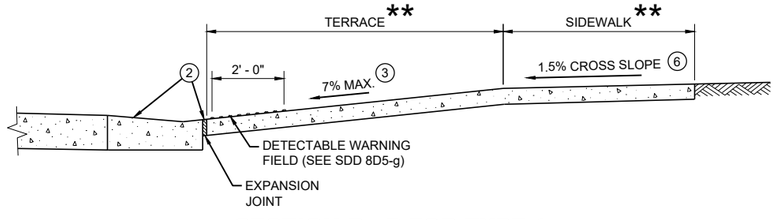


VIEW A - A FOR TYPE 1

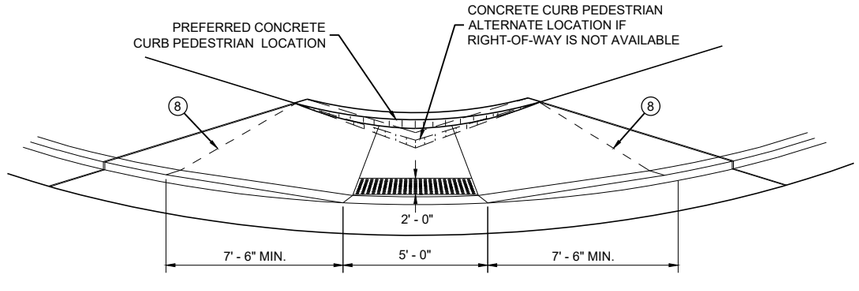


SECTION C - C FOR TYPE 1 - A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B - B FOR TYPE 1



VIEW D - D FOR TYPE 1 - A

GENERAL NOTES

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

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

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

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

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

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

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

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

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

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

(5) PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA. 4 FOOT WIDTH IS MEASURED FROM THE FLANGE LINE

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

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

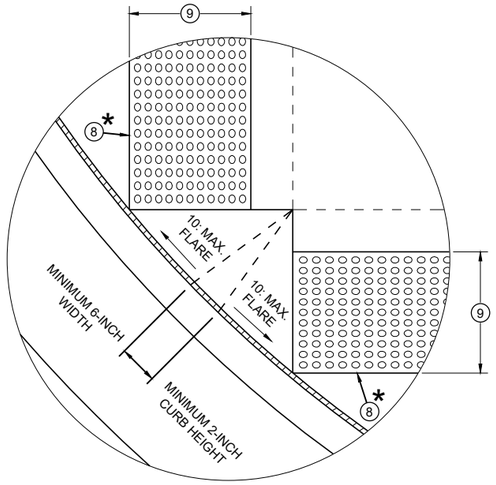
LEGEND

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

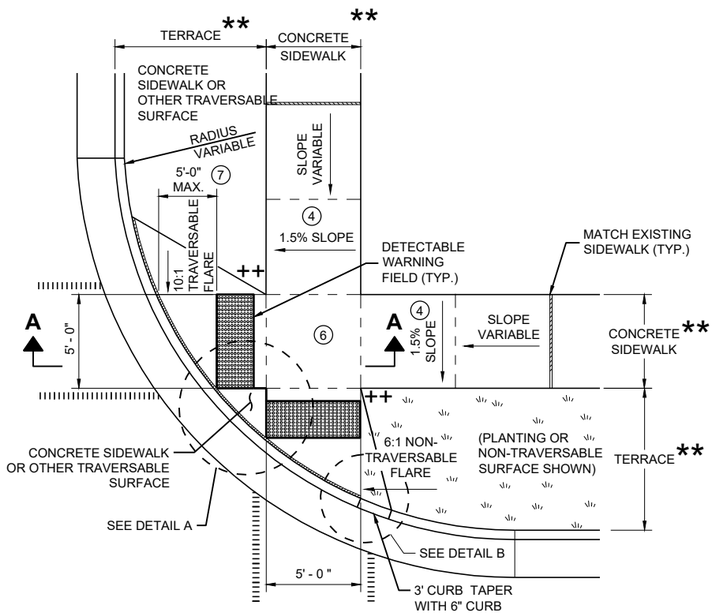
CURB RAMPS TYPE 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 08D05-21a



DETAIL A



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

GENERAL NOTES

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

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.

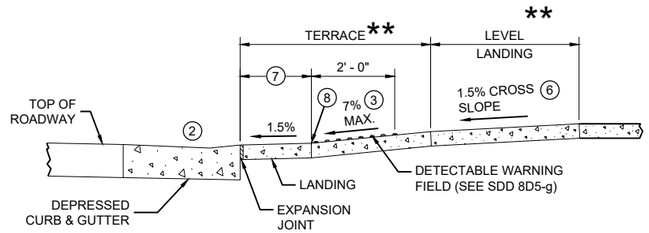
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

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

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

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

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

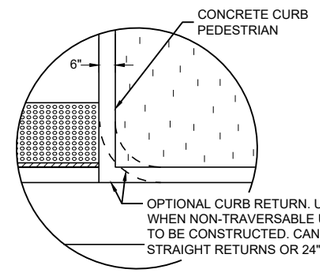


SECTION A - A FOR TYPE 2

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

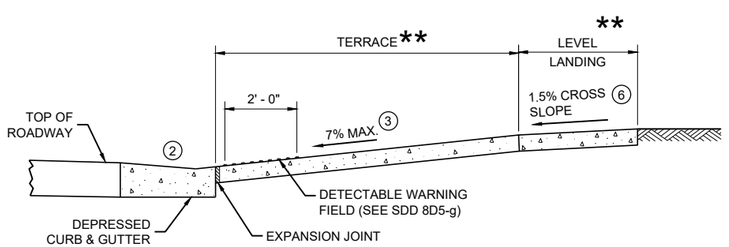
** WIDTH SHOWN ELSEWHERE IN THE PLANS

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

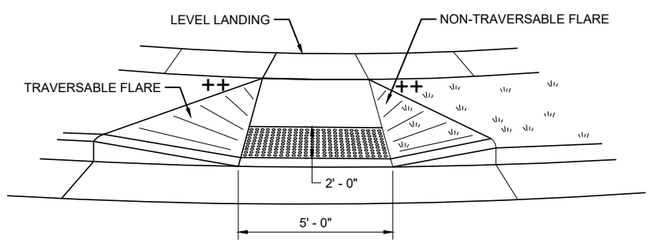


DETAIL B

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



SECTION B - B FOR TYPE 3



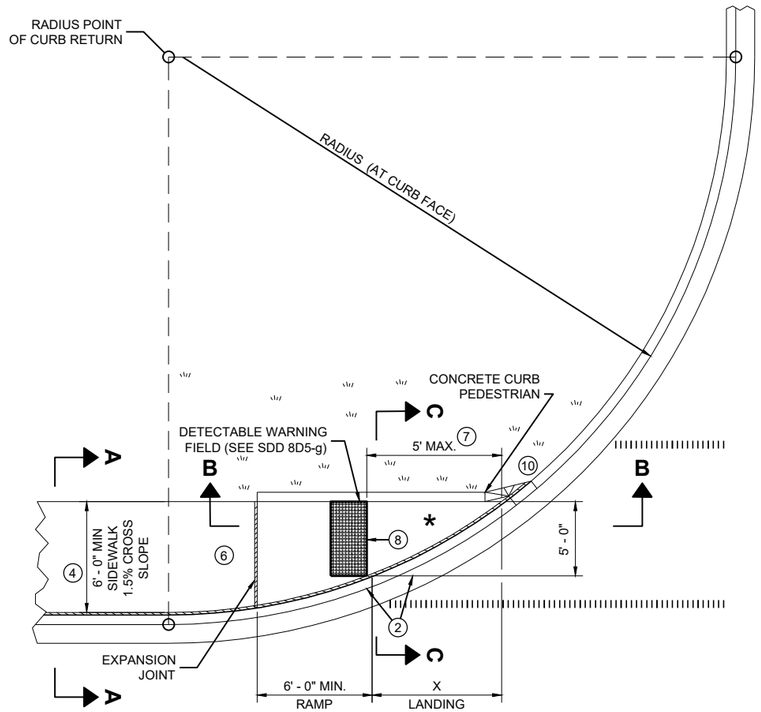
VIEW C - C FOR TYPE 3

LEGEND

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

CURB RAMPS TYPE 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

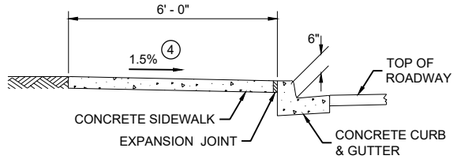


PLAN VIEW

CURB RAMP TYPE 4A

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

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A - A FOR TYPE 4A

GENERAL NOTES

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

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

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

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

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

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

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

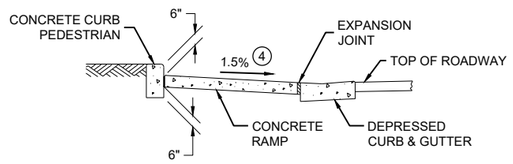
(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

LEGEND

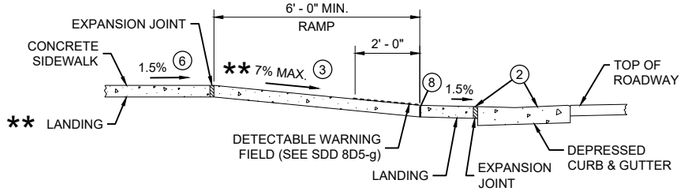
½" EXPANSION JOINT SIDEWALK

CONTRACTION JOINT SIDEWALK

PAVEMENT MARKING CROSSWALK (WHITE)

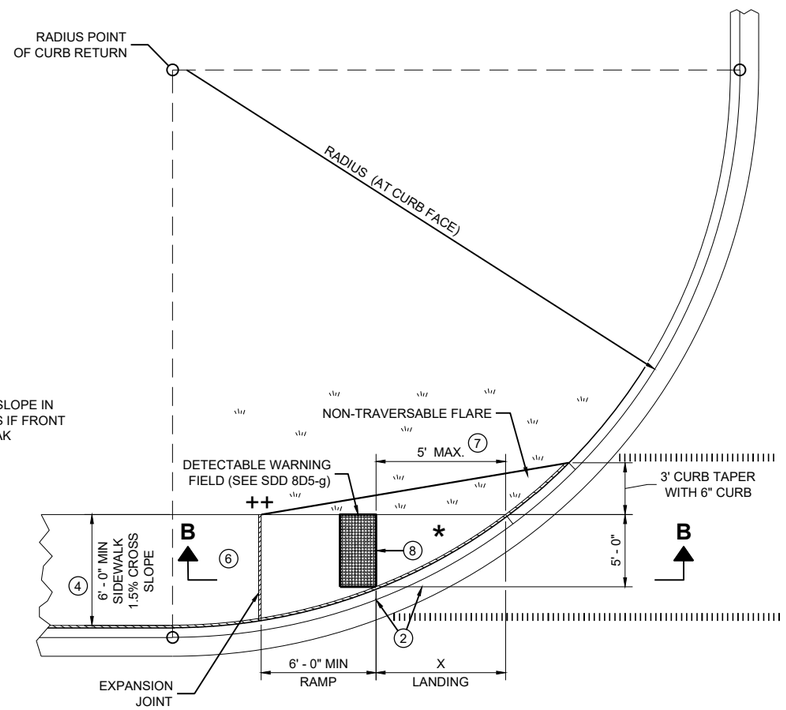


SECTION C - C FOR TYPE 4A



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

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

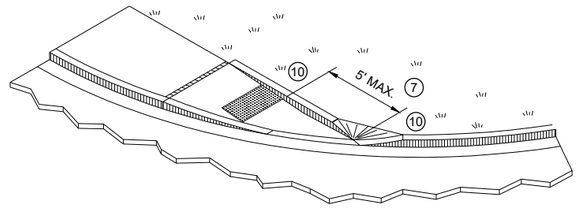


* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

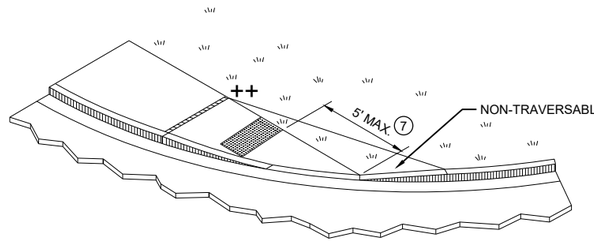
PLAN VIEW

CURB RAMP TYPE 4A1

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



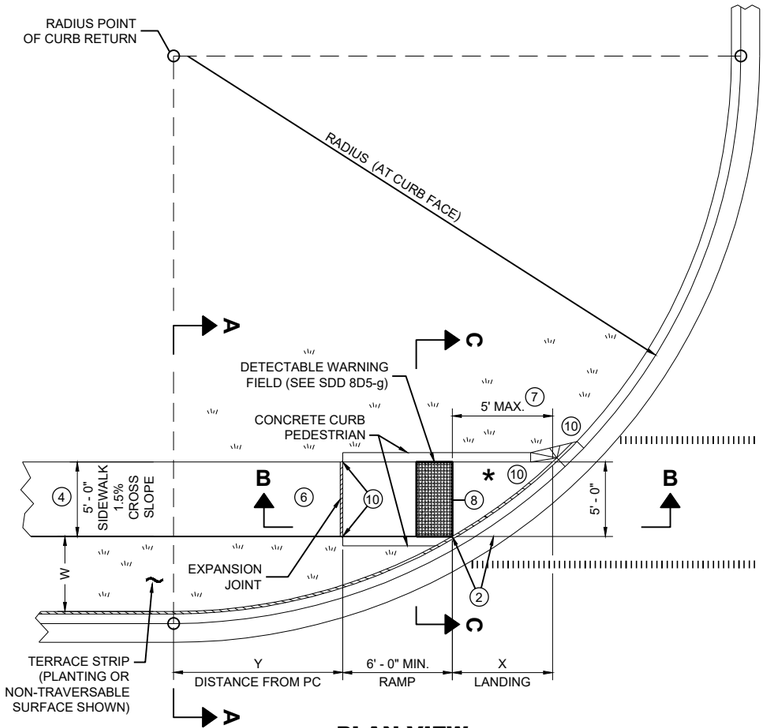
ISOMETRIC VIEW FOR TYPE 4A



ISOMETRIC VIEW FOR TYPE 4A1

CURB RAMPS
TYPE 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



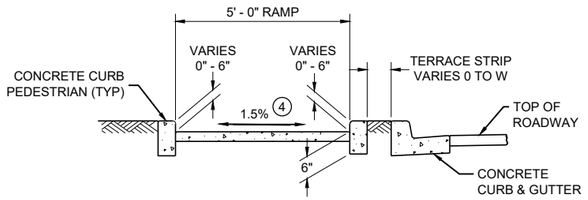
PLAN VIEW
CURB RAMP TYPE 4B

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

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

LEGEND

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



SECTION C - C FOR TYPE 4B

GENERAL NOTES

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

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

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

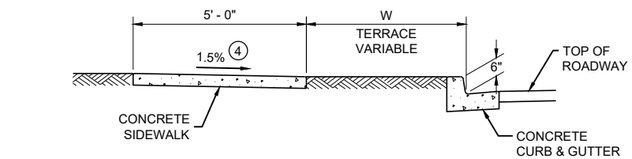
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

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

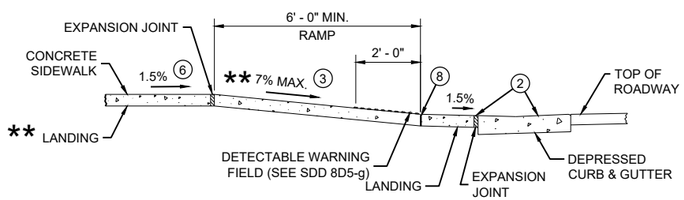
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

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

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

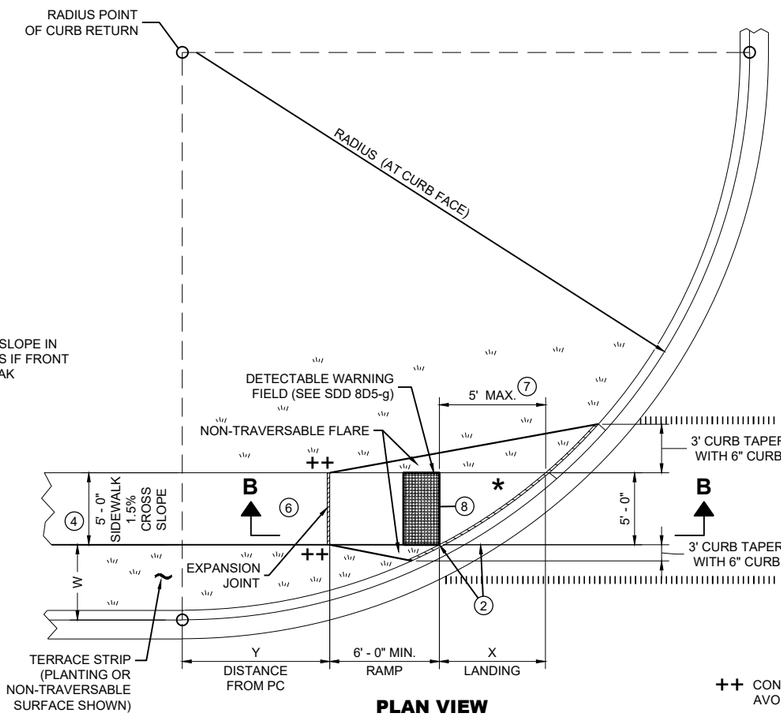


SECTION A - A FOR TYPE 4B



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

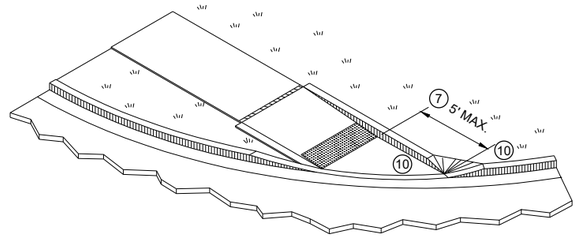
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED



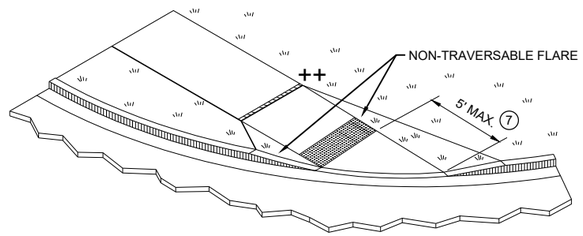
PLAN VIEW
CURB RAMP TYPE 4B1

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

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



ISOMETRIC VIEW FOR TYPE 4B



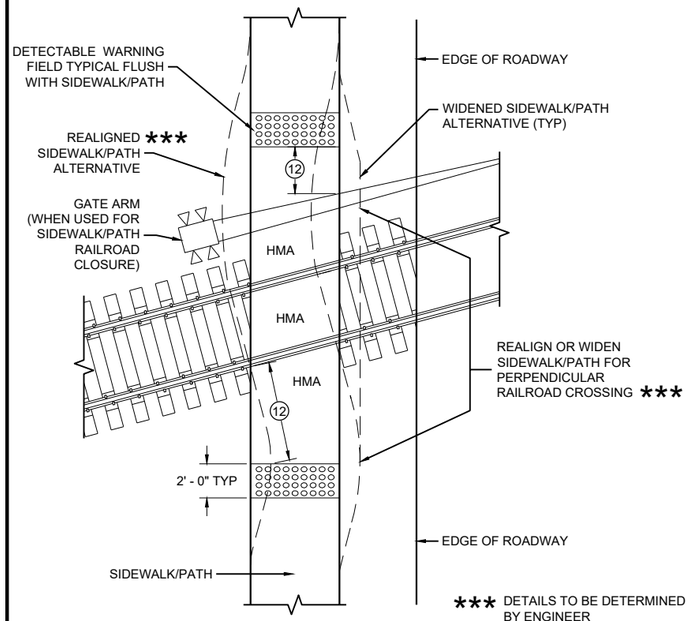
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS
TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

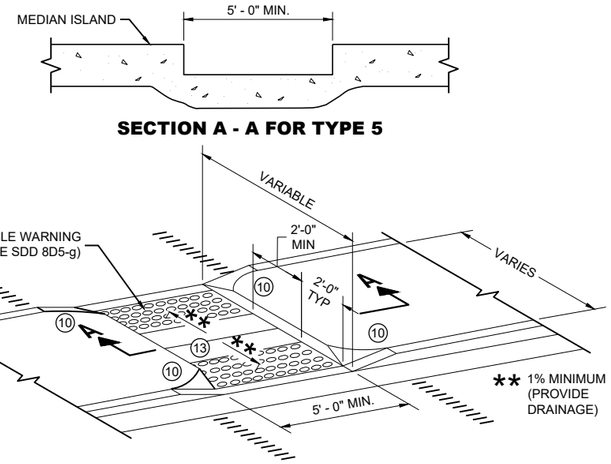
6

SDD 08D05-21d



CURB RAMP TYPE 8

DETECTABLE WARNINGS FOR SIDEWALKS OR SHARED USE PATHS AT RAILROAD CROSSINGS



SECTION A - A FOR TYPE 5

CURB RAMP TYPE 5

MEDIAN ISLAND NON-ELEVATED PEDESTRIAN CROSSING

GENERAL NOTES

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

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

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

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

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

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

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

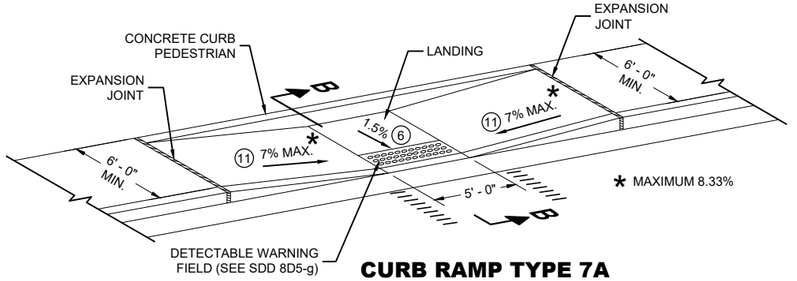
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ±0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK/PATH. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD TRACK IS 15 FEET MAXIMUM AND 12 FEET MINIMUM, 15 FEET TYPICAL FROM THE NEAREST RAIL.

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

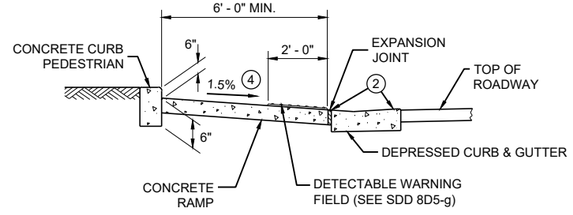
LEGEND

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

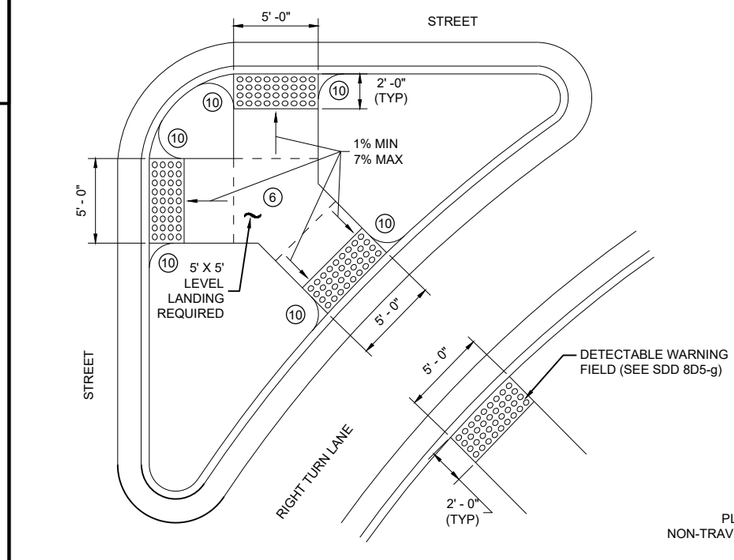


CURB RAMP TYPE 7A

FOR INTERSECTIONS AND MID BLOCK CROSSINGS



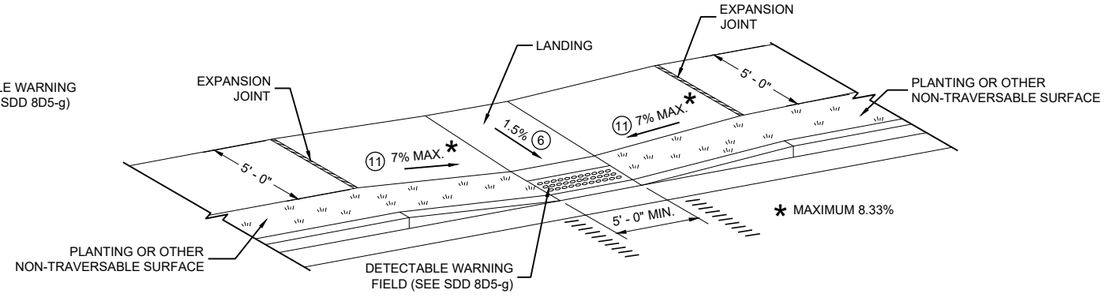
SECTION B - B FOR TYPE 7A



CURB RAMP TYPE 6

DETECTABLE WARNING AT ISLANDS

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



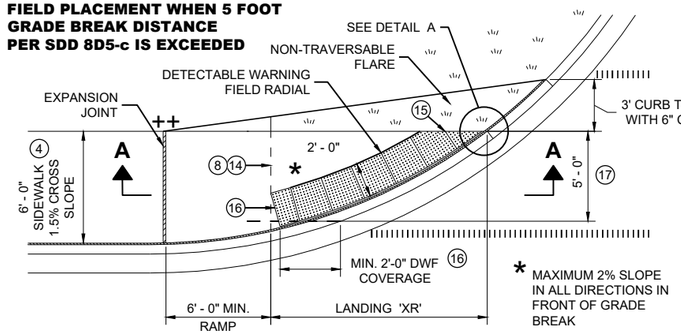
CURB RAMP TYPE 7B

FOR INTERSECTIONS AND MID BLOCK CROSSINGS

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

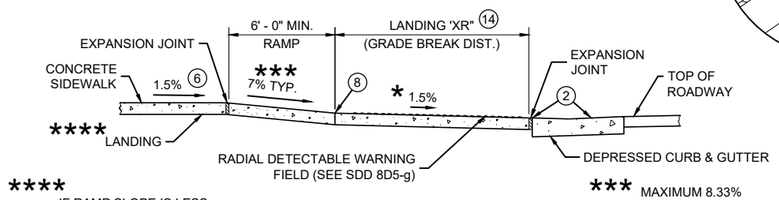
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW

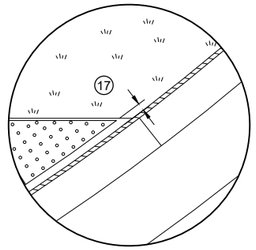
CURB RAMP TYPE 4A1
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



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

*** MAXIMUM 8.33%

SECTION A - A FOR TYPE 4A1



DETAIL A

LEGEND

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

GENERAL NOTES

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

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

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

APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.

REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

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

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

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

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

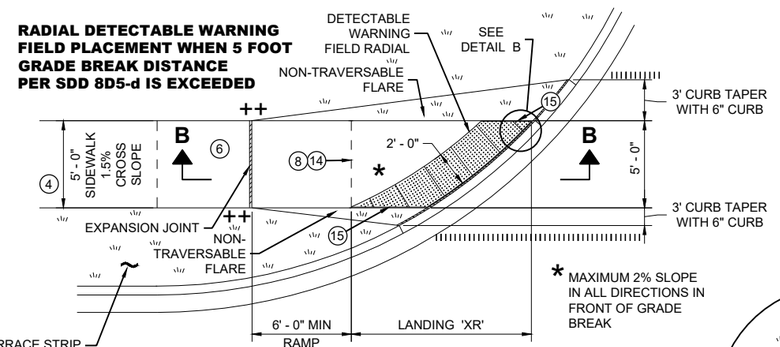
(14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.

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

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

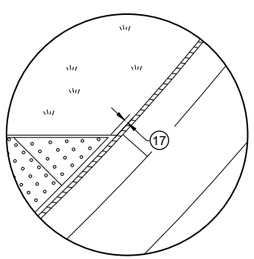
(17) A MAXIMUM 3 INCH CONCRETE BORDER WIDTH IS ALLOWABLE IN FRONT OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

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

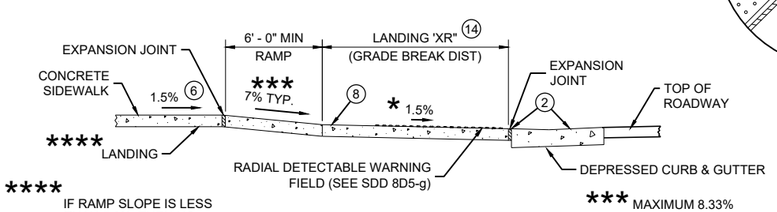


PLAN VIEW

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



DETAIL B

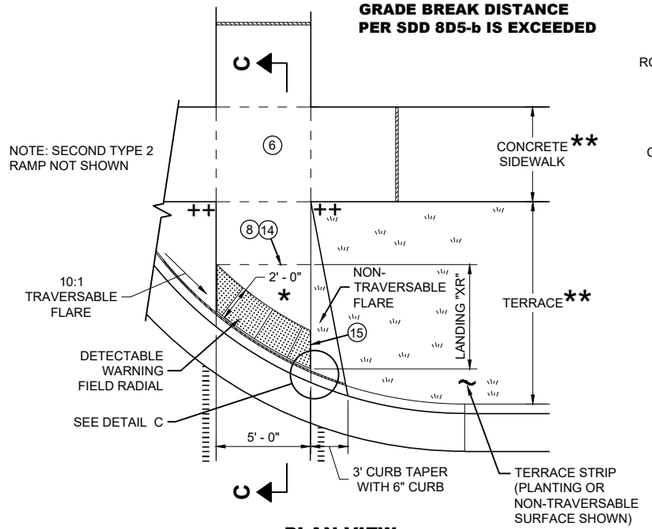


**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** MAXIMUM 8.33%

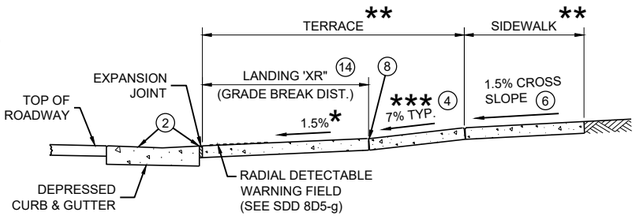
SECTION B - B FOR TYPE 4B1

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

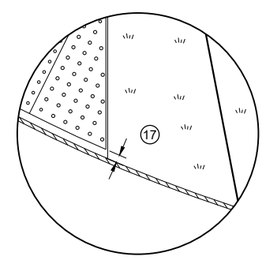


PLAN VIEW

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



SECTION C - C FOR TYPE 2



DETAIL C

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

** WIDTH SHOWN ELSEWHERE IN THE PLANS

*** MAXIMUM 8.33%

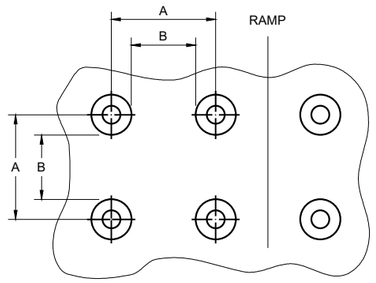
++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

CURB RAMPS
RADIAL DETECTABLE WARNING

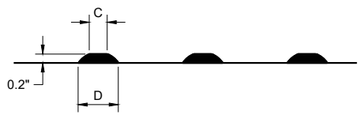
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

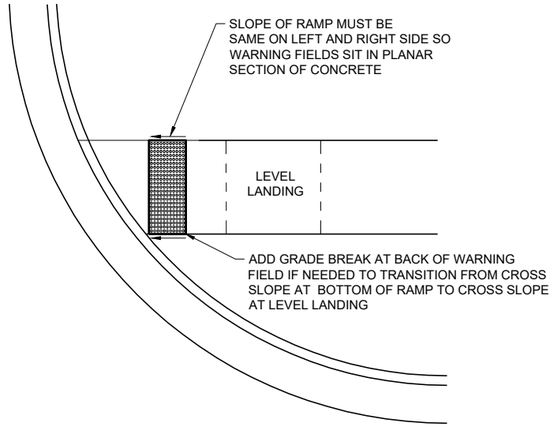
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



PLAN VIEW



ELEVATION VIEW



DETECTABLE WARNING FIELD

PLANAR INSTALLATION

GENERAL NOTES

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

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

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

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

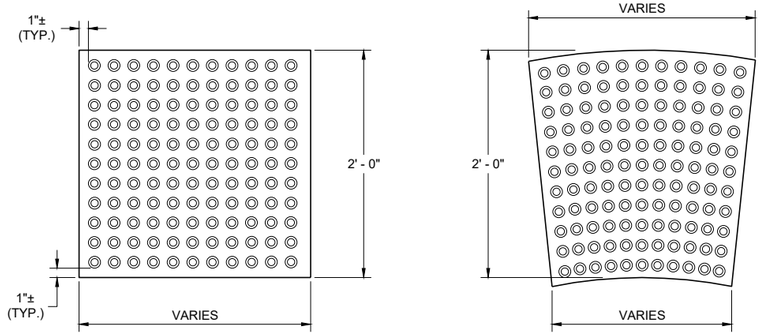
FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE.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

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

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

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

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

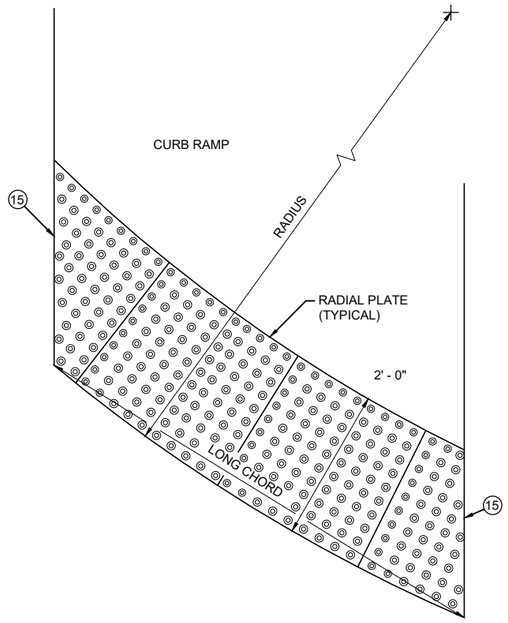


RECTANGULAR PLATES

RADIAL PLATES

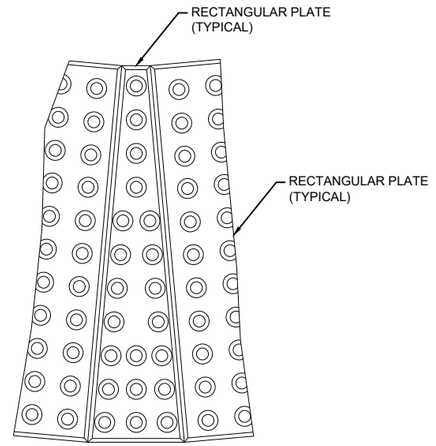
PLAN VIEW

DETECTABLE WARNING FIELDS (TYPICAL)



