WIS

MAY 2014

PROJECT ID: 6991-01-70

WITH: N/A

COUNTY: WAUPACA

ORDER OF SHEETS

TOTAL SHEETS = 126

37

N

DESIGN DESIGNATION

A.A.D.T.	2012	=	4100
A.A.D.T.	2009	=	4000
D.H.V.		=	10.8
D.D.		=	62/38
T.		=	13.5%
DESIGN SPEED		=	60 MPH
ESALS		=	547,500

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

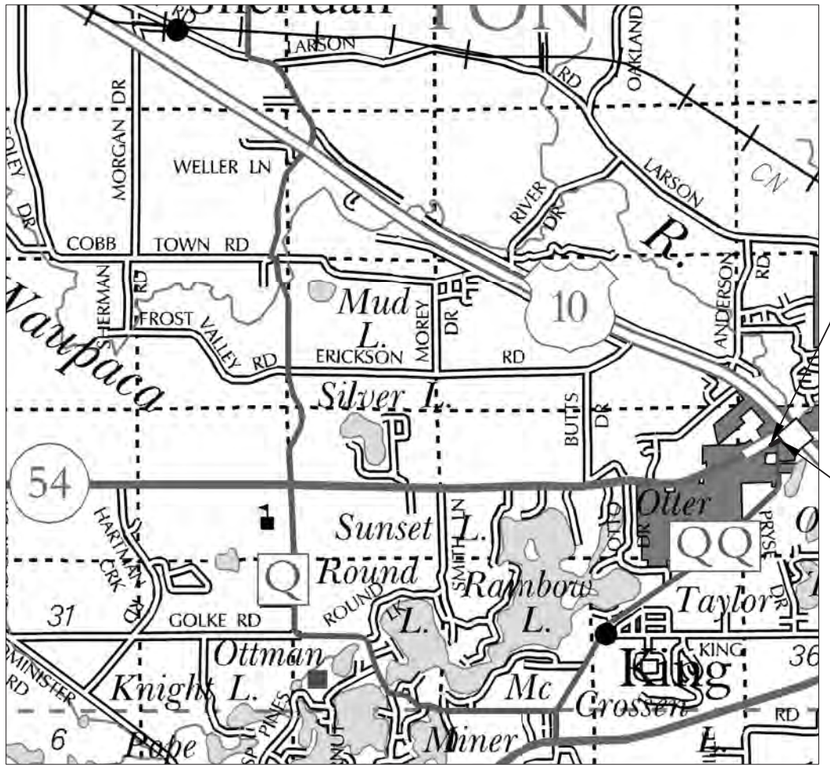
C WAUPACA, WEST FULTON STREET

STH 54 & COUNTY RD QQ INTERSECTION

STH 54
WAUPACA

STATE PROJECT NUMBER
6991-01-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6991-01-70	WISC 2014201	1
N/A		



BEGIN PROJECT
STA 276+07
Y = 341142.7535
X = 527709.2079

END PROJECT
STA 281+53
Y = 341283.6733
X = 528234.6279

LAYOUT
SCALE 0 1

TOTAL NET LENGTH OF CENTERLINE = 0.000

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, WAUPACA COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NC REGION
Designer	ERIN CHRISTIANSON
Project Manager	KEVIN GARRIGAN
Regional Examiner	CHERYL SIMON
Regional Supervisor	MICHAEL KRETSCHMER

APPROVED FOR THE DEPARTMENT

DATE: 01/09/2014 (Signature)

E

2

GENERAL NOTES

PAVEMENT REMOVAL WILL BE TO THE NEAREST JOINT OR A SAWED EDGE WILL BE REQUIRED AS DIRECTED BY THE ENGINEER.

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

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

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER.

UTILITIES

CHARTER COMMUNICATION
RUDI RUDIGER
5024 HEFFRON STREET
STEVENS POINT, WI 54481
PHONE: (715) 302-1550
CELL: (715) 302-1550

CITY OF WAUPACA - SEWER & WATER
JOHN EDLEBECK
111 S MAIN STREET
WAUPACA, WI 54981
PHONE: (715) 258-4420
CELL: (715) 496-3080

WE ENERGIES - GAS/PETROLEUM
BILL GARSKI
1921 8TH STREET SOUTH
WISCONSIN RAPIDS, WI 54494
PHONE: (715) 421-7259
CELL: (715) 421-9882

WISCONSIN BELL, INC. d/b/a AT&T WISCONSIN
CHUCK BARTELT
70 EAST DIVISION STREET
FOND DU LAC, WI 54935
PHONE: (920) 410-5104
CELL: (920) 410-5104

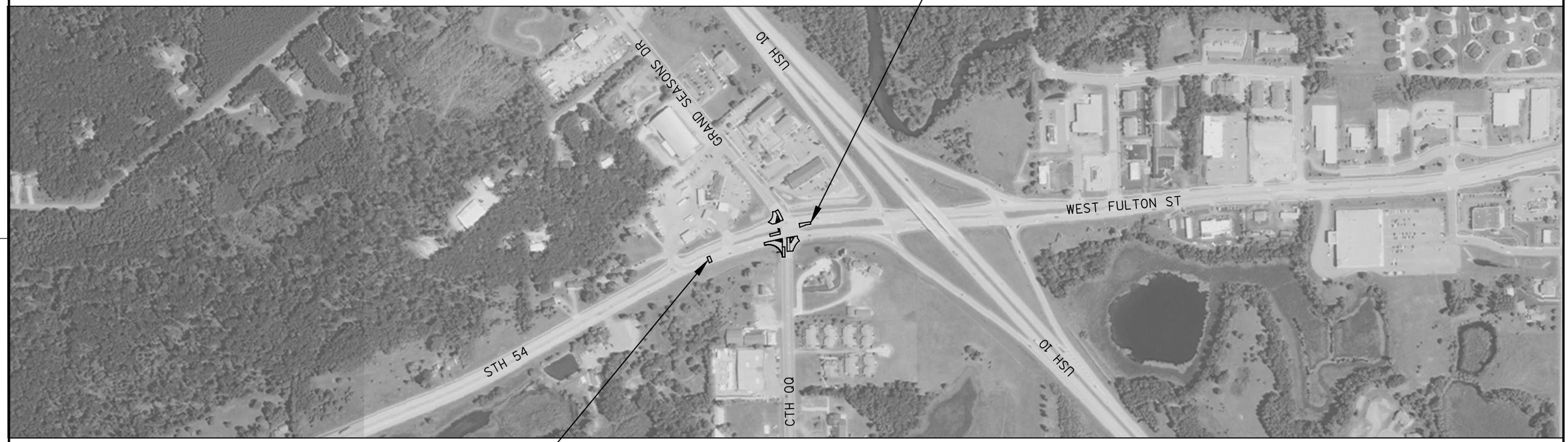
WISCONSIN PUBLIC SERVICE CORPORATION
STEVE HARVEY
2001 PLOVER ROAD
PLOVER, WI 54467
PHONE: (715) 345-7527
CELL: (715) 451-5115

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

2

N

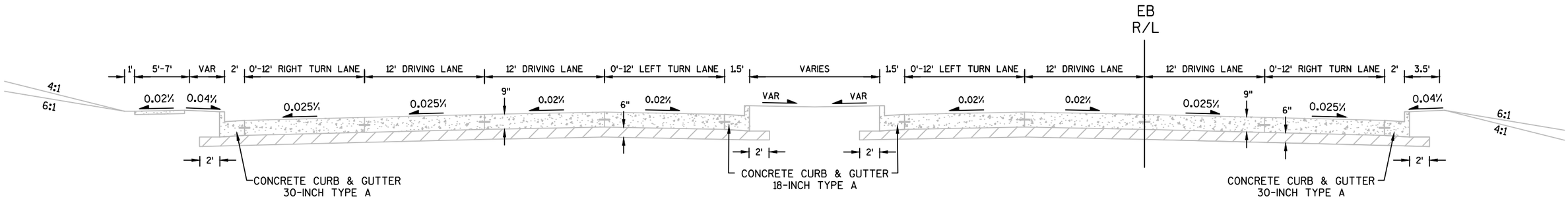
END PROJECT
STATION 281+53



BEGIN PROJECT
STATION 276+07

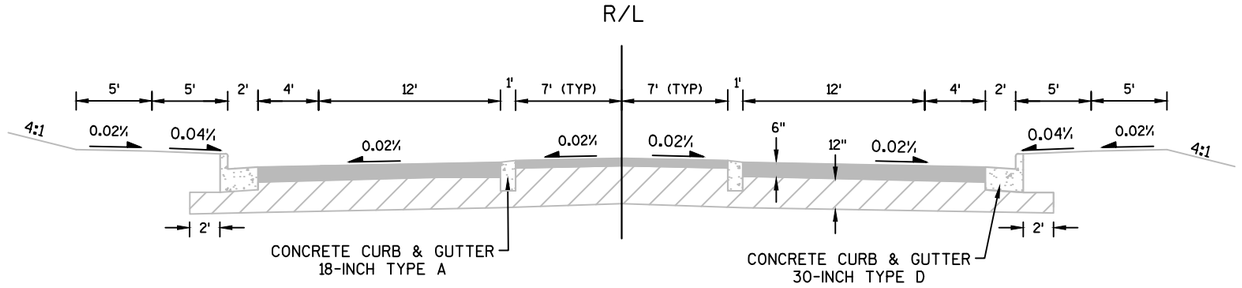
PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\020201_PO.DWG PLOT DATE : 1/10/2014 8:22 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:500 FT
WISDOT/CADDS SHEET 42



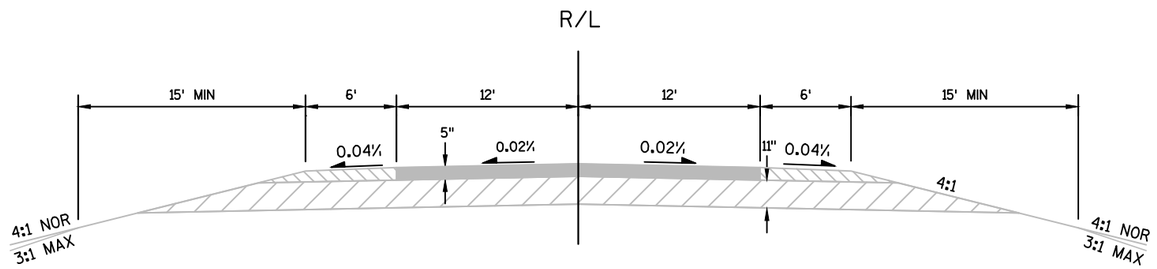
EXISTING TYPICAL SECTION STH 54

STA 276+07 TO STA 281+53



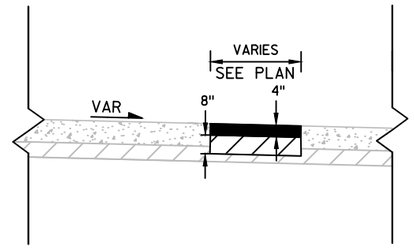
EXISTING TYPICAL SECTION CTH QQ

STA 6+55QQ TO STA 8+90QQ



EXISTING TYPICAL SECTION GRAND SEASONS DRIVE

STA 11+73QQ TO STA 13+80QQ

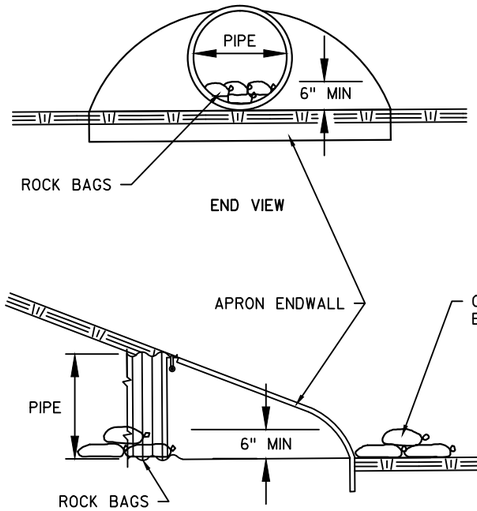


TEMPORARY ASPHALT TYPICAL SECTION

LEGEND

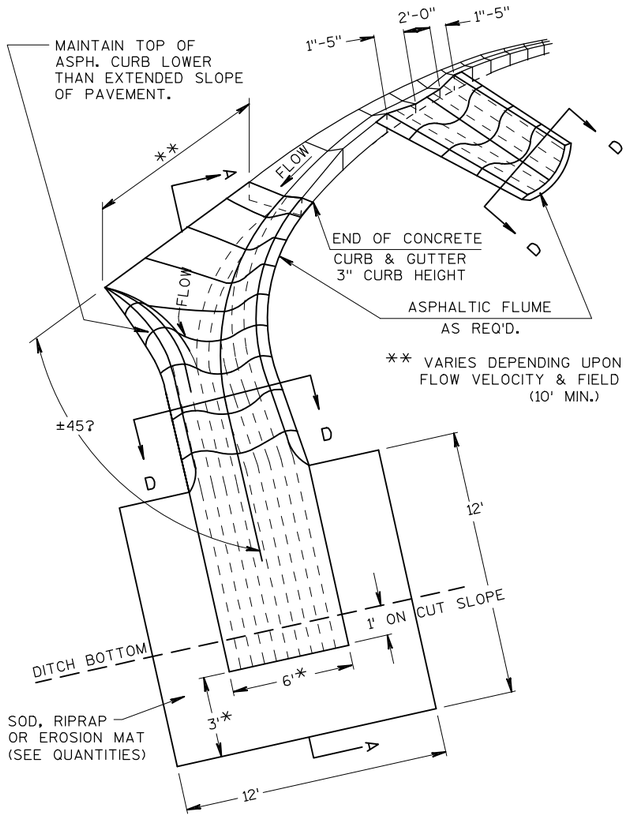
- EXISTING DOWELED, NON-REINFORCED CONCRETE
- EXISTING ASPHALTIC SURFACE
- EXISTING CRUSHED AGGREGATE BASE COURSE
- EXISTING CRUSHED AGGREGATE BASE COURSE (SHOULDER)
- BASE AGGREGATE DENSE 1 1/4-INCH
- ASPHALTIC SURFACE TEMPORARY

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	PLAN: TYPICAL SECTIONS	SHEET 4	E

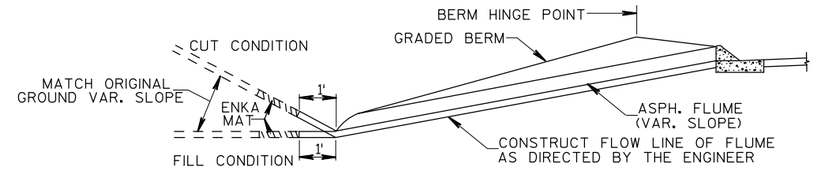


CULVERT PIPE CHECK

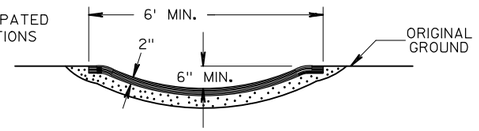
(INSTALL ON INLET END ONLY)



** VARIES DEPENDING UPON ANTICIPATED FLOW VELOCITY & FIELD CONDITIONS (10' MIN.)

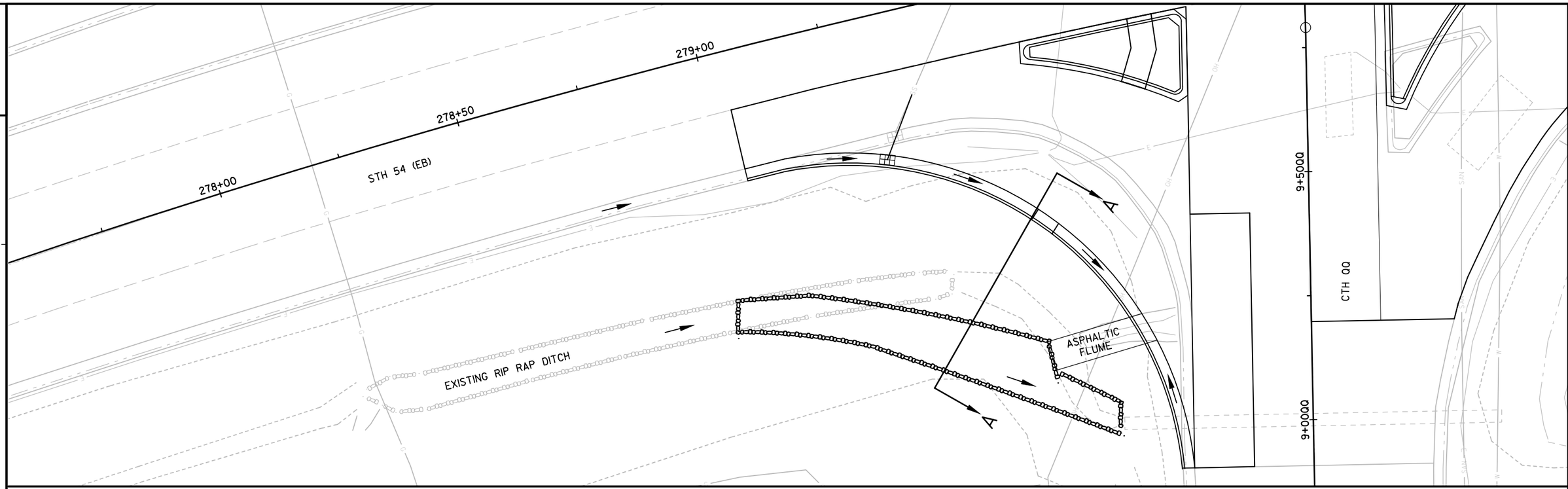


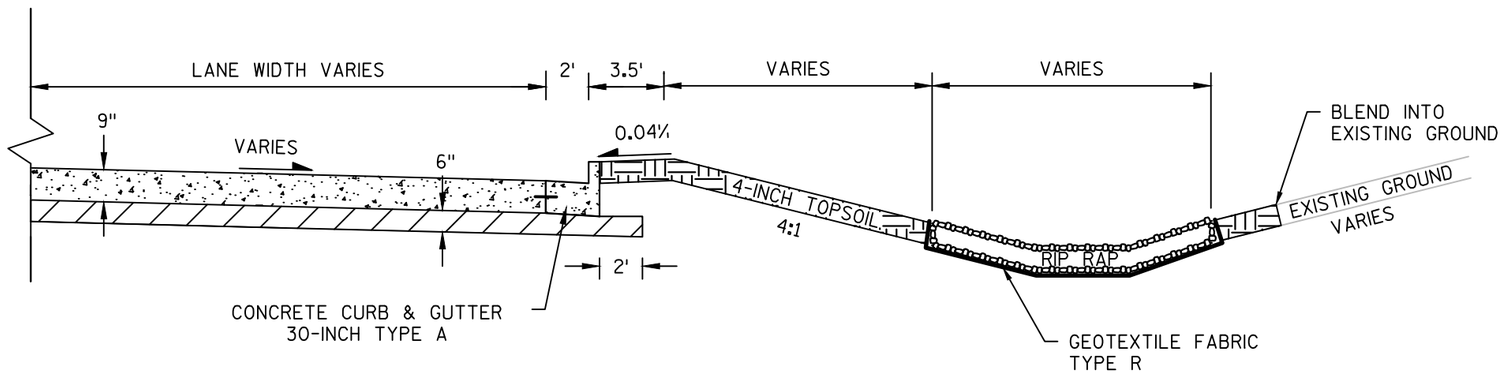
SECTION A-A



SECTION D-D

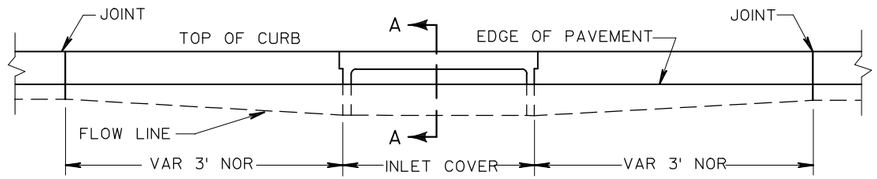
ASPHALTIC FLUME DETAIL
AT RURAL INTERSECTIONS



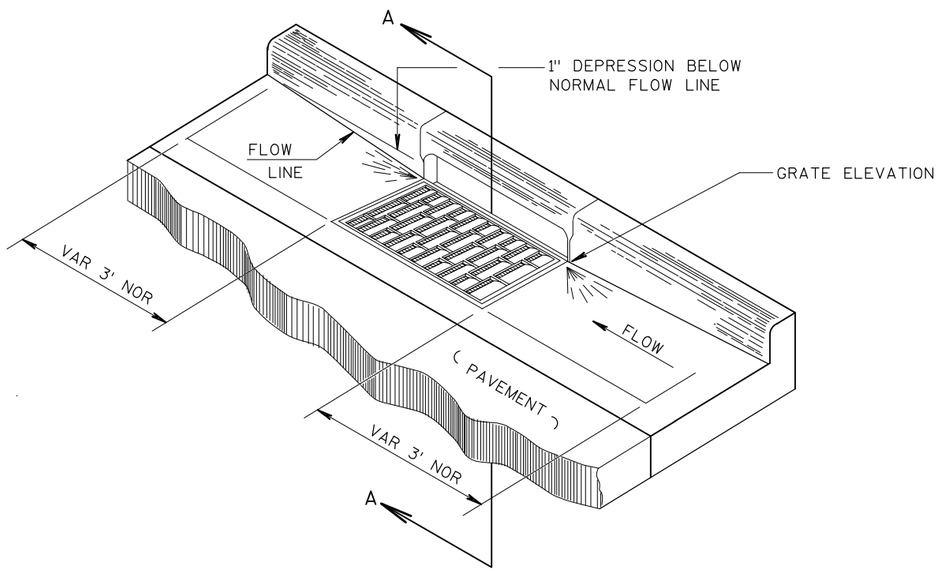


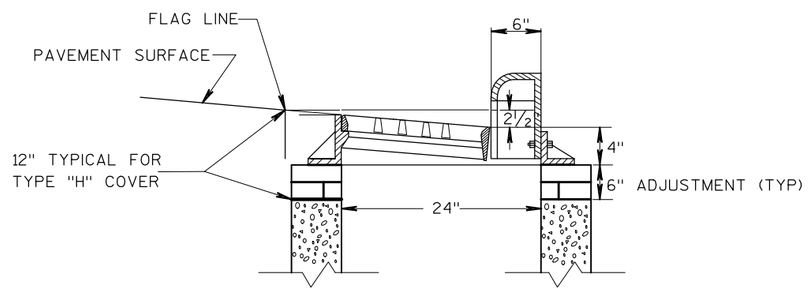
SECTION A-A

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	CONSTRUCTION DETAILS	SHEET 6	E



ELEVATION





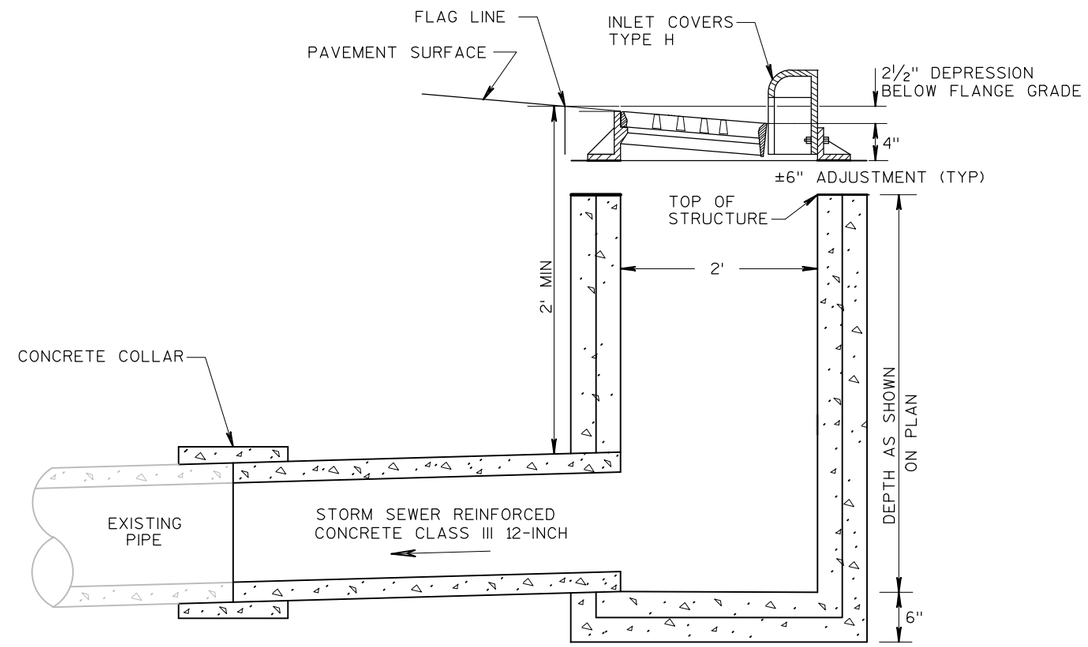
SECTION A-A

DETAIL OF CURB AND GUTTER AT INLETS

(TYPE 3-H INLET SHOWN)

LABEL	STATION	LOCATION (CENTER OF STRUCTURE)		INLET, MANHOLE, OR CATCH BASIN	TYPE	FLAG ELEV	RIM/GRATE ELEV *	TOP OF STRUCT ELEV (TSE)	INVERT ELEV	DEPTH $	DISCHARGE PIPE						
											TO	SIZE (IN)	PAY LENGTH C-C (FT)	INSTALL LENGTH (FT)	SLOPE (FT/FT)	OUTFALL ELEV (EOP)	OUTFALL OFFSET (EOP)
I-01	279+33	29.2	RT	INLET	2x3-FT-H	894.92	894.71	893.87	890.43	3.60	EXIST	12	14.0	13.0	0.0075	890.32	18.0 RT

* = GRATE ELEVATION SHOWN IS 1" LOWER THAN NORMAL GUTTER FLOWLINE ELEVATION
RIM/GRATE ELEV = FLAG ELEV - 0.21'
TSE = RIM GRATE ELEV - 4" CASTING - 6" ADJUSTMENT
DEPTH = TOP OF STRUCTURE ELEV - OUTLET ELEV + PIPE THICKNESS
$ = DEPTH DOESN'T INCLUDE 6" ADJUSTMENT ALLOWANCE BELOW CASTING



INLET 2X3-FT

STATION 279+33

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
		SEE NOTES TO CONSTRUCTION	

N

BP GAS STATION

R/W

CE DRIVEWAY

STH 54 WB

ASPHALT MEDIAN

DEPRESSED GRASS MEDIAN

STH 54 EB

276+00

277+00

278+00

279+00

280+00

281+00

14'

12'

12'

6.7'

7.3'

REMOVE AND REPLACE CONCRETE PAVEMENT 9-INCH

RIPRAP DITCH

CONCRETE CURB & GUTTER HES 30-INCH TYPE A

R70

R100

ASPH FLUME

KWIP TRIP GAS STATION

END CONCRETE PAVEMENT STA 11+92QQ

CONCRETE SIDEWALK HES 4-INCH

14.2'

16'

58.1'

11+00QQ

GRAND SEASONS DR

STA 11+52QQ EXISTING PIPE
1-36"X112' CPRC
2-36" AEW

24'

20.7'

5'

15.4'

REMOVE AND REPLACE CONCRETE PAVEMENT 9-INCH

CONCRETE SIDEWALK HES 4-INCH

5'

12'

14.4'

53'

STA 280+24.14 (EB)
STA 10+00.00QQ

58'

29'

19'

12'

29.3'

94'

12'

12'

5'

42'

68'

10+00QQ

99°27'44"

53.6'

16'

14'

12'

16'

16'

26.2'

29'

51'

9+00QQ

12'

12'

R100

STA 9+00QQ EXISTING PIPE
1-30"X76' CPRC
2-30" AEW

END CONCRETE PAVEMENT STA 8+90QQ

CTH QQ

8+00QQ

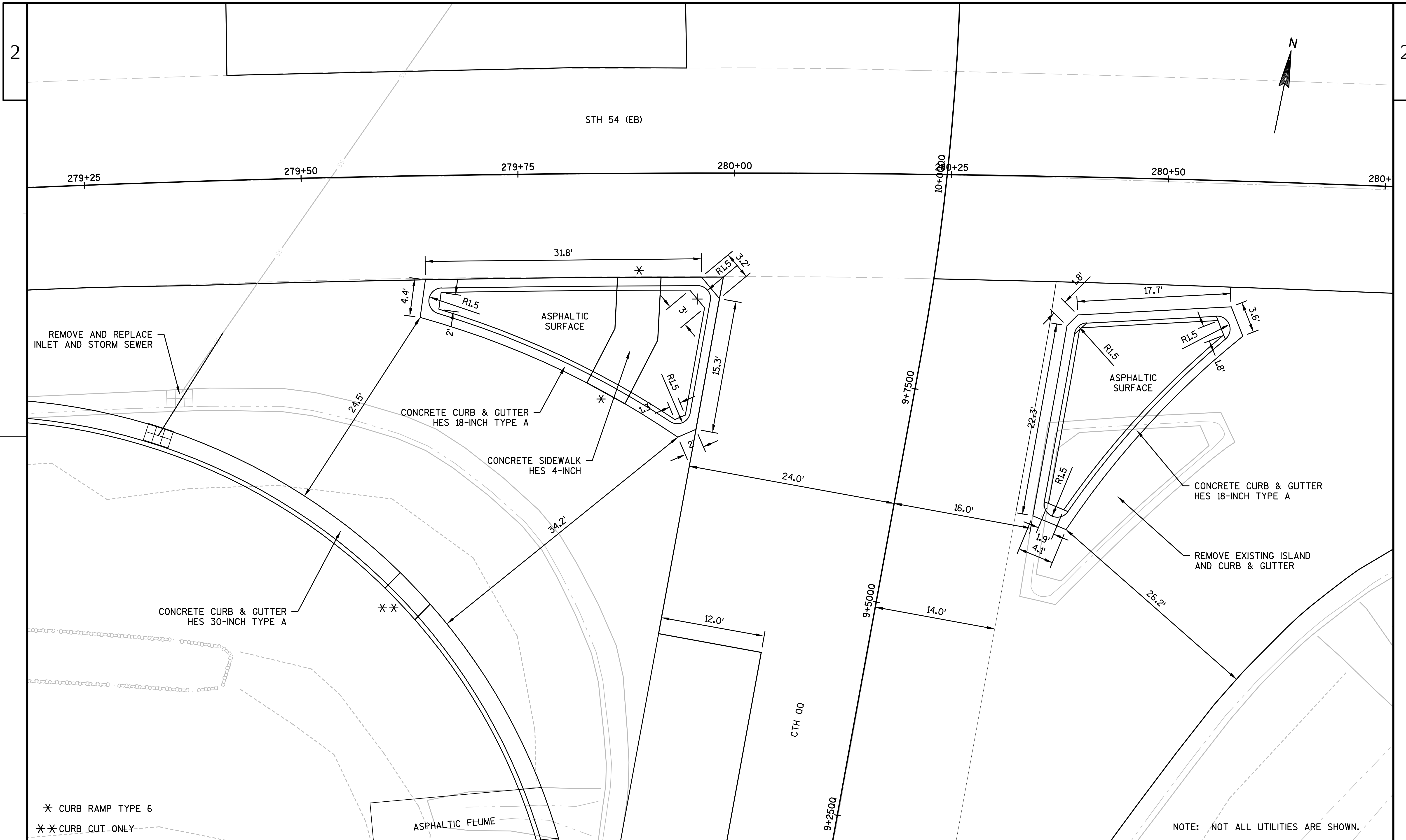
NOTE: REMOVE EXISTING CONCRETE TO NEAREST JOINT.

SEE PLAN DETAILS SHEET FOR ISLAND INFORMATION.

* CURB RAMP TYPE 6

** CURB CUT ONLY

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	PLAN: INTERSECTION DETAIL	SHEET 8	E


2
2
N
STH 54 (EB)
279+25
279+50
279+75
280+00
280+25
280+50
10+00.00
31.8'
R1.5
3.2'
4.4'
R1.5
2'
3'
ASPHALTIC SURFACE
15.3'
R1.5
1.3'
2'
REMOVE AND REPLACE INLET AND STORM SEWER
24.5'
CONCRETE CURB & GUTTER HES 18-INCH TYPE A
CONCRETE SIDEWALK HES 4-INCH
34.2'
24.0'
16.0'
9+75.00
1.8'
17.7'
3.6'
R1.5
R1.5
ASPHALTIC SURFACE
1.8'
22.3'
R1.5
1.9'
4.1'
CONCRETE CURB & GUTTER HES 18-INCH TYPE A
REMOVE EXISTING ISLAND AND CURB & GUTTER
26.2'
CONCRETE CURB & GUTTER HES 30-INCH TYPE A
9+50.00
14.0'
12.0'
CTH QQ
9+25.00
ASPHALTIC FLUME
* CURB RAMP TYPE 6
** CURB CUT ONLY
NOTE: NOT ALL UTILITIES ARE SHOWN.

PROJECT NO:6991-01-70	HWY:STH 54	COUNTY:WAUPACA	PLAN: INTERSECTION DETAIL	SHEET 9	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\021102_ID.DWG PLOT DATE : 1/8/2014 9:58 AM PLOT BY : CHRISTIANSON, ERIN M PLOT NAME : PLOT SCALE : 1 IN:10 FT WISDOT/CADDS SHEET 42

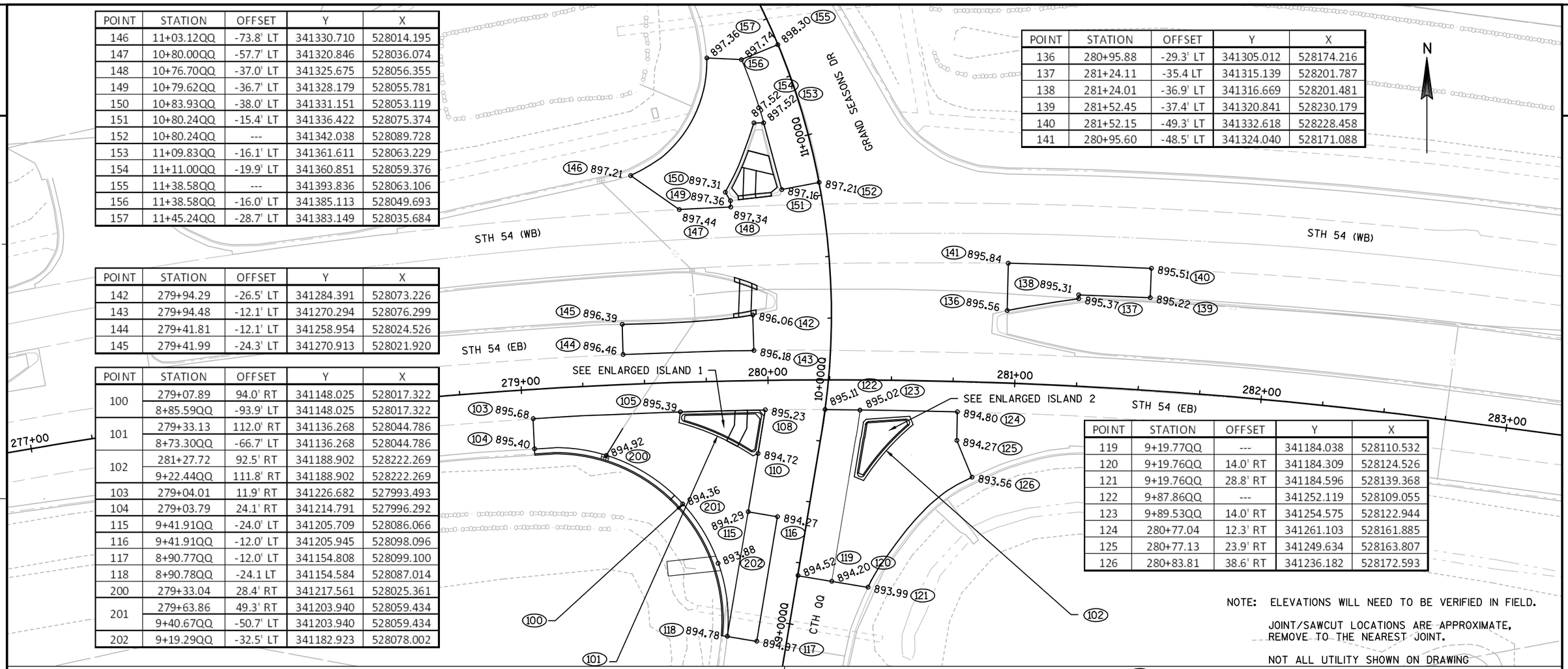
POINT	STATION	OFFSET	Y	X
146	11+03.12QQ	-73.8' LT	341330.710	528014.195
147	10+80.00QQ	-57.7' LT	341320.846	528036.074
148	10+76.70QQ	-37.0' LT	341325.675	528056.355
149	10+79.62QQ	-36.7' LT	341328.179	528055.781
150	10+83.93QQ	-38.0' LT	341331.151	528053.119
151	10+80.24QQ	-15.4' LT	341336.422	528075.374
152	10+80.24QQ	---	341342.038	528089.728
153	11+09.83QQ	-16.1' LT	341361.611	528063.229
154	11+11.00QQ	-19.9' LT	341360.851	528059.376
155	11+38.58QQ	---	341393.836	528063.106
156	11+38.58QQ	-16.0' LT	341385.113	528049.693
157	11+45.24QQ	-28.7' LT	341383.149	528035.684

POINT	STATION	OFFSET	Y	X
142	279+94.29	-26.5' LT	341284.391	528073.226
143	279+94.48	-12.1' LT	341270.294	528076.299
144	279+41.81	-12.1' LT	341258.954	528024.526
145	279+41.99	-24.3' LT	341270.913	528021.920

POINT	STATION	OFFSET	Y	X
100	279+07.89	94.0' RT	341148.025	528017.322
	8+85.59QQ	-93.9' LT	341148.025	528017.322
101	279+33.13	112.0' RT	341136.268	528044.786
	8+73.30QQ	-66.7' LT	341136.268	528044.786
102	281+27.72	92.5' RT	341188.902	528222.269
	9+22.44QQ	111.8' RT	341188.902	528222.269
103	279+04.01	11.9' RT	341226.682	527993.493
104	279+03.79	24.1' RT	341214.791	527996.292
115	9+41.91QQ	-24.0' LT	341205.709	528086.066
116	9+41.91QQ	-12.0' LT	341205.945	528098.096
117	8+90.77QQ	-12.0' LT	341154.808	528099.100
118	8+90.78QQ	-24.1 LT	341154.584	528087.014
200	279+33.04	28.4' RT	341217.561	528025.361
201	279+63.86	49.3' RT	341203.940	528059.434
	9+40.67QQ	-50.7' LT	341203.940	528059.434
202	9+19.29QQ	-32.5' LT	341182.923	528078.002

POINT	STATION	OFFSET	Y	X
136	280+95.88	-29.3' LT	341305.012	528174.216
137	281+24.11	-35.4 LT	341315.139	528201.787
138	281+24.01	-36.9' LT	341316.669	528201.481
139	281+52.45	-37.4' LT	341320.841	528230.179
140	281+52.15	-49.3' LT	341332.618	528228.458
141	280+95.60	-48.5' LT	341324.040	528171.088

POINT	STATION	OFFSET	Y	X
119	9+19.77QQ	---	341184.038	528110.532
120	9+19.76QQ	14.0' RT	341184.309	528124.526
121	9+19.76QQ	28.8' RT	341184.596	528139.368
122	9+87.86QQ	---	341252.119	528109.055
123	9+89.53QQ	14.0' RT	341254.575	528122.944
124	280+77.04	12.3' RT	341261.103	528161.885
125	280+77.13	23.9' RT	341249.634	528163.807
126	280+83.81	38.6' RT	341236.182	528172.593

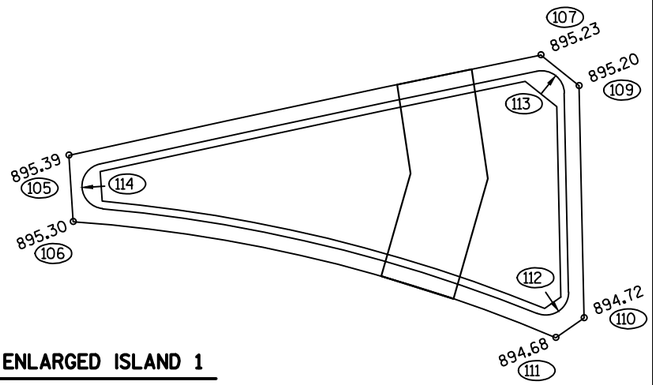


NOTE: ELEVATIONS WILL NEED TO BE VERIFIED IN FIELD.

JOINT/SAWCUT LOCATIONS ARE APPROXIMATE, REMOVE TO THE NEAREST JOINT.

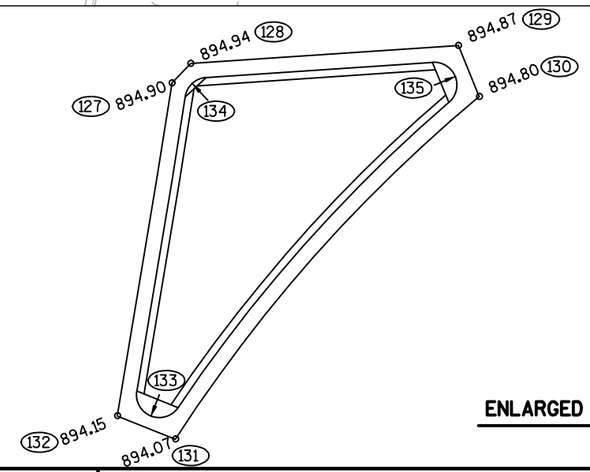
NOT ALL UTILITY SHOWN ON DRAWING

POINT	STATION	OFFSET	Y	X
105	279+64.11	12.0' RT	341240.394	528051.616
106	279+63.43	16.3' RT	341236.015	528051.895
107	279+96.15	12.0' RT	341247.011	528082.758
108	279+98.69	12.0' RT	341247.514	528085.235
109	279+98.24	14.5' RT	341244.989	528085.289
110	279+95.47	29.6' RT	341229.664	528085.615
111	279+93.34	30.5' RT	341228.369	528083.740
112	279+93.29	27.4' RT	341231.347	528083.079
113	279+95.68	14.5' RT	341244.468	528082.800
114	279+65.99	14.5' RT	341238.355	528053.979



ENLARGED ISLAND 1

SCALE 1 IN:10 FT



POINT	STATION	OFFSET	Y	X
127	9+84.95QQ	16.0' RT	341249.857	528125.175
128	9+86.32QQ	17.0' RT	341251.342	528126.152
129	9+89.57QQ	34.4' RT	341255.758	528143.294
130	9+86.76QQ	36.2' RT	341252.706	528145.268
131	9+62.14QQ	20.0' RT	341226.800	528129.728
132	9+63.02QQ	16.0' RT	341227.595	528125.676
133	9+65.85QQ	18.5' RT	341229.473	528128.140
134	9+84.20QQ	18.5' RT	341249.160	528127.704
135	9+87.06QQ	33.1' RT	341252.894	528142.199

ENLARGED ISLAND 2

SCALE 1 IN:10 FT

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	PLAN: PLAN DETAILS	SHEET 10	E

LEGEND

- ###### EROSION MAT URBAN CLASS I, TYPE B
- SILT FENCE
- RIP RAP
- ASPH ASPHALTIC FLUME
- INLET PROTECTION
- CULVERT PIPE DITCH CHECK
- WATER FLOW
- CURB & GUTTER FLOWLINE

EXISTING RIP RAP DITCH

R/W

GRAND SEASONS DR

11+0000

EXISTING RIP RAP DITCH

N

STH 54 (WB)

DEPRESSED GRASS MEDIAN

ASPHALT MEDIAN

DEPRESSED GRASS MEDIAN

276+00

277+00

278+00

279+00

280+00

10+0000

281+00

282+0

STH 54 (EB)

STH 54 (EB)

EXISTING RIP RAP DITCH

ASPH

R/W

9+0000

CTH QQ

R/W

8+0000

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	EROSION CONTROL	SHEET 11	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\022001_EC.DWG PLOT DATE : 1/21/2014 2:17 PM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : ---------- PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

N

BP GAS STATION

STH 54 (WB)

STH 54 (EB)

GRAND SEASONS DRIVE

CTH QQ

277+00 278+00 279+00 280+00 281+00 282+00 283+00

12+00QQ 11+00QQ 10+00QQ 9+00QQ 8+00QQ

1-19 R3-8 36"X30" STA 12+50QQ

REMOVE YIELD

YIELD R1-2 48"X42" 1-24

1-20 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50 30"X36"

1-21 R4-7 24"X30" MOUNT ON SIGNAL POLE

REMOVE R4-7

REMOVE STOP

STOP R1-1F 36"X36" 1-22 MOUNT ON SIGNAL POLE

REMOVE STOP

STOP R1-1F 36"X36" 1-17 MOUNT ON SIGNAL POLE

1-18 ONE WAY R6-2L 24"X30" MOUNT ON SIGNAL POLE

ONE WAY REMOVE

STOP HERE ON RED R10-6 24"X36" 1-07

STOP HERE ON RED REMOVE

MOUNT ON SIGNAL POLE

LEFT TURN YIELD ON FLASHING YELLOW ARROW 1-16 R10-50 30"X36"

1-15 R4-7 24"X30"

REMOVE

REMOVE STOP

STOP R1-1F 36"X36" 1-14 1-23 MOUNT ON SIGNAL POLE

Grand Army Home Historical Site

King Chain O'Lakes

RIGHT LANE MUST TURN RIGHT R3-7R 36"X36" 1-02

RIGHT LANE MUST TURN RIGHT R3-7R 36"X36" STA 274+25 ATTACH TO EXISTING SIGN 1-01

W12-1D 30" X 30" 1-03

1-04 STOP R1-1F 36" X 36" MOUNT ON SIGNAL POLE

VIELD R1-2 48" X 42" 1-05

1-06 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50 30"X36" MOUNT ON SIGNAL POLE

W12-1D 24" X 24" 1-09

REMOVE

REMOVE YIELD

REMOVE 1-10

R1-1F 36"X36" STOP 1-12

DIVIDED HIGHWAY 1-11 R6-3 30"X24" MOUNT ON SIGNAL POLE

REMOVE STOP DIVIDED HIGHWAY REMOVE

1-13 ONE WAY R6-2L 24"X30" MOUNT ON SIGNAL POLE

ONE WAY REMOVE

1-08 R3-8 36"X30" STA 8+50QQ

KWIK TRIP GAS STATION

TYPICAL MOUNTING DETAIL

STOP R1-1F 36" X 36"

LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50 30"X36"

REMOVE EXISTING SIGNS WHEN EXISTING SIGNAL LIGHTS ARE REMOVED.

INSTALL SIGN WHEN SIGNAL LIGHTS ARE INSTALLED.

SEE SDD FOR PROPER INSTALLATION

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	PLAN: PERMANENT SIGNING	SHEET 12	E

GENERAL NOTES

1) INSTALL SIGNAL EQUIPMENT WITH A 2-FOOT MINIMUM, 3-FOOT DESIRABLE, CLEARANCE TO THE FACE OF THE CURB UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
2) BORE NEW CONDUIT AS IDENTIFIED ON THE PLAN. INSPECT THE PULL BOXES AND CONDUIT RUNS BEFORE PLACING NEW SIGNAL CABLE INTO THE SYSTEM.
3) BOND ALL METAL PULL BOXES AND ASSOCIATED COVERS THAT CONTAIN CONDUCTORS CARRYING 50 VOLTS OR MORE.
4) USE LUG AND BOLT CONNECTION FOR THE TERMINATION OF BONDING JUMPERS IN PULL BOXES, AND CAULK (SILICONE) AFTER INSTALLATION.
5) USE A SEPARATE LEAD-IN CABLE TO THE CONTROL CABINET FOR EACH LOOP DETECTOR.
6) LUMINAIRES POWERED FROM SIGNAL CABINET ARE UTILITY HPS 120 VOLT, 250 WATT, TYPE III DISTRIBUTION.
7) THE LOOP DETECTOR LOCATION IS TO THE FRONT CENTER OF THE LOOPS. CENTER THE LOOPS IN THEIR RESPECTIVE LANES UNLESS OTHER WISE NOTED. DISTANCE BETWEEN MULTIPLE STOP BAR LOOPS SHALL BE 8-FEET.
8) INSTALL FOLDING STOP SIGNS (36"x36") ON SIGNAL POLES (SB1, SB3, SB4, SB7, SB8, SB9 AND SB10)
9) THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AND STRUCTURES ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS OR STRUCTURES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.
10) THE ENGINEER WILL ADJUST THE LOCATION OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
11) EXISTING SIGNAL EQUIPMENT TO REMAIN IN PLACE (SHOWN AS "GRAY SHADE"):
    - SB2, AND SB3.
12) NEW OR ADJUSTED SIGNAL EQUIPMENT:
    - NEW 13-FOOT STANDARD AT (SB5, SB6, SB7).
    - NEW 15-FOOT STANDARD AT (SB4, SB10).
    - NEW TYPE 3 POLE AT (SB9). 25-FOOT TROMBONE ARM MOVED FROM ESB6.
    - NEW 30-FOOT TYPE 9 MONOTUBE AT (SB1, SB8).

LEGEND

- CONTROL CABINET (TYPE 9 SPECIAL)
- CONDUIT 2", UNLESS OTHERWISE NOTED (USE "CONDUIT SPECIAL" UNDER THE ROADWAY. EXTEND LIKE MATERIAL TO PULL BOX)
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD PEDESTAL MOUNT, TYPE 1 BASE (WITH BACK PLATE)
- SIGNAL HEAD/LUMINAIRE POLE TYPE 3, TYPE 2 BASE (WITH BACK PLATE)
- (XX) SIGNAL HEAD MAST ARM MOUNT POLE TYPE 2, TYPE 2 BASE (WITH BACK PLATE)
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT, SIDE PULL (SDD OPTION 2)
- PEDESTRIAN HEAD WITH PUSH BUTTON
- 30' MAX SIGNAL HEAD, TYPE 9 MONOTUBE TYPE 10 BASE (WITH BACKPLATE)
- EXISTING LOCAL LIGHTING
- PULL BOX, STEEL, 24" X 42"
- 3A SIGNAL HEAD NUMBER
- DON'T WALK INDICATOR 12" / WALK INDICATOR 12"
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED ARROW
- FY FLASHING YELLOW ARROW
- Y YELLOW ARROW
- G GREEN ARROW
- YIELD SIGN

NOTE: ALL LENSES ARE 12-INCH.
GRAYSHADE REPRESENTS EXISTING TO REMAIN.
BOLD REPRESENTS PROPOSED REVISIONS.

REMOVE & SALVAGE LOCAL LIGHT POLE (LLP1)

MONOTUBE STRUCTURE NUMBERS

BASE #	STRUCTURE #
SB1	S-68-005-2
SB8	S-68-005-1

CONFIGURATION WITH HEAD NUMBERS

3-V	3-VR	FLASHING YELLOW 4-VL	3-H	PED
R Y G	R Y G	R FY G	R Y G	
2A, 2B, 2C				
4A, 4C	OLA-1			
6A, 6B, 6C	OLA-2	1A, 1B,	4B	2-1, 2-2
8A, 8C	OLA-3	5A, 5B, 5C	8B	

REVISION

Rev. No.	CHANNELIZATION IMPROVEMENTS ON CTH QQ. SIGNALIZED CTH QQ RIGHT TURN TO STH 54. MONTUBES ADDED ON 54 APPROACHES. FY ARROWS ADDED FOR 54 LEFT TURNS. NEW TS2 SIGNAL CABINET.			
	APPROVAL RECOMMENDED		APPROVED	
	REGION		CENTRAL OFFICE	
	Date	By	Date	By
1	1/16/14	RLJ		

TRAFFIC CONTROL SIGNAL

STH 54 AND CTH QQ/GRAND SEASONS DR
CITY OF WAUPACA
WAUPACA COUNTY

SIGNAL NO. S0477 CONTROLLER TYPE: ECONOLITE TS2

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 1/7/1991 — C. A. DEVINE, REGION TRAFFIC ENGINEER

APPROVED
Date 2/5/1992 — PETE RUSCH, STATE TRAFFIC ENGINEER

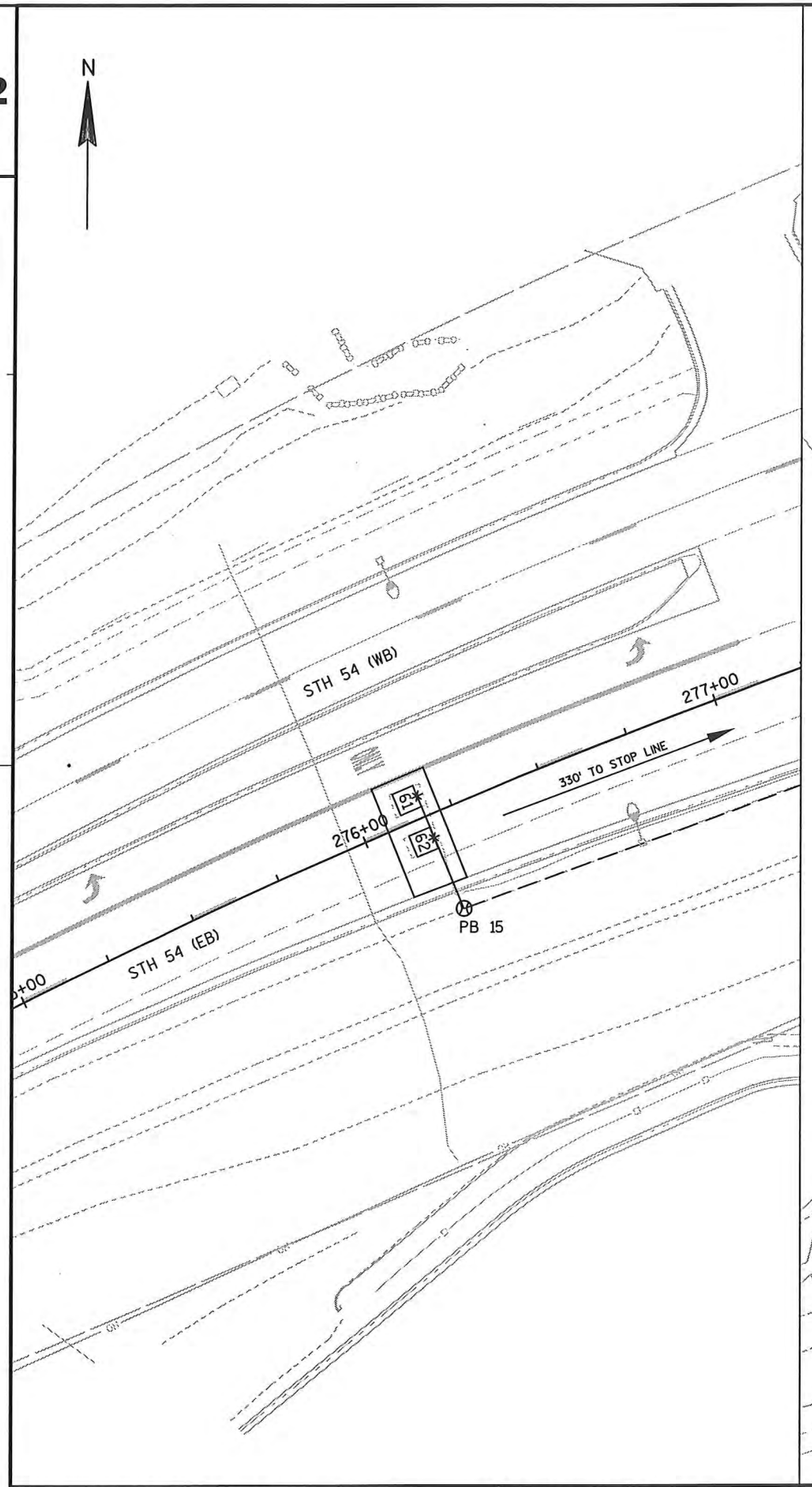
REGION CONTACT: RON JOHNSON
DESIGNED BY: RON JOHNSON
REVISED BY: RON JOHNSON

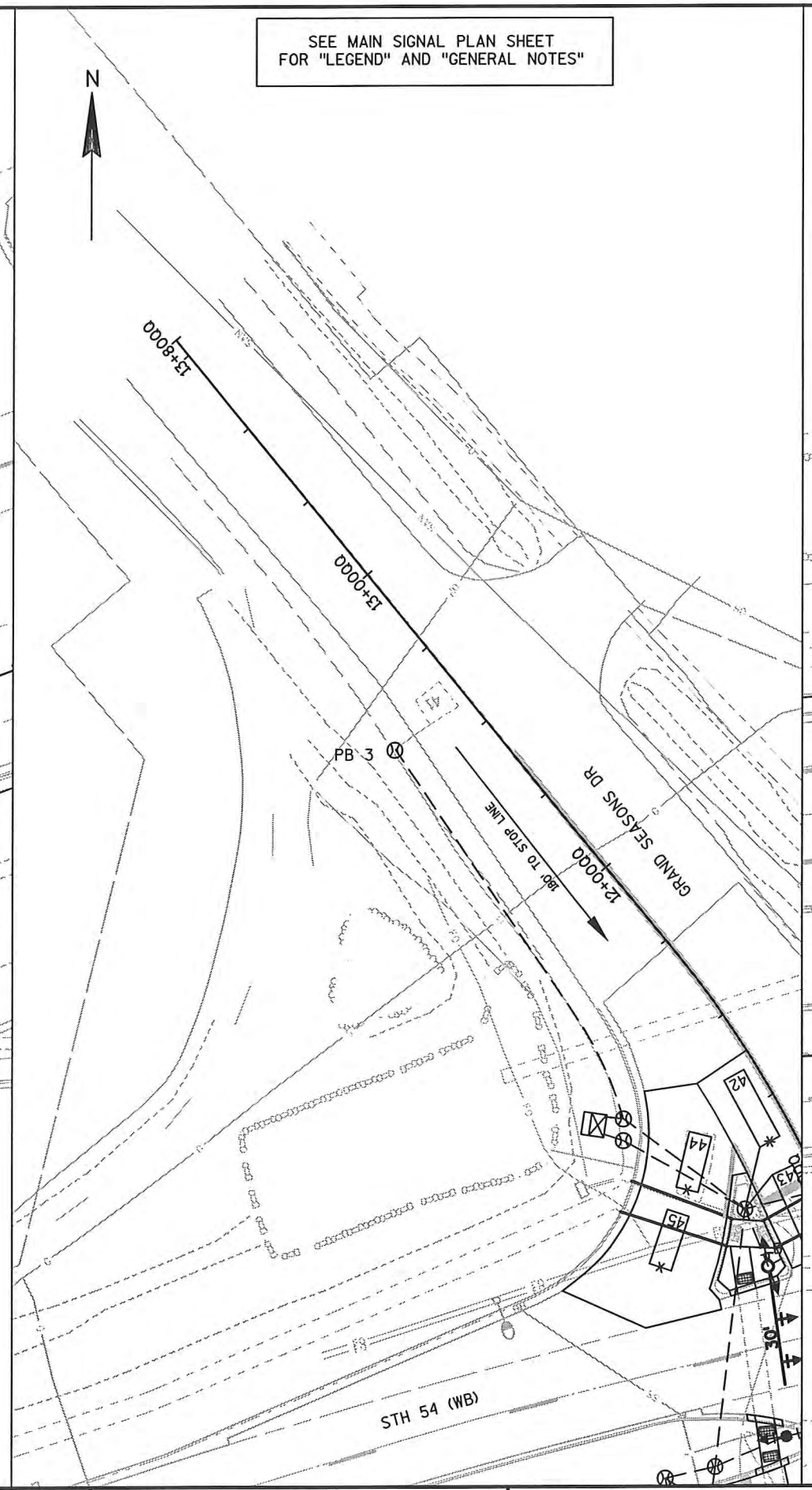
PAGE _ OF _

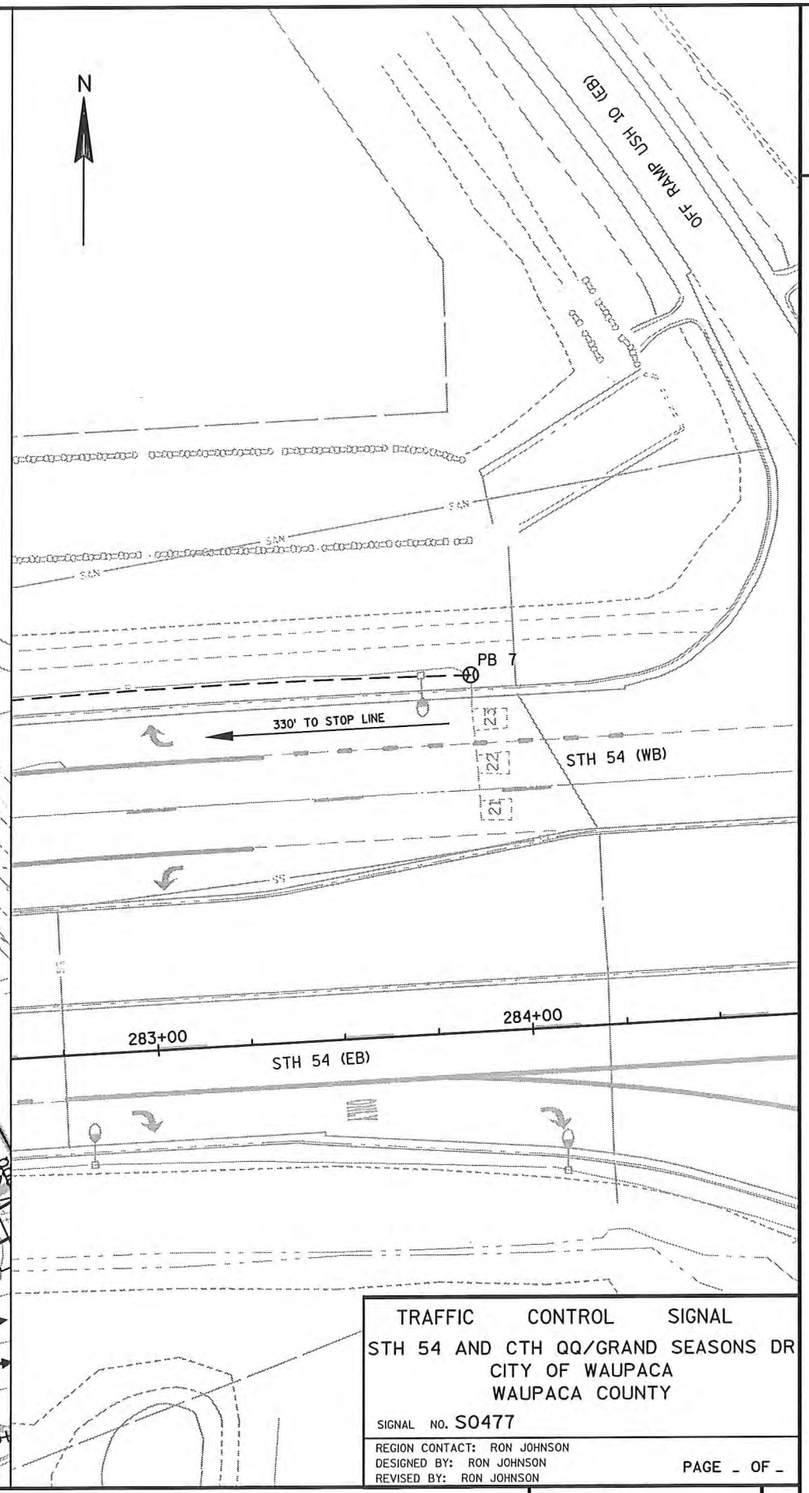
PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	TRAFFIC SIGNAL PLAN	SHEET E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\024001_SP.DWG
PLOT DATE : 1/14/2014 10:11 AM
PLOT BY : CHRISTIANSON, ERIN MPLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

SEE MAIN SIGNAL PLAN SHEET
FOR "LEGEND" AND "GENERAL NOTES"







TRAFFIC CONTROL SIGNAL
STH 54 AND CTH QQ/GRAND SEASONS DR
CITY OF WAUPACA
WAUPACA COUNTY

SIGNAL NO. S0477

REGION CONTACT: RON JOHNSON
DESIGNED BY: RON JOHNSON
REVISED BY: RON JOHNSON

PAGE _ OF _

PROJECT NO:6991-01-70	HWY: STH 54	COUNTY: WAUPACA	TRAFFIC SIGNAL PLAN	SHEET E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\024001_SP.DWG PLOT DATE : 1/14/2014 10:11 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : ********

WISDOT/CADDS SHEET 42

SEQUENCE OF OPERATION

NOT USED

RING 1		Ø1						Ø2					
			CLEAR TO						CLEAR TO				
	HEAD NUMBERS	R/W	**					R/W	**				
Ø1	1A,1B	G	-	-				-	-	-			
Ø2	2A,2B,2C	R	R	R				G	Y	R			
Ø3													
Ø4	4A,4B,4C	R	R	R				R	R	R			
Ø5	5A,5B,5C	-	-	-				-	-	-			
Ø6	6A,6B,6C	R	R	R				R	R	R			
Ø7													
Ø8	8A,8B,8C	R	R	R				R	R	R			
OLA	OLA-1,OLA-2,OLA-3	R	R	R				R	R	R			
OLE	1A,1B	-	Y	R				FY	Y	R			
OLG	5A,5B,5C	R	R	R				R	R	R			
Q2P	2-1,2-2	DW	DW	DW				*	DW	DW			

	Ø3						Ø4						FLASH
	CLEAR TO						CLEAR TO						
	R/W	**					R/W	**					
Ø1							-	-	-				-
Ø2							R	R	R				R
Ø3													
Ø4							G	Y	R				R
Ø5							-	-	-				-
Ø6							R	R	R				R
Ø7													
Ø8							R	R	R				R
OLA							R	R	R				R
OLE							R	R	R				R
OLG							R	R	R				R
Q2P							DW	DW	DW				-

NOT USED

RING 2		Ø5						Ø6					
			CLEAR TO						CLEAR TO				
	HEAD NUMBERS	R/W	**					R/W	**				
Ø1	1A,1B	-	-	-				-	-	-			
Ø2	2A,2B,2C	R	R	R				R	R	R			
Ø3													
Ø4	4A,4B,4C	R	R	R				R	R	R			
Ø5	5A,5B,5C	G	-	-				-	-	-			
Ø6	6A,6B,6C	R	R	R				G	Y	R			
Ø7													
Ø8	8A,8B,8C	R	R	R				R	R	R			
OLA	OLA-1,OLA-2,OLA-3	G	Y	R				R	R	R			
OLE	1A,1B	R	R	R				R	R	R			
OLG	5A,5B,5C	-	Y	R				FY	Y	R			
Q2P	2-1,2-2	DW	DW	DW				DW	DW	DW			

	Ø7						Ø8						
	CLEAR TO						CLEAR TO						
	R/W	**					R/W	**					
Ø1							-	-	-				
Ø2							R	R	R				
Ø3													
Ø4							R	R	R				
Ø5							-	-	-				
Ø6							R	R	R				
Ø7													
Ø8							G	Y	R				
OLA							G	Y	R				
OLE							R	R	R				
OLG							R	R	R				
Q2P							DW	DW	DW				

BARRIER

** CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1)

* WHEN CALLED, TIMED STEADY WALK,THEN FLASHING DON'T WALK, THEN GOES TO STEADY DON'T WALK

FY = FLASHING YELLOW

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13	19	17	23	21	27	25	31	29
DETECTOR #(S)	61	11	21	23	51	41	42	*44	81	83	OLA-1					
CALLS & EXTENDS	X	X	X	X	X		X	X		X	X					
CALLS ONLY																
EXTENDS ONLY						X			X							
PHASE CALLED	6	1	2	2	5		4	4		8	8					
PHASE EXTENDED	6	1	2	2	5	4	4	4	8	8	8					
DISCONNECT PHASE																
CALLING DELAY								X			X					
EXTENSION STRETCH						X			X							
SIZE	6x6	6x20	6x6	6x6	6x20	6x6	6x20	6x15	6x6	6x20	6x20					
NUMBER OF TURNS	4	3	4	4	3	3	3	3	4	3	3					

DETECTOR INPUT	4	2	8	6	12	10	16	14	20	18	24	22	28	26	32	30
DETECTOR #(S)	62	12	22		52		43	*45	82	84	OLA-2					
CALLS & EXTENDS	X	X	X		X		X	X		X	X					
CALLS ONLY																
EXTENDS ONLY									X							
PHASE CALLED	6	1	2		5		4	4		8	8					
PHASE EXTENDED	6	1	2		5		4	4	8	8	8					
DISCONNECT PHASE																
CALLING DELAY							X	X		X	X					
EXTENSION STRETCH									X							
SIZE	6x6	6x20	6x6		6x20		6x20	6x15	6x6	6x20	6x20					
NUMBER OF TURNS	4	3	4		3		3	3	4	3	3					

* DETECTORS INSTALLED FOR FUTURE USE (44,45).

N

TYPE OF INTERCONNECT COMMUNICATION	
NONE	X
TBC	
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	
RADIO	
*LOCATION OF MASTER CONTROLLER NO:	S- ----
SIGNAL SYSTEM #:	SS- --- --

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

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

SPECIAL OVERLAPS

	PROTECTED	PERMISSIVE
O.L. "E"	1	2
O.L. "F"		
O.L. "G"	5	6
O.L. "H"		

OVERLAPS

O.L. "A" = 5.8
O.L. "B" = NONE
O.L. "C" = NONE
O.L. "D" = NONE

CONTROLLER LOGIC

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

CHART 1

PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
1	5 OR 6, OLA, OLG	2, 4, 8
2	5 OR 6, OLA, OLE, OLG	1, 4, 8
3		
4	8, OLA	1,2,5,6,OLE,OLG
5	1 OR 2, OLA, OLE	4, 6, 8
6	1 OR 2, OLE, OLG	4, 5, 8, OLA
7		
8	4, OLA	1,2,5,6,OLE,OLG

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1 AT LEFT.)
3. WHEN OPPOSING THRU PHASES ARE TIMING CONCURRENTLY THEY SHALL TERMINATE TOGETHER DUE TO PERMISSIVE LEFT TURN CONFLICT.

TRAFFIC CONTROL SIGNAL
STH 54 & CTH QQ/GRAND SEASONS DR
CITY OF WAUPACA, WAUPACA COUNTY

SIGNAL NO. S0477

CONTROLLER TYPE: ECONOLITE TS2

DATE -------- PAGE NO. - ~~OF~~

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	SEQUENCE OF OPERATIONS	SHEET E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\024001_SP.DWG PLOT DATE : 1/14/2014 10:11 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:40 FT WISDOT/CADDS SHEET 42

PROJECT ID:	6991-01-70
INTERSECTION:	STH 54@CTH QQ, S#0477

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

CB1 TO	JUMPER	AWG 14 # OF COND.	HEAD NO.	PHASE	SIGNAL INDICATION WIRE COLOR									PED BUTTON	OTHER
					RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	FLASHING YELLOW	D/WALK	WALK		
SB1		19	2B	2	RED/WHT	BLK/RED	GRN/WHT								
			2C	2	RED/WHT	BLK/RED	GRN/WHT								
			4A	4	RED/BLK	ORG/BLK	GRN/BLK								
			8C	8	RED	ORG	GRN								
			2-1	PED 2								BLK	BLU	WHT/BLK	
SB2		7	8B	8	RED	ORG	GRN								
			2-2	PED 2								BLK	BLU	WHT/BLK	
SB3		5	2A	2	RED	ORG	GRN								
SB4		12	1B	OLE				RED	ORG	GRN	BLU				
			5A	OLG				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK				
SB5		5	OLA-2	OLA	RED				ORG	GRN					
SB6		5	OLA-3	OLA	RED				ORG	GRN					
SB7		5	OLA-1	OLA	RED				ORG	GRN					
SB8		12	4C	4	RED/BLK	ORG/BLK	GRN/BLK								
			6B	6	RED/WHT	BLK/RED	GRN/WHT								
			6C	6	RED/WHT	BLK/RED	GRN/WHT								
			8A	8	RED	ORG	GRN								
SB9		19	4B	4	RED	ORG	GRN								
			5C	OLG				RED/WHT	BLK/RED	BRN/WHT	BLU/BLK				
			6A	6	RED/BLK	ORG/BLK	GRN/BLK								
SB10		12	1A	OLE				RED	ORG	GRN	BLU				
			5B	OLG				RED/BLK	OGR/BLK	GRN/BLK	BLU/BLK				

Equipment grounding conductor 10 AWG Green XLP	
From	To
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	SB9
SB9	SB10
SB10	CB1

Pull Box Bonding Jumper 10 AWG Green XLP	
From	To
CB1	PB1
CB1	PB2
SB1	PB4
SB2	PB5
SB3	PB6
SB4	PB8
SB5	PB9
SB7	PB10
SB8	PB11
SB9	PB13
SB9	PB14
SB10	PB16

Lighting UF #12/2 w/ground	
From	To
CB1	SB9

Emergency Vehicle Preemption	
From	To

*Use the white conductor in the cable assembly as the grounded conductor for all traffic signal indications
*Ensure the grounded conductor in the feeder cable and the pole cables are both 12" longer than the ungrounded conductors.
*At the signal bases, connect one terminal from the pedestrian push buttons to the color indicated in the chart. Connect the other terminal to the grounded conductor.
"Other" column may include shadow box sign

TRAFFIC CONTROL SIGNAL
STH 54 & CTH QQ/GRAND SEASONS DR
CITY OF WAUPACA, WAUPACA COUNTY

SIGNAL NO. S0477

CONTROLLER TYPE: ECONOLITE TS2

DATE -------- PAGE NO. - ~~OF~~

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	CABLE ROUTING CHART	SHEET	E

2

N

CONFIGURATION WITH HEAD NUMBERS	
R Y G	R Y G G
1A	1B, 1C, 1D
2A	2B, 2C, 2D
3A	3B, 3C
4A	4B, 4C

GENERAL NOTES:

1) FINAL LOCATIONS OF TEMPORARY SIGNAL POLES, SIGNAL CABINET, AND SIGNAL HEADS SHALL BE AS DIRECTED BY THE ENGINEER.

2) GUYING OF TEMPORARY SIGNAL POLES IS REQUIRED. LOCATIONS SHALL BE APPROVED BY THE ENGINEER.

3) THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.

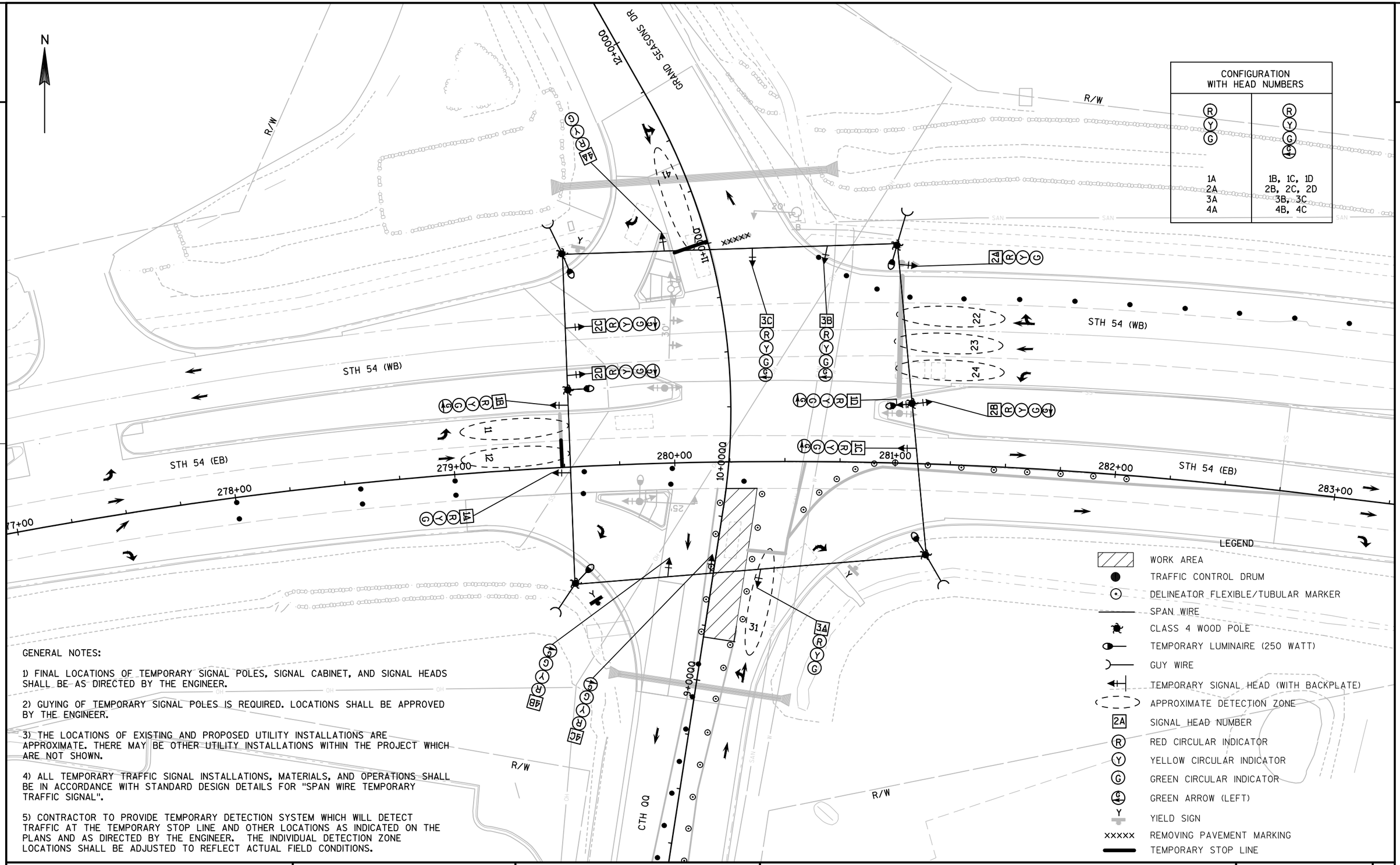
4) ALL TEMPORARY TRAFFIC SIGNAL INSTALLATIONS, MATERIALS, AND OPERATIONS SHALL BE IN ACCORDANCE WITH STANDARD DESIGN DETAILS FOR "SPAN WIRE TEMPORARY TRAFFIC SIGNAL".

5) CONTRACTOR TO PROVIDE TEMPORARY DETECTION SYSTEM WHICH WILL DETECT TRAFFIC AT THE TEMPORARY STOP LINE AND OTHER LOCATIONS AS INDICATED ON THE PLANS AND AS DIRECTED BY THE ENGINEER. THE INDIVIDUAL DETECTION ZONE LOCATIONS SHALL BE ADJUSTED TO REFLECT ACTUAL FIELD CONDITIONS.

LEGEND

- WORK AREA
- TRAFFIC CONTROL DRUM
- DELINEATOR-FLEXIBLE/TUBULAR MARKER
- SPAN WIRE
- CLASS 4 WOOD POLE
- TEMPORARY LUMINAIRE (250 WATT)
- GUY WIRE
- TEMPORARY SIGNAL HEAD (WITH BACKPLATE)
- APPROXIMATE DETECTION ZONE
- 2A SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- G GREEN ARROW (LEFT)
- Y YIELD SIGN
- XXXXX REMOVING PAVEMENT MARKING
- TEMPORARY STOP LINE

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 1	SHEET 17	E



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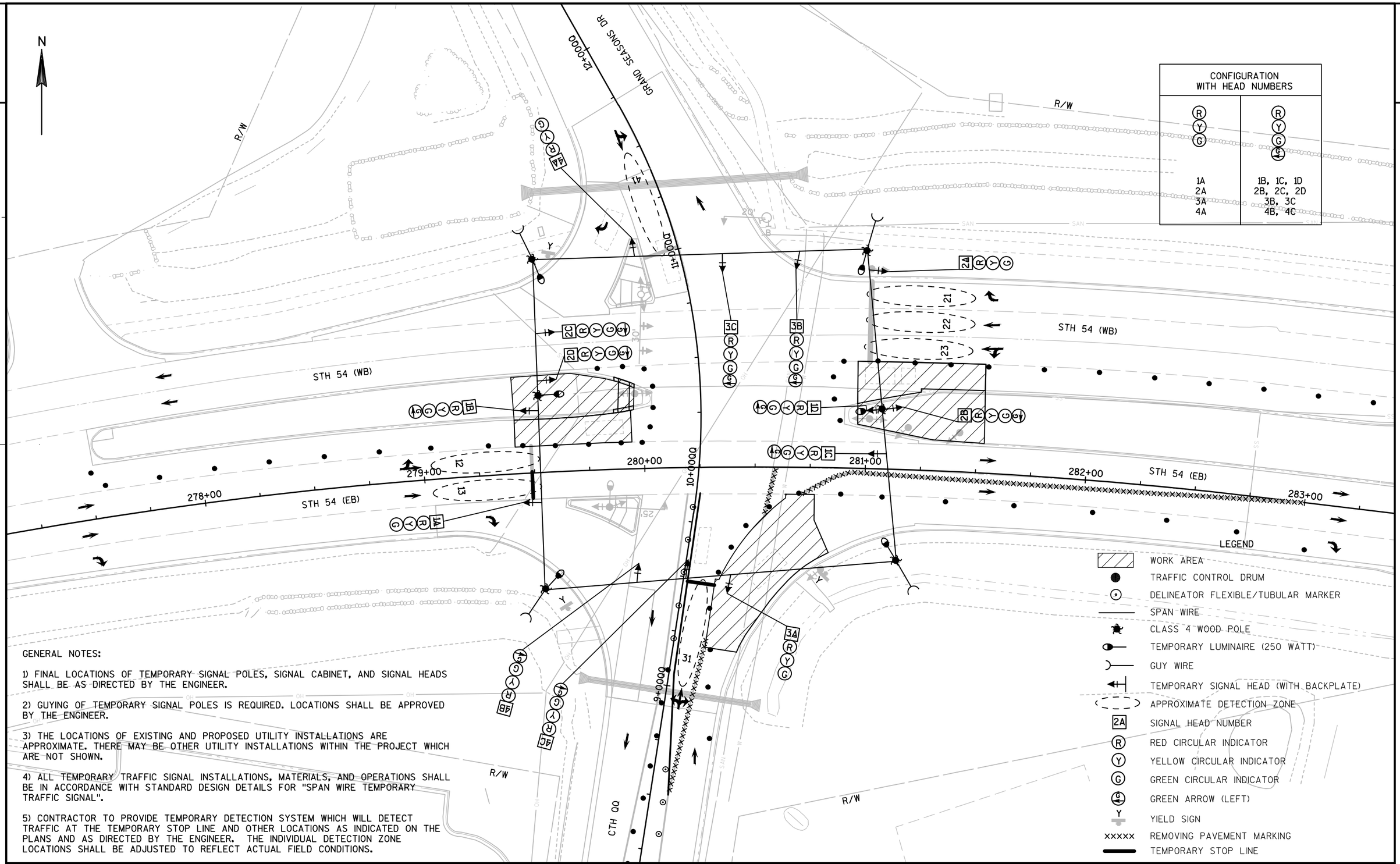
5) CONTRACTOR TO PROVIDE TEMPORARY DETECTION SYSTEM WHICH WILL DETECT TRAFFIC AT THE TEMPORARY STOP LINE AND OTHER LOCATIONS AS INDICATED ON THE PLANS AND AS DIRECTED BY THE ENGINEER. THE INDIVIDUAL DETECTION ZONE LOCATIONS SHALL BE ADJUSTED TO REFLECT ACTUAL FIELD CONDITIONS.

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 2	SHEET	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\024102_TEMP_SP.DWG PLOT DATE : 1/14/2014 10:41 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42



PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 3	SHEET 19	E

CONFIGURATION WITH HEAD NUMBERS	
R Y G	R Y G 4
1A	1B, 1C, 1D
2A	2B, 2C, 2D
3A	3B, 3C
4A	4B, 4C

GENERAL NOTES:

1) FINAL LOCATIONS OF TEMPORARY SIGNAL POLES, SIGNAL CABINET, AND SIGNAL HEADS SHALL BE AS DIRECTED BY THE ENGINEER.

2) GUYING OF TEMPORARY SIGNAL POLES IS REQUIRED. LOCATIONS SHALL BE APPROVED BY THE ENGINEER.

3) THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.

4) ALL TEMPORARY TRAFFIC SIGNAL INSTALLATIONS, MATERIALS, AND OPERATIONS SHALL BE IN ACCORDANCE WITH STANDARD DESIGN DETAILS FOR "SPAN WIRE TEMPORARY TRAFFIC SIGNAL".

5) CONTRACTOR TO PROVIDE TEMPORARY DETECTION SYSTEM WHICH WILL DETECT TRAFFIC AT THE TEMPORARY STOP LINE AND OTHER LOCATIONS AS INDICATED ON THE PLANS AND AS DIRECTED BY THE ENGINEER. THE INDIVIDUAL DETECTION ZONE LOCATIONS SHALL BE ADJUSTED TO REFLECT ACTUAL FIELD CONDITIONS.

LEGEND

- WORK AREA
- TRAFFIC CONTROL DRUM
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- SPAN WIRE
- CLASS 4 WOOD POLE
- TEMPORARY LUMINAIRE (250 WATT)
- GUY WIRE
- TEMPORARY SIGNAL HEAD (WITH BACKPLATE)
- APPROXIMATE DETECTION ZONE
- 2A SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- 4G GREEN ARROW (LEFT)
- Y YIELD SIGN
- XXXXX REMOVING PAVEMENT MARKING
- TEMPORARY STOP LINE

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 4	SHEET 20	E

SEQUENCE OF OPERATION

RING 1

	HEAD NUMBERS	Ø1 R/W	Ø1 CLEAR TO **	Ø2 R/W	Ø2 CLEAR TO **	Ø3 R/W	Ø3 CLEAR TO **	Ø4 R/W	Ø4 CLEAR TO **	FLASH
Ø1	1A, 1B, 1C, 1D	G G Y R		R	R R	R	R R	R	R R	R
Ø2	2A, 2B, 2C, 2D	R R R		G G Y R		R	R R	R	R R	R
Ø3	3A, 3B, 3C	R R R		R	R R	G G Y R		R	R R	R
Ø4	4A, 4B, 4C	R R R		R	R R	R	R R	G G Y R		R
Ø5										
Ø6										
Ø7										
Ø8										
Ø2P										
Ø4P										
Ø6P										
Ø8P										

NOT USED | NOT USED | NOT USED | NOT USED

RING 2

	HEAD NUMBERS	Ø5 R/W	Ø5 CLEAR TO **	Ø6 R/W	Ø6 CLEAR TO **	Ø7 R/W	Ø7 CLEAR TO **	Ø8 R/W	Ø8 CLEAR TO **
Ø1									
Ø2									
Ø3									
Ø4									
Ø5									
Ø6									
Ø7									
Ø8									
Ø2P									
Ø4P									
Ø6P									
Ø8P									

BARRIER

** CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1)

N

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION: CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH
11				X		1			
12				X		1			
13				X		1			
21				X		2			
22				X		2			
23				X		2			
24				X		2			
31		X			3	3			
41		X			4	4			

CONTROLLER LOGIC

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

OVERLAPS

O.L. "A" = NONE
O.L. "B" = NONE
O.L. "C" = NONE
O.L. "D" = NONE

TYPE OF INTERCONNECT COMMUNICATION	
NONE	X
TBC	
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	
RADIO	
*LOCATION OF MASTER CONTROLLER NO: S- ____	
SIGNAL SYSTEM *: SS- -- - --	

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

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

CHART 1

PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
1	NONE	2, 3, 4
2	NONE	1, 3, 4
3	NONE	1, 2, 4
4	NONE	1, 2, 3
5		
6		
7		
8		

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. TEMPORARY CABINET SHALL BE SET UP TO ACCOMMODATE THE TEMPORARY DETECTION ZONES AS PLANNED FOR DURING THE VARIOUS STAGES. ADJUST THE ACTIVE DETECTORS ACCORDINGLY BASED ON THE PARTICULAR STAGE AND OPEN/CLOSED LANES.

TEMPORARY SIGNAL
STH 54 & CTH QQ/GRAND SEASONS DR
CITY OF WAUPACA
WAUPACA COUNTY

SIGNAL NO. N/A

CONTROLLER TYPE: TEMP

DATE --------

PAGE NO. - 9F

ACTUATED TIMING (STH 54 & CTH QQ Temp Signal, Stages 1 - 4)

	PHASE	1	2	3	4	5	6	7	8
Min Green		15	15	10	10				
Passage		4.0	4.0	3.0	3.0				
Max 1		30	30	25	20				
Max 2									
Yellow		4.5	4.5	3.0	3.0				
Red		2.0	2.0	4.5	3.5				
TBR		10	10	8	6				
TTR		10	10	8	6				
Min Gap		2.0	2.0	2.0	2.0				

GENERAL NOTES

1) CONTACT THE DEPARTMENTS ELECTRICIAN REGARDING REMOVAL OF THE EXISTING SIGNAL CABINET AND CONTROLLER. WISDOT WILL BE RESPONSIBLE FOR THIS REMOVAL.

2) EXISTING LOOP DETECTORS 21, 22, 23, 41, 81 AND 82 ARE TO REMAIN IN PLACE FOR FUTURE OPERATIONS. ALL OTHER LOOP DETECTORS SHALL BE ABANDONED AND REPLACED PER PLAN.

3) EXISTING SIGNAL INSTALLATIONS TO REMAIN IN PLACE. TO INCLUDE CONCRETE BASES, SIGNAL POLES, AND EXISTING SIGNAL HEADS (ESB2, ESB3).

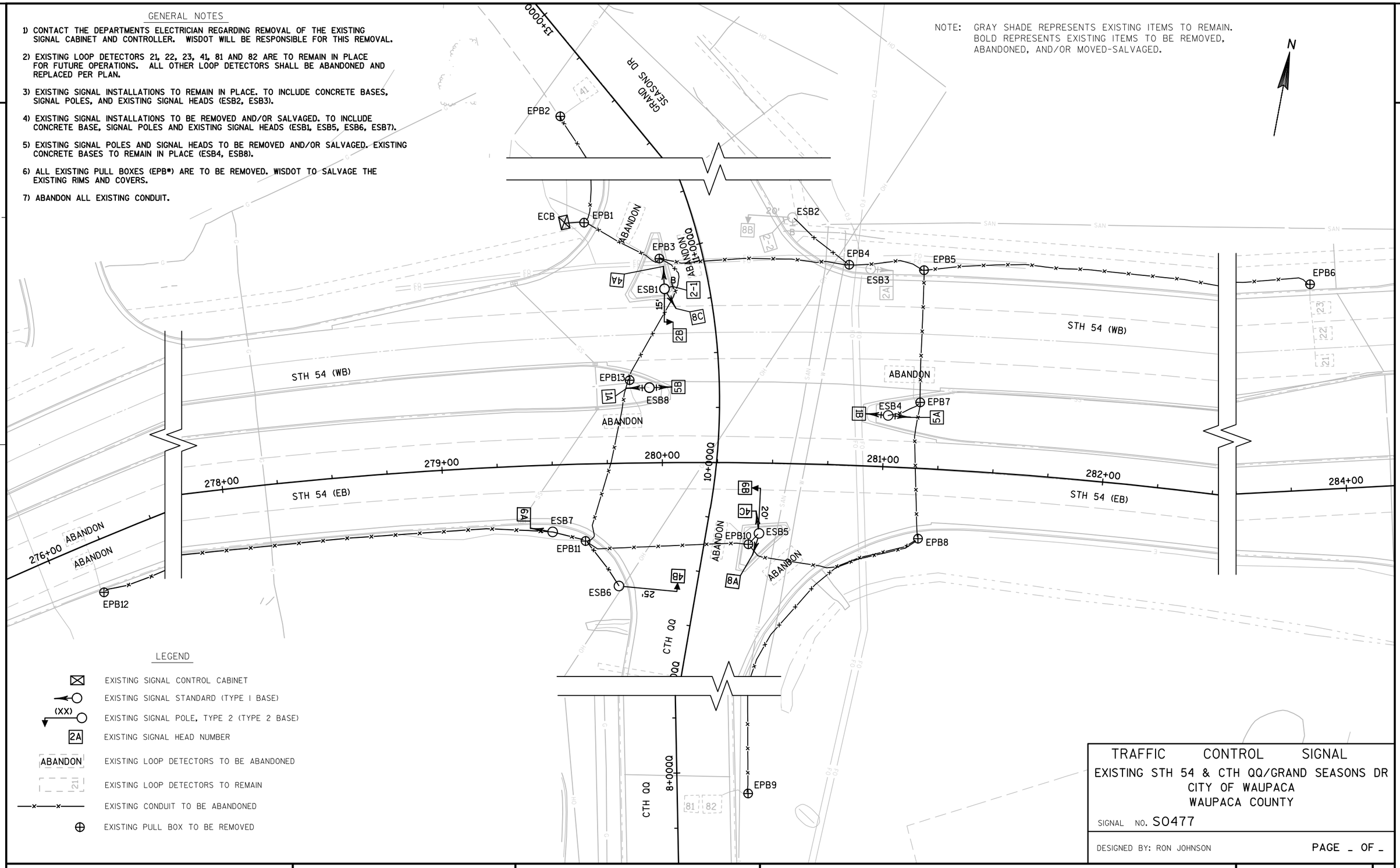
4) EXISTING SIGNAL INSTALLATIONS TO BE REMOVED AND/OR SALVAGED. TO INCLUDE CONCRETE BASE, SIGNAL POLES AND EXISTING SIGNAL HEADS (ESB1, ESB5, ESB6, ESB7).

5) EXISTING SIGNAL POLES AND SIGNAL HEADS TO BE REMOVED AND/OR SALVAGED. EXISTING CONCRETE BASES TO REMAIN IN PLACE (ESB4, ESB8).

6) ALL EXISTING PULL BOXES (EPB*) ARE TO BE REMOVED. WISDOT TO SALVAGE THE EXISTING RIMS AND COVERS.

7) ABANDON ALL EXISTING CONDUIT.

NOTE: GRAY SHADE REPRESENTS EXISTING ITEMS TO REMAIN. BOLD REPRESENTS EXISTING ITEMS TO BE REMOVED, ABANDONED, AND/OR MOVED-SALVAGED.



LEGEND

- EXISTING SIGNAL CONTROL CABINET
- EXISTING SIGNAL STANDARD (TYPE I BASE)
- (XX) EXISTING SIGNAL POLE, TYPE 2 (TYPE 2 BASE)
- 2A EXISTING SIGNAL HEAD NUMBER
- ABANDON EXISTING LOOP DETECTORS TO BE ABANDONED
- 21 EXISTING LOOP DETECTORS TO REMAIN
- EXISTING CONDUIT TO BE ABANDONED
- EXISTING PULL BOX TO BE REMOVED

TRAFFIC CONTROL SIGNAL

EXISTING STH 54 & CTH QQ/GRAND SEASONS DR
CITY OF WAUPACA
WAUPACA COUNTY

SIGNAL NO. S0477

DESIGNED BY: RON JOHNSON

PAGE _ OF _

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	TRAFFIC SIGNAL SALVAGE & REMOVAL PLAN	SHEET 23	E

2

N

BP GAS
STATION

PAVEMENT MARKING EPOXY
4-INCH (C/L DOUBLE YELLOW)
END AT STATION 14+50QQ

GRAND SEASONS DR

12+0000

11+0000

PAVEMENT MARKING EPOXY
4-INCH (YELLOW EDGELINE)

PAVEMENT MARKING EPOXY
4-INCH (YELLOW EDGELINE)

PAVEMENT MARKING
ISLAND EPOXY

PAVEMENT MARKING
CURB EPOXY

STH 54 (WB)

274+00

275+00

276+00

277+00

STH 54 (EB)

278+00

279+00

280+00

10+0000

281+0

PAVEMENT MARKING
ISLAND EPOXY

PAVEMENT MARKING EPOXY
8-INCH (WHITE)

PAVEMENT MARKING
ISLAND EPOXY

PAVEMENT MARKING EPOXY
4-INCH LANE LINE (WHITE)

PAVEMENT MARKING EPOXY
8-INCH (WHITE)

9+0000

ONLY

KWIP TRIP
GAS STATION

LEGEND

PAVEMENT MARKING ARROWS EPOXY TYPE 2

PAVEMENT MARKING ARROWS EPOXY TYPE 3

ONLY PAVEMENT MARKING WORDS EPOXY

PAVEMENT MARKING EPOXY
4-INCH (C/L DOUBLE YELLOW)
BEGIN AT STATION 6+75QQ

8+0000

CTH QQ

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	PAVEMENT MARKING	SHEET	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\024501_PM.DWG PLOT DATE : 3/10/2014 8:49 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:50 FT

2

N

OFF RAMP USH 10 (EB)

PAVEMENT MARKING EPOXY
4-INCH LANE LINE (WHITE)

PAVEMENT MARKING EPOXY 8-INCH
(WHITE; 3-FT, 9-FT GAP)

STH 54 (WB)

PAVEMENT MARKING
CURB EPOXY

281+00 282+00 283+00 284+00 285+00 286+00 286+62

STH 54 (EB)

PAVEMENT MARKING EPOXY
4-INCH (YELLOW EDGELINE)

PAVEMENT MARKING EPOXY
8-INCH (WHITE)

PAVEMENT MARKING EPOXY 8-INCH
(WHITE; 3-FT, 9-FT GAP)

ON RAMP USH 10 (EB)

LEGEND

PAVEMENT MARKING ARROWS EPOXY TYPE 2

PAVEMENT MARKING ARROWS EPOXY TYPE 3

ONLY PAVEMENT MARKING WORDS EPOXY

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	PAVEMENT MARKING	SHEET	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\024501_PM.DWG PLOT DATE : 3/10/2014 8:49 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:50 FT

PAVEMENT MARKING EPOXY 8-INCH (WHITE)

PAVEMENT MARKING CROSSWALK EPOXY 6-INCH (WHITE)

PAVEMENT MARKING ISLAND EPOXY

GRAND SEASONS DR

PAVEMENT MARKING STOP LINE EPOXY 18-INCH

10+0000

PAVEMENT MARKING CROSSWALK EPOXY 6-INCH (WHITE)

PAVEMENT MARKING ISLAND EPOXY

PAVEMENT MARKING CURB EPOXY

10+5000

STH 54 (WB)

PAVEMENT MARKING ISLAND EPOXY

PAVEMENT MARKING CURB EPOXY

PAVEMENT MARKING STOP LINE EPOXY 18-INCH

STH 54 (EB)

279+00

279+50

280+00

280+50

281+00

281+50

PAVEMENT MARKING ISLAND EPOXY

PAVEMENT MARKING CURB EPOXY

PAVEMENT MARKING STOP LINE EPOXY 18-INCH

PAVEMENT MARKING EPOXY 8-INCH (WHITE)

9+5000

CTH OO

PAVEMENT MARKING EPOXY 8-INCH (WHITE)

N

PAVEMENT MARKING STOP LINE EPOXY 18-INCH

PAVEMENT MARKING CURB EPOXY

PAVEMENT MARKING ISLAND EPOXY

PAVEMENT MARKING EPOXY 8-INCH (WHITE)

PAVEMENT MARKING ISLAND EPOXY

PAVEMENT MARKING CURB EPOXY

PAVEMENT MARKING ISLAND EPOXY

LEGEND

PAVEMENT MARKING ARROWS EPOXY TYPE 2

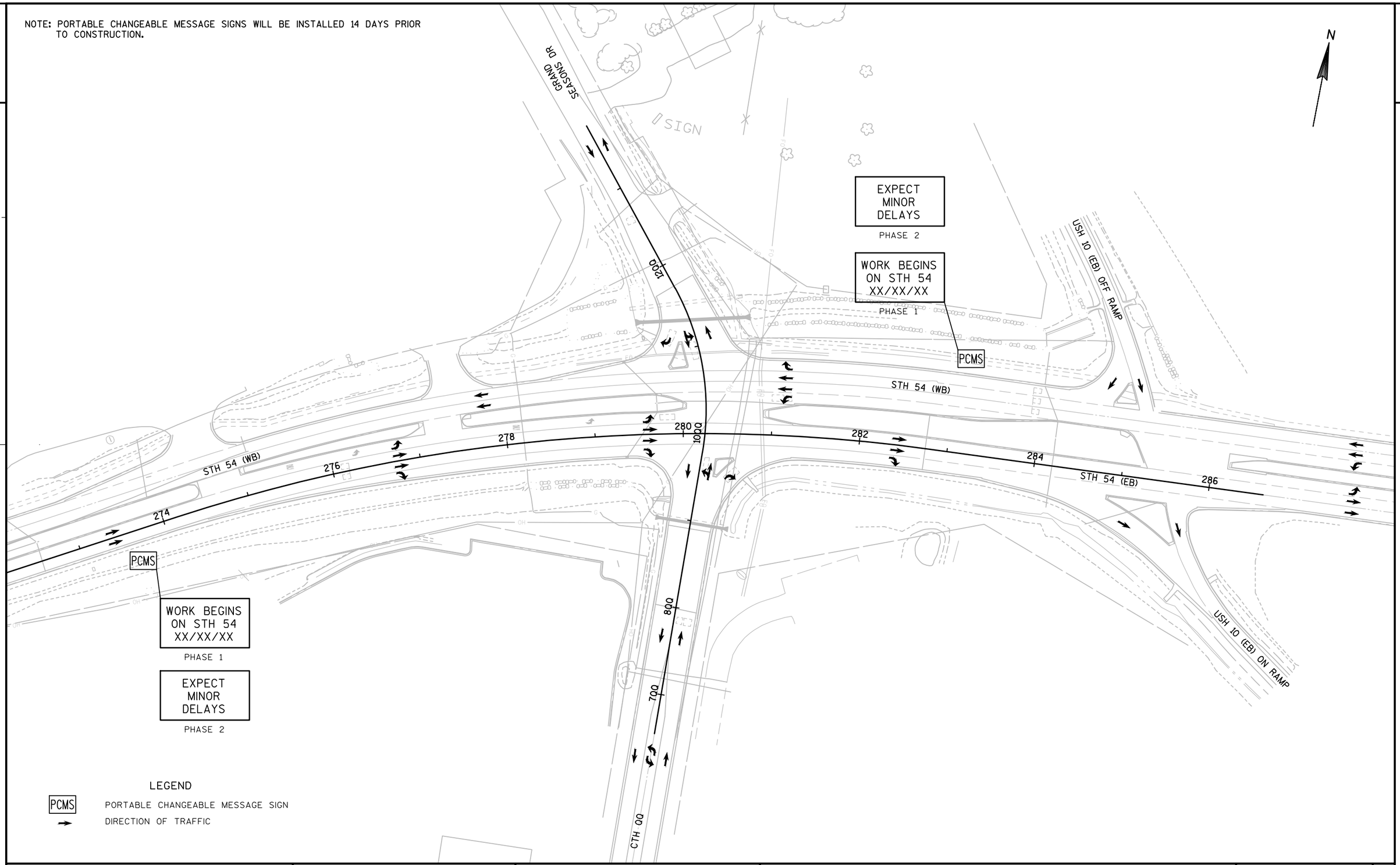
PAVEMENT MARKING ARROWS EPOXY TYPE 3

ONLY PAVEMENT MARKING WORDS EPOXY

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	PAVEMENT MARKING	SHEET 26	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\024503_PM.DWG PLOT DATE : 3/10/2014 9:37 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:20 FT

NOTE: PORTABLE CHANGEABLE MESSAGE SIGNS WILL BE INSTALLED 14 DAYS PRIOR TO CONSTRUCTION.

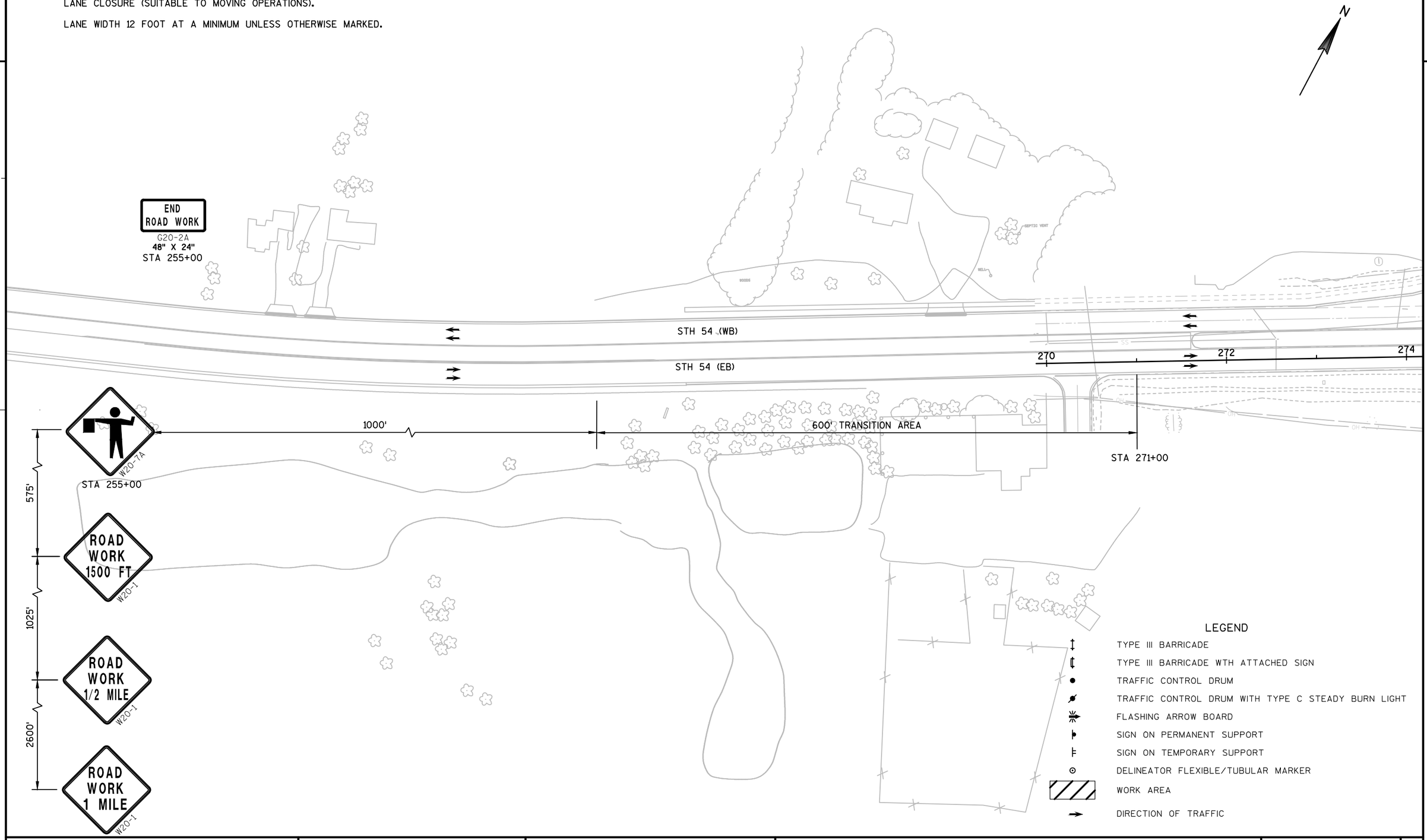


PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	ADVANCED WARNING SIGNING	SHEET 27	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\023301_AW.DWG PLOT DATE : 1/10/2014 8:24 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:100 FT

NOTE: SEE SDD TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. FOR ADDITIONAL INFORMATION AND TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE TO MOVING OPERATIONS).

LANE WIDTH 12 FOOT AT A MINIMUM UNLESS OTHERWISE MARKED.



PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	STAGE CONSTRUCTION - STAGE 1A	SHEET	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\026001_S1A.DWG PLOT DATE : 1/10/2014 8:42 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:100 FT

NOTE: SEE SDD TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC FOR ADDITIONAL INFORMATION AND TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

LANE WIDTH 12 FOOT AT A MINIMUM UNLESS OTHERWISE MARKED.

N

ROAD WORK AHEAD W20-1
500'
ROAD WORK 500 FT W20-1
250'
W20-7A
250'
ROAD WORK 250 FT W20-1
25 M.P.H. W013-1
24" X 24"

END ROAD WORK
G20-2A
48" X 24"
STA 17+25QQ

GRAND SEASONS DR

SIGN

ROAD WORK AHEAD W20-1
PLACE 1000' PRIOR TO YIELD SIGN ON USH 10 (EB) OFF RAMP

1000'

USH 10 (EB) OFF RAMP

YIELD
LEAVE

REMOVE EXISTING PAVEMENT MARKING ARROWS AND ONLY

SIDEWALK CLOSED
R9-9
24" X 12"

LEFT LANE MUST TURN LEFT
COVER

RIGHT LANE MUST TURN RIGHT
COVER

1200

STH 54 (WB)
STH 54 (EB)

274
276
278
280
282
284
286

25'
50'
15'
100'

100' BUFFER
70' TAPER
15' MIN
800
700
1000

SAWCUT EXISTING ISLAND
REMOVE AND REPLACE
WITH TEMPORARY ASPHALT

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

USH 10 (EB) ON RAMP

CTH QQ

END ROAD WORK
G20-2A
48" X 24"
STA 4+80QQ

STA 4+80QQ
ROAD WORK 250 FT W20-1
250'
W20-7A
250'
ROAD WORK 500 FT W20-1
500'
ROAD WORK AHEAD W20-1
25 M.P.H. W013-1
24" X 24"

LEGEND

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

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	STAGE CONSTRUCTION - STAGE 1A	SHEET	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\026001_S1A.DWG PLOT DATE : 1/10/2014 8:42 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

NOTE: SEE SDD TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. FOR ADDITIONAL INFORMATION AND TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE TO MOVING OPERATIONS).

LANE WIDTH 12 FOOT AT A MINIMUM UNLESS OTHERWISE MARKED.

N

ROAD WORK AHEAD
W20-1

USH 10 (WB) ON RAMP

ROAD WORK 1 MILE
W20-1

2600'

ROAD WORK 1/2 MILE
W20-1

1025'

ROAD WORK 1500 FT
W20-1

575'

W20-7A

1575' PRIOR TO USH 10 (WB) ON RAMP

WEST FULTON ST

WEST FULTON ST

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

USH 10 (WB) OFF RAMP

SIGN

CONC. SLAB

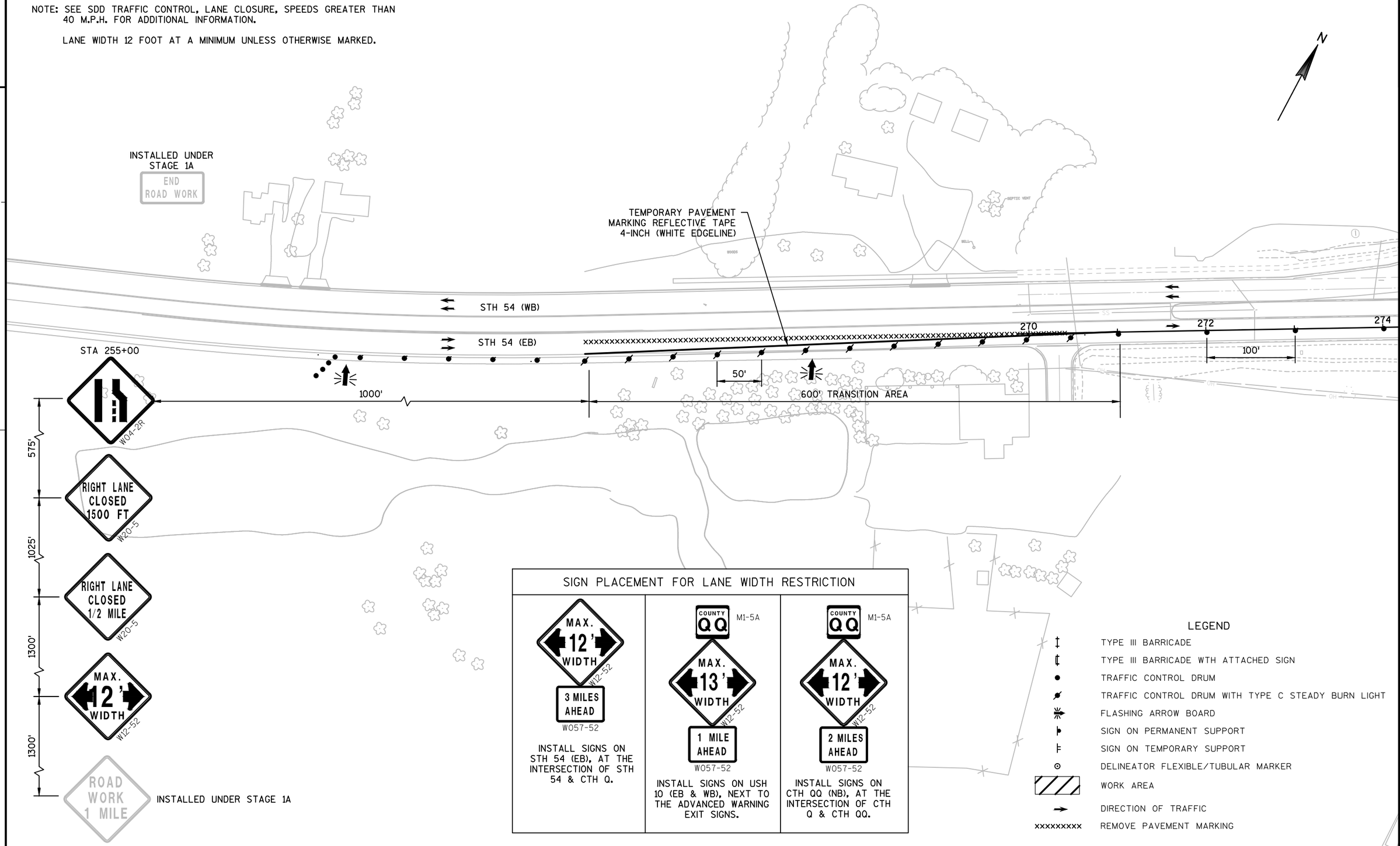
LEGEND

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

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	STAGE CONSTRUCTION - STAGE 1A	SHEET 30	E

NOTE: SEE SDD TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. FOR ADDITIONAL INFORMATION.

LANE WIDTH 12 FOOT AT A MINIMUM UNLESS OTHERWISE MARKED.



SIGN PLACEMENT FOR LANE WIDTH RESTRICTION

MAX. 12' WIDTH W12-52 / 3 MILES AHEAD / W057-52	COUNTY QQ M1-5A / MAX. 13' WIDTH W12-52 / 1 MILE AHEAD / W057-52	COUNTY QQ M1-5A / MAX. 12' WIDTH W12-52 / 2 MILES AHEAD / W057-52
INSTALL SIGNS ON STH 54 (EB), AT THE INTERSECTION OF STH 54 & CTH Q.	INSTALL SIGNS ON USH 10 (EB & WB), NEXT TO THE ADVANCED WARNING EXIT SIGNS.	INSTALL SIGNS ON CTH QQ (NB), AT THE INTERSECTION OF CTH Q & CTH QQ.

LEGEND

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

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	STAGE CONSTRUCTION - STAGE 1	SHEET	E

2

N

ROAD WORK AHEAD W20-1 — 500' — ROAD WORK 500 FT W20-1 — 500' — ROAD WORK 250 FT W20-1

25 M.P.H. — INSTALLED UNDER STAGE 1A

LEGEND

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

GRAND SEASONS DR

END ROAD WORK — INSTALLED UNDER STAGE 1A

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

NO TRUCKS R5-2(MOD) 24"X24"

175' TAPER — 25' — 125' BUFFER — 1000'

TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH (WHITE EDGELINE)

TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH (DOUBLE YELLOW)

INSTALLED UNDER STAGE 1A — ROAD WORK AHEAD

1000' — USH 10 (EB) OFF RAMP

R5-2(MOD) 24"X24" NO TRUCKS — R3-1 24"X24"

UNCOVER — RIGHT LANE MUST TURN RIGHT

YIELD — LEAVE

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

INSTALLED UNDER STAGE 1A — SIDEWALK CLOSED

R5-2(MOD) 24"X24" NO TRUCKS — R3-2 24"X24"

R1-2 36"X31" YIELD

11' MIN CLEAR — 11' MIN CLEAR — 10' — 15'

LEFT LANE MUST TURN LEFT — COVERED UNDER STAGE 1A

STH 54 (WB)

100' TAPER — 280 — 100Q — 282 — 284 — STH 54 (EB) — 286

276 — 50' — 274 — 100'

13' MIN CLEAR

TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH (WHITE EDGELINE)

REMOVE EXISTING INLET INSTALL NEW INLET, STORM SEWER PIPE AND CONCRETE COLLAR

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

YIELD — LEAVE

COUNTY QQ M1-5A 24"X24"

MAX. 13' WIDTH W12-52

100' BUFFER — 25' — 50' TAPER — 800 — 700

14' MIN CLEAR — 13' MIN CLEAR

USH 10 (EB) ON RAMP

C/L

WORK ZONE — 9' — 5' — 6' — 13'

3' — 3' — 1'

STA 8+93QQ (LOOKING NORTH)

END ROAD WORK — INSTALLED UNDER STAGE 1A

CTH QQ

INSTALLED UNDER STAGE 1A — ROAD WORK 250 FT W20-1 — 500' — ROAD WORK 500 FT W20-1 — 250' — MAX. 12' WIDTH W12-52 — 250' — ROAD WORK AHEAD W20-1

25 M.P.H.

END ROAD WORK — INSTALLED UNDER STAGE 1A

NOTE: SEE SDD TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC FOR ADDITIONAL INFORMATION.

LANE WIDTH 12 FOOT AT A MINIMUM UNLESS OTHERWISE MARKED.

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	STAGE CONSTRUCTION - STAGE 1	SHEET	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\026001_S1.DWG PLOT DATE : 1/10/2014 8:40 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:100 FT

NOTE: LANE WIDTH 12 FOOT AT A MINIMUM UNLESS OTHERWISE MARKED.

N

ROAD WORK AHEAD

INSTALLED UNDER STAGE 1A

USH 10 (WB) ON RAMP

INSTALLED UNDER STAGE 1A

ROAD WORK 1 MILE

2600'

INSTALLED UNDER STAGE 1A

ROAD WORK 1/2 MILE

1025'

INSTALLED UNDER STAGE 1A

ROAD WORK 1500 FT

2150' PRIOR TO USH 10 (WB) ON RAMP

WEST FULTON ST

WEST FULTON ST

INSTALLED UNDER STAGE 1A

END ROAD WORK

USH 10 (WB) OFF RAMP

SIGN

CONC. SLAB

W

LEGEND

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

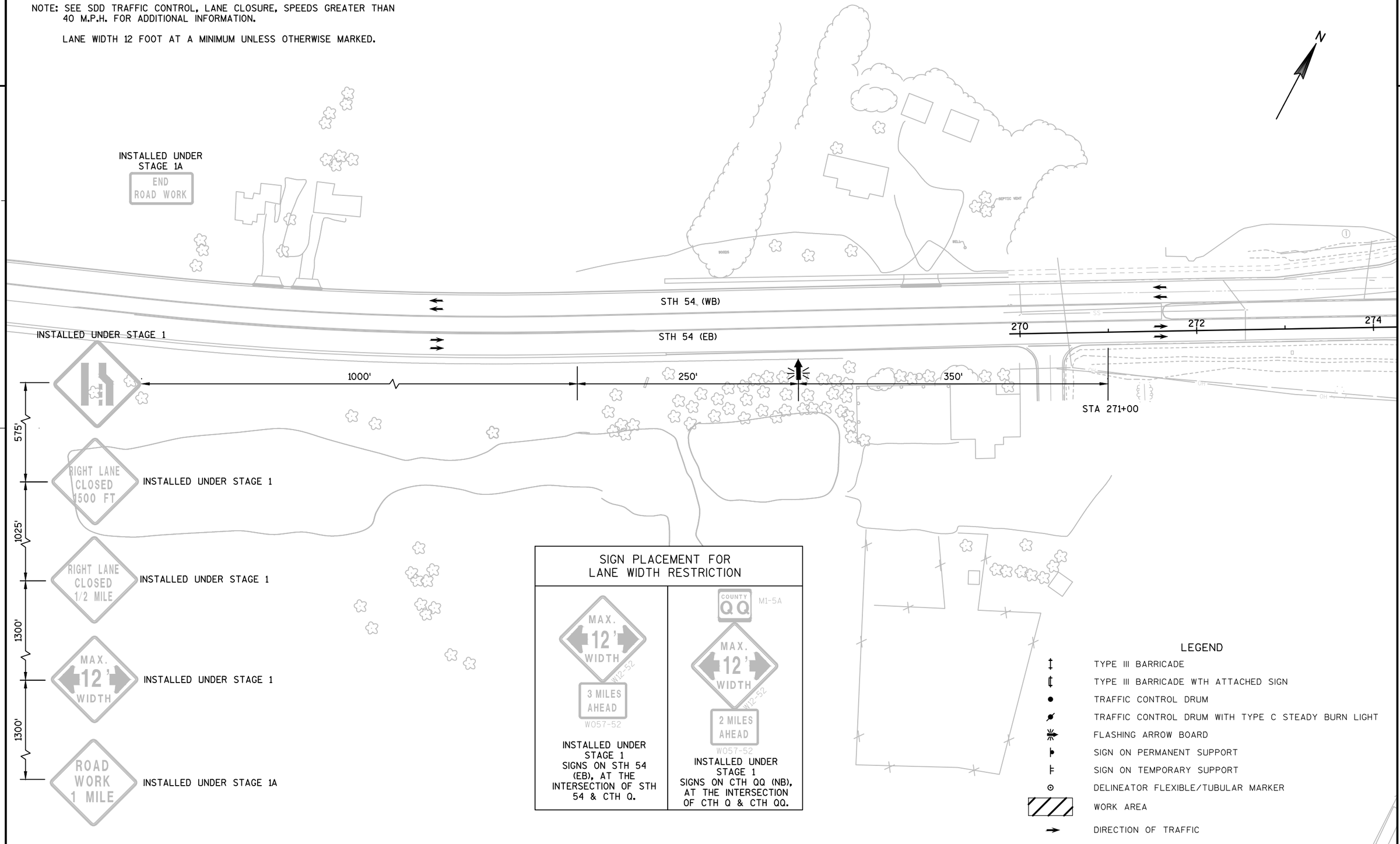
PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	STAGE CONSTRUCTION - STAGE 1	SHEET	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\026001_S1.DWG PLOT DATE : 1/10/2014 8:40 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

NOTE: SEE SDD TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. FOR ADDITIONAL INFORMATION.

LANE WIDTH 12 FOOT AT A MINIMUM UNLESS OTHERWISE MARKED.



SIGN PLACEMENT FOR LANE WIDTH RESTRICTION

INSTALLED UNDER STAGE 1 SIGNS ON STH 54 (EB), AT THE INTERSECTION OF STH 54 & CTH Q.

INSTALLED UNDER STAGE 1 SIGNS ON CTH QQ (NB), AT THE INTERSECTION OF CTH Q & CTH QQ.

LEGEND

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

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	STAGE CONSTRUCTION - STAGE 2	SHEET 34	E

NOTE: LANE WIDTH 12 FOOT AT A MINIMUM UNLESS OTHERWISE MARKED.

N

ROAD WORK AHEAD
W20-1
STA 16+00QQ

END ROAD WORK
INSTALLED UNDER STAGE 1A

GRAND SEASONS DR

SIGN

INSTALLED UNDER STAGE 1A
ROAD WORK AHEAD

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

LEAVE

COVER
RIGHT LANE MUST TURN RIGHT

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

1000'

USH 10 (EB) OFF RAMP

LEAVE

LEFT LANE MUST TURN LEFT
UNCOVER

1200'

15'
25'
STH 54 (WB)
15'

STH 54 (WB)
274
276
278
350'
50'
280
1000'
10'
282
15'
284
STH 54 (EB)
286
13' MIN CLEAR
13' MIN CLEAR
15'

R1-2

ADJUST TAPE, DRUMS AND DELINEATORS

BEGIN RIGHT TURN LANE
R3-20R
24"X36"

RIGHT TURN LANE
R3-55R(MOD)
24" X 30"

LEAVE

LANE CLOSED
INSTALLED UNDER STAGE 1

17' MIN CLEAR
13' MIN CLEAR
100'

USH 10 (EB) ON RAMP

CTH QQ

END ROAD WORK
INSTALLED UNDER STAGE 1A

INSTALLED UNDER STAGE 1A
ROAD WORK 250 FT
W20-1
25 M.P.H.

500'

INSTALLED UNDER STAGE 1A
ROAD WORK 500 FT
W20-1
25 M.P.H.

250'

INSTALLED UNDER STAGE 1
MAX. 12' WIDTH
W12-52

250'

INSTALLED UNDER STAGE 1A
ROAD WORK AHEAD
W20-1
25 M.P.H.

END ROAD WORK
INSTALLED UNDER STAGE 1A

LEGEND

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

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	STAGE CONSTRUCTION - STAGE 2	SHEET	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\026010_S2.DWG PLOT DATE : 1/10/2014 8:43 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

NOTE: LANE WIDTH 12 FOOT AT A MINIMUM UNLESS OTHERWISE MARKED.

N

ROAD WORK AHEAD

INSTALLED UNDER STAGE 1A

USH 10 (WB) ON RAMP

INSTALLED UNDER STAGE 1A

ROAD WORK 1 MILE

2600'

INSTALLED UNDER STAGE 1A

ROAD WORK 1/2 MILE

1025'

INSTALLED UNDER STAGE 1A

ROAD WORK 1500 FT

2150' PRIOR TO USH 10 (WB) ON RAMP

WEST FULTON ST

WEST FULTON ST

INSTALLED UNDER STAGE 1A

END ROAD WORK

USH 10 (WB) OFF RAMP

SIGN

CONC. SLAB

W

LEGEND

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

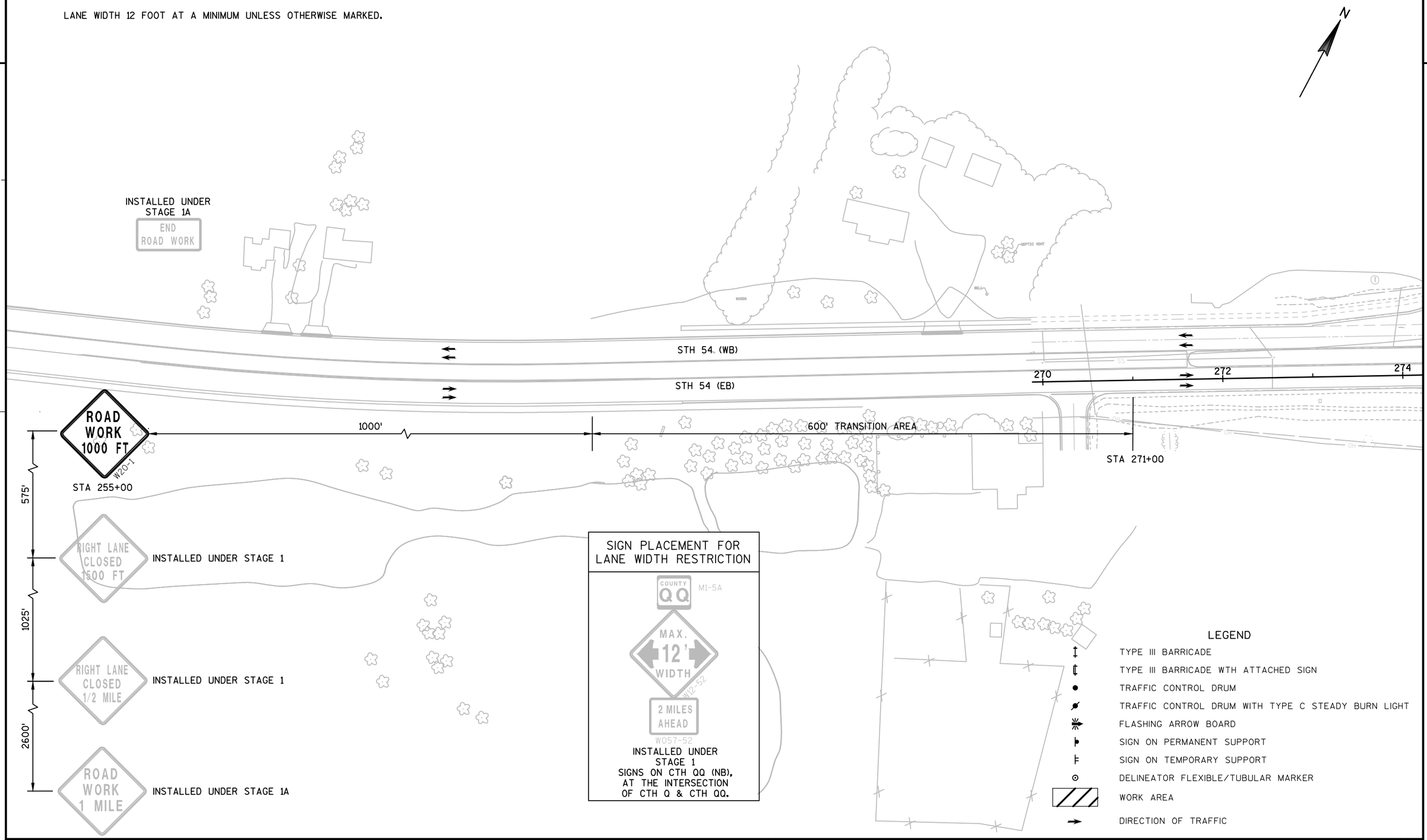
PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	STAGE CONSTRUCTION - STAGE 2	SHEET	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\026010_S2.DWG PLOT DATE : 1/10/2014 8:43 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

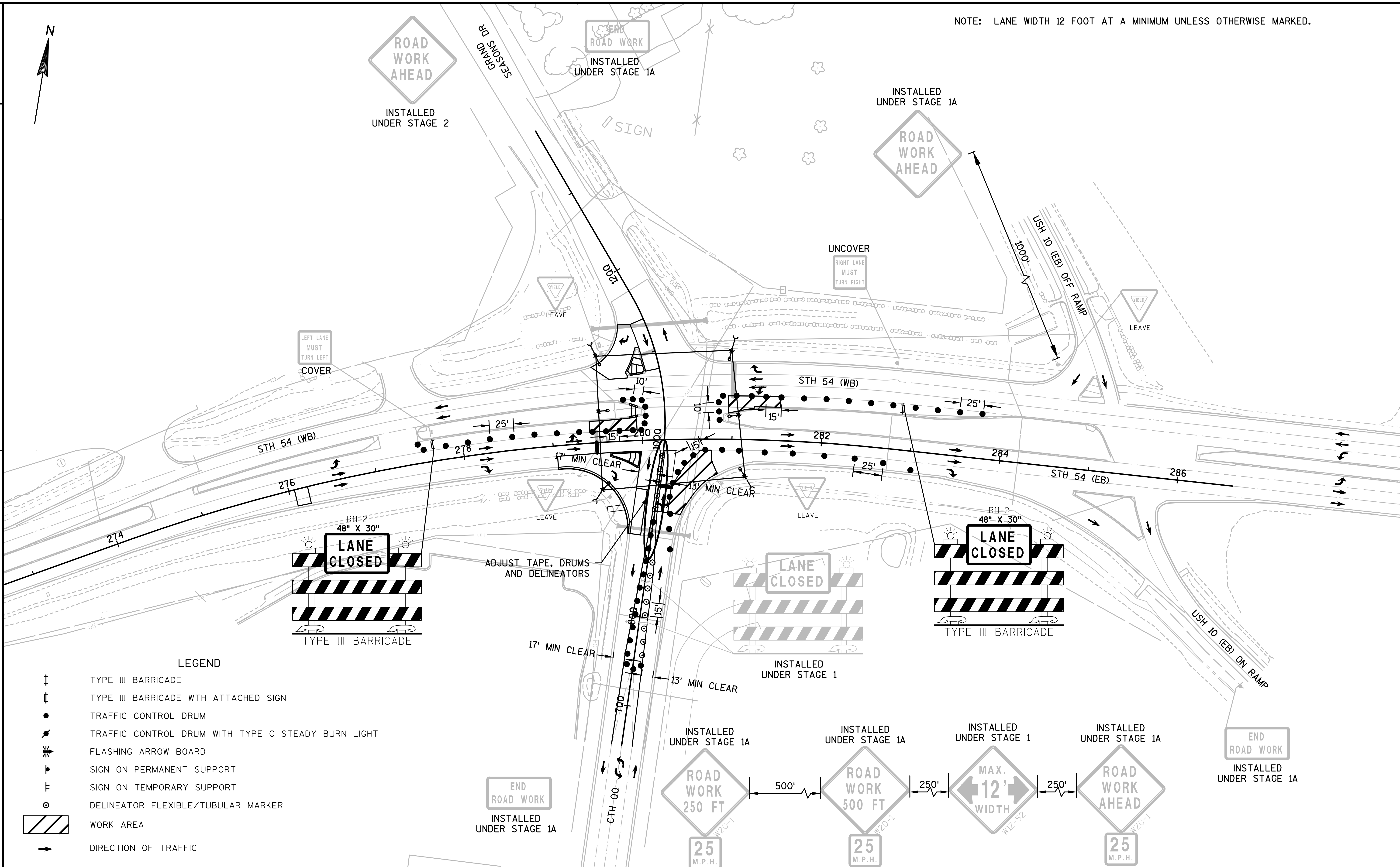
NOTE: SEE SDD TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. FOR ADDITIONAL INFORMATION.

LANE WIDTH 12 FOOT AT A MINIMUM UNLESS OTHERWISE MARKED.



PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	STAGE CONSTRUCTION - STAGE 3	SHEET	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\026020_S3.DWG PLOT DATE : 1/10/2014 8:45 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42



2
N
NOTE: LANE WIDTH 12 FOOT AT A MINIMUM UNLESS OTHERWISE MARKED.
ROAD WORK AHEAD
INSTALLED UNDER STAGE 2
GRAND SEASONS DR
END ROAD WORK
INSTALLED UNDER STAGE 1A
SIGN
ROAD WORK AHEAD
INSTALLED UNDER STAGE 1A
USH 10 (EB) OFF RAMP
1000'
UNCOVER
RIGHT LANE MUST TURN RIGHT
LEAVE
LEFT LANE MUST TURN LEFT
COVER
STH 54 (WB)
10'
15'
25'
280
282
284
286
278
276
274
1000
1200
STH 54 (EB)
17' MIN CLEAR
13' MIN CLEAR
R11-2
48" X 30"
LANE CLOSED
TYPE III BARRICADE
ADJUST TAPE, DRUMS AND DELINEATORS
INSTALLED UNDER STAGE 1
USH 10 (EB) ON RAMP
800
700
CTH QQ
LEGEND
TYPE III BARRICADE
TYPE III BARRICADE WTH ATTACHED SIGN
TRAFFIC CONTROL DRUM
TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
FLASHING ARROW BOARD
SIGN ON PERMANENT SUPPORT
SIGN ON TEMPORARY SUPPORT
DELINEATOR FLEXIBLE/TUBULAR MARKER
WORK AREA
DIRECTION OF TRAFFIC
END ROAD WORK
INSTALLED UNDER STAGE 1A
ROAD WORK 250 FT
25 M.P.H.
500'
ROAD WORK 500 FT
250'
MAX. 12' WIDTH
W12-52
INSTALLED UNDER STAGE 1
ROAD WORK AHEAD
W20-1

PROJECT NO:6991-01-70	HWY:STH 54	COUNTY:WAUPACA	STAGE CONSTRUCTION - STAGE 3	SHEET 38	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\026020_S3.DWG PLOT DATE : 3/7/2014 8:01 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:100 FT

NOTE: LANE WIDTH 12 FOOT AT A MINIMUM UNLESS OTHERWISE MARKED.

N

ROAD WORK AHEAD

INSTALLED UNDER STAGE 1A

USH 10 (WB) ON RAMP

2150' PRIOR TO USH 10 (WB) ON RAMP

INSTALLED UNDER STAGE 1A

ROAD WORK 1 MILE

2600'

INSTALLED UNDER STAGE 1A

ROAD WORK 1/2 MILE

1025'

INSTALLED UNDER STAGE 1A

ROAD WORK 1500 FT

WEST FULTON ST

WEST FULTON ST

INSTALLED UNDER STAGE 1A

END ROAD WORK

USH 10 (WB) OFF RAMP

SIGN

CONC. SLAB

LEGEND

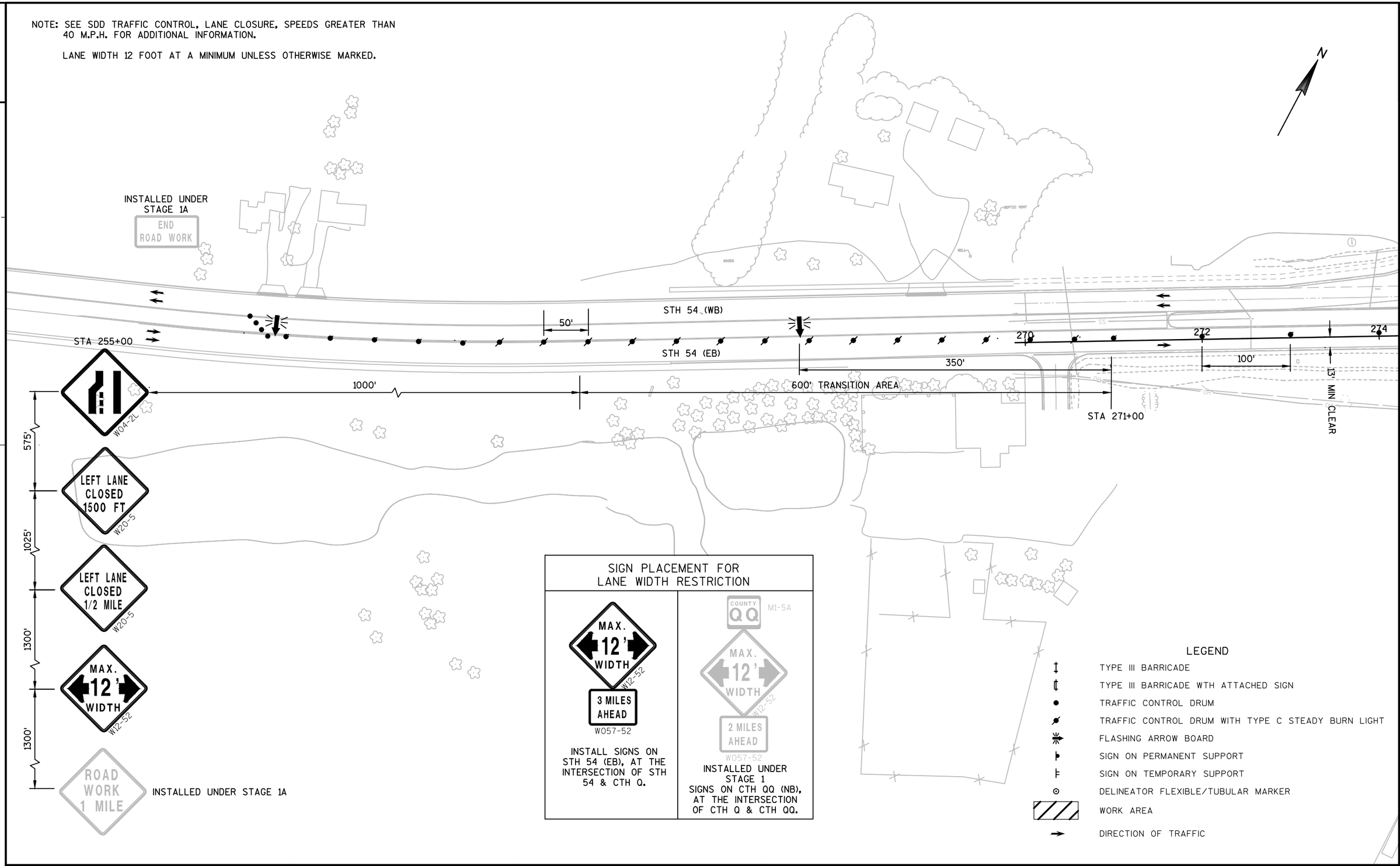
- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	STAGE CONSTRUCTION - STAGE 3	SHEET	E

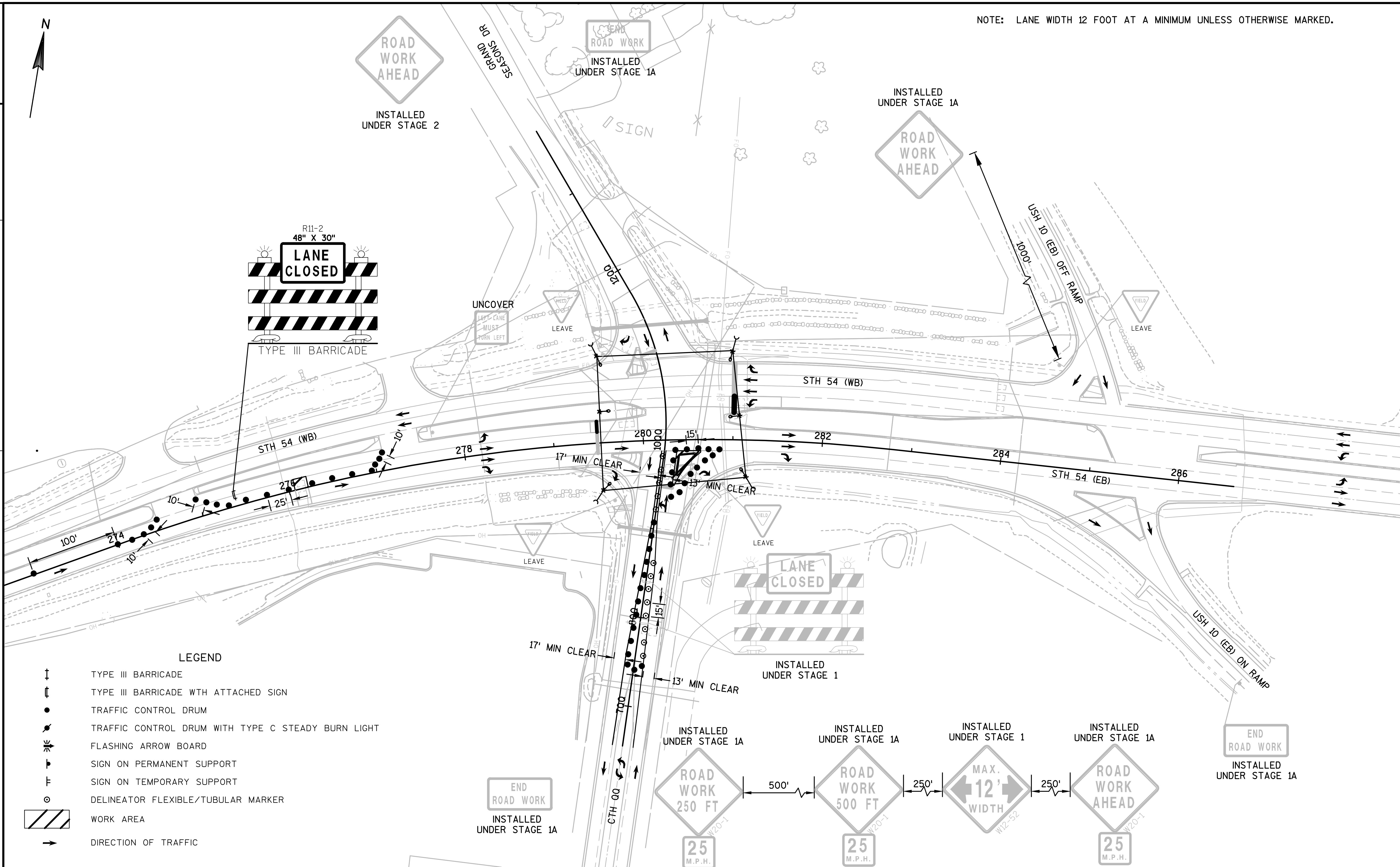
FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\026020_S3.DWG PLOT DATE : 1/10/2014 8:45 AM PLOT BY : CHRISTIANSON, ERIN MPLOT NAME : PLOT SCALE : 1 IN:100 FT

NOTE: SEE SDD TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. FOR ADDITIONAL INFORMATION.

LANE WIDTH 12 FOOT AT A MINIMUM UNLESS OTHERWISE MARKED.



PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	STAGE CONSTRUCTION - STAGE 4	SHEET 40	E



N
NOTE: LANE WIDTH 12 FOOT AT A MINIMUM UNLESS OTHERWISE MARKED.
ROAD WORK AHEAD
INSTALLED UNDER STAGE 2
GRAND SEASONS DR
END ROAD WORK
INSTALLED UNDER STAGE 1A
SIGN
INSTALLED UNDER STAGE 1A
ROAD WORK AHEAD
USH 10 (EB) OFF RAMP
1000'
R11-2
48" X 30"
LANE CLOSED
TYPE III BARRICADE
UNCOVER
LEFT LANE MUST TURN LEFT
LEAVE
LEAVE
1200
STH 54 (WB)
STH 54 (WB)
STH 54 (EB)
274
276
278
280
282
284
286
100'
10'
10'
10'
25'
15'
17' MIN CLEAR
13' MIN CLEAR
1000
LEAVE
LEAVE
LANE CLOSED
INSTALLED UNDER STAGE 1
15'
17' MIN CLEAR
13' MIN CLEAR
USH 10 (EB) ON RAMP
100
CTH QQ
LEGEND
TYPE III BARRICADE
TYPE III BARRICADE WTH ATTACHED SIGN
TRAFFIC CONTROL DRUM
TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
FLASHING ARROW BOARD
SIGN ON PERMANENT SUPPORT
SIGN ON TEMPORARY SUPPORT
DELINEATOR FLEXIBLE/TUBULAR MARKER
WORK AREA
DIRECTION OF TRAFFIC
END ROAD WORK
INSTALLED UNDER STAGE 1A
INSTALLED UNDER STAGE 1A
ROAD WORK 250 FT
25 M.P.H.
500'
INSTALLED UNDER STAGE 1A
ROAD WORK 500 FT
25 M.P.H.
250'
INSTALLED UNDER STAGE 1
MAX. 12' WIDTH
W12-52
250'
INSTALLED UNDER STAGE 1A
ROAD WORK AHEAD
25 M.P.H.
END ROAD WORK
INSTALLED UNDER STAGE 1A

PROJECT NO:6991-01-70	HWY:STH 54	COUNTY:WAUPACA	STAGE CONSTRUCTION - STAGE 4	SHEET 41	E

FILE NAME : N:\PDS\C3D\69910100\SHEETSPLAN\026030_S4.DWG PLOT DATE : 1/10/2014 8:46 AM PLOT BY : CHRISTIANSON, ERIN M PLOT NAME : PLOT SCALE : 1 IN:100 FT

NOTE: LANE WIDTH 12 FOOT AT A MINIMUM UNLESS OTHERWISE MARKED.

N

ROAD WORK AHEAD

INSTALLED UNDER STAGE 1A

USH 10 (WB) ON RAMP

INSTALLED UNDER STAGE 1A

ROAD WORK 1 MILE

2600'

INSTALLED UNDER STAGE 1A

ROAD WORK 1/2 MILE

1025'

INSTALLED UNDER STAGE 1A

ROAD WORK 1500 FT

2150' PRIOR TO USH 10 (WB) ON RAMP

WEST FULTON ST

WEST FULTON ST

INSTALLED UNDER STAGE 1A

END ROAD WORK

USH 10 (WB) OFF RAMP

SIGN

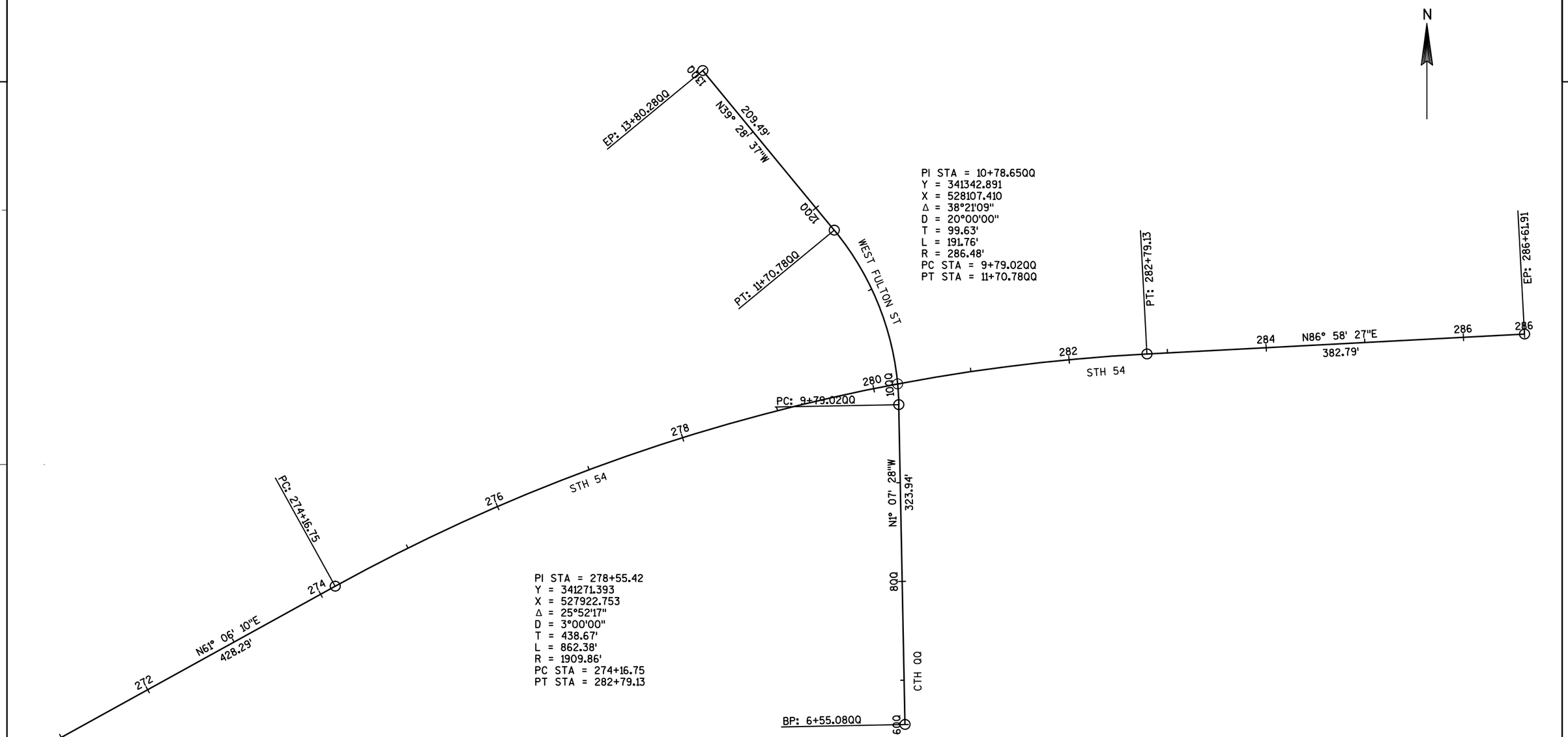
CONC. SLAB

LEGEND

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

PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	STAGE CONSTRUCTION - STAGE 4	SHEET 42	E

2



PROJECT NO: 6991-01-70	HWY: STH 54	COUNTY: WAUPACA	PLAN: ALIGNMENT	SHEET 43	E

DATE 12MAR14 — E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	6991-01-70 QUANTITY
0010	204.0100	REMOVING PAVEMENT	SY	1,163.000	1,163.000
0020	204.0110	REMOVING ASPHALTIC SURFACE	SY	70.000	70.000
0030	204.0150	REMOVING CURB & GUTTER	LF	110.000	110.000
0040	204.0195	REMOVING CONCRETE BASES	EACH	6.000	6.000
0050	204.0220	REMOVING INLETS	EACH	1.000	1.000
0060	204.0245	REMOVING STORM SEWER (SIZE) 01. 12-INCH	LF	10.000	10.000
0070	205.9015.S	GRADING SHAPING & FINISHING INTERSECTION (LOCATION) 01. STH 54 & CTH QQ/GRAND SEASON DR	LS	1.000	1.000
0080	213.0100	FINISHING ROADWAY (PROJECT) 01. 6991-01-70	EACH	1.000	1.000
0090	305.0125	BASE AGGREGATE DENSE 1 1/4-INCH	CY	134.000	134.000
0100	415.1090	CONCRETE PAVEMENT HES 9-INCH	SY	1,169.000	1,169.000
0110	416.0610	DRILLED TIE BARS	EACH	389.000	389.000
0120	416.0620	DRILLED DOWEL BARS	EACH	225.000	225.000
0130	465.0105	ASPHALTIC SURFACE	TON	6.000	6.000
0140	465.0125	ASPHALTIC SURFACE TEMPORARY	TON	8.000	8.000
0150	465.0315	ASPHALTIC FLUMES	SY	12.000	12.000
0160	520.8000	CONCRETE COLLARS FOR PIPE	EACH	1.000	1.000
0170	602.0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW	SF	56.000	56.000
0180	606.0100	RIPRAP LIGHT	CY	35.000	35.000
0190	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	14.000	14.000
0200	611.0624	INLET COVERS TYPE H	EACH	1.000	1.000
0210	611.3230	INLETS 2X3-FT	EACH	1.000	1.000
0220	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 6991-01-70	EACH	1.000	1.000
0230	619.1000	MOBILIZATION	EACH	1.000	1.000
0240	628.1504	SILT FENCE	LF	110.000	110.000
0250	628.1520	SILT FENCE MAINTENANCE	LF	110.000	110.000
0260	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	2.000	2.000
0270	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	1.000	1.000
0280	628.2008	EROSION MAT URBAN CLASS I TYPE B	SY	450.000	450.000
0290	628.7015	INLET PROTECTION TYPE C	EACH	4.000	4.000
0300	628.7555	CULVERT PIPE CHECKS	EACH	5.000	5.000
0310	634.0612	POSTS WOOD 4X6-INCH X 12-FT	EACH	2.000	2.000
0320	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	6.000	6.000
0330	637.2210	SIGNS TYPE II REFLECTIVE H	SF	100.500	100.500
0340	637.2215	SIGNS TYPE II REFLECTIVE H FOLDING	SF	44.760	44.760
0350	637.2230	SIGNS TYPE II REFLECTIVE F	SF	10.250	10.250
0360	638.2602	REMOVING SIGNS TYPE II	EACH	13.000	13.000
0370	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	3.000	3.000
0380	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0390	643.0100	TRAFFIC CONTROL (PROJECT) 01. 6991-01-70	EACH	1.000	1.000
0400	643.0300	TRAFFIC CONTROL DRUMS	DAY	2,699.000	2,699.000
0410	643.0410	TRAFFIC CONTROL BARRICADES TYPE II	DAY	33.000	33.000
0420	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	181.000	181.000
0430	643.0500	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	EACH	60.000	60.000
0440	643.0600	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	EACH	60.000	60.000
0450	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	70.000	70.000
0460	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	494.000	494.000
0470	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	84.000	84.000

3

DATE 12MAR14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	6991-01-70 QUANTITY
0480	643.0900	TRAFFIC CONTROL SIGNS	DAY	1,990.000	1,990.000
0490	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	4.000	4.000
0500	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	28.000	28.000
0510	645.0130	GEOTEXTILE FABRIC TYPE R	SY	120.000	120.000
0520	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	3,387.000	3,387.000
0530	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	1,995.000	1,995.000
0540	646.0600	REMOVING PAVEMENT MARKINGS	LF	2,565.000	2,565.000
0550	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	15.000	15.000
0560	647.0176	PAVEMENT MARKING ARROWS EPOXY TYPE 3	EACH	2.000	2.000
0570	647.0356	PAVEMENT MARKING WORDS EPOXY	EACH	8.000	8.000
0580	647.0456	PAVEMENT MARKING CURB EPOXY	LF	494.000	494.000
0590	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	149.000	149.000
0600	647.0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	12.000	12.000
0610	647.0766	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	LF	177.000	177.000
0620	647.0955	REMOVING PAVEMENT MARKINGS ARROWS	EACH	4.000	4.000
0630	647.0965	REMOVING PAVEMENT MARKINGS WORDS	EACH	4.000	4.000
0640	649.0100	TEMPORARY PAVEMENT MARKING 4-INCH	LF	3,225.000	3,225.000
0650	649.0801	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	LF	1,316.000	1,316.000
0660	649.1200	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH	LF	41.000	41.000
0670	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	1.000	1.000
0680	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	187.000	187.000
0690	650.5000	CONSTRUCTION STAKING BASE	LF	187.000	187.000
0700	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	217.000	217.000
0710	650.8500	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 6991-01-70	LS	1.000	1.000
0720	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 6991-01-70	LS	1.000	1.000
0730	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	814.000	814.000
0740	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	603.000	603.000
0750	652.0615	CONDUIT SPECIAL 3-INCH	LF	1,004.000	1,004.000
0760	652.0800	CONDUIT LOOP DETECTOR	LF	904.000	904.000
0770	653.0140	PULL BOXES STEEL 24X42-INCH	EACH	17.000	17.000
0780	653.0905	REMOVING PULL BOXES	EACH	13.000	13.000
0790	654.0101	CONCRETE BASES TYPE 1	EACH	3.000	3.000
0800	654.0102	CONCRETE BASES TYPE 2	EACH	1.000	1.000
0810	654.0110	CONCRETE BASES TYPE 10	EACH	2.000	2.000
0820	654.0217	CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	EACH	1.000	1.000
0830	655.0230	CABLE TRAFFIC SIGNAL 5-14 AWG	LF	1,345.000	1,345.000
0840	655.0240	CABLE TRAFFIC SIGNAL 7-14 AWG	LF	757.000	757.000
0850	655.0260	CABLE TRAFFIC SIGNAL 12-14 AWG	LF	1,220.000	1,220.000
0860	655.0280	CABLE TRAFFIC SIGNAL 19-14 AWG	LF	80.000	80.000
0870	655.0305	CABLE TYPE UF 2-12 AWG GROUNDED	LF	285.000	285.000
0880	655.0515	ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	LF	1,690.000	1,690.000
0890	655.0610	ELECTRICAL WIRE LIGHTING 12 AWG	LF	123.000	123.000
0900	655.0700	LOOP DETECTOR LEAD IN CABLE	LF	5,760.000	5,760.000
0910	655.0800	LOOP DETECTOR WIRE	LF	3,645.000	3,645.000
0920	657.1345	INSTALL POLES TYPE 9	EACH	2.000	2.000
0930	657.1530	INSTALL MONOTUBE ARMS 30-FT	EACH	2.000	2.000

3

DATE 12MAR14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	6991-01-70 QUANTITY
0940	661.0200	TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 01. STH 54 & CTH QQ/GRAND SEASONS DR	LS	1.000	1.000
0950	690.0150	SAWING ASPHALT	LF	57.000	57.000
0960	690.0250	SAWING CONCRETE	LF	1,404.000	1,404.000
0970	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5.00/HR	HRS	1,200.000	1,200.000
0980	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	1,200.000	1,200.000
0990	SPV.0060	SPECIAL 01. CONTRACTOR PROVIDED HIGH-STRENGTH BOLT ASSEMBLIES FOR MONOTUBE ARMS 30-FT	EACH	2.000	2.000
1000	SPV.0090	SPECIAL 01. CONCRETE CURB & GUTTER HES 18-INCH TYPE A	LF	206.000	206.000
1010	SPV.0090	SPECIAL 02. CONCRETE CURB & GUTTER HES 30-INCH TYPE A	LF	125.000	125.000
1020	SPV.0105	SPECIAL 01. REMOVE AND SALVAGE TRAFFIC SIGNALS (STH 54 & CTH QQ/GRAND SEASONS DR)	LS	1.000	1.000
1030	SPV.0105	SPECIAL 02. TRANSPORT AND INSTALL DEPARTMENT FURNISHED TRAFFIC SIGNAL AND LIGHTING	LS	1.000	1.000
1040	SPV.0105	SPECIAL 03. REMOVE AND SALVAGE LOCAL LIGHT POLE (STA 279+40, 30 FT RT)	LS	1.000	1.000
1050	SPV.0105	SPECIAL 04. TRANSPORT DEPARTMENT FURNISHED TRAFFIC SIGNAL MONOTUBE MATERIALS	LS	1.000	1.000
1060	SPV.0105	SPECIAL 05. TEMPORARY VEHICLE DETECTION (STH 54 & CTH QQ/GRAND SEASONS DR)	LS	1.000	1.000
1070	SPV.0165	SPECIAL 01. CONCRETE SIDEWALK HES 4-INCH	SF	336.000	336.000

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REMOVING PAVEMENT

STATION - STATION	LOCATION	WIDTH FEET	204.0100 SY	REMARKS
STAGE 1				
276+07 - 276+22	STH 54 (EB) RT	19	32	
279+04 - 8+90QQ	CTH QQ (LT)	VARIES	301	
10+70QQ - 11+00QQ	CTH QQ (LT)	VARIES	9	SIDEWALK
10+80QQ - 11+39QQ	CTH QQ (LT)	VARIES	282	
	STAGE 1 TOTAL		**624**	
STAGE 2				
9+20QQ - 9+88QQ	CTH QQ (RT)	VARIES	107	
	STAGE 2 TOTAL		**107**	
STAGE 3				
9+20QQ - 9+88QQ	CTH QQ (RT)	VARIES	207	
279+42 - 279+94	STH 54 (EB)	VARIES	74	
280+96 - 281+52	STH 54 (WB)	VARIES	90	
	STAGE 3 TOTAL		**371**	
STAGE 4				
276+07 - 276+22	STH 54 (EB) LT	12	20	
9+51QQ - 9+92QQ	CTH QQ (RT)	VARIES	41	
	STAGE 4 TOTAL		**61**	
	GRAND TOTAL		**1163**	

REMOVING ASPHALTIC SURFACE

STATION - STATION	LOCATION	204.0110 SY	REMARKS
STAGE 1A			
9+54QQ - 9+79QQ	CTH QQ (RT)	20	EXISTING ISLAND
	STAGE 1A TOTAL	20	
STAGE 1			
10+70QQ - 11+00QQ	CTH QQ (LT)	17	EXISTING ISLAND
	STAGE 1 TOTAL	17	
STAGE 3			
9+54QQ - 9+77QQ	CTH QQ (RT)	20	TEMP ASPHALT
	STAGE 3 TOTAL	20	
STAGE 4			
9+54QQ - 9+77QQ	CTH QQ (RT)	13	TEMP ASPHALT
	STAGE 4 TOTAL	13	
	GRAND TOTAL	**70**	

REMOVING CURB & GUTTER

STATION - STATION	LOCATION	204.0150 LF	REMARKS
STAGE 1A			
9+54QQ - 9+74QQ	CTH QQ (RT)	76	
	STAGE 1A TOTAL	**76**	
STAGE 1			
10+79QQ	CTH QQ (LT)	14	ISLAND
	STAGE 1A TOTAL	**14**	
STAGE 3			
279+87 - 279+96	STH 54 (EB)	20	MEDIAN
	STAGE 3 TOTAL	**20**	
	GRAND TOTAL	**110**	

3

REMOVING INLETS

STATION	LOCATION	204.0220 EACH
STAGE 1		
279+35	STH 54 (EB) RT	1
	TOTAL	**1**

REMOVING STORM SEWER

STATION	LOCATION	204.0245 12-INCH LF
STAGE 1		
279+33	STH 54 (EB) RT	10
	TOTAL	**10**

BASE AGGREGATE DENSE

STATION - STATION	LOCATION	305.0120 1 1/4-INCH TON
STAGE 1A		
9+54QQ - 9+79QQ	CTH QQ (RT)	1
	STAGE 1A TOTAL	1
STAGE 1		
276+07 - 276+22	STH 54 (EB) RT	2
279+04 - 8+90QQ	CTH QQ (LT)	77
10+80QQ - 11+39QQ	CTH QQ (LT)	16
	STAGE 1 TOTAL	95
STAGE 2		
9+27QQ - 9+88QQ	CTH QQ (RT)	6
	STAGE 2 TOTAL	6
STAGE 3		
9+20QQ - 9+88QQ	CTH QQ (RT)	12
279+42 - 279+94	STH 54 (EB)	5
280+96 - 281+52	STH 54 (WB)	5
	STAGE 3 TOTAL	22
STAGE 4		
9+51QQ - 9+92QQ	CTH QQ (RT)	9
276+07 - 276+22	STH 54 (EB) LT	1
	STAGE 4 TOTAL	10
	GRAND TOTAL	**134**

GRADING, SHAPING AND FINISHING INTERSECTION

LOCATION	* COMMON EXCAVATION CY	* FILL CY	* EXPANDED FILL CY	* SALVAGED TOPSOIL SY	* SEEDING NO. 40 LB	* TYPE B FERTILIZER CWT	205.9015.S STH 54 & CTH QQ/ GRAND SEASONS DR LS	REMARKS
STAGE 1								
STH 54/CTH QQ	25	175	228	450	8	0.5	1	MEDIAN AND INTERSECTION
TOTALS	**25**	**175**	**228**	**450**	**8**	**1**	**1**	

* FOR INFORMATION ONLY. EXPANSION FACTOR = 1.3

3

CONCRETE PAVEMENT HES 9-INCH

STATION - STATION	LOCATION	415.1090 SY
STAGE 1		
276+07 - 276+22	STH 54 (EB) RT	32
279+04 - 8+90QQ	CTH QQ (LT)	337
10+80QQ - 11+39QQ	CTH QQ (LT)	282
	STAGE 1 TOTAL	651
STAGE 2		
9+20QQ - 9+88QQ	CTH QQ (RT)	107
	STAGE 2 TOTAL	107
STAGE 3		
9+20QQ - 9+88QQ	CTH QQ (RT)	207
279+42 - 279+94	STH 54 (EB)	74
280+96 - 281+52	STH 54 (WB)	90
	STAGE 3 TOTAL	371
STAGE 4		
9+51QQ - 9+92QQ	CTH QQ (RT)	20
276+07 - 276+22	STH 54 (EB) LT	20
	STAGE 4 TOTAL	40
	GRAND TOTAL	**1169**

DRILLED TIE BARS & DOWEL BARS

STATION - STATION	LOCATION	416.0610 TIE BARS EACH	416.0620 DOWEL BARS EACH
STAGE 1			
276+07 - 276+22	STH 54 (EB) RT	10	28
279+04 - 8+90QQ	CTH QQ (LT)	73	24
10+80QQ - 11+39QQ	CTH QQ (LT)	69	65
	STAGE 1 TOTALS	152	117
STAGE 2			
9+20QQ - 9+88QQ	CTH QQ (RT)	52	20
	STAGE 2 TOTALS	52	20
STAGE 3			
9+20QQ - 9+88QQ	CTH QQ (RT)	39	30
279+42 - 279+94	STH 54 (EB)	50	18
280+96 - 281+52	STH 54 (WB)	45	22
	STAGE 3 TOTALS	134	70
STAGE 4			
9+51QQ - 9+92QQ	CTH QQ (RT)	41	2
276+07 - 276+22	STH 54 (EB) LT	10	16
	STAGE 4 TOTALS	51	18
	GRAND TOTALS	**389**	**225**

ASPHALTIC SURFACE

STATION - STATION	LOCATION	465.0105 TON	REMARKS
STAGE 1			
279+64 - 279+98	STH 54 (EB) RT	2	ISLAND
10+79QQ - 10+93QQ	CTH QQ (LT)	1	ISLAND
	STAGE 1 TOTAL	3	
STAGE 4			
9+51QQ - 9+92QQ	CTH CC (RT)	3	ISLAND
	STAGE 4 TOTAL	3	
	GRAND TOTAL	**6**	

MOBILIZATION EROSION CONTROL

LOCATION	628.1905 EACH	628.1910 EMERGENCY EACH
PROJECT LIMITS	2	1
TOTALS	**2**	**1**

STORM SEWER & CROSS DRAINS

STATION	LOCATION	608.0312 SSPRC CLASS III 12-INCH LF	611.0624 INLET COVERS TYPE H EACH	611.3230 INLETS 2x3-FT EACH	520.8000 CONCRETE COLLARS FOR PIPE EACH
STAGE 1					
279+33	STH 54 (EB) RT	14	1	1	1
	TOTALS	**14**	**1**	**1**	**1**

ASPHALTIC SURFACE TEMPORARY

STATION - STATION	LOCATION	465.0125 TON
STAGE 1A		
9+54QQ - 9+79QQ	CTH QQ (RT)	8
	TOTAL	**8**

ASPHALTIC FLUMES

STATION	LOCATION	465.0315 SY
STAGE 1		
9+20QQ	CTH QQ (LT)	12
	TOTAL	**12**

CONCRETE CURB & GUTTER AND SIDEWALK

STATION - STATION	LOCATION	SPV.0090.01 CONCRETE CURB & GUTTER HES 18-INCH TYPE A LF	SPV.0090.02 CONCRETE CURB & GUTTER HES 30-INCH TYPE A LF	SPV.0165.01 CONCRETE SIDEWALK HES 4-INCH SF	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF
STAGE 1					
279+04 - 8+90QQ	CTH QQ (LT)	---	125	---	---
279+64 - 279+98	STH 54 (EB) RT	92	---	56	16
10+70QQ - 11+00QQ	CTH QQ (LT)	14	---	226	24
	STAGE 1 TOTALS	106	125	282	40
STAGE 3					
279+87 - 279+96	STH 54 (EB) MEDIAN	20	---	54	16
	STAGE 3 TOTALS	20	0	54	16
STAGE 4					
9+62QQ - 9+90QQ	CTH QQ (RT)	80	---	---	---
	STAGE 4 TOTALS	80	0	0	0
	GRAND TOTALS	**206**	**125**	**336**	**56**

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RIPRAP & GEOTEXTILE FABRIC

STATION - STATION	LOCATION	606.0100 LIGHT CY	645.0130 TYPE R SY
278+95 - 279+70	STH 54 (EB) DITCH	35	120
	TOTALS	**35**	**120**

SILT FENCE

STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
278+90 - 279+62	STH 54 (EB) RT	95	95
UNDISTRIBUTED	PROJECT LIMITS	15	15
	TOTALS	**110**	**110**

EROSION MAT URBAN CLASS I

STATION - STATION	LOCATION	628.2008 TYPE B SY
278+95 - 279+80	STH 54 (EB) DITCH	380
279+79 - 280+04	STH 54 (EB) MEDIAN	20
UNDISTRIBUTED	PROJECT LIMITS	50
	TOTAL	**450**

INLET PROTECTION

STATION	LOCATION	628.7015 TYPE C EACH
STAGE 1		
279+32	STH 54 (EB) RT	1
279+35	STH 54 (WB) LT	1
279+71	STH 54 (WB) LT	2
	TOTAL	**4**

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SIGN LISTING

SIGN NO.	SIGN CODE	MESSAGE	SIZE	POSTS WOOD 4" X 6" 634.0612 12-FT EACH	POSTS WOOD 4" X 6" 634.0616 16-FT EACH	SIGNS REFLECTIVE H 637.2210 TYPE II SF	SIGNS REFLECTIVE H 637.2215 TYPE II FOLDING SF	637.2230 SIGNS TYPE II REFLECT. F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
1-01	R3-7R	RIGHT LANE MUST TURN RIGHT	36" x 36"	---	---	9.00	---	---	---	---	STA 274+25 EB; ATTACH TO EXISTING SIGN
1-02	R3-7R	RIGHT LANE MUST TURN RIGHT	36" x 36"	---	1	9.00	---	---	---	---	STA 277+50 EB
1-03	W12-1D	DOUBLE DIAGONAL ARROW	30" x 30"	1	---	---	---	6.25	---	---	ISLAND
1-04	R1-1F	STOP	36" x 36"	---	---	---	7.46	---	---	---	ISLAND; MOUNT ON SIGNAL POLE
1-05	R1-2	YIELD	48" x 42"	---	1	7.00	---	---	---	---	
1-06	R10-52	LEFT TURN YIELD ON FLASHING YELLOW ARROW	30" x 36"	---	---	7.50	---	---	---	---	ISLAND; MOUNT ON SIGNAL POLE
1-07	R10-6	STOP HERE ON RED (W/ARROW)	24" x 36"	---	1	6.00	---	---	1	1	ISLAND
1-08	R3-8	LEFT LANE TURN/THRU & RIGHT TURN ONLY	36" x 30"	---	1	7.50	---	---	---	---	STA 8+50QQ
1-09	W12-1D	DOUBLE DIAGONAL ARROW	24" x 24"	1	---	---	---	4.00	1	1	ISLAND
1-10	R1-2	YIELD	---	---	---	---	---	---	1	1	
1-11	R6-3	DIVIDED HIGHWAY	30" x 24"	---	---	5.00	---	---	1	---	ISLAND; MOUNT ON SIGNAL POLE
1-12	R1-1F	STOP	36" x 36"	---	---	---	7.46	---	1	---	ISLAND; MOUNT ON SIGNAL POLE
1-13	R6-2L	ONE WAY	24" x 30"	---	---	5.00	---	---	1	---	ISLAND; MOUNT ON SIGNAL POLE
1-14	R1-1F	STOP	36" x 36"	---	---	---	7.46	---	1	---	MEDIAN; MOUNT ON SIGNAL POLE
1-15	R4-7	KEEP RIGHT SYMBOL	24" x 30"	---	---	5.00	---	---	1	---	MEDIAN; MOUNT ON SIGNAL POLE
1-16	R10-52	LEFT TURN YIELD ON FLASHING YELLOW ARROW	30" x 36"	---	---	7.50	---	---	---	---	MEDIAN; MOUNT ON SIGNAL POLE
1-17	R1-1F	STOP	36" x 36"	---	---	---	7.46	---	1	---	ISLAND; MOUNT ON SIGNAL POLE
1-18	R6-2L	ONE WAY	24" x 30"	---	---	5.00	---	---	1	---	ISLAND; MOUNT ON SIGNAL POLE
1-19	R3-8	LEFT LANE TURN/THRU & RIGHT TURN ONLY	36" x 30"	---	1	7.50	---	---	---	---	STA 12+50QQ
1-20	R10-52	LEFT TURN YIELD ON FLASHING YELLOW ARROW	30" x 36"	---	---	7.50	---	---	---	---	MEDIAN; MOUNT ON SIGNAL POLE
1-21	R4-7	KEEP RIGHT SYMBOL	24" x 30"	---	---	5.00	---	---	1	---	MEDIAN; MOUNT ON SIGNAL POLE
1-22	R1-1F	STOP	36" x 36"	---	---	---	7.46	---	1	---	MEDIAN; MOUNT ON SIGNAL POLE
1-23	R1-1F	STOP	36" x 36"	---	---	---	7.46	---	1	---	MOUNT ON SIGNAL POLE
1-24	R1-2	YIELD	48" x 42"	---	1	7.00	---	---	---	---	
		TOTALS		**2**	**6**	**100.50**	**44.76**	**10.25**	**13**	**3**	

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CULVERT PIPE CHECKS

STATION	LOCATION	628.7555 EACH
9+00QQ	CTH QQ (LT)	5
	TOTAL	**5**

TRAFFIC CONTROL DRUMS

LOCATION	NUMBER	DAYS	643.0300 DAY
STAGE 1A			
STH 54 (EB)	30	2	60
STH 54 (WB)	32	2	64
CTH QQ	20	2	40
STAGE 1A TOTAL			**164**
STAGE 1			
STH 54 (EB)	48	14	672
CTH QQ	26	14	364
GRAND SEASONS DR	26	14	364
STAGE 1 TOTAL			**1400**
STAGE 2			
STH 54 (EB)	15	3	45
STH 54 (WB)	18	3	54
CTH QQ	14	3	42
STAGE 2 TOTAL			**141**
STAGE 3			
STH 54 (EB)	28	7	196
STH 54 (WB)	17	7	119
CTH QQ	23	7	161
STAGE 3 TOTAL			**476**
STAGE 4			
STH 54 (EB)	45	7	315
CTH QQ	29	7	203
STAGE 4 TOTAL			**518**
GRAND TOTAL			**2699**

TRAFFIC CONTROL BARRICADES

STATION	LOCATION	NUMBER	DAYS	643.0410 TYPE II DAY	643.0420 TYPE III DAY
STAGE 1A					
277+00	STH 54 (EB)	2	2	---	1
277+75	STH 54 (EB)	2	2	---	1
278+00	STH 54 (WB)	1	2	1	---
280+50	STH 54 (WB)	1	2	1	---
283+50	STH 54 (WB)	2	2	---	1
283+75	STH 54 (WB)	2	2	---	1
8+50QQ	CTH QQ (RT)	2	2	---	1
STAGE 1A TOTALS				**2**	**5**
STAGE 1					
275+50	STH 54 (EB)	1	14	---	14
277+00	STH 54 (EB)	2	14	---	28
278+00	STH 54 (WB)	1	14	14	---
280+50	STH 54 (WB)	1	14	14	---
7+75QQ	CTH QQ	2	14	---	28
8+25QQ	CTH QQ	1	14	---	14
12+50QQ	GRAND SEASONS DR	1	14	---	14
STAGE 1 TOTALS				**28**	**98**
STAGE 2					
278+00	STH 54 (EB)	1	3	3	---
278+50	STH 54 (EB)	1	3	---	3
283+50	STH 54 (WB)	1	3	---	3
7+75QQ	CTH QQ	2	3	---	6
8+25QQ	CTH QQ	1	3	---	3
STAGE 2 TOTALS				**3**	**15**
STAGE 3					
277+75	STH 54 (EB)	1	7	---	7
283+00	STH 54 (WB)	1	7	---	7
7+75QQ	CTH QQ	2	7	---	14
8+25QQ	CTH QQ	1	7	---	7
STAGE 3 TOTALS				**0**	**35**
STAGE 4					
275+50	STH 54 (EB)	1	7	---	7
7+75QQ	CTH QQ	2	7	---	14
8+25QQ	CTH QQ	1	7	---	7
STAGE 4 TOTALS				**0**	**28**
GRAND TOTALS				**33**	**181**

TRAFFIC CONTROL WARNING LIGHTS

STATION	LOCATION	NUMBER	DAYS	643.0705 TYPE A DAY	643.0715 TYPE C DAY
STAGE 1A					
277+00	STH 54 (EB)	2	2	---	4
277+75	STH 54 (EB)	2	2	---	4
278+00	STH 54 (WB)	2	2	4	---
280+50	STH 54 (WB)	2	2	4	---
283+50	STH 54 (WB)	2	2	---	4
283+75	STH 54 (WB)	2	2	---	4
8+50QQ	CTH QQ (RT)	2	2	---	4
DRUMS	STH 54 (EB)	12	2	---	24
STAGE 1A TOTALS				**8**	**44**
STAGE 1					
275+50	STH 54 (EB)	2	14	---	28
277+00	STH 54 (EB)	4	14	---	56
278+00	STH 54 (WB)	2	14	28	---
280+50	STH 54 (WB)	2	14	28	---
7+75QQ	CTH QQ	4	14	---	56
8+25QQ	CTH QQ	2	14	---	28
12+50QQ	'AND SEASONS	2	14	---	28
STAGE 1 TOTALS				**56**	**196**
STAGE 2					
278+00	STH 54 (EB)	2	3	6	---
278+50	STH 54 (EB)	2	3	---	6
283+50	STH 54 (WB)	2	3	---	6
7+75QQ	CTH QQ	4	3	---	12
8+25QQ	CTH QQ	2	3	---	6
STAGE 2 TOTALS				**6**	**30**
STAGE 3					
277+75	STH 54 (EB)	2	7	---	14
283+00	STH 54 (WB)	2	7	---	14
7+75QQ	CTH QQ	4	7	---	28
8+25QQ	CTH QQ	2	7	---	14
STAGE 3 TOTALS				**0**	**70**
STAGE 4					
275+50	STH 54 (EB)	2	7	---	14
7+75QQ	CTH QQ	4	7	---	28
8+25QQ	CTH QQ	2	7	---	14
DRUMS	STH 54 (EB)	14	7	---	98
STAGE 4 TOTALS				**0**	**154**
GRAND TOTALS				**70**	**494**

TRAFFIC CONTROL SIGNS

LOCATION	SIGN CODE	DESCRIPTION	SIGN NUMBER	DAYS	643.0900 DAY
STAGE 1A					
STH 54 (EB)	W20-1	ROAD WORK 1 MILE	1	2	2
	W20-1	ROAD WORK 1/2 MILE	1	2	2
	W20-1	ROAD WORK 1500 FT	1	2	2
	W20-7A	FLAGGER	1	2	2
	R11-2	LANE CLOSED	2	2	4
	G20-2A	END ROAD WORK	1	2	2
STH 54 (WB)	W20-1	ROAD WORK 1 MILE	1	2	2
	W20-1	ROAD WORK 1/2 MILE	1	2	2
	W20-1	ROAD WORK 1500 FT	1	2	2
	W20-7A	FLAGGER	1	2	2
	R11-2	LANE CLOSED	2	2	4
	W20-1	ROAD WORK AHEAD	1	2	2
	G20-2A	END ROAD WORK	1	2	2
	R9-9	SIDEWALK CLOSED	2	2	4
CTH QQ	W20-1	ROAD WORK AHEAD	1	2	2
	W013-1	25 M.P.H.	3	2	6
	W20-1	ROAD WORK 500 FT	1	2	2
	W20-7A	FLAGGER	1	2	2
	W20-1	ROAD WORK 250 FT	1	2	2
	G20-2A	END ROAD WORK	1	2	2
	R11-2	LANE CLOSED	1	2	2
GRAND SEASONS DR	W20-1	ROAD WORK AHEAD	1	2	2
	W013-1	25 M.P.H.	3	2	6
	W20-1	ROAD WORK 500 FT	1	2	2
	W20-7A	FLAGGER	1	2	2
	W20-1	ROAD WORK 250 FT	1	2	2
	G20-2A	END ROAD WORK	1	2	2
USH 10 (EB) OFF RAMP	W20-1	ROAD WORK AHEAD	1	2	2
USH 10 (EB) ON RAMP	G20-2A	END ROAD WORK	1	2	2
			STAGE 1A TOTAL		**715**
STAGE 1					
STH 54 (EB) & CTH Q	W12-52	MAX. 12' WIDTH	1	14	14
	W057-52	3 MILES AHEAD	1	14	14
USH 10 (EB & WB)	M1-5A	COUNTY QQ	2	14	28
	W12-52	MAX. 13' WIDTH	2	14	28
	W057-52	1 MILE AHEAD	2	14	28

LOCATION	SIGN CODE	DESCRIPTION	SIGN NUMBER	DAYS	643.0900 DAY
STAGE 1 (CONT)					
CTH Q & CTH QQ	M1-5A	COUNTY QQ	1	14	14
	W12-52	MAX. 12' WIDTH	1	14	14
	W057-52	2 MILES AHEAD	1	14	14
STH 54 (EB)	W20-1	ROAD WORK 1 MILE	1	14	14
	W12-52	MAX. 12' WIDTH	1	14	14
	W20-5	RIGHT LANE CLOSED 1/2 MILE	1	14	14
	W20-5	RIGHT LANE CLOSED 1500 FT	1	14	14
	W04-2R	RIGHT LANE ENDS	1	14	14
	R11-2	LANE CLOSED	3	14	42
	R5-2(MOD)	NO TRUCKS	1	14	14
	R3-2	NO LEFT TURN	1	14	14
	G20-2A	END ROAD WORK	1	14	14
STH 54 (WB)	W20-1	ROAD WORK 1 MILE	1	14	14
	W20-1	ROAD WORK 1/2 MILE	1	14	14
	W20-1	ROAD WORK 1500 FT	1	14	14
	W20-1	ROAD WORK AHEAD	1	14	14
	M1-5A	COUNTY QQ	1	14	14
	W12-52	MAX. 13' WIDTH	1	14	14
	R5-2(MOD)	NO TRUCKS	1	14	14
	R3-2	NO LEFT TURN	1	14	14
	R9-9	SIDEWALK CLOSED	2	14	28
	G20-2A	END ROAD WORK	1	14	14
CTH QQ	W20-1	ROAD WORK AHEAD	1	14	14
	W013-1	25 M.P.H.	3	14	42
	W12-52	MAX. 12' WIDTH	1	14	14
	W20-1	ROAD WORK 500 FT	1	14	14
	W20-1	ROAD WORK 250 FT	1	14	14
	G20-2A	END ROAD WORK	1	14	14
	R11-2	LANE CLOSED	2	14	28
GRAND SEASONS DR	W20-1	ROAD WORK AHEAD	1	14	14
	W013-1	25 M.P.H.	3	14	42
	W20-1	ROAD WORK 500 FT	1	14	14
	W20-1	ROAD WORK 250 FT	1	14	14
	R5-2(MOD)	NO TRUCKS	1	14	14
	R11-2	LANE CLOSED	1	14	14
	G20-2A	END ROAD WORK	1	14	14
USH 10 (EB) OFF RAMP	W20-1	ROAD WORK AHEAD	1	14	14
USH 10 (EB) ON RAMP	G20-2A	END ROAD WORK	1	14	14
			STAGE 1 TOTAL		**756**

CONT ON NEXT PAGE

CONT FROM PREVIOUS PAGE

TRAFFIC CONTROL SIGNS

LOCATION	SIGN CODE	DESCRIPTION	SIGN NUMBER	DAYS	643.0900 DAY
STAGE 2					
STH 54 (EB) & CTH Q	W12-52	MAX. 12' WIDTH	1	3	3
	W057-52	3 MILES AHEAD	1	3	3
CTH Q & CTH QQ	M1-5A	COUNTY QQ	1	3	3
	W12-52	MAX. 12' WIDTH	1	3	3
	W057-52	2 MILES AHEAD	1	3	3
STH 54 (EB)	W20-1	ROAD WORK 1 MILE	1	3	3
	W12-52	MAX. 12' WIDTH	1	3	3
	W20-5	RIGHT LANE CLOSED 1/2 MILE	1	3	3
	W20-5	RIGHT LANE CLOSED 1500 FT	1	3	3
	R3-20R	BEGIN RIGHT TURN LANE	1	3	3
	R3-55R(MOD)	RIGHT TURN LANE	1	3	3
	W04-2R	RIGHT LANE ENDS	1	3	3
	G20-2A	END ROAD WORK	1	3	3
STH 54 (WB)	W20-1	ROAD WORK 1 MILE	1	3	3
	W20-1	ROAD WORK 1/2 MILE	1	3	3
	W20-1	ROAD WORK 1500 FT	1	3	3
	W20-1	ROAD WORK AHEAD	1	3	3
	R11-2	LANE CLOSED	1	3	3
	G20-2A	END ROAD WORK	1	3	3
CTH QQ	W20-1	ROAD WORK AHEAD	1	3	3
	W013-1	25 M.P.H.	3	3	9
	W12-52	MAX. 12' WIDTH	1	3	3
	W20-1	ROAD WORK 500 FT	1	3	3
	W20-1	ROAD WORK 250 FT	1	3	3
	G20-2A	END ROAD WORK	1	3	3
	R11-2	LANE CLOSED	2	3	6
GRAND SEASONS DR	W20-1	ROAD WORK AHEAD	1	3	3
	G20-2A	END ROAD WORK	1	3	3
USH 10 (EB) OFF RAMP	W20-1	ROAD WORK AHEAD	1	3	3
USH 10 (EB) ON RAMP	G20-2A	END ROAD WORK	1	3	3
			STAGE 2 TOTAL		**99**
STAGE 3					
CTH Q & CTH QQ	M1-5A	COUNTY QQ	1	7	7
	W12-52	MAX. 12' WIDTH	1	7	7
	W057-52	2 MILES AHEAD	1	7	7

LOCATION	SIGN CODE	DESCRIPTION	SIGN NUMBER	DAYS	643.0900 DAY
STAGE 3 (CONT)					
STH 54 (EB)	W20-1	ROAD WORK 1 MILE	1	7	7
	W20-5	RIGHT LANE CLOSED 1/2 MILE	1	7	7
	W20-5	RIGHT LANE CLOSED 1500 FT	1	7	7
	W20-1	ROAD WORK 1000 FT	1	7	7
	R11-2	LANE CLOSED	1	7	7
	G20-2A	END ROAD WORK	1	7	7
STH 54 (WB)	W20-1	ROAD WORK 1 MILE	1	7	7
	W20-1	ROAD WORK 1/2 MILE	1	7	7
	W20-1	ROAD WORK 1500 FT	1	7	7
	W20-1	ROAD WORK AHEAD	1	7	7
	R11-2	LANE CLOSED	1	7	7
	G20-2A	END ROAD WORK	1	7	7
CTH QQ	W20-1	ROAD WORK AHEAD	1	7	7
	W013-1	25 M.P.H.	3	7	21
	W12-52	MAX. 12' WIDTH	1	7	7
	W20-1	ROAD WORK 500 FT	1	7	7
	W20-1	ROAD WORK 250 FT	1	7	7
	G20-2A	END ROAD WORK	1	7	7
	R11-2	LANE CLOSED	2	7	14
GRAND SEASONS DR	W20-1	ROAD WORK AHEAD	1	7	7
	G20-2A	END ROAD WORK	1	7	7
USH 10 (EB) OFF RAMP	W20-1	ROAD WORK AHEAD	1	7	7
USH 10 (EB) ON RAMP	G20-2A	END ROAD WORK	1	7	7
				STAGE 3 TOTAL	**203**
STAGE 4					
STH 54 (EB) & CTH Q	W12-52	MAX. 12' WIDTH	1	7	7
	W057-52	3 MILES AHEAD	1	7	7
CTH Q & CTH QQ	M1-5A	COUNTY QQ	1	7	7
	W12-52	MAX. 12' WIDTH	1	7	7
	W057-52	2 MILES AHEAD	1	7	7
STH 54 (EB)	W20-1	ROAD WORK 1 MILE	1	7	7
	W12-52	MAX. 12' WIDTH	1	7	7
	W20-5	LEFT LANE CLOSED 1/2 MILE	1	7	7
	W20-5	LEFT LANE CLOSED 1500 FT	1	7	7
	W04-2L	LEFT LANE ENDS	1	7	7
	R11-2	LANE CLOSED	1	7	7
	G20-2A	END ROAD WORK	1	7	7

CONT ON NEXT PAGE

CONT FROM PREVIOUS PAGE

TRAFFIC CONTROL SIGNS

LOCATION	SIGN CODE	DESCRIPTION	SIGN NUMBER	DAYS	643.0900 DAY
STAGE 4 (CONT)					
STH 54 (WB)	W20-1	ROAD WORK 1 MILE	1	7	7
	W20-1	ROAD WORK 1/2 MILE	1	7	7
	W20-1	ROAD WORK 1500 FT	1	7	7
	W20-1	ROAD WORK AHEAD	1	7	7
	G20-2A	END ROAD WORK	1	7	7
CTH QQ	W20-1	ROAD WORK AHEAD	1	7	7
	W013-1	25 M.P.H.	3	7	21
	W12-52	MAX. 12' WIDTH	1	7	7
	W20-1	ROAD WORK 500 FT	1	7	7
	W20-1	ROAD WORK 250 FT	1	7	7
	G20-2A	END ROAD WORK	1	7	7
	R11-2	LANE CLOSED	2	7	14
GRAND SEASONS DR	W20-1	ROAD WORK AHEAD	1	7	7
	G20-2A	END ROAD WORK	1	7	7
USH 10 (EB) OFF RAMP	W20-1	ROAD WORK AHEAD	1	7	7
USH 10 (EB) ON RAMP	G20-2A	END ROAD WORK	1	7	7
		STAGE 4 TOTAL			**217**
		GRAND TOTAL			**1990**

TRAFFIC CONTROL COVERING SIGNS

STAGE	COVERING SIGNS TYPE II EACH	NUMBER OF CYCLES	NUMBER OF SIGNS
STAGE 1A	2	1	2
STAGE 2	1	1	1
STAGE 3	1	1	1
TOTAL	**4**		

TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER

STATION - STATION	LOCATION	643.0500 POSTS EACH	643.0600 BASES EACH
STAGE 1			
280+50 - 282+05	STH 54 (EB)	13	13
7+50QQ - 9+80QQ	CTH QQ	16	16
10+90QQ - 14+75QQ	GRAND SEASONS DR	19	19
	STAGE 1 TOTALS	**48**	**48**
STAGE 2			
7+50QQ - 9+80QQ	CTH QQ	12	12
	STAGE 2 TOTALS	**12**	**12**
	GRAND TOTALS	**60**	**60**

TRAFFIC CONTROL ARROW BOARDS

LOCATION	NUMBER	DAYS	643.0800 DAY
STAGE 1			
STH 54 (EB)	2	14	28
	STAGE 1 TOTAL		**28**
STAGE 2			
STH 54 (EB)	2	14	28
	STAGE 2 TOTAL		**28**
STAGE 4			
STH 54 (EB)	2	14	28
	STAGE 4 TOTAL		**28**
	GRAND TOTAL		**84**

TRAFFIC CONTROL SIGNS PCMS

STATION	LOCATION	NUMBER	DAYS	643.1050 DAY
273+50	STH 54 (EB)	1	14	14
283+25	STH 54 (WB)	1	14	14
			TOTAL	**28**

NOTE: INSTALL 14 DAYS PRIOR TO CONSTRUCTION.