PLAN VIEW

RADIAL DETECTABLE WARNING FIELD ATTRIBUTES



PLAN VIEW

RADIAL WEDGE PLATE CONNECTION DETAIL

CURB RAMPS
RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

July 2023 — DATE

/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

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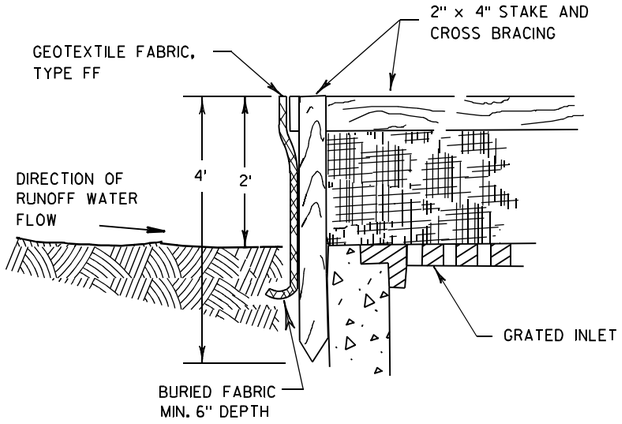
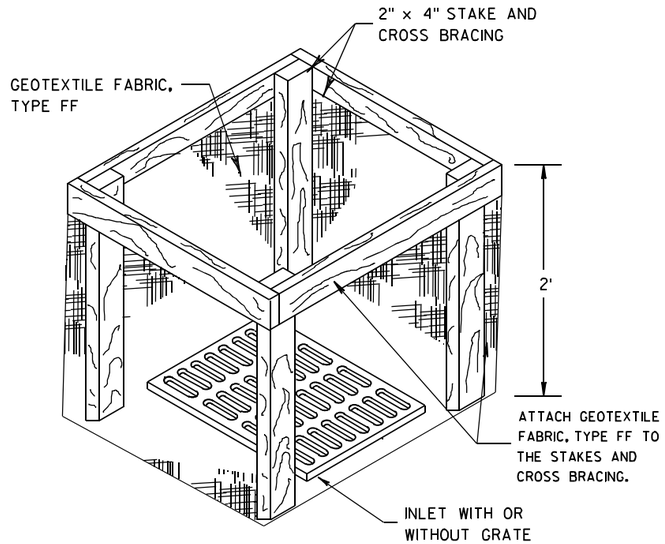
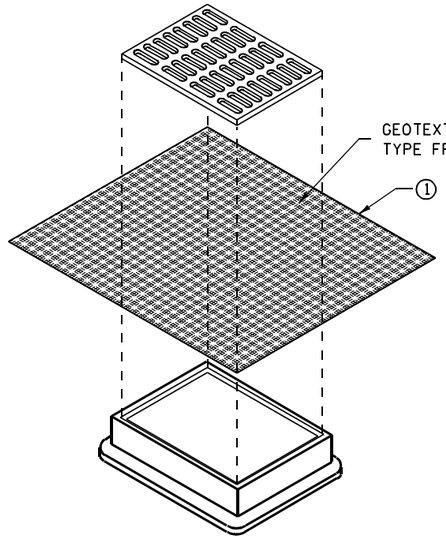
SDD 08D05-21g



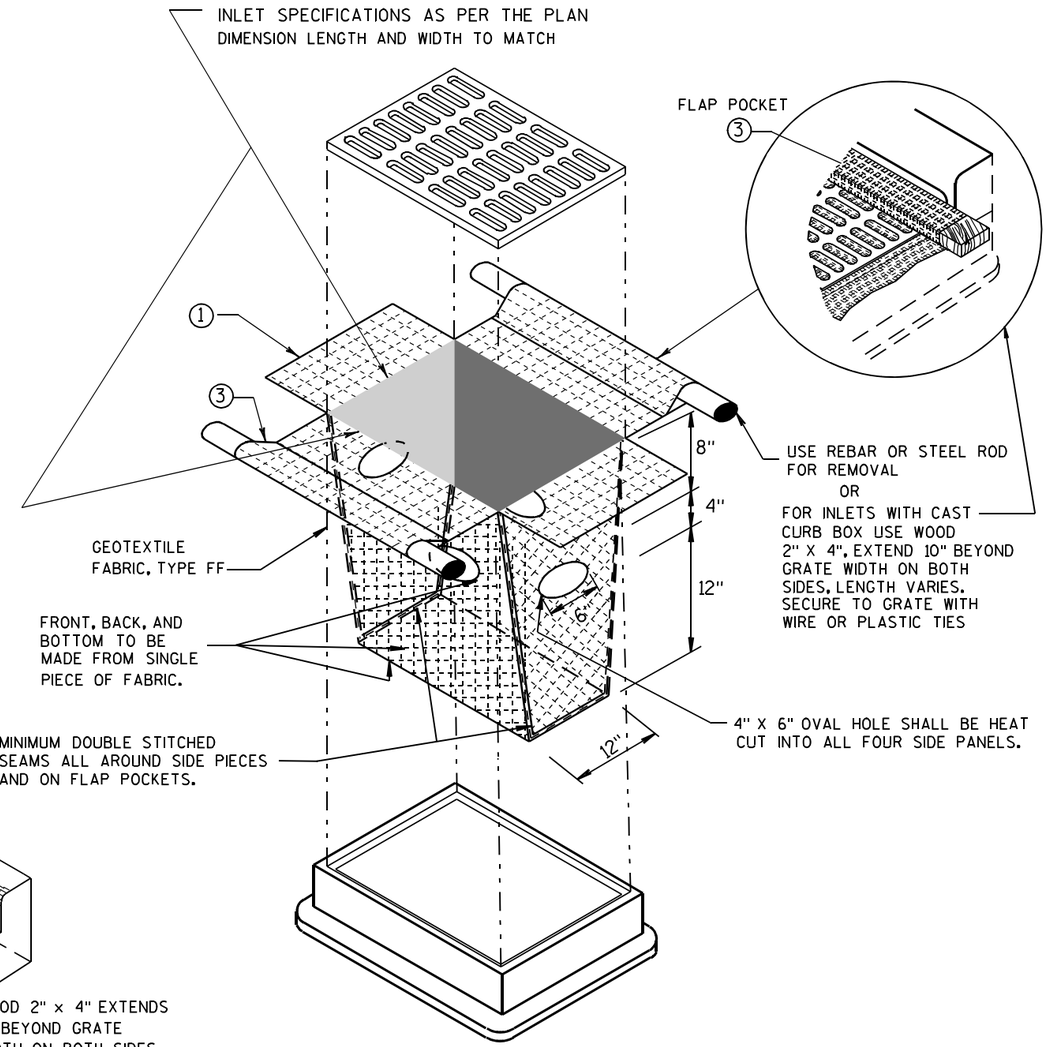


INLET PROTECTION, TYPE A



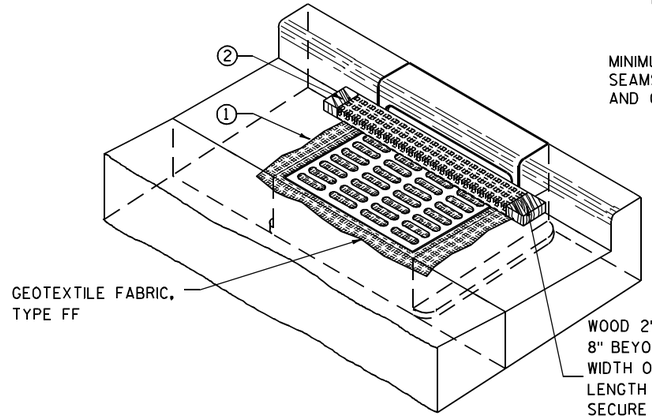
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

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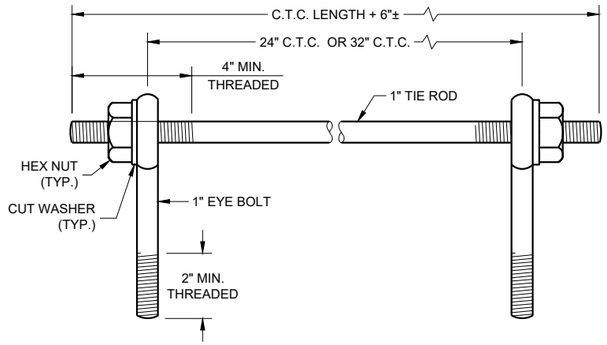
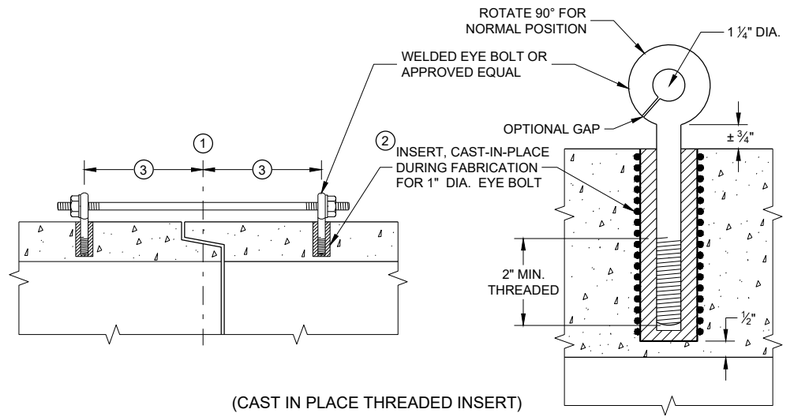
S.D.D. 8 E 10-2



EYE BOLTS AND TIE ROD



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

(1) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

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

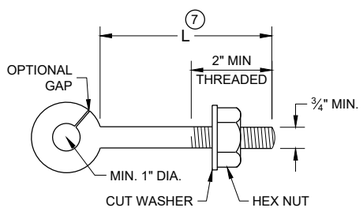
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

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

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

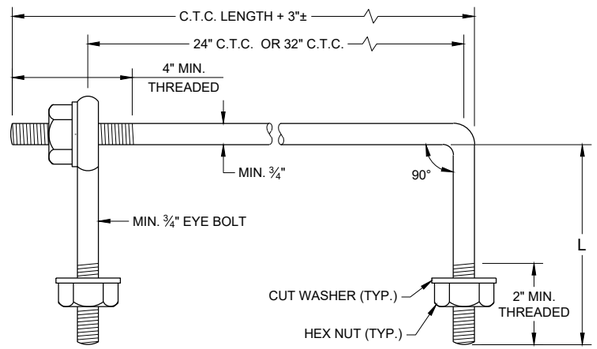
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

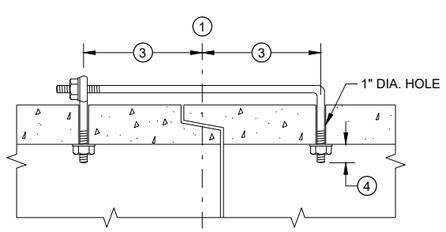


EYE BOLT (7)

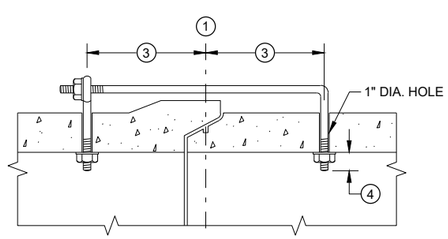
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

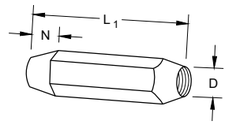
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12 - 60	⅝	⅝	5	½
66 - 84	¾	¾	5	½
90 - 144	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES



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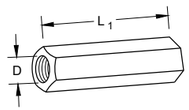
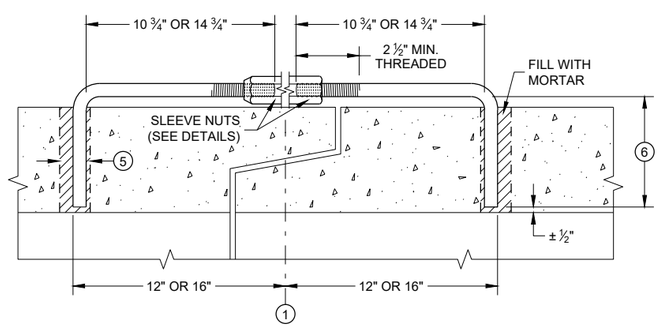


PLAIN

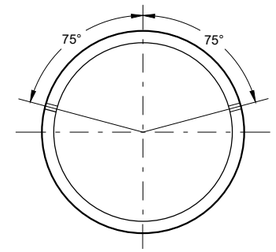
RIGHT AND LEFT THREADS

SLEEVE NUTS



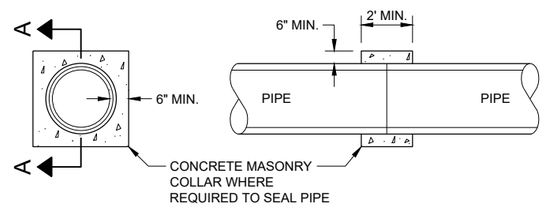
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

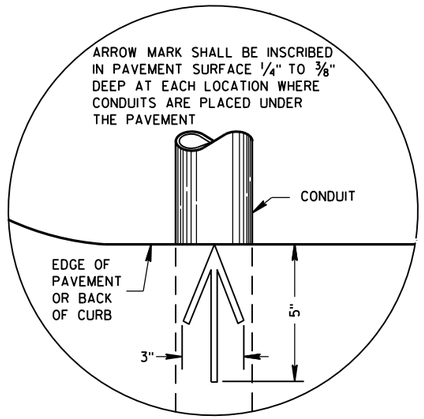
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

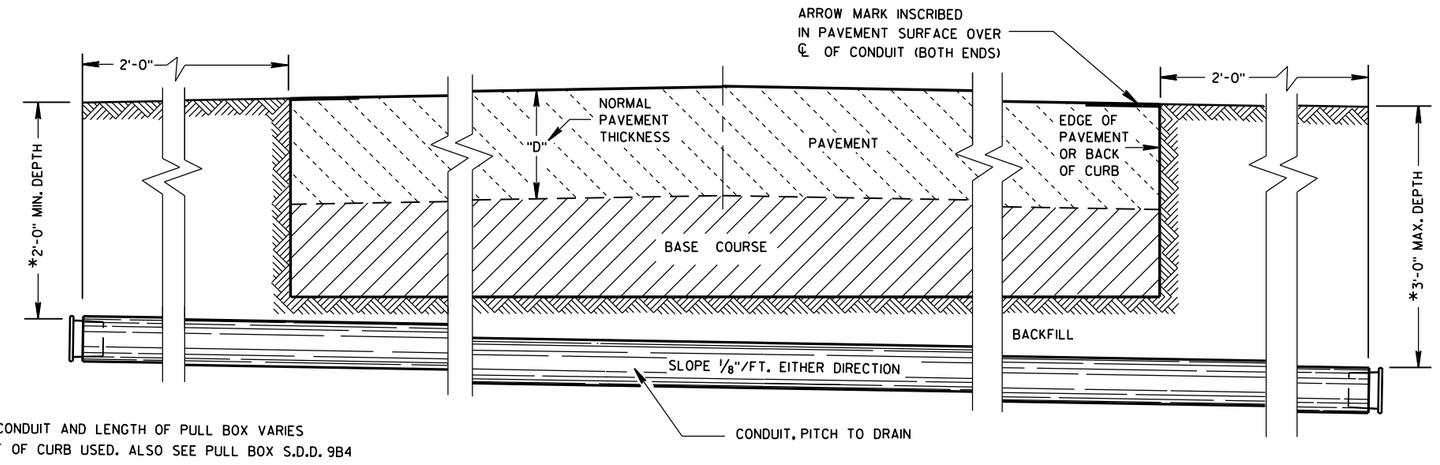
SDD 08F04 - 08

SDD 08F04 - 08



PLAN VIEW

ARROW MARK



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

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

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

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

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

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 9 B 2-10

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 531.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

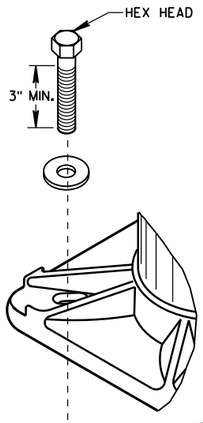
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

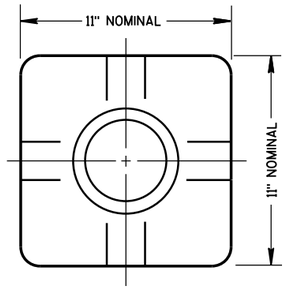
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

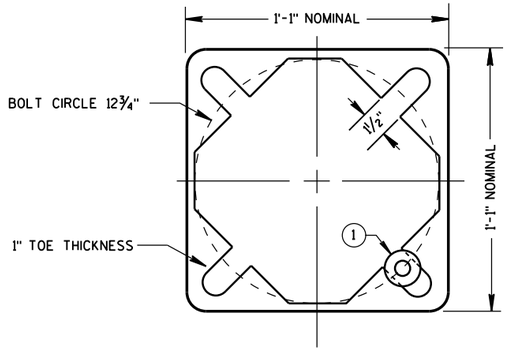
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

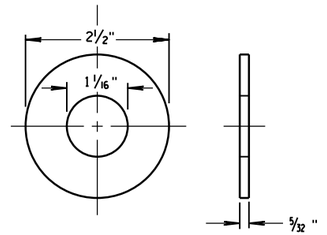




TOP VIEW
(PEDESTAL BASE)

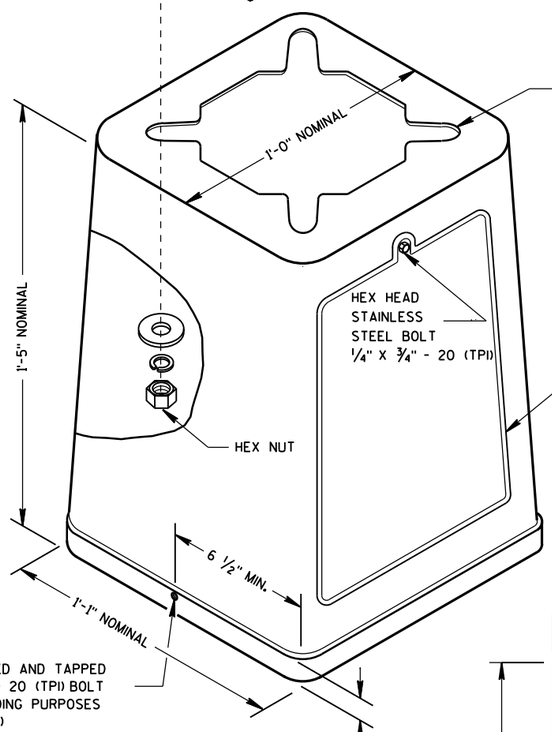


BOTTOM VIEW
(PEDESTAL BASE)

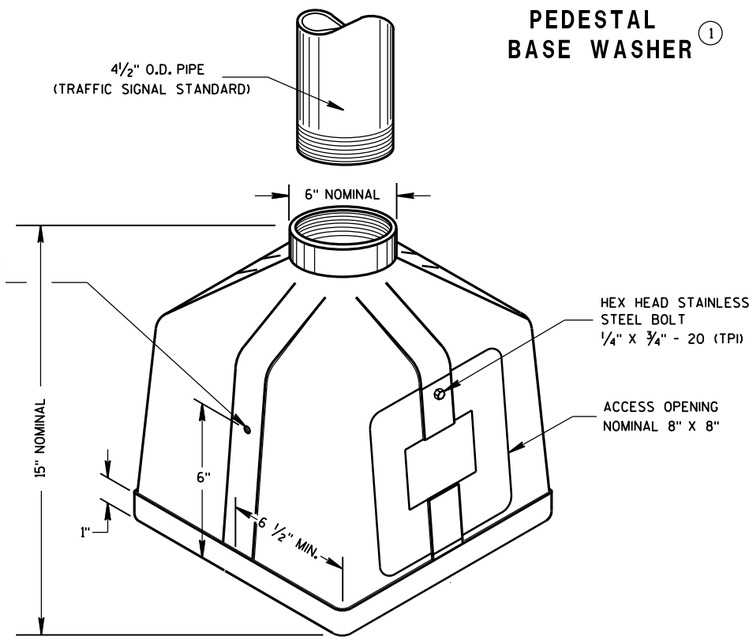


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

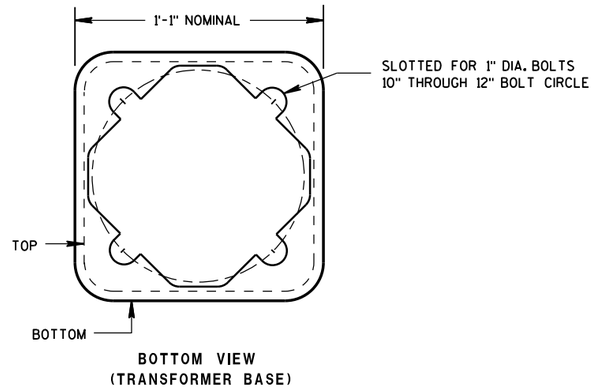


ISOMETRIC VIEW

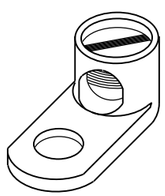


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

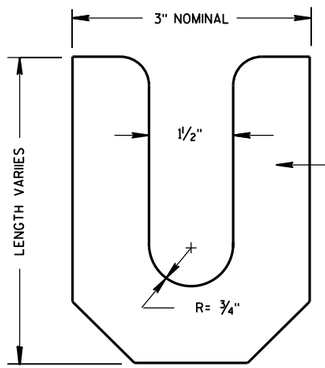


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

S.D.D. 9 C 3-4

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 (SHAFT) SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING. A STEEL CASING OR CORRUGATED METAL PIPE IS ALLOWED TO REMAIN. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BASE IN LAYERS OF ONE FOOT OR LESS.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

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).

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

CONDUIT SIZES AND LOCATIONS SHALL BE SHOWN ON THE PLANS.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 TIMES THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 4" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NON-METALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

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

WHEN REQUIRED TO CONNECT NON-METALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

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

A NO. 4 AWG STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

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

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN A THE ENTRANCE OF THE BASE.

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

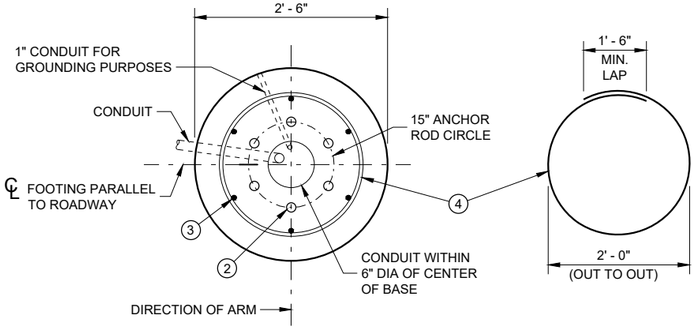
(2) (6) 1 ½ DIA. X 4' - 4" ANCHOR RODS

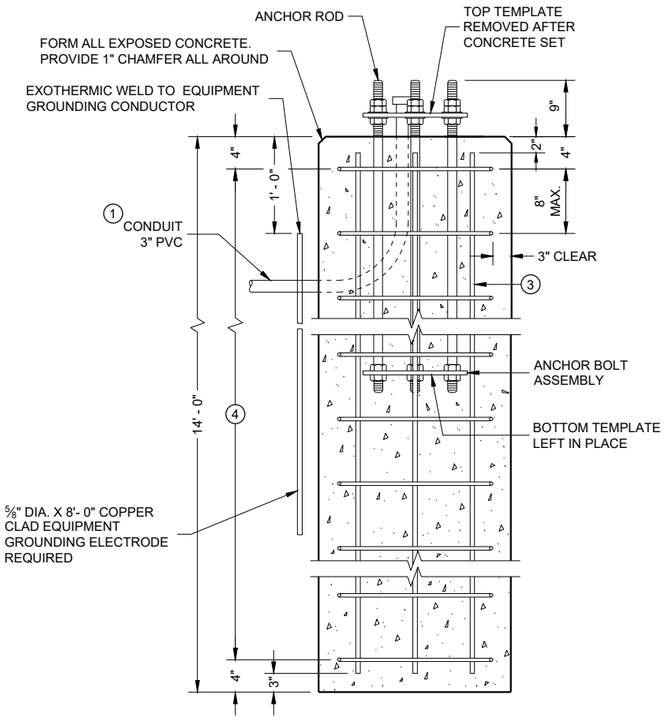
(3) (6) NO. 6 X 13' - 7" BAR STEEL REINFORCEMENT.

(4) (21) NO. 5 X 7'-10" BAR STEEL REINFORCEMENT @ 8" MAX. 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, ASTM F1554 GRADE 55 (IN ACCORDANCE .....fy = 55,000 p.s.i.
WITH SECTION 531.2.2 OF THE STANDARD SPECIFICATION)
TEMPLATES, ASTM A709, GRADE 36.....fy = 36,000 p.s.i.

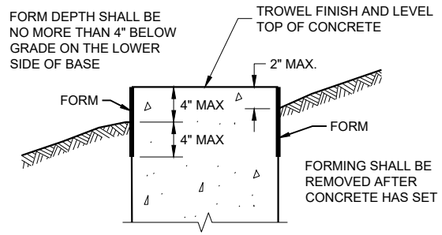
QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	2.5
LBS. OF HOOP BAR STEEL	172
LBS. OF VERTICAL BAR STEEL	122



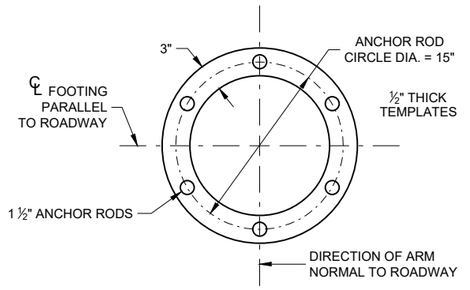


CONCRETE BASE, TYPE 10
(FOR TYPE 9, TYPE 10 AND OVER HEIGHT (OH) POLES)

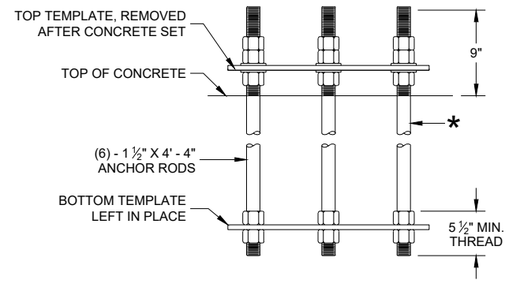
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE SDD 9C13 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.



FORMING DETAIL



TOP AND BOTTOM TEMPLATE



ANCHOR ROD ASSEMBLY DETAILS

* THREAD TOP 10" OF ANCHOR ROD FOR 3 NUTS AND 2 WASHERS AND BOTTOM 5 ½" FOR 2 NUTS PER ANCHOR ROD. HOT DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR ROD (ASTM A123) AND HOT DIP NUTS AND WASHERS (ASTM A153. USE ZINC COATED NUTS MANUFACTURED WITH SUFFICIENT ALLOWANCE TO ALLOW NUTS TO RUN FREELY ON THE THREADS.

CONCRETE BASE TYPE 10

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2017 — DATE
/S/ Ahmet Demerbilek — WIND LOADED STRUCTU PROGRAM LEADER
FHWA

6

SDD 09C11 - 10

GENERAL NOTES

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

THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

BASES (SHAFT) SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING. A STEEL CASING OR CORRUGATED METAL PIPE IS ALLOWED TO REMAIN. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BASE IN LAYERS OF ONE FOOT OR LESS.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

ANY DAMAGE TO THE CONCRETE BASE AND ANCHOR RODS DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE ENGINEER'S DIRECTION, AT THE EXPENSE OF THE CONTRACTOR.

THE REINFORCEMENT AND ANCHOR RODS SHALL BE ADEQUATELY SUPPORTED IN THE PROPER POSITIONS SO NO MOVEMENT OCCURS DURING CONCRETE PLACEMENT.

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR RODS STICK OUT ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.

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

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

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

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

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

FORM ALL EXPOSED CONCRETE CORNERS WITH 1" CHAMFER ALL AROUND. TOP OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE SHOWN ON THE PLANS.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 TIMES THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 4 ½" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NON-METALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

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

WHEN REQUIRED TO CONNECT NON-METALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

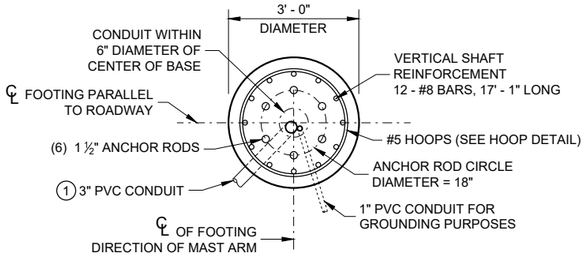
A NO. 4 AWG STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

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

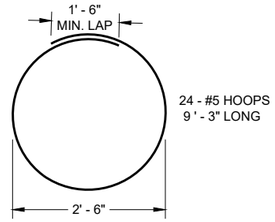
THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN A THE ENTRANCE OF THE BASE.

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

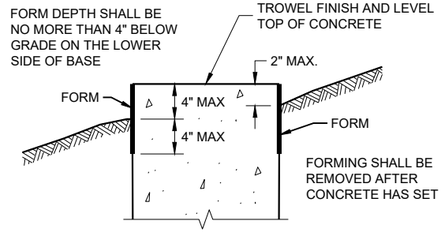
CONCRETE MASONRY.....fc = 3,500 p.s.i
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60.....fy = 60,000 p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 531.2.2 OF THE STANDARD SPECIFICATION).....fy = 55,000 p.s.i.
TEMPLATES, ASTM A709, GRADE 36.....fy = 36,000 p.s.i.



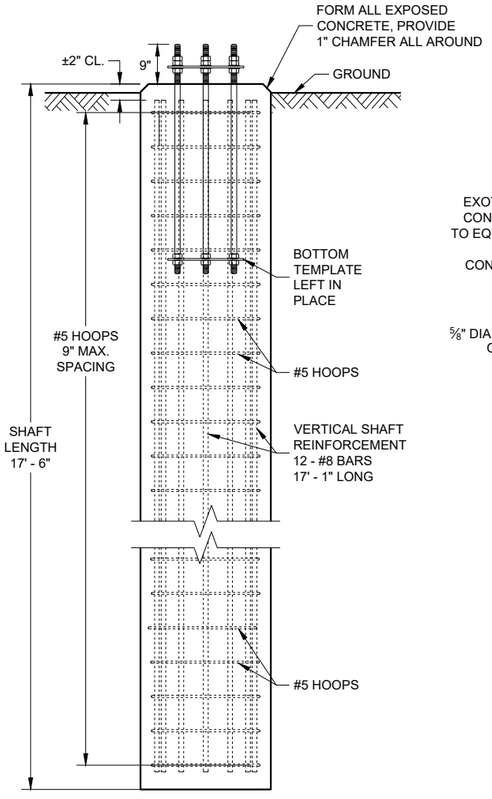
PLAN VIEW



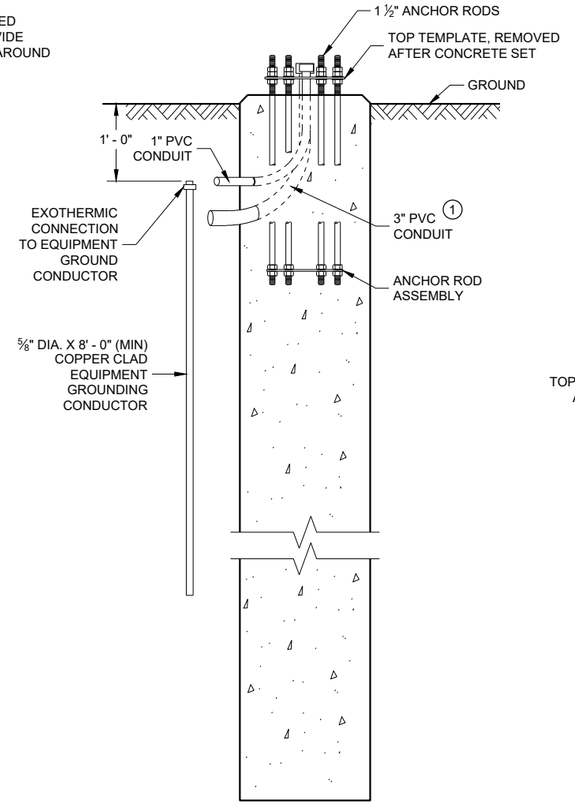
HOOP DETAIL



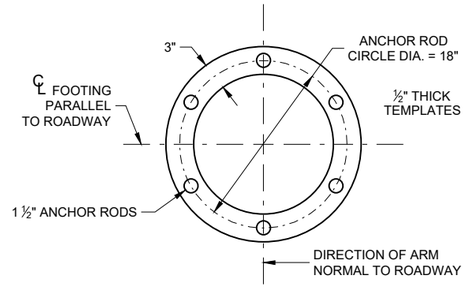
FORMING DETAIL



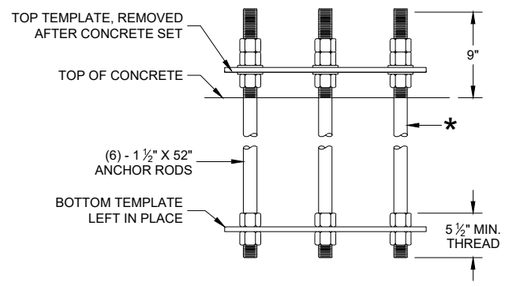
ELEVATION VIEW
(CONDUITS NOT SHOWN ON THIS VIEW FOR CLARITY)



SIDE VIEW
(HOOPS AND VERTICAL SHAFT REINFORCEMENT NOT SHOWN ON THIS VIEW FOR CLARITY)



TOP AND BOTTOM TEMPLATE



ANCHOR ROD ASSEMBLY DETAILS

* THREAD TOP 10" OF ANCHOR ROD FOR 3 NUTS AND 2 WASHERS AND BOTTOM 5 ½" FOR 2 NUTS PER ANCHOR ROD. HOT DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR ROD (ASTM A123) AND HOT DIP NUTS AND WASHERS (ASTM A153. USE ZINC COATED NUTS MANUFACTURED WITH SUFFICIENT ALLOWANCE TO ALLOW NUTS TO RUN FREELY ON THE THREADS.

CONCRETE BASE, TYPE 10 SPECIAL
(FOR TYPE 9 SPECIAL AND TYPE 10 SPECIAL POLES)

CONCRETE = 4.6 CUBIC YARD
H.S. REINFORCEMENT = 779 LBS.

FOR USE WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.

CONCRETE BASE TYPE 10 SPECIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020 — DATE
/S/ Alex Crabtree — WIND LOADED STRUCTU PROGRAM LEADER
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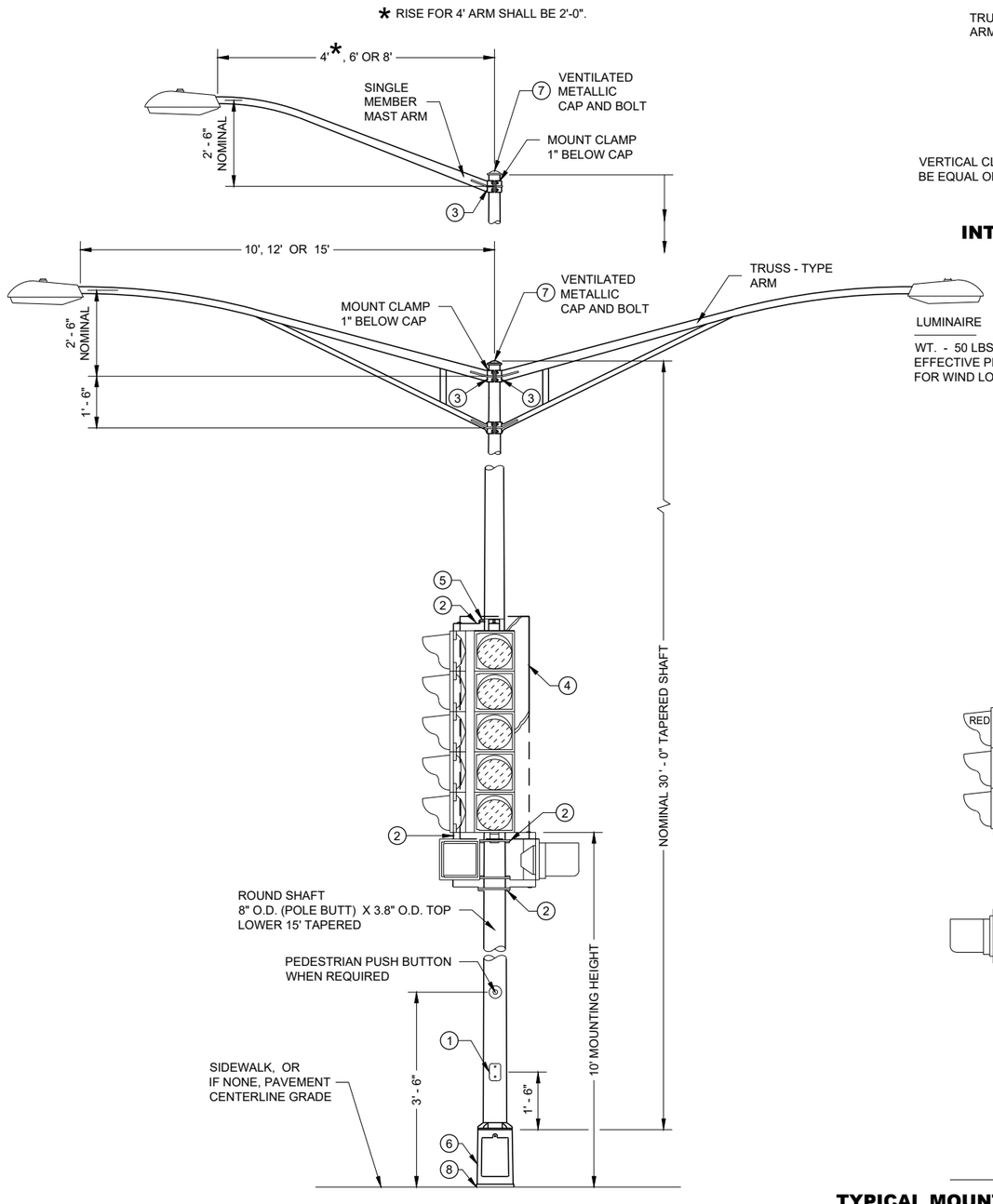
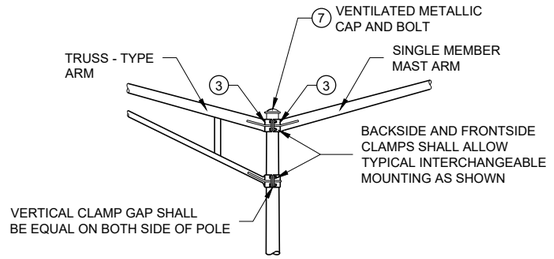


(MAXIMUM LOAD)



INTERCHANGEABLE MOUNTING DETAIL

GENERAL NOTES

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

ALL TYPE 4 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL WITH A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE / ROPE SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 ⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

(1) 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2) ¼" X ¾" - 20 TPI , STAINLESS STEEL, HEX HEAD BOLTS.

(2) SIGNAL FACE MOUNTING BRACKETS. MOUNT WITH CAP SCREWS AND BANDING.

(3) GROMMETS. 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 ⅜" HOLE IN POLE SHAFT FOR WIRING.

(4) SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.

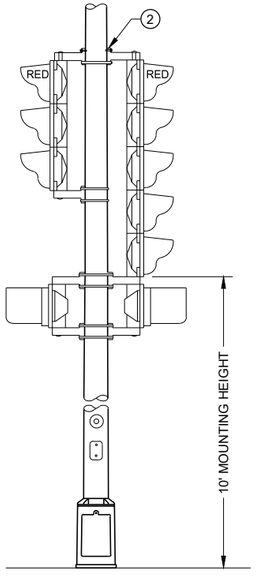
(5) POLE MOUNTED SIGNAL FACES SHALL REQUIRE ONE OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.

(6) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

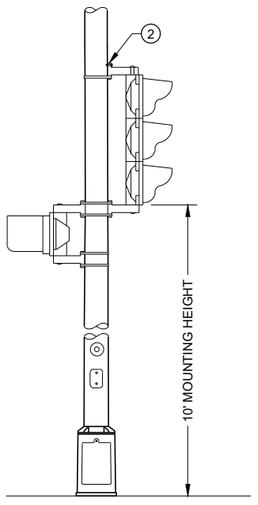
(7) FURNISH AND INSTALL VENTILATED, CAST METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(8) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.

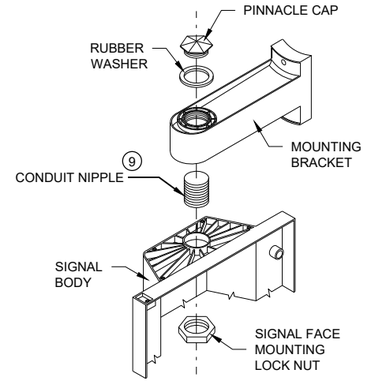
(9) USE 1 ½" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 ½" OPENING IN SIGNAL FACES AND BRACKET ENDS.



TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE



SIGNAL FACE MOUNTING DETAIL
(BANDED)

TYPE 4 POLE MOUNTING CONFIGURATION

POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 4

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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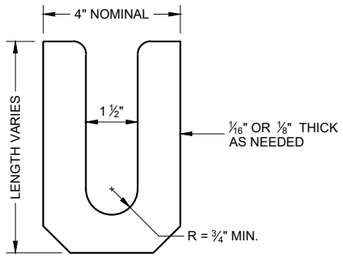
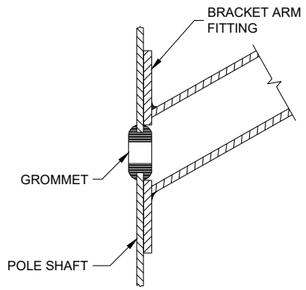
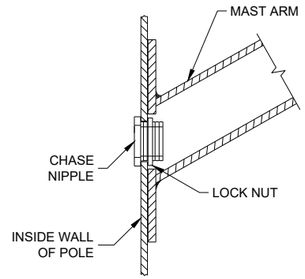


LEVELING SHIM (1)
SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

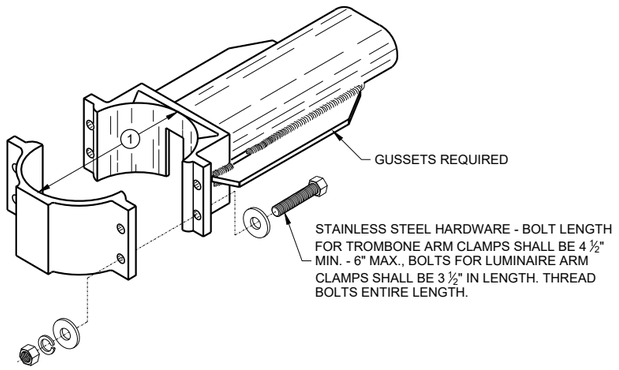
(1) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP. 6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(2) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

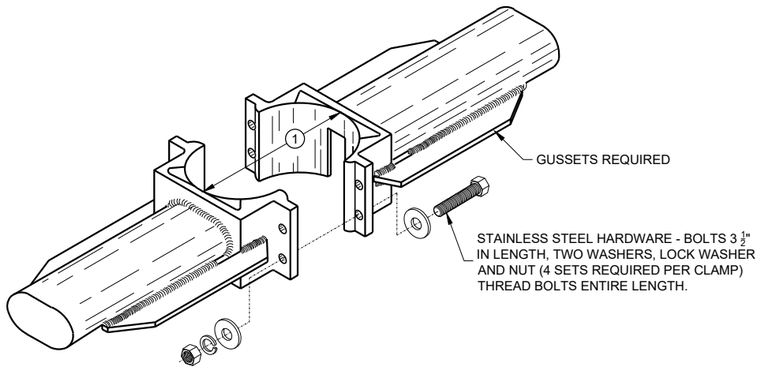
(3) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(4) LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

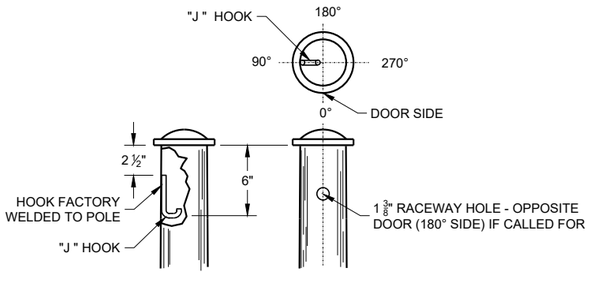
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



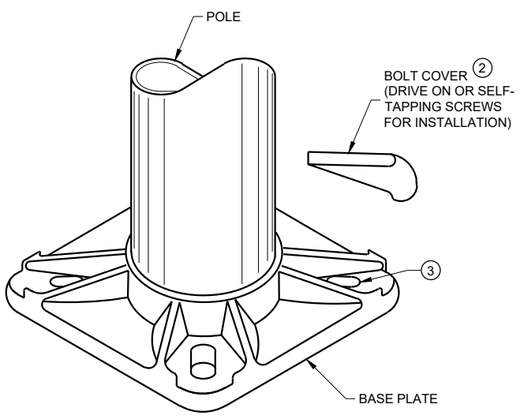
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



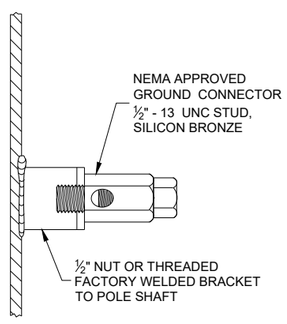
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

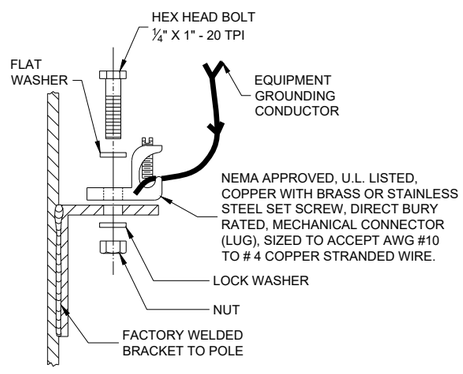


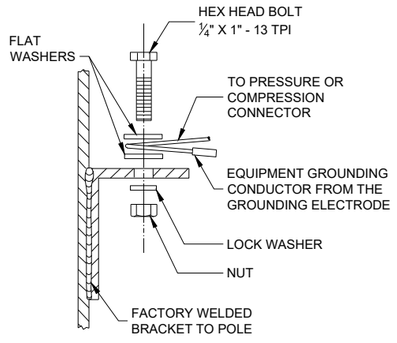
TYPICAL "J" HOOK LOCATION



BASE PLATE







TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

HARDWARE DETAILS FOR POLE MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

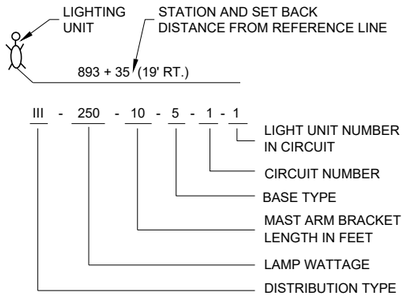
FHWA

GENERAL NOTES

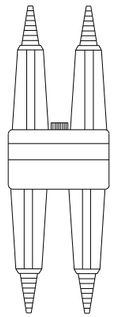
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EQUIPMENT GROUND CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

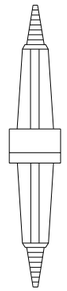
WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.



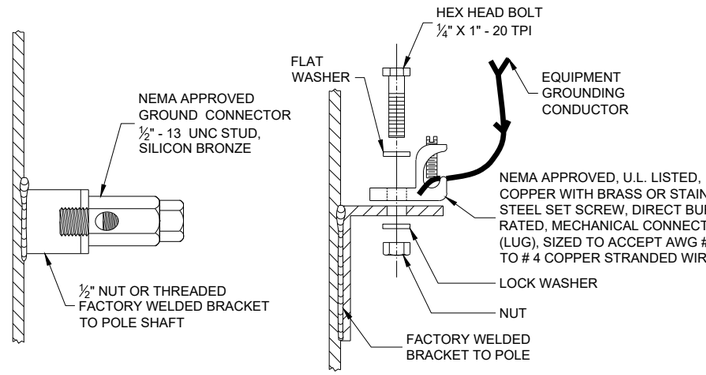
LIGHTING UNIT CODE
(TYPICAL)



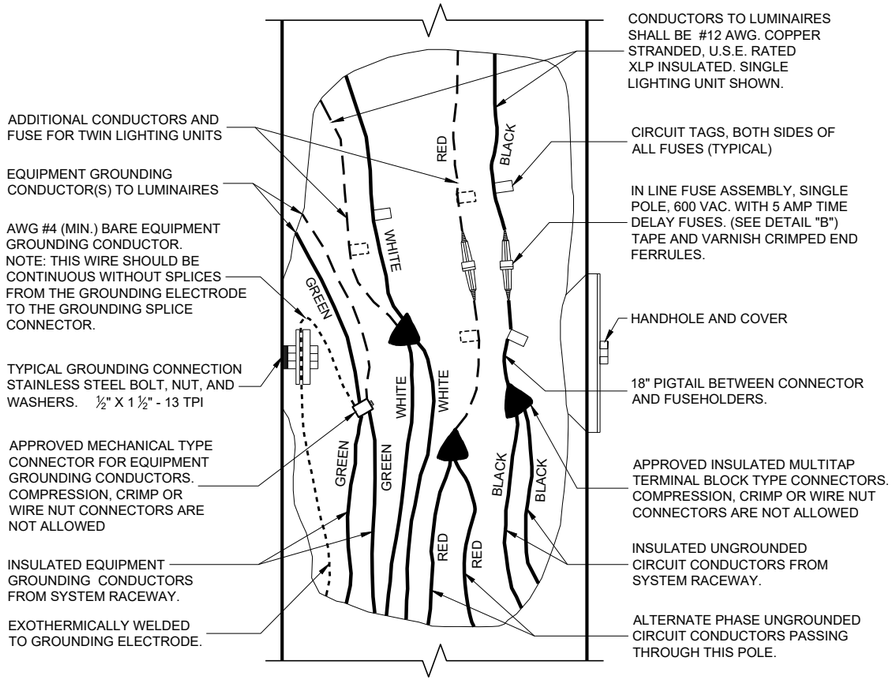
DETAIL "A"
BREAKAWAY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



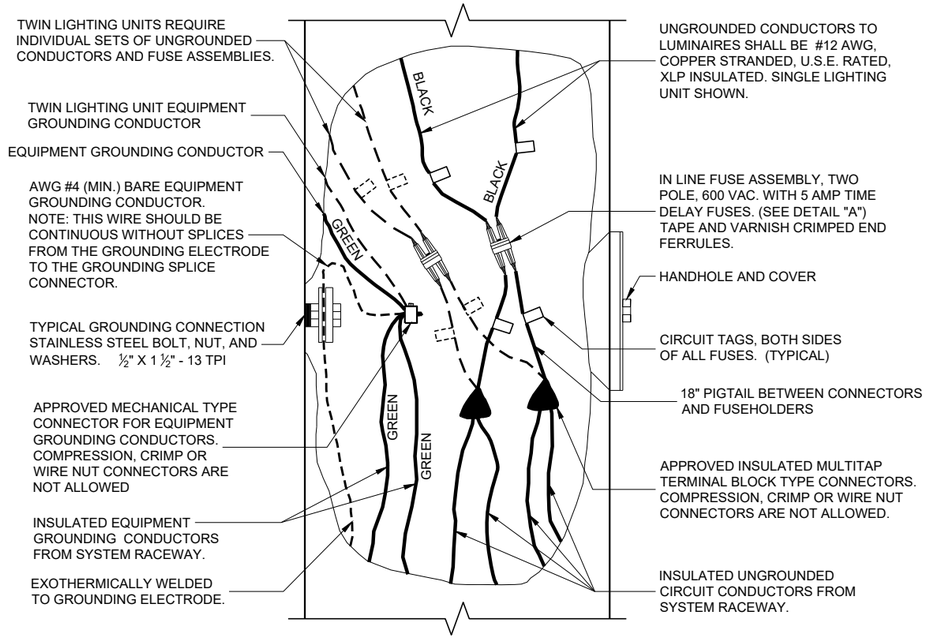
DETAIL "B"
BREAKAWAY SINGLE POLE WITH WATERPROOF INSULATING BOOT



TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH GROUNDING CONDUCTOR AND EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

NON - FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

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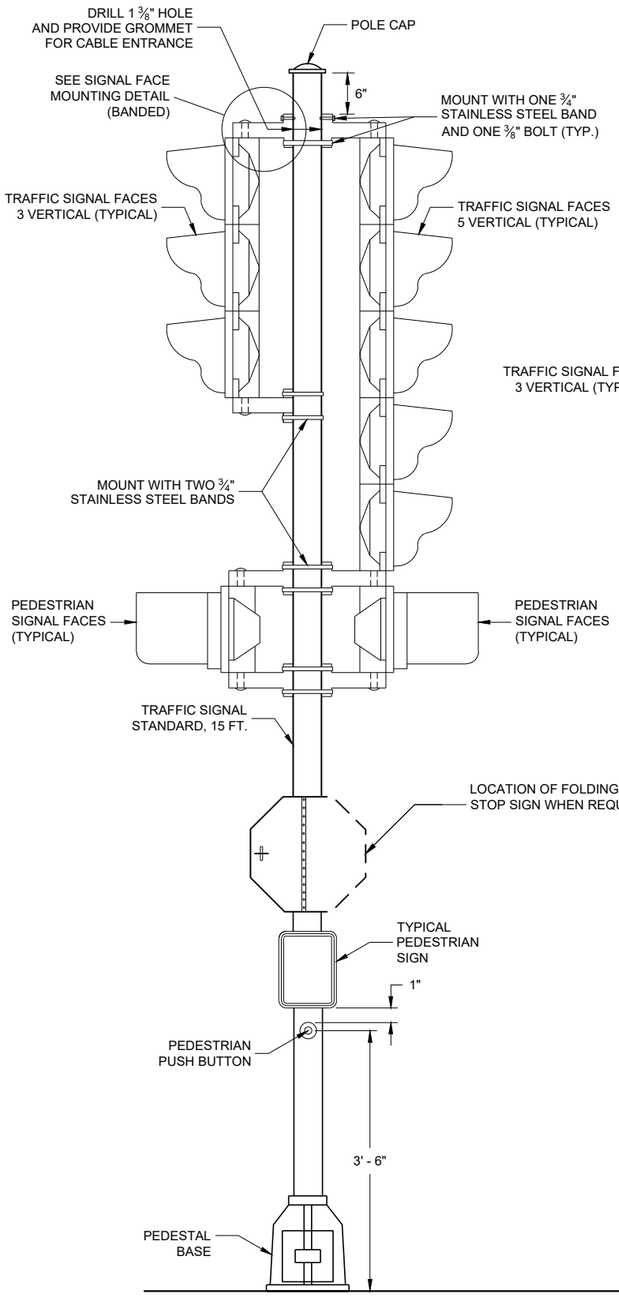
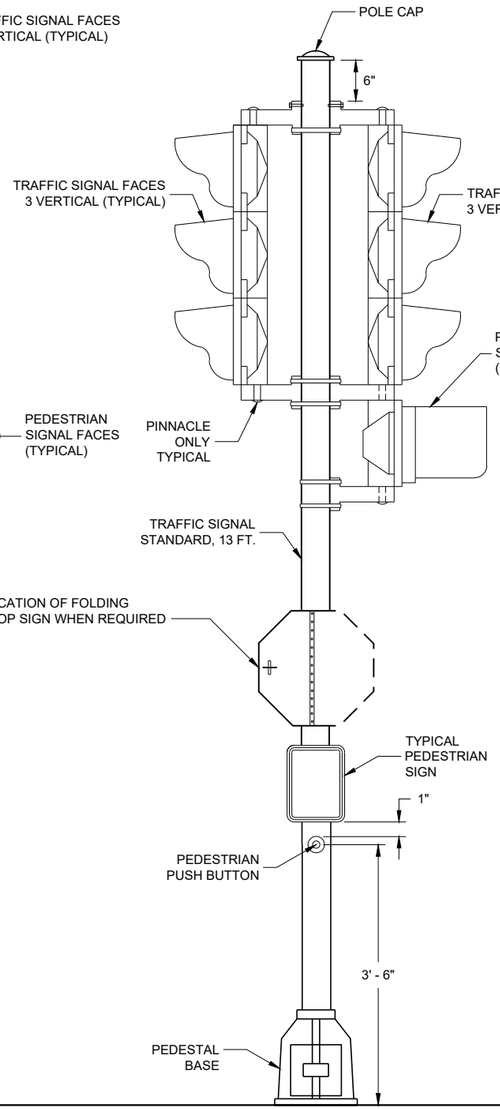
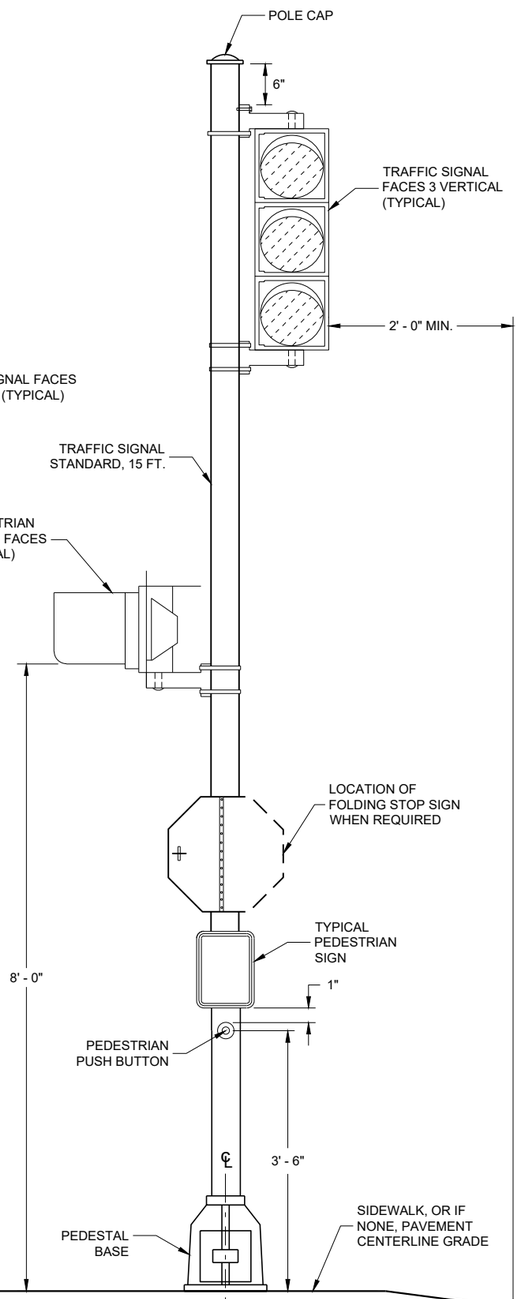


TRAFFIC SIGNAL STANDARD - 15 FT.



TRAFFIC SIGNAL STANDARD - 13 FT.



TRAFFIC SIGNAL TANDARD - 15 FT.
3M MOUNTING (TYPICAL)

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

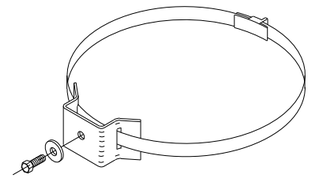
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

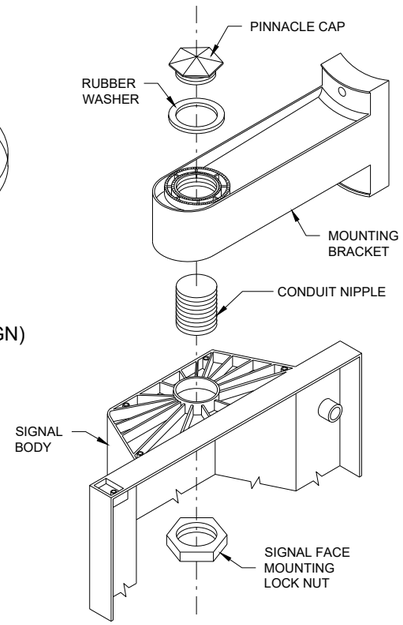
FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



SIGNAL FACE MOUNTING DETAIL (BANDED)

TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/28/2013
DATE

/S/ Ahmet Demirbilek
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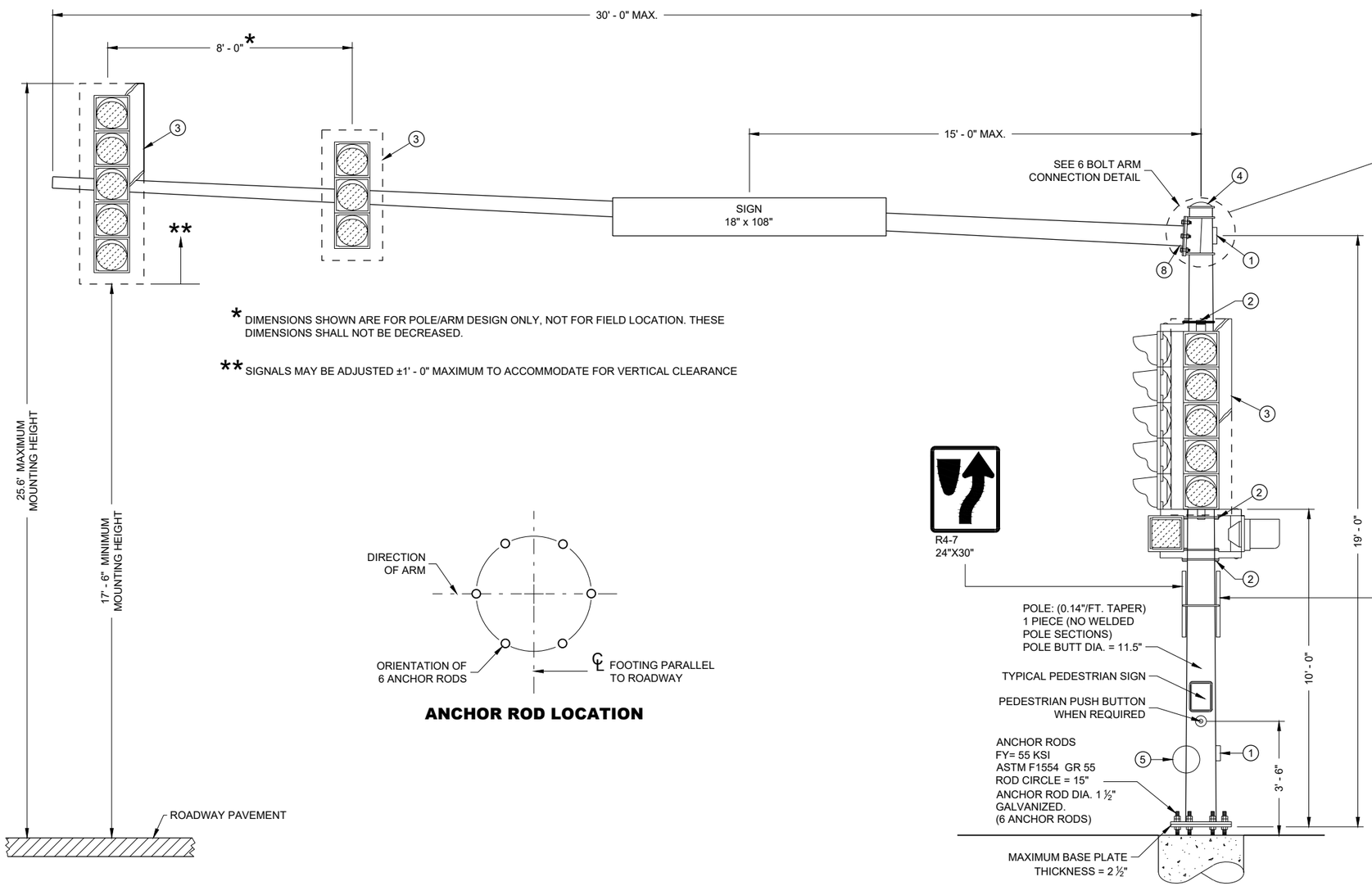
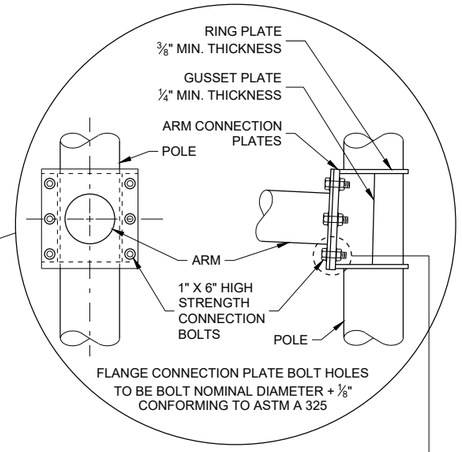
SDD 09E06 - 05



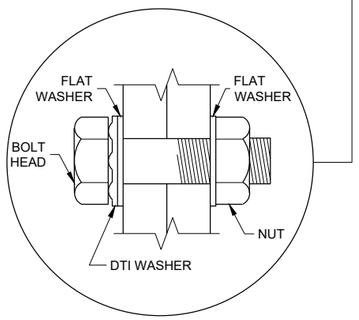
* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ±1' - 0" MAXIMUM TO ACCOMMODATE FOR VERTICAL CLEARANCE

ANCHOR ROD LOCATION



6 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL

TYPE 9 POLE
15' - 30' MONOTUBE ARM
(MAXIMUM LOAD)

TYPE 9 POLE
15' - 30' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

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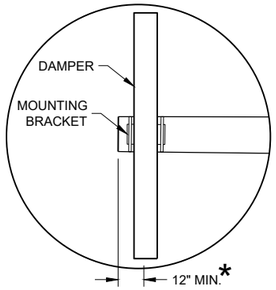
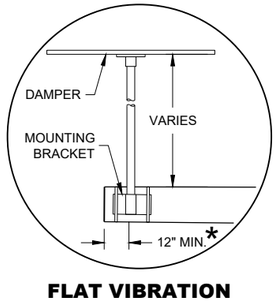
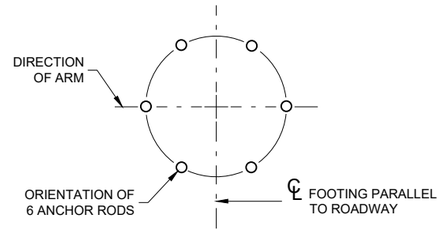


DUMBBELL VIBRATION DAMPER

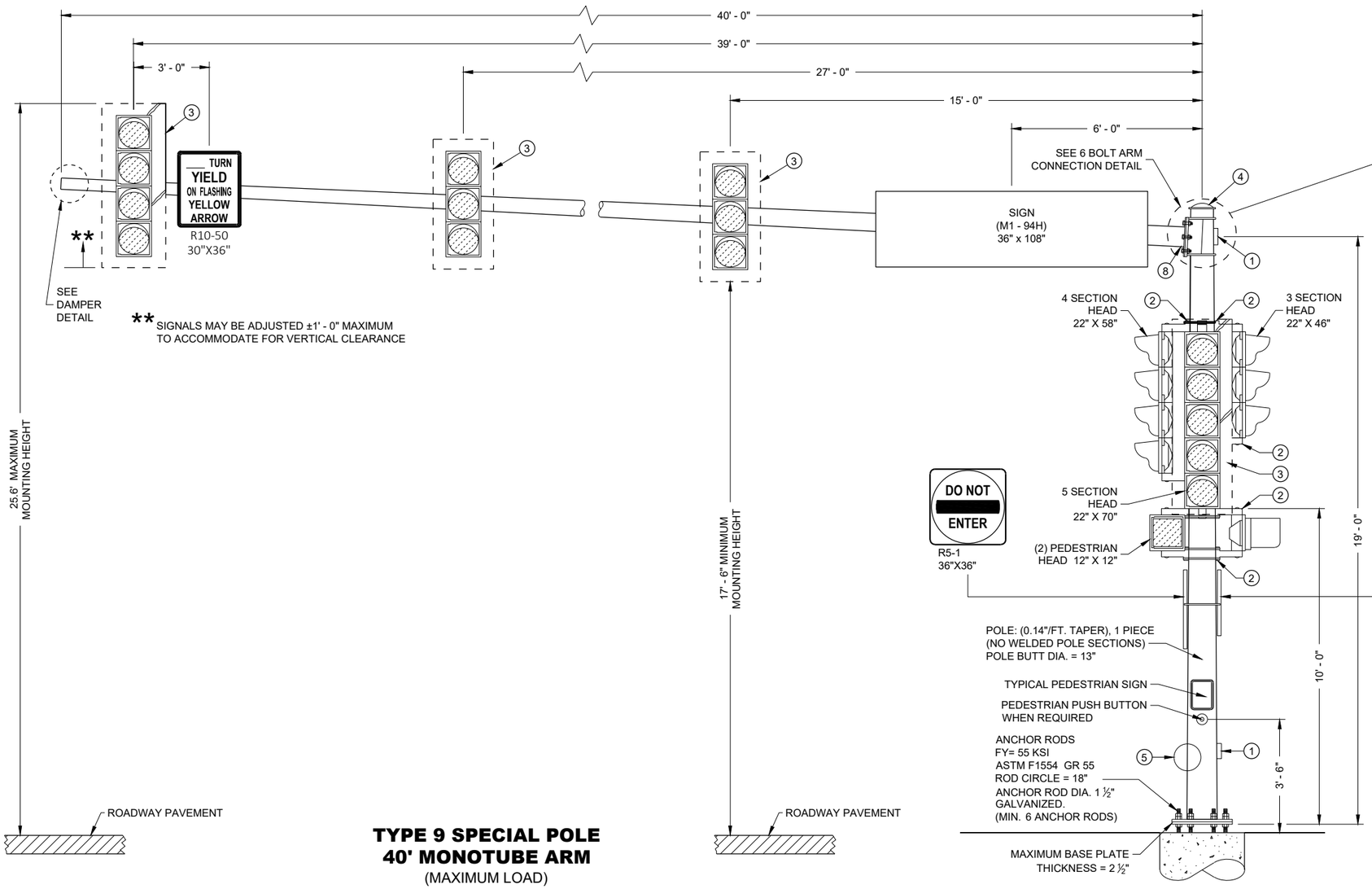


FLAT VIBRATION DAMPER

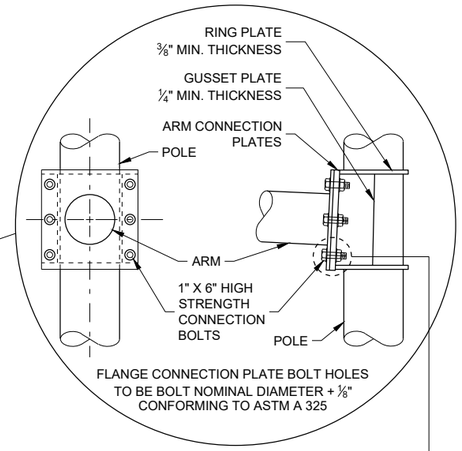
* MOUNT AS CLOSE TO END OF MAST ARM FOR MAXIMUM DAMPING PER MANUFACTURER'S RECOMMENDATIONS.