3

SUMMARY OF STATE FURNISHED MATERIALS - (FOR INFORMATION ONLY)
TRAFFIC SIGNALS & INTERSECTION LIGHTING, STH 54 & CTH QQ/GRAND SEASONS DR

QUANTITY EACH	DESCRIPTION	
1	TRAFFIC SIGNAL CONTROLLER AND CABINET	(WISDOT INSTALLED)
1	ELECTRIC SERVICE METER BREAKER PEDESTAL	(WISDOT INSTALLED)
5	PEDESTRAL BASES	
1	TRANSFORMER BASES, BREAKAWAY, 11 1/2-INCH BOLT CIRCLE	
1	POLES TYPE 3	
2	TYPE 9 MONOTUBE, 30-FOOT ARM	
3	TRAFFIC SIGNAL STANDARDS, ALUMINUM, 13-FT	
2	TRAFFIC SIGNAL STANDARDS, ALUMINUM, 15-FT	
1	TROMBONE ARM, 25-FT (ARM ON SITE, CONTRACTOR TO REMOVE, MOVE AND REINSTALL)	
1	LUMINAIRE ARM, SINGLE MEMBER, 4-INCH CLAMP, 8-FT	
1	LUMINAIRE, UTILITY HPS, 250 WATT	
12	TRAFFIC SIGNAL FACES, 3-12 INCH VERTICAL	
5	TRAFFIC SIGNAL FACES, 4-12 INCH VERTICAL	
1	TRAFFIC SIGNAL FACES, 3-12 INCH HORIZONTAL	
1	PEDESTRIAN SIGNAL FACES, 16-INCH	
13	BACKPLATES, SIGNAL FACES, 3-SECTION 12-INCH	
5	BACKPLATES, SIGNAL FACES, 4-SECTION 12-INCH	
15	LED MODULES, 12-INCH, RED BALL	
12	LED MODULES, 12-INCH, YELLOW BALL	
12	LED MODULES, 12-INCH, GREEN BALL	
5	LED MODULES, 12-INCH, RED ARROW	
13	LED MODULES, 12-INCH, YELLOW ARROW	
8	LED MODULES, 12-INCH, GREEN ARROW	
1	LED MODULES, PEDESTRIAN COUNTDOWN TIMER 16-INCH	
1	PEDESTRIAN PUSH BUTTONS	
1	TRAFFIC SIGNAL MOUNTING HARDWARE	

3

CONDUIT

FROM	TO	652.0225 RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235 RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615 SPECIAL 3-INCH LF
CB	PB1	---	12	---
CB	PB2	---	10	---
PB1	PB4	---	20	54
PB2	PB3	117	---	---
PB2	PB4	---	20	60
PB4	PB5	---	28	124
PB4	SB1	---	17	---
PB4	PB16	---	70	68
PB5	PB6	---	114	---
PB5	SB2	---	20	---
PB6	PB7	272	---	---
PB6	PB8	---	16	118
PB6	SB3	---	23	---
PB8	PB9	---	24	---
PB8	PB10	---	28	102
PB8	SB4	---	10	---
PB9	SB5	---	17	---
PB9	SB6	---	10	---
PB10	PB11	---	15	45
PB10	PB12	200	---	---
PB10	PB13	---	48	256
PB10	SB7	---	24	---
PB11	SB8	---	5	---
PB13	PB14	---	9	31
PB13	PB15	225	---	---
PB13	PB16	---	18	146
PB14	SB9	---	10	---
PB16	PB17	---	14	---
PB16	SB10	---	21	---
TOTALS		**814**	**603**	**1004**

REMOVE AND SALVAGE LOCAL LIGHT POLE

BASE NO	STATION	LOCATION	SPV.0105.03 EACH
LLP1	279+40	30 FT (RT)	1
		TOTAL	**1**

REMOVING CONCRETE BASES

BASE NO	STATION	LOCATION	204.0195 EACH	REMARKS
ESB1	280+02	77' LT	1	TYPE 2
ESB5	280+39	31' RT	1	TYPE 2
ESB6	279+77	56' RT	1	TYPE 2
ESB7	279+44	30' RT	1	TYPE 1
ECB	279+65	114' LT	1	TYPE 9
LLP1	279+40	30' RT	1	LOCAL LIGHT POLE
		TOTAL	**6**	

LOOP DETECTOR INSTALLATION

LOOP NUMBER	STATION	LOCATION	SIZE FT x FT	NUMBER OF TURNS	652.0800 CONDUIT LOOP DETECTOR LF	655.0700 LEAD-IN CABLE LF	655.0800 DETECTOR WIRE LF
11	279+63	19' LT	6x20	3	60	130	205
12	279+90	19' LT	6x20	3	64	130	230
21	283+90	61' LT	6x6	---	---	450	---
22	283+90	73' LT	6x6	---	---	450	---
23	283+90	85' LT	6x6	---	---	450	---
41	279+56	232' LT	6x6	---	---	130	---
42	280+08	111' LT	6x20	3	69	50	260
43	280+14	83' LT	6x20	3	64	50	230
44	279+83	103' LT	6x15	3	55	50	205
45	279+72	85' LT	6x15	3	57	50	220
51	281+24	42' LT	6x20	3	71	270	275
52	280+97	42' LT	6x20	3	72	270	280
61	276+17	6' LT	6x20	4	53	420	330
62	276+17	6' RT	6x20	4	41	420	235
81	279+96	210' RT	6x6	---	---	520	---
82	280+05	212' RT	6x6	---	---	520	---
83	280+24	51' RT	6x20	3	83	350	345
84	280+26	23' RT	6x20	3	65	350	235
OLA-1	280+53	50' RT	6x20	3	76	350	305
OLA-2	280+74	31' RT	6x20	3	74	350	290
				TOTALS	**904**	**5760**	**3645**

PULL BOXES

PULL BOX NO	STATION	LOCATION	653.0140 PULL BOXES STEEL 24" X 42" EACH
PB1	279+69	120'LT	1
PB2	279+72	125'LT	1
PB3	279+46	234'LT	1
PB4	279+99	95'LT	1
PB5	280+70	99'LT	1
PB6	281+24	90'LT	1
PB7	283+87	94'LT	1
PB8	281+12	25'LT	1
PB9	281+35	24'LT	1
PB10	281+02	39'RT	1
PB11	280+43	25'RT	1
PB12	280+19	212'RT	1
PB13	279+48	45'RT	1
PB14	279+72	11'45	1
PB15	276+17	27'RT	1
PB16	279+76	30'LT	1
PB17	279+62	30'LT	1
		TOTAL	**17**

REMOVING PULL BOXES

PULL BOX NO	STATION	LOCATION	653.0905 REMOVING PULL BOXES EACH
EPB1	279+68	110'LT	1
EPB2	12F+93	20'LT	1
EPB3	280+01	91'LT	1
EPB4	280+82	92'LT	1
EPB5	281+14	90'LT	1
EPB6	284+16	94'LT	1
EPB7	281+14	24'LT	1
EPB8	281+14	34'RT	1
EPB9	7QQ+93	20'RT	1
EPB10	280+19	36'RT	1
EPB11	279+57	33'RT	1
EPB12	276+15	29'RT	1
EPB13	279+85	19'LT	1
		TOTAL	**13**

3

CONCRETE BASES

BASE NO	LOCATION	654.0101 BASES TYPE 1 EACH	654.0102 BASES TYPE 2 EACH	654.0217 CONTROL CABINET BASES TYPE 9 SPECIAL EACH	654.0110 BASES TYPE 10 EACH	REMARKS
CB1	NW QUADRANT	---	---	1	---	
SB1	GRAND SEASONS DR RT ISLAND	---	---	---	1	
SB2	NE QUADRANT	---	---	---	---	EXIST REMAIN
SB3	NE QUADRANT	---	---	---	---	EXIST REMAIN
SB4	STH 54 EAST MEDIAN	---	---	---	---	EXIST REMAIN
SB5	STH 54 EAST MEDIAN	1	---	---	---	
SB6	STH 54 EAST MEDIAN	1	---	---	---	
SB7	SE QUADRANT	1	---	---	---	
SB8	CTH QQ RT ISLAND	---	---	---	1	
SB9	STH 54 RT ISLAND	---	1	---	---	
SB10	STH 54 WEST MEDIAN	---	---	---	---	EXIST REMAIN
	TOTALS	**3**	**1**	**1**	**2**	

ELECTRICAL WIRE LIGHTING

FROM	TO	655.0305 CABLE TYPE UF 2-12 AWG GROUNDED LF	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG LF
CB	SB9	285	---
SB9	LUMINAIRE	---	123
	TOTALS	**285**	**123**

SIGNAL POLES

SIGNAL BASE NUMBERS	657.1345 INSTALL POLES TYPE 9 EACH	657.1530 INSTALL MONOTUBE ARMS 30-FT EACH	SPV.0060.01 CONTRACTOR PROVIDED HIGH-STRENGTH BOLT ASSEMBLIES FOR MONOTUBE ARMS 30-FT EACH	SPV.0105.04 TRANSPORT DEPARTMENT FUNISHED TRAFFIC SIGNAL MONOTUBE MATERIALS LS
SB1	1	1	1	1
SB8	1	1	1	
TOTALS	**2**	**2**	**2**	**1**

CABLE TRAFFIC SIGNAL

FROM	TO	655.0230 5-14 AWG LF	655.0240 7-14 AWG LF	655.0260 12-14 AWG LF	655.0280 19-14 AWG LF
CB	SB1	---	---	---	80
SB1	HEAD 2B	---	41	---	---
SB1	HEAD 2C	---	41		
SB1	HEAD 4A	---	19	---	---
SB1	HEAD 8C	---	19	---	---
SB1	PED 2-1	---	14	---	---
CB	SB2	---	170	---	---
SB2	HEAD 8B	---	45	---	---
SB2	PED 2-2	---	14	---	---
CB	SB3	245	---	---	---
SB3	HEAD 2A	---	19	---	---
CB	SB4	---	---	315	---
SB4	HEAD 1B	---	23	---	---
SB4	HEAD 5A	---	23	---	---
CB	SB5	355	---	---	---
SB5	OLA-2	---	23	---	---
CB	SB6	345	---	---	---
SB6	OLA-3	---	23	---	---
CB	SB7	400	---	---	---
SB7	OLA-1	---	23	---	---
CB	SB8	---	---	460	---
SB8	HEAD 4C	---	19	---	---
SB8	HEAD6B	---	41	---	---
SB*	HEAD 6C		41	---	---
SB8	HEAD8A	---	19	---	---
CB	SB9	---	---	285	---
SB9	HEAD4B	---	50	---	---
SB9	HEAD 5C	---	23	---	---
SB9	HEAD 6A	---	21	---	---
CB	SB10	---	---	160	---
SB10	HEAD 1A	---	23	---	---
SB10	HEAD5B	---	23	---	---
	TOTALS	**1345**	**757**	**1220**	**80**

EQUIPMENT GROUNDING CONDUCTORS

FROM	TO	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG GREEN LF
CB	SB1	80
SB1	SB2	130
SB2	SB3	120
SB3	SB4	120
SB4	SB5	70
SB5	SB6	40
SB6	SB7	150
SB7	SB8	80
SB8	SB9	250
SB9	SB10	160
SB10	CB	160
CB	PB1	20
CB	PB2	20
SB1	PB4	30
SB2	PB5	30
SB3	PB6	35
SB4	PB8	20
SB5	PB9	30
SB7	PB10	35
SB8	PB11	15
SB9	PB13	45
SB9	PB14	20
SB10	PB16	30
	TOTAL	**1690**

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION)

LOCATION	661.0200 LS
STH 54 & CTH QQ/GRAND SEASONS DR	1
TOTAL	**1**

TRANSPORT AND INSTALL DEPARTMENT FURNISHED TRAFFIC SIGNAL AND LIGHTING

SIGNAL BASE NUMBER	PEDESTAL BASES EACH	TRANSFORMER BASE BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	POLES TYPE 3 EACH	TRAFFIC SIGNAL STANDARD ALUMINUM 13-FOOT EACH	TRAFFIC SIGNAL STANDARD ALUMINUM 15-FOOT EACH	TROMBONE ARMS 25-FOOT EACH	LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 8-FOOT EACH	LUMINAIRE UTILITY HPS 250-WATT EACH	PEDESTRIAN PUSH BUTTONS EACH	REMARKS
SB1	---	---	---	---	---	---	---	---	1	
SB4	1	---	---	---	1	---	---	---	---	
SB5	1	---	---	1	---	---	---	---	---	
SB6	1	---	---	1	---	---	---	---	---	
SB7	1	---	---	1	---	---	---	---	---	
SB9	---	1	1	---	---	1	1	1	---	25-FT TROMBONE ARM ONSITE, MOVE FROM ESB 6
SB10	1	---	---	---	1	---	---	---	---	
TOTALS	**5**	**1**	**1**	**3**	**2**	**1**	**1**	**1**	**1**	

SIGNAL BASE NUMBER	HEAD NUMBER	SIGNAL FACE VERTICAL 3-12 INCH EACH	SIGNAL FACE VERTICAL 4-12 INCH EACH	SIGNAL FACE HORIZONTAL 3-12 INCH EACH	BACKPLATES SIGNAL FACE 3-SECTION 12-INCH EACH	BACKPLATES SIGNAL FACE 4-SECTION 12-INCH EACH	LED MODULES 12-INCH RED BALL EACH	LED MODULES 12-INCH YELLOW BALL EACH	LED MODULES 12-INCH GREEN BALL EACH	LED MODULES 12-INCH RED ARROW EACH	LED MODULES 12-INCH YELLOW ARROW EACH	LED MODULES 12-INCH GREEN ARROW EACH	PEDESTRIAN SIGNAL FACE 16-INCH EACH	SPV.0105.02 TRANSPORT AND INSTALL DEPARTMENT FURNISHED TRAFFIC SIGNAL AND LIGHTING LS
SB1	2-1	---	---	---	---	---	---	---	---	---	---	---	1	1
SB1	2B	1	---	---	1	---	1	1	1	---	---	---	---	---
SB1	2C	1	---	---	1	---	1	1	1	---	---	---	---	---
SB1	4A	1	---	---	1	---	1	1	1	---	---	---	---	---
SB1	8C	1	---	---	1	---	1	1	1	---	---	---	---	---
SB4	1B	---	1	---	---	1	---	---	---	1	2	1	---	---
SB4	5A	---	1	---	---	1	---	---	---	1	2	1	---	---
SB5	OLA-2	1	---	---	1	---	1	---	---	---	1	1	---	---
SB6	OLA-3	1	---	---	1	---	1	---	---	---	1	1	---	---
SB7	OLA-1	1	---	---	1	---	1	---	---	---	1	1	---	---
SB8	4C	1	---	---	1	---	1	1	1	---	---	---	---	---
SB8	6B	1	---	---	1	---	1	1	1	---	---	---	---	---
SB8	6C	1	---	---	1	---	1	1	1	---	---	---	---	---
SB8	8A	1	---	---	1	---	1	1	1	---	---	---	---	---
SB9	4B	---	---	1	1	---	1	1	1	---	---	---	---	---
SB9	5C	---	1	---	---	1	---	---	---	1	2	1	---	---
SB9	6A	1	---	---	1	---	1	1	1	---	---	---	---	---
SB10	1A	---	1	---	---	1	---	---	---	1	2	1	---	---
SB10	5B	---	1	---	---	1	---	---	---	1	2	1	---	---
	TOTALS	**12**	**5**	**1**	**13**	**5**	**13**	**10**	**10**	**5**	**13**	**8**	**1**	**1**

NOTE: THESE TABLES ARE FOR INFORMATION PURPOSES ONLY (WISDOT SUPPLIED, CONTRACTOR INSTALLED)

PAVEMENT MARKING EPOXY

STATION - STATION	LOCATION	646.0106 4-INCH (WHITE) LF	646.0106 4-INCH (YELLOW) LF	646.0126 8-INCH WHITE LF	ARROWS 647.0166 TYPE 2 EACH	ARROWS 647.0176 TYPE 3 EACH	647.0356 WORDS EACH	647.0456 CURB YELLOW LF	647.0566 STOP LINE 18-INCH WHITE LF	647.0606 ISLAND YELLOW EACH	647.0766 CROSSWALK 6-INCH WHITE LF	REMARKS
265+00 - 270+40	STH 54 (EB)	125	---	---	---	---	---	---	---	---	---	
274+95 - 277+10	STH 54 (EB)	---	370	215	---	---	---	40	---	2	---	
275+00 - 279+80	STH 54 (EB)	125	---	---	---	---	---	---	---	---	---	LANE LINE DASHED
277+50 - 280+00	STH 54 (EB)	---	405	510	---	---	---	177	---	4	---	
279+82	STH 54 (EB)	---	---	---	---	---	---	---	37	---	---	
280+85 - 282+75	STH 54 (EB)	---	---	45	---	---	---	---	---	---	---	3-FT, 9-FT GAP
280+90 - 285+15	STH 54 (EB)	112.5	737	---	---	---	---	151	---	1	---	LANE LINE DASHED
282+75 - 285+50	STH 54 (EB)	---	---	481	---	---	---	---	---	---	---	
275+40 - 279+90	STH 54 (WB)	125	---	---	---	---	---	---	---	---	---	LANE LINE DASHED
281+00 - 284+15	STH 54 (WB)	87.5	---	---	---	---	---	---	---	---	---	LANE LINE DASHED
281+00 - 283+35	STH 54 (WB)	---	---	468	---	---	---	---	---	---	---	
281+02	STH 54 (WB)	---	---	---	---	---	---	---	54	---	---	
283+40 - 284+30	STH 54 (WB)	---	---	24	---	---	---	---	---	---	---	3-FT, 9-FT GAP
6+75QQ - 9+75QQ	CTH QQ	---	600	---	---	---	---	---	---	---	---	NO PASSING
8+50QQ - 9+90QQ	CTH QQ	---	---	216	---	---	---	64	---	2	---	
9+70QQ	CTH QQ	---	---	---	---	---	---	---	42	---	---	
10+80QQ - 11+30QQ	GRAND SEASONS DR	---	---	---	---	---	---	62	---	3	177	
11+00QQ - 14+50QQ	GRAND SEASONS DR	---	700	---	---	---	---	---	---	---	---	NO PASSING
11+00QQ - 11+20QQ	GRAND SEASONS DR	---	---	36	---	---	---	---	---	---	---	
11+00QQ	GRAND SEASONS DR	---	---	---	---	---	---	---	16	---	---	
STH 54 (EB)	LT TURN LANE	---	---	---	4	---	2	---	---	---	---	
STH 54 (EB)	RT TURN LANES	---	---	---	5	---	3	---	---	---	---	
STH 54 (WB)	LT TURN LANE	---	---	---	2	---	1	---	---	---	---	
STH 54 (WB)	RT TURN LANE	---	---	---	2	---	1	---	---	---	---	
CTH QQ		---	---	---	2	2	1	---	---	---	---	
SUB TOTALS		**575**	**2812**	**1995**	**15**	**2**	**8**	**494**	**149**	**12**	**177**	
GRAND TOTALS		**3387**		**1995**	**15**	**2**	**8**	**494**	**149**	**12**	**177**	

SAWING CONCRETE

STATION - STATION	LOCATION	690.0250 LF	REMARKS
STAGE 1A			
9+54QQ - 9+79QQ	CTH QQ (RT)	76	ISLAND
STAGE 1A TOTAL		76	
STAGE 1			
276+07 - 276+22	STH 54 (EB) RT	68	
279+04 - 8+90QQ	CTH QQ (LT)	228	
10+80QQ - 11+39QQ	CTH QQ (LT)	278	
10+70QQ - 11+00QQ	CTH QQ (LT)	62	ISLAND
10+79QQ	CTH QQ (LT)	12	
STAGE 1 TOTAL		648	
STAGE 2			
9+20QQ - 9+88QQ	CTH QQ (RT)	166	
STAGE 2 TOTAL		166	
STAGE 3			
9+20QQ - 9+93QQ	CTH QQ (RT)	141	
279+42 - 279+94	STH 54 (EB)	133	
280+96 - 281+52	STH 54 (WB)	149	
279+87 - 279+96	STH 54 (EB)	18	MEDIAN
STAGE 3 TOTAL		441	
STAGE 4			
9+87QQ - 9+92QQ	CTH QQ (RT)	34	
276+07 - 276+22	STH 54 (EB) LT	39	
STAGE 4 TOTAL		73	
GRAND TOTAL		**1404**	

3

REMOVING PAVEMENT MARKING

STATION - STATION	LOCATION	646.0600 LF	647.0955 ARROWS EACH	647.0965 WORDS EACH	REMARKS
STAGE 1A					
STH 54 (EB)	LT TURN LANE	---	2	2	
STH 54 (WB)	RT TURN LANE	---	1	1	
	STAGE 1A TOTALS	0	3	3	
STAGE 1					
265+00 - 270+40	STH 54 (EB)	540	---	---	
277+00 - 278+60	STH 54 (EB)	160	---	---	
279+30	STH 54 (EB)	125	---	---	STOP LINE
279+85	STH 54 (EB)	70	---	---	STOP LINE
280+90	STH 54 (WB)	180	---	---	STOP LINE
281+05	STH 54 (WB)	90	---	---	STOP LINE
6+75QQ - 9+75QQ	CTH QQ	600	---	---	
9+70QQ	CTH QQ	100	---	---	STOP LINE
11+00QQ - 14+50QQ	GRAND SEASONS DR	700	---	---	
	STAGE 1 TOTALS	2565	0	0	
STAGE 3					
STH 54 (WB)	LT TURN LANE	---	1	1	
	STAGE 3 TOTALS	0	1	1	
	GRAND TOTALS	**2565**	**4**	**4**	

NOTE: REMOVING 18-INCH PAVEMENT MARKING, PAY AS 4-INCH (X5).

TEMPORARY PAVEMENT MARKING TAPE

STATION - STATION	LOCATION	649.0100 REFLECTIVE 4-INCH LF	649.0801 REMOVABLE 8-INCH LF	649.1200 REMOVABLE STOP LINE 18-INCH LF	REMARKS
STAGE 1					
265+00 - 270+40	STH 54 (EB)	540	540	---	WHITE EDGELINE
277+50 - 7+70QQ	STH 54 (EB)	500	500	---	WHITE EDGELINE
279+50	STH 54 (EB)	---	---	12	
280+50 - 282+75	STH 54 (EB)	---	276	---	WHITE
6+75QQ - 9+75QQ	CTH QQ	600	---	---	DOUBLE YELLOW C/L
9+70QQ	CTH QQ	---	---	17	
10+75QQ - 14+50QQ	GRAND SEASONS DR	375	---	---	WHITE EDGELINE
10+90QQ	GRAND SEASONS DR	---	---	12	
11+00QQ - 14+50QQ	GRAND SEASONS DR	700	---	---	DOUBLE YELLOW C/L
	STAGE 1 TOTALS	**2715**	**1316**	**41**	
STAGE 2					
8+00QQ - 9+90QQ	CTH QQ	380	---	---	DOUBLE YELLOW C/L
	STAGE 2 TOTALS	**380**	**0**	**0**	
STAGE 3					
8+60QQ - 9+90QQ	CTH QQ	130	---	---	YELLOW C/L
	STAGE 3 TOTALS	**130**	**0**	**0**	
	GRAND TOTALS	**3225**	**1316**	**41**	

3

SAWING ASPHALT

STATION - STATION	LOCATION	690.0150 LF	REMARKS
STAGE 1			
10+79QQ - 10+93QQ	CTH QQ (LT)	31	ISLAND
	STAGE 1 TOTAL	31	
STAGE 3			
9+54QQ - 9+77QQ	CTH QQ (RT)	26	TEMP ASPH
	STAGE 3 TOTAL	26	
	GRAND TOTAL	**57**	

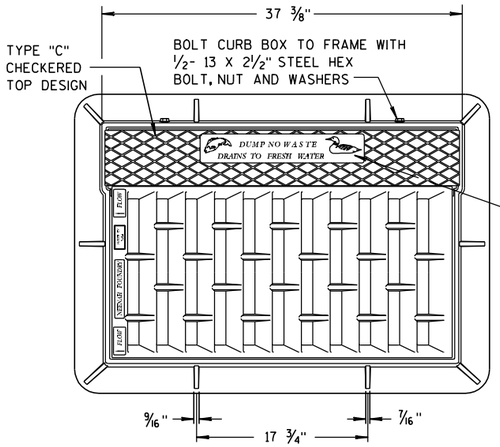
CONSTRUCTION STAKING

STATION - STATION	LOCATION	650.4000 STORM SEWER EACH	650.4500 SUBGRADE LF	650.5000 BASE LF	650.5500 CURB & GUTTER LF	650.8500 ELECTRICAL INSTALLATIONS LS	650.9910 SUPPLEMENTAL CONTROL LS
STAGE 1							
279+04 - 8+90QQ	CTH QQ (LT)	1	187	187	125	1	1
279+64 - 279+98	STH 54 (EB) RT	---	---	---	92	---	---
	STAGE 1 TOTALS	1	187	187	217	1	1
	GRAND TOTALS	**1**	**187**	**187**	**217**	**1**	**1**

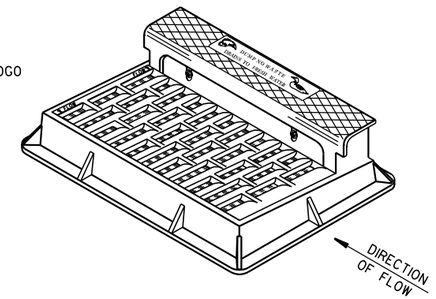
Standard Detail Drawing List

08A05-18A	INLET COVERS TYPE A, H, A-S, & H-S
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-07	CONDUIT
09B04-10	PULL BOX
09C02-06	CONCRETE BASES, TYPES 1, 2 & 5
09C03-03	TRANSFORMER/PEDESTAL BASES
09C06-06	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C11-04	CONCRETE BASE TYPE 10
09C13-02	CONCRETE BASE TYPE 10 & TYPE 13 EXTENSION
09D01-04	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-02	SIGNAL OR LIGHTING CONTROL CABINET
09E01-12B	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3 (HEAVY DUTY)
09E01-12G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-04	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E08-04A	TYPE 9 POLE 15'-30' MONOTUBE ARM
09E08-04E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09F15-03B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
09G01-03A	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03B	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03C	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03D	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03E	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03F	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03G	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
13C01-16	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C27-01	DOUBLE ARROW WARNING SIGN PLACEMENT
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-03	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.
15D21-02	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

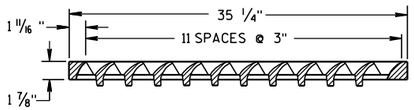
6

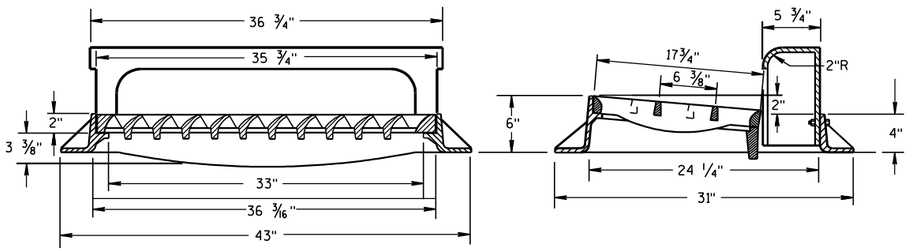


NOTE:
GRATE IS REVERSIBLE.



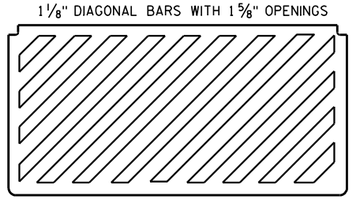
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"





TYPE "H"

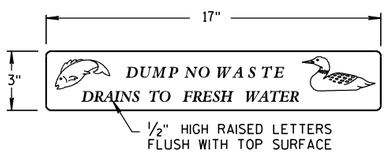
(APPROXIMATE WEIGHT 441 LBS.)
FRAME..... 181 LBS.
GRATE..... 146 LBS.
CURB BOX..... 114 LBS.



SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")
(APPROXIMATE WEIGHT 159 LBS.)
GRATE..... 159 LBS.

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL

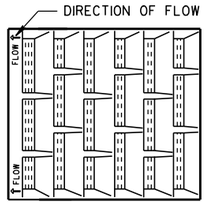
GENERAL NOTES

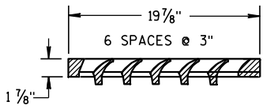
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

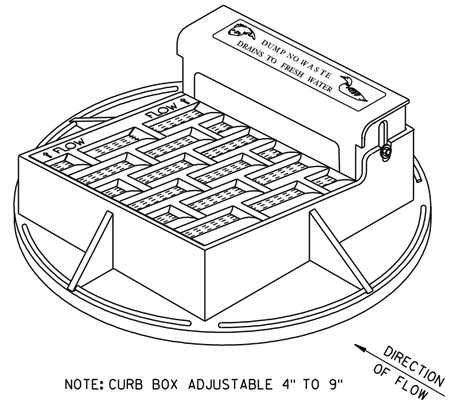
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

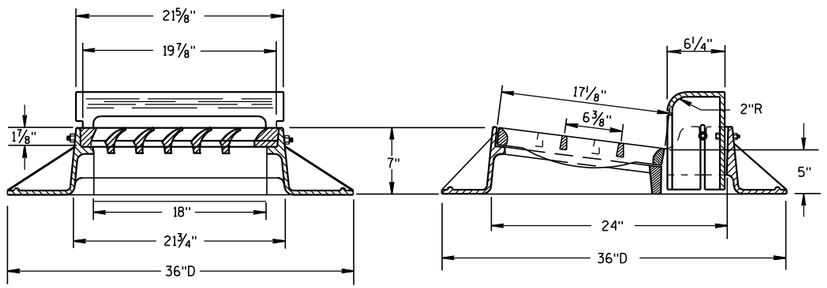
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.





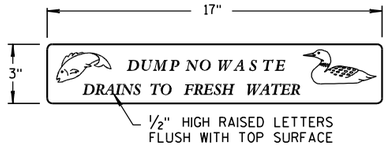


NOTE: CURB BOX ADJUSTABLE 4" TO 9"



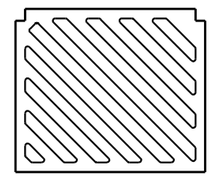
TYPE "A"

(APPROXIMATE WEIGHT 340 LBS.)
FRAME..... 185 LBS.
GRATE..... 71 LBS.
CURB BOX..... 84 LBS.



LOGO DETAIL

NOTE:
GRATE IS REVERSIBLE.



SPECIAL GRATE FOR TYPE "A" COVER

(MEASURES 19 3/4" X 17" X 1 7/8"
GRATE..... 84 LBS.

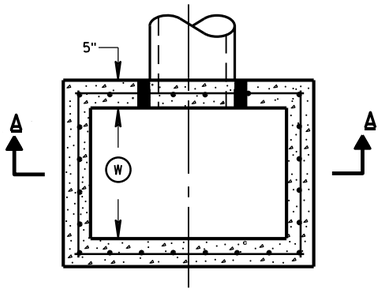
(NOTED AS TYPE A-S ON DRAINAGE TABLE)

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

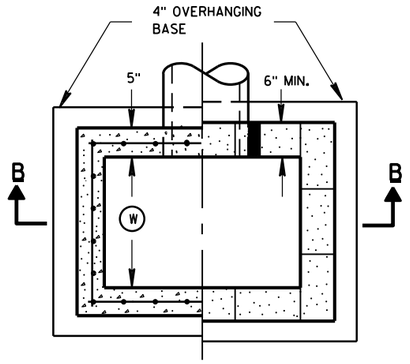
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
[illegible] IENT
FHWA

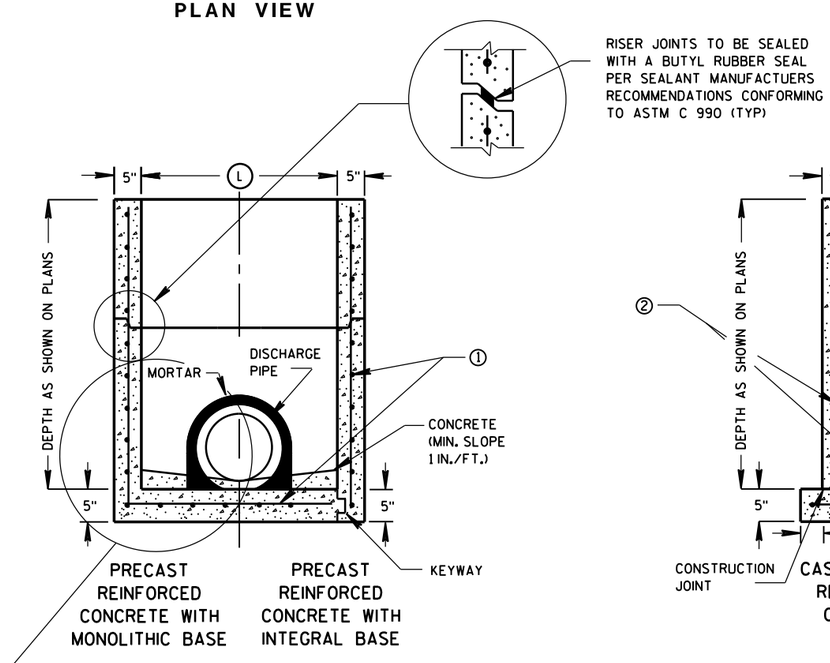
6
S.D.D. 8 A 5-18a



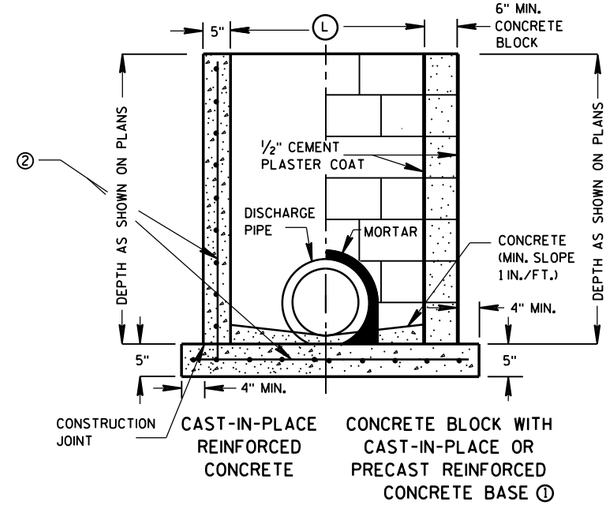
PLAN VIEW



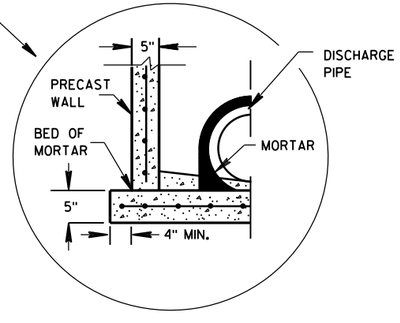
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

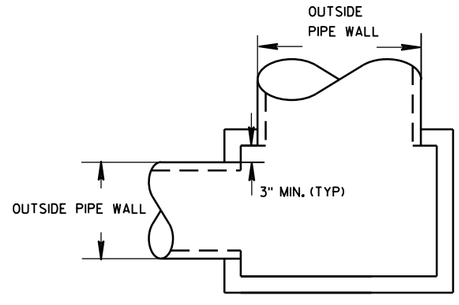
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

PIPE MATRIX

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



DETAIL "A"

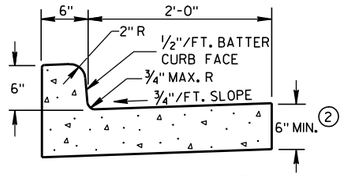
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

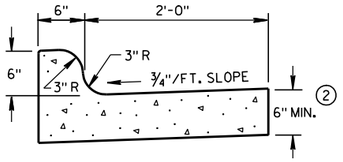
APPROVED
6/5/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DE
ENGINEER
FHWA

6

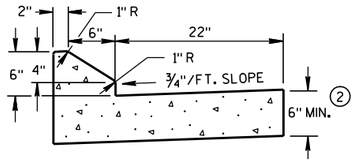
S.D.D. 8 C 7-1



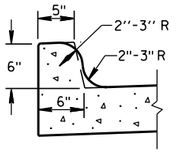
TYPES A & D (1)



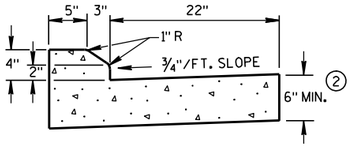
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

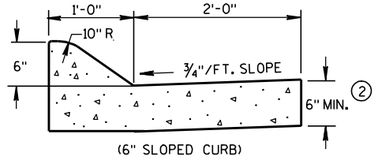


OPTIONAL CURB SHAPE
FOR TYPES K & L (1)

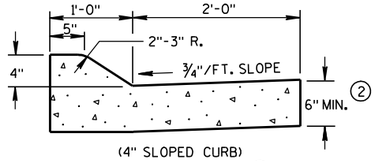


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

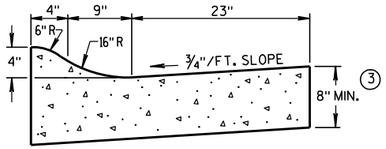


(6" SLOPED CURB)



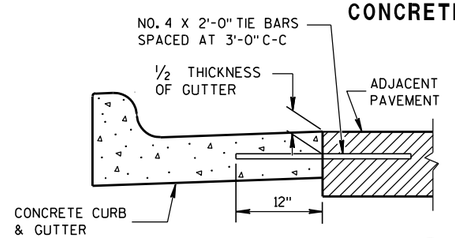
(4" SLOPED CURB)

TYPES A & D (1)

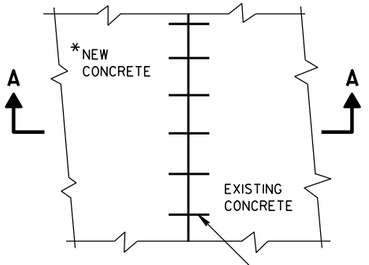


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

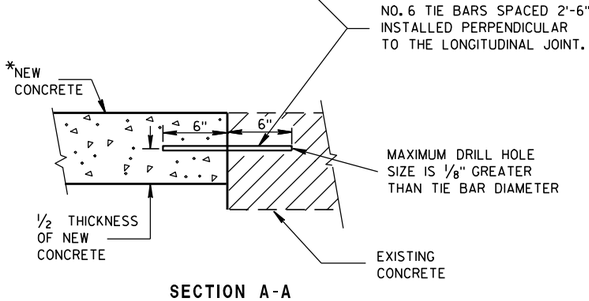


TYPICAL TIE BAR LOCATION (1)



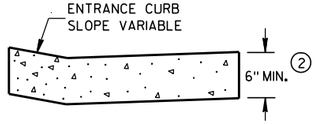
PLAN VIEW

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

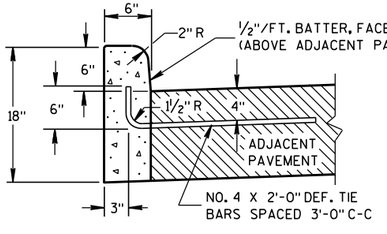


SECTION A-A

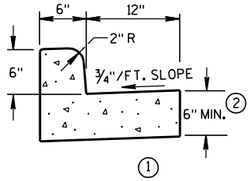
TIE BARS DRILLED
INTO EXISTING PAVEMENT



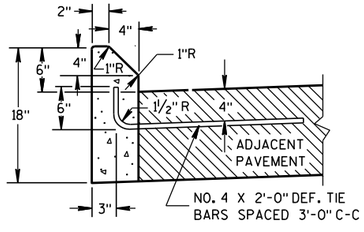
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



(1)
TYPES A & D

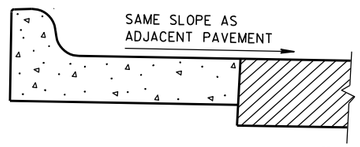


(1)
TYPES A & D
CONCRETE CURB & GUTTER 18"

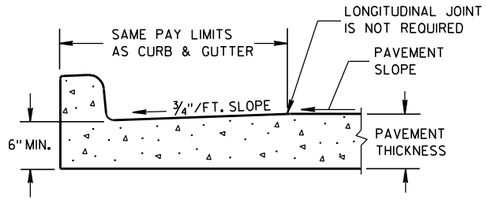


(1)
TYPES G & J

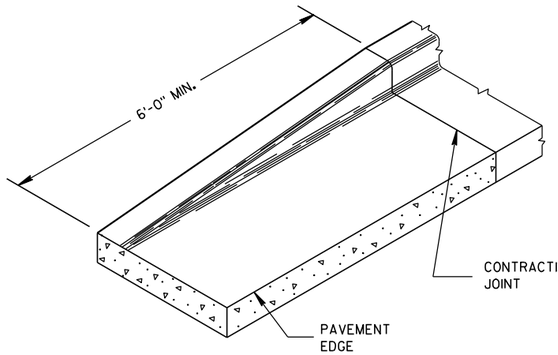
CONCRETE CURB



REVERSE SLOPE GUTTER (5)
(TYPICAL FOR ALL CURB & GUTTER TYPES)



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

GENERAL NOTES

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

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

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

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

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

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

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

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

(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

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

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 8 D 1-17

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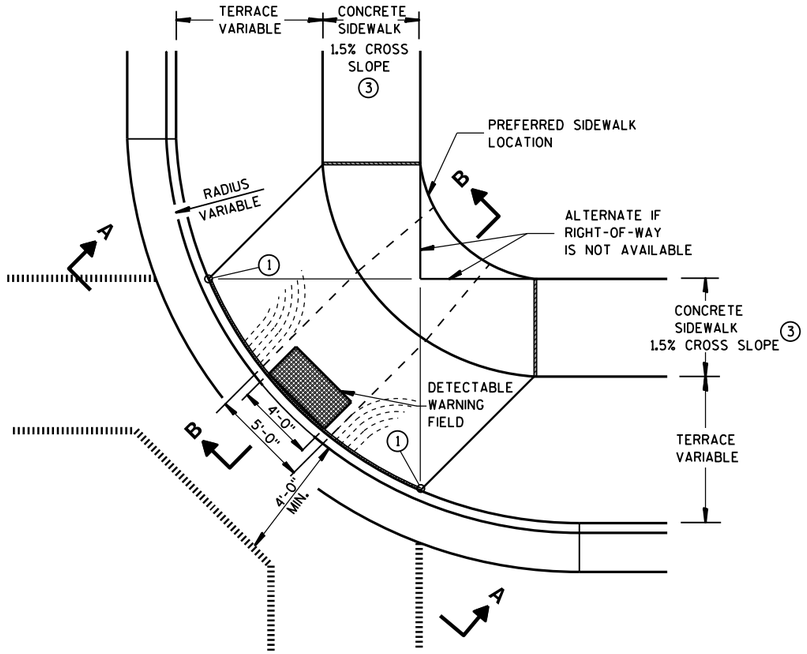
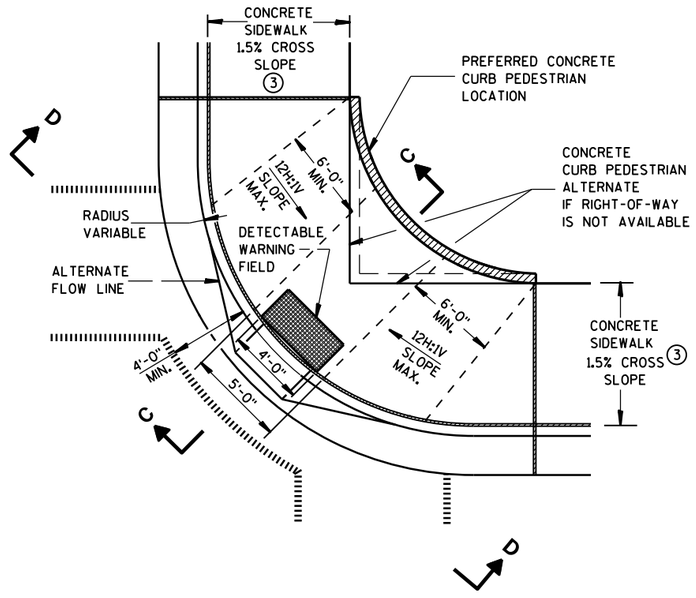
S.D.D. 8 D 1-17



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

GENERAL NOTES

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

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

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

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

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

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

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

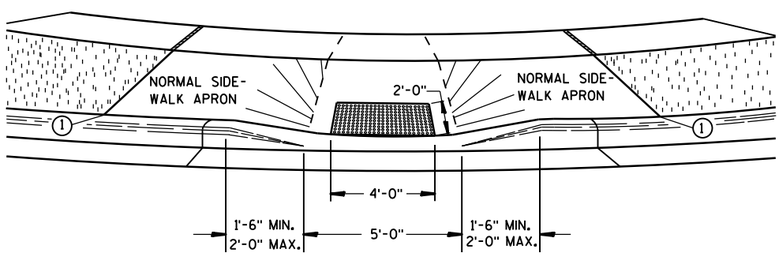
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

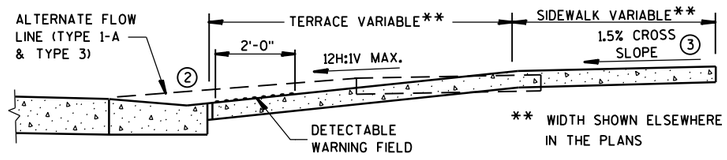
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

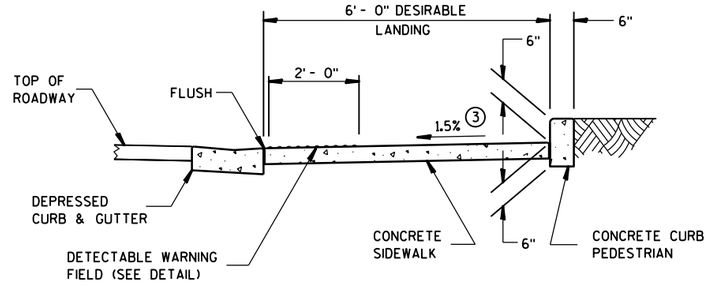
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



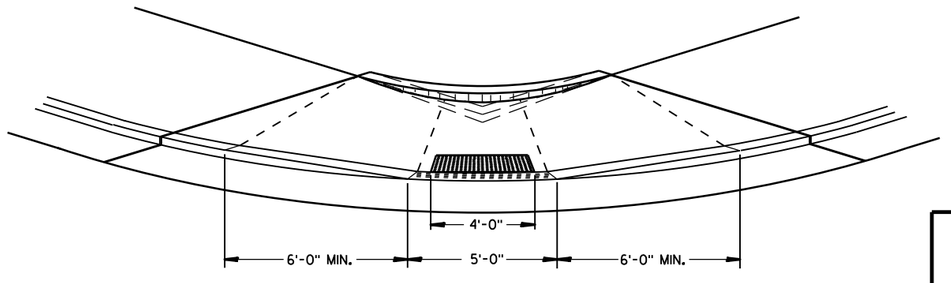
VIEW A-A



SECTION B-B



SECTION C-C



VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

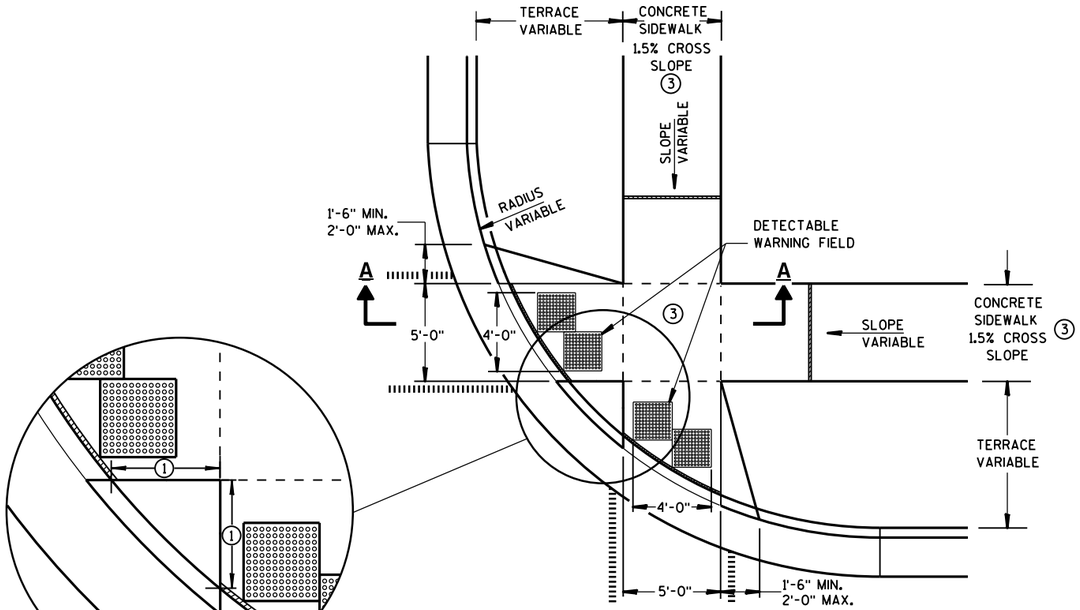
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 64

6

S.D.D. 8 D 5-15a

6

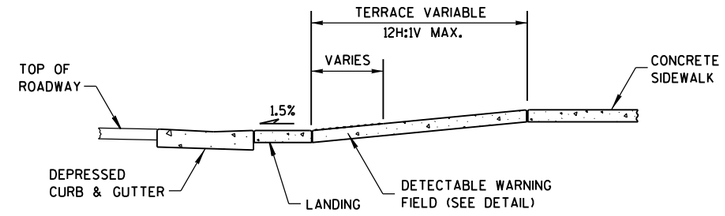
S.D.D. 8 D 5-15a



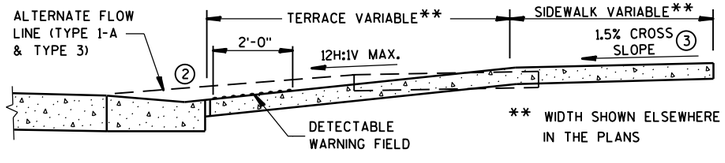
PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

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

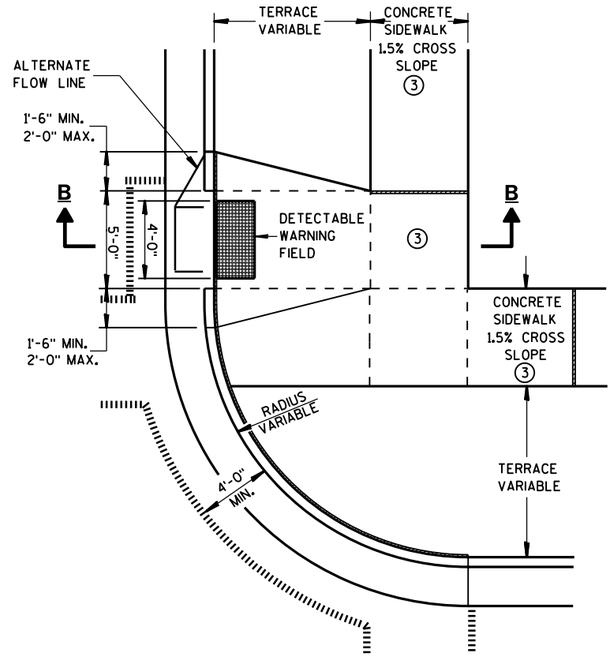
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

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



PLAN VIEW

TYPE 3 RAMP

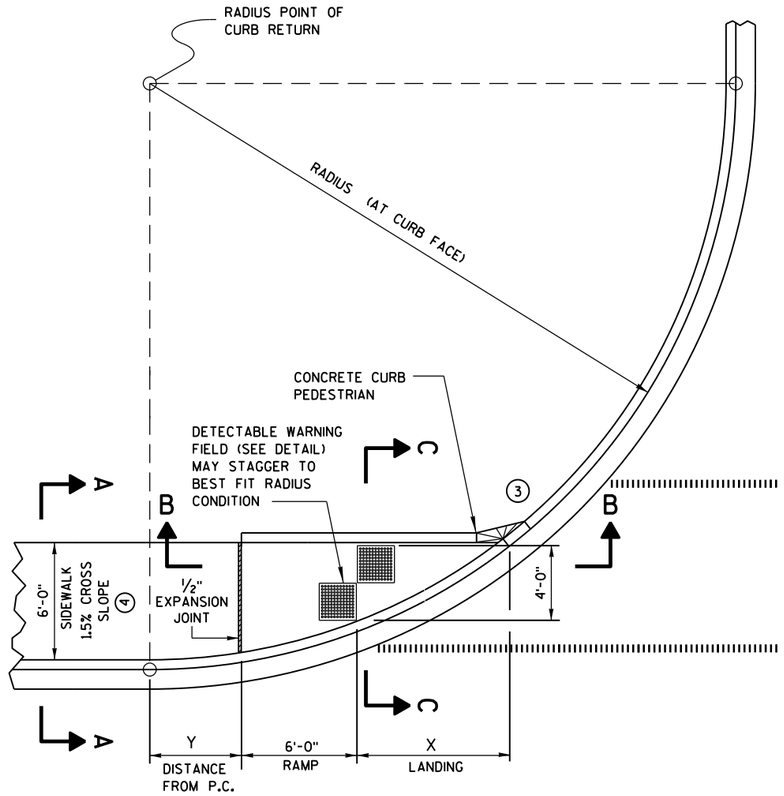
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

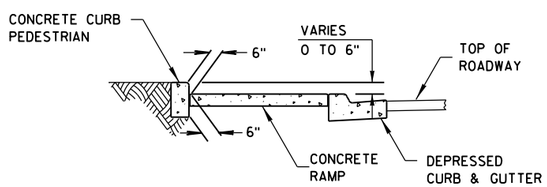
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

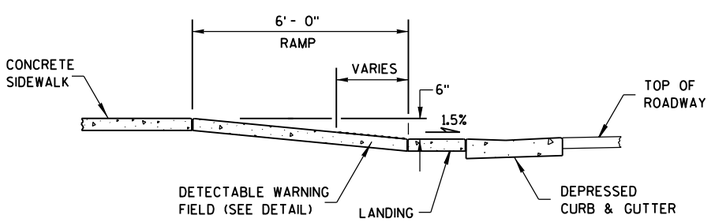
S.D.D. 8 D 5-15b



CURB RAMP TYPE 4A
PLAN VIEW



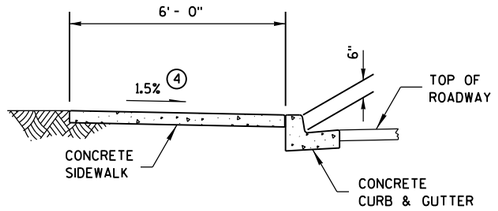
SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

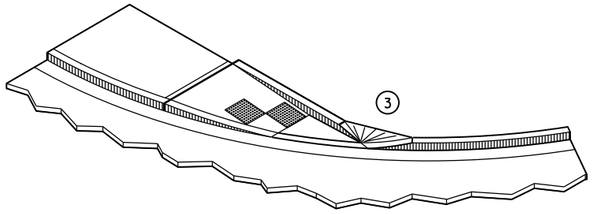
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

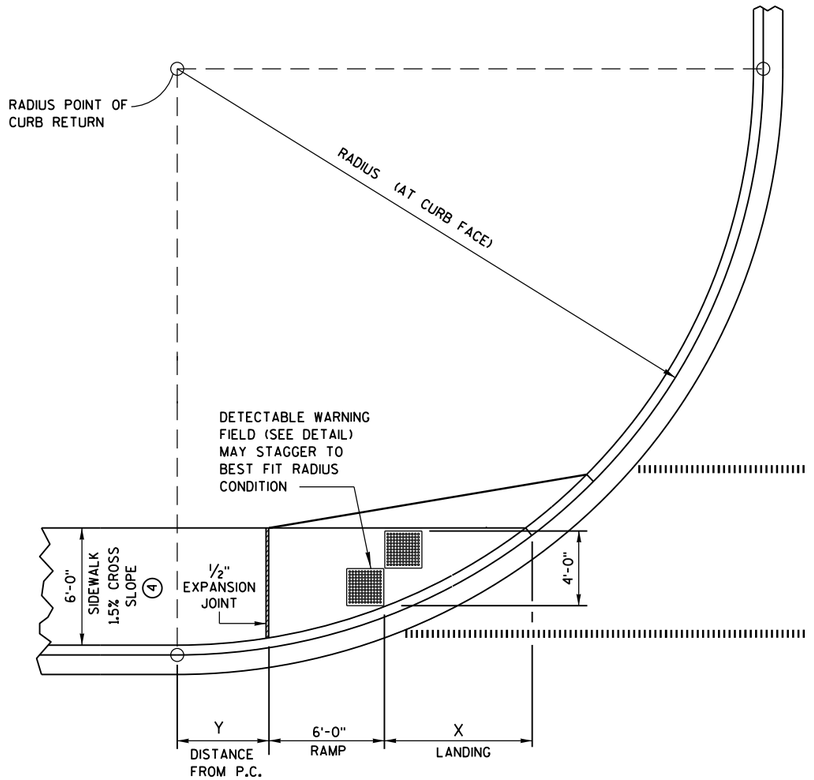
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

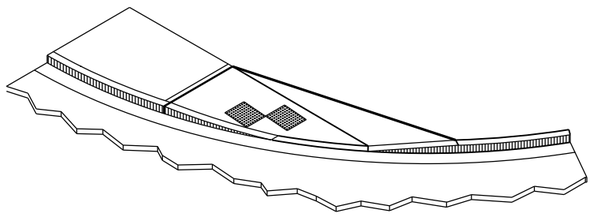
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

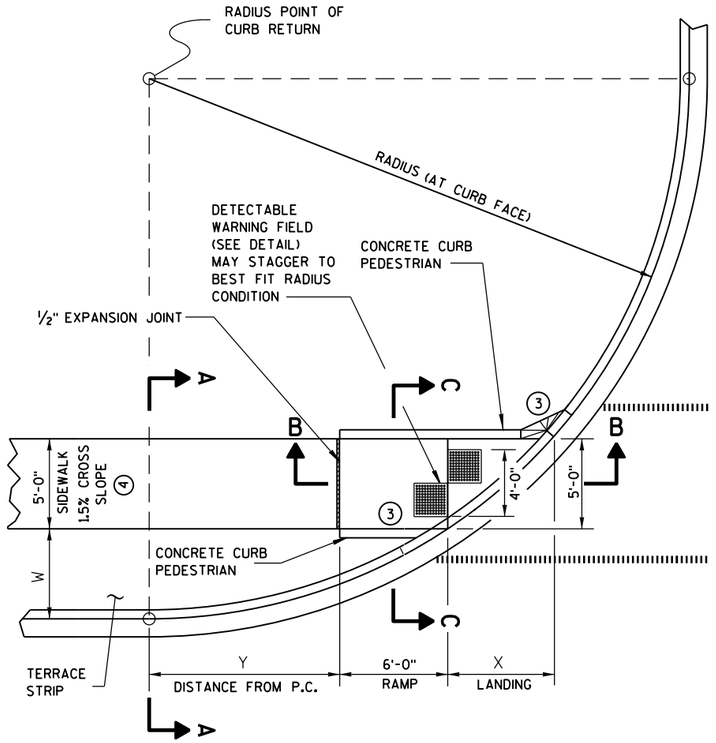
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

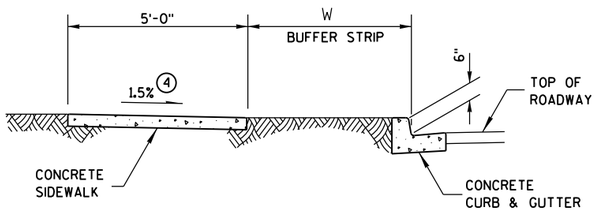
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

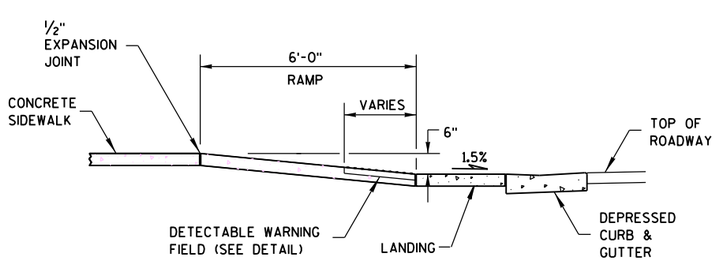
S.D.D. 8 D 5-15c



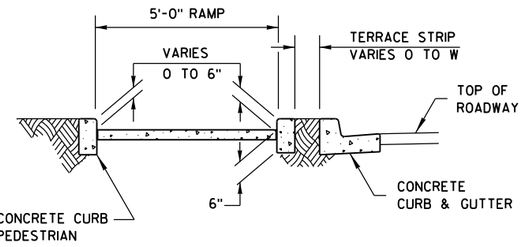
CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



SECTION B-B FOR TYPE 4B



SECTION C-C FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

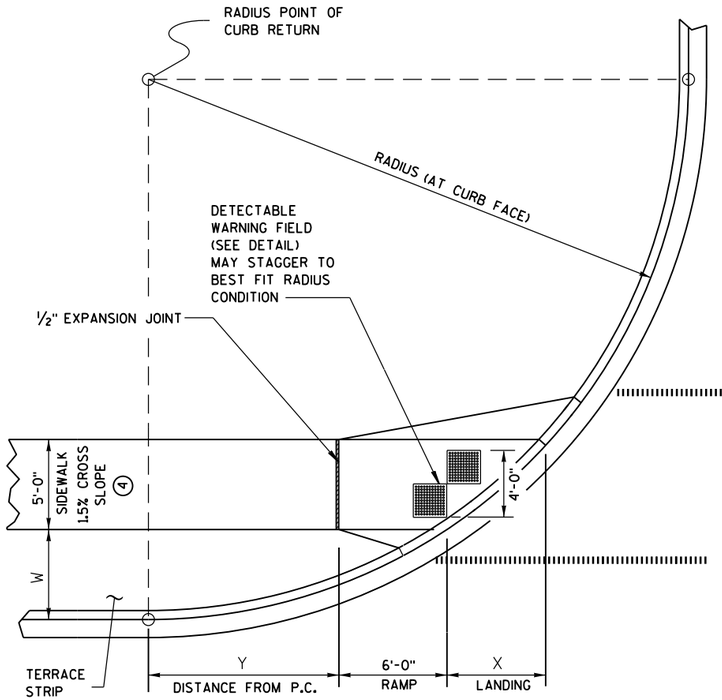
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

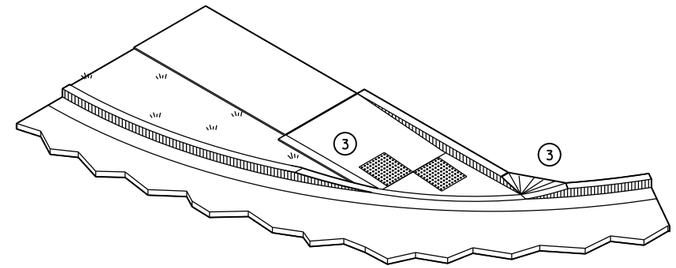
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

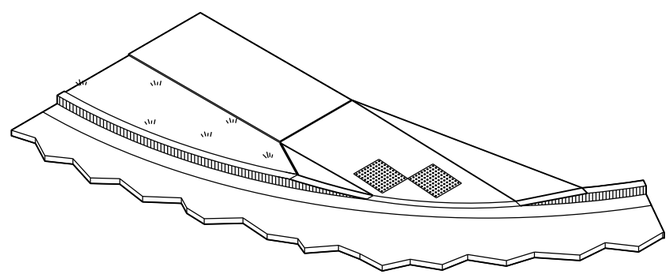
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



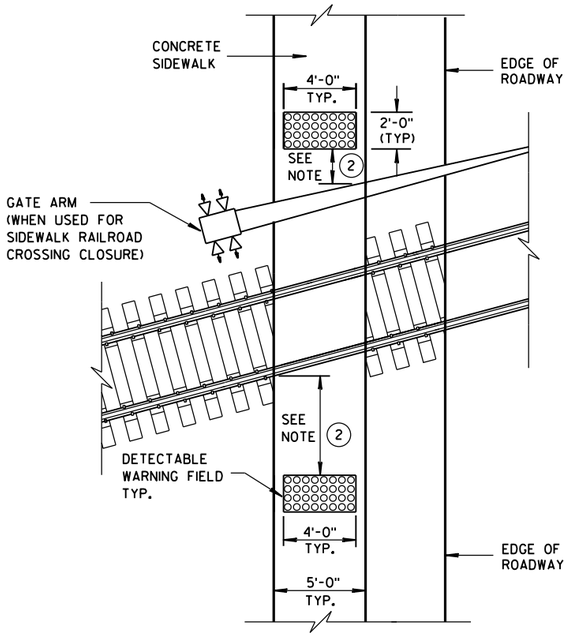
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS TYPE 4B AND 4B1

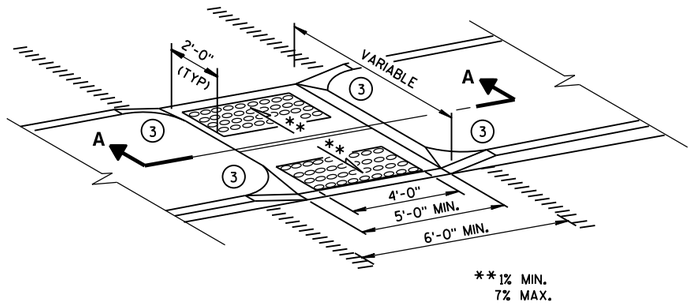
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

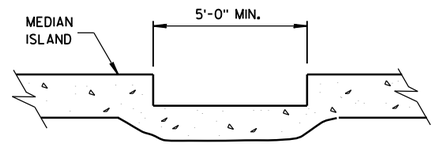
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

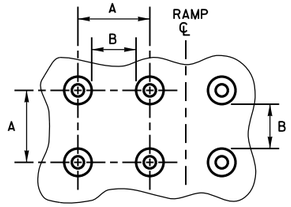
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET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

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

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



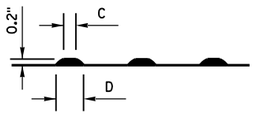
SECTION A-A



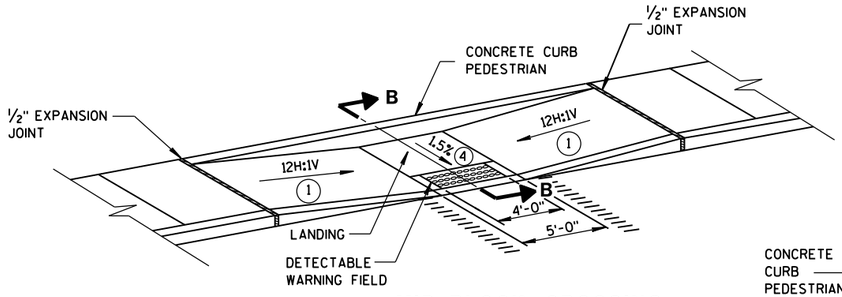
PLAN VIEW

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

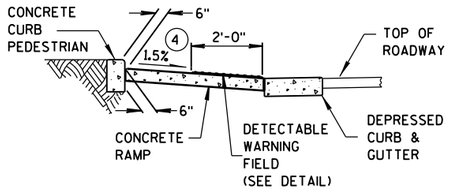
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

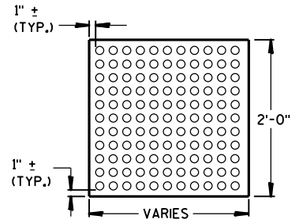


MID-BLOCK CROSSING
TYPE 7A



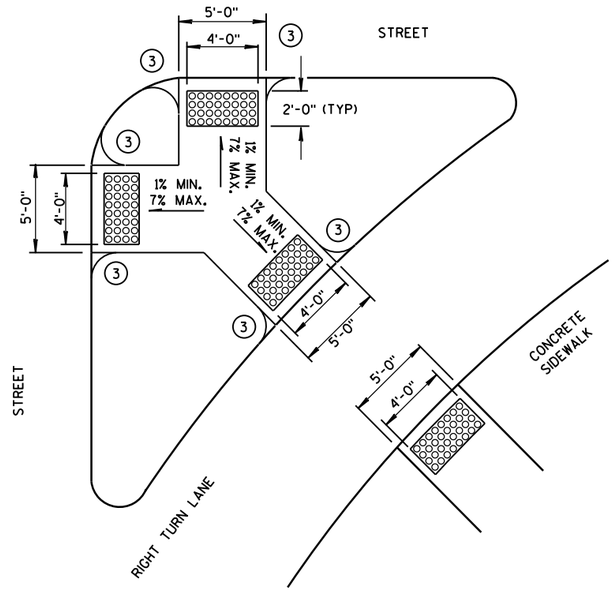
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

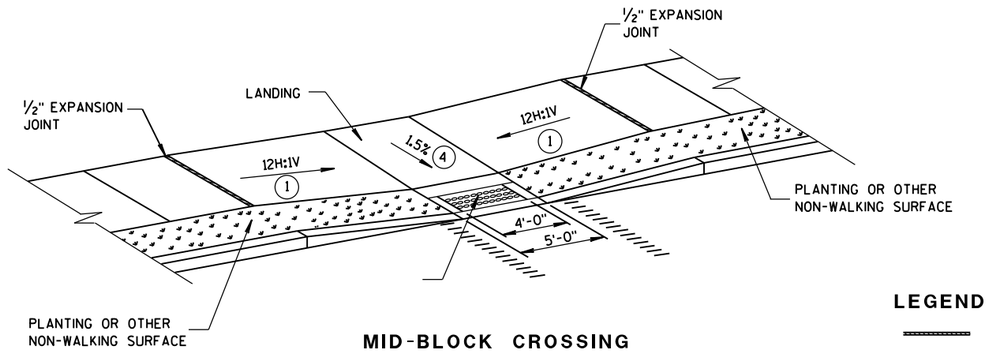


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

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

LEGEND

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

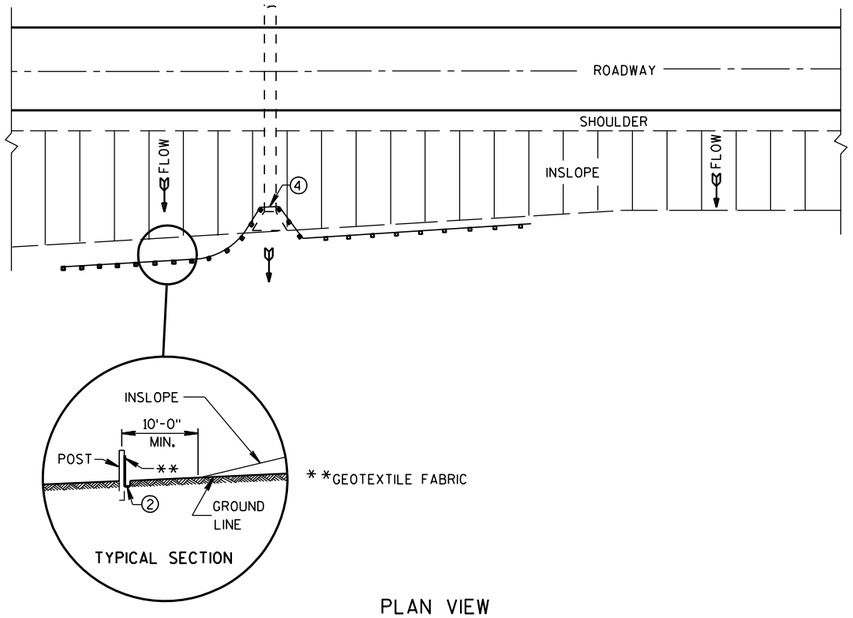
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS [illegible] ENGINEER
FHWA

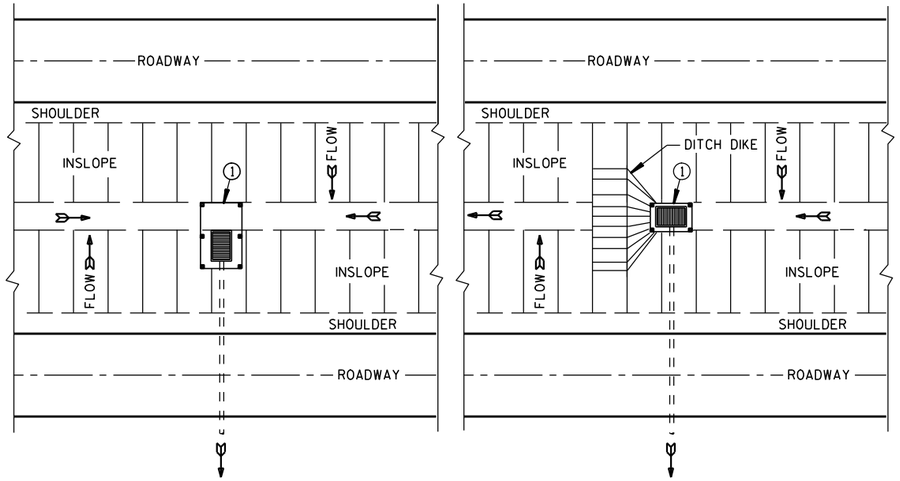
6

S.D.D. 8 D 5-15e



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



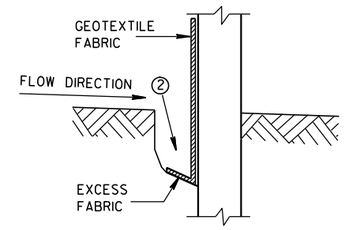
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

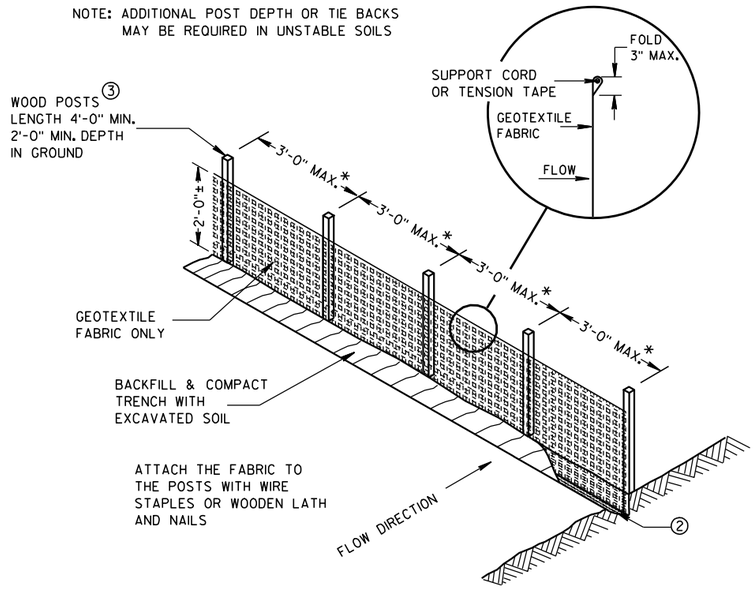
GENERAL NOTES

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

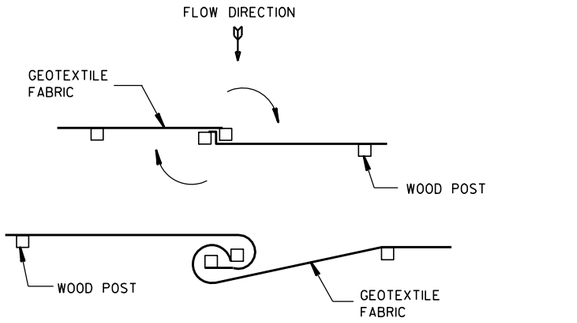
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



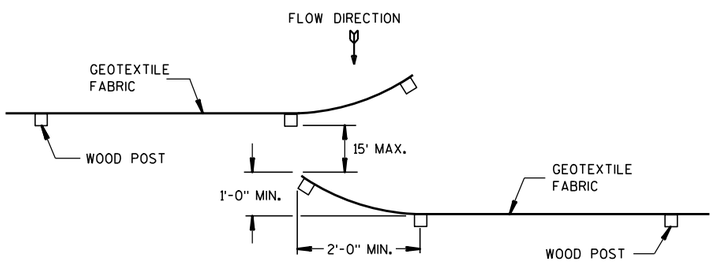
TRENCH DETAIL



SILT FENCE

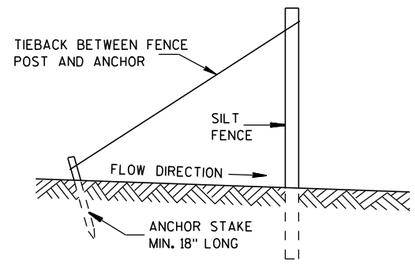


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

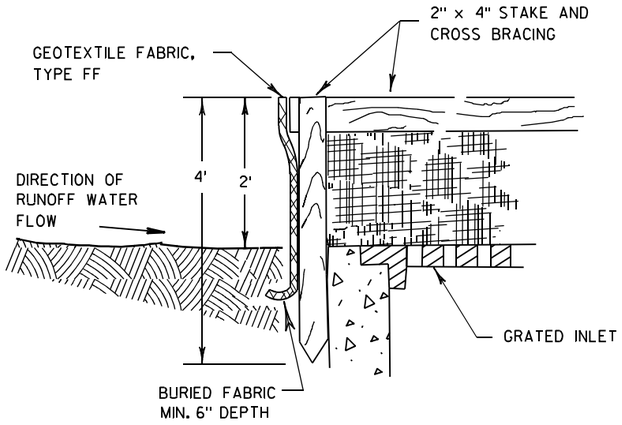
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

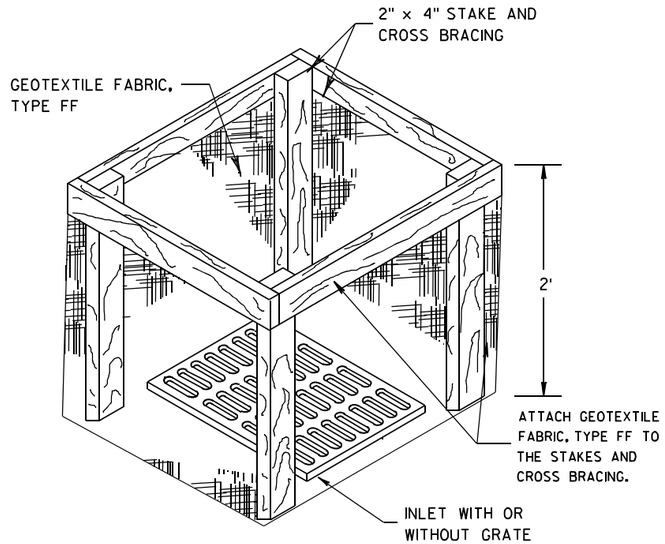
6

S.D.D. 8 E 9-6

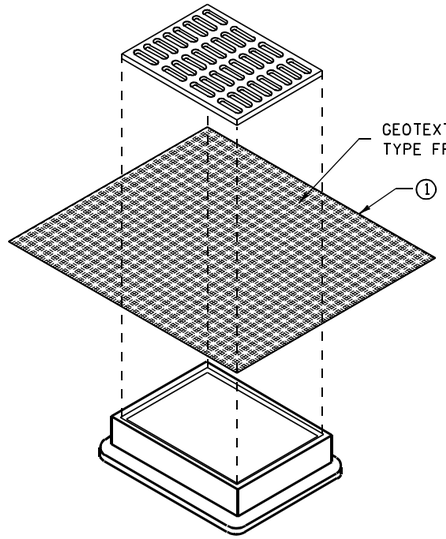
6

S.D.D. 8 E 9-6



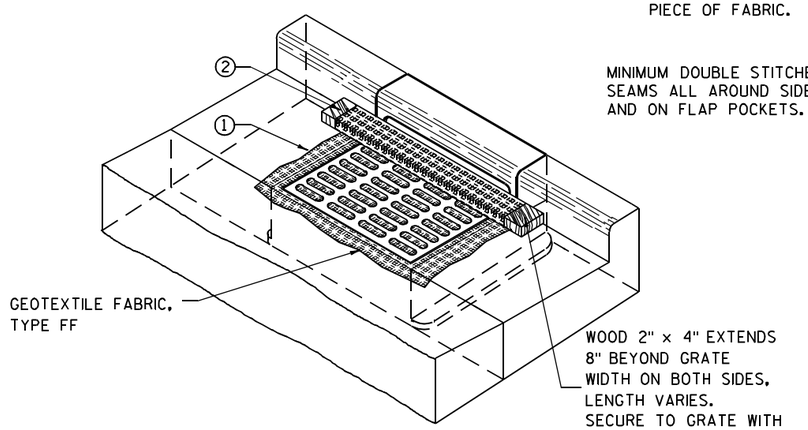


INLET PROTECTION, TYPE A

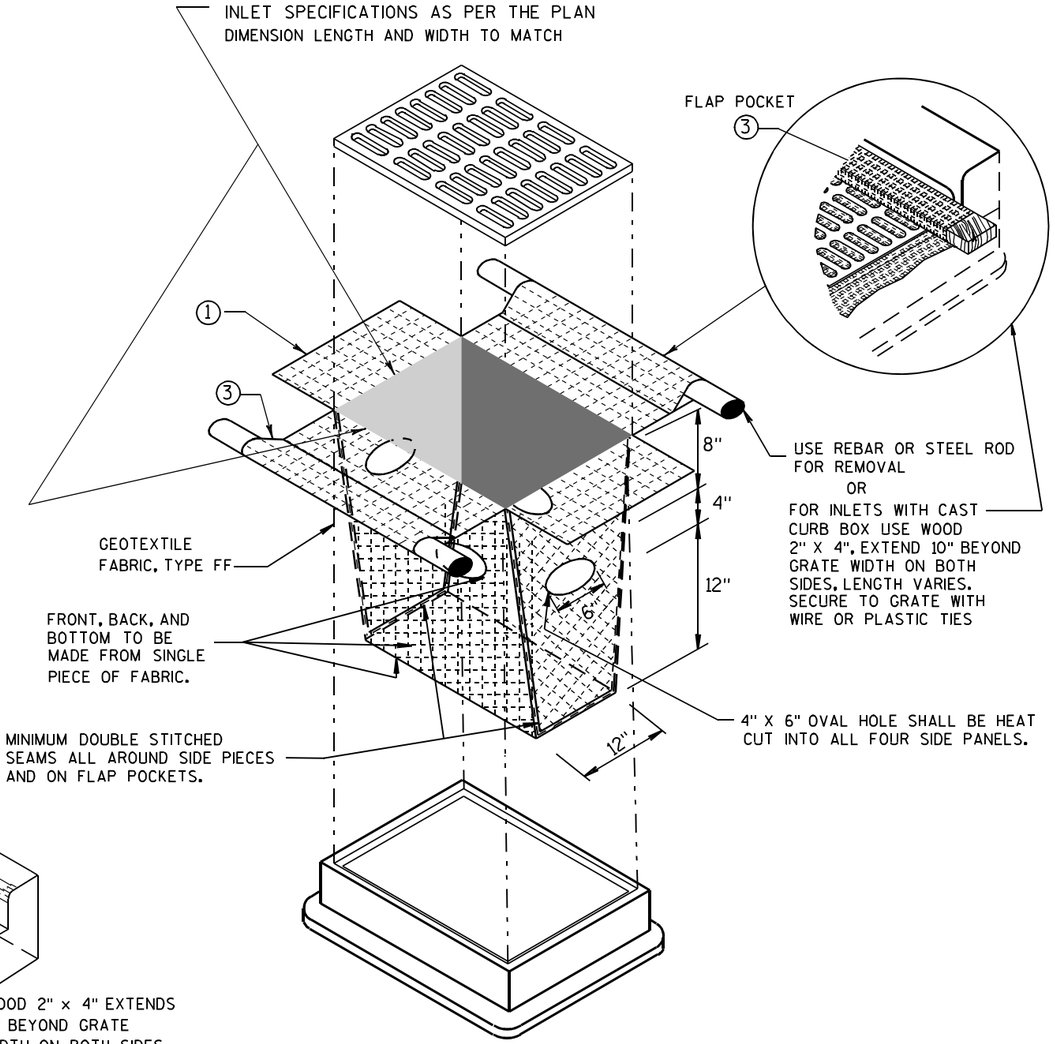


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 8 E 10-2

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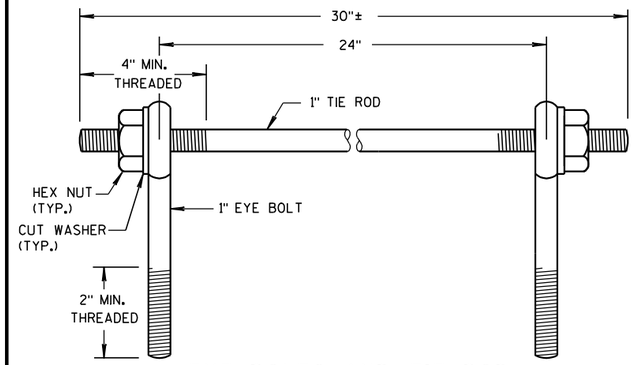
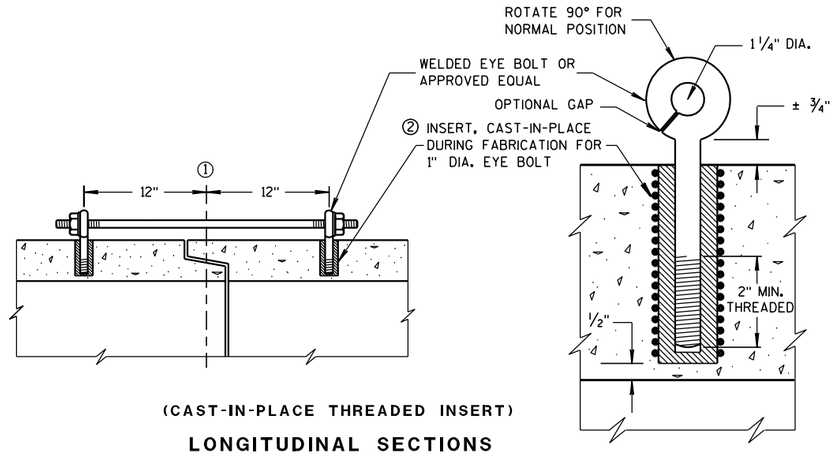
S.D.D. 8 E 10-2



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 ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

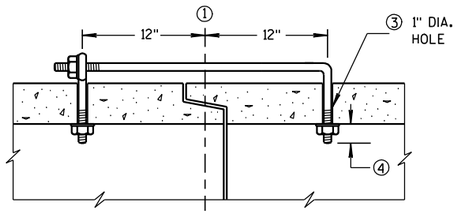
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

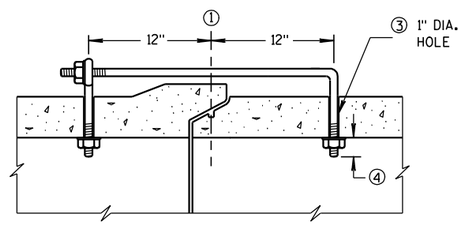
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

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



(TONGUE & GROOVE PIPE)

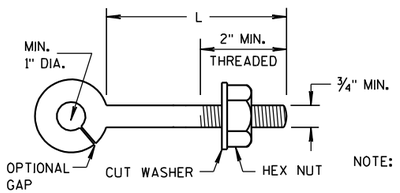


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

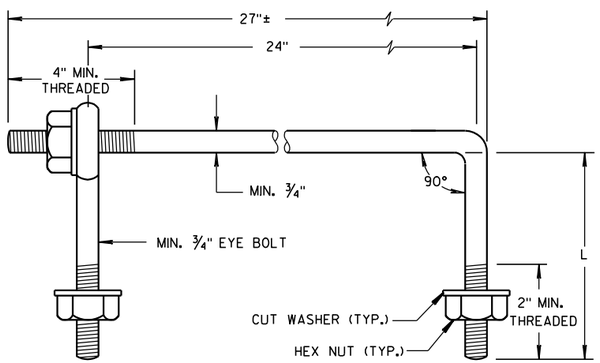
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

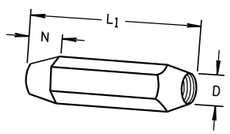
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

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

DIMENSIONS SHOWN ARE IN INCHES



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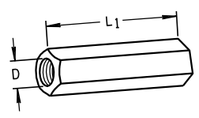
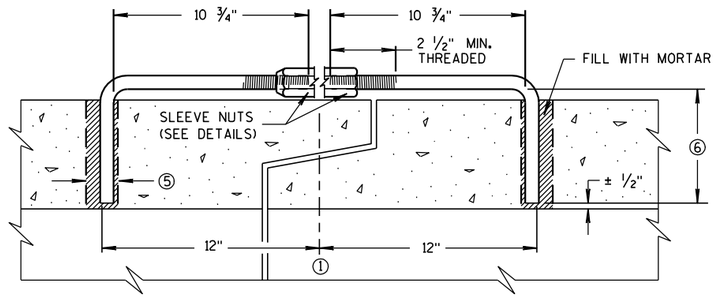


PLAIN

RIGHT AND LEFT THREADS

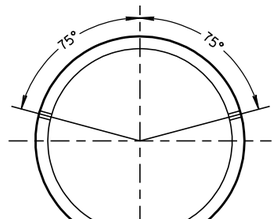
SLEEVE NUTS



LONGITUDINAL SECTION

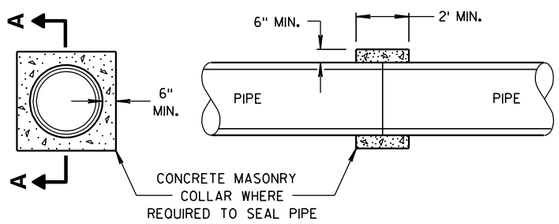
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

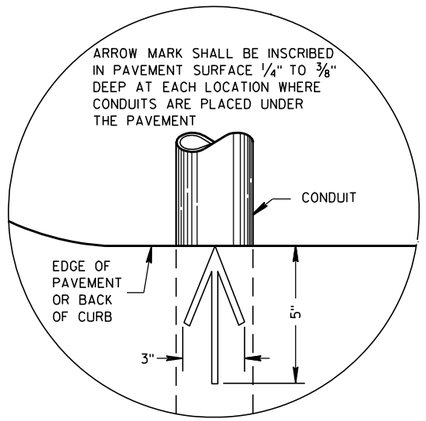
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 8 F 4-7

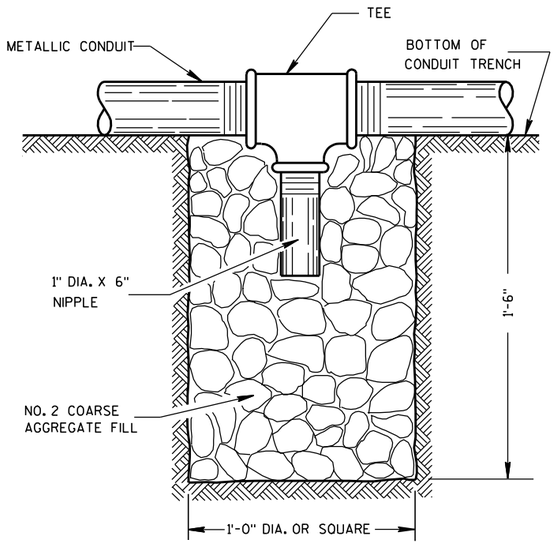
6

S.D.D. 8 F 4-7



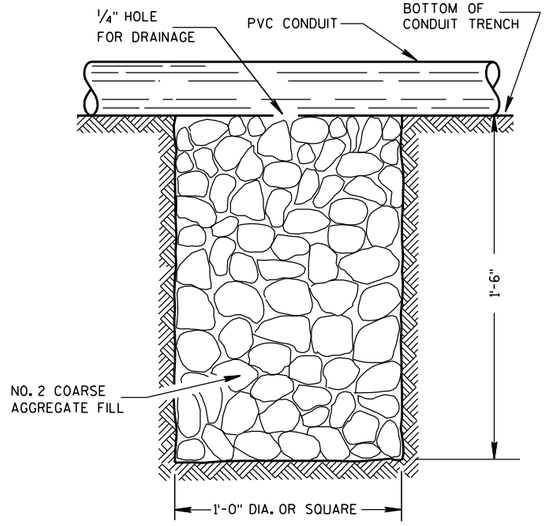
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

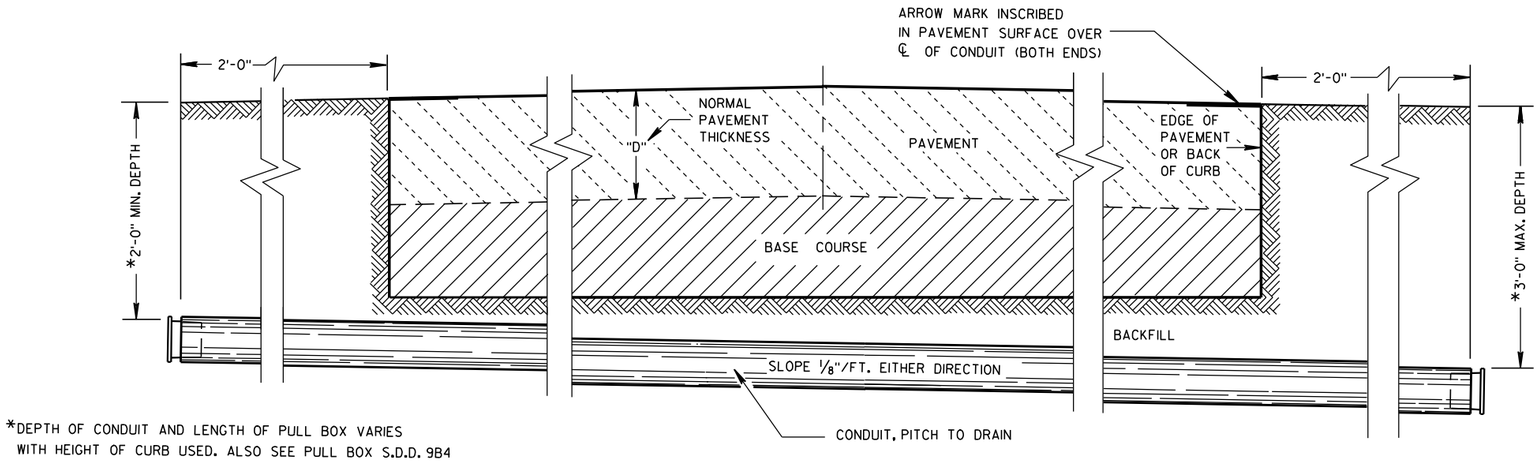
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

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



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

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI

FHWA

HWYS

6

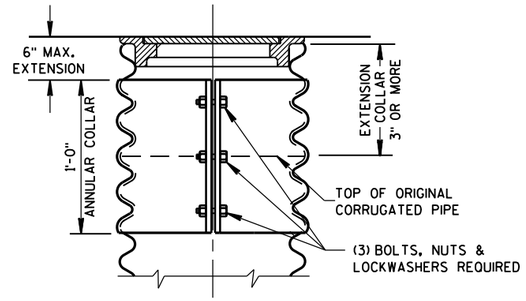
S.D.D. 9 B 2-7

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

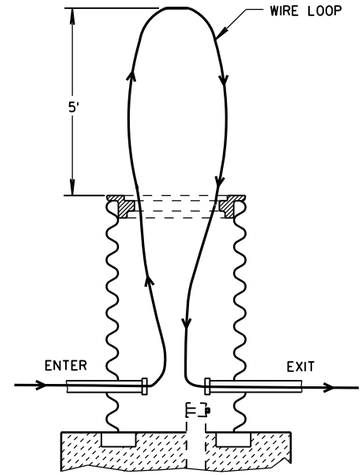
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

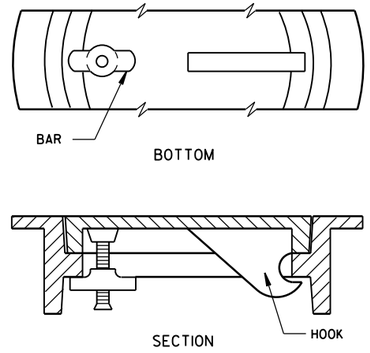
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

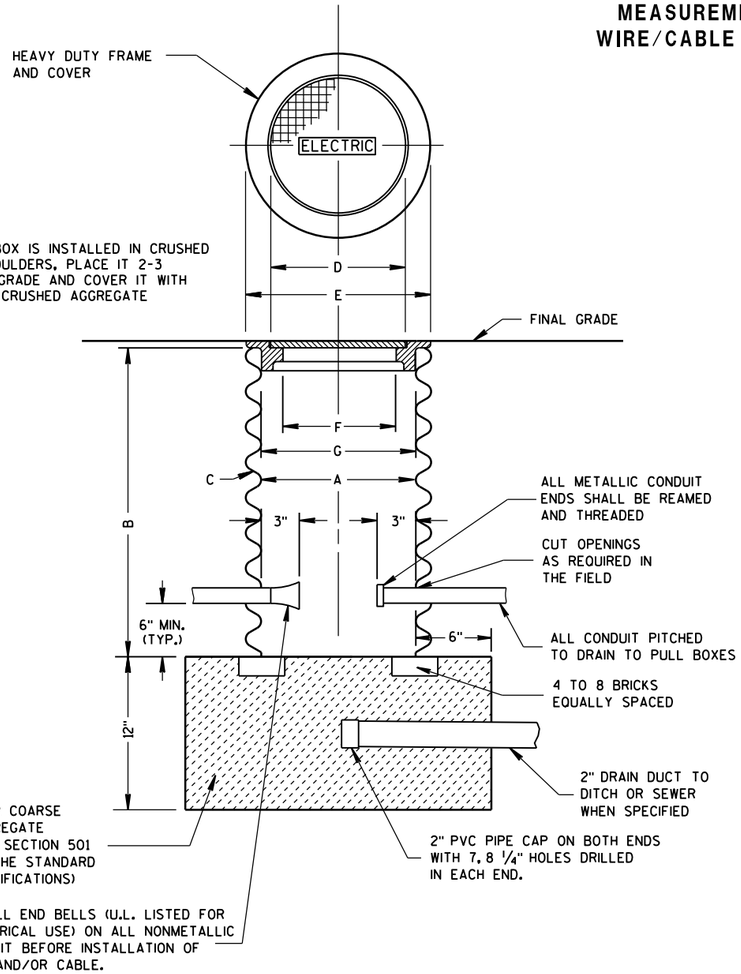


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



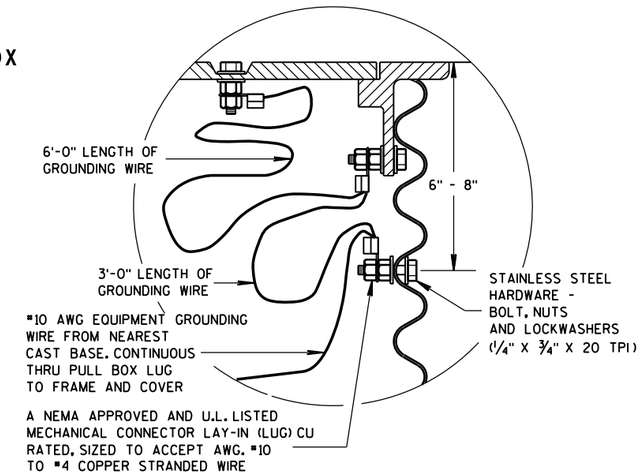
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

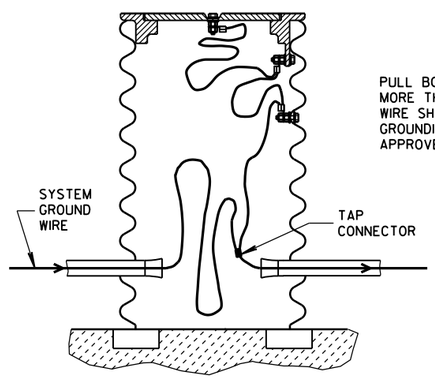


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

PULL BOX	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
2-7-2013 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL
FHWA	

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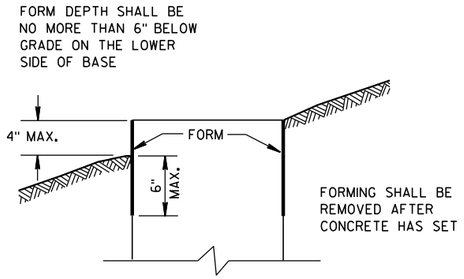
S.D.D. 9 B 4-10



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

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

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

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

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

GENERAL NOTES (CONTINUED)

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

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

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

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2 AND TYPE 5 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

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

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

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

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

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

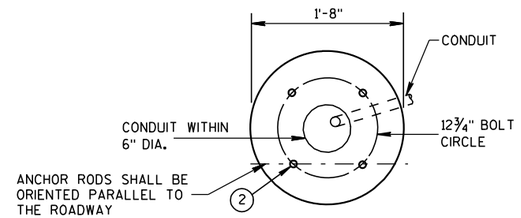
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

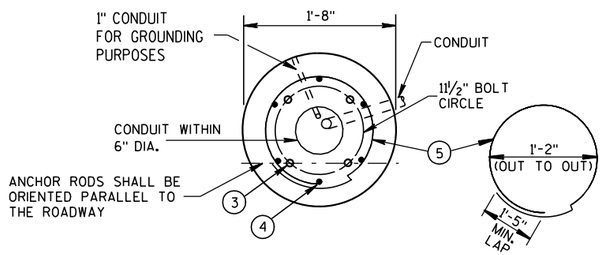
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

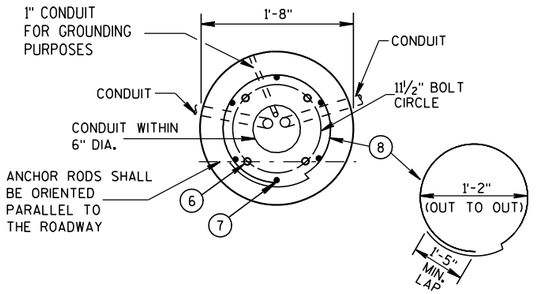
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



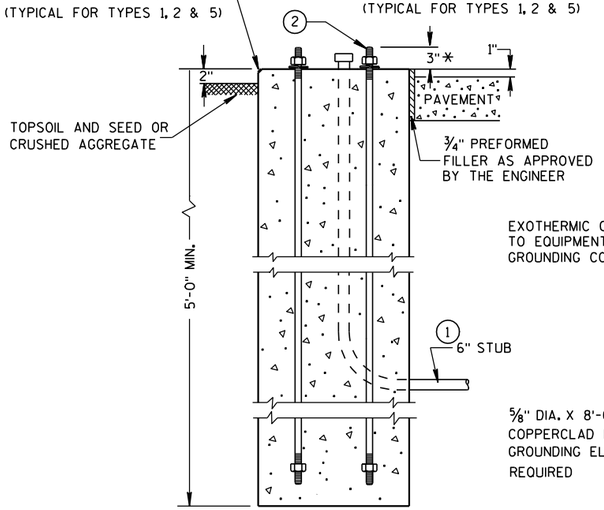




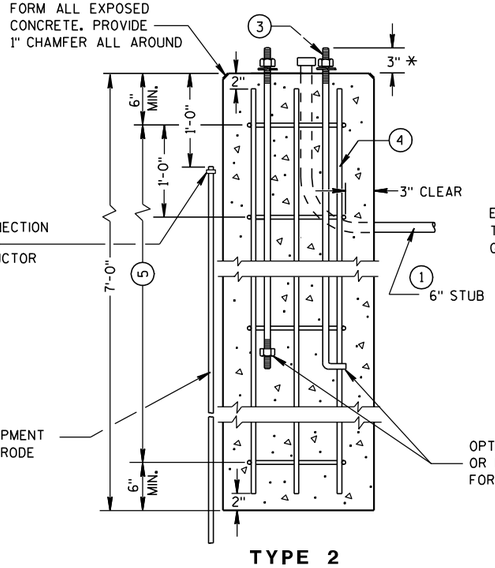
FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2 & 5)

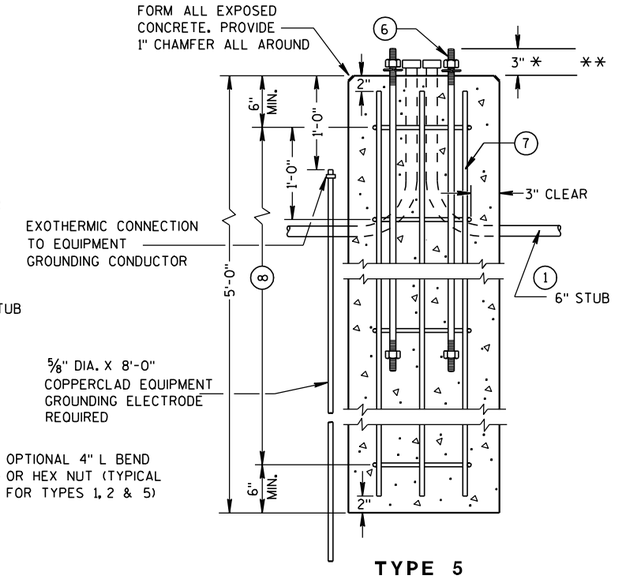
HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2 & 5)



TYPE 1



TYPE 2



TYPE 5

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2 & 5

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/3/10 — DATE
/S/ Joanna L. Rush — STATE ELECTRICAL ENGI
74
HWYS
FHWA

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S.D.D. 9 C 2-6

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S.D.D. 9 C 2-6

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-325, (92,000 YIELD) HEAVY HEX NUT AND BE GALVANIZED IN ACCORDANCE WITH ASTM A-153, CLASS C.

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 AND U.L. LISTED MECHANICAL CONNECTOR (LUG) AL/CU RATED AND SIZED TO ACCEPT #10 AWG STRANDED WIRE, SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

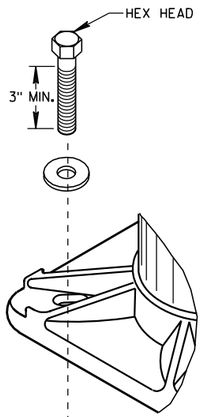
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

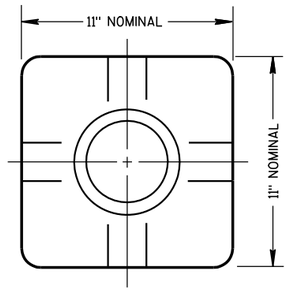
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

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

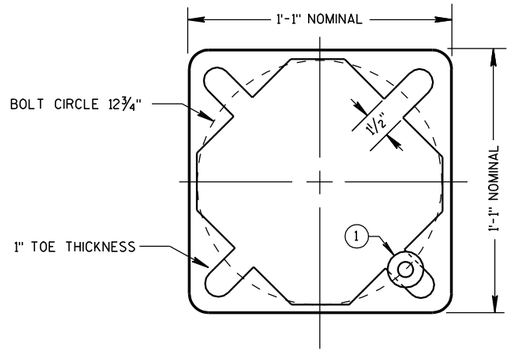
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1½", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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

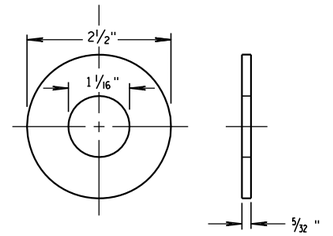




TOP VIEW
(PEDESTAL BASE)

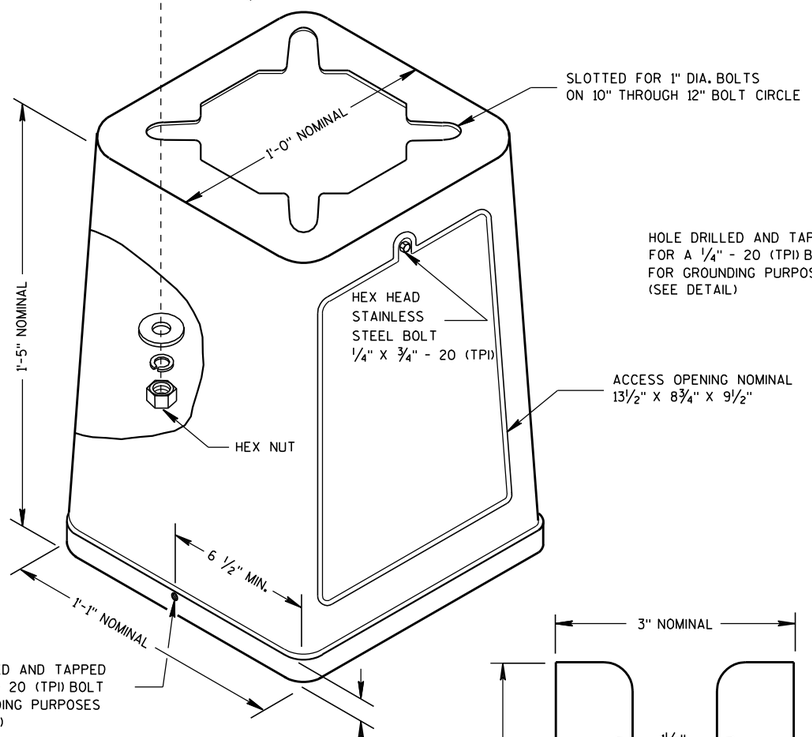


BOTTOM VIEW
(PEDESTAL BASE)

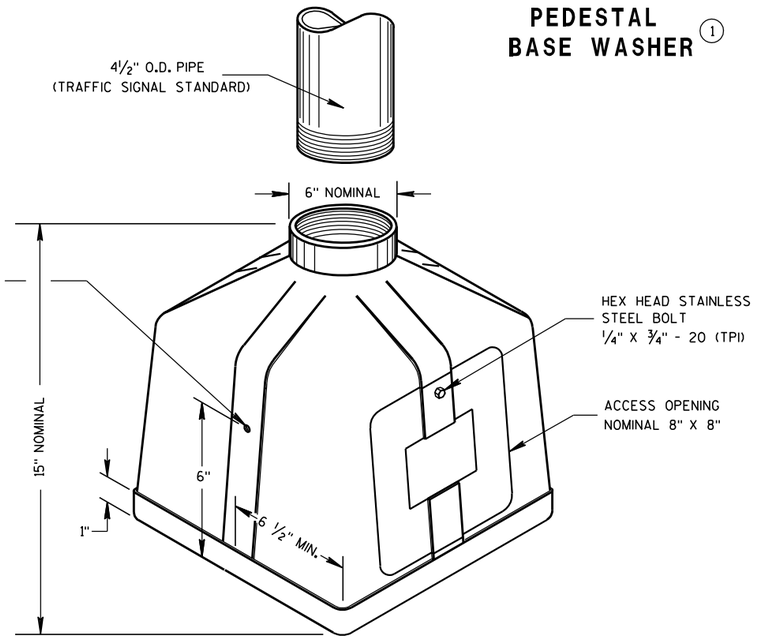


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

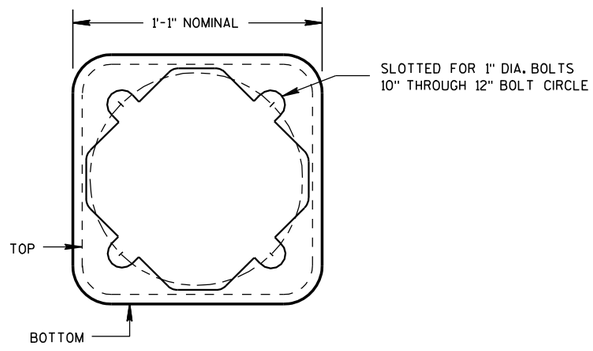


ISOMETRIC VIEW

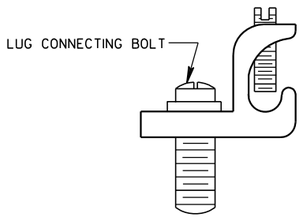


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

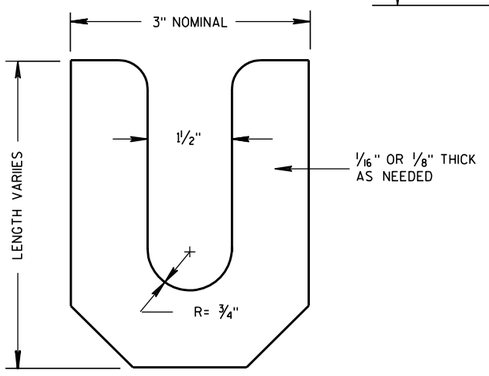


TYPICAL MECHANICAL CONNECTOR LUG

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
10/27/09 — DATE
/S/ Joanna L. [illegible] — STATE ELECTRICAL ENGI
75 — HWYS
FHWA

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S.D.D. 9 C 3-3

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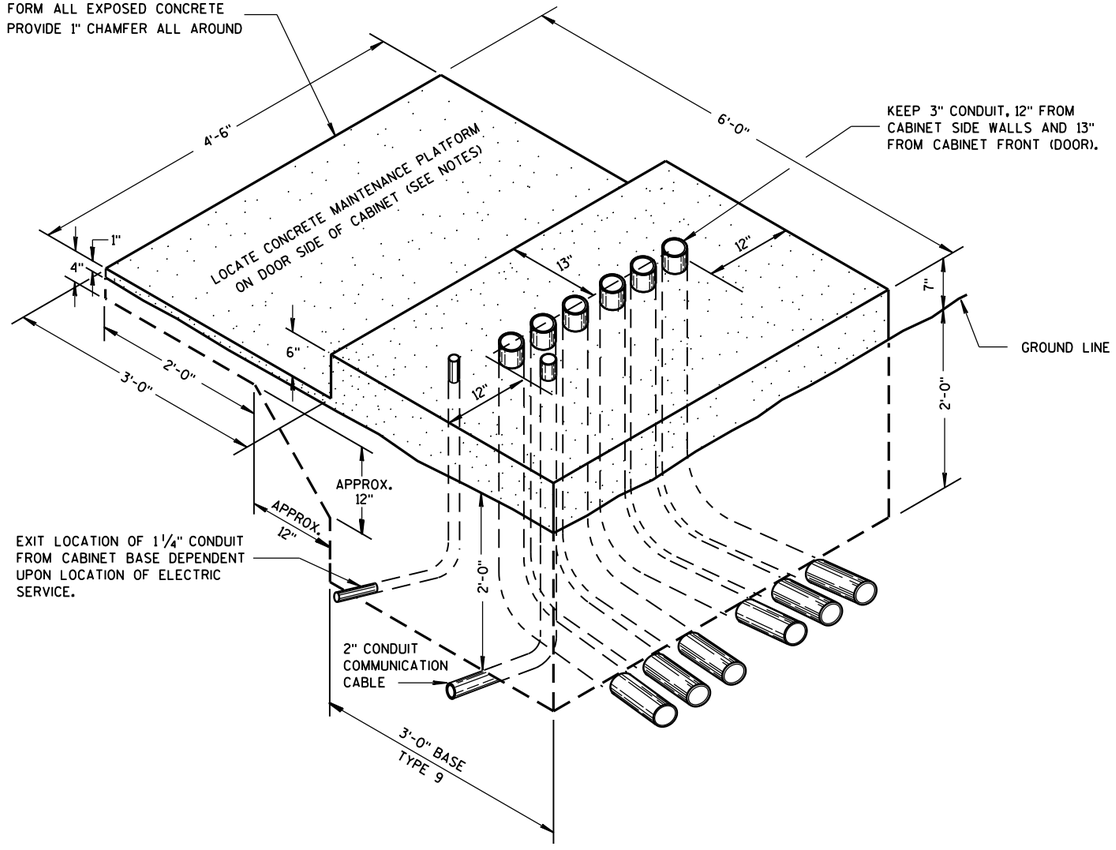
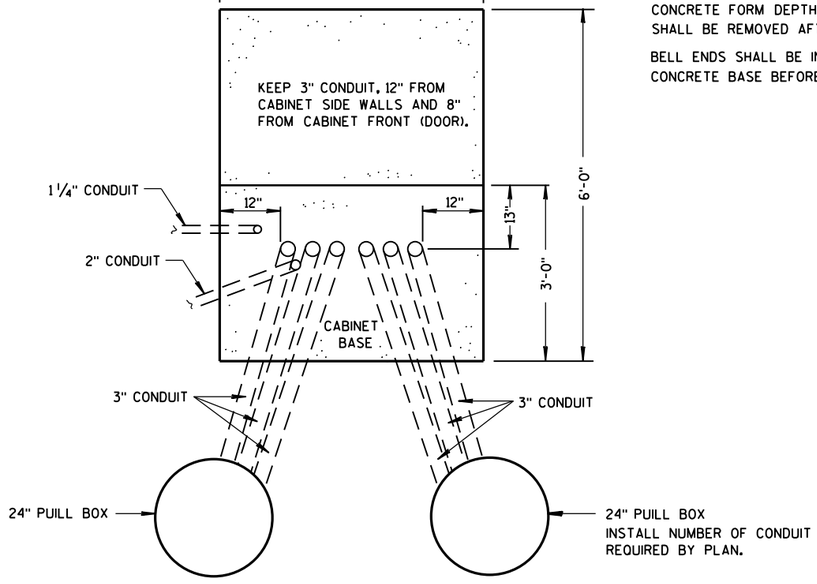
S.D.D. 9 C 3-3



ISOMETRIC VIEW

TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

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

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

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

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

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

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

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

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/26/2013
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

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

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

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

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

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

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

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

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

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

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

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

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

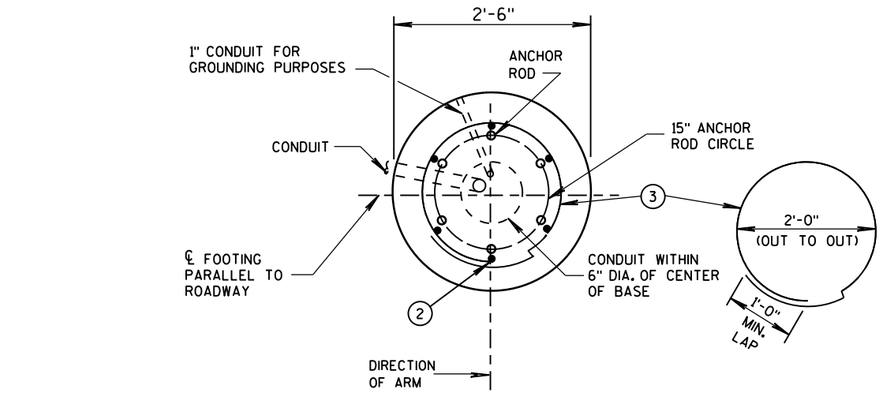
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

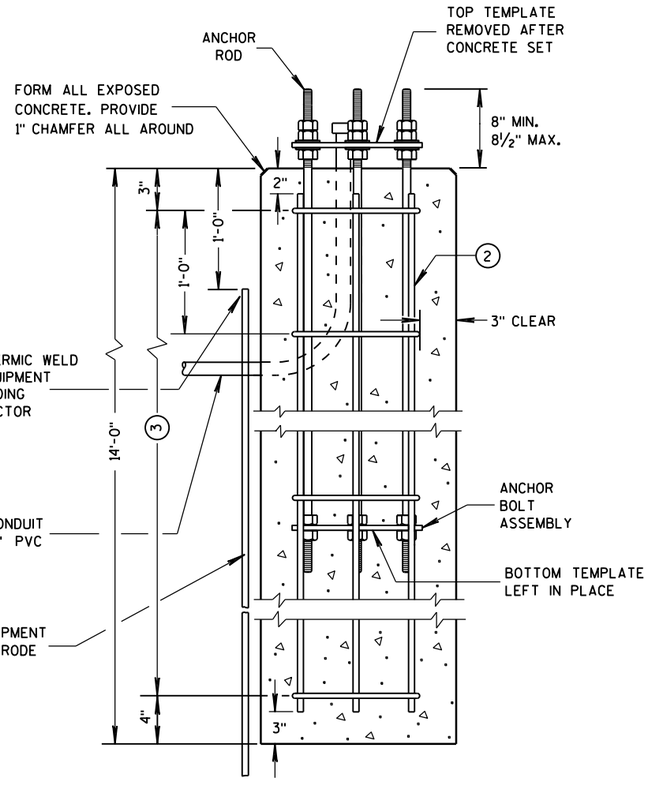
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES, (GREATER THAN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

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

(3) (15) NO. 4 X 7'-4" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

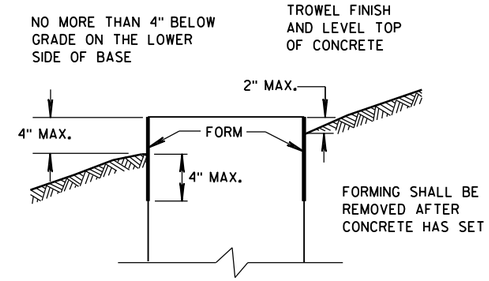
CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM, A709 GRADE 36	fy=36,000 p.s.i.



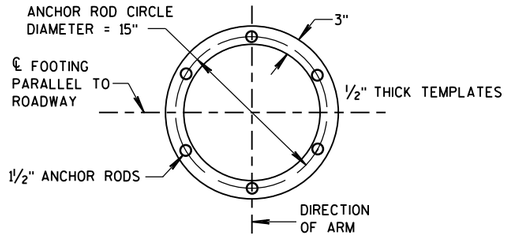


CONCRETE BASE TYPE 10
(FOR TYPE 9 & 10 POLES)

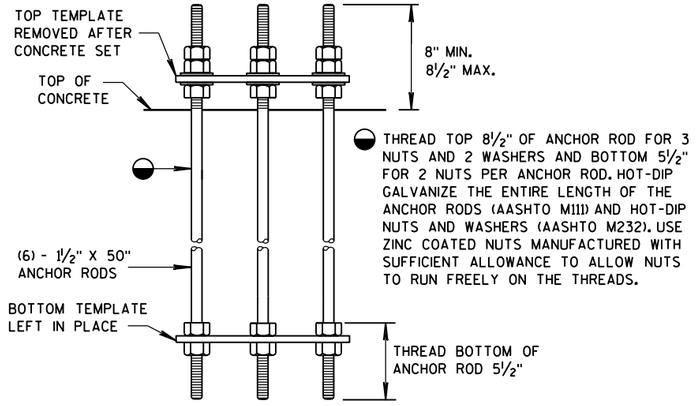
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.



FORMING DETAIL



TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 10
ANCHOR ASSEMBLY

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	2.5
LBS. OF HOOP BAR STEEL	69
LBS. OF VERTICAL BAR STEEL	122

CONCRETE BASE TYPE 10

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-26-2013
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

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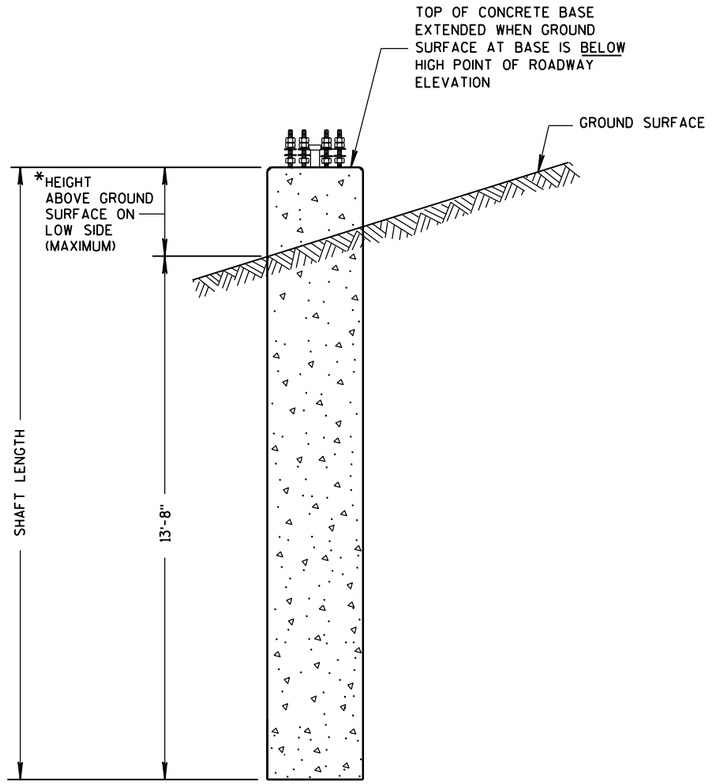
REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 10 CONCRETE BASE

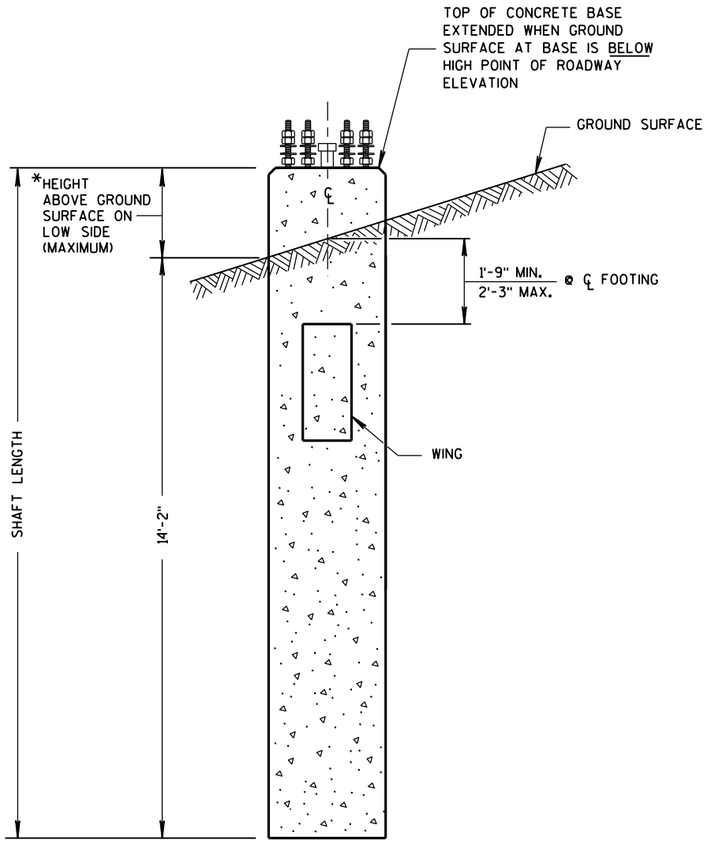
HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF HOOP BAR STEEL	LBS. OF VERTICAL BAR STEEL
>0" TO 6"	10"	14'-6"	14'-1"	16	2.6	78	127
>6" TO 1'-0"	1'-4"	15'-0"	14'-7"	16	2.7	78	131
>1'-0" TO 1'-6"	1'-10"	15'-6"	15'-1"	17	2.8	83	136
>1'-6" TO 2'-0"	2'-4"	16'-0"	15'-7"	17	2.9	83	141



CONCRETE BASE TYPE 10 (EXTENDED)

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 13 CONCRETE BASE

HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF H.S. BAR STEEL
>0" TO 6"	10"	15'-0"	14'-7"	16	6.5	447
>6" TO 1'-0"	1'-4"	15'-6"	15'-1"	16	6.6	454
>1'-0" TO 1'-6"	1'-10"	16'-0"	15'-7"	17	6.8	469
>1'-6" TO 2'-0"	2'-4"	16'-6"	16'-1"	17	7.0	476



CONCRETE BASE TYPE 13 (EXTENDED)

CONCRETE BASE
TYPE 10 & TYPE 13 EXTENSION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-26-2013 DATE
/S/ Ahmet Demirbilek
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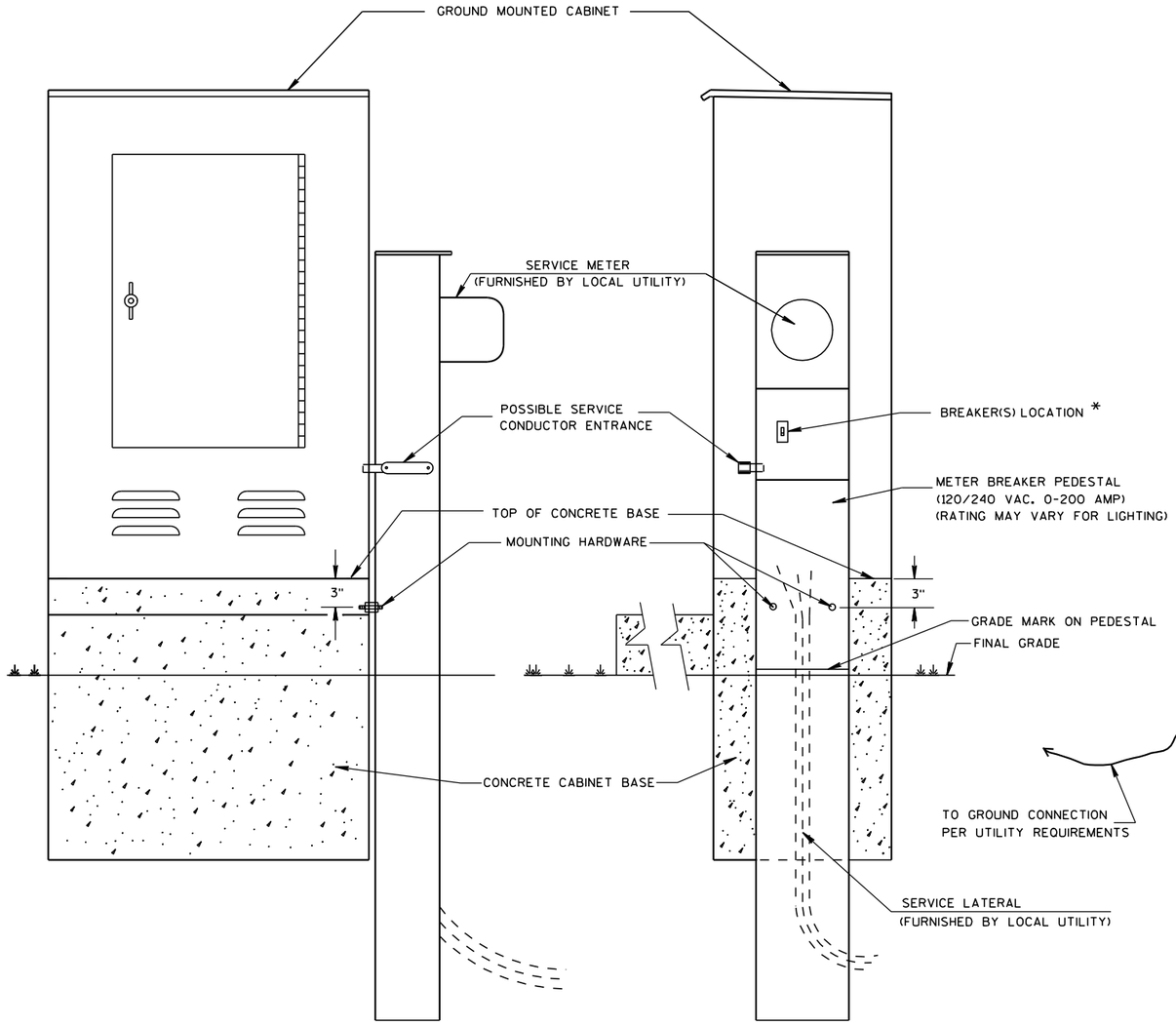

TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/27/09 DATE
/S/ Joanna L. Bush STATE ELECTRICAL ENGI
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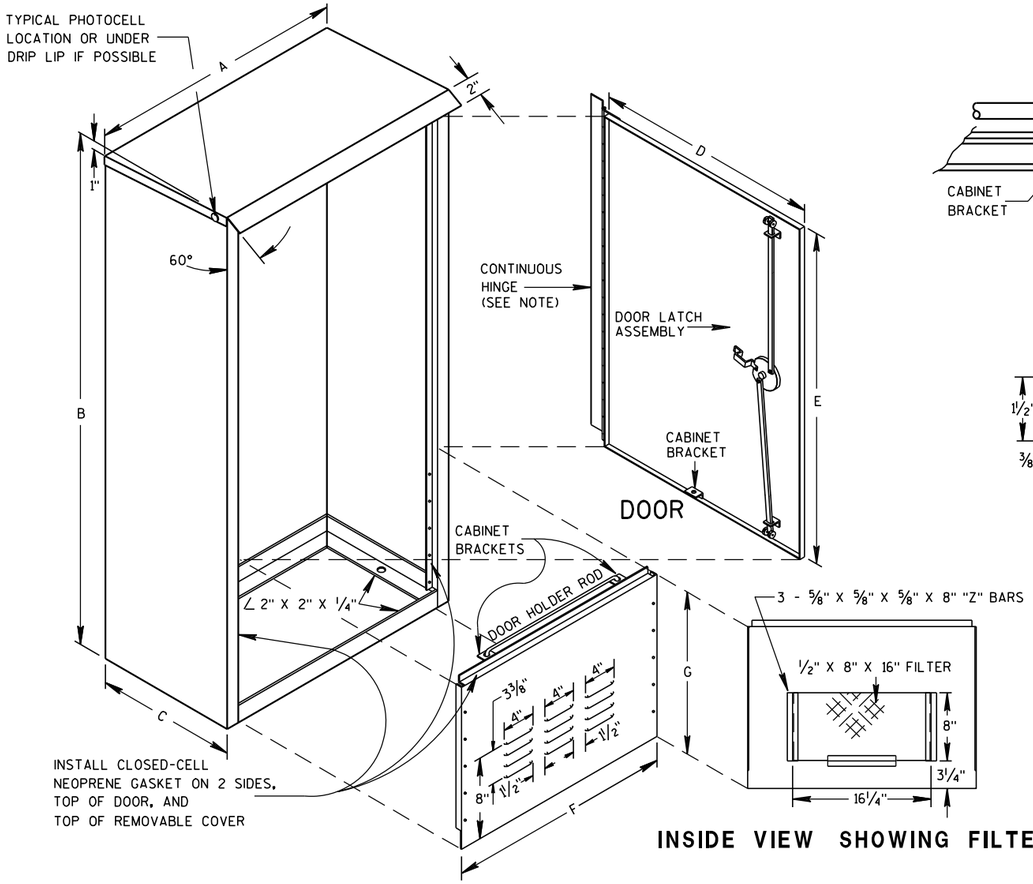
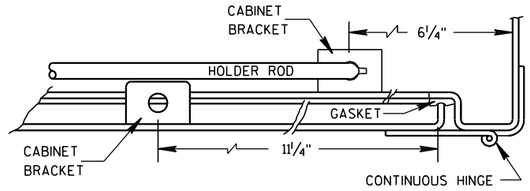
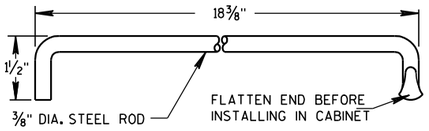


REMOVABLE COVER

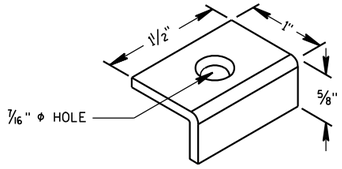
INSIDE VIEW SHOWING FILTER



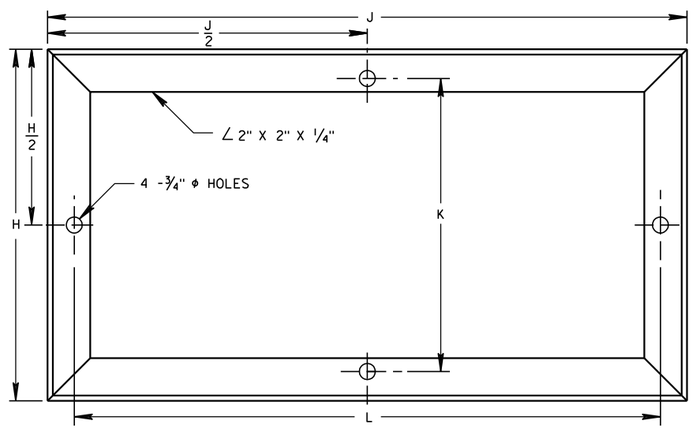
HINGE & DOOR HOLDER



HOLDER ROD



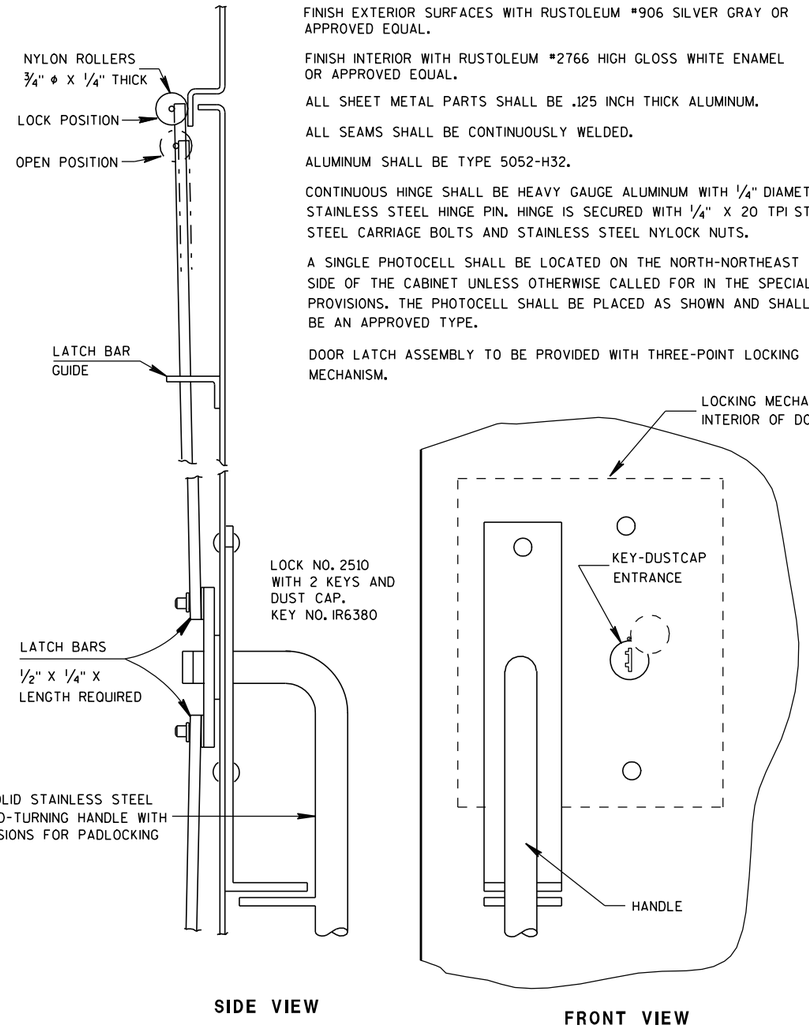
CABINET BRACKET



MOUNTING BASE

TABLE OF DIMENSIONS (INCHES)

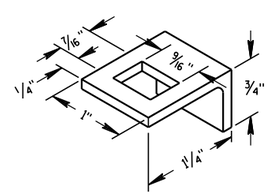
MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2



SIDE VIEW

FRONT VIEW

LATCH ASSEMBLY



LATCH BAR GUIDE

GENERAL NOTES

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

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH 1/4" DIAMETER STAINLESS STEEL HINGE PIN. HINGE IS SECURED WITH 1/4" X 20 TPI STAINLESS STEEL CARRIAGE BOLTS AND STAINLESS STEEL NYLOCK NUTS.

A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE AN APPROVED TYPE.

DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.

SIGNAL OR LIGHTING CONTROL CABINET

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/21/96 — DATE
/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI
HWYS
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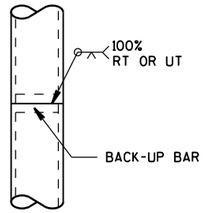
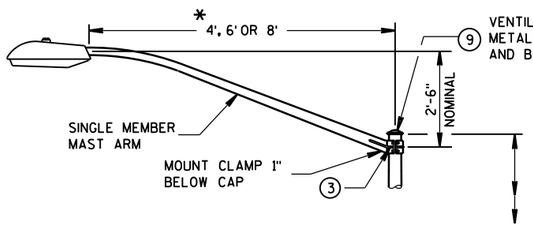
FOR MANUFACTURERS USE ONLY

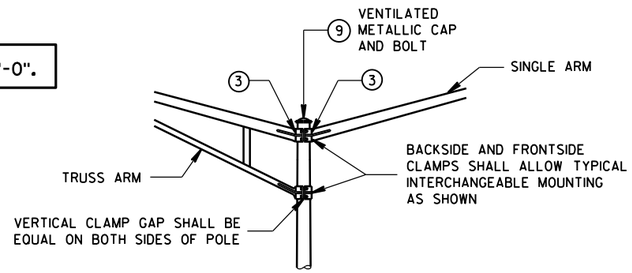
WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN/BRIDGE FOR VERIFICATION AND APPROVAL.

*RISE FOR 4' ARM SHALL BE 2'-0".