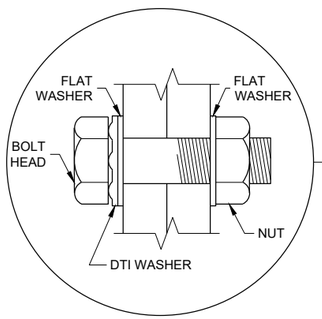
ANCHOR ROD LOCATION



TYPE 9 SPECIAL POLE 40' MONOTUBE ARM
(MAXIMUM LOAD)



6 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL

TYPE 9 SPECIAL POLE 40' MONOTUBE ARM

STATE OF WISCONSIN
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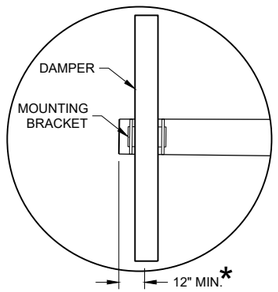
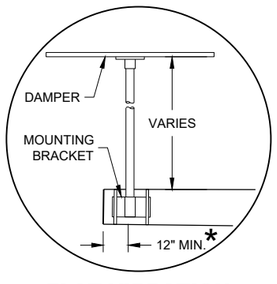
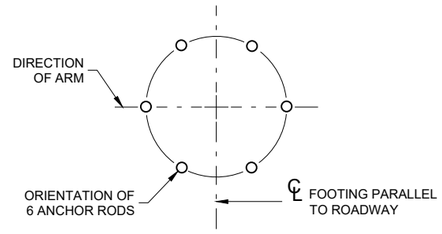


DUMBBELL VIBRATION DAMPER

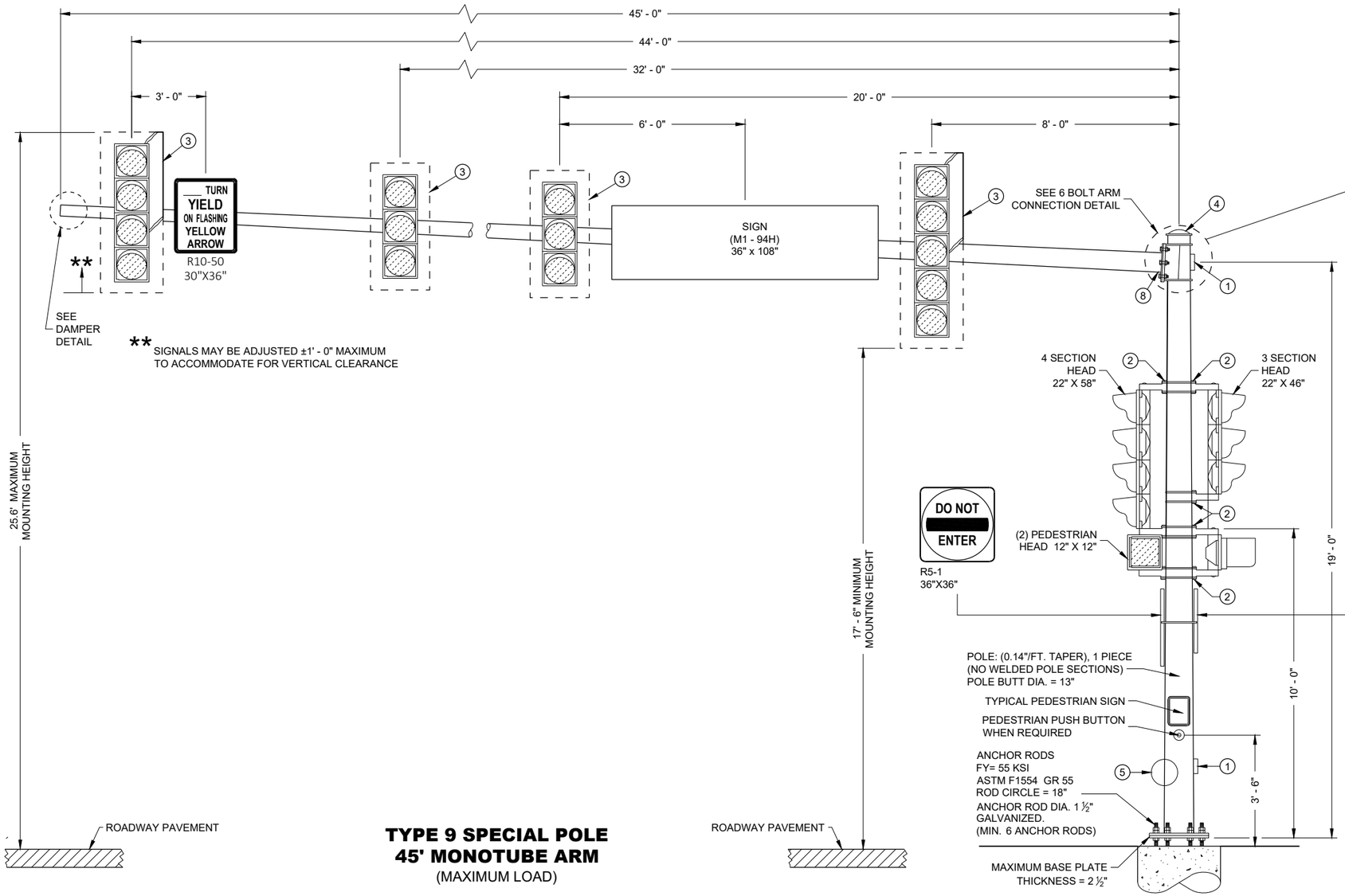


FLAT VIBRATION DAMPER

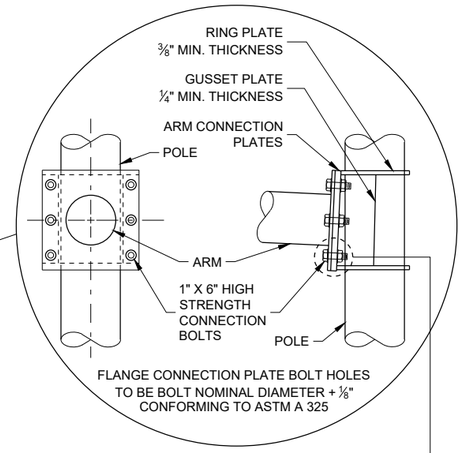
* MOUNT AS CLOSE TO END OF MAST ARM FOR MAXIMUM DAMPING PER MANUFACTURER'S RECOMMENDATIONS.



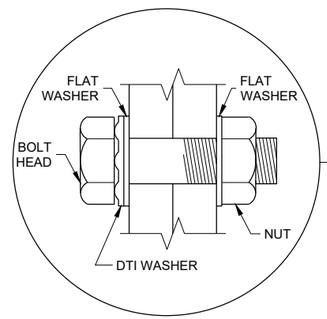
ANCHOR ROD LOCATION



TYPE 9 SPECIAL POLE 45' MONOTUBE ARM
(MAXIMUM LOAD)



6 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL

TYPE 9 SPECIAL POLE 45' MONOTUBE ARM

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GENERAL NOTES

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

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15 FOOT TO 30 FOOT.

POLE TYPES 9 SPECIAL AND 10 SPECIAL ARE FOR ARM LENGTHS 35 FOOT, 40 FOOT, AND 45 FOOT.

POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35 FOOT TO 55 FOOT.

MONOTUBE POLES AND ARMS SHALL BE GALVANIZED STEEL.

RING STIFFENED BUILT UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3% ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATION SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNAL 2015 1ST EDITION (INCLUDING INTERIM REVISIONS)" AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR THE LIGHTING STRUCTURES AS FOLLOWS:

CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.

CATEGORY II FATIGUE LOADS OF TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 SPECIAL AND TYPE 10 SPECIAL STRUCTURES. IN LIEU OF DESIGNING FOR GALLOPING, A VIBRATION DAMPER MITIGATION DEVICE IS REQUIRED TO BE SUPPLIED AND INSTALLED AT THE END OF THE MAST ARM.

CATEGORY II FATIGUE FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE12 AND TYPE 13 STRUCTURES.

115 MPH (700 YEAR MRI BASIC WIND SPEED).

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" STAINLESS STEEL BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR A S DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEAD AT SAME ELEVATION.

SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

(1) DESIGN FOR MAXIMUM ALLOWABLE HAND HOLE WITH COVER ASSEMBLY WITH TWO ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

(2) SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING (SEE SPECIFICATION SECTION 658).

(3) SECURELY MOUNT BACK PLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

(4) THE TOP OF THE POLE SHAFT AND THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.

(5) FACTORY WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HAND HOLD, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

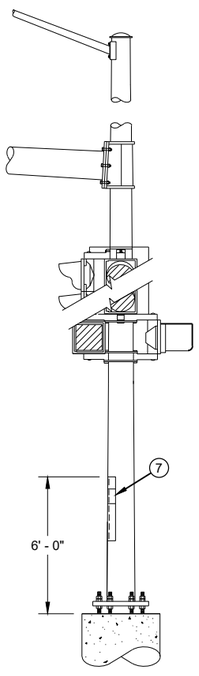
(6) FACTORY WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

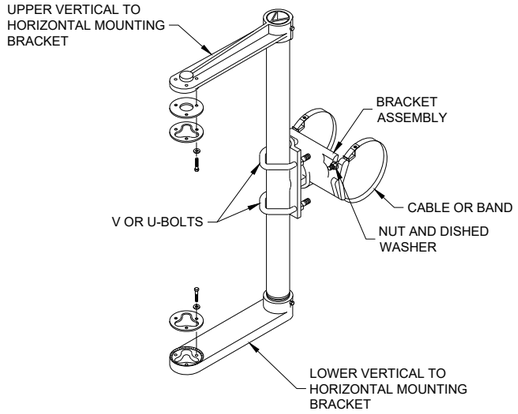
STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

MOUNTING HEIGHT SHALL BE 6' - 0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.



STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT

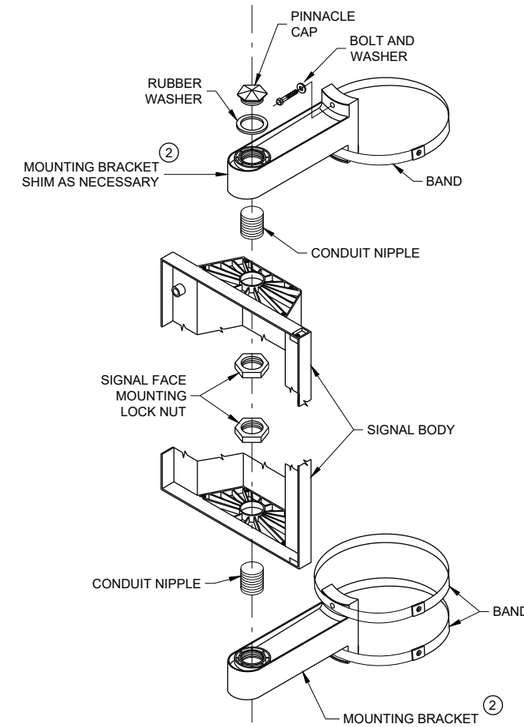


SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

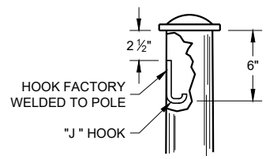
(MOUNT PER MANFACTURER'S RECOMMENDATION)

TYPICAL GROUNDING (5) CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



SIGNAL FACE VERTICAL MOUNTING DETAIL



TYPICAL "J" HOOK (6) WIRE SUPPORT

GENERAL NOTES AND HARDWARE FOR TYPES 9,10, 9/10 SPECIAL, 12 AND 13 POLES WITH MONOTUBE ARMS

STATE OF WISCONSIN
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APPROVED
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DATE

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STATE ELECTRICAL ENGINEER

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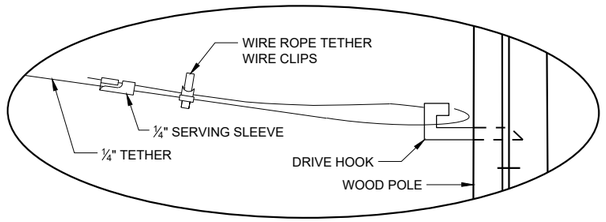
MINIMUM POLE LENGTHS	CLASS	POLE BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

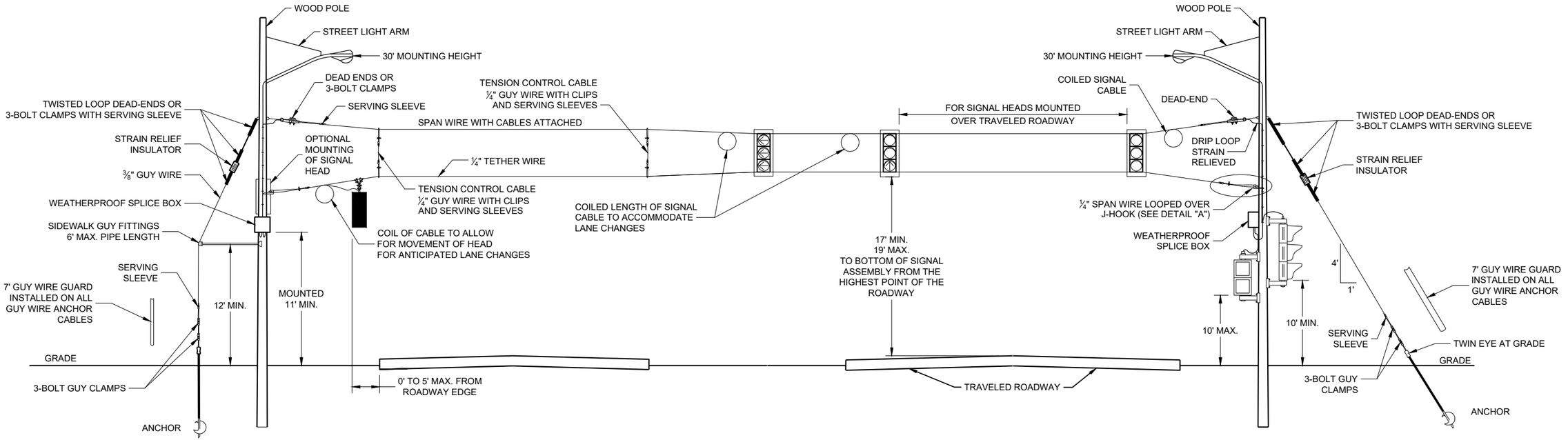


DETAIL "A"

GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.
2. SIGNAL FACES:
   A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
   B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
   C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
   D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBLY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.



SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
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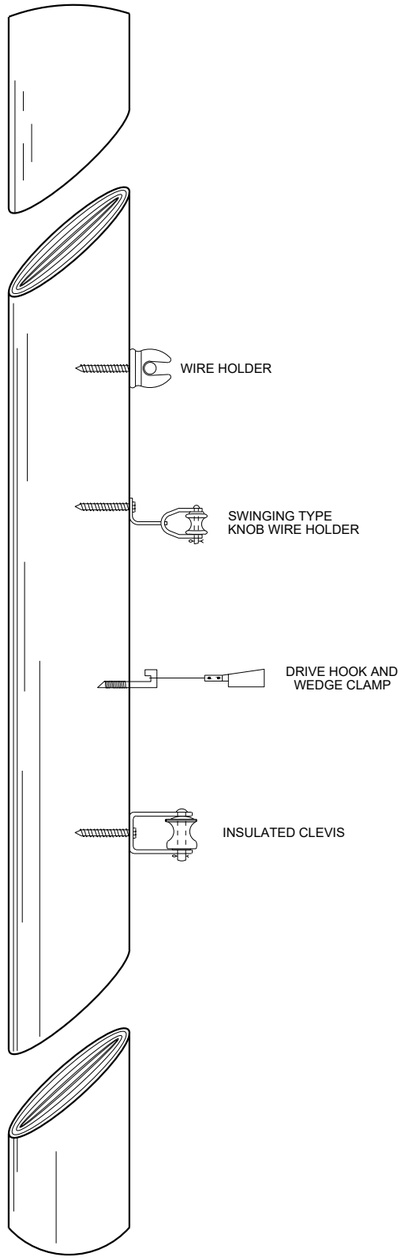

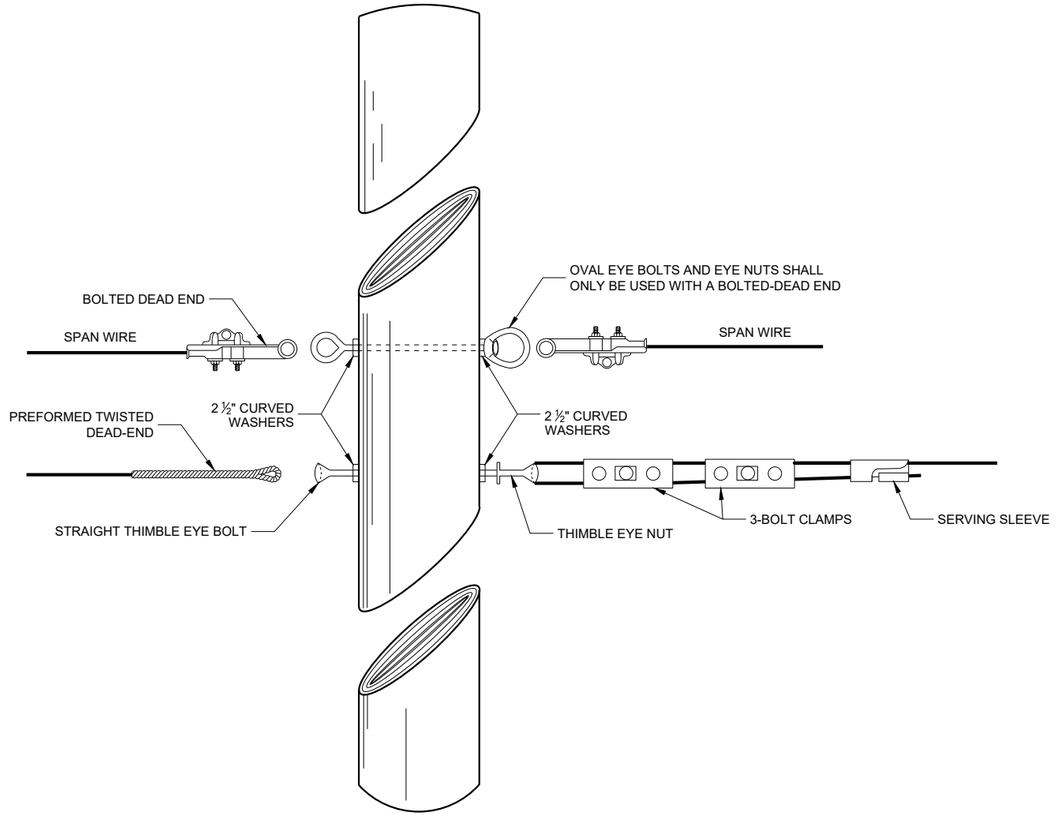

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SPAN WIRE TEMPORARY TRAFFIC SIGNAL

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ROADWAY STANDARDS DEVE ENGINEER

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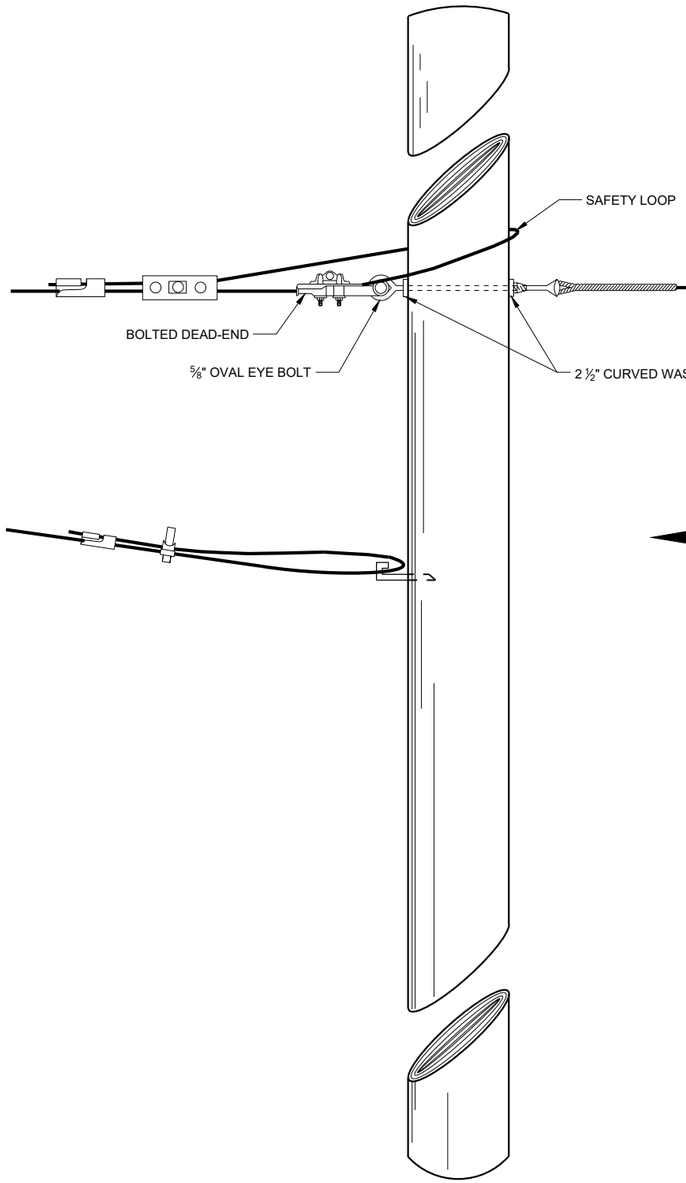
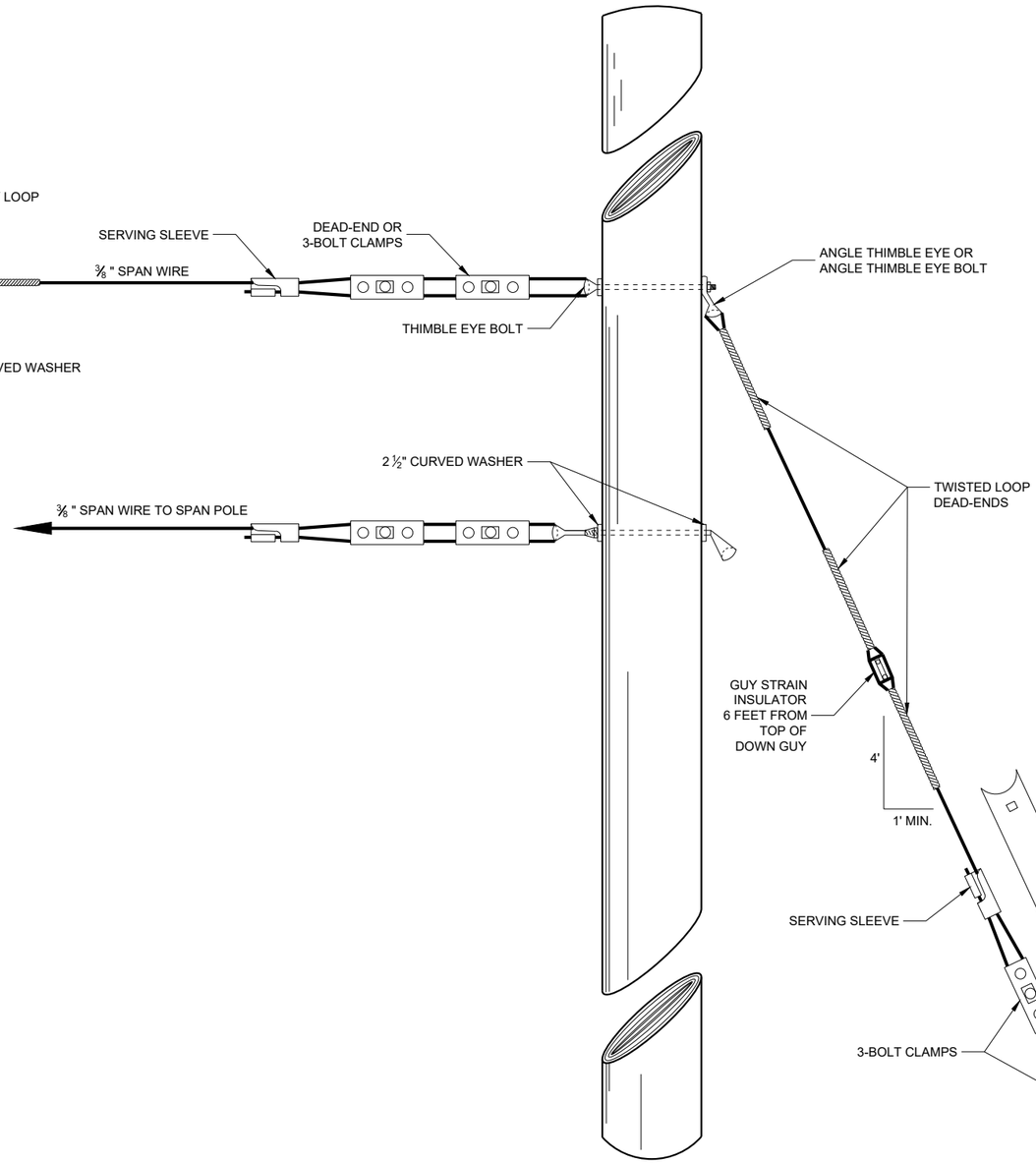
GENERAL NOTES

1. USE ¾" DRILL IN WOOD POLE TO PROVIDE FOR ⅝" BOLTS.
2. SAFETY LOOP REQUIRED ON EACH END OF ALL SPAN WIRES.



SPAN WIRE POLE



GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

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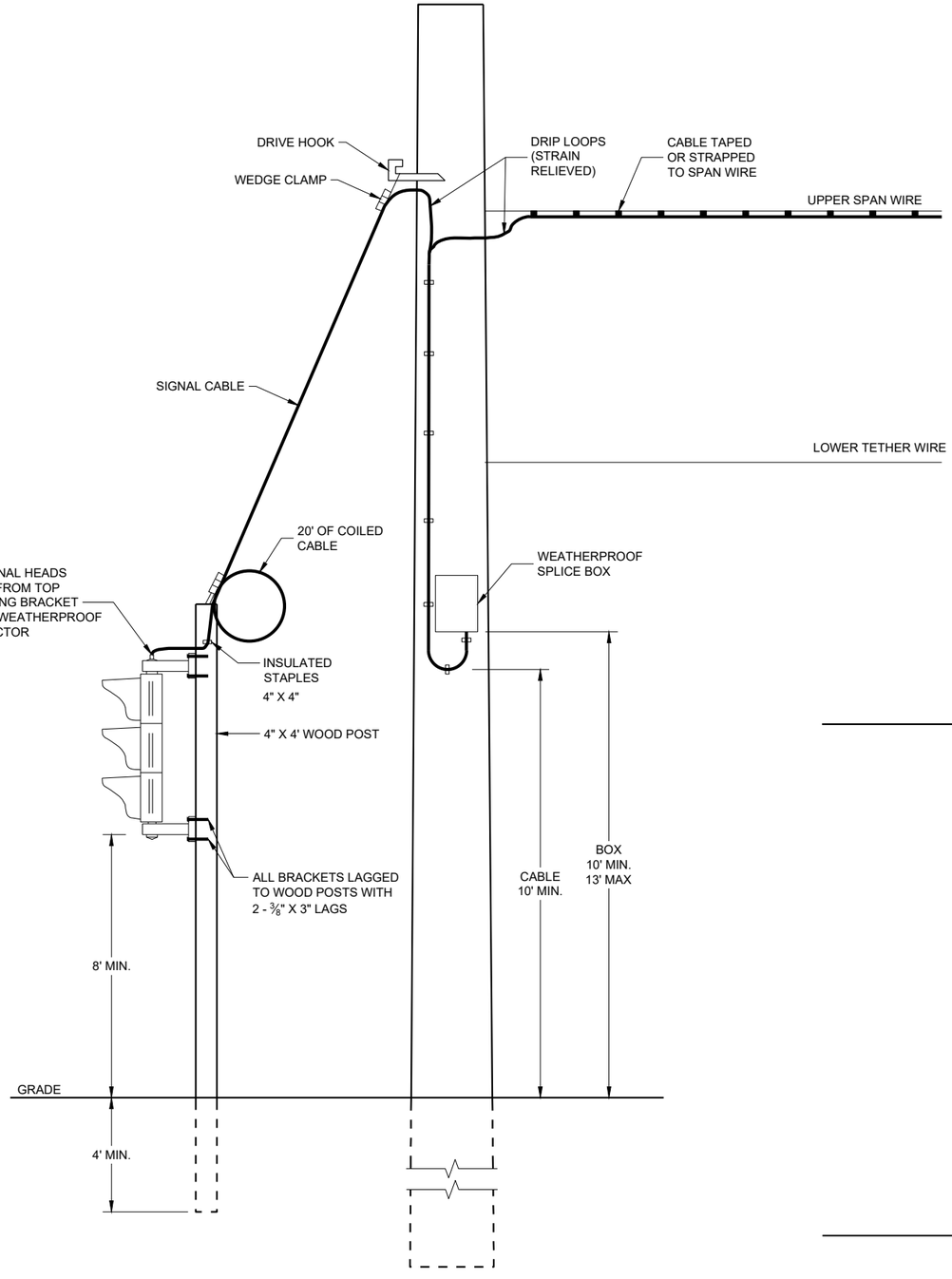
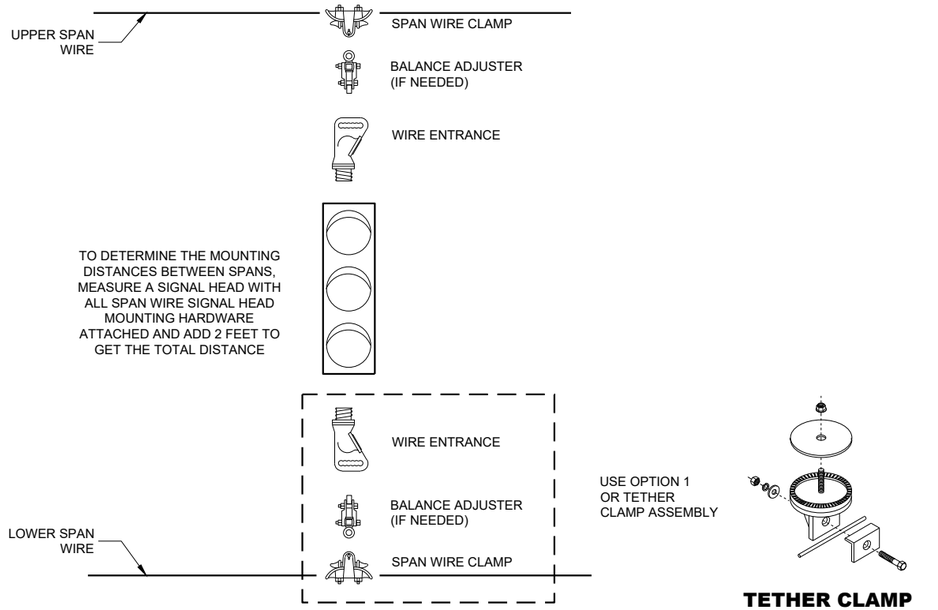


TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL

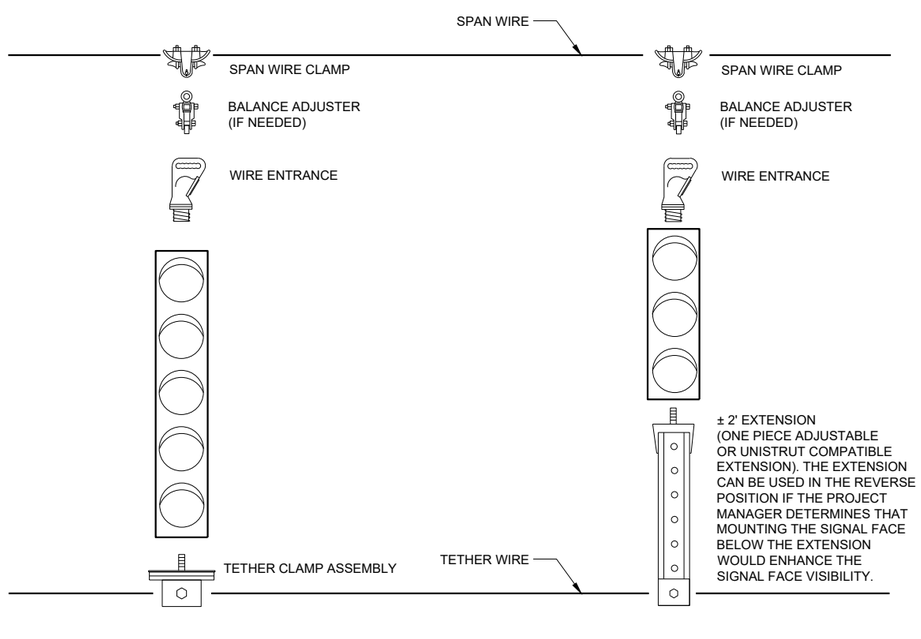


OPTION 1

USE OPTION 1 OR TETHER CLAMP ASSEMBLY

TETHER CLAMP ASSEMBLY OPTION

TYPICAL SPAN WIRE MOUNTING HARDWARE



5 SECTION VERTICAL WITH 3 SECTION VERTICAL ON ONE SPAN WIRE

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
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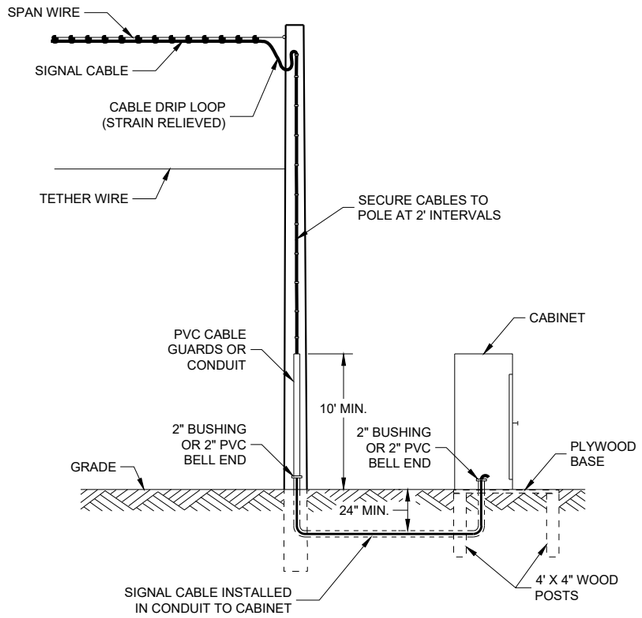
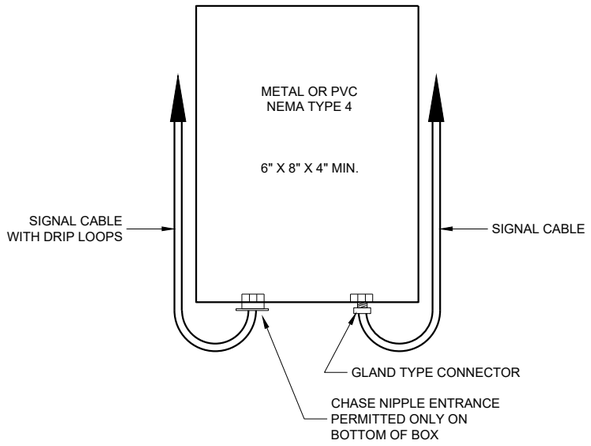
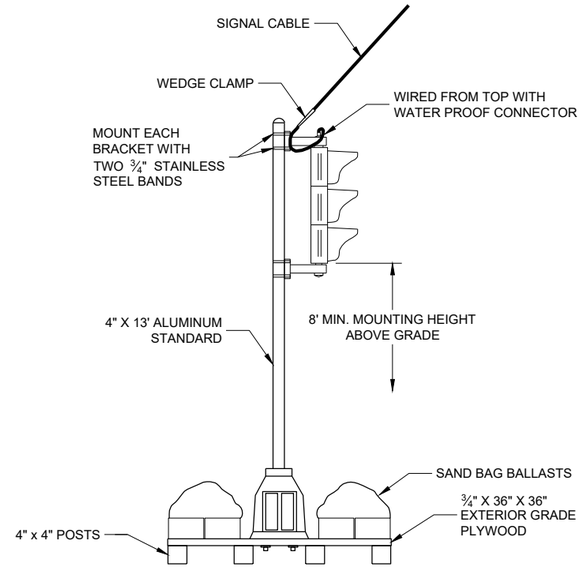
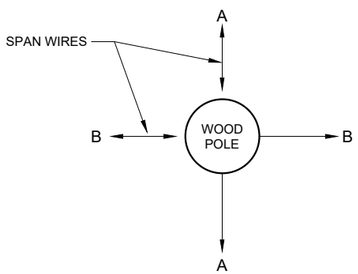




SPLICE BOX

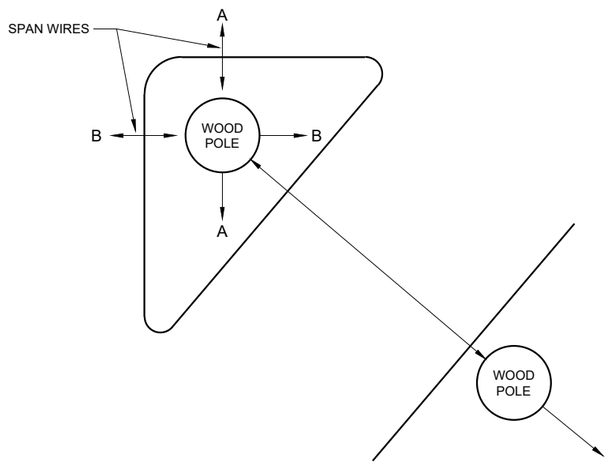


TYPICAL SKID TYPE TEMPORARY

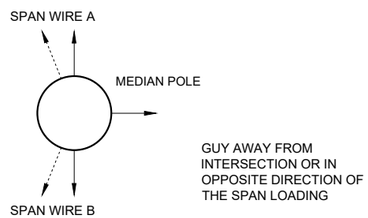


ALL DOWN OR SIDEWALK GUYS
SHALL BE INSTALLED IN THE
OPOSITE DIRECTION OF THE
STRAIN OF THE SPAN WIRE

CORNER POLES



ISLAND POLES



GUY AWAY FROM
INTERSECTION OR IN
OPPOSITE DIRECTION OF
THE SPAN LOADING

MEDIAN POLES

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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June 2015
DATE

/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVE ENGINEER

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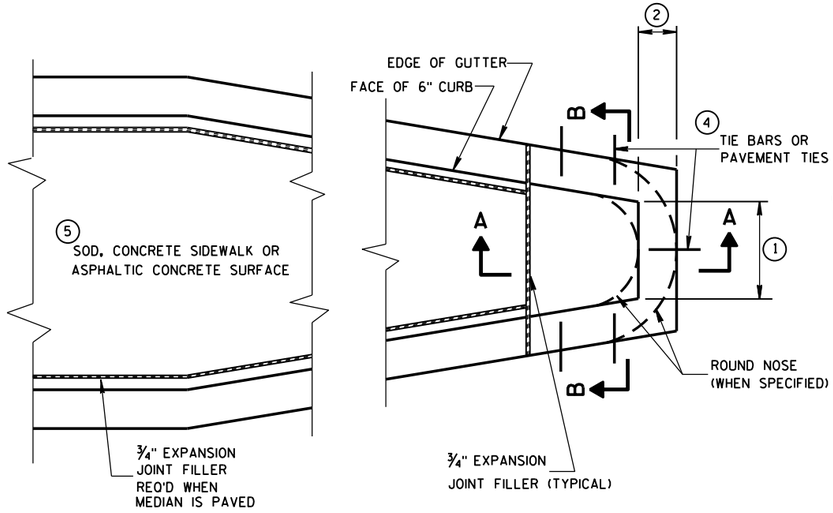
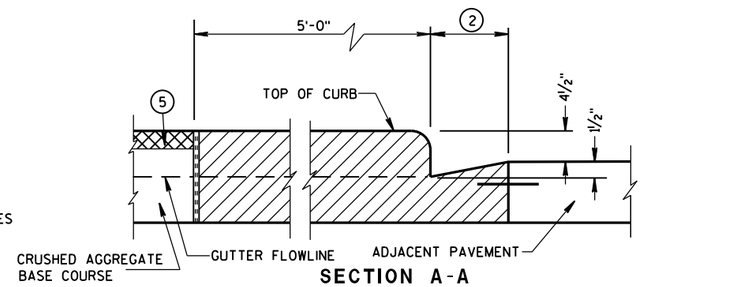
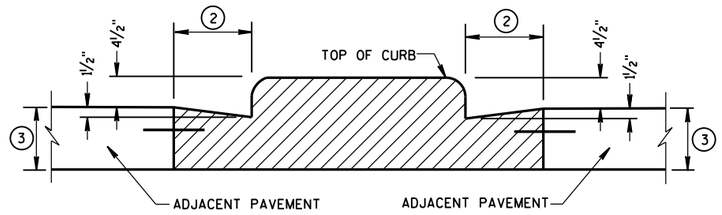




SECTION A-A



SECTION B-B

CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

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

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

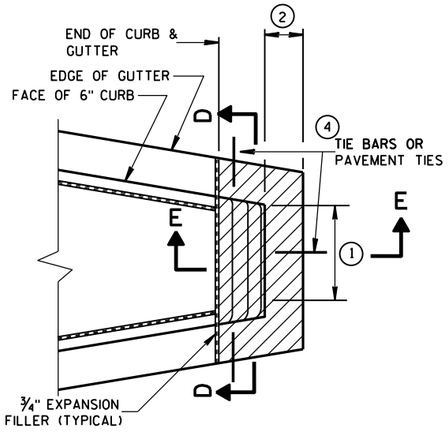
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

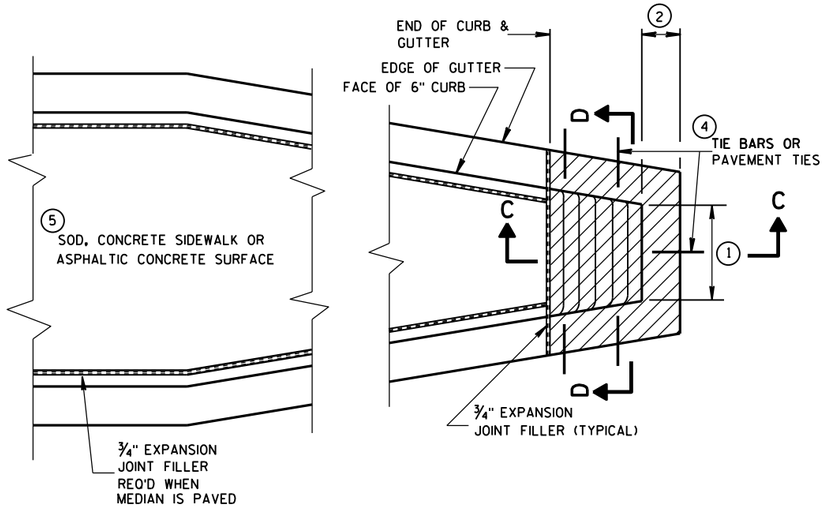
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

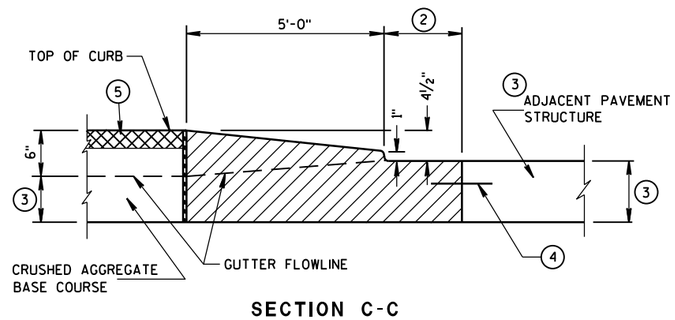
PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

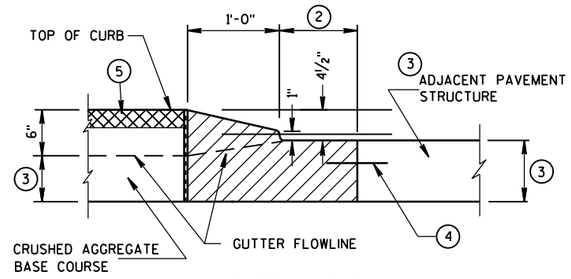




CONCRETE MEDIAN SLOPED NOSE TYPE 1

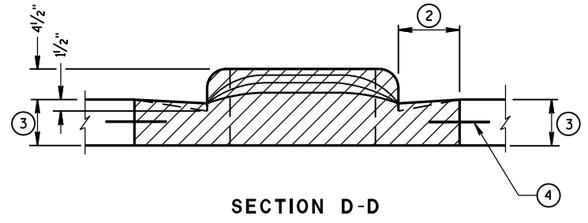


SECTION C-C



SECTION E-E

CONCRETE MEDIAN SLOPED NOSE TYPE 2



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/8/2006
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 11 B 2-2

6

S.D.D. 11 B 2-2

GENERAL NOTES

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

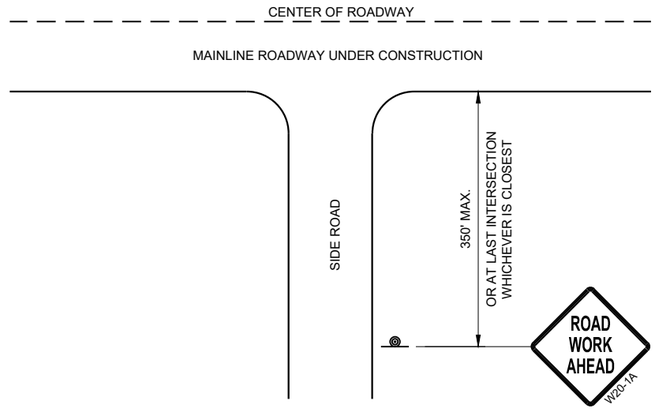
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



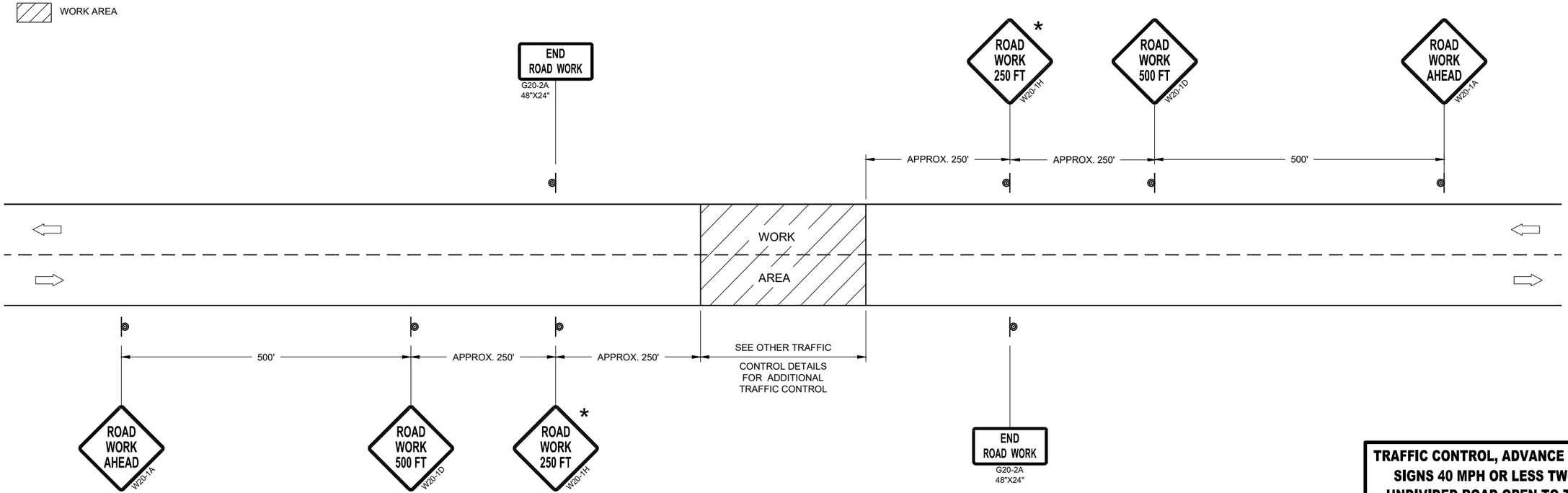
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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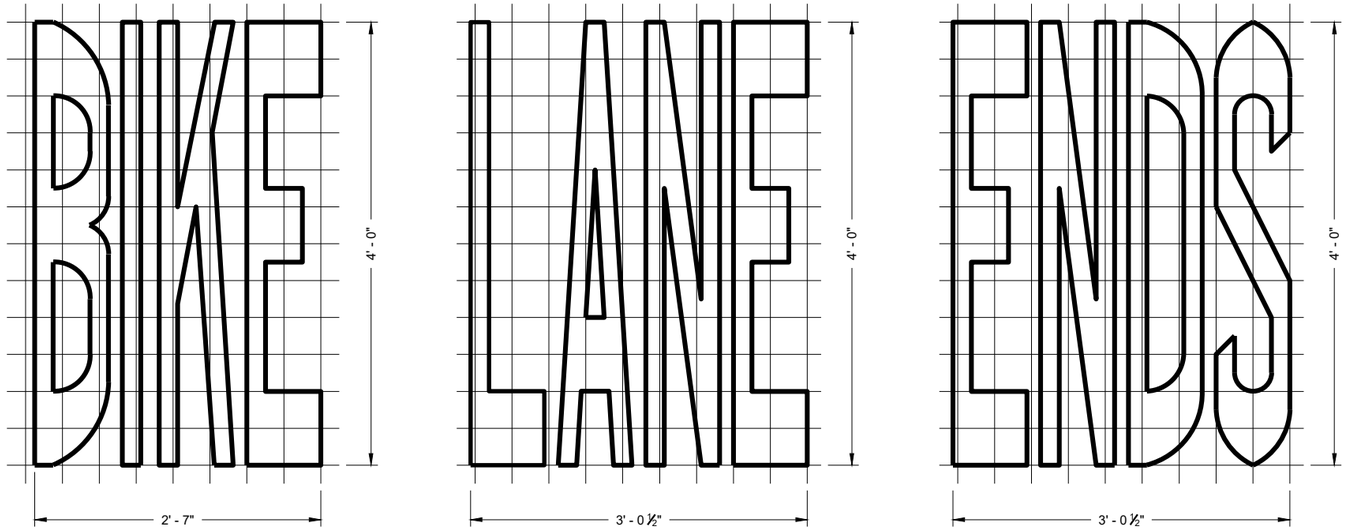
SDD 15C05 - 05

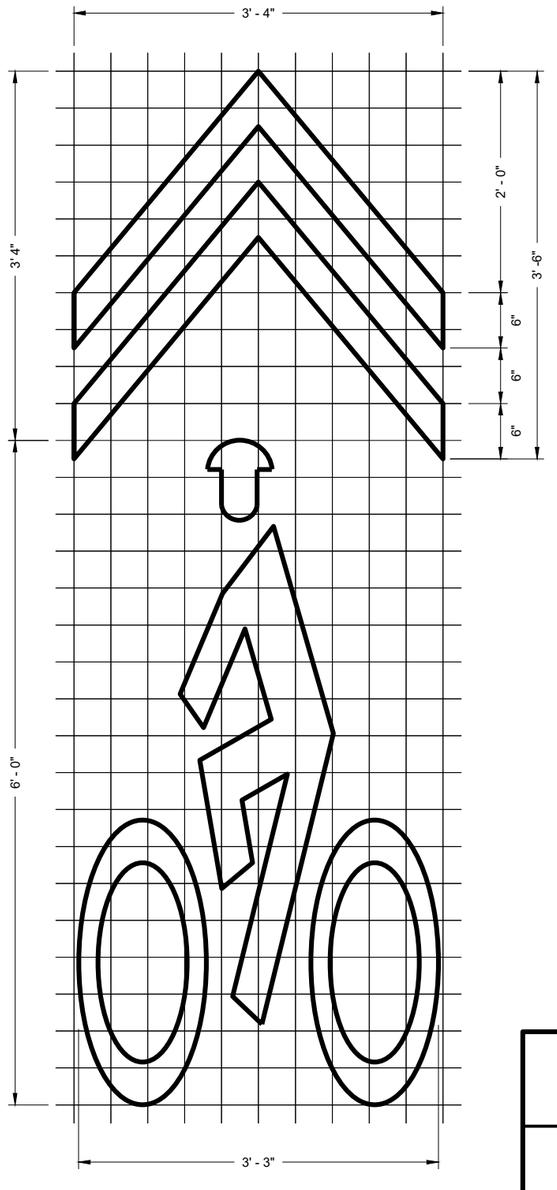
SDD 15C7-e Pavement Marking For Bike Lanes

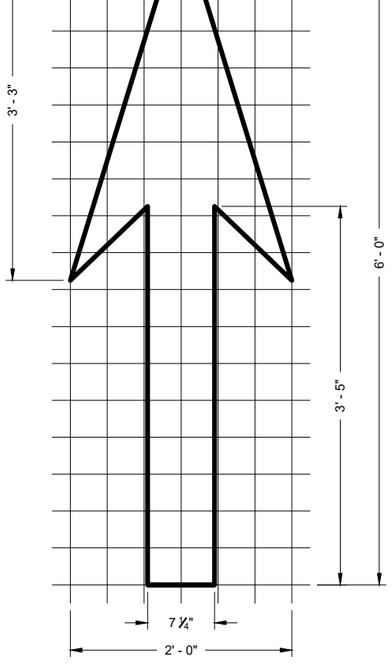


BIKE LANE WORDS

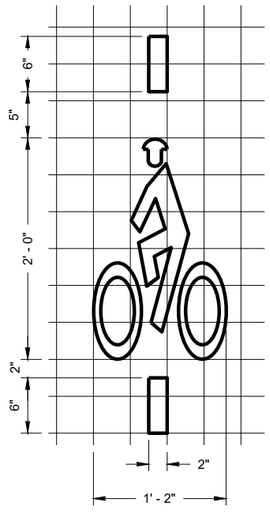
GENERAL NOTES

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.

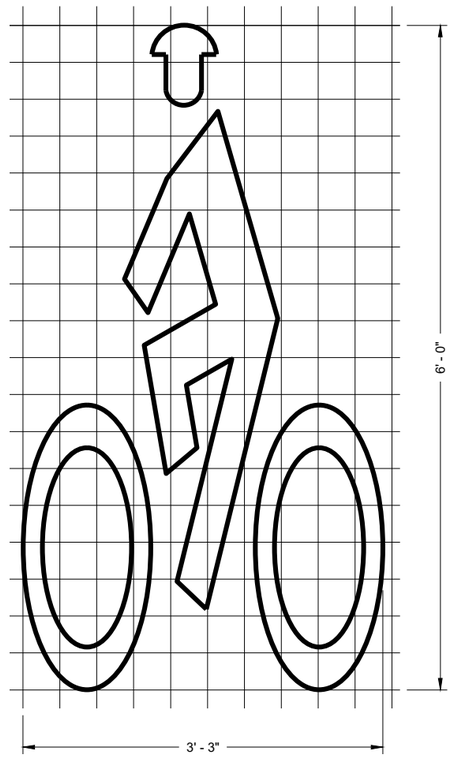




BIKE LANE ARROW



BICYCLE DETECTOR PAVEMENT MARKING



BIKE LANE SYMBOL

BIKE LANE SYMBOL FOR SHARED LANE

PAVEMENT MARKING FOR BIKE LANES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MAF ENGINEER

FHWA

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SDD 15C07 - 15e

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

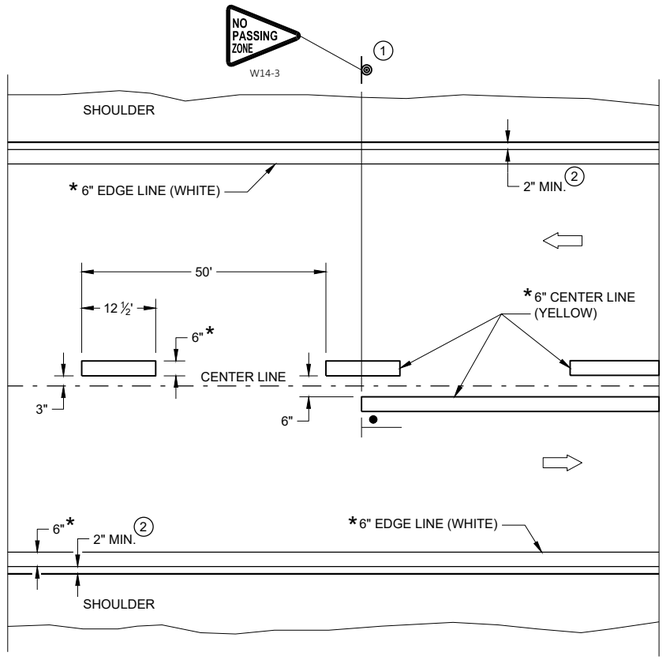
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

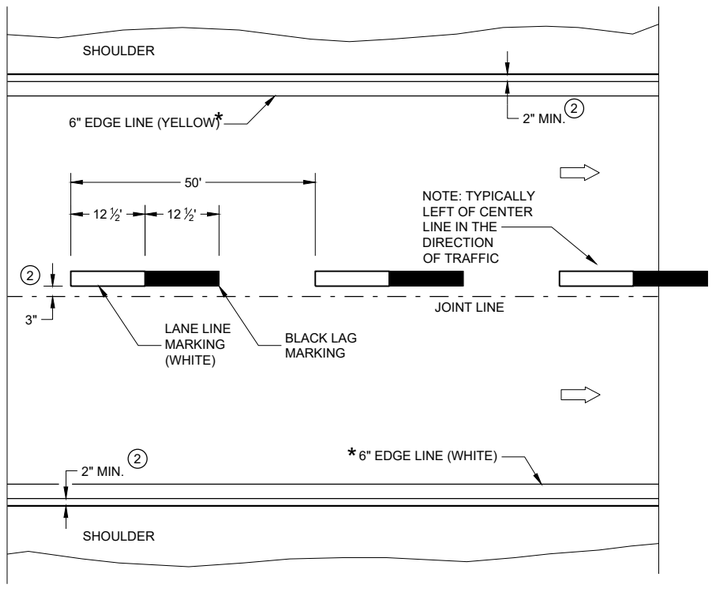
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER

FHWA

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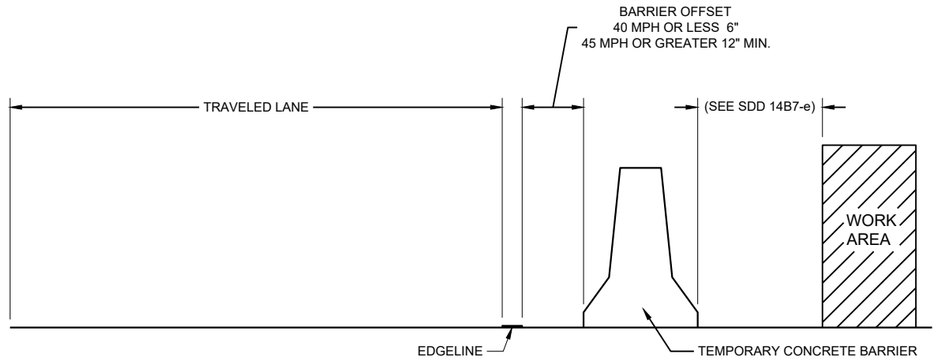
SDD 15C08-23a



TEMPORARY BARRIER OFFSET FROM EDGELINE

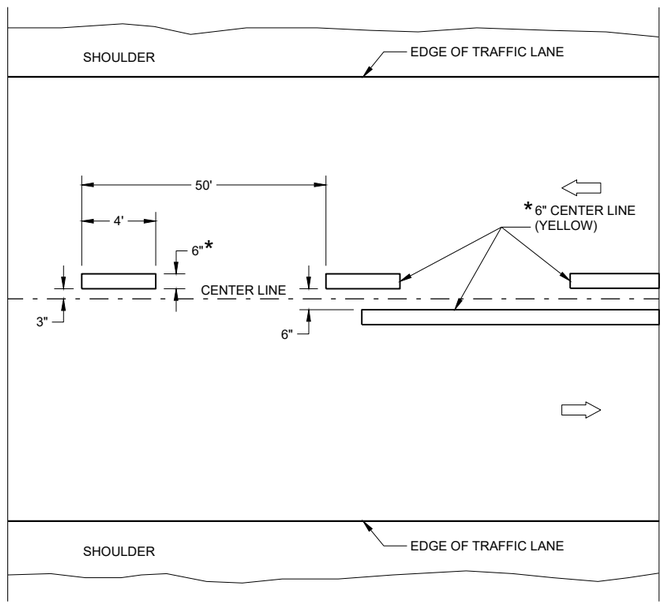
GENERAL NOTES

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

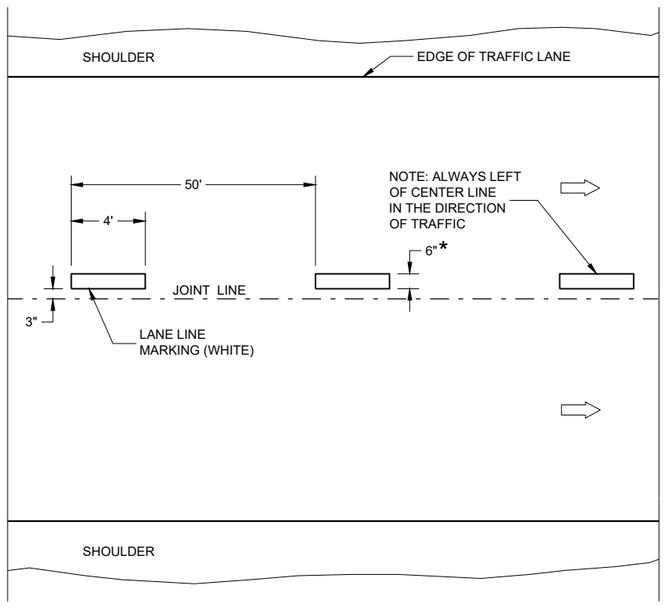
LEGEND

⇨ DIRECTION OF TRAFFIC

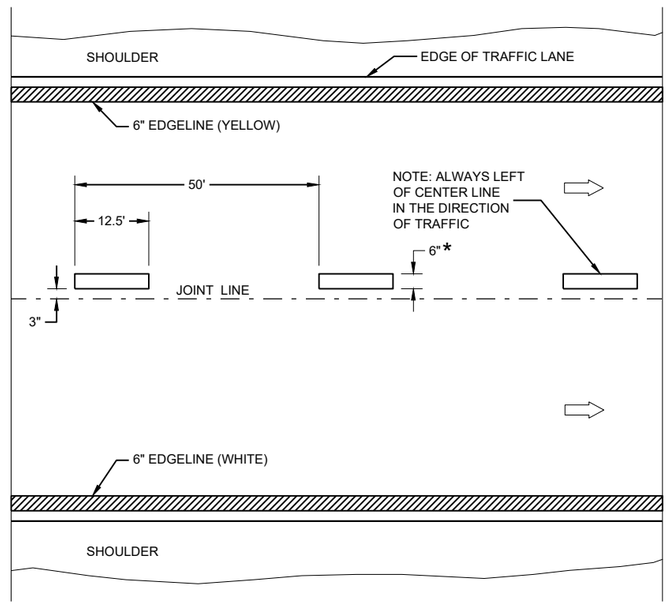
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER

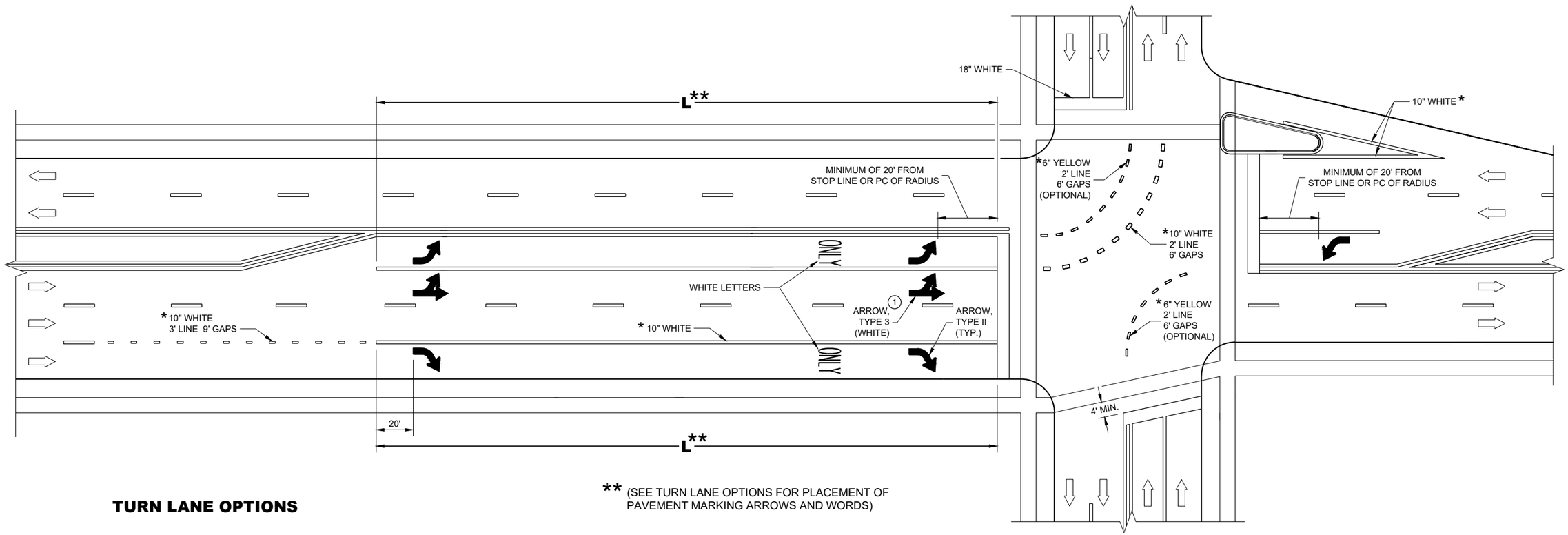
FHWA

6

SDD 15C08-23b

6

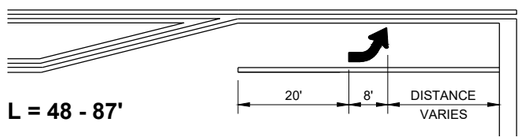
SDD 15C08-23b



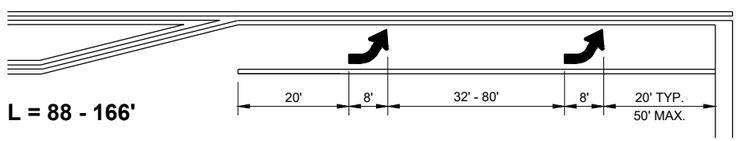
** (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

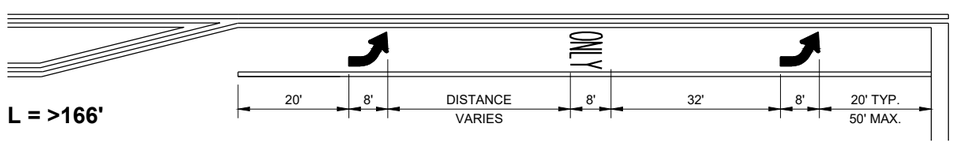
LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48 - 87'



L = 88 - 166'



L = >166'

GENERAL NOTES

(1) QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

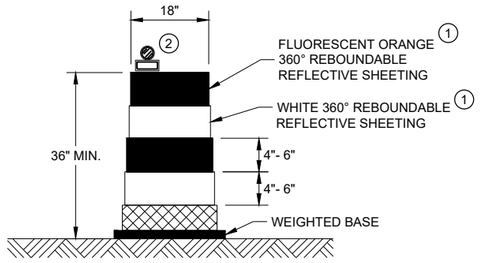
6

SDD 15C08-23d

SDD 15C08-23d

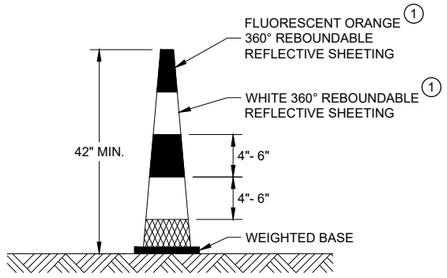
GENERAL NOTES

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



DRUM

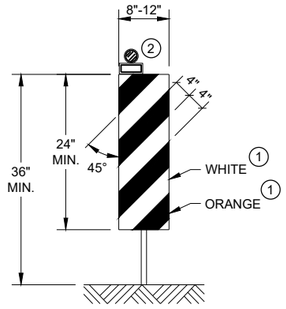
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

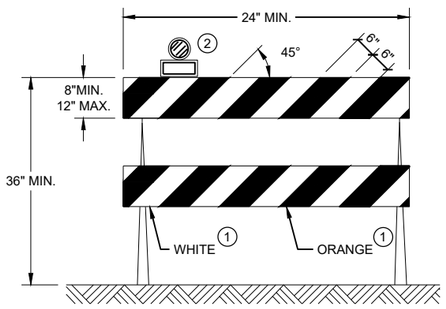
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



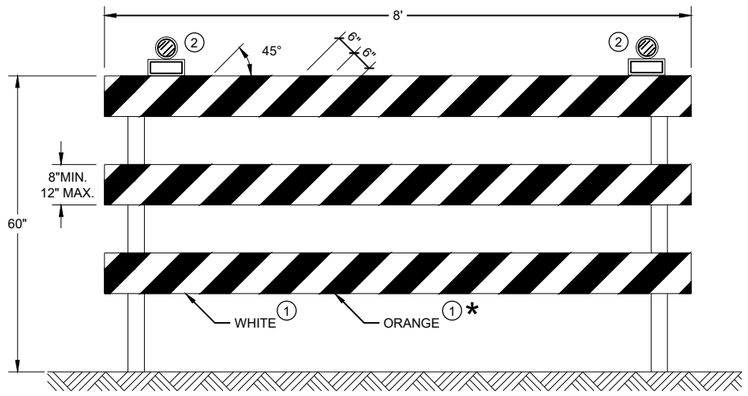
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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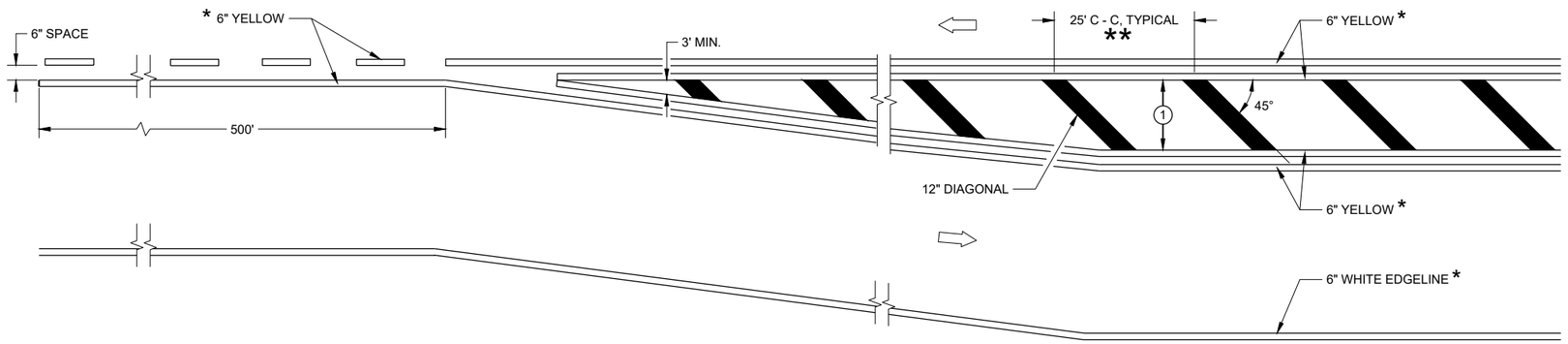
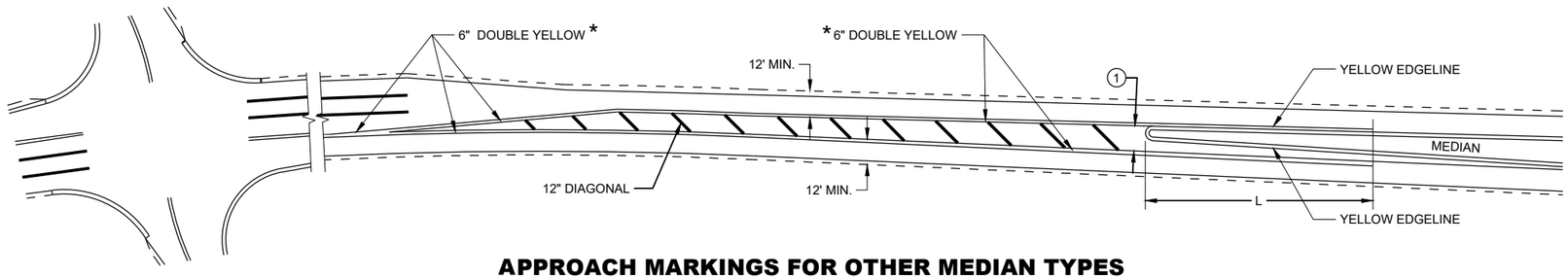
SDD 15C11 - 10b

6

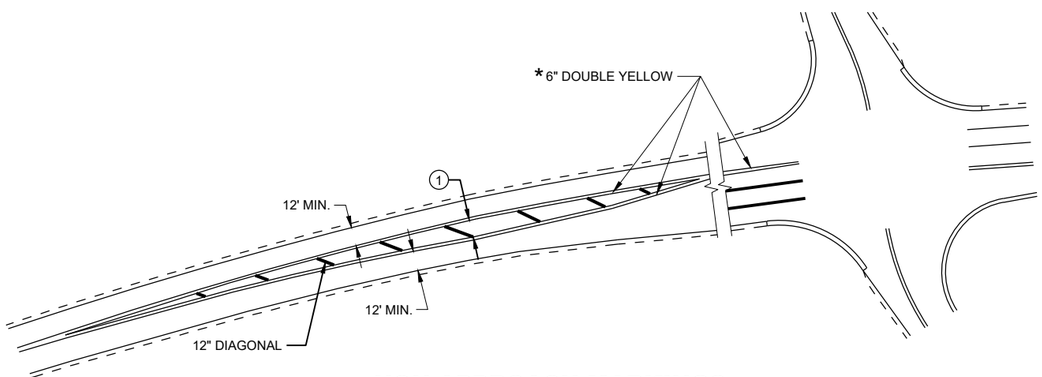
SDD 15C11 - 10b



MEDIAN ISLAND DETAIL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON-APPROACH MARKINGS

GENERAL NOTES

1. DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT THE WIDEST POINT. OMIT DIAGONALS IF WIDTH IS LESS THAN 4 FEET.