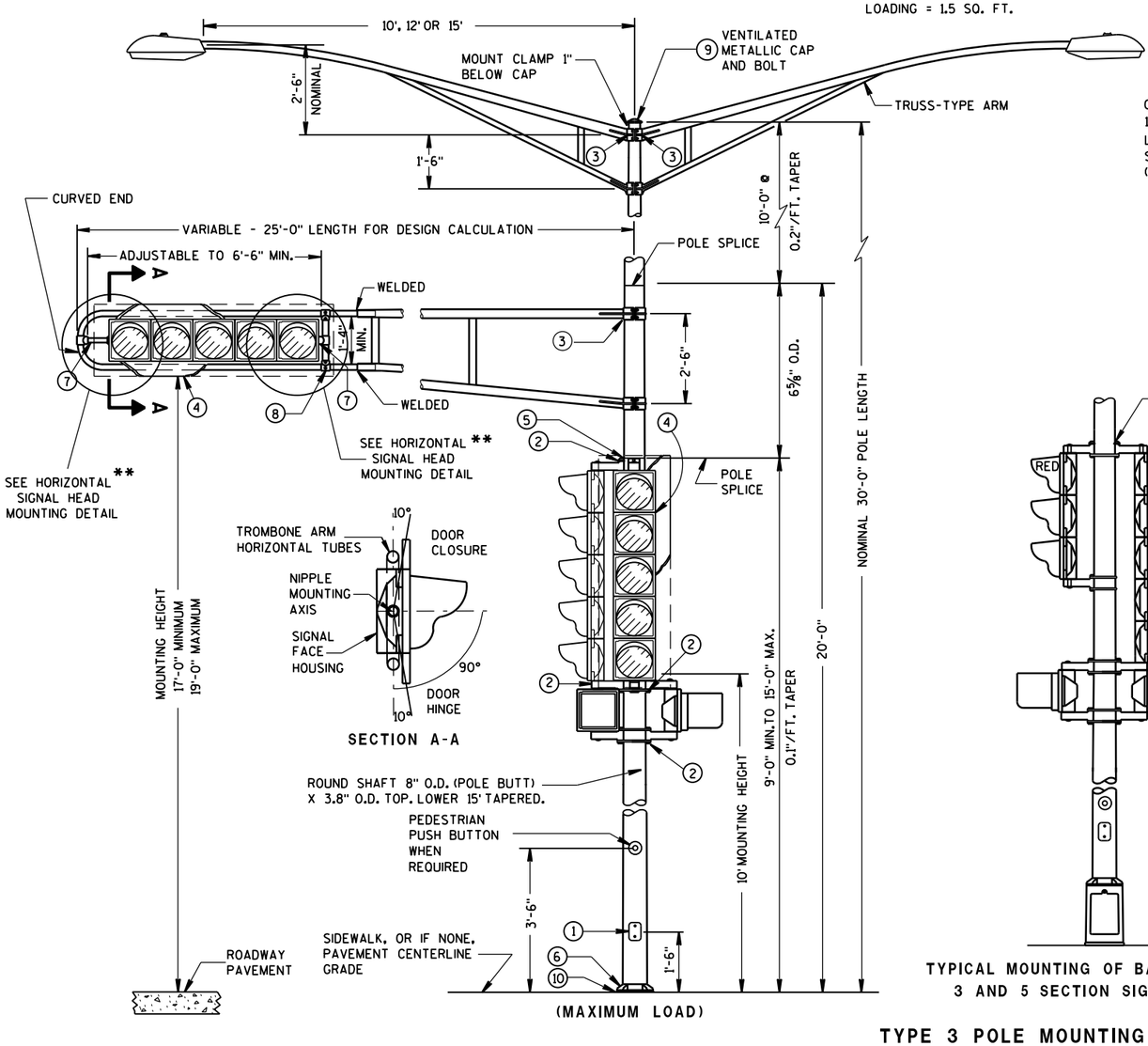
POLE SPLICE DETAIL

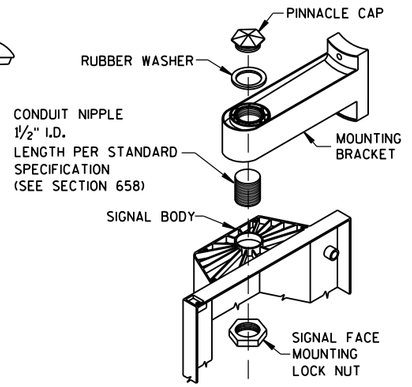


INTERCHANGEABLE MOUNTING DETAIL

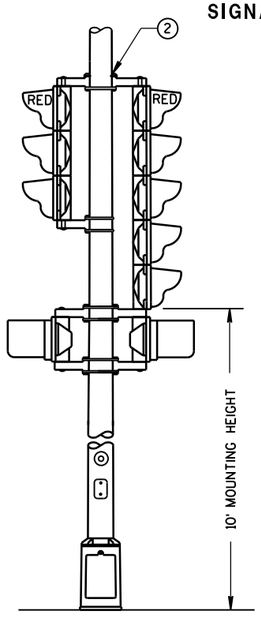
LUMINAIRE

WT. - 50 LBS.
EFFECTIVE PROJECTED
AREA FOR WIND
LOADING = 1.5 SQ. FT.

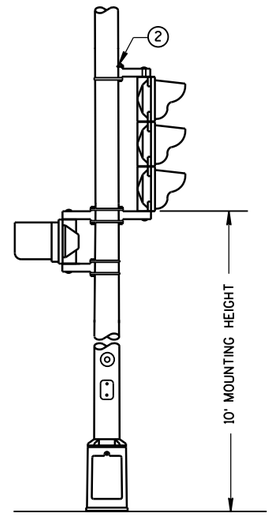




SIGNAL FACE MOUNTING DETAIL
(BANDED)



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



TYPICAL MOUNTING OF 3 SECTION
SIGNAL FACE

GENERAL NOTES

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

ALL TYPE 3 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL.

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

A PULL WIRE/ROPE IN ACCORDANCE WITH STANDARD SPECIFICATION 652, SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE 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 & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) SIGNAL FACE MOUNTING BRACKETS, MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS - SEC. 658)

(3) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" 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 1 OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.

(6) TYPE 3 POLE CONFIGURATIONS SHALL BE MOUNTED DIRECTLY TO THEIR CONCRETE BASES.

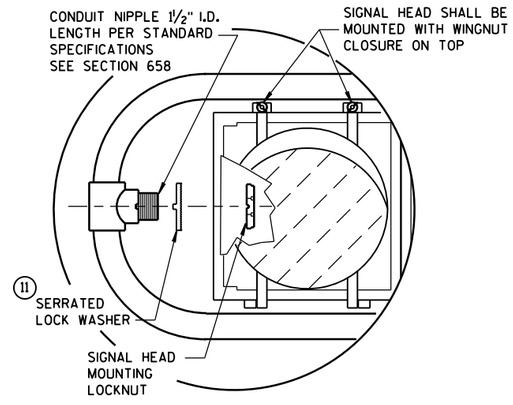
(7) MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE(S) SHALL BE 2 INCHES IN LENGTH AND 1½ INCHES IN DIAMETER. (SEE STANDARD SPECIFICATION - SECTION 658)

(8) VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (1/4 " X ¾" -20 TPI, STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.

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

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

(11) USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.



HORIZONTAL SIGNAL HEAD MOUNTING DETAIL**

** SIGNAL HEAD ATTACHMENT ALSO APPLYS TO MOUNTING AT CROSS BAR

TYPE 3 POLE MOUNTING CONFIGURATION

POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3 (HEAVY DUTY)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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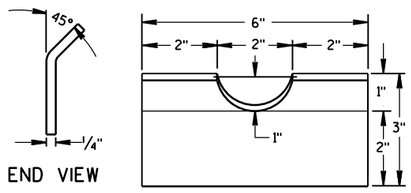
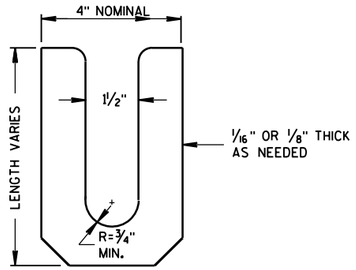


END VIEW

FRONT VIEW

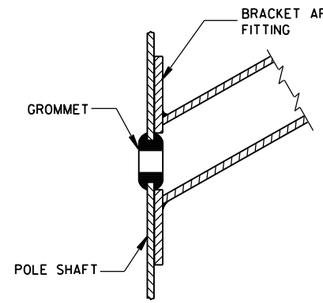
RECTANGULAR CLAMP SHIM

(4 TO A SET)

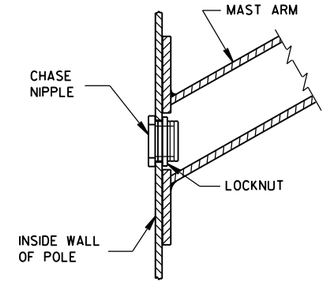


LEVELING SHIM (15)

SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

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

(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

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

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

(13) OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)
(6.625" O.D. FOR TROMBONE MAST ARM)

(14) VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")

SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.25", 0.35", 0.53" OR 0.70".

SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10", 0.25" OR 0.35".

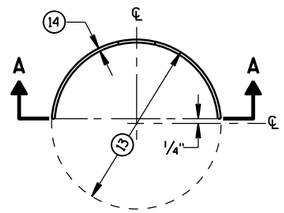
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.

SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS SHALL BE 1/4" HIGH AND LEGIBLE.

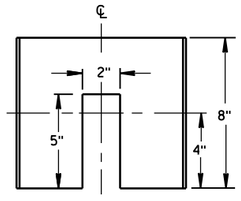
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.

(15) 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.



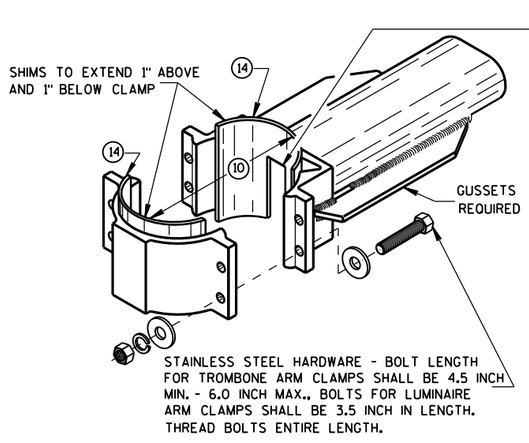
PLAN VIEW



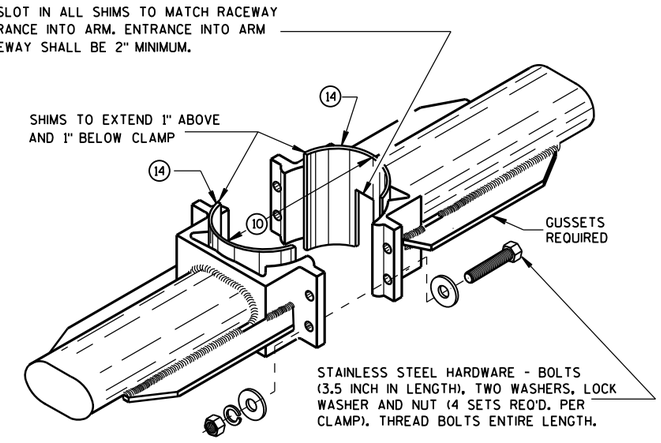
SECTION A-A

CIRCULAR CLAMP SHIM

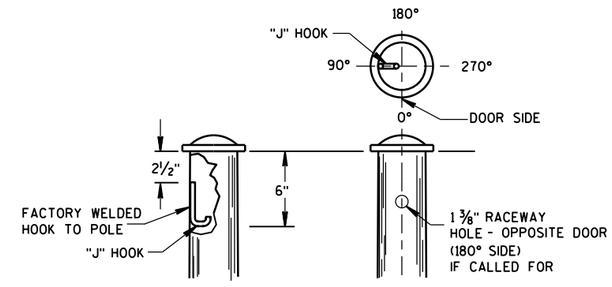
(2 TO A SET)



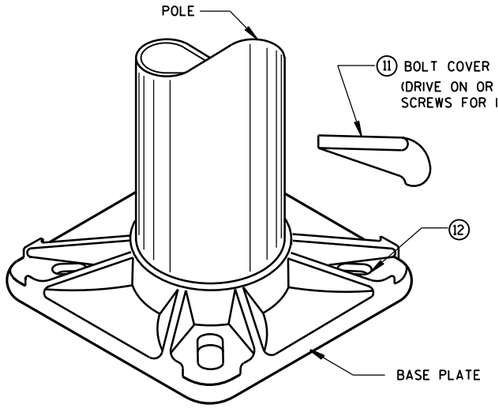
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



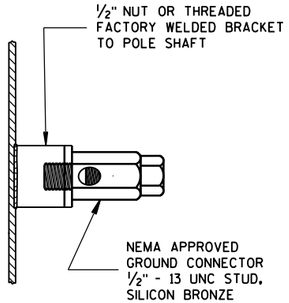
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

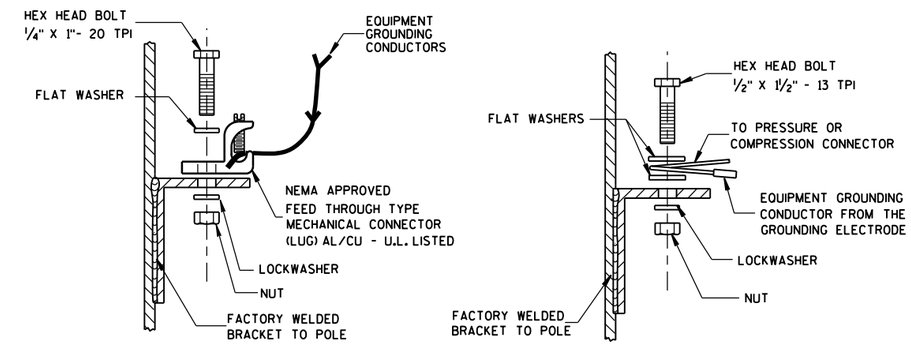


TYPICAL "J" HOOK LOCATION



BASE PLATE





TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/7/2013 DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
FHWA

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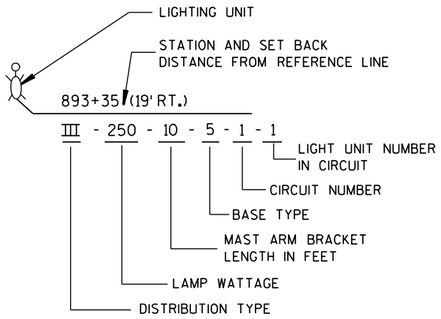
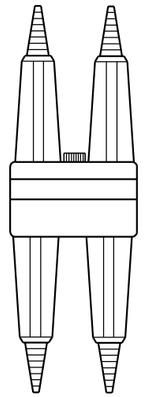
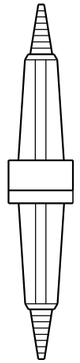


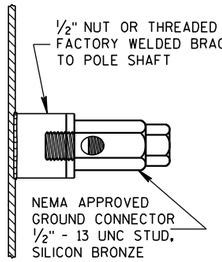
LIGHTING UNIT CODE
(TYPICAL)

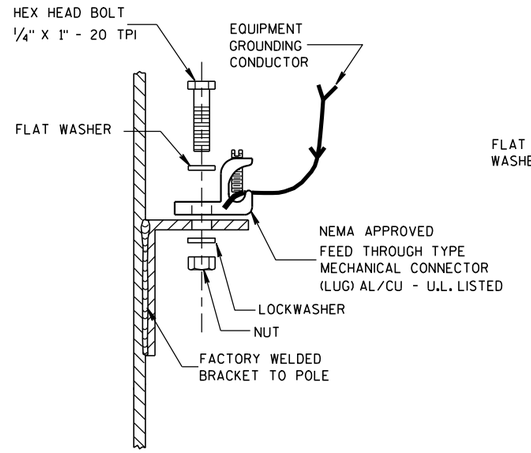


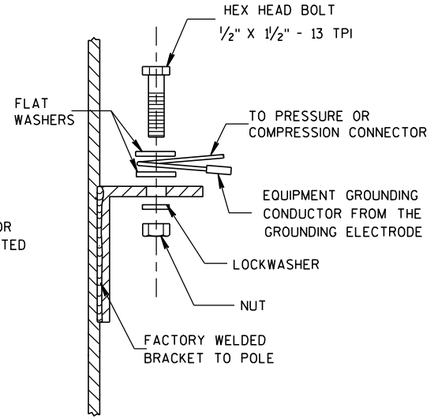
DETAIL "A"
BREAKAWY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT



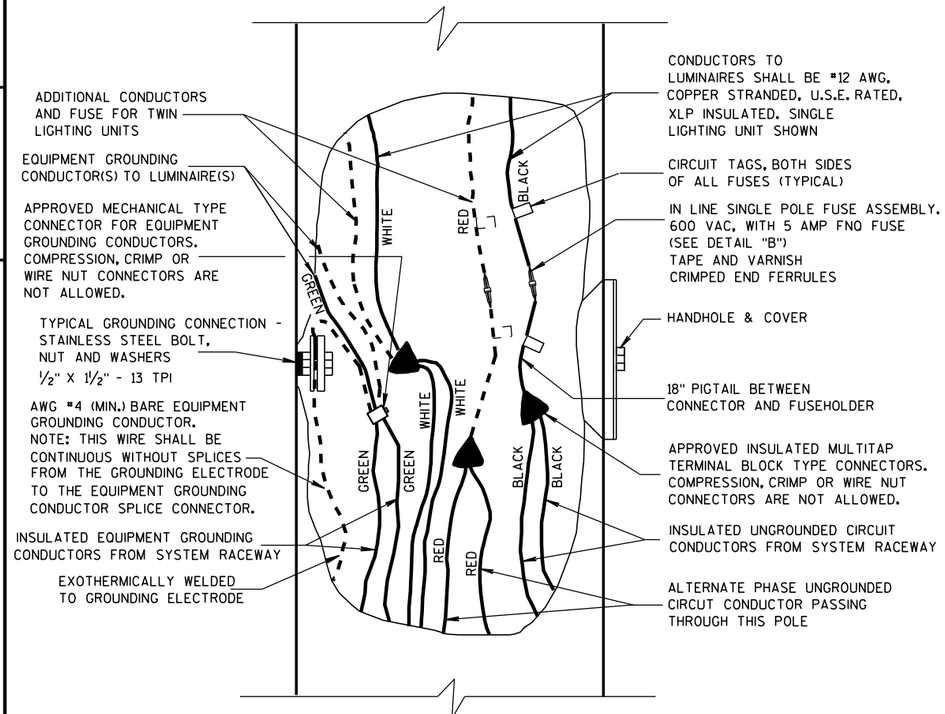
DETAIL "B"
BREAKAWY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT



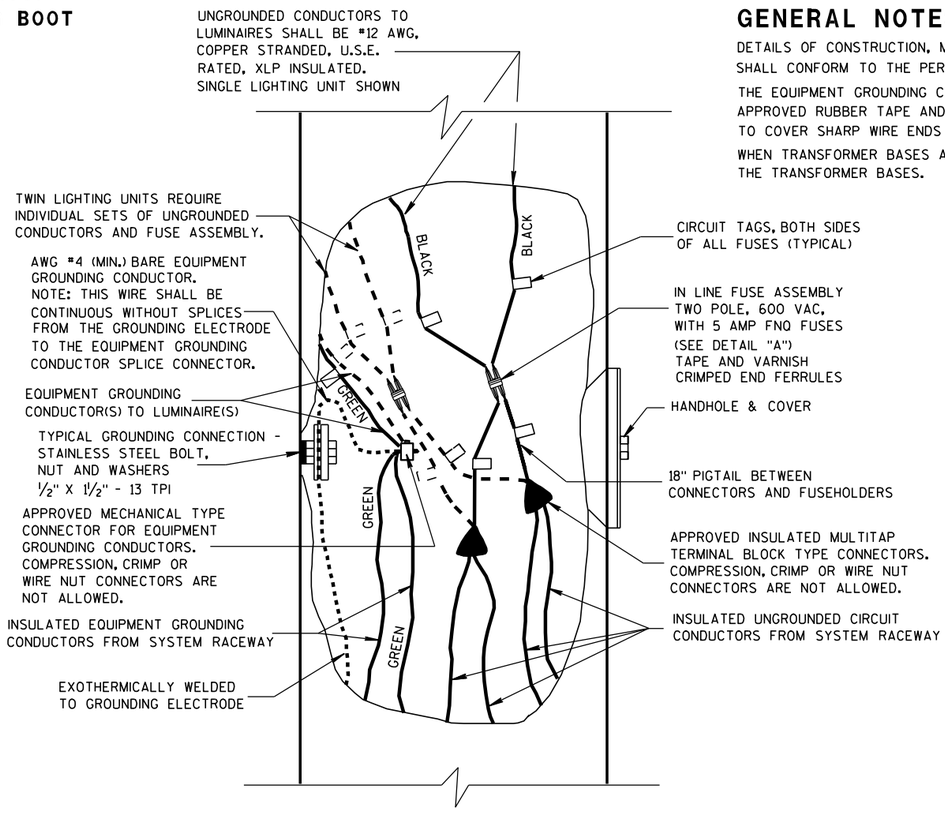




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



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



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

GENERAL NOTES

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

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

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

NON-FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 — DATE

/S/ Thomas J. Gosnine — STATE ELECTRICAL ENGI

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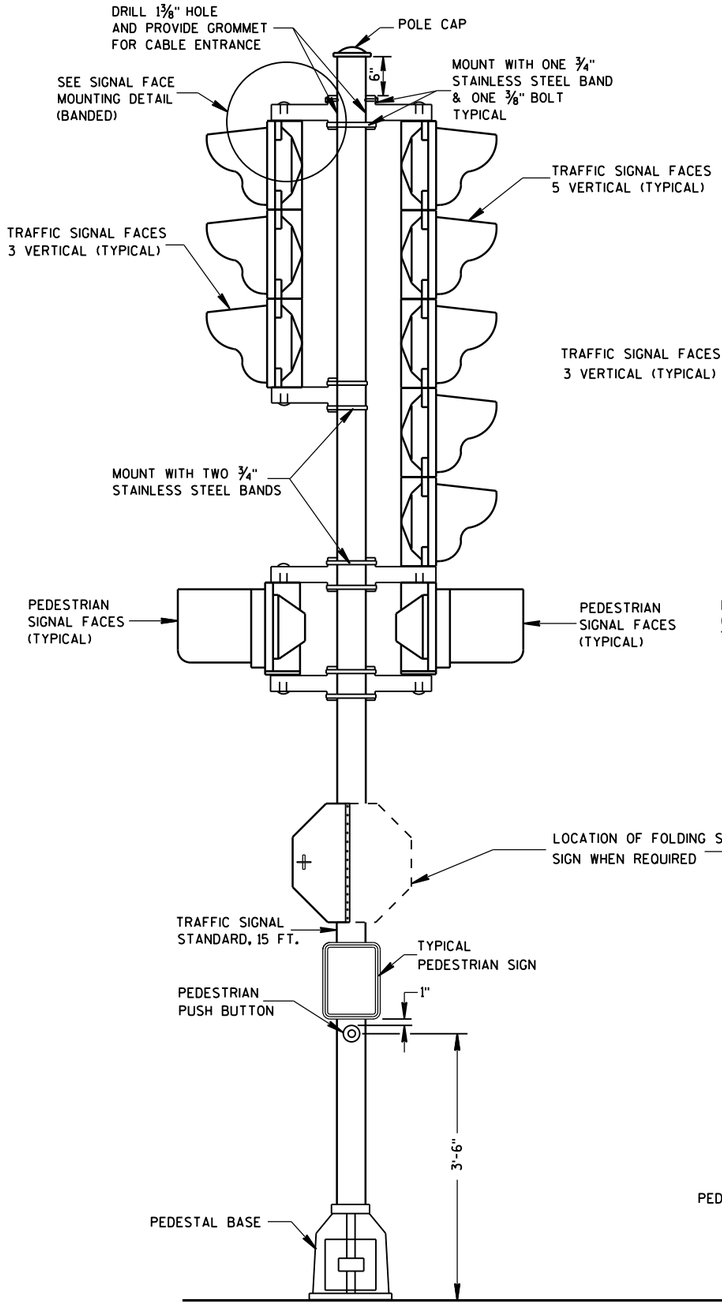
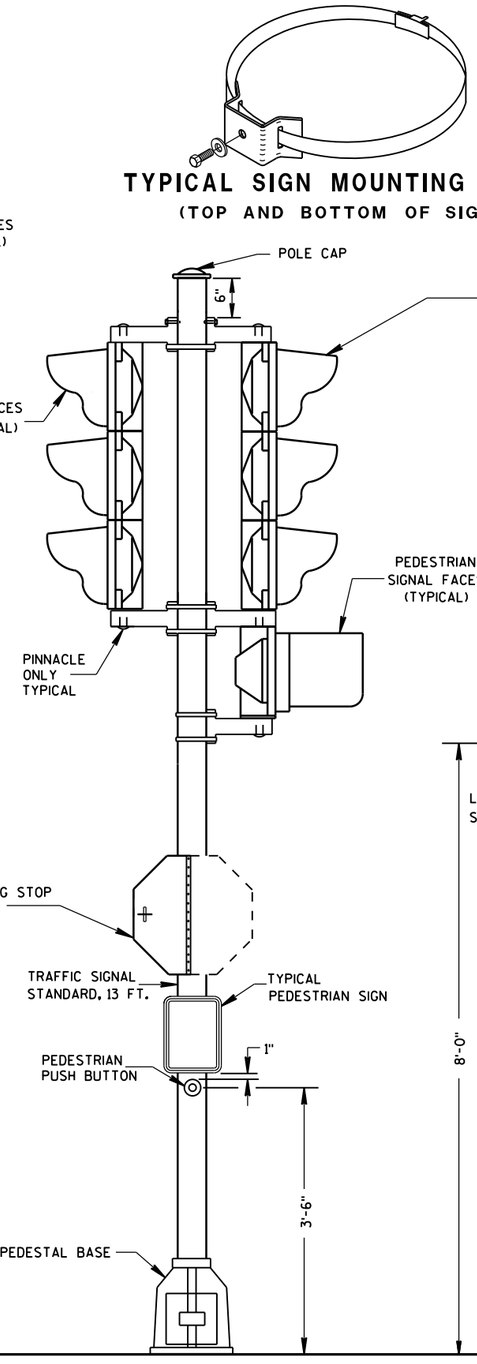
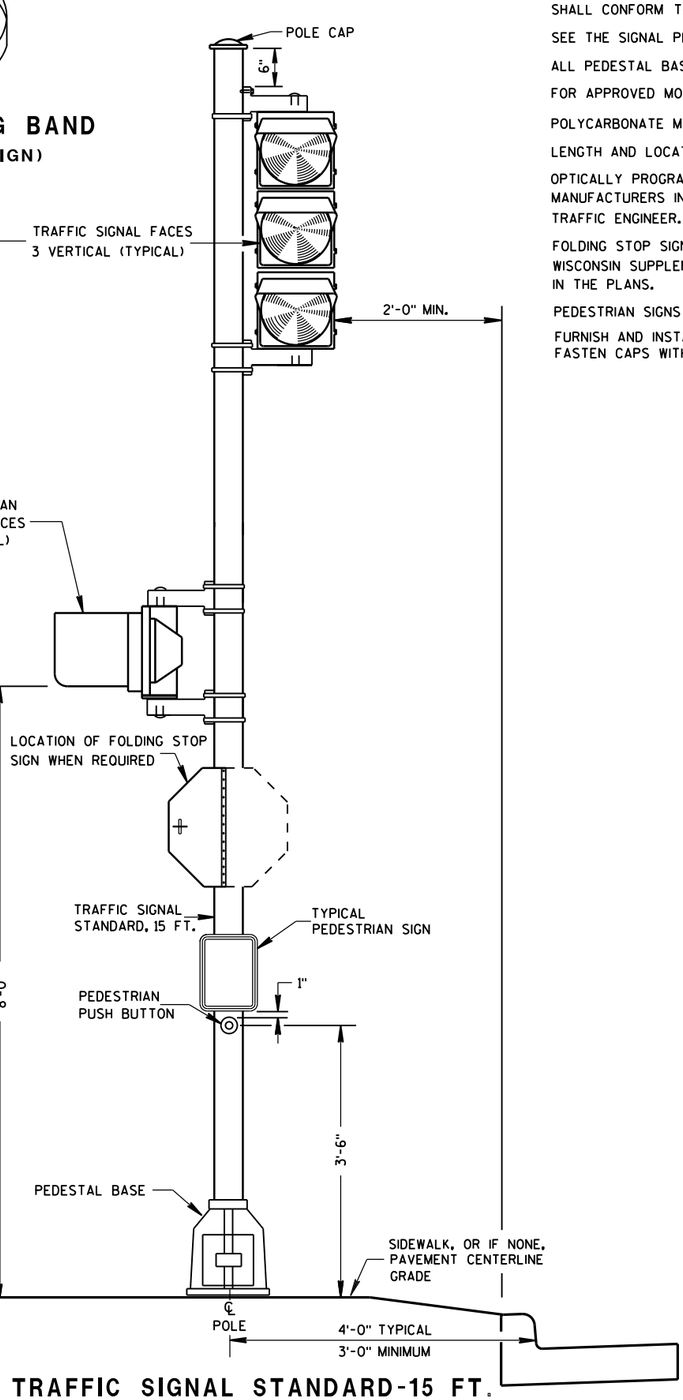


TRAFFIC SIGNAL STANDARD-15 FT.



TRAFFIC SIGNAL STANDARD-13 FT.

TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



TRAFFIC SIGNAL STANDARD-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.

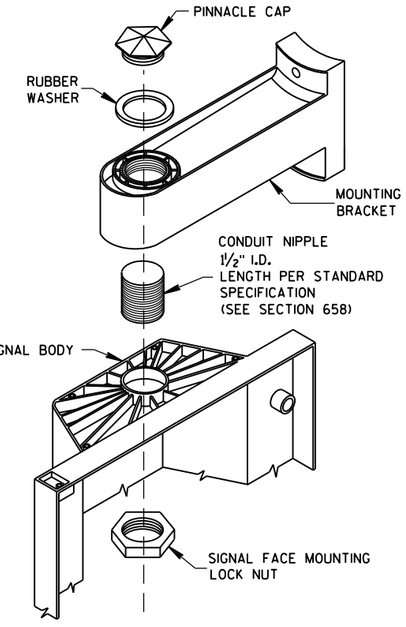
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

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) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



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 STATE ELECTRICAL
FHWA	

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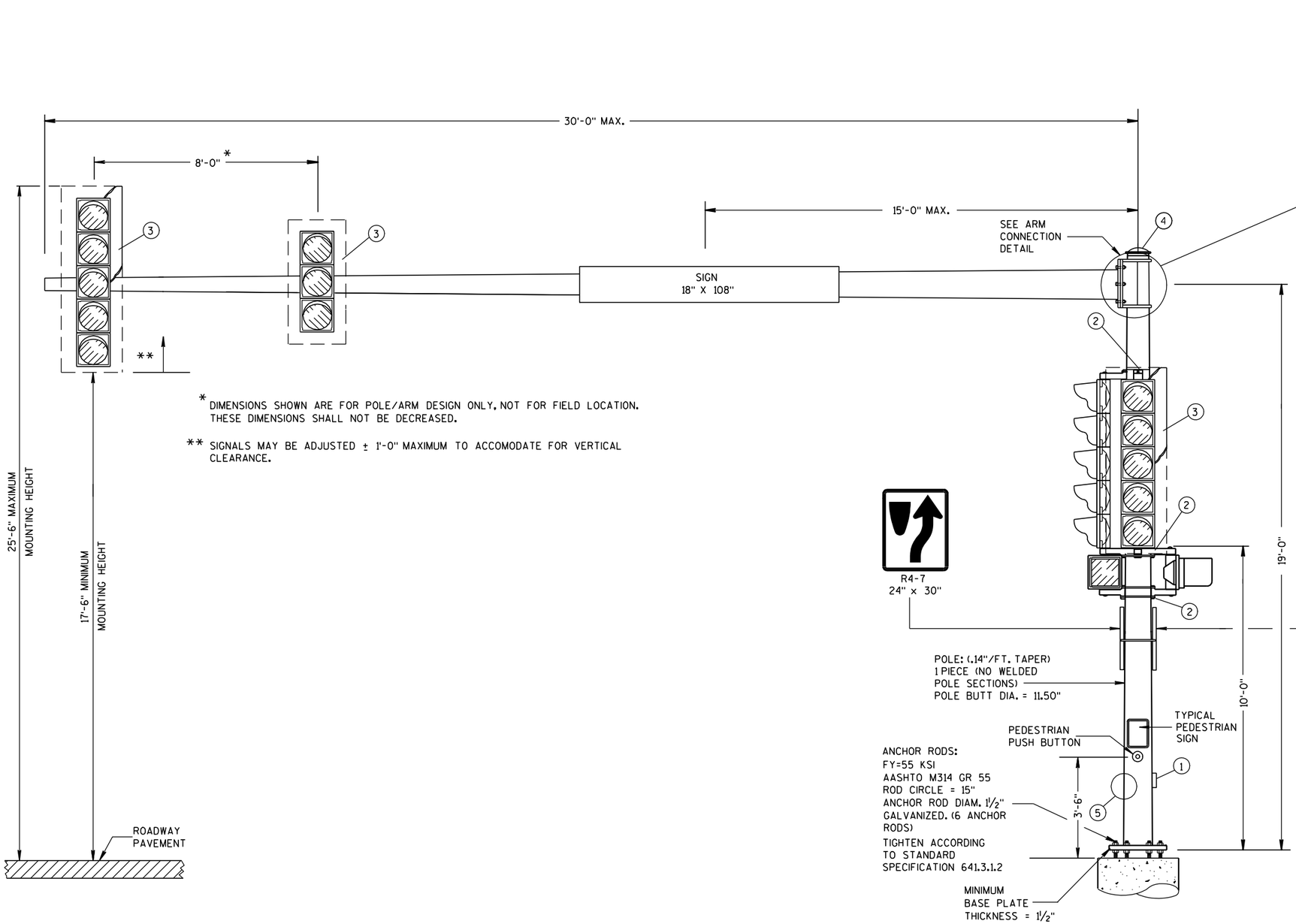
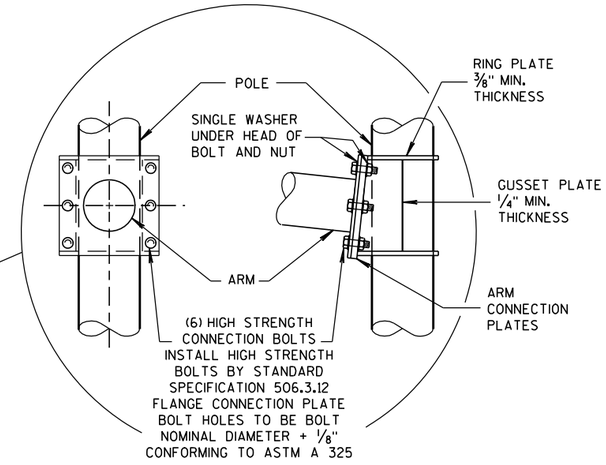


* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY. NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

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



6 BOLT ARM CONNECTION DETAIL

ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 9 POLE 15'- 30' MONOTUBE ARM

TYPE 9 POLE 15' - 30' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 3/2/2011 DATE	/S/ Thomas J. Corrigan STATE ELECTRICAL ENGI 85 HWYS
FHWA	

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GENERAL NOTES

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

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

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

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

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

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3 % ± RISE).

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

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

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE LATEST AASHTO AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

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

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

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

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

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

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

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

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

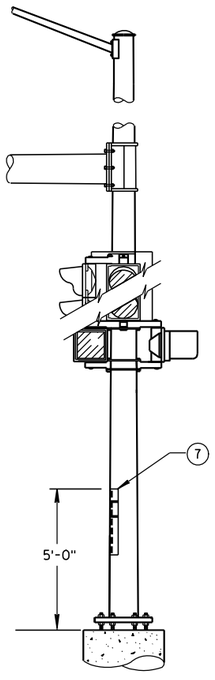
(5) FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

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

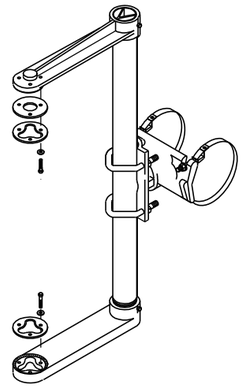
(7) INSTALL DEPARTMENT PROVIDED STRUCTURAL IDENTIFICATION PLAQUES.

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

MOUNTING HEIGHT SHALL BE 5'-0" ABOVE THE CURB OR SHOULDER . ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

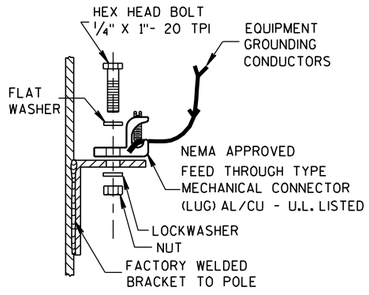


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT



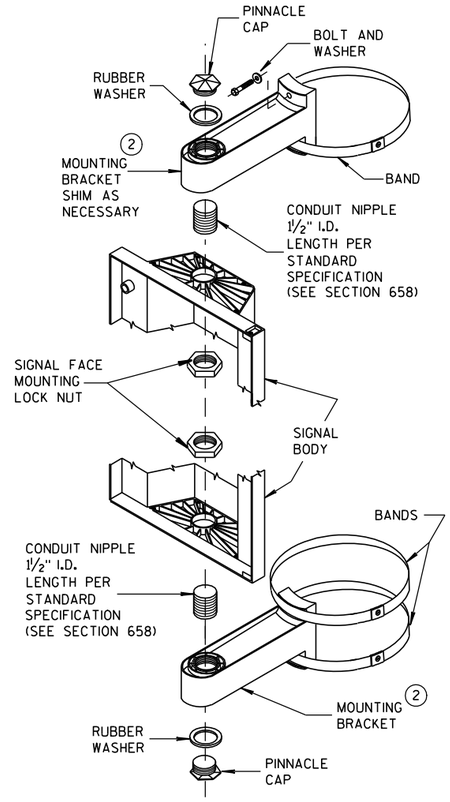
SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

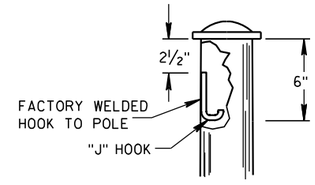


TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



SIGNAL FACE VERTICAL MOUNTING DETAIL



"J" HOOK WIRE SUPPORT (6)

GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 DATE

/S/ Thomas J. Corrigan
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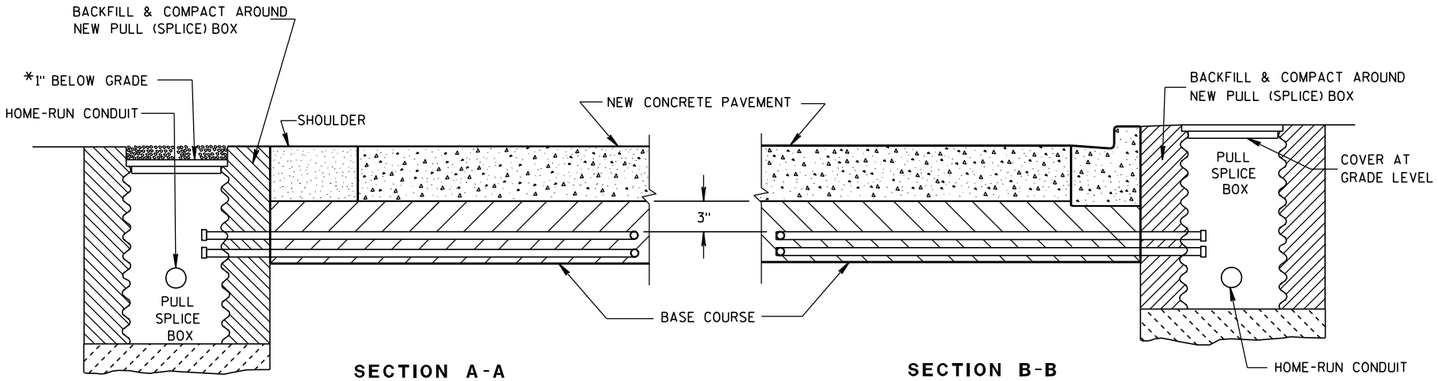


SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS SUCH AS 3M TYPE 82A1 OR APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

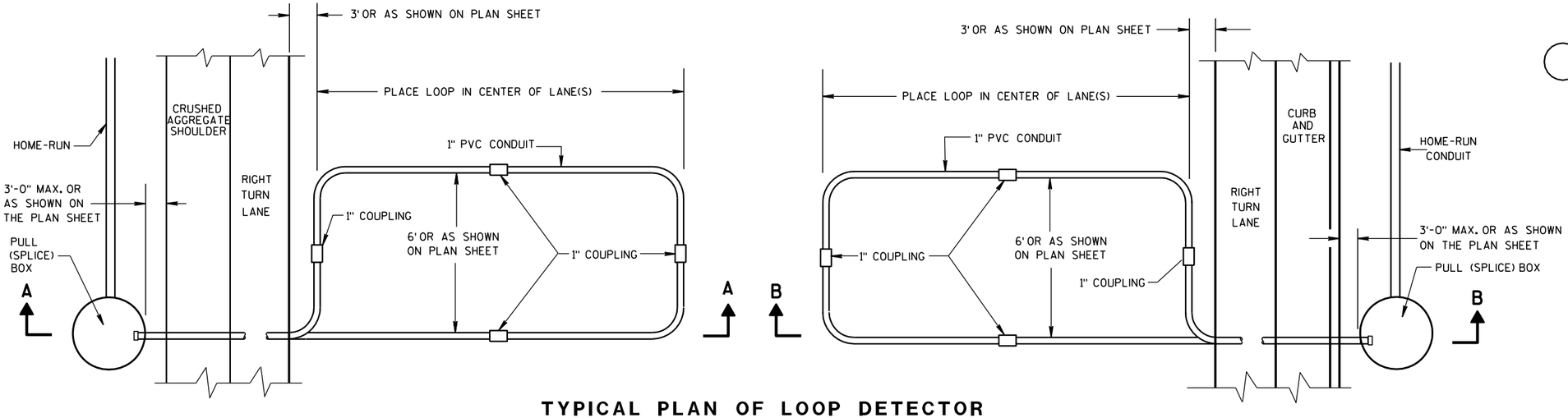
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

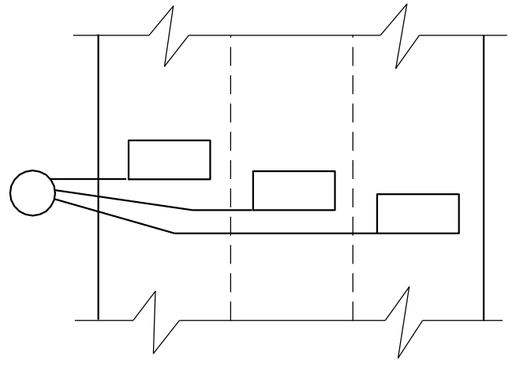
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICED CONTINUOUS LENGTH.

PROTECTION OF THE CONDUITS IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



TYPICAL PLAN OF LOOP DETECTOR WITH 24" PULL (SPLICE) BOX



MULTI-LANE INSTALLATION

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/7/06 DATE
/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI
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FHWA

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S.D.D. 9 F 15-3b

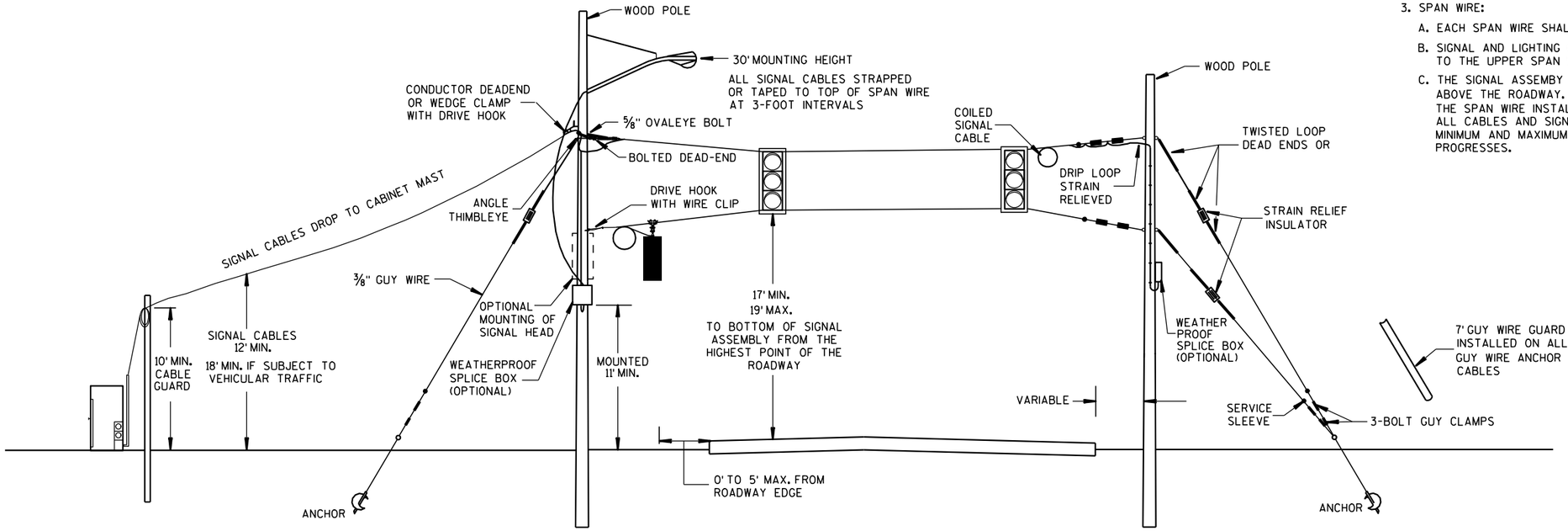
GENERAL NOTES

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.

3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.



SPAN WIRE
TEMPORARY SIGNALS

MINIMUM POLE LENGTHS	POLE BURIEL DEPTHS
25'	5'
30'	6'
35'	7'
40'	8'
45'	9'

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08 DATE

/S/ Balu Ananthar [illegible] n
STATE ELECTRICAL ENGI 88 HWYS

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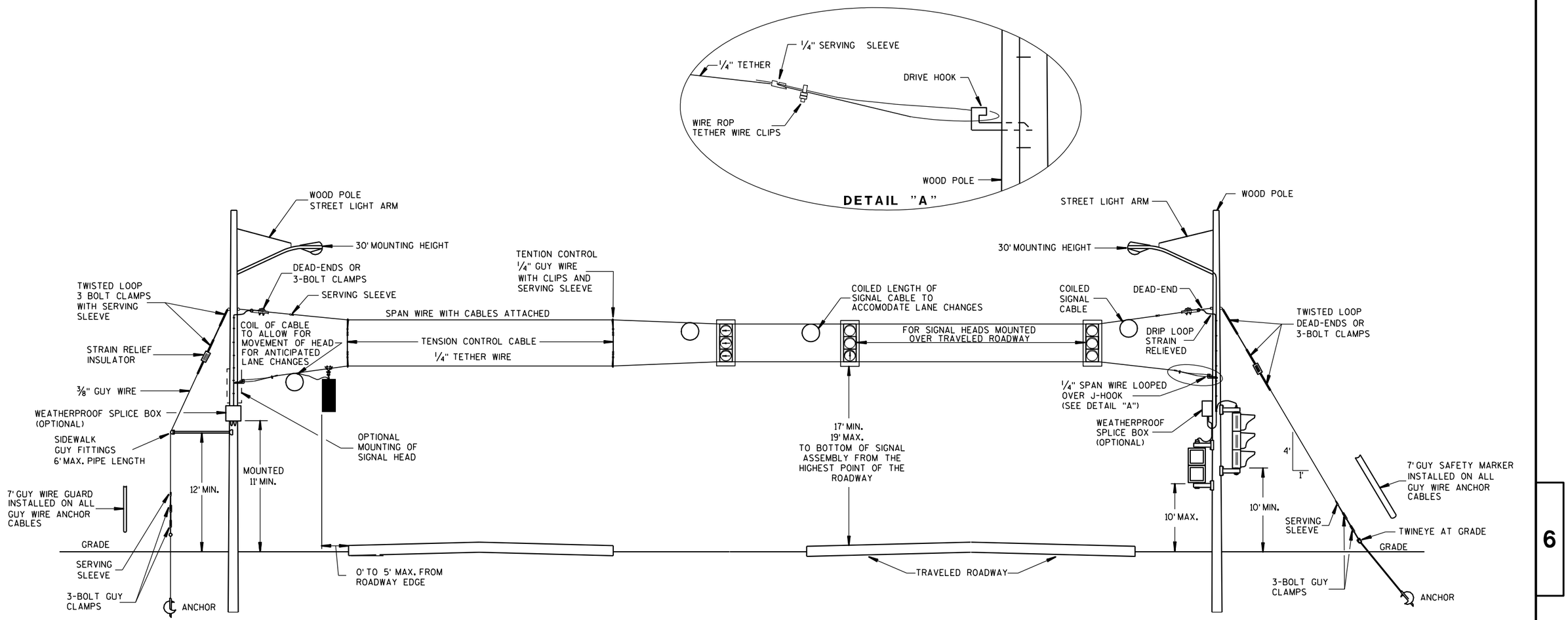

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   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
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SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

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

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08 DATE

/S/ Balu Ananthanarayanan
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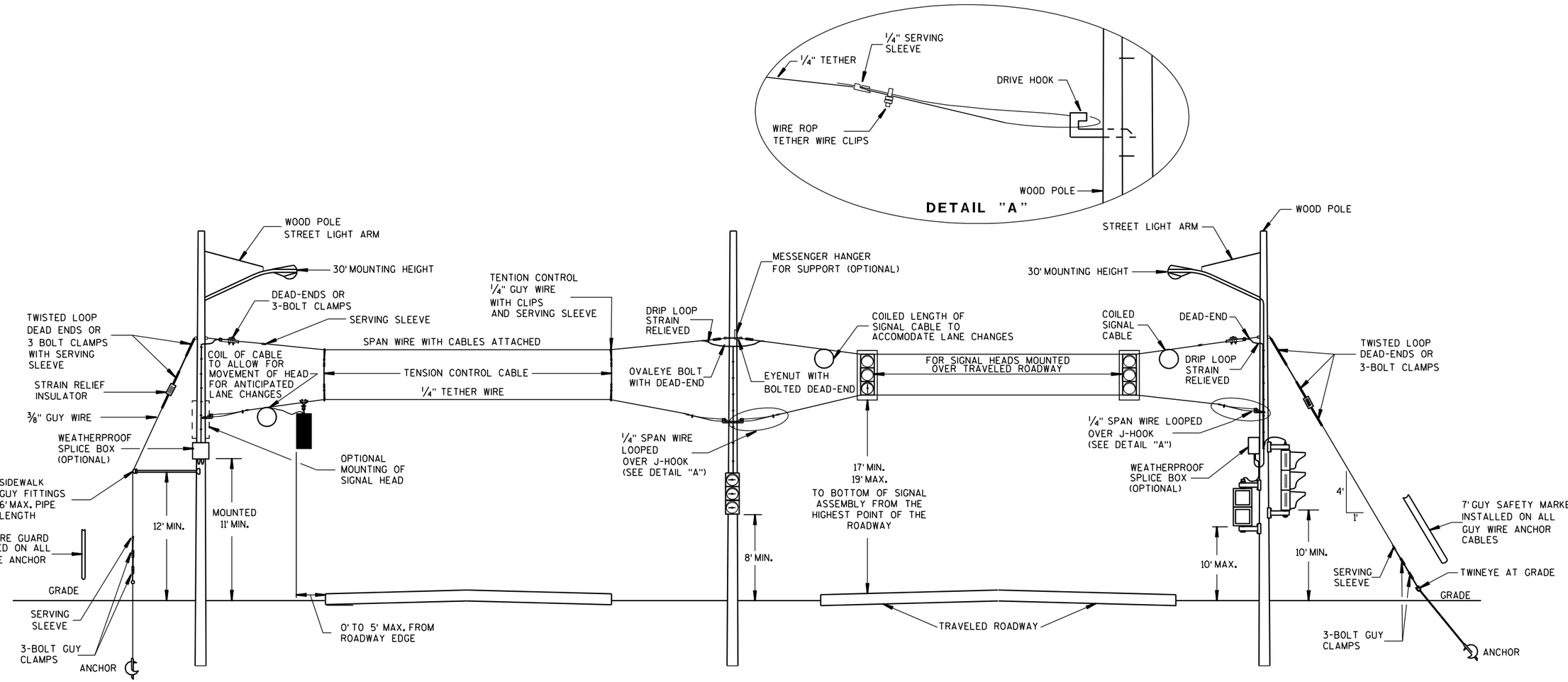

SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

GENERAL NOTES

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

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08 DATE

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI

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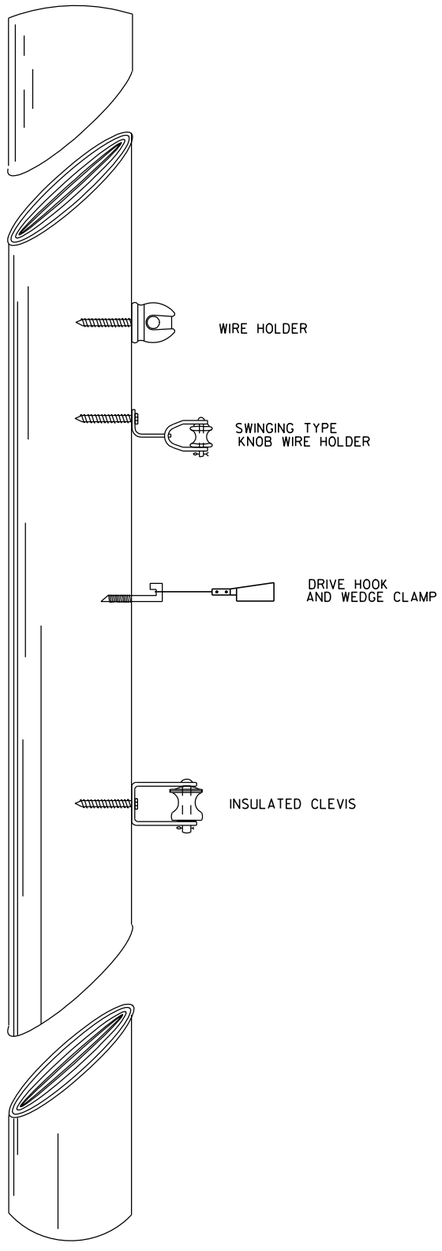
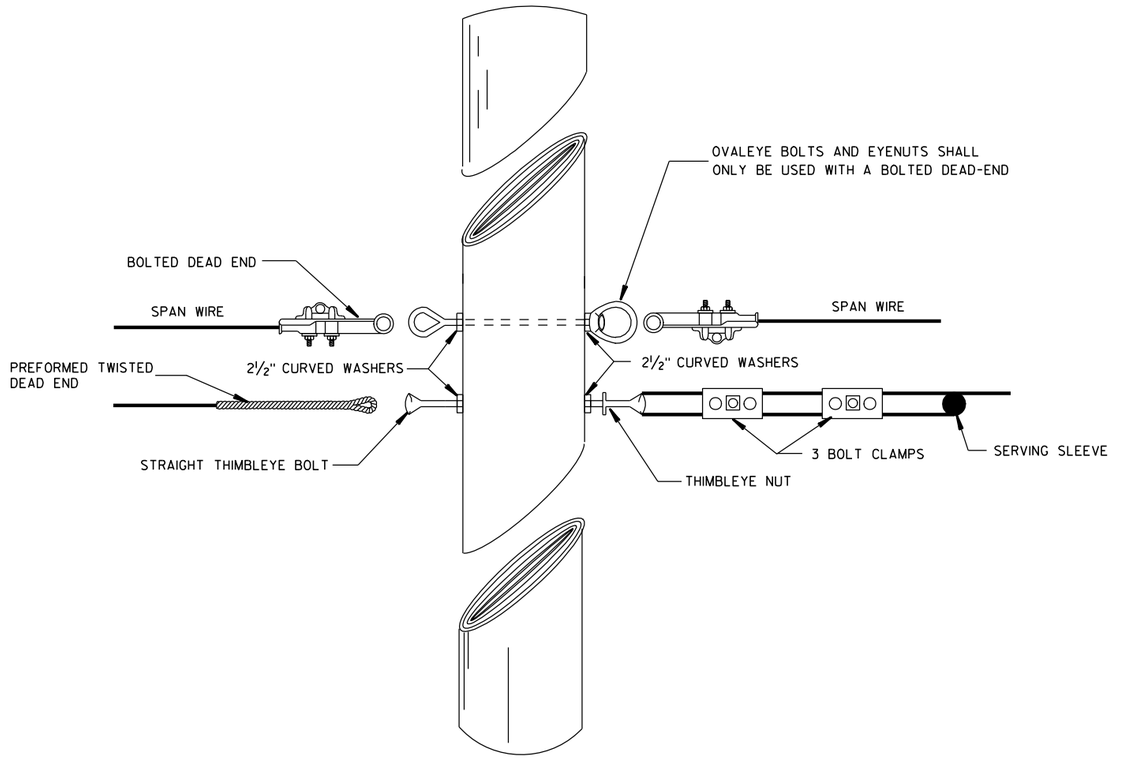


TYPICAL CABLE HANGERS



TYPICAL DEAD-ENDING

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SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7-14-08 DATE
/S/ Balu Ananthanarayanan
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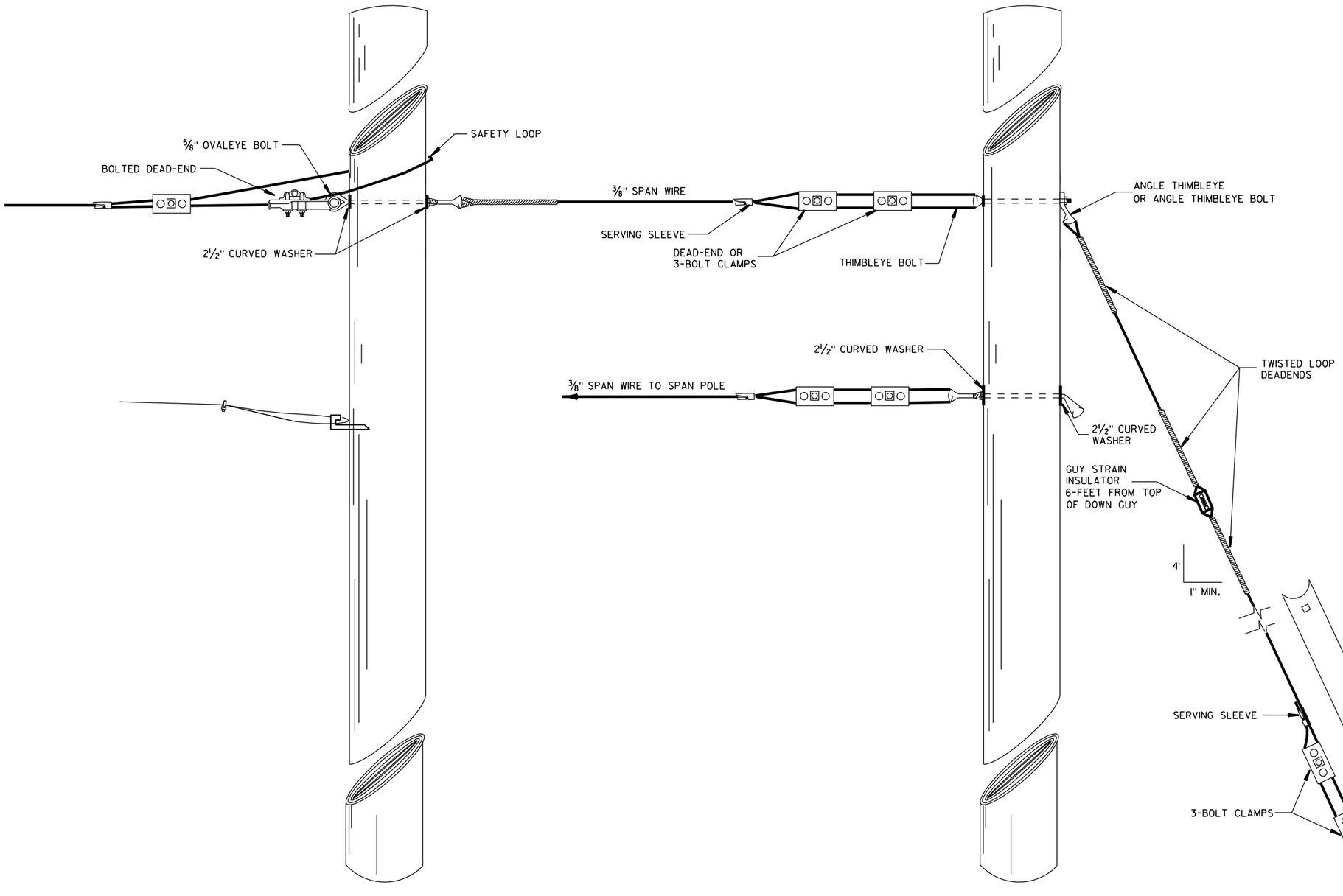
GENERAL NOTES

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



SPAN WIRE POLE

GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7-14-08 DATE
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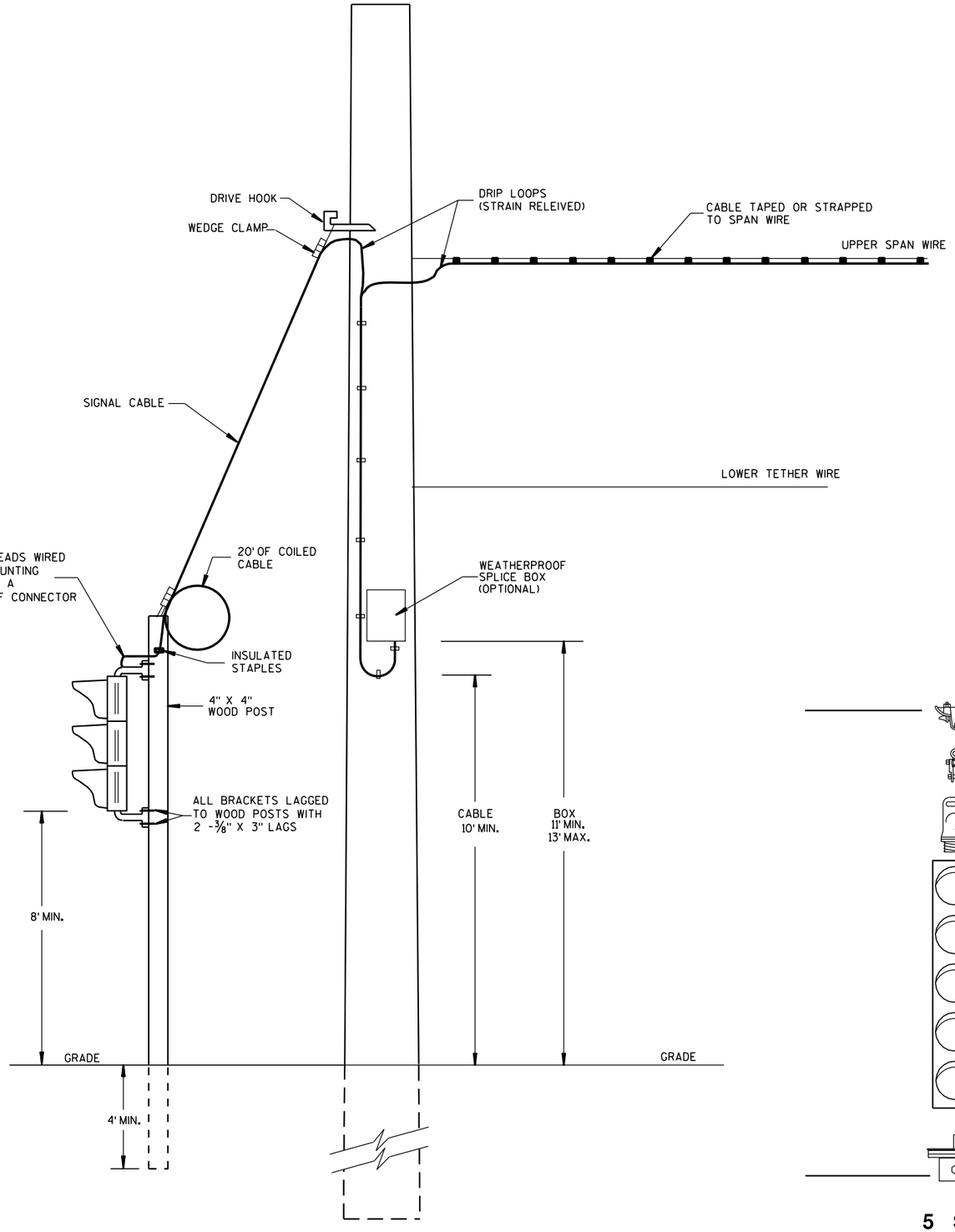
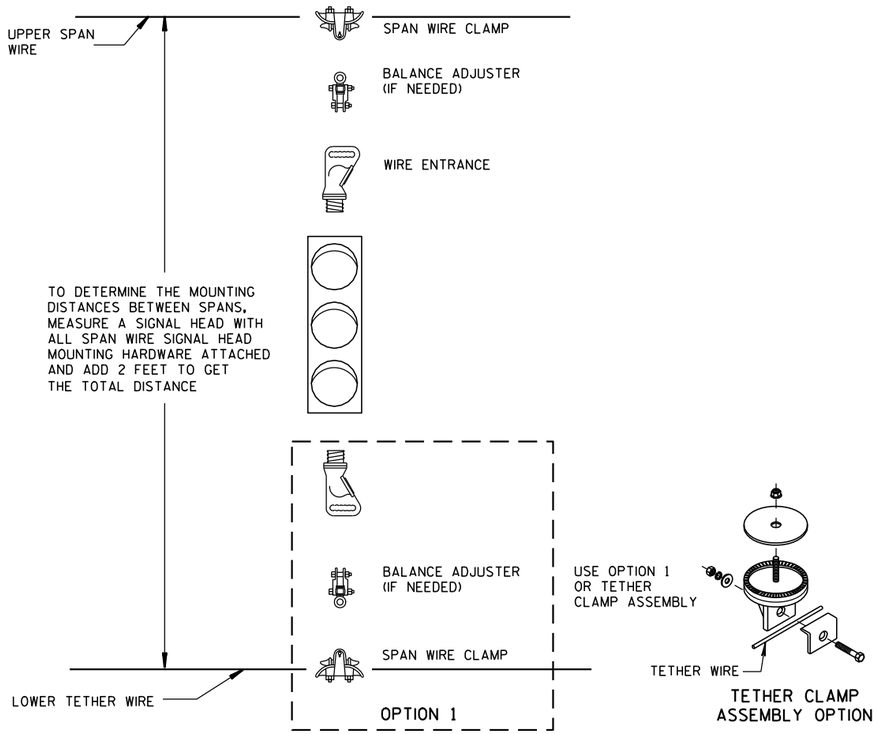
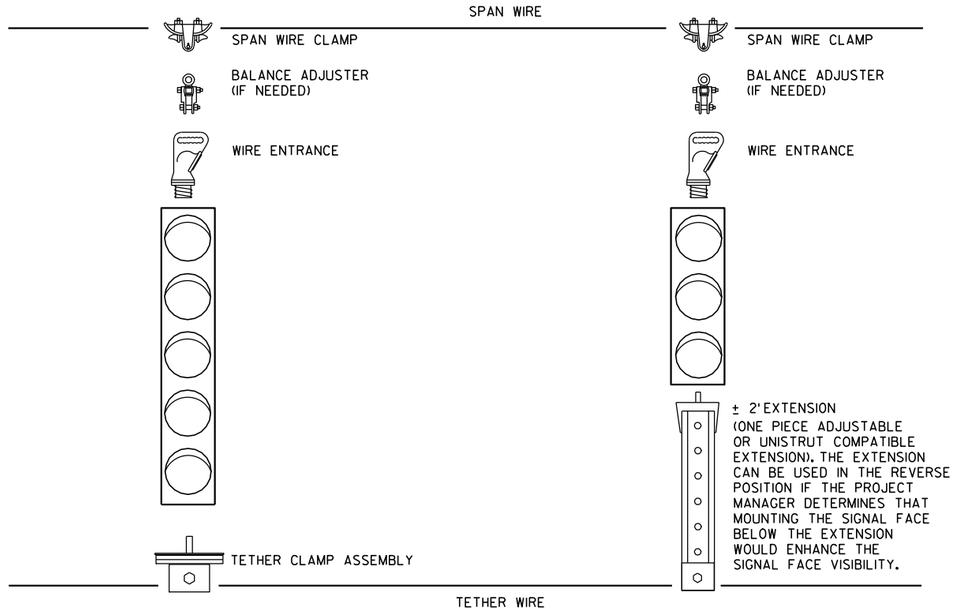


TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL



TYPICAL SPAN WIRE MOUNTING HARDWARE



5 SECTION VERTICAL WITH 3 SECTION VERTICAL ON ONE SPAN WIRE

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7-14-08 DATE
/S/ Balu Aganthangarayanan
STATE ELECTRICAL ENGI 93 HWYS
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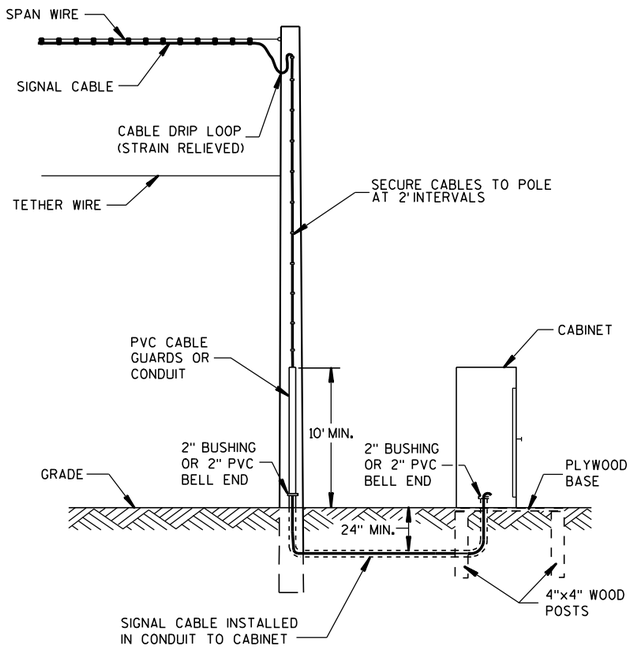
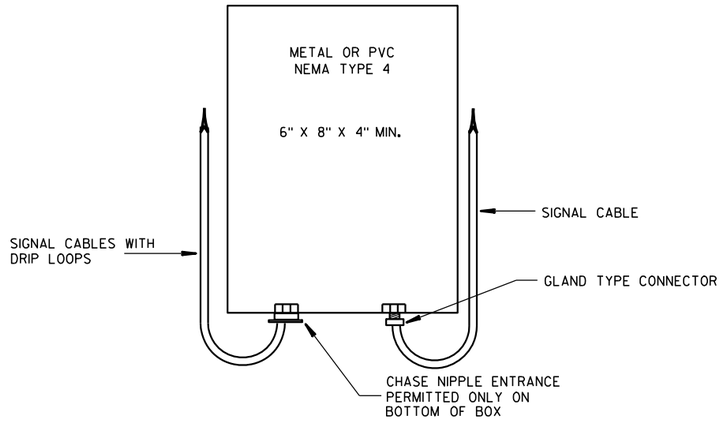
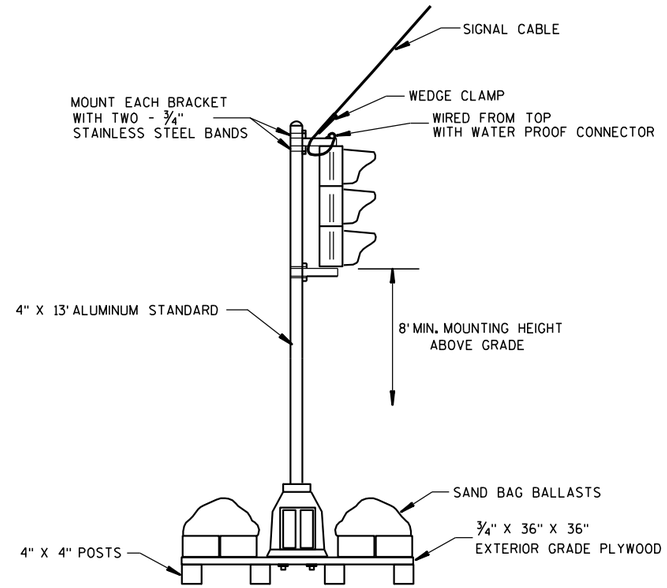
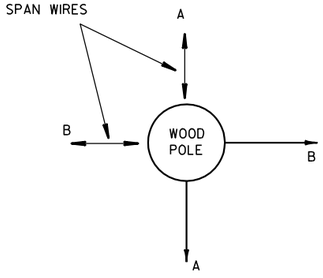




SPLICE BOX

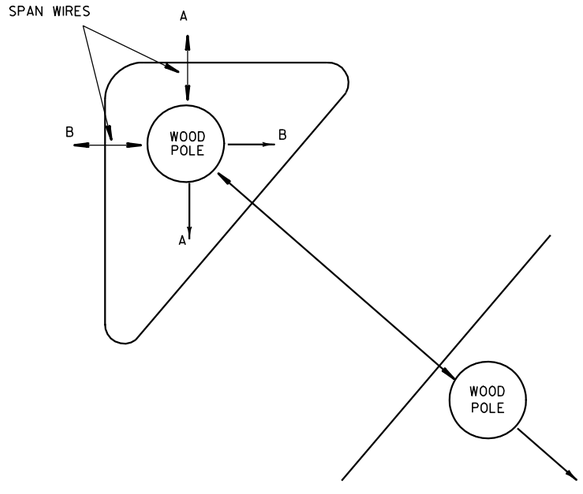


TYPICAL SKID TYPE TEMPORARY

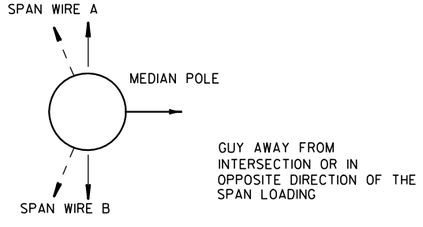


ALL DOWN OR SIDEWALK GUYS SHALL BE INSTALLED IN THE OPPOSITE DIRECTION OF THE STRAIN OF THE SPAN WIRE

CORNER POLES



ISLAND POLES



MEDIAN POLES

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08 DATE — /S/ Balu Aganthangayagan STATE ELECTRICAL ENGI — HWYS

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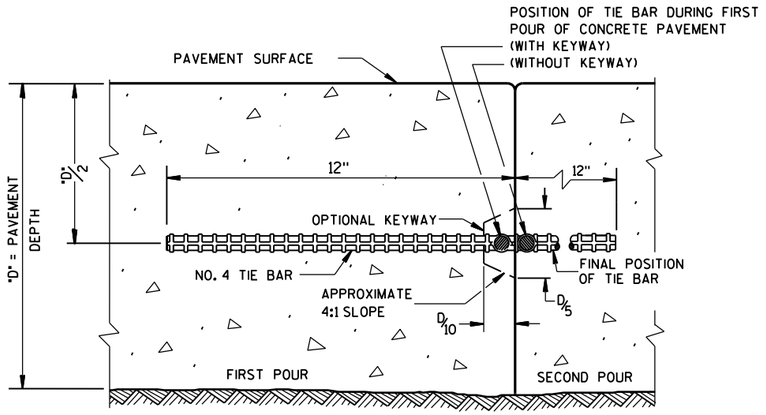
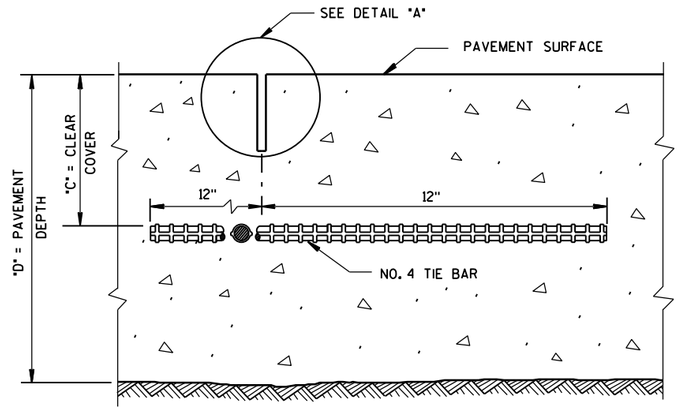


CONSTRUCTION JOINT



SAWED JOINT

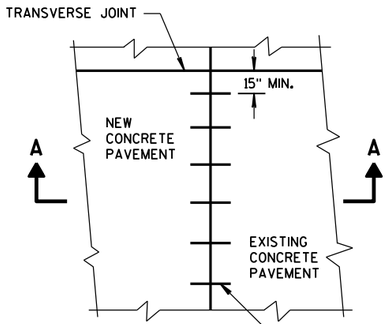
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

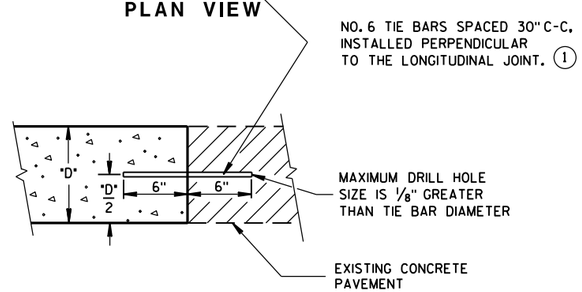
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

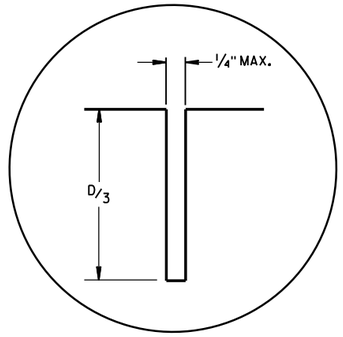


PLAN VIEW



SECTION A-A

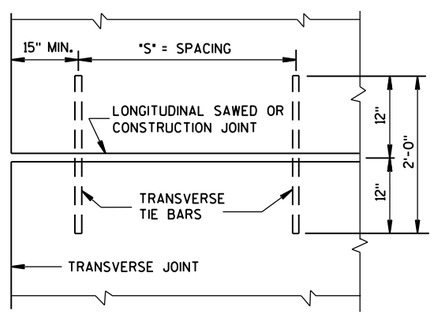
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-3-2013 DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE ...NEER

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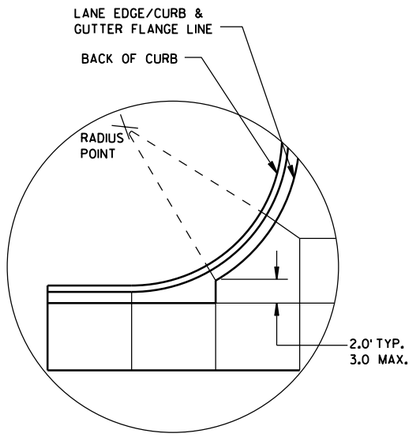
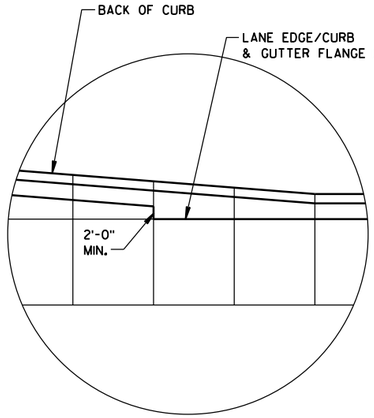
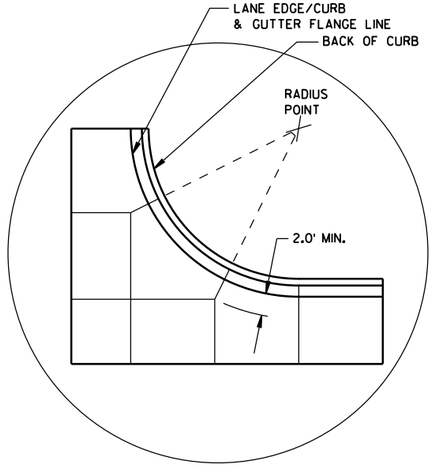


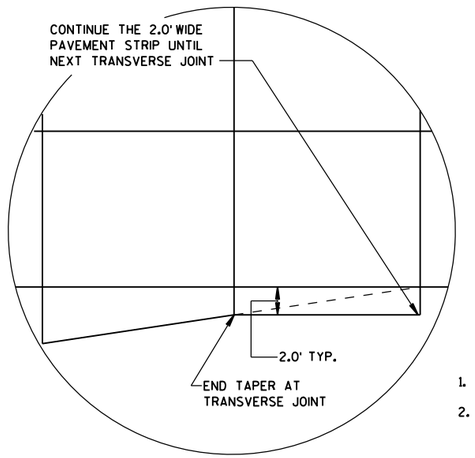
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

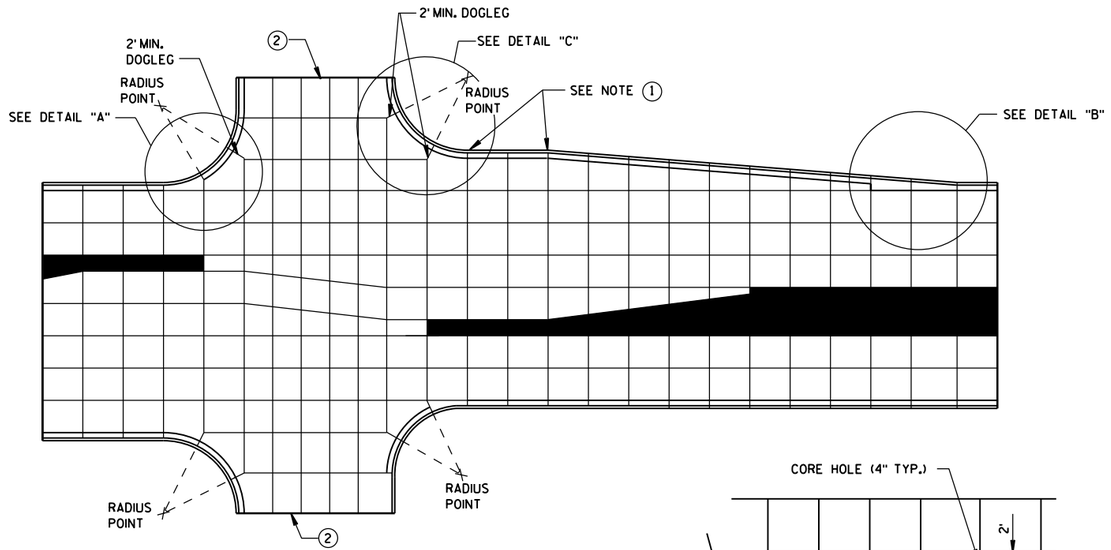
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

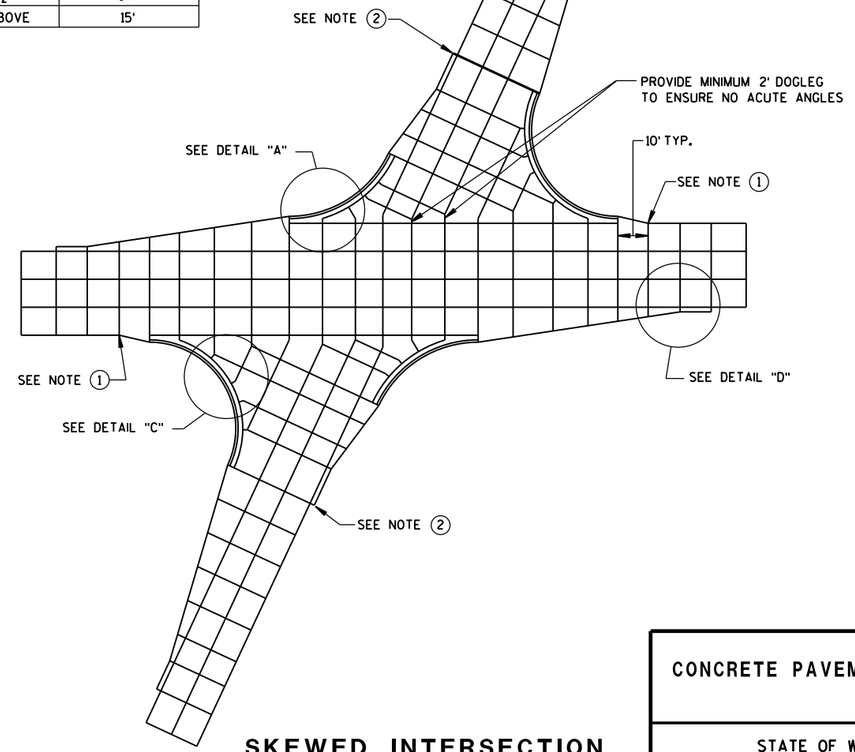
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



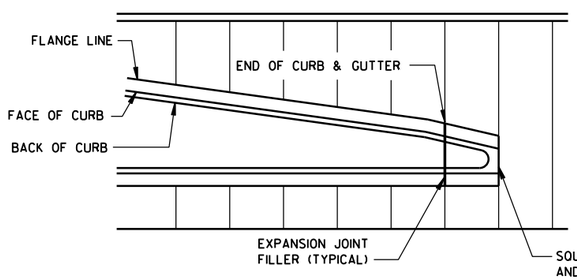
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

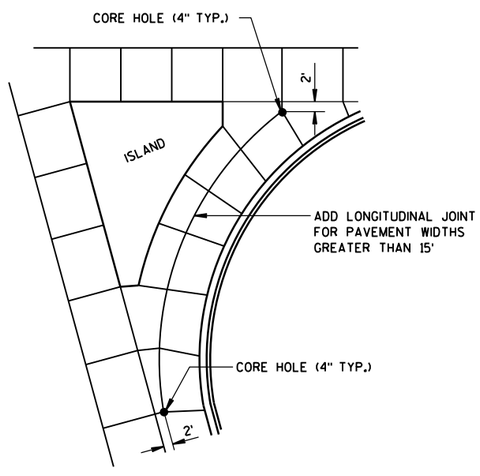
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

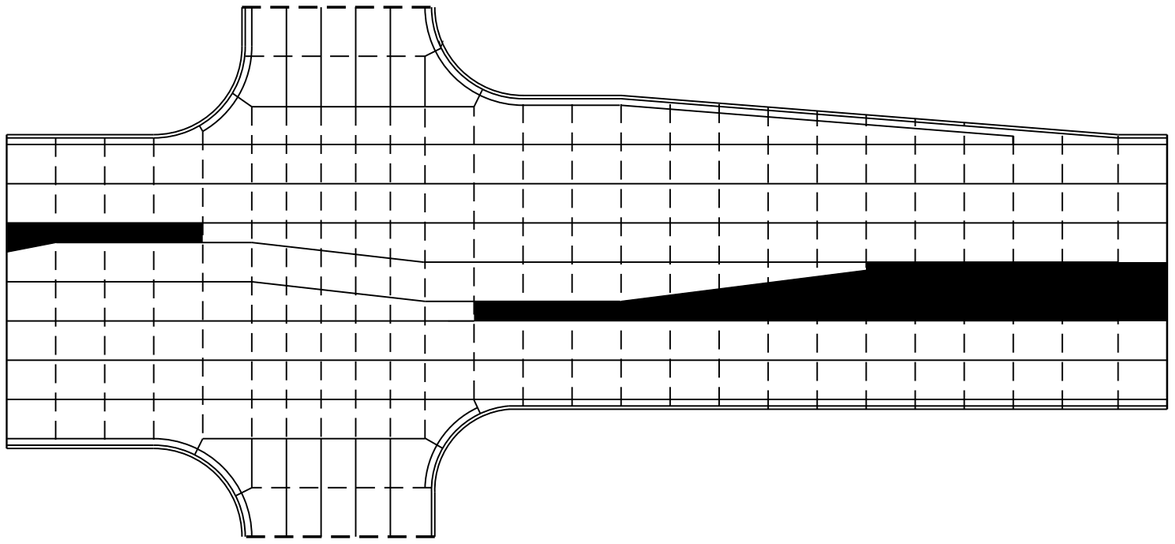
S.D.D. 13 C 18-2a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

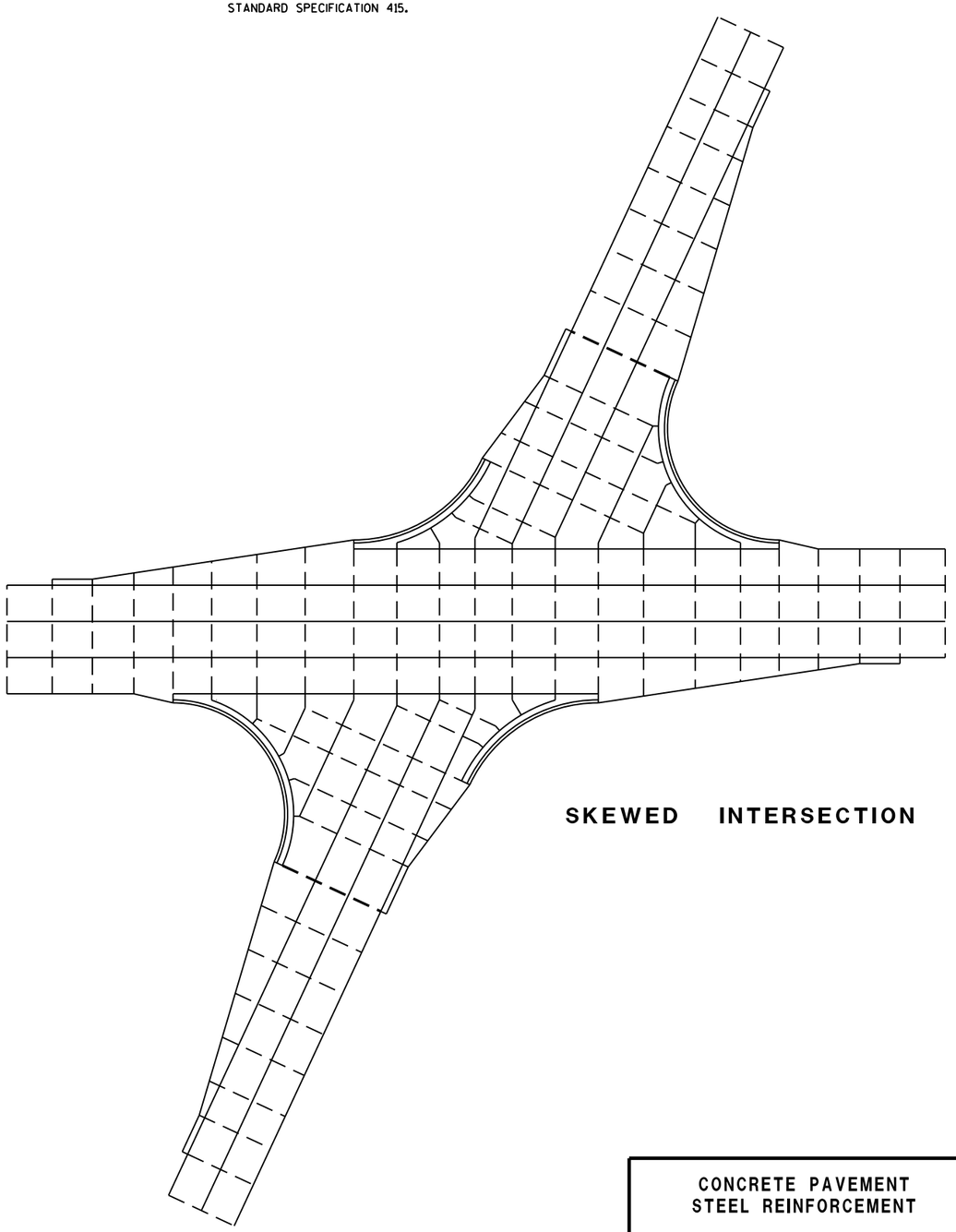
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

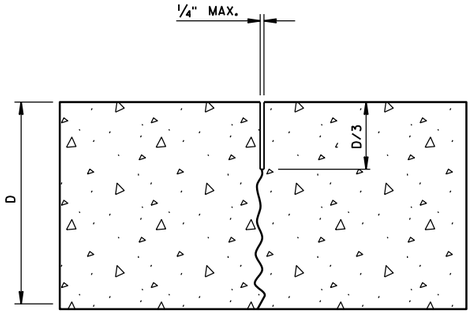
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

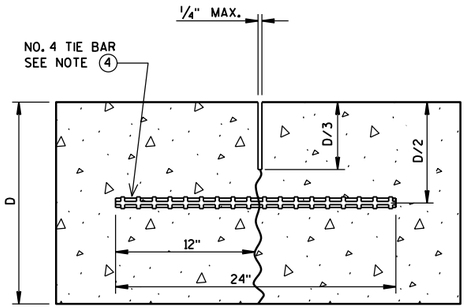
S.D.D. 13 C 18-2b

6

S.D.D. 13 C 18-2b



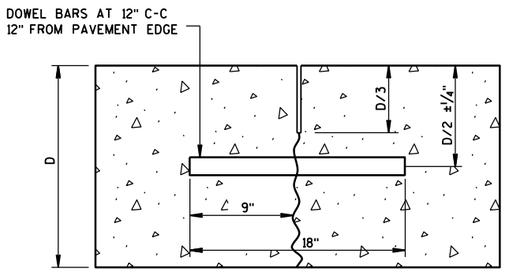
UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

GENERAL NOTES

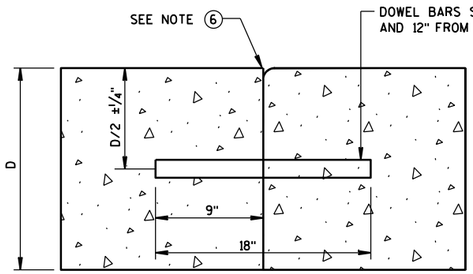
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.



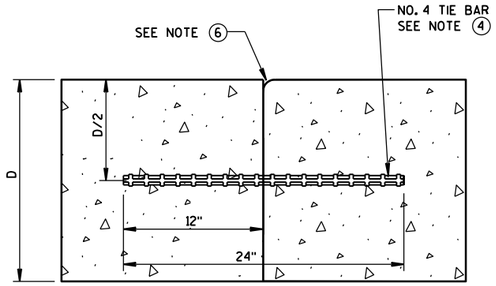
DOWELED-TRANSVERSE

CONTRACTION JOINTS

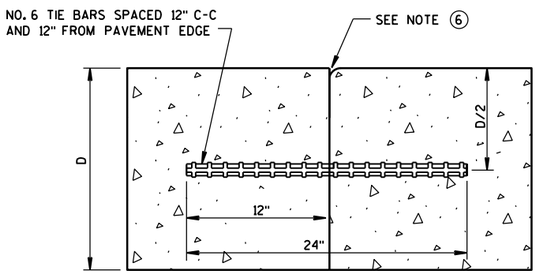
SEE NOTE (2)



DOWELED TRANSVERSE

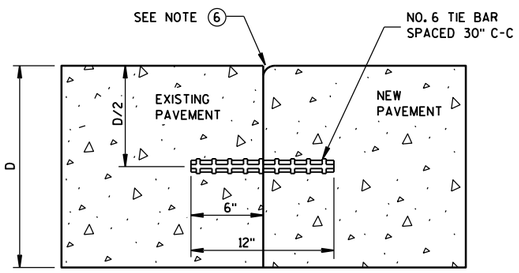


TIED LONGITUDINAL



TIED TRANSVERSE

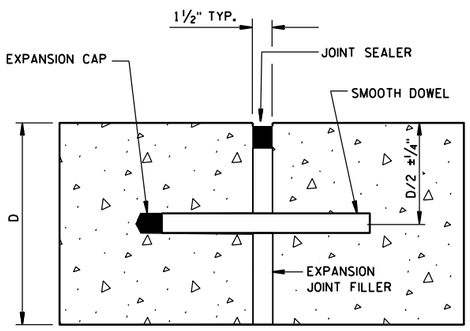
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

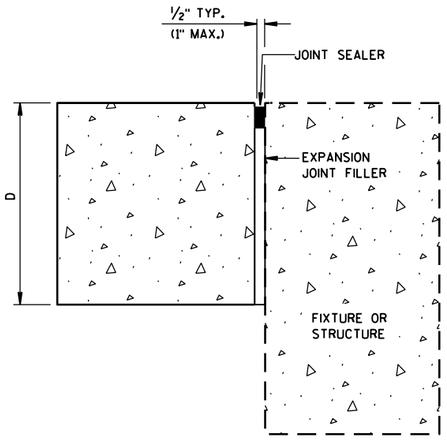
CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

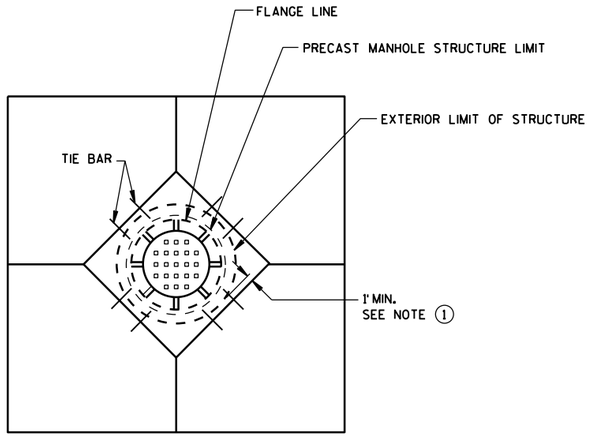
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

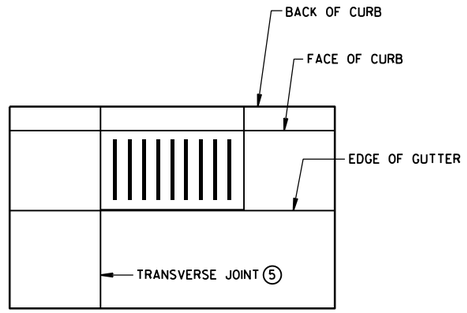
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

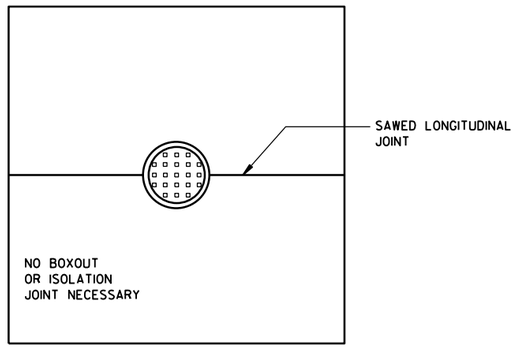
S.D.D. 13 C 18-2c



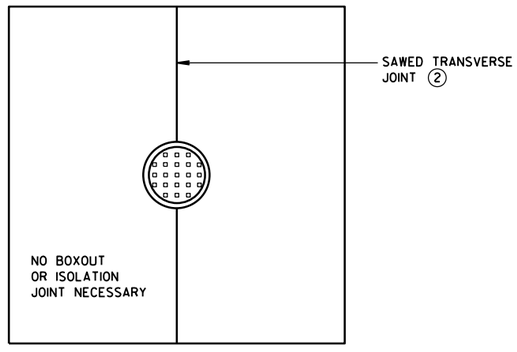
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



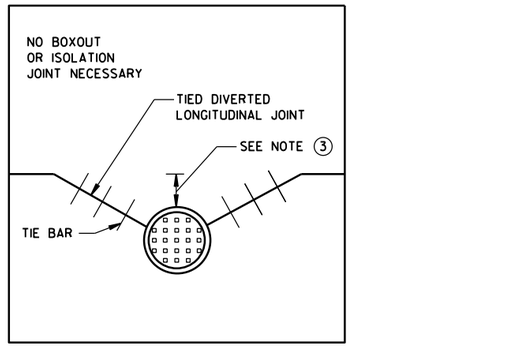
INLET WITH TRANSVERSE JOINT



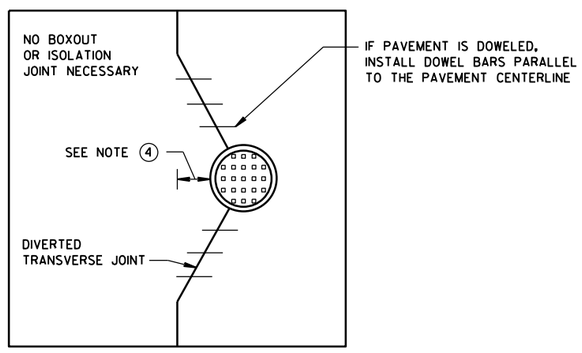
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-3-2013
DATE

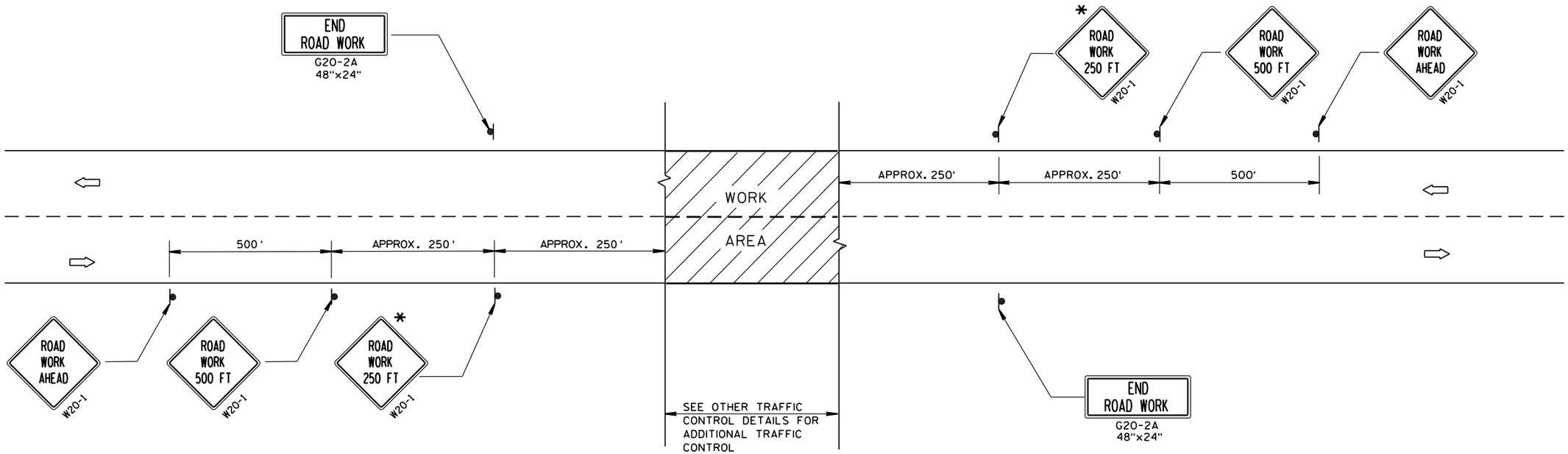
/S/ Deb Bischoff
PAVEMENT POLICY & DE

NEER

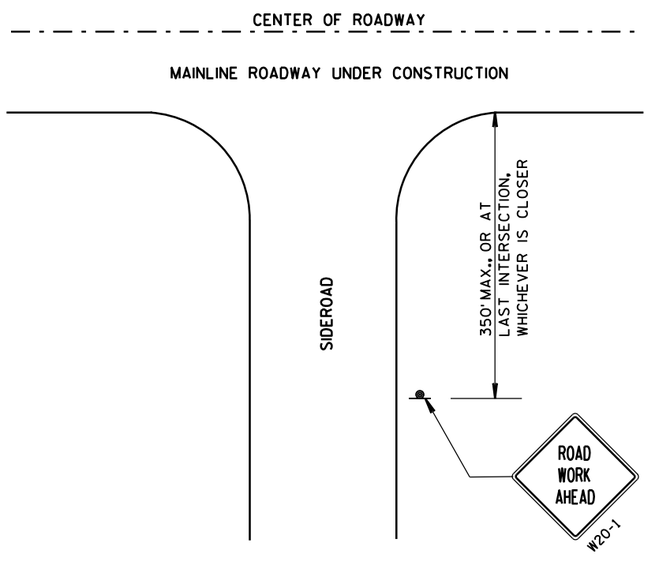
FHWA

6

S.D.D. 13 C 18-2d



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

SIGN

6

S.D.D. 15 C 5-2

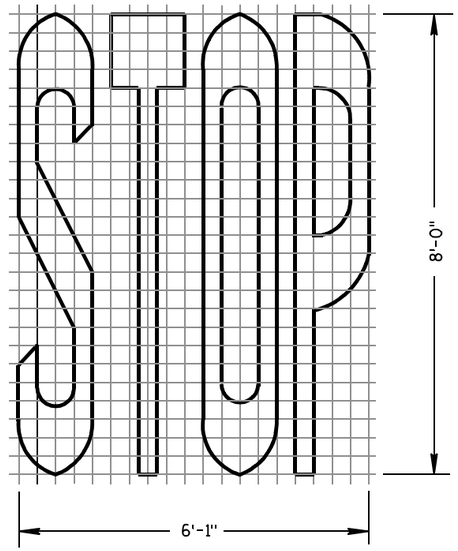
6

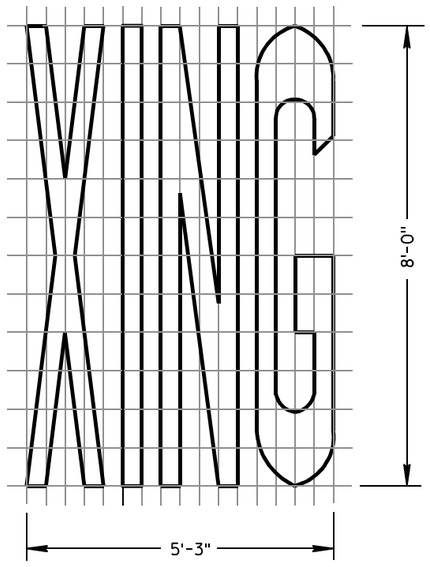
S.D.D. 15 C 5-2

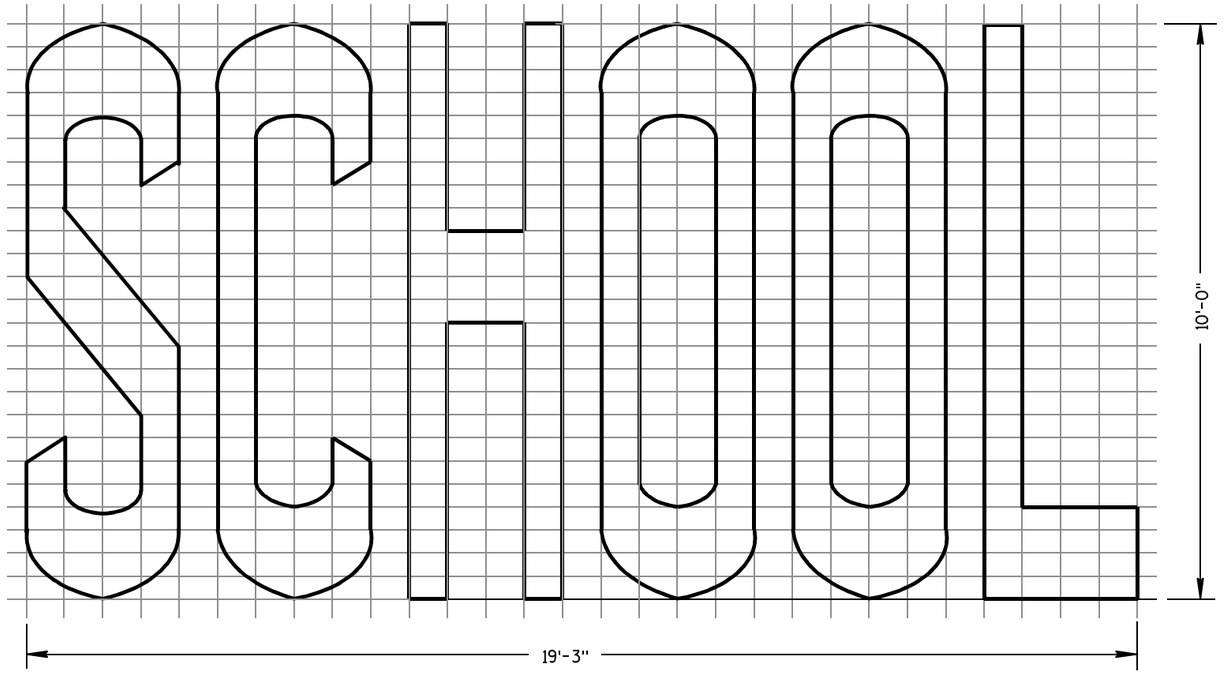
GENERAL NOTES

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

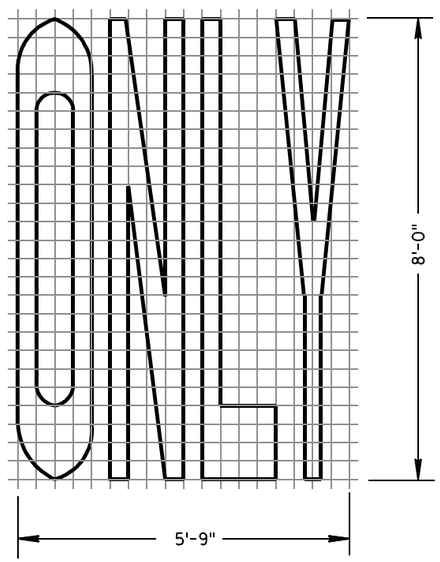
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

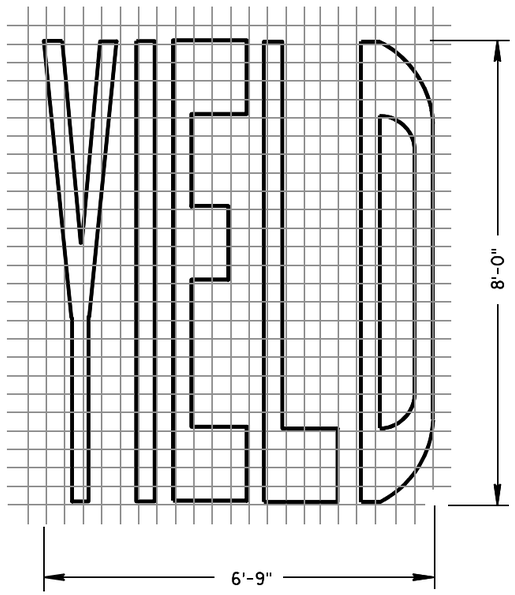


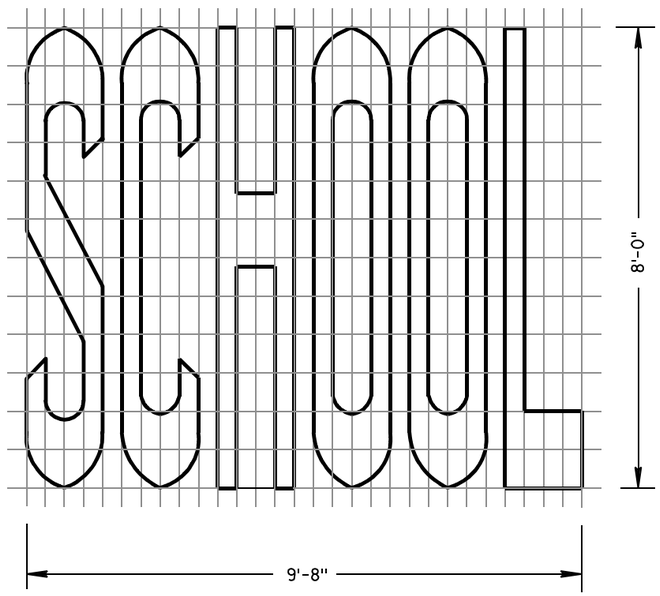




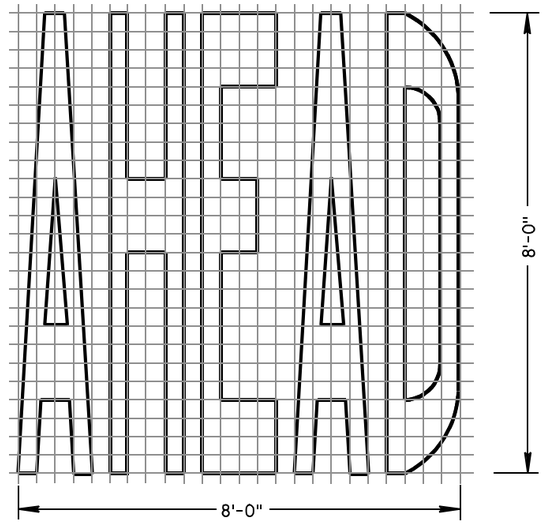
TWO-LANE







SINGLE-LANE



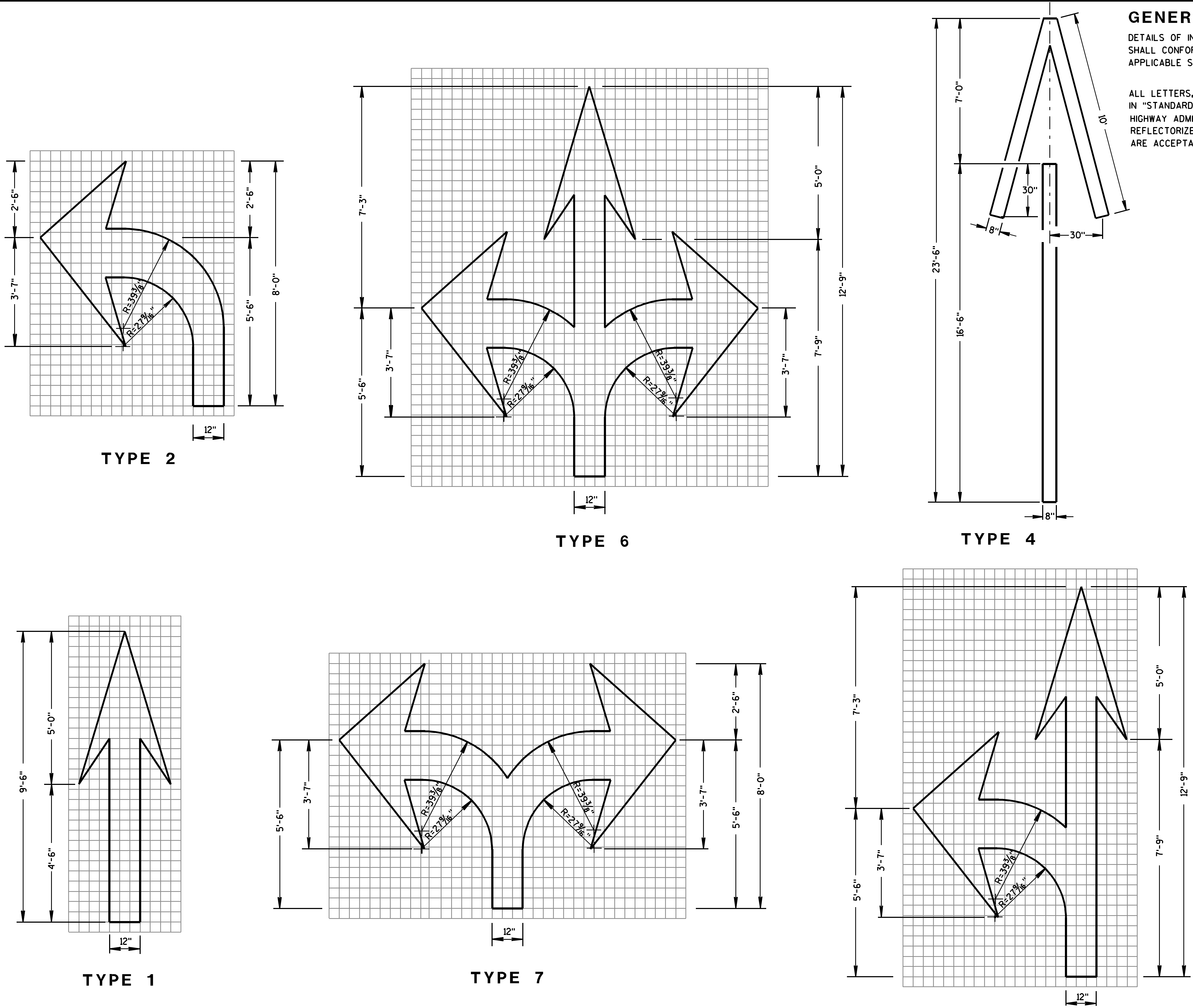
PAVEMENT MARKING WORDS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7-1-11 DATE	/S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER
FHWA	

6

S.D.D. 15 C 7-12b

6

S.D.D. 15 C 7-12b



TYPE 2

TYPE 6

TYPE 4

TYPE 1

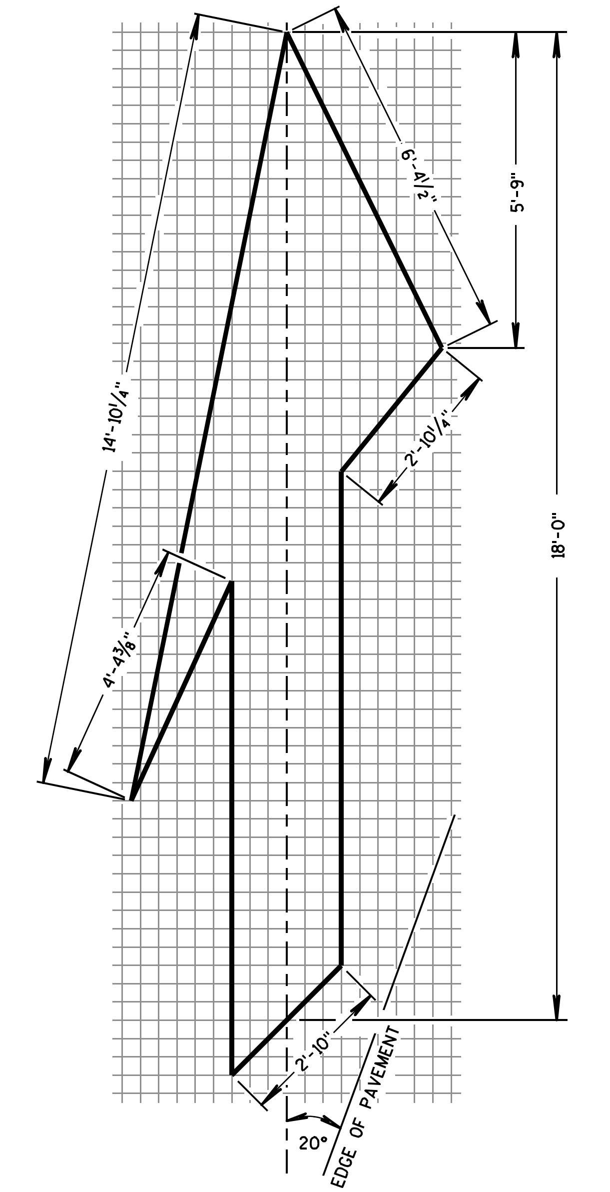
TYPE 7

TYPE 3

GENERAL NOTES

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

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TYPE 5 LANE DROP ARROW

6

6

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

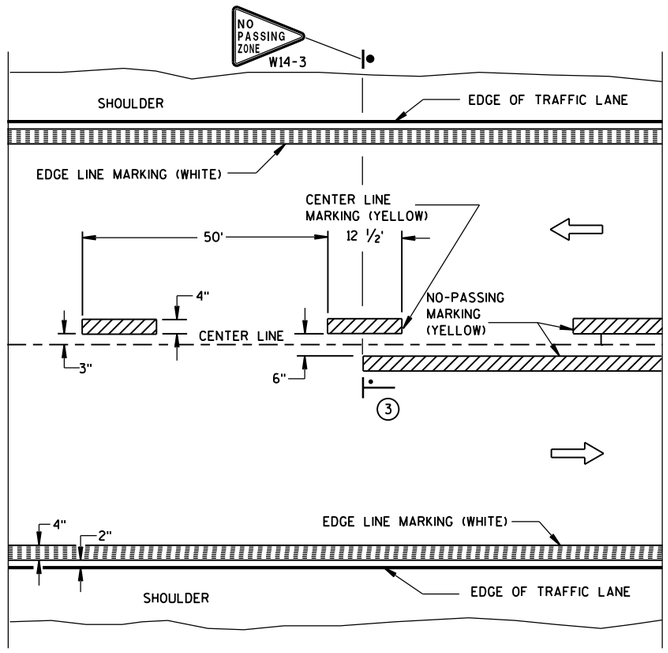
7/1/11 /S/ Thomas N. Notbohm

DATE STATE TRAFFIC ENGINEER DESIGN

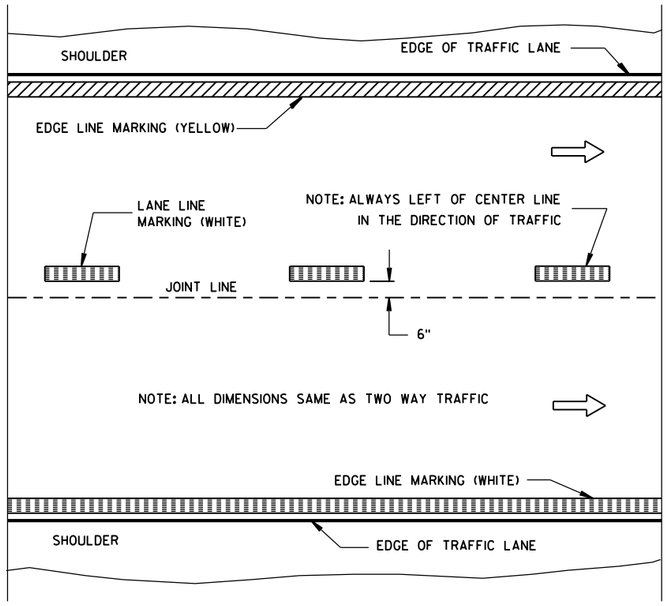
FHWA

S.D.D. 15 C 7-12c

S.D.D. 15 C 7-12c

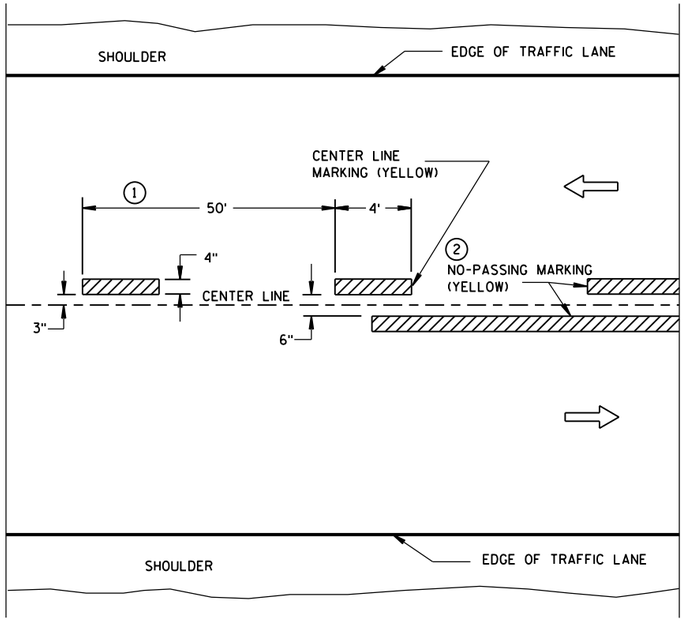


TWO WAY TRAFFIC

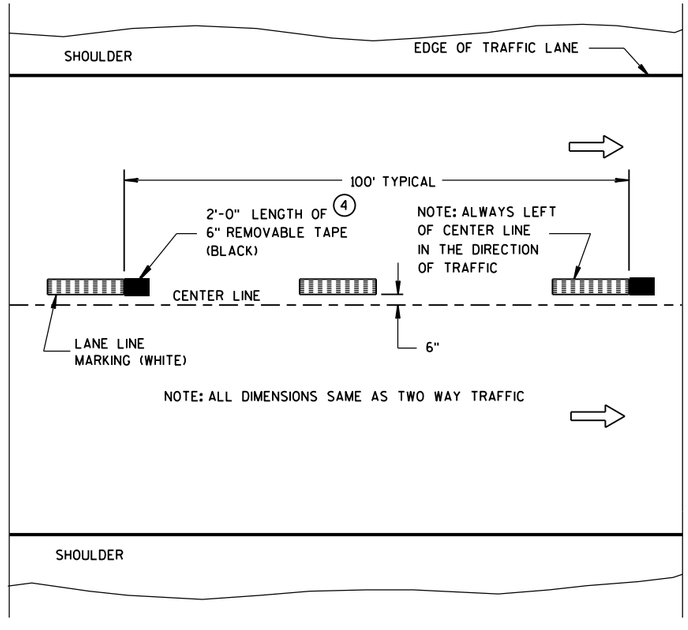


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

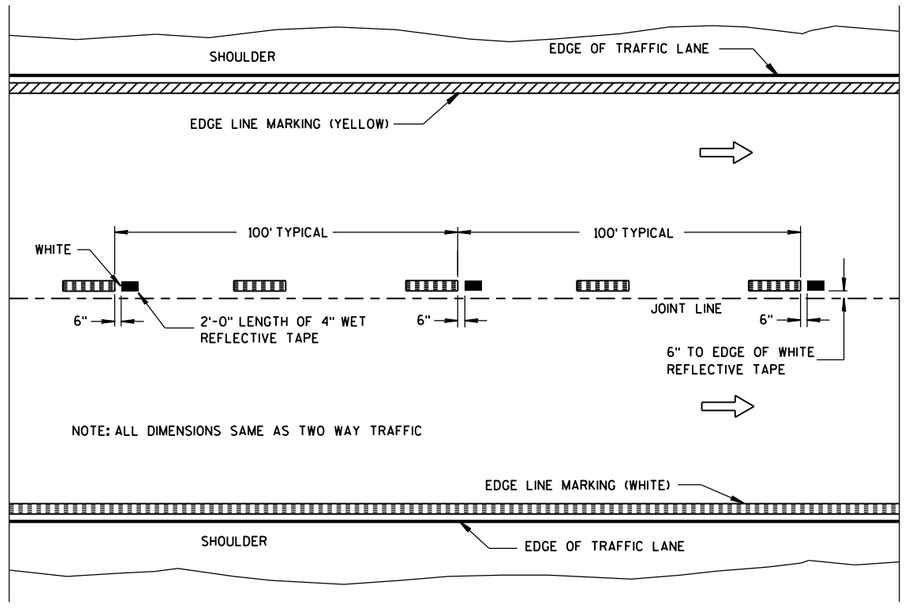
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC E

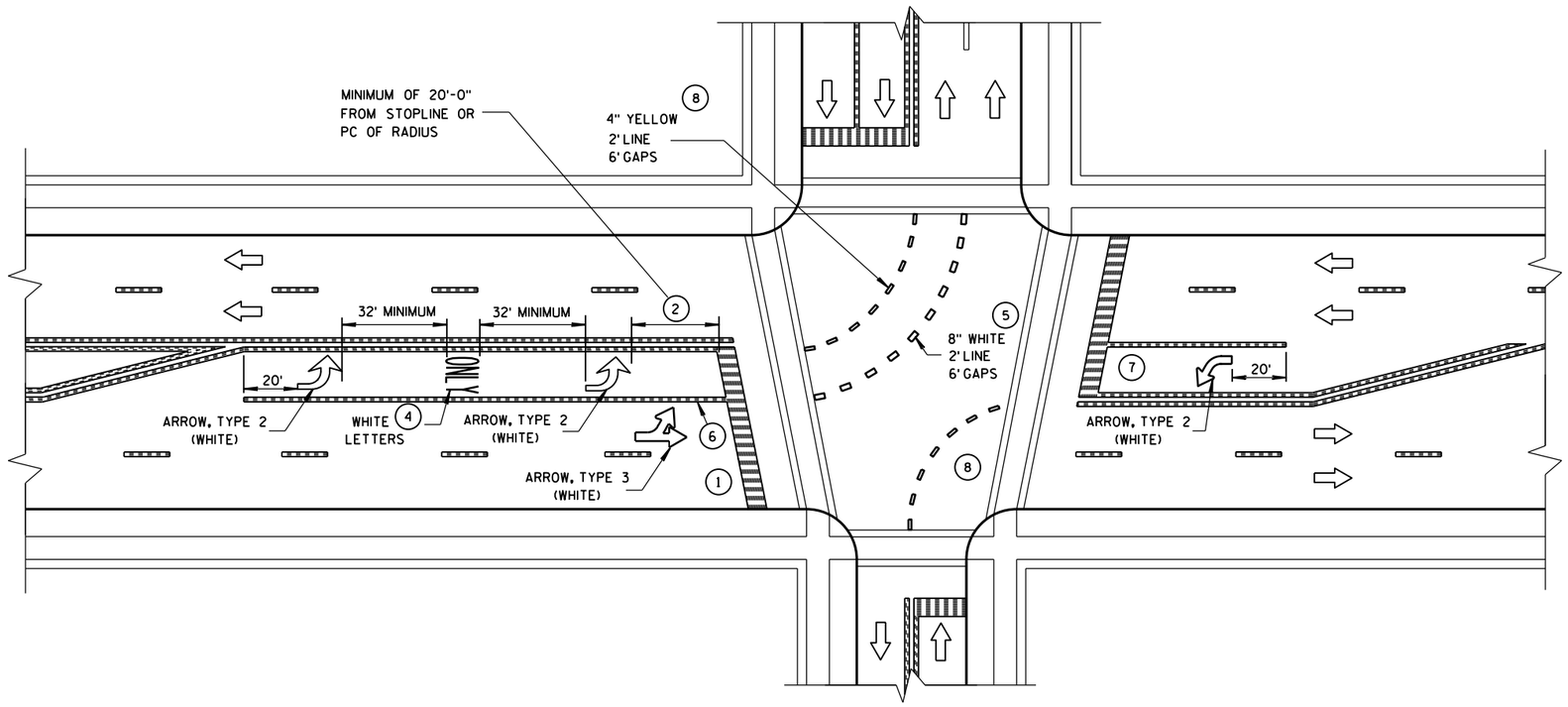
FHWA

6

S.D.D. 15 C 8-16a

6

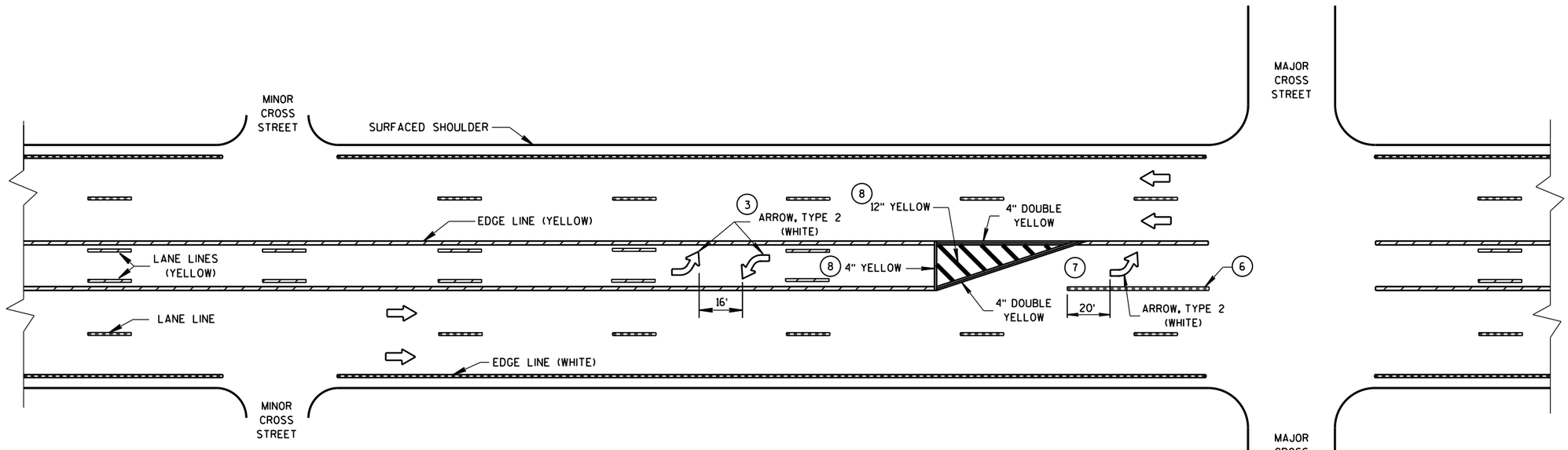
S.D.D. 15 C 8-16a



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



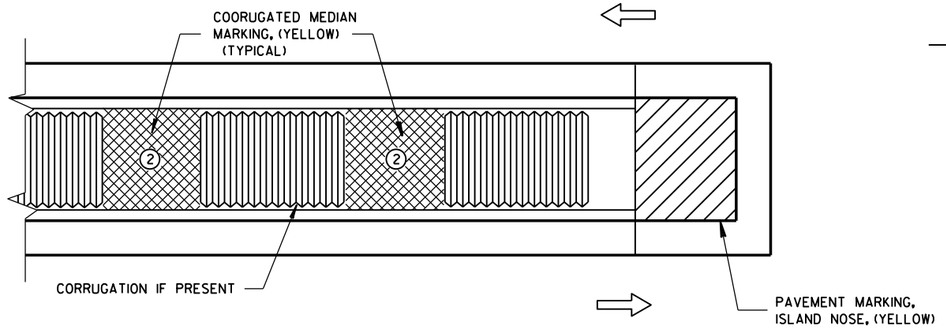
TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

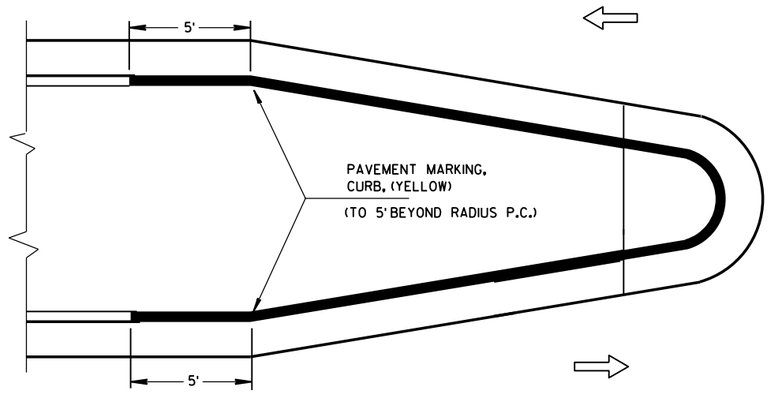
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

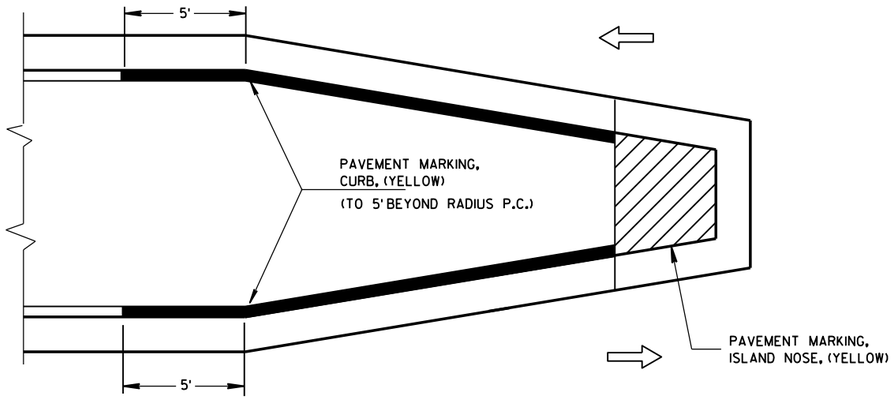
S.D.D. 15 C 8-16e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

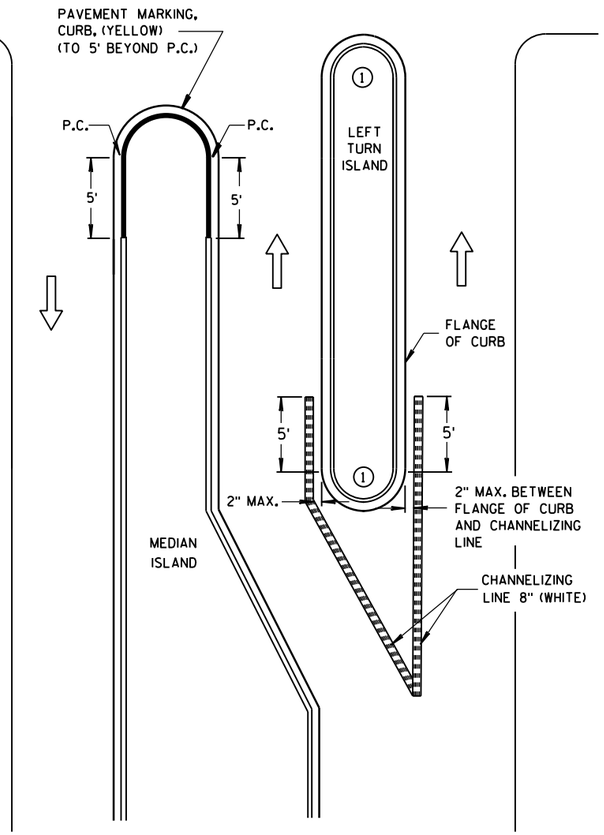


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

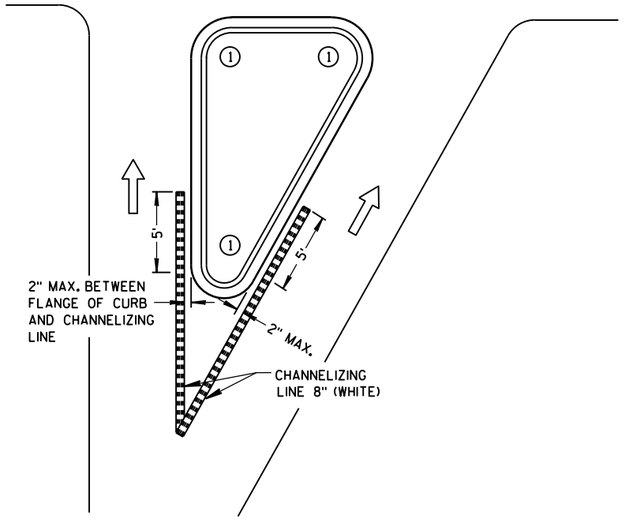


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

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



RIGHT TURN ISLAND

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

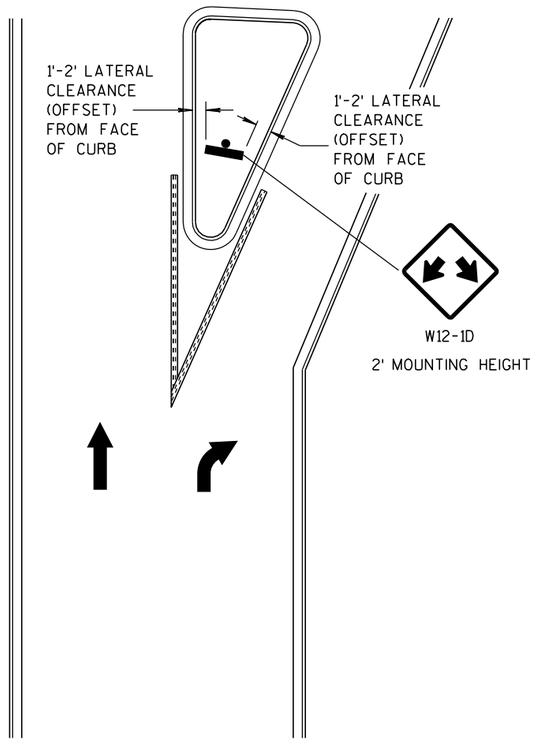
6

S.D.D. 15 C 8-16f

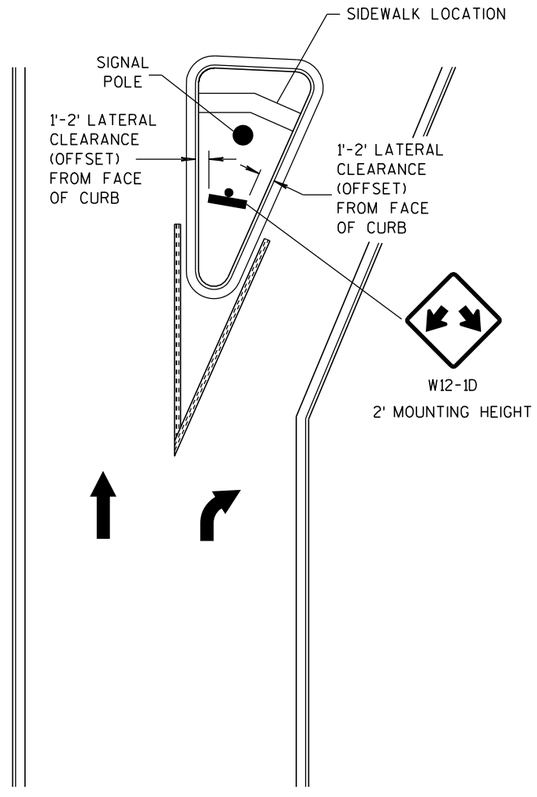
GENERAL NOTE

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

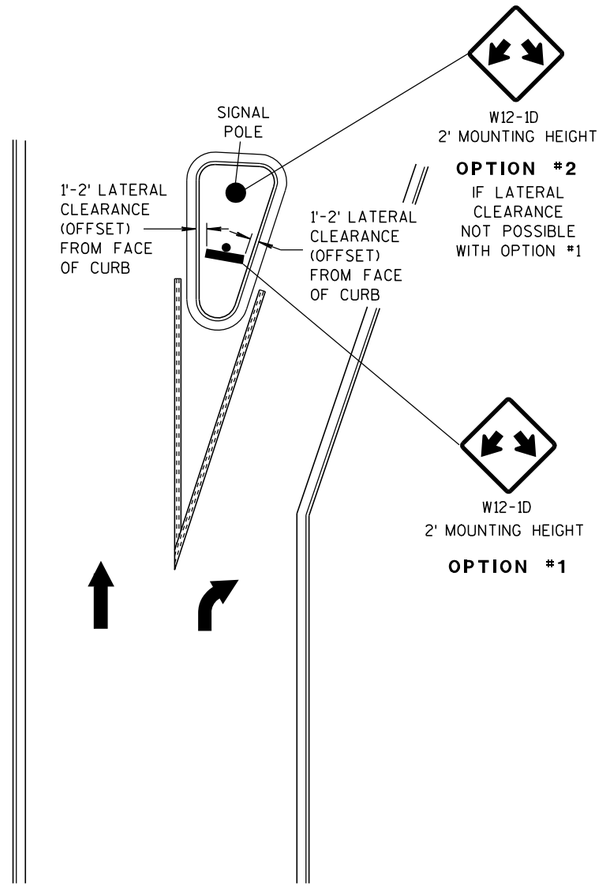
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.