⇨ DIRECTION OF TRAVEL

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

SPEED LIMIT	L
<35 MPH	5'
35> MPH	50'

MEDIAN ISLAND PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Jeannie Silver — STATE SIGNING AND MAF ENGINEER
FHWA

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SDD 15C18-08a

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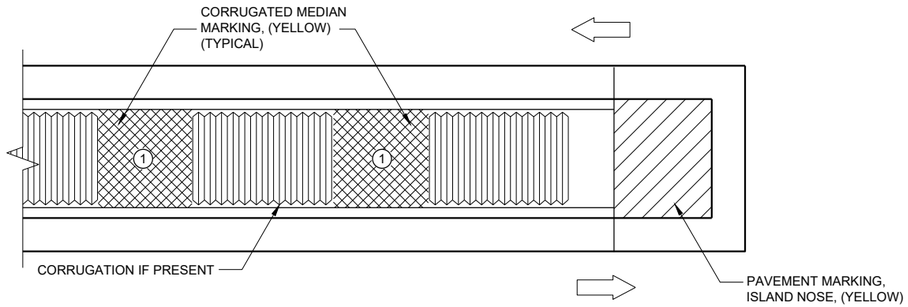
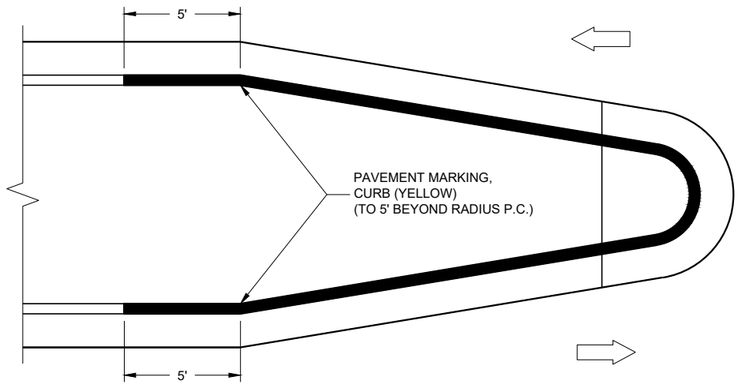
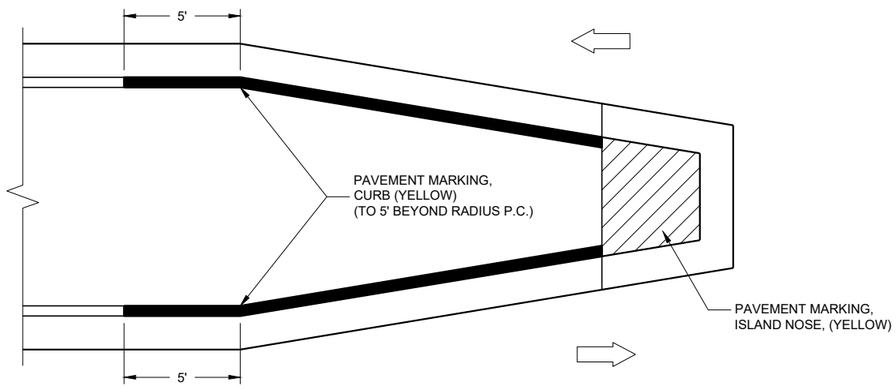


MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

(1) APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL

PAVEMENT MARKINGS, MEDIAN ISLAND NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Jeannie Silver
STATE SIGNING AND MAR ENGINEER

FHWA

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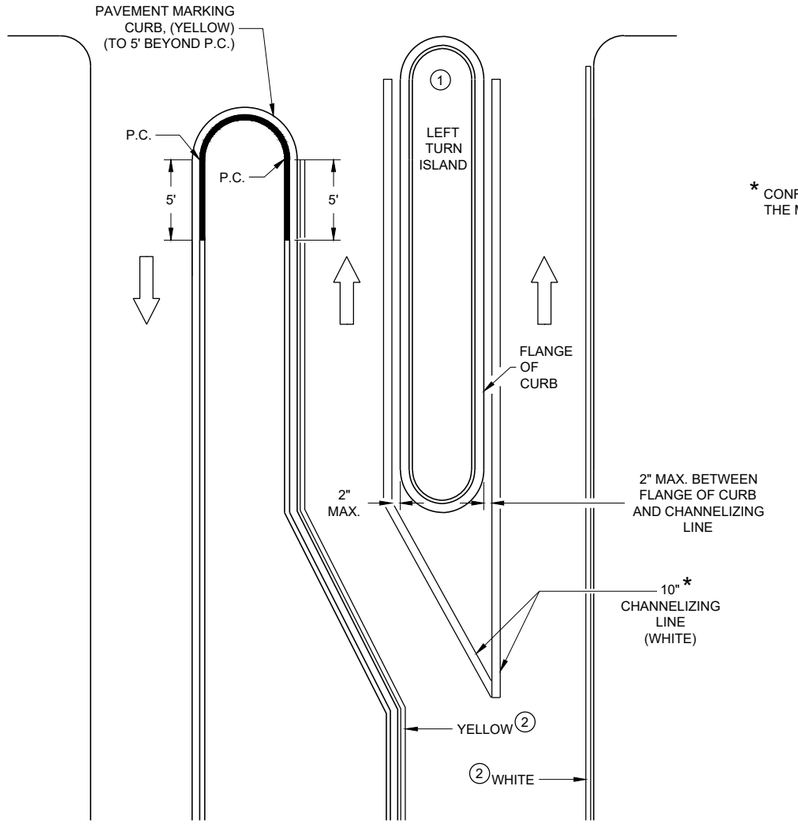
SDD 15C18-08b

REQUIREMENTS FOR EDGE LINES		
POSTED SPEED	IS THERE CONTINUOUS LIGHTING?	
	YES	NO
≤ 30 MPH	NO	OPTIONAL
35 OR 40 MPH	OPTIONAL	RECOMMENDED
≥ 45 MPH	RECOMMENDED	REQUIRED



* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEFT TURN & MEDIAN ISLAND

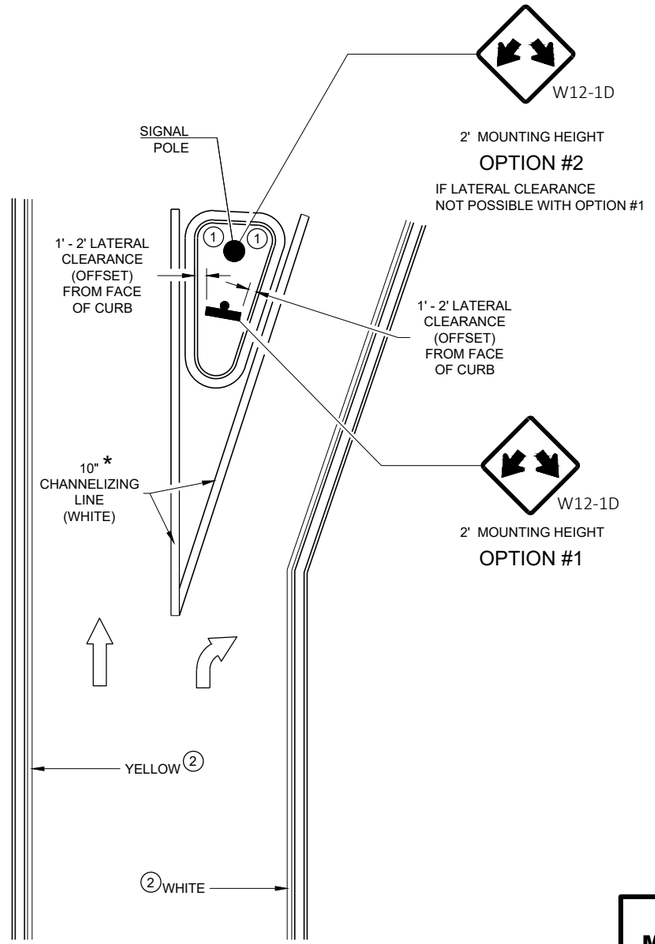
GENERAL NOTES

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

1. MARK CURB NOSES YELLOW.
2. MARK ACCORDING TO TABLE.

DIRECTION OF TRAVEL



RIGHT TURN ISLAND

MEDIAN PAVEMENT MARKINGS, DOUBLE ARROW WARNING SIGN PLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Jeannie Silver — STATE SIGNING AND MAF ENGINEER
FHWA

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SDD 15C18-08c

6

SDD 15C18-08c

LEGEND

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

GENERAL NOTES

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

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 REGIONAL TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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 TEMPORARY SUPPORTS.

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 TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

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

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

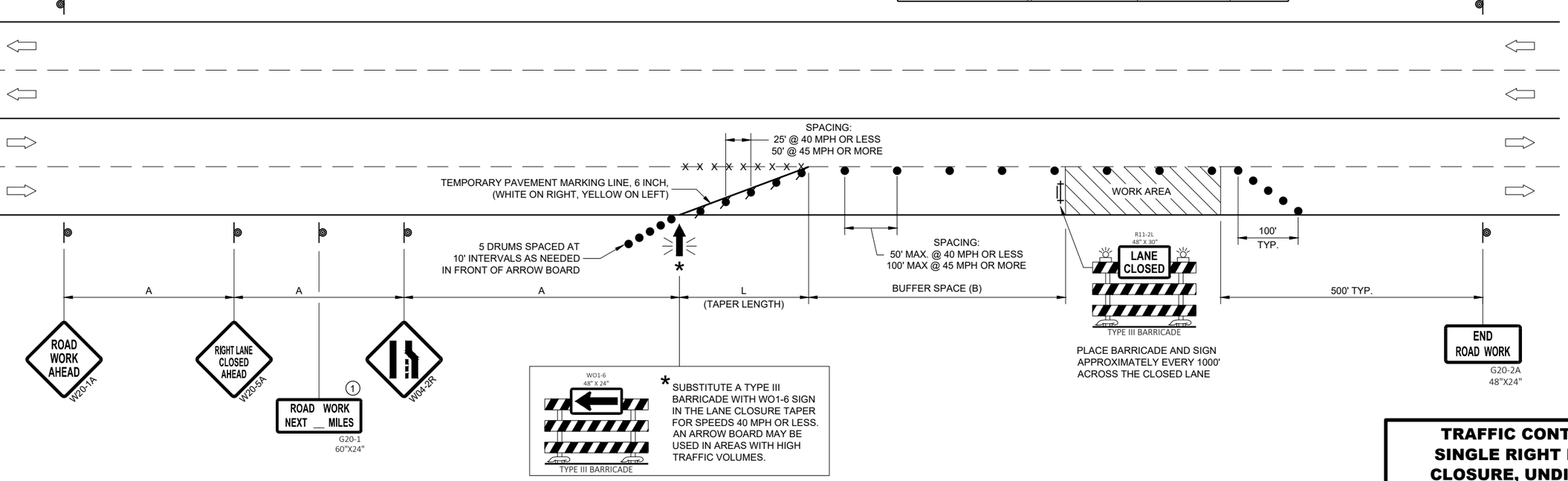
BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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.

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

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'
50	500'	600'	280'
55	500'	660'	335'



TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D20-07b

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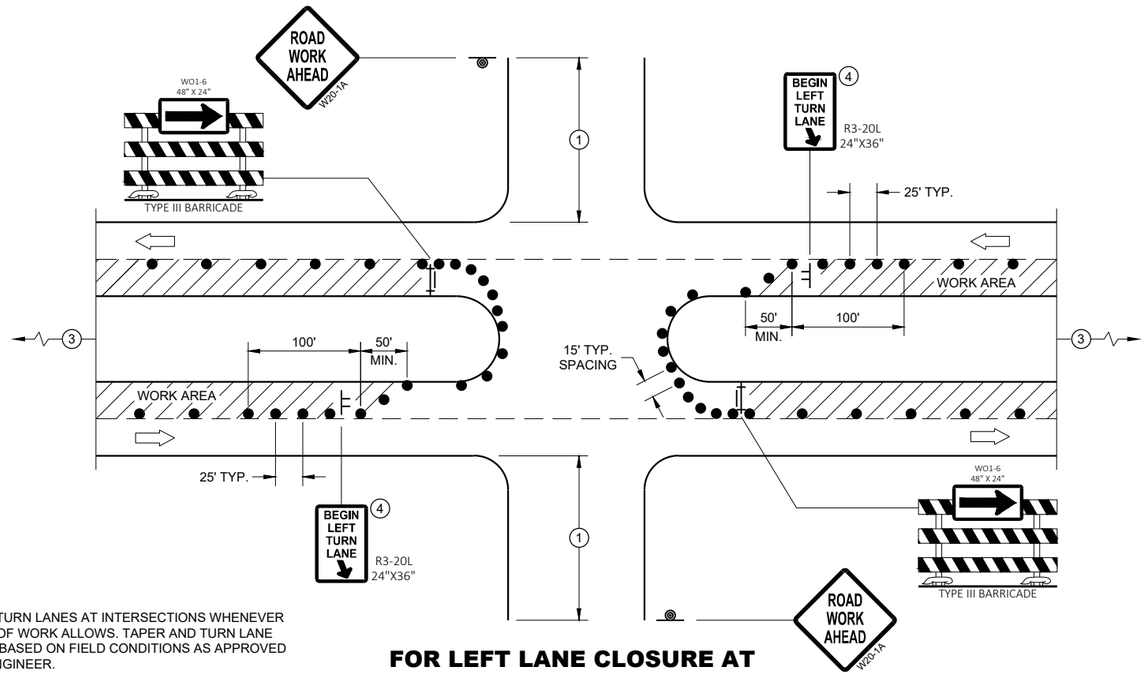
SDD 15D20-07b



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

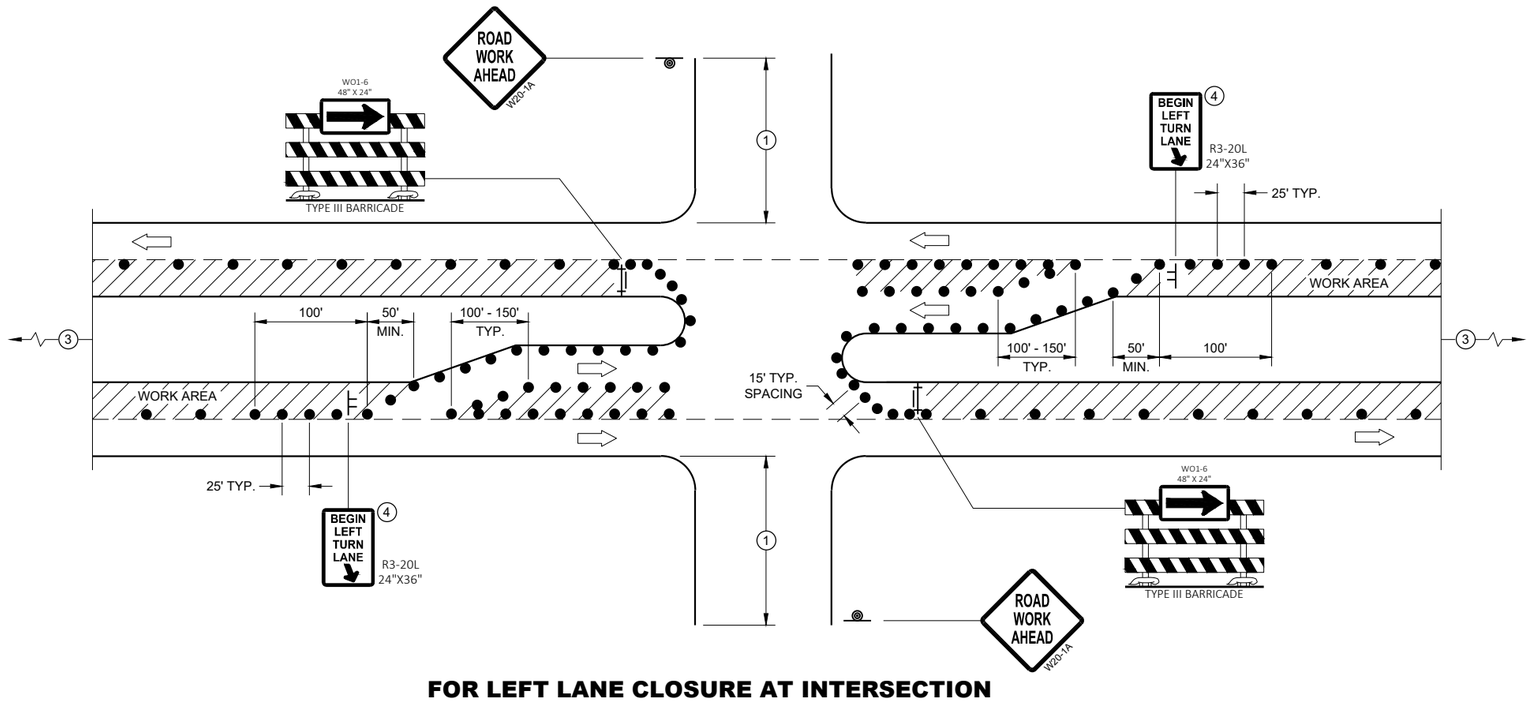
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

(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.

(4) MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.



FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LEFT LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D21 - 07b

6

SDD 15D21 - 07b

LEGEND

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

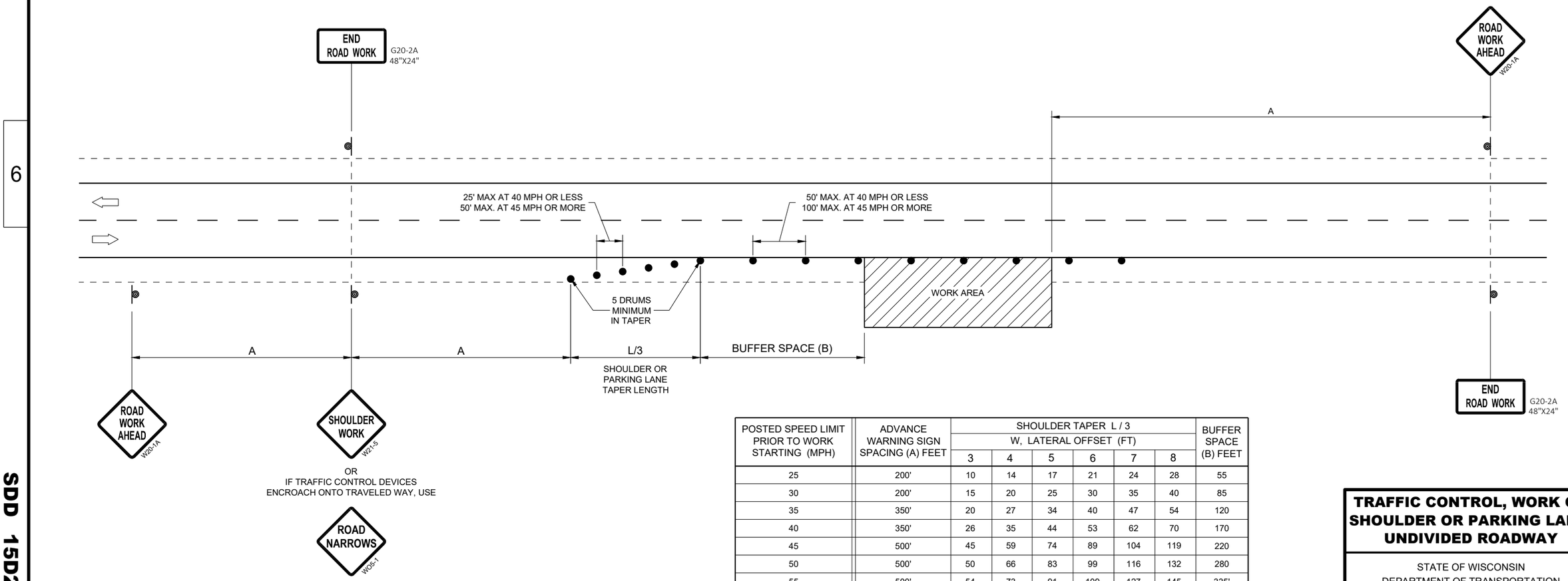
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

FHWA

SDD 15D28 - 04

SDD 15D28 - 04

GENERAL NOTES

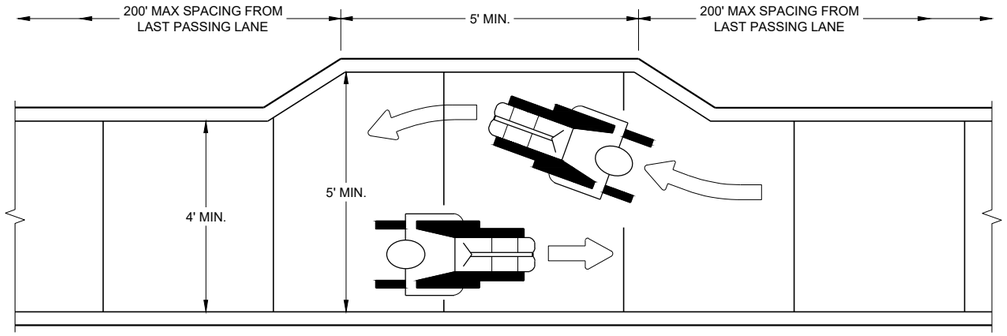
BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

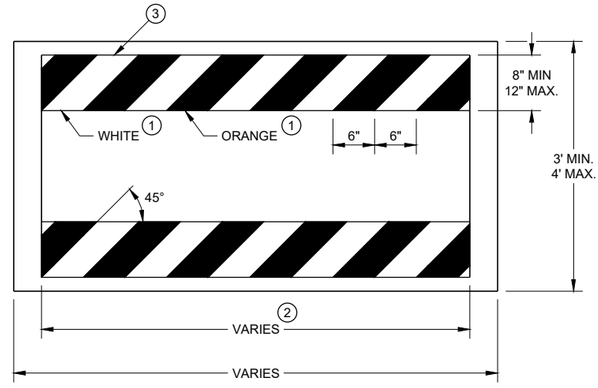
(2) SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.

(3) PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.

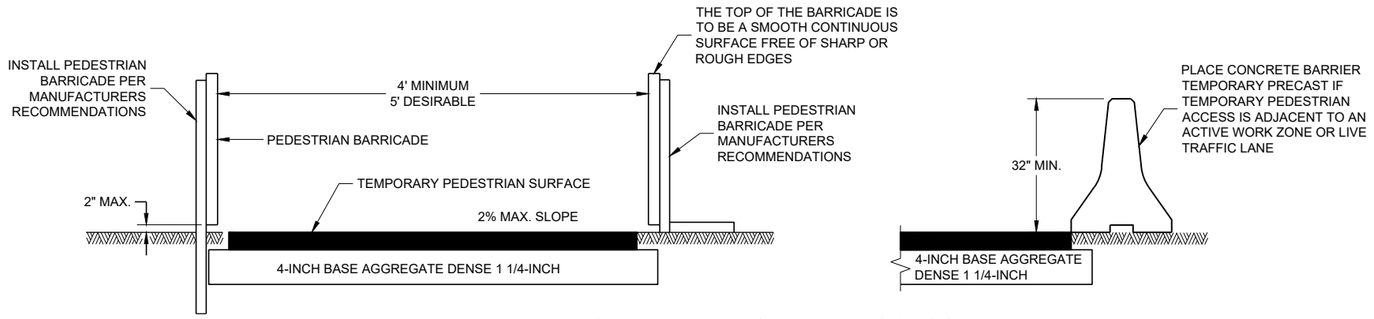
* USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.



NARROW SIDEWALK PASSING DETAIL



TEMPORARY PEDESTRIAN BARRICADE*



TEMPORARY PEDESTRIAN ACCESS

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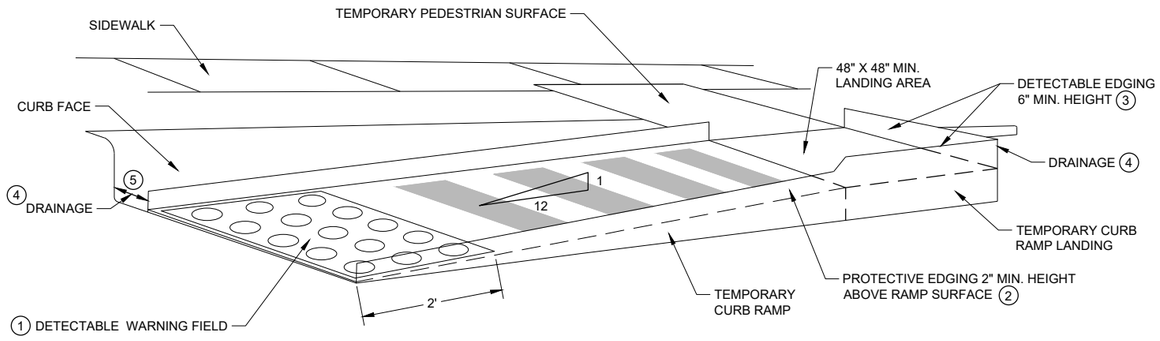
SDD 15D30 - 09a

SDD 15D30 - 09a

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION



PERSPECTIVE VIEW

GENERAL NOTES

CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

(1) INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.

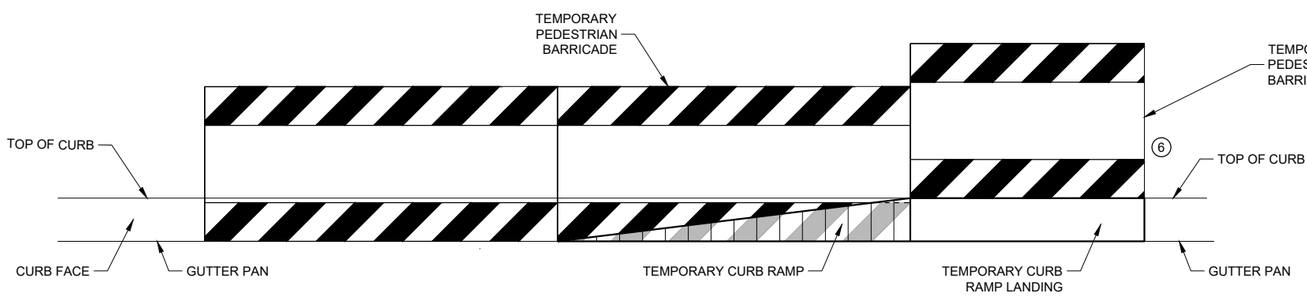
(2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

(3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

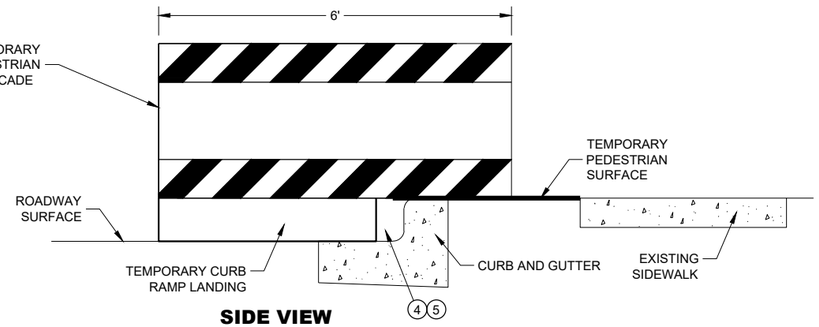
(4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

(5) ENSURE CURB RAMP IS OUT OF THE GUTTER PAN.

(6) IF ONLY PART OF THE END PANEL OF TEMPORARY PEDESTRIAN BARRICADE PANEL IS NEEDED, EXTEND EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL HERE.



FRONT VIEW



SIDE VIEW

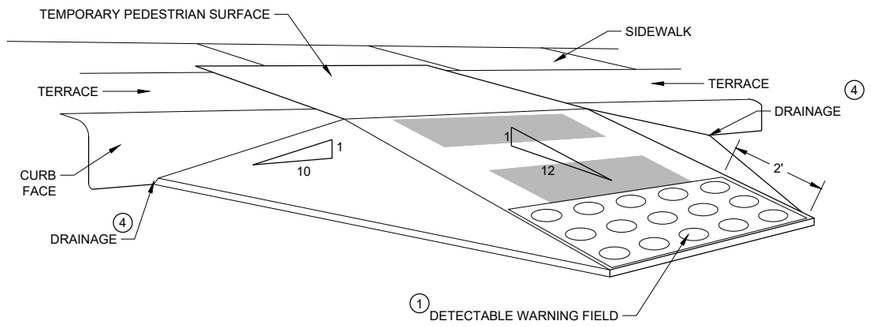
TEMPORARY CURB RAMP PARALLEL TO CURB

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

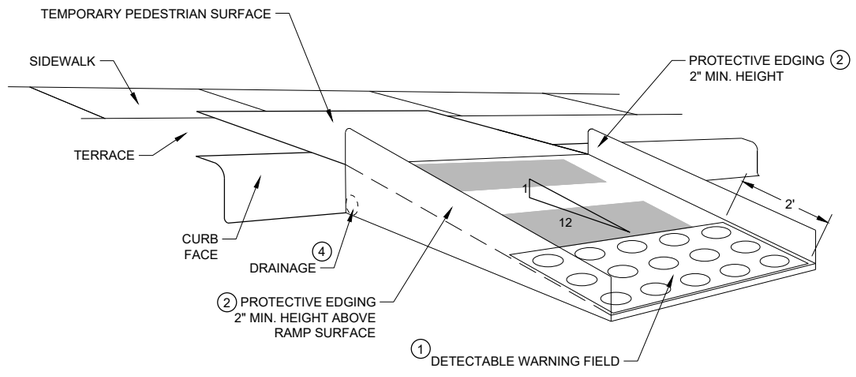
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15D30 - 09b



WITH SIDE APRON 5



WITH PROTECTIVE EDGE

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

GENERAL NOTES

CURB RAMPS SHALL BE 48" MINIMUM WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

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

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

1. INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS
2. PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
3. DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
5. CAN ONLY BE USED FOR RAMPS WITH 6" OR LESS OF VERTICAL CHANGE.

6

SDD 15D30 - 09c

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

LEGEND

SIGN ON PERMANENT SUPPORT

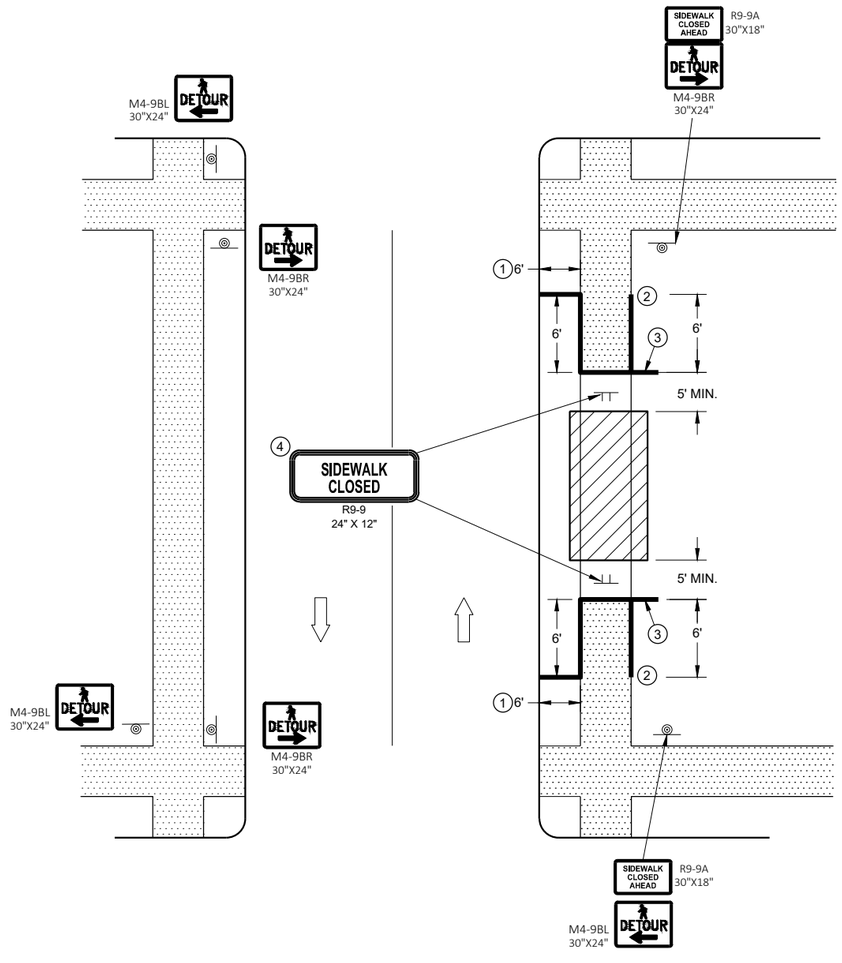
SIGN ON TEMPORARY SUPPORT

UNDER PEDESTRIAN TRAFFIC

WORK AREA

TEMPORARY PEDESTRIAN BARRICADE

DIRECTION OF TRAFFIC



GENERAL NOTES

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

SIGNS THAT REMAIN IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

PLACE TEMPORARY PEDESTRIAN BARRICADE TO FIT FIELD CONDITIONS, AVOIDING CONFLICT WITH DRIVEWAYS AND OTHER EXISTING FEATURES.

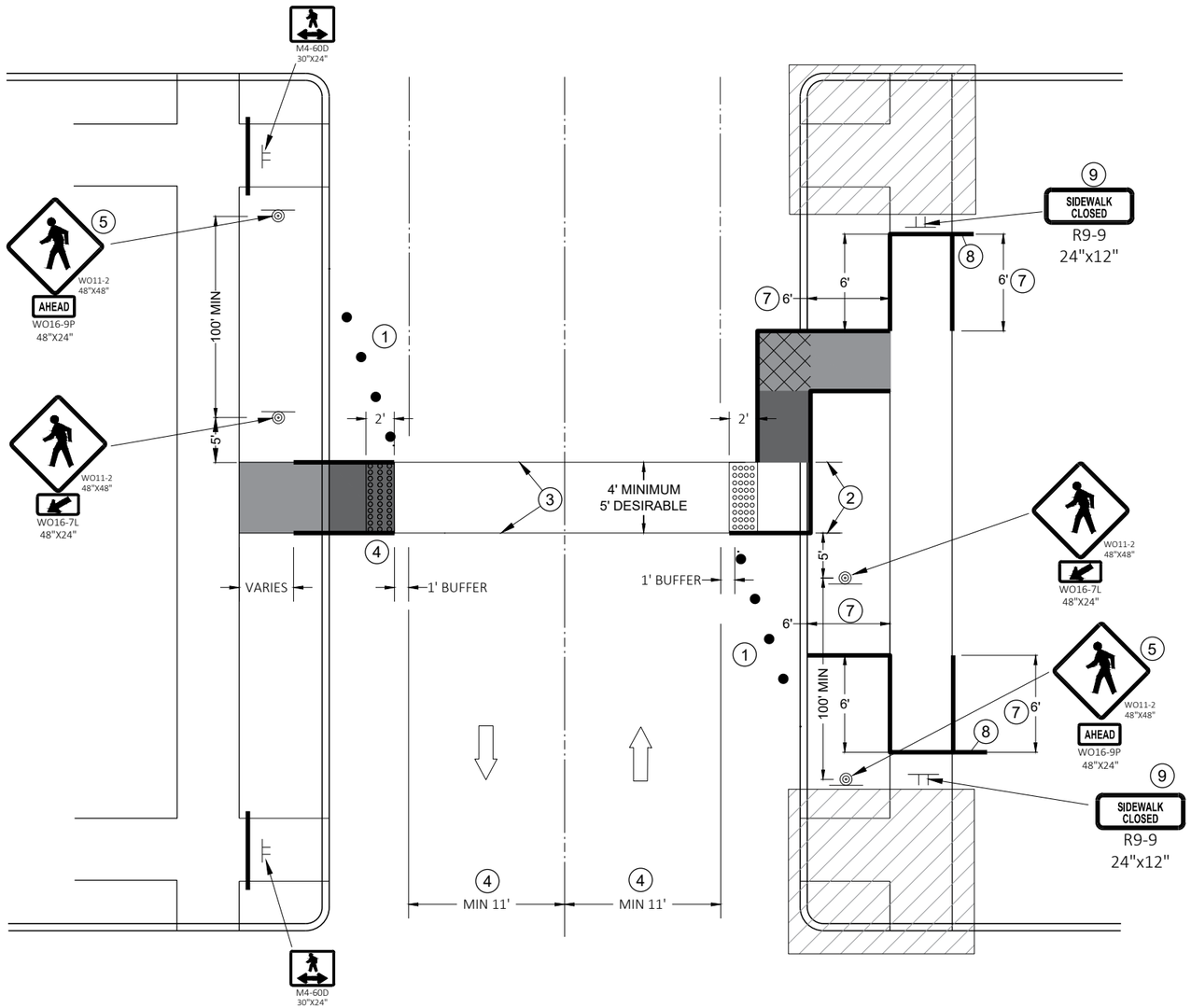
1. IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
2. PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
3. IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
4. MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.

SIDEWALK DETOUR, SIDEWALK ON BOTH SIDES

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

6

SDD 15D30 - 09k



TEMPORARY PEDESTRIAN CROSSING

GENERAL NOTES

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

SEE OTHER PEDESTRIAN ACCOMMODATION DETAILS FOR SIGNING AND DEVICES FOR DIFFERENT PEDESTRIAN FACILITIES CLOSURES.

1. SHOULDER OR LANE CLOSURE ADVANCED WARNING AND PROPER BUFFER SPACE REQUIRED.
2. 4 FEET MINIMUM, 5 FEET DESIRABLE.
3. WHITE 6" TEMPORARY PAVEMENT MARKING.
4. IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, PERPENDICULAR CURB RAMPS MAY NEED TO BE UTILIZED.
5. IF MINIMUM 100' SPACING FROM THE MID-BLOCK CROSSING CANNOT BE ATTAINED BEFORE THE INTERSECTION, REMOVE THIS SIGN ASSEMBLY.
6. IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
7. PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
8. IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF THE EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
9. MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF THE SIGN.

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON TEMPORARY SUPPORT
- TEMPORARY CURB RAMP
- TEMPORARY DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- WORK AREA
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

6

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 15D30 - 09L

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)					
		3	4	5	6	7	8
25	200	10	14	17	21	24	28
30	200	15	20	25	30	35	40
35	350	20	27	34	40	47	54
40	350	26	35	44	53	62	70
45	500	45	59	74	89	104	119
50	500	50	66	83	99	116	132
55	500	54	73	91	109	127	145

GENERAL NOTES

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

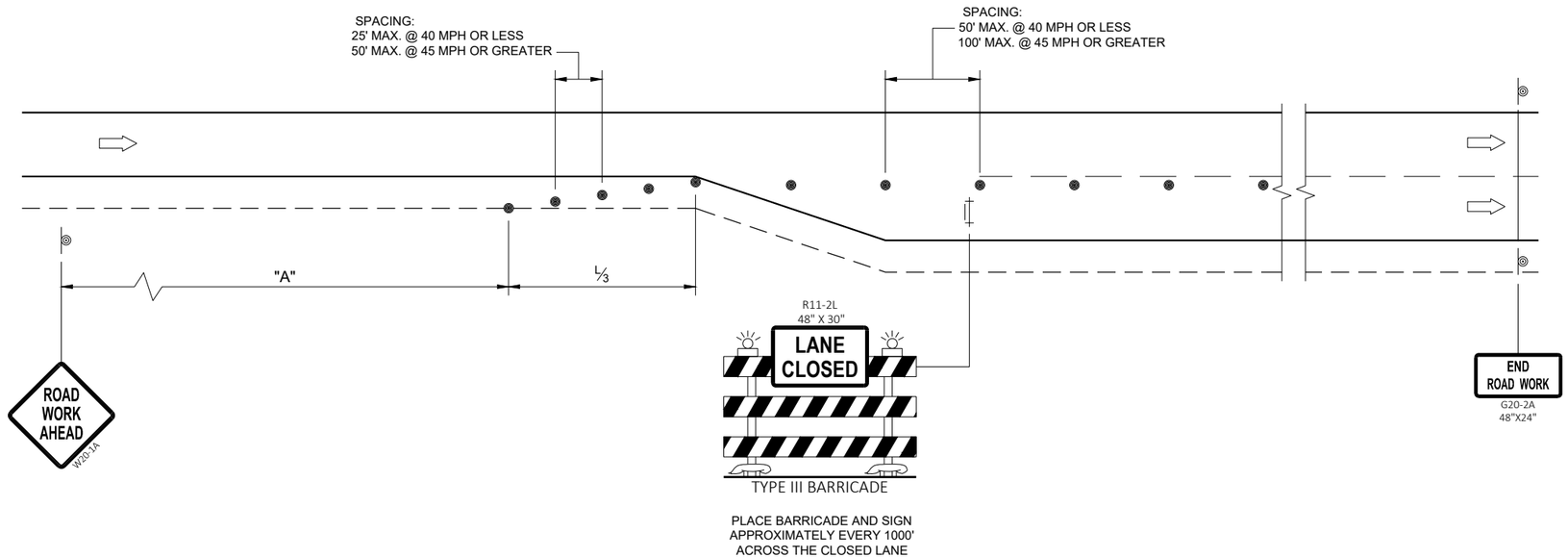
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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.

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.



PLACE BARRICADE AND SIGN APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE

TRAFFIC CONTROL
ADDED LANE CLOSURE
WITHOUT LANE SHIFT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6
SDD 15D50-03a

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER (L/2) FEET
25	200	60
30	200	90
35	350	120
40	350	160
45	500	270
50	500	300
55	500	330

GENERAL NOTES

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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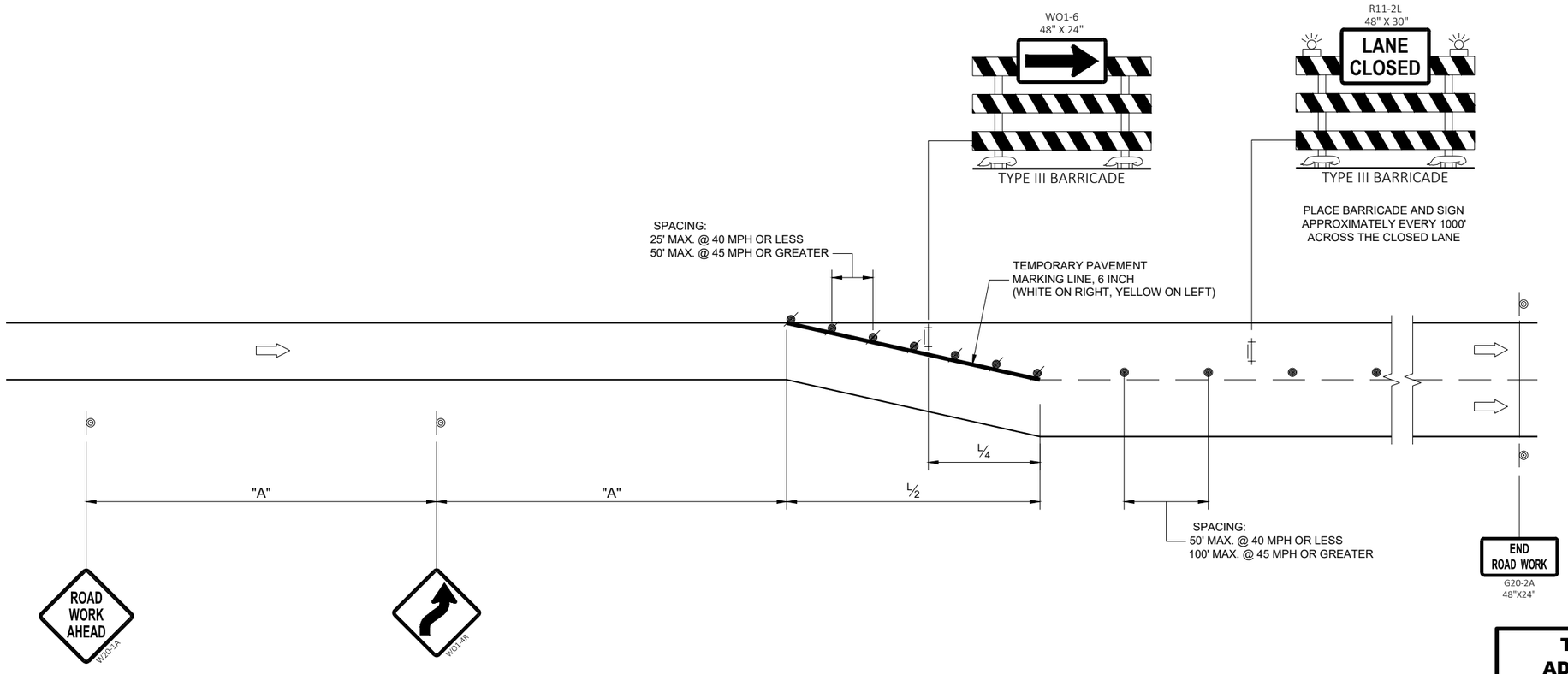
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.

PLACE TEMPORARY PAVEMENT MARKING AND PLACE TEMPORARY PAVEMENT LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.



TRAFFIC CONTROL, ADDED LANE CLOSURE WITH LANE SHIFT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

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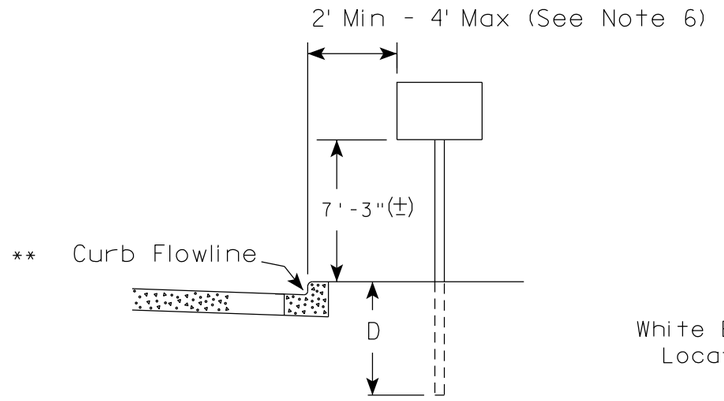
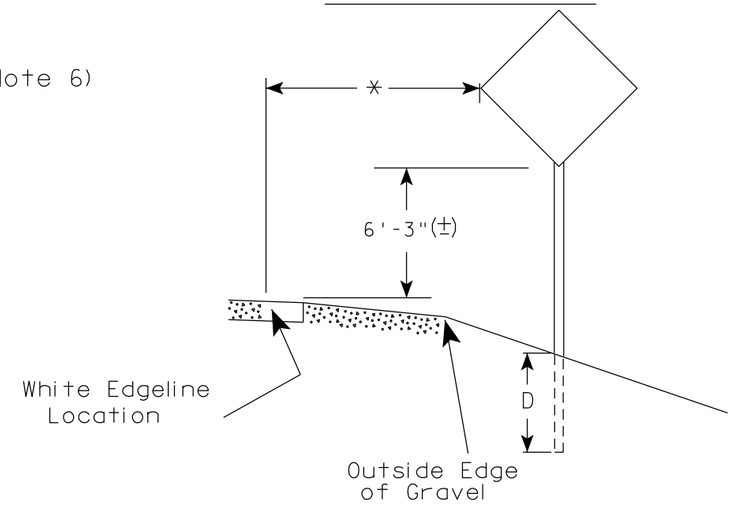
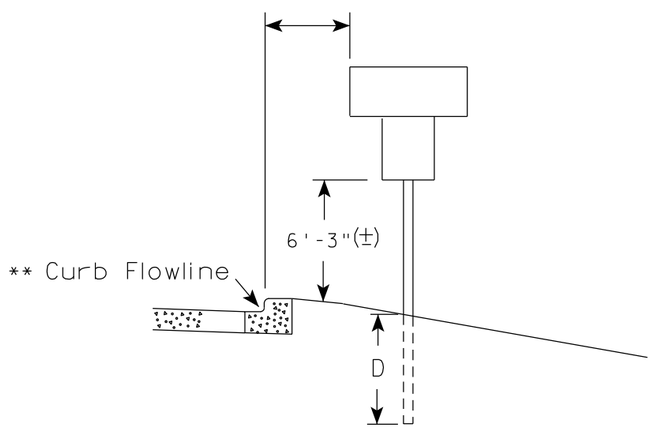
SDD 15D50-03b

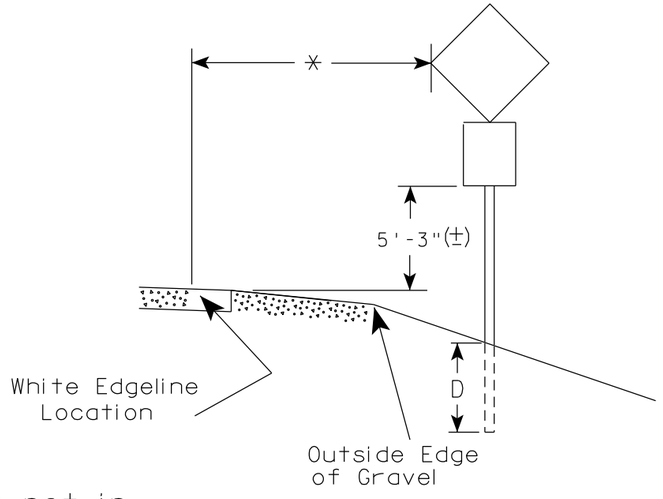
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

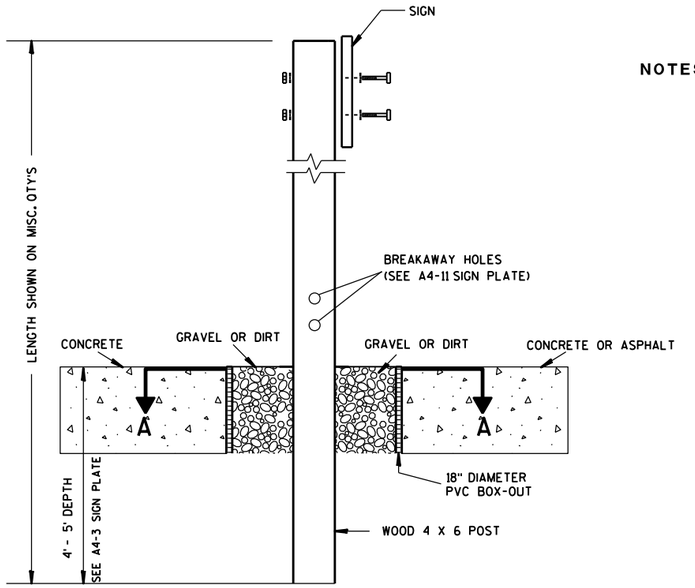
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

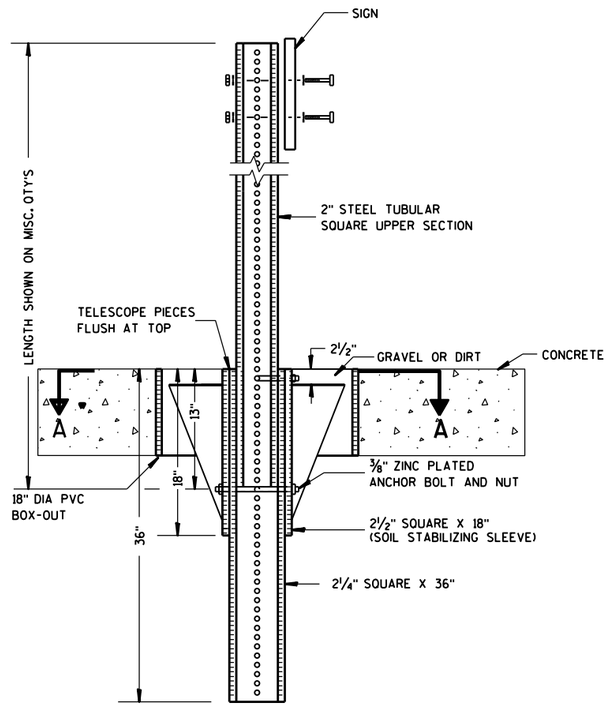
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 97	E



ELEVATION VIEW

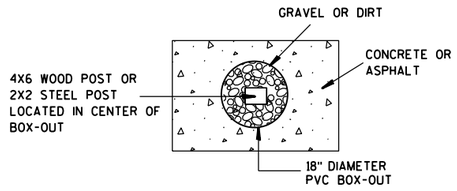
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

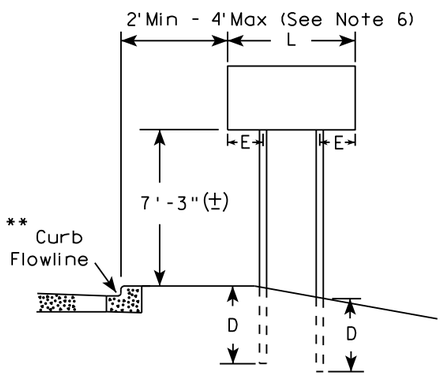
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

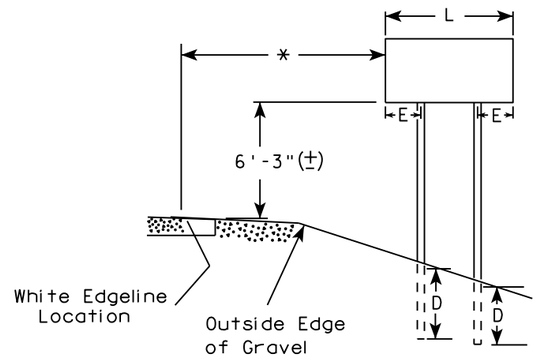
DATE 1/27/14 PLATE NO. A4-3B.1

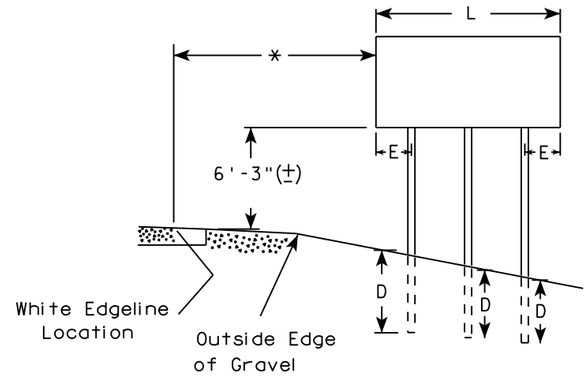
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

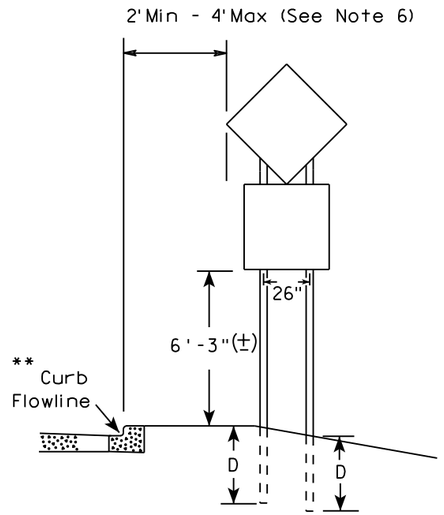
URBAN AREA



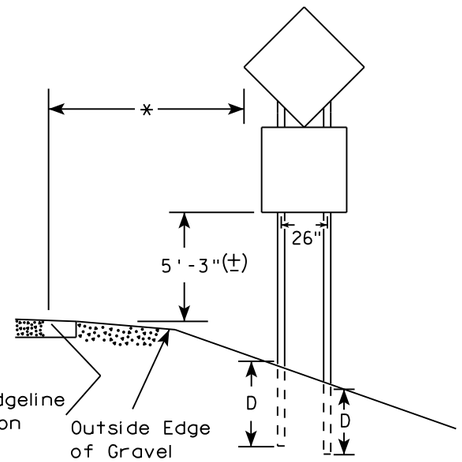
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)		
	L	E
***	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

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

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

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

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

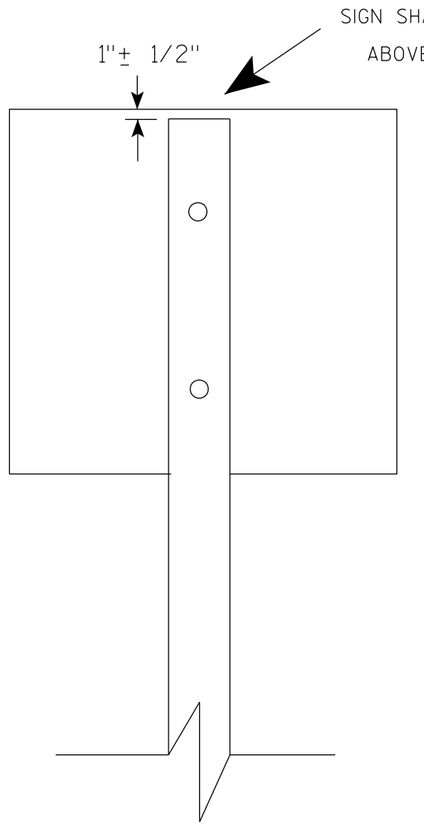
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

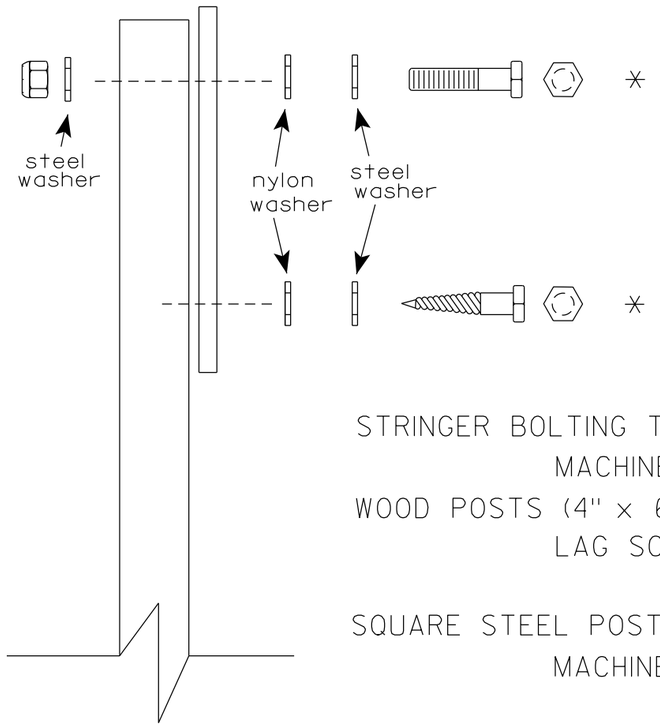
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 99	E





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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

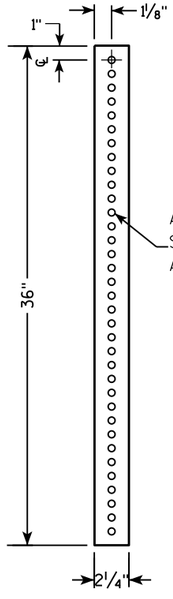
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

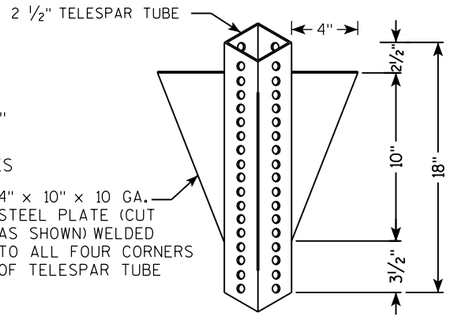
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

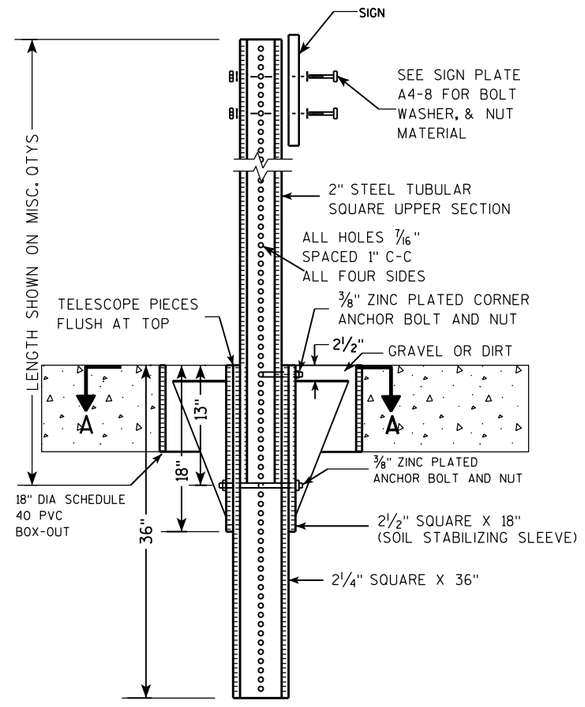
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



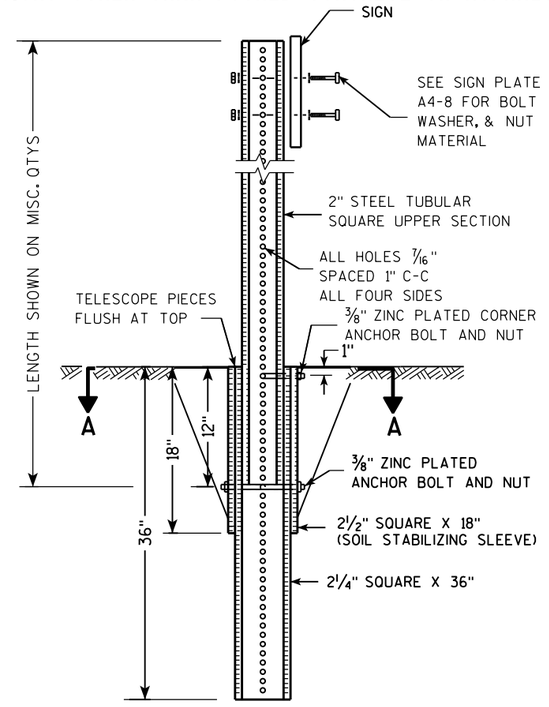
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

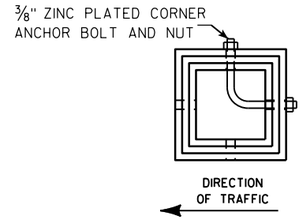


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

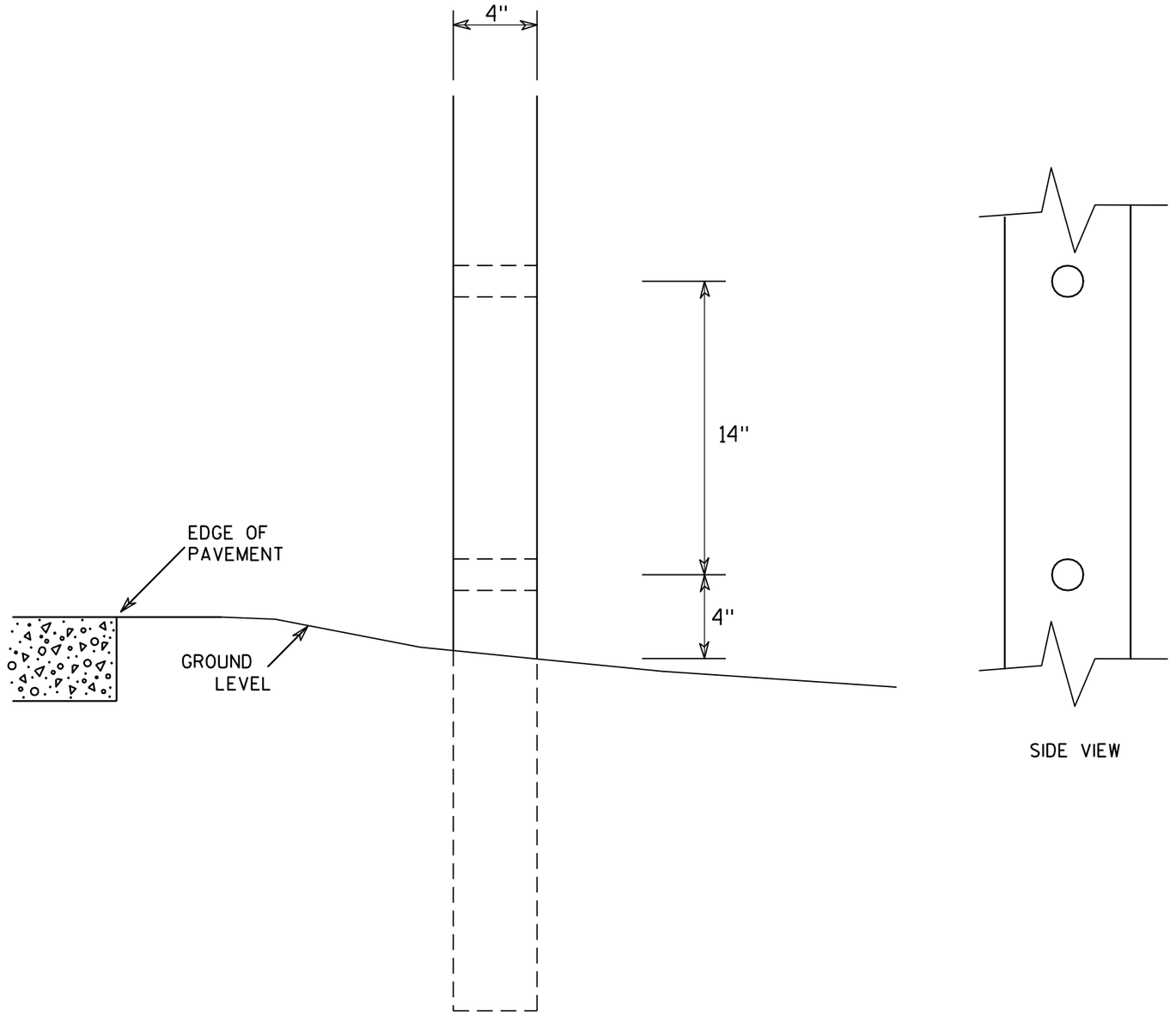
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

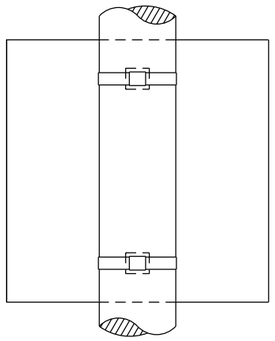
APPROVED Chester J Spang for State Traffic Engineer

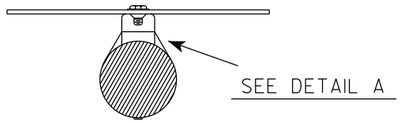
DATE 3/27/97 PLATE NO. A4-11.2

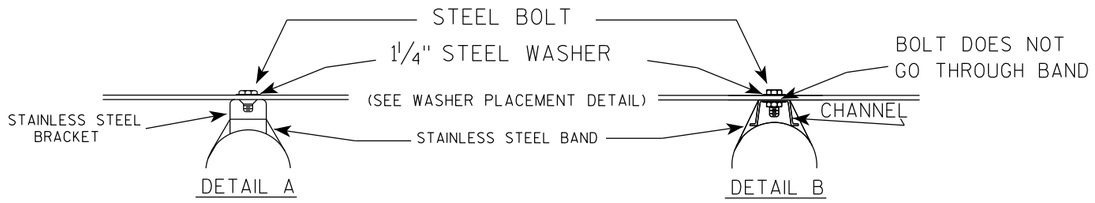
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 102	E

BANDING

SINGLE SIGN



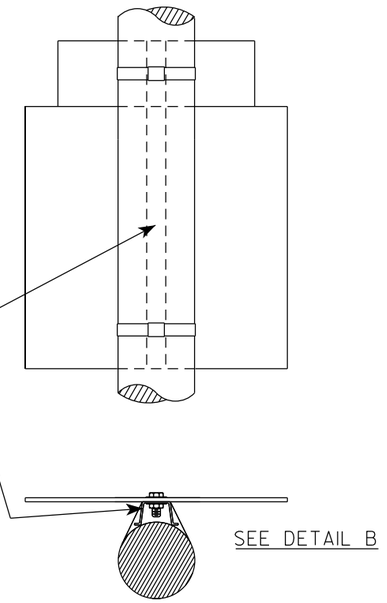




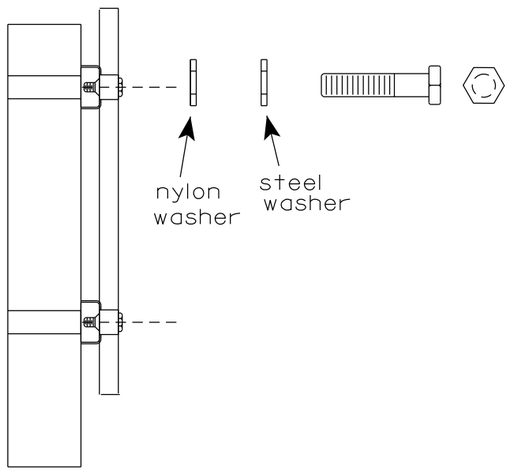
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

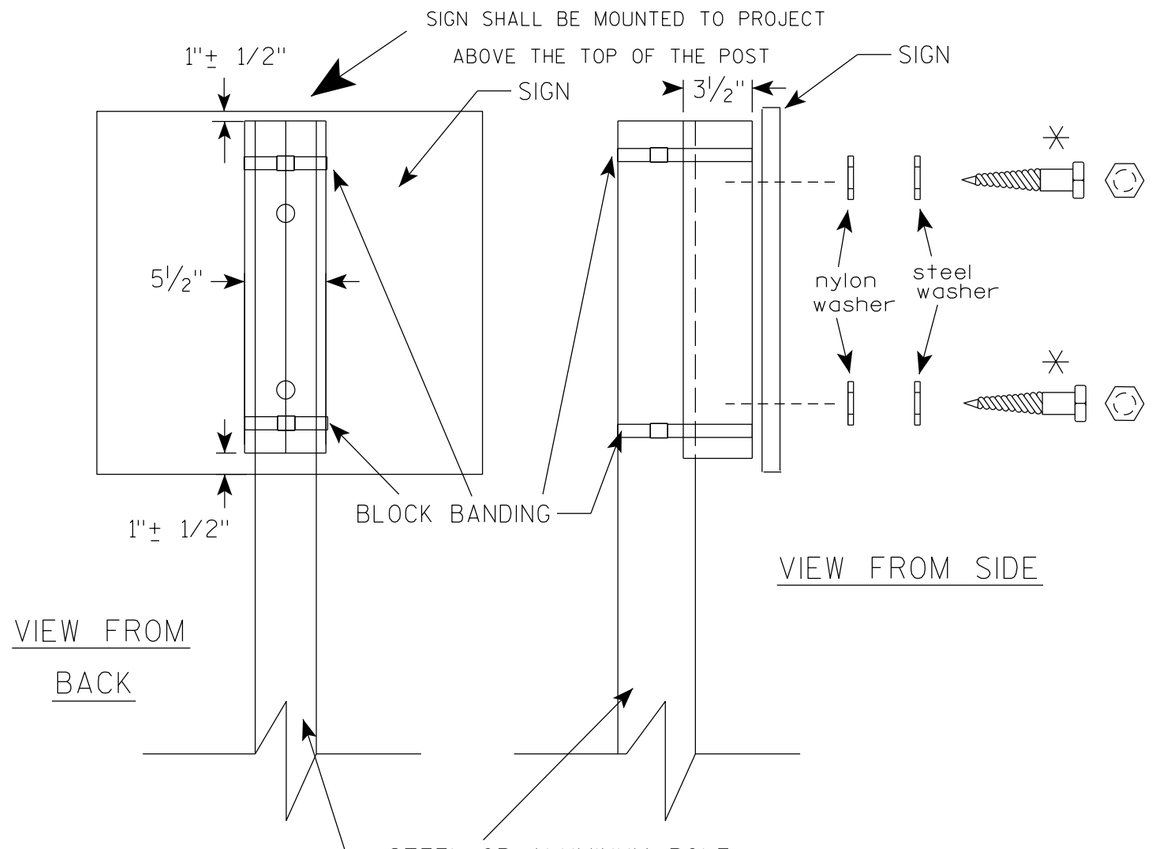
WISCONSIN DEPT OF TRANSPORTATION

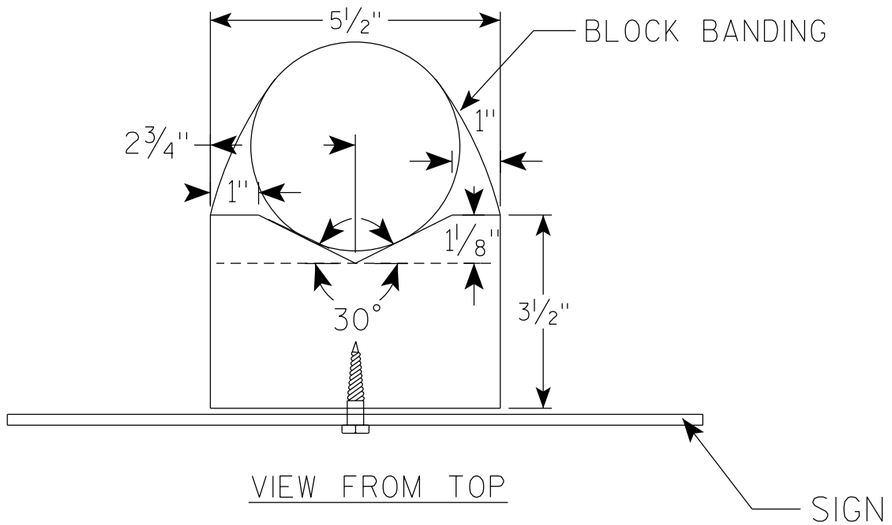
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 103	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

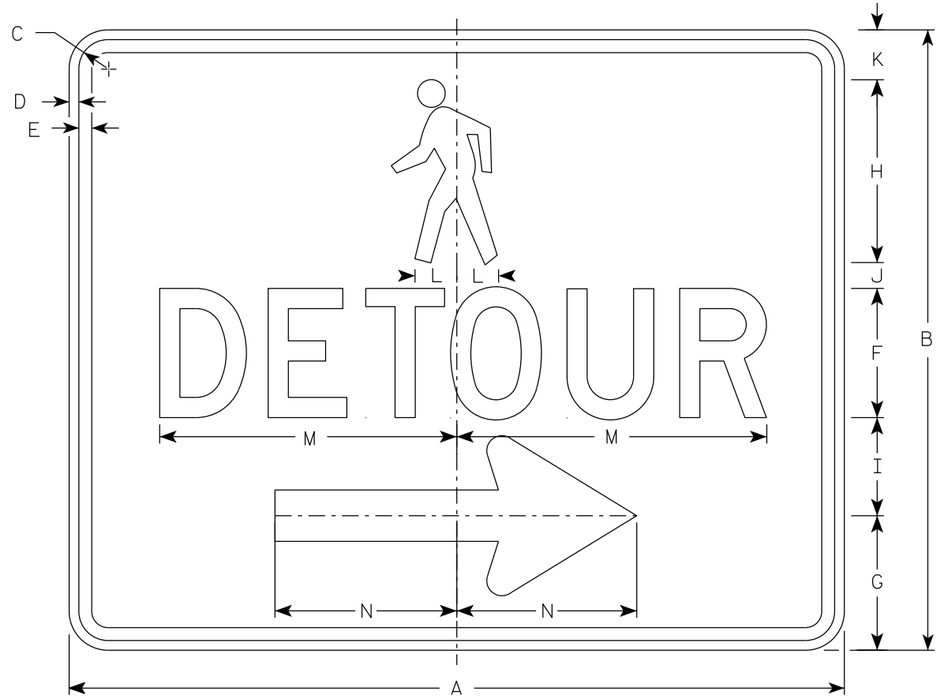
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

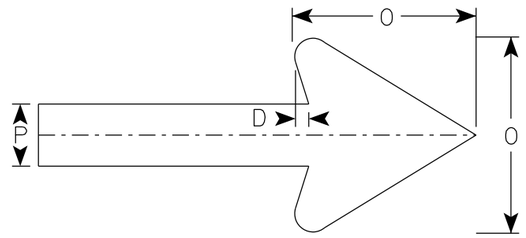
SHEET NO: 104 E



M4-9BR

NOTES

1. Sign is Type II-Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-9BL is the same as M4-9BR except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	5 1/4	7 1/8	3 3/4	1	1 1/8	1 5/8	11 3/4	7	6	2											5.00
3																											
4																											
5																											

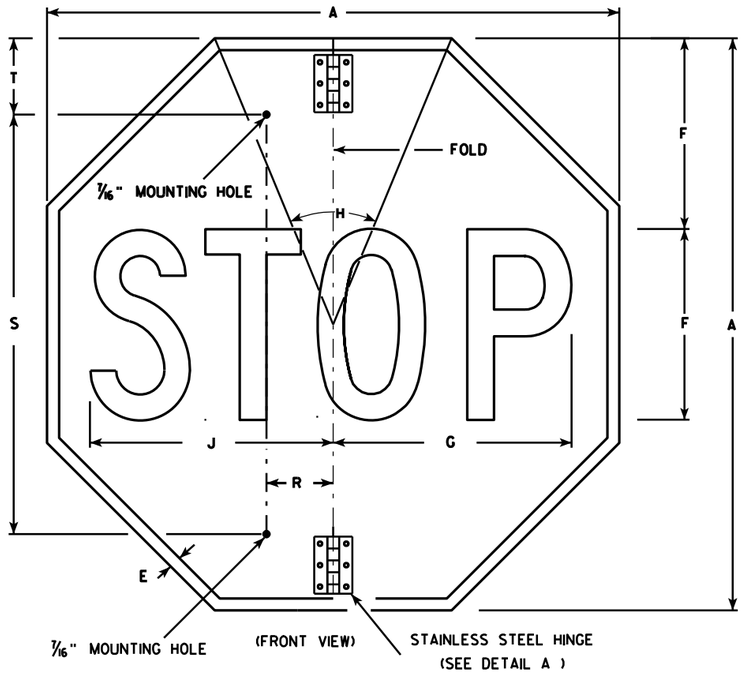
STANDARD SIGN
M4-9B L&R

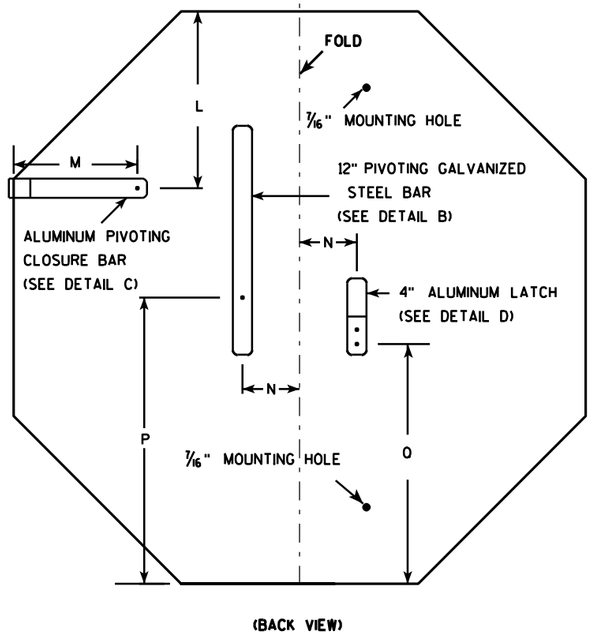
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 7/1/19 PLATE NO. M4-9B.2

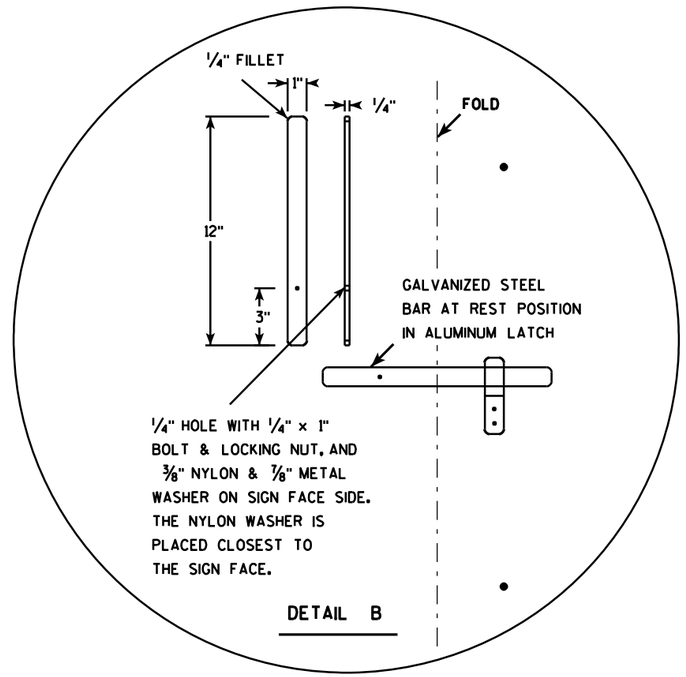
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 105 | E



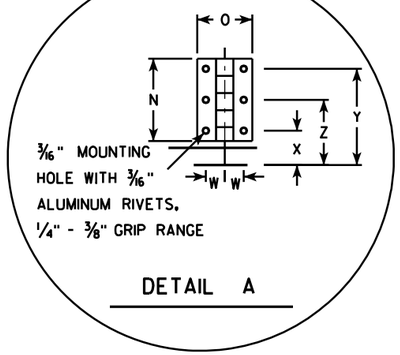


NOTES

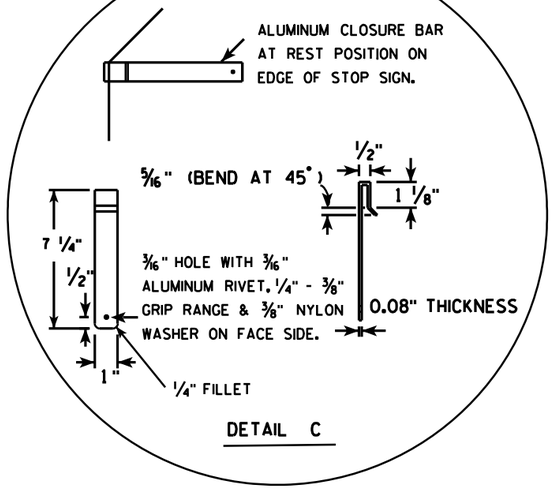
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



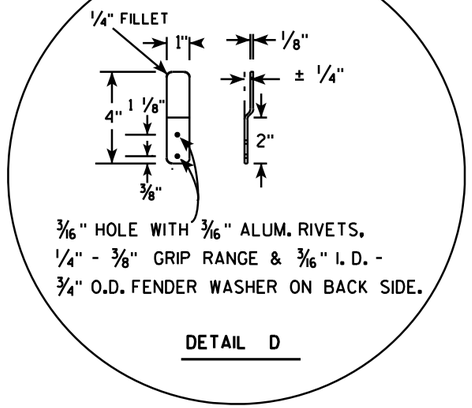
DETAIL B



DETAIL A



DETAIL C



DETAIL D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

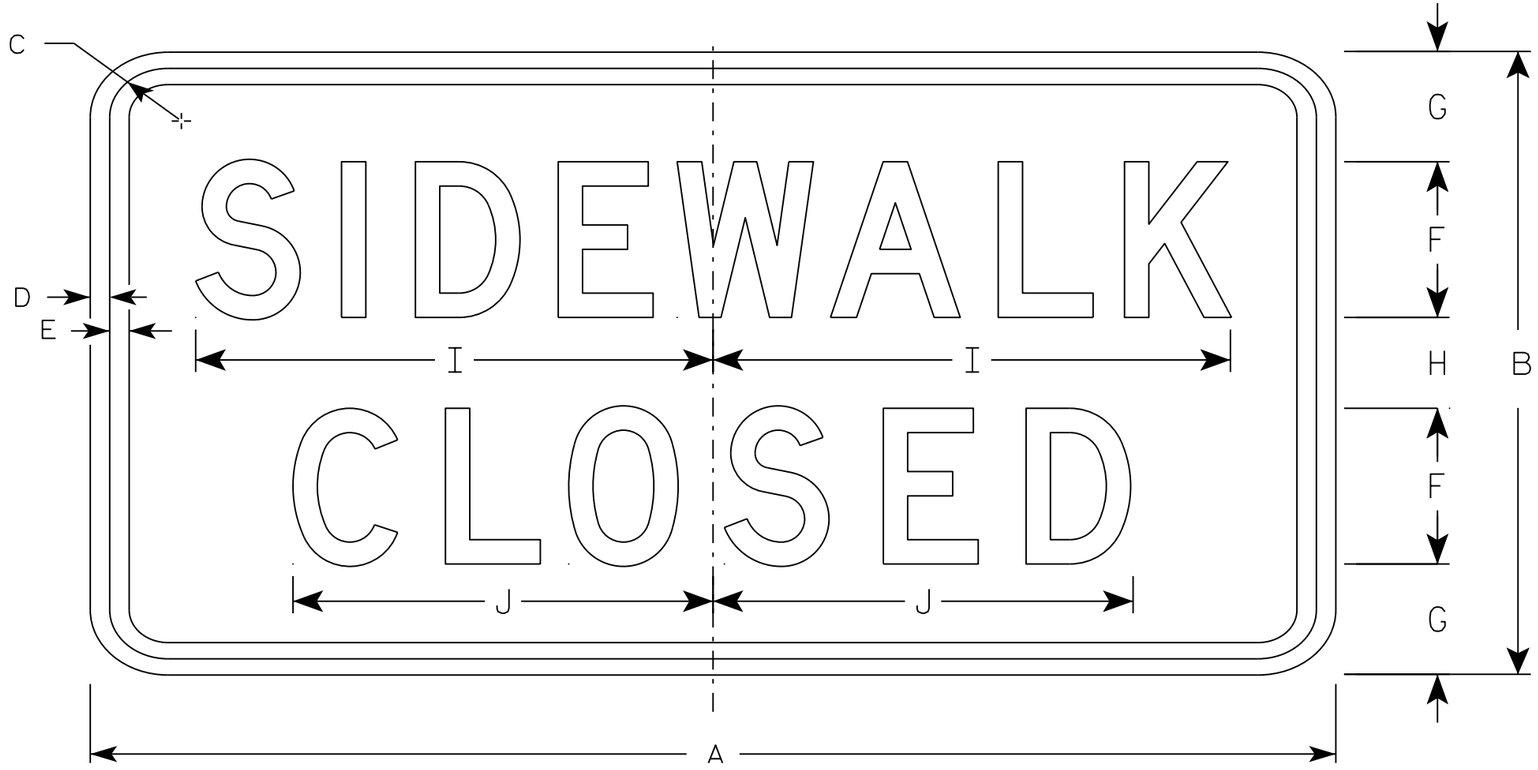
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 106 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R11F.DGN PLOT DATE : 02-DEC-2010 15:26 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 7.945391:1.000000

WISDOT/CADDS SHEET 42

7

7



R9-9

NOTES

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

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

STANDARD SIGN
R9-9

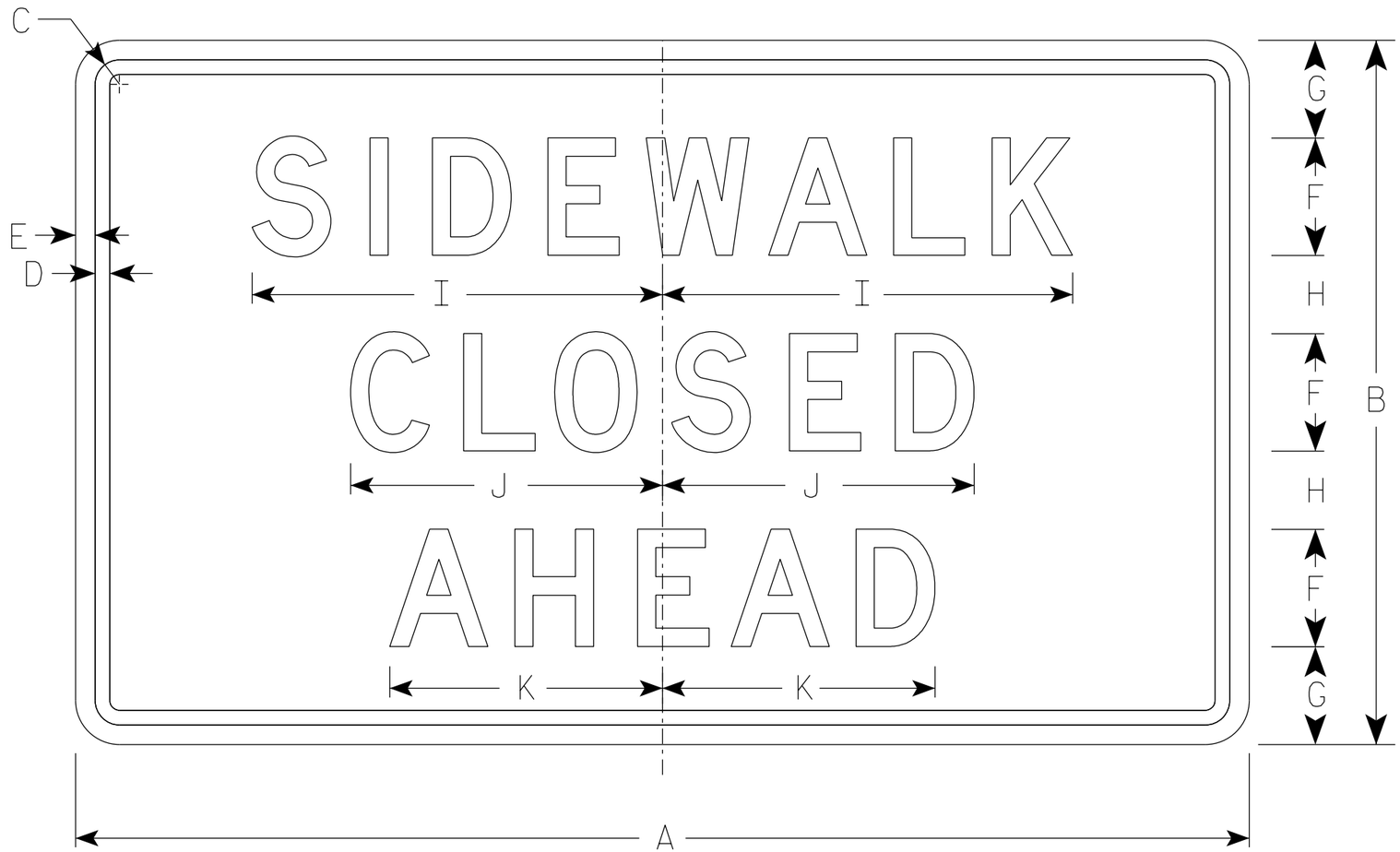
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/11/16 PLATE 107 R9-9.6

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R99.DGN PLOT DATE : 11-AUG-2016 11:33 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 2.918761:1.000000



R9-9A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 1/8	3/8	1/2	3	2 1/2	2	10 1/2	8	7																3.75
2M	30	18	1 1/8	3/8	1/2	3	2 1/2	2	10 1/2	8	7																3.75
3																											
4																											
5																											

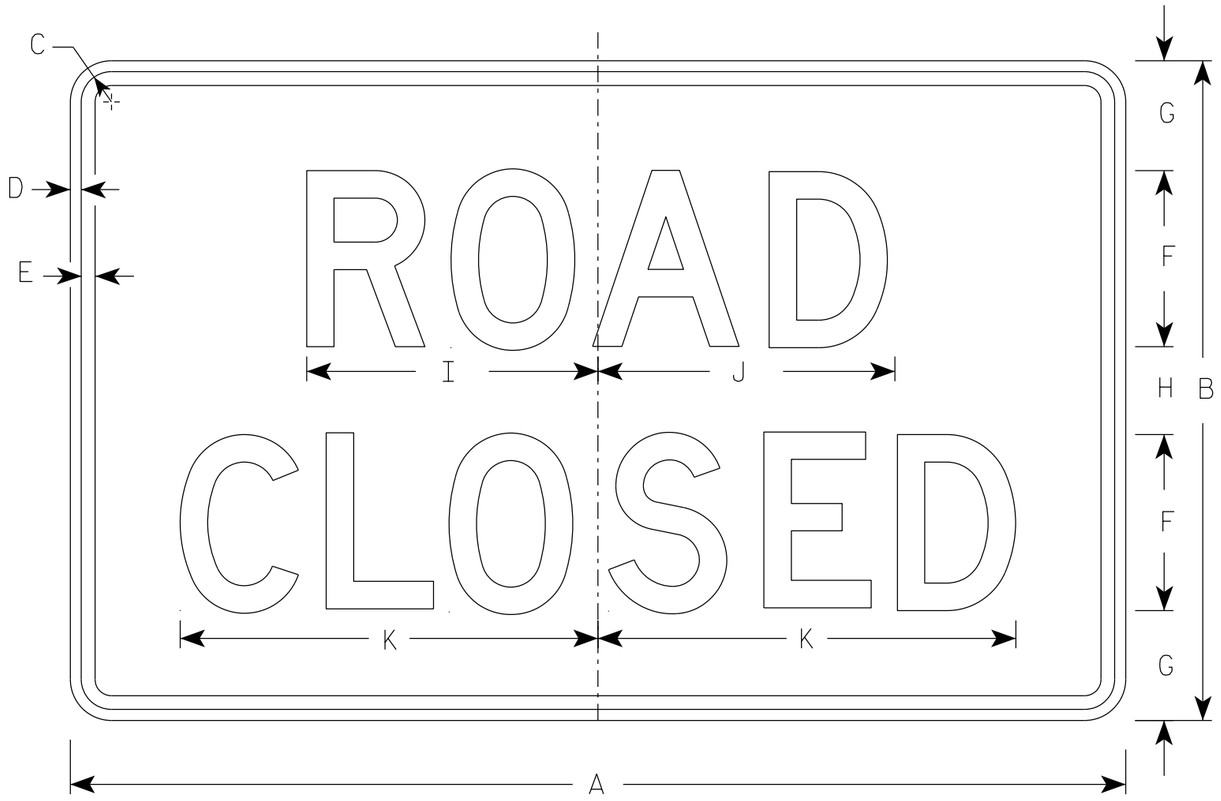
STANDARD SIGN
R9-9A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/31/2020 PLATE NO. R9-9A.1

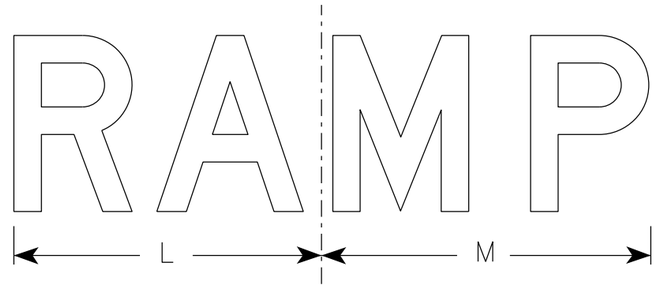
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 108 | E



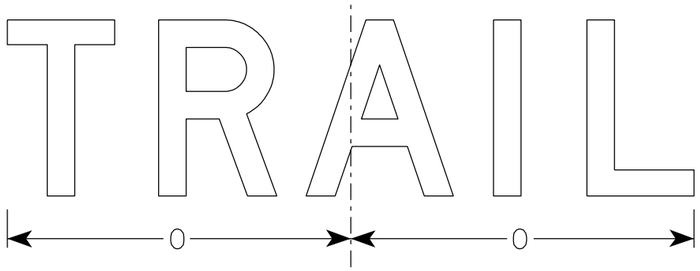
R11-2

NOTES

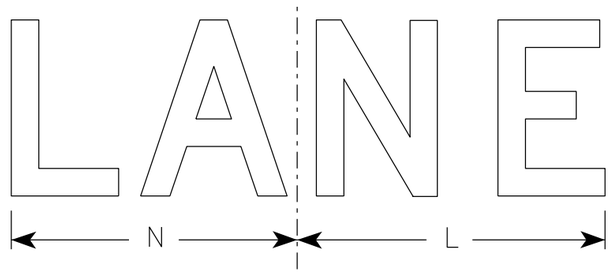
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2T



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

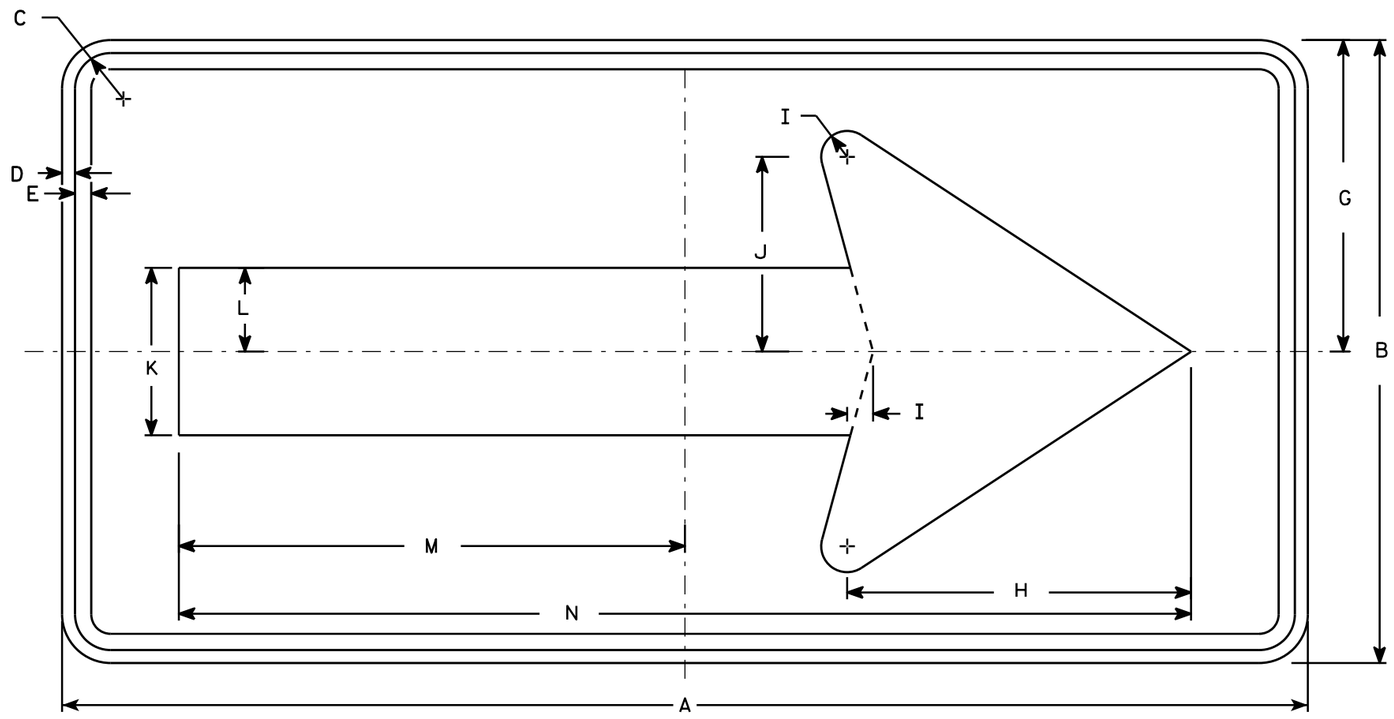
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 109	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

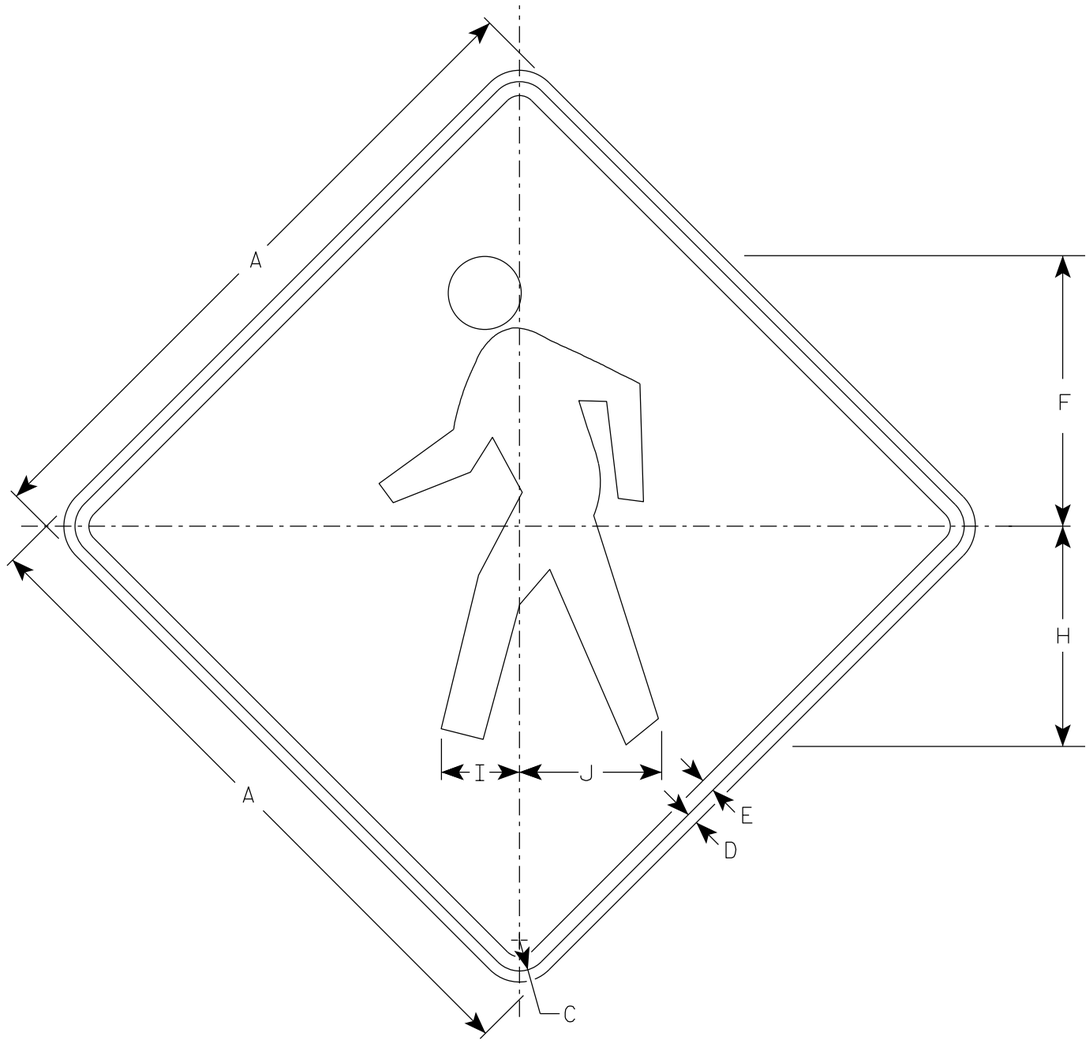
STANDARD SIGN
W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE W01-6.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



WO11-2

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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 1/2		11 7/8	4 1/4	7 5/8																	9.0
2S	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
2M	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
3	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
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

WO11-2

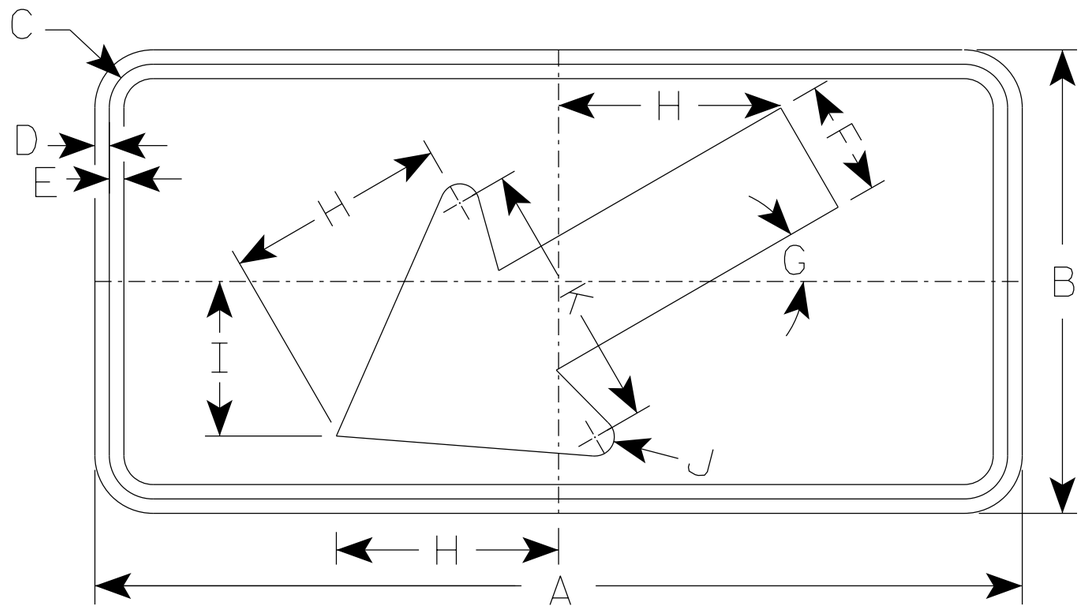
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 4/8/2020 PLATE NO. WO11-2.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 111	E



W016-7L

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded but corners shall be rounded when base material is metal.
4. W016-7R is the same as W016-L 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	18	1 1/8	3/8	1/2	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
2S	48	24	1 3/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0
2M	48	24	1 3/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0
3	48	24	1 3/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0
4	48	24	1 3/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0
5	48	24	1 3/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0

STANDARD SIGN
W016-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/2021 PLATE NO. W016-7.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 112 E

7

7

Notes

Wisconsin Department of Transportation

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