LARGE RIGHT TURN ISLAND



LARGE RIGHT TURN ISLAND
WITH SIGNAL POLE



SMALL RIGHT TURN ISLAND

DOUBLE ARROW WARNING SIGN PLACEMENT

DOUBLE ARROW WARNING SIGN PLACEMENT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
10-22-08 DATE	/S/ Thomas N. Nothem STATE TRAFFIC ENGINEER
FHWA	IGN

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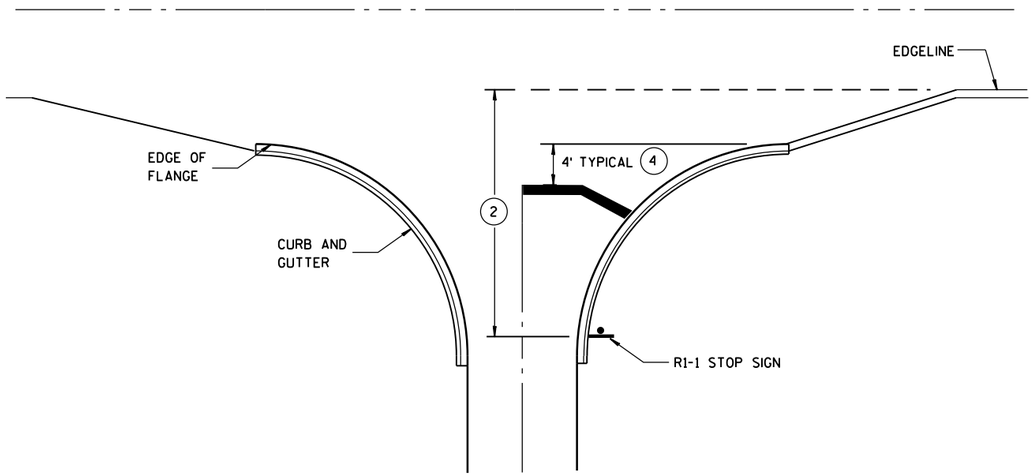
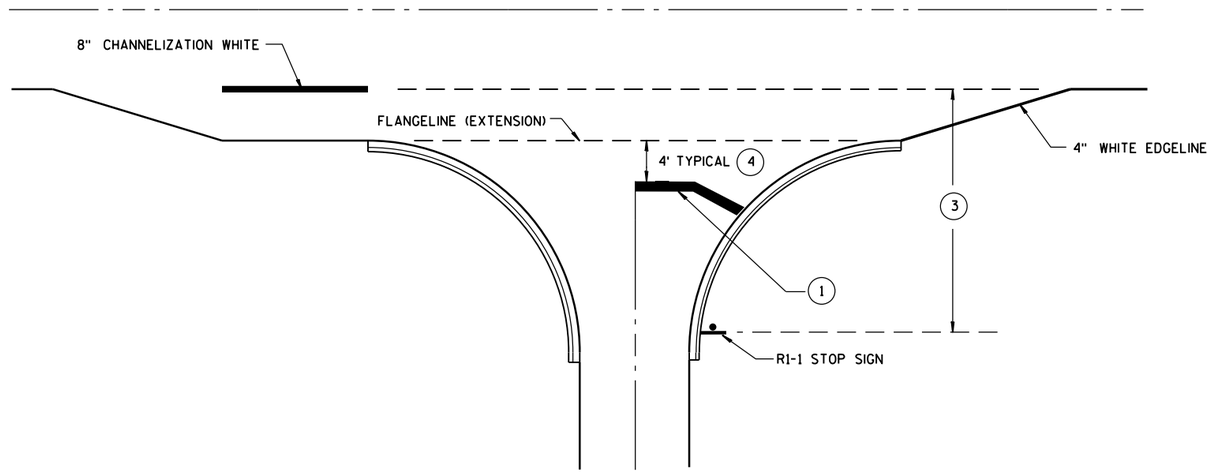
S.D.D. 15 C 27-1

6

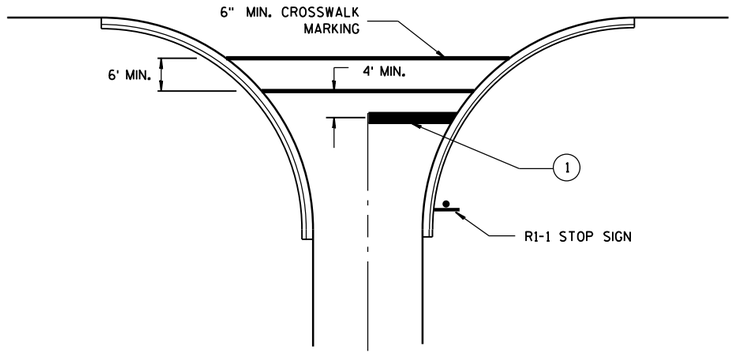
S.D.D. 15 C 27-1



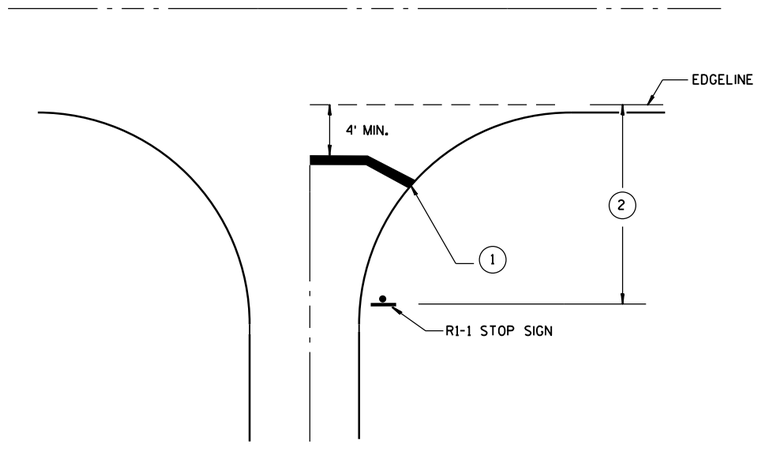
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

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

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/30/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

FHWA

6

S.D.D. 15 C 33-1

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- POST WITH ATTACHED SIGN IN DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"×48" UNLESS OTHERWISE NOTED.

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

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

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

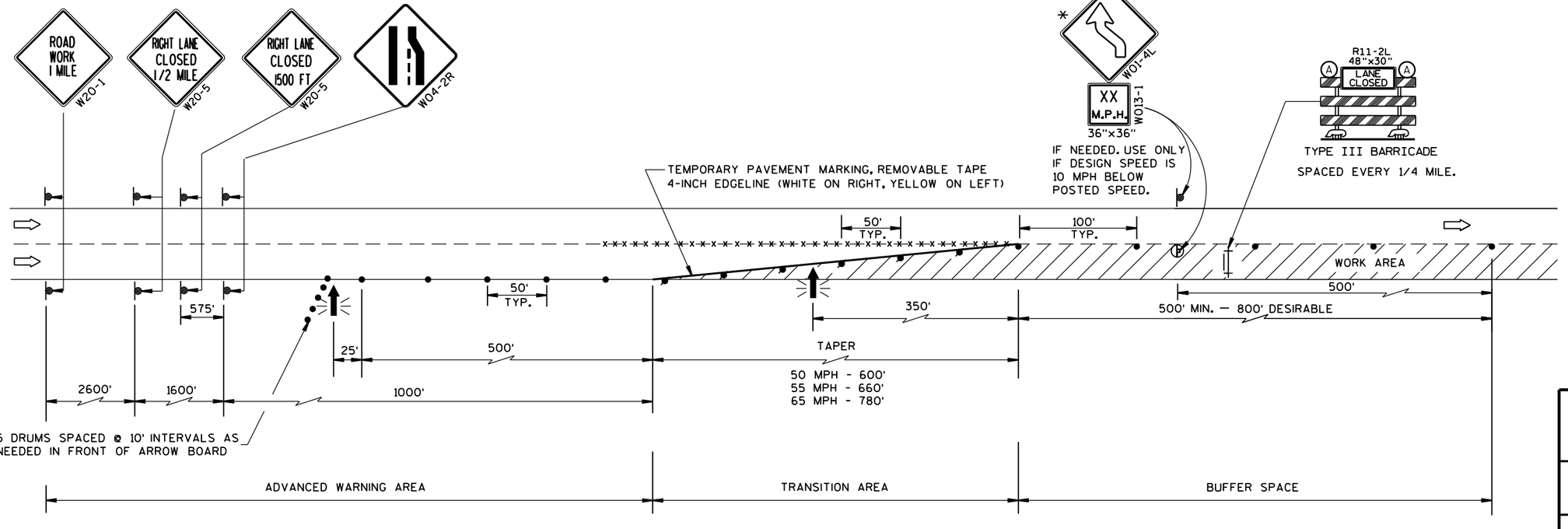
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

LOCATED 500 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.

R2-1
48"×60"
(BLACK AND WHITE)

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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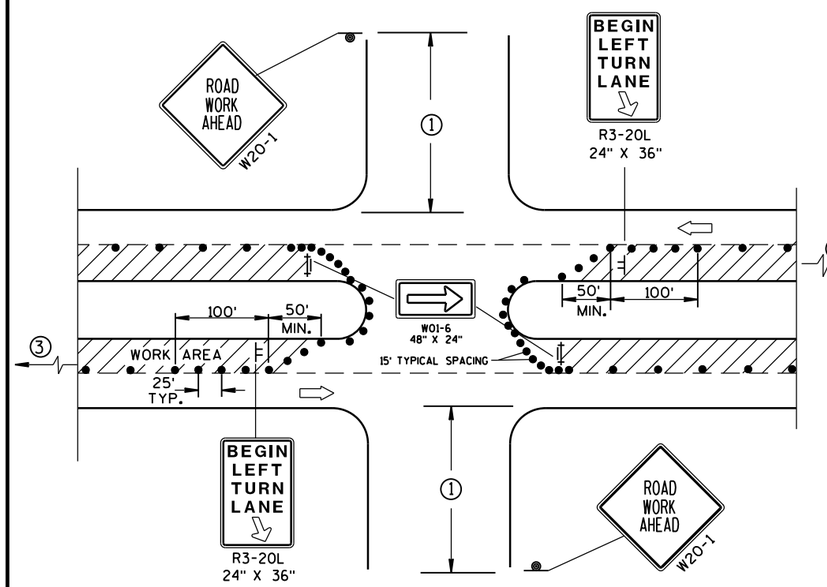
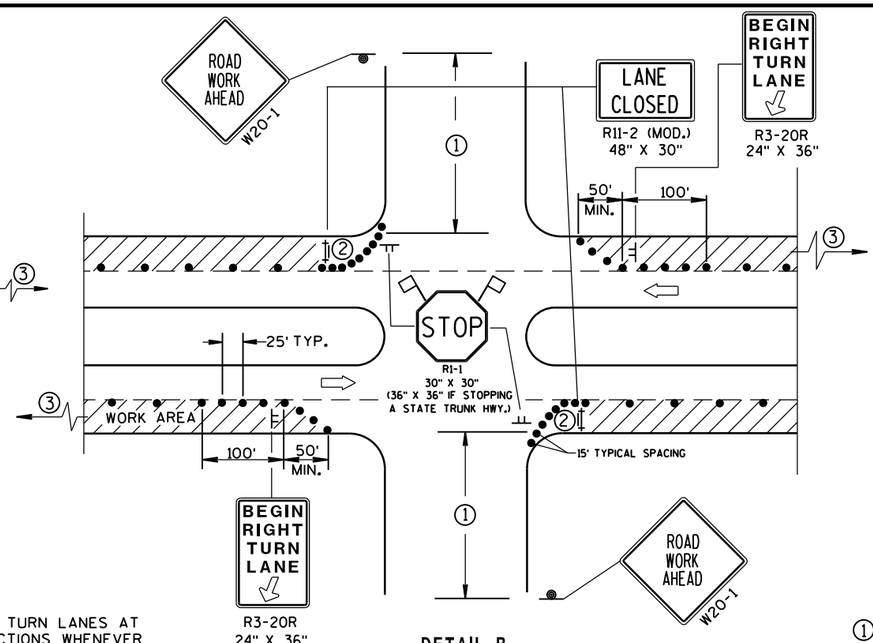
S.D.D. 15 D 12-3



DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

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



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

GENERAL NOTES

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

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

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

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

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

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

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

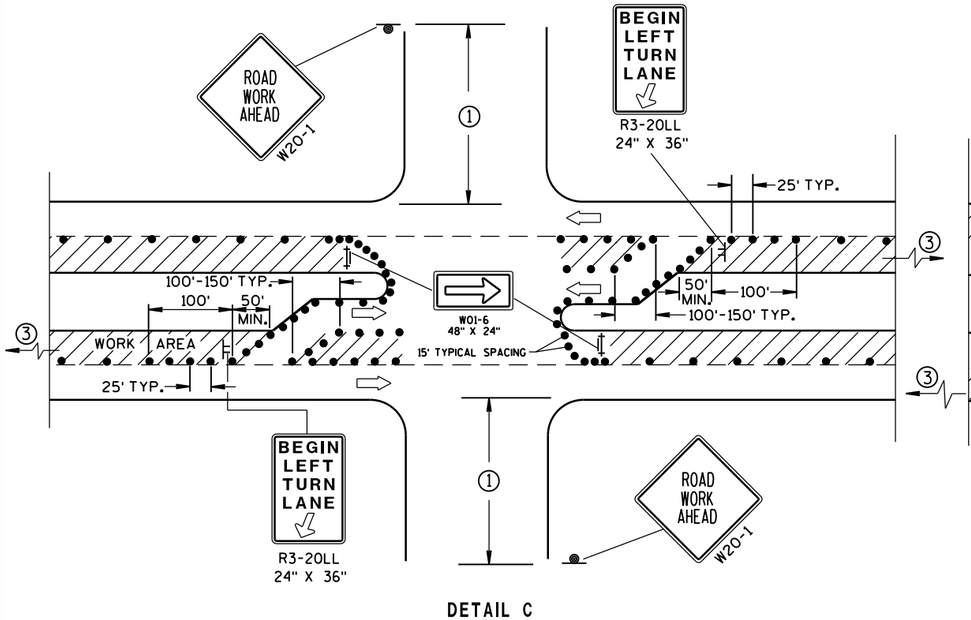
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

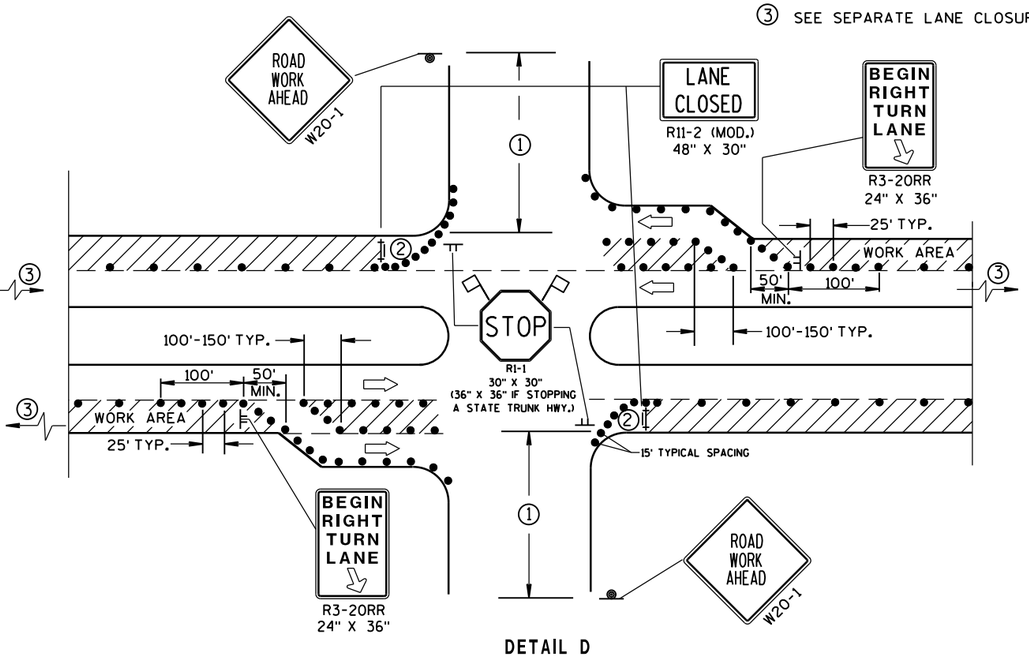
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

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



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

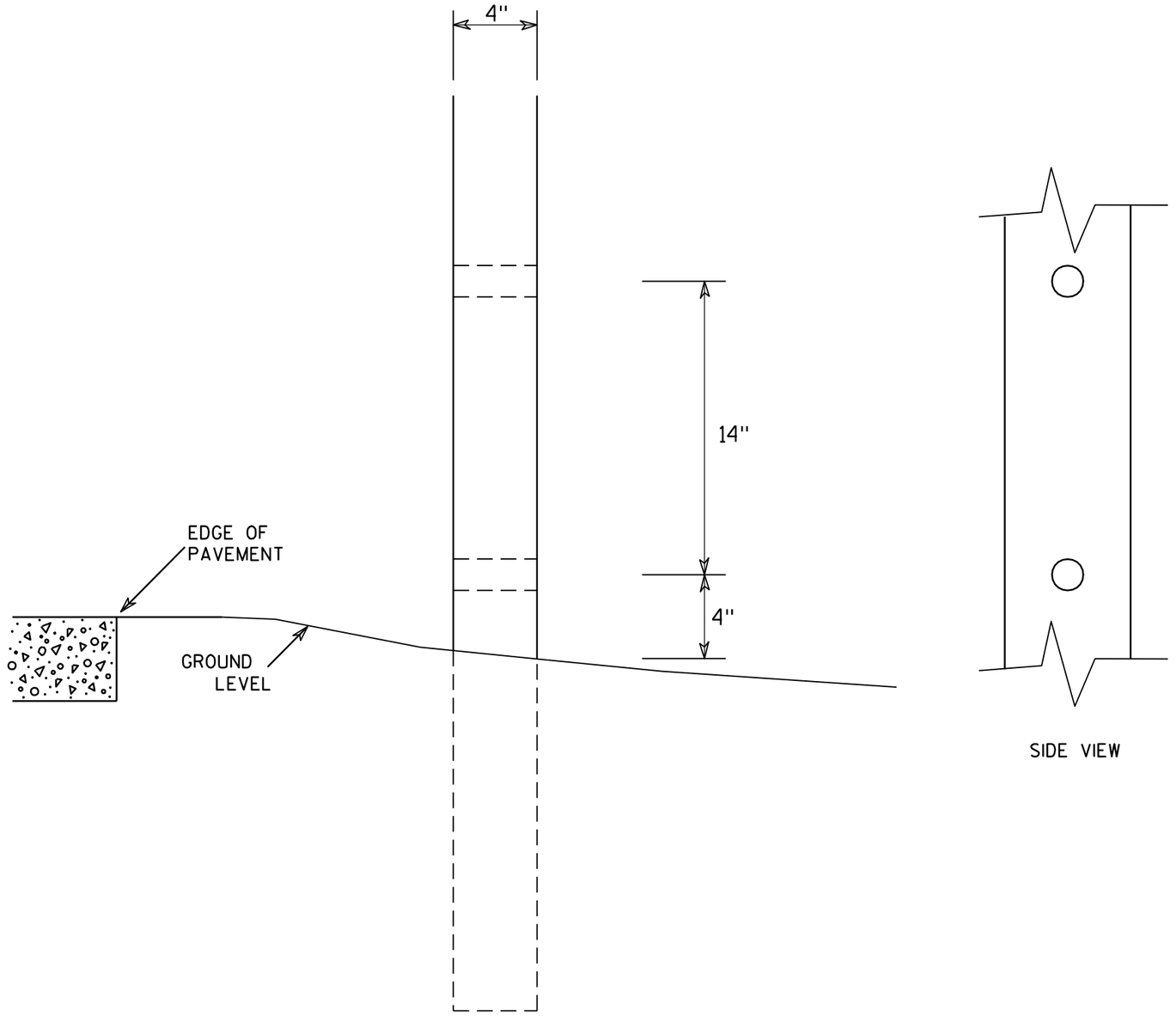
APPROVED

8/2013	/S/ Travis Feltes
DATE	STATE TRAFFIC ENGINE[illegible]ESIGN

FHWA

6

S.D.D. 15 D 21-2



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

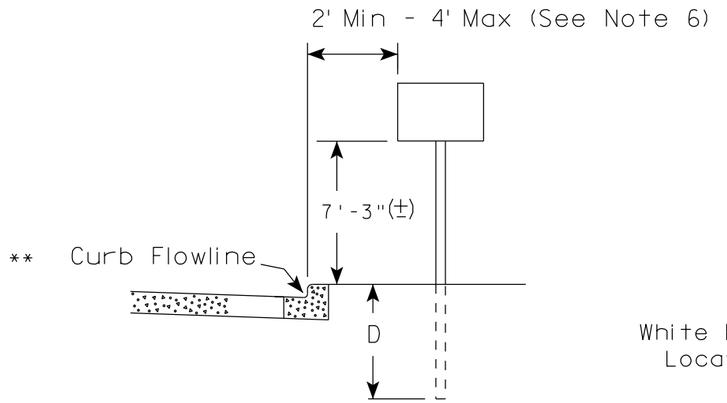
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

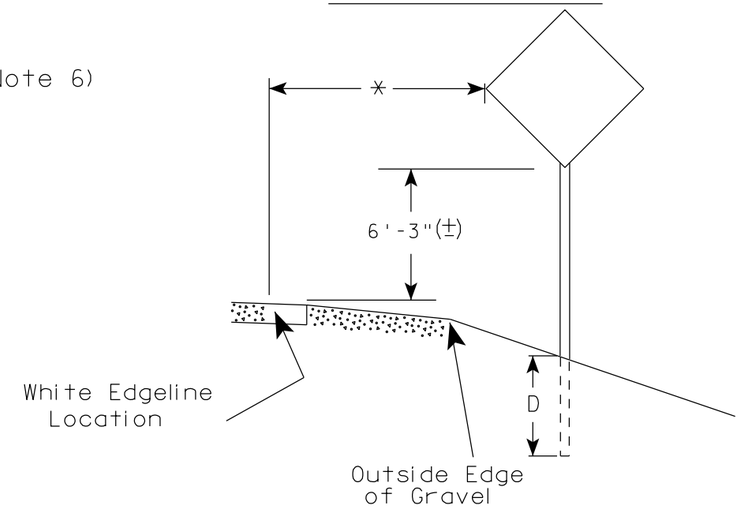
DATE 3/27/97 PLATE NO. A4-11.2

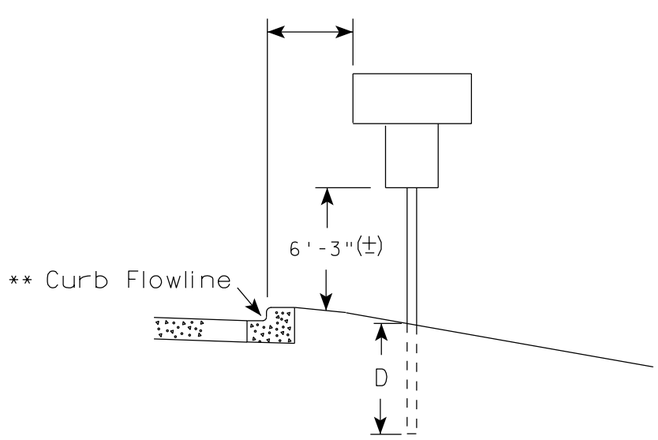
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 110	E

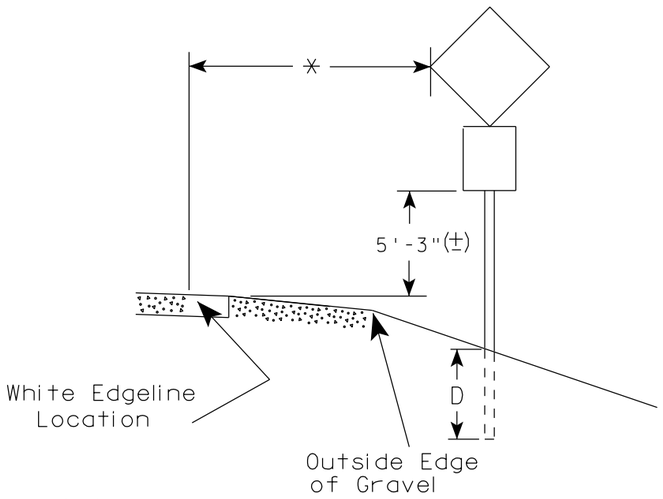
URBAN AREA



RURAL AREA (See Note 2)







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

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

GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

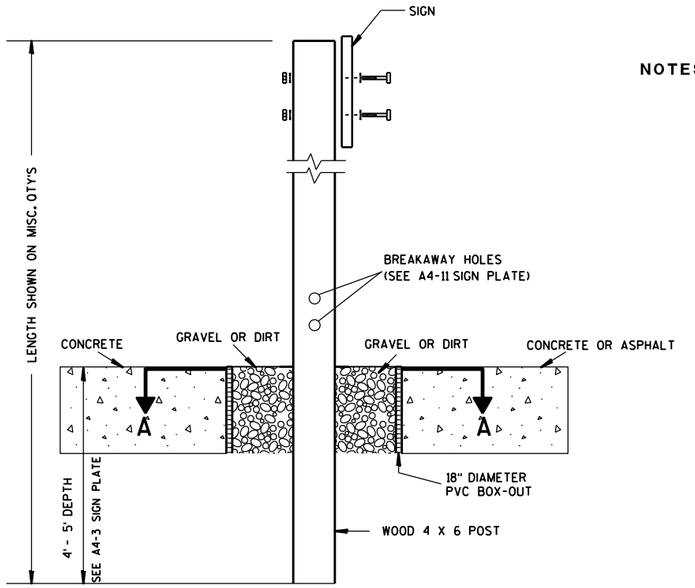
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

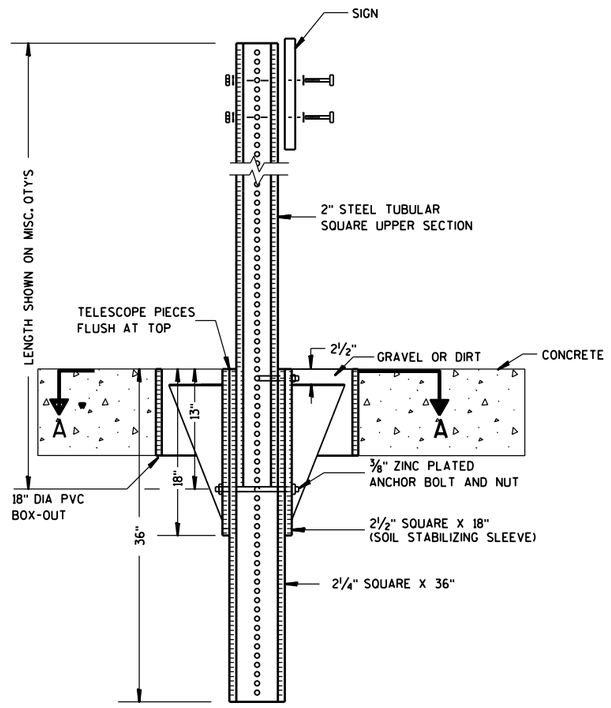
7



ELEVATION VIEW

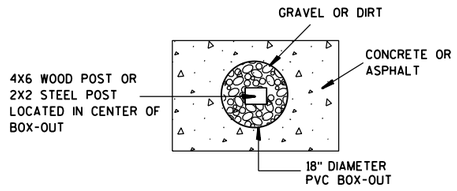
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

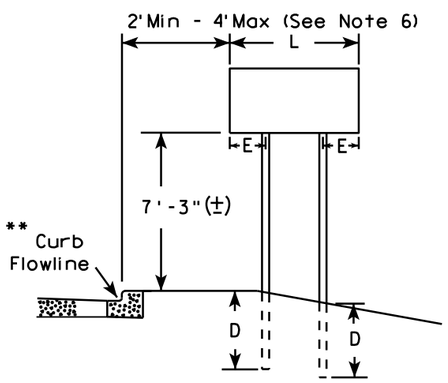
APPROVED Matthew R Rauch
for State Traffic Engineer

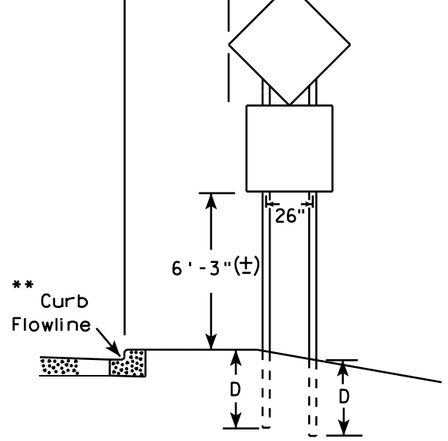
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

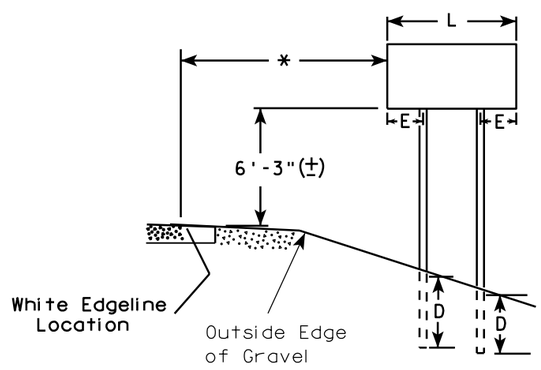
URBAN AREA

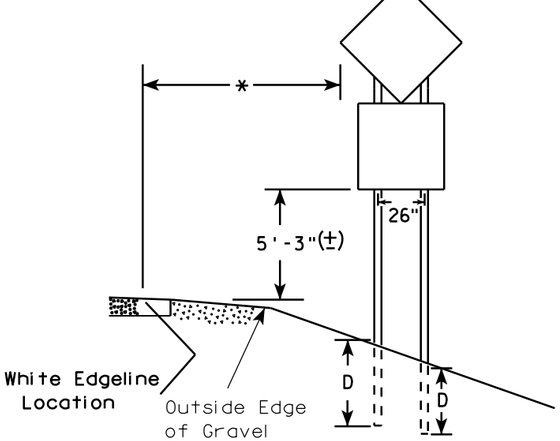




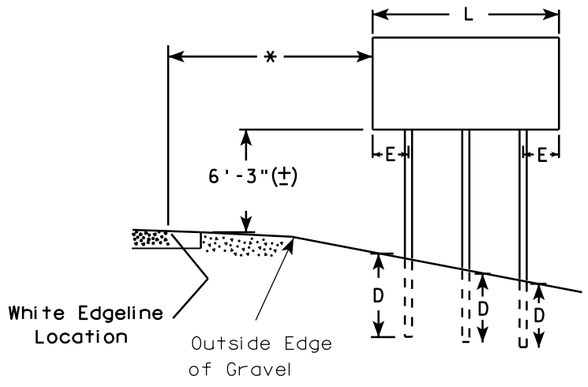
48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)





48" DIAMOND WARNING SIGN



GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding stop signs (R1-1F) 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) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4"-3" (±).

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

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

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

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

***

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

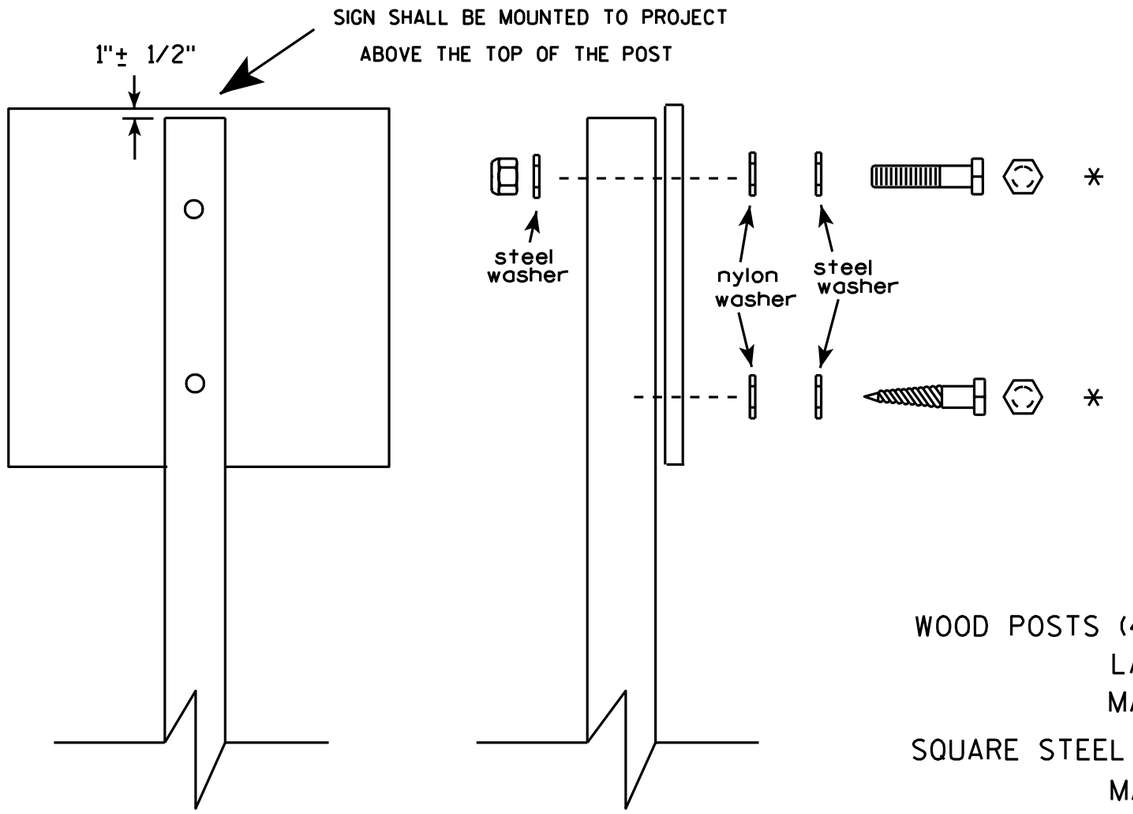
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-4 12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 30-SEP-2013 13:27 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 107.021305:1.000000 WISDOT/CADDS SHEET 42



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

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

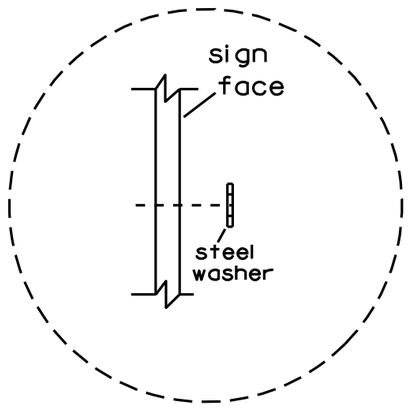
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

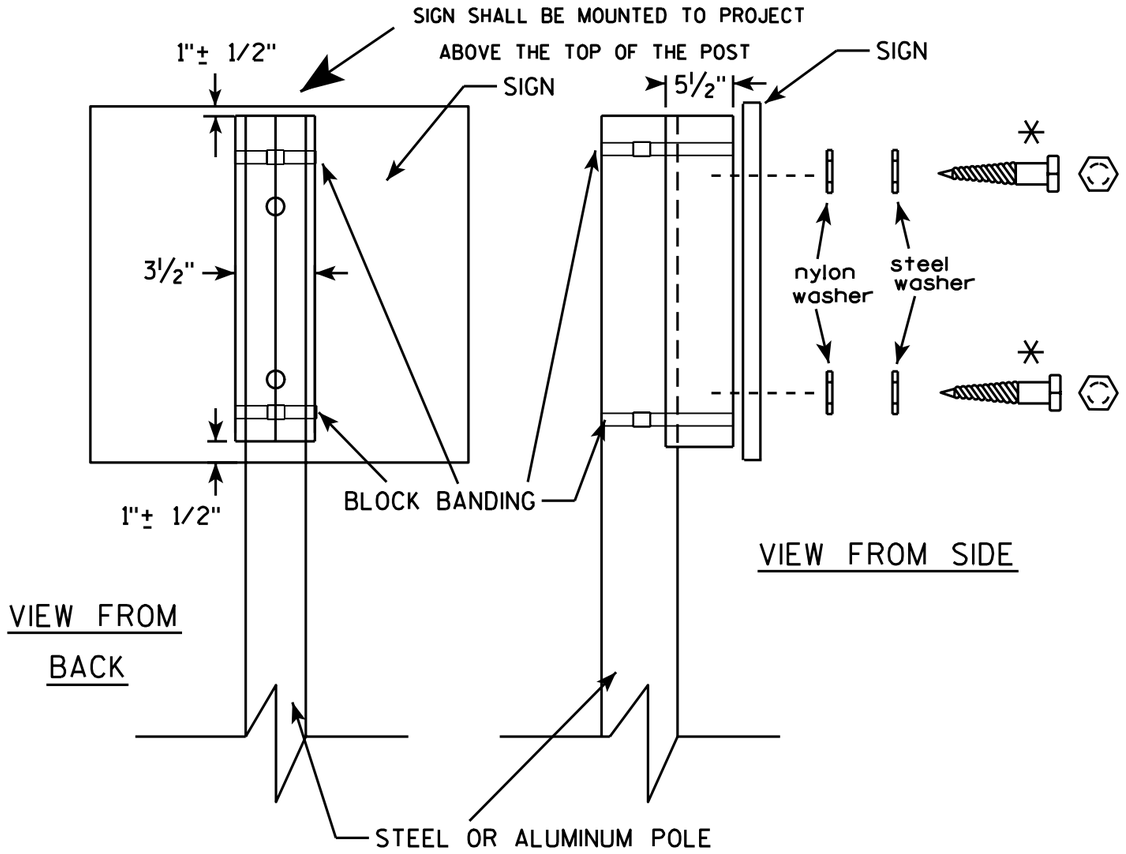
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

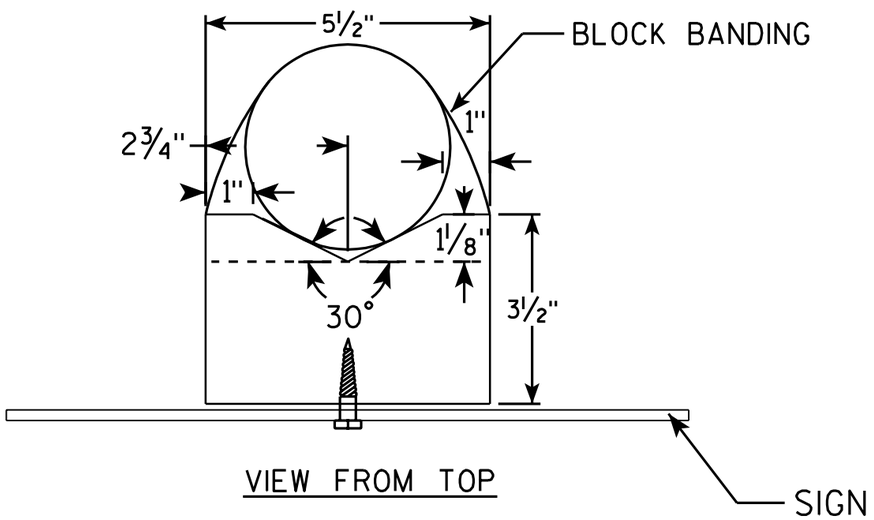
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

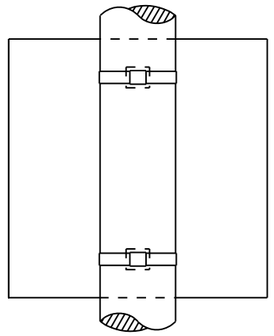
SHEET NO: 115 E

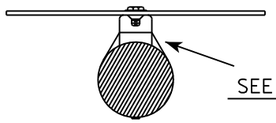
FILE NAME : C:\Users\Projects\tr_stdplate\A510.dgn PLOT DATE : 06-AUG-2007 13:37 PLOT BY : ditjph

WISDOT/CADDS SHEET 42

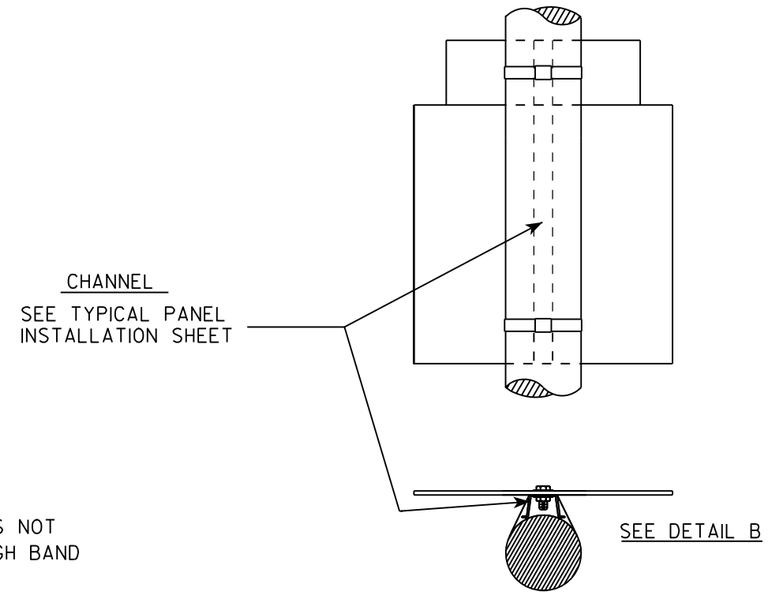
BANDING

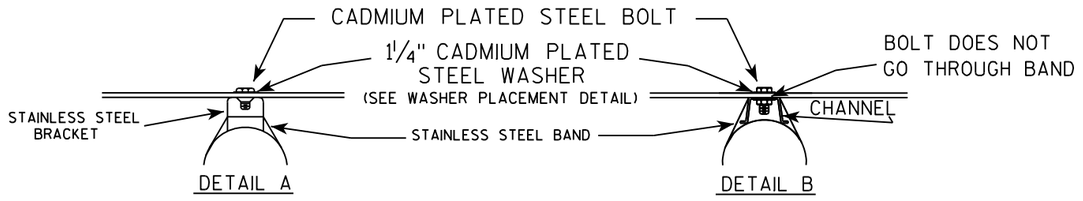
SINGLE SIGN



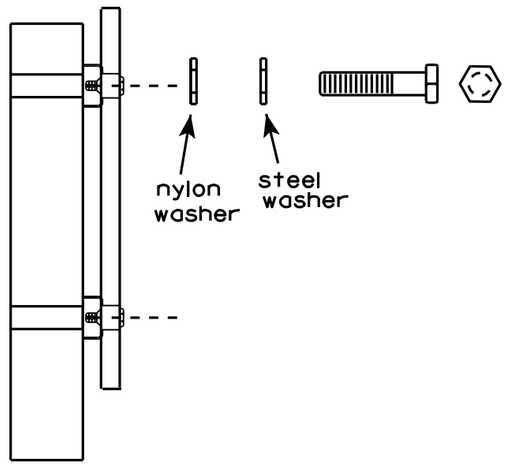


"J" ASSEMBLY





WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.

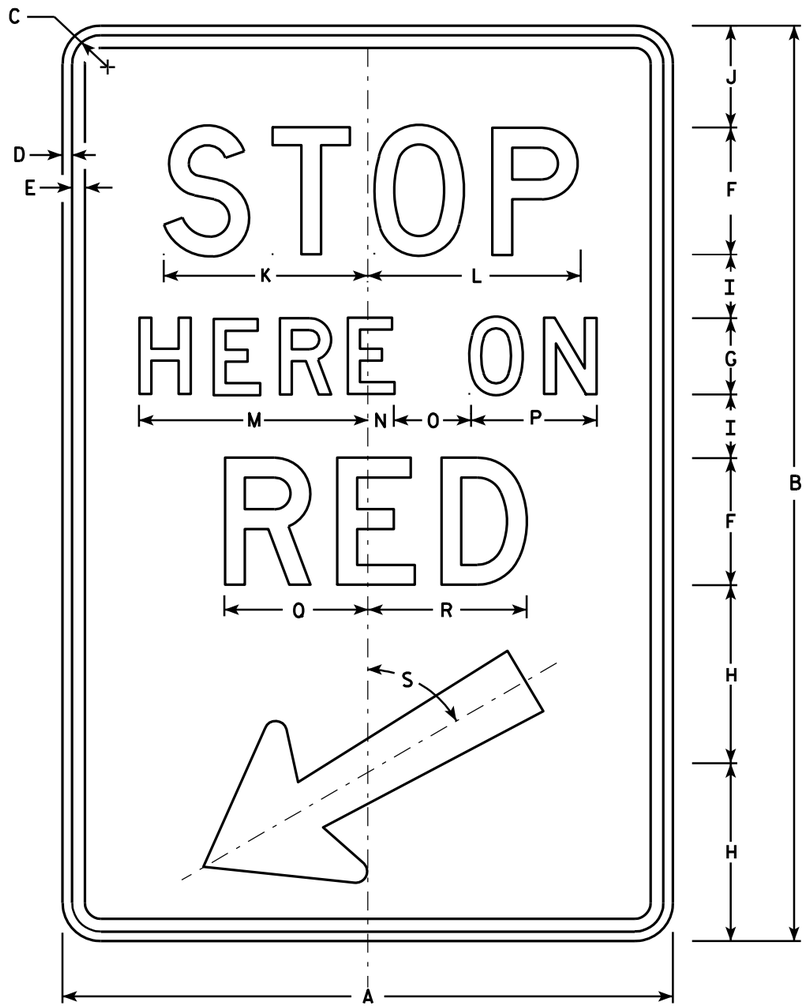
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

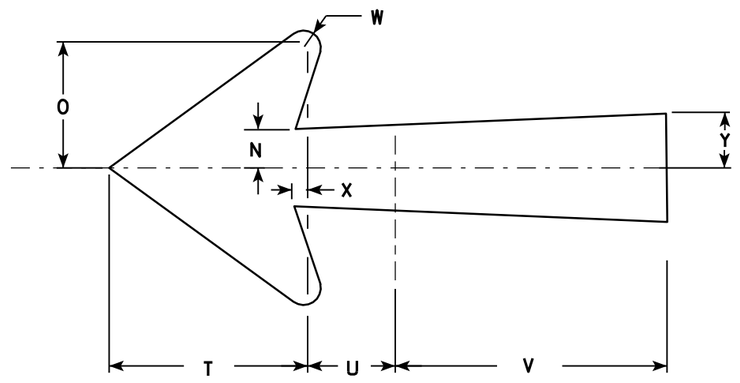
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 116	E



R10-6

NOTES

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



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
2M	24	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
3																											
4																											
5																											

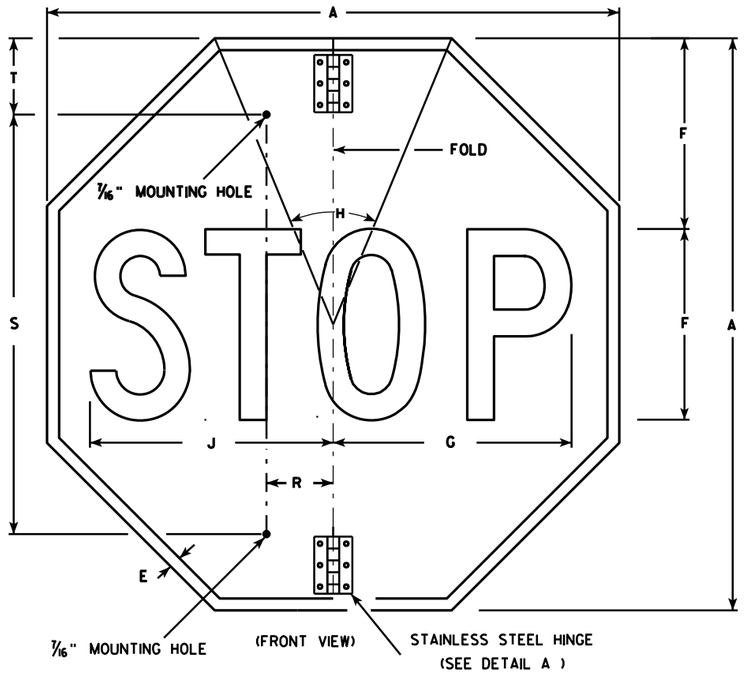
STANDARD SIGN
R10-6

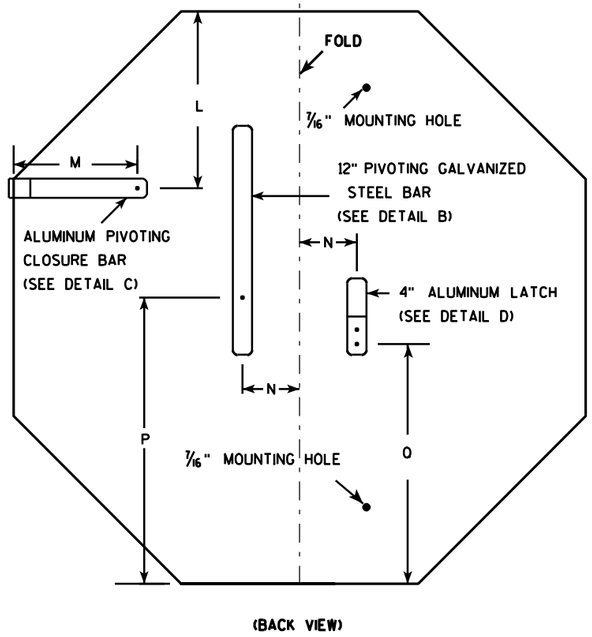
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-6.6

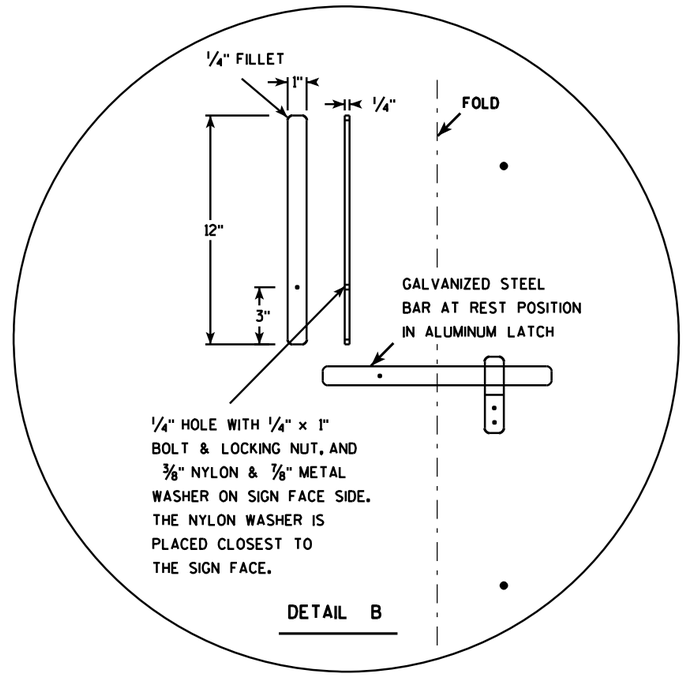
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 117	E

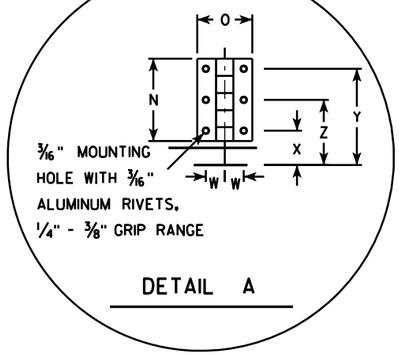


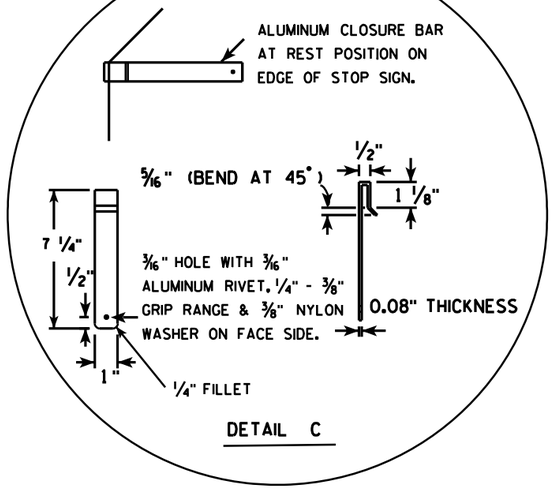


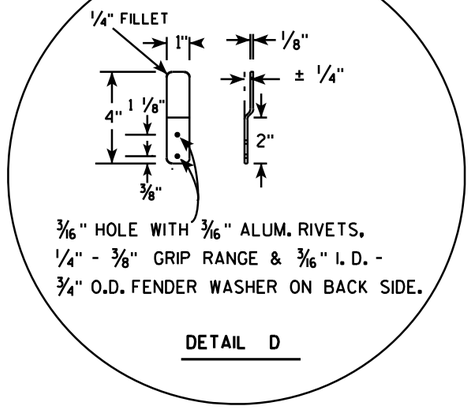
NOTES

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.









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																											

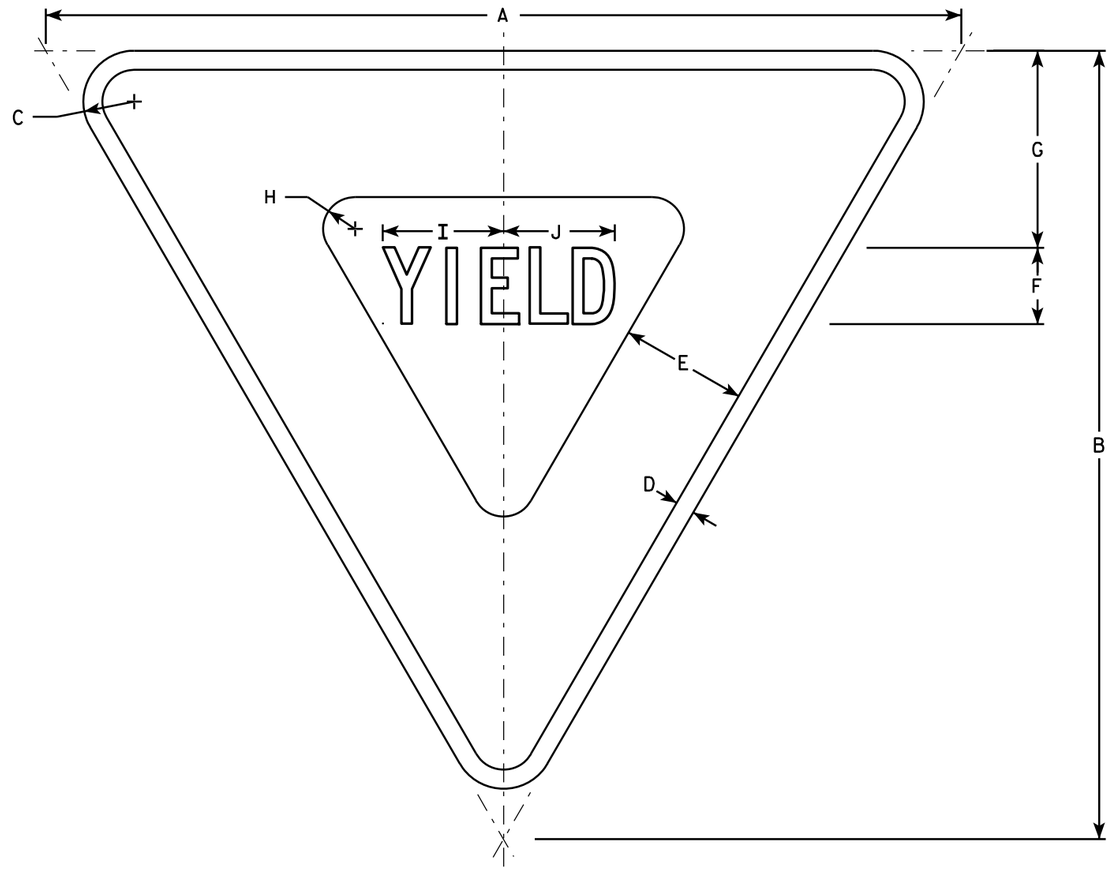
STANDARD SIGN
R1-1F

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: 118 | E



R1-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6	24	21	1 1/2	3/8	3	2	4 3/4	7/8	3 1/4	3																	1.75
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

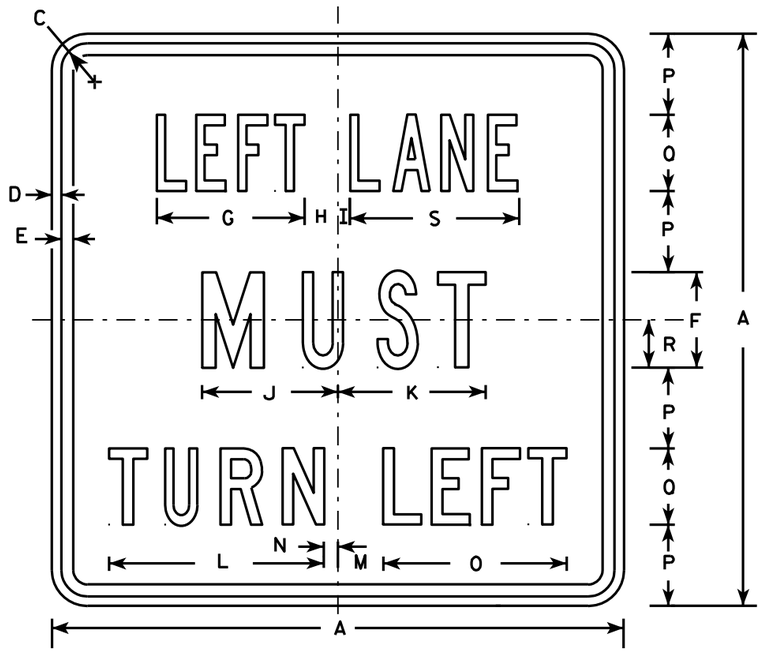
STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

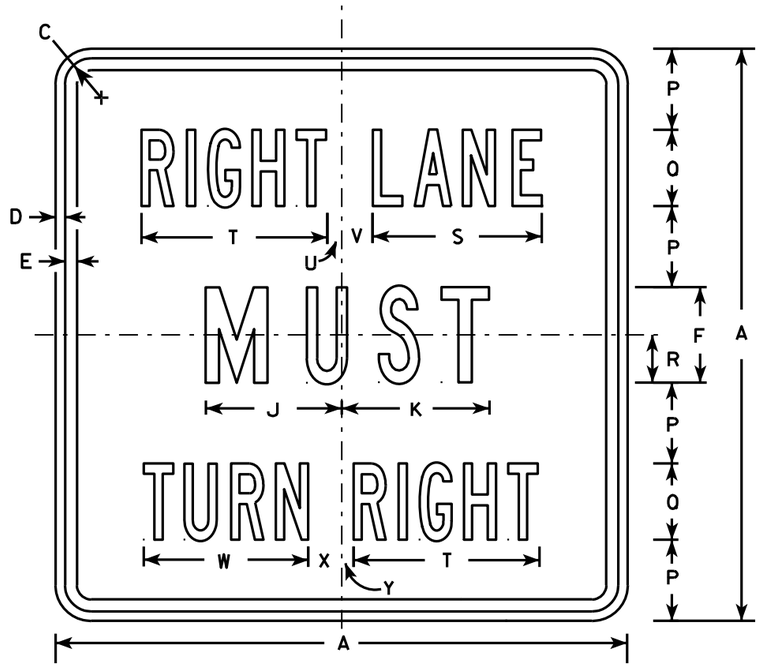
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/02/10 PLATE NO. R1-2.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 119 | E



R3-7L



R3-7R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - Line 1 is Series B.
   Line 2 is Series C.
   Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2S	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2M	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
3	36		1 5/8	5/8	3/4	6	9 5/8	2	1 1/8	8 3/4	9	13 1/2	3 7/8	1 1/2	12 1/2	5	5	3	10 5/8	12	7/8	2 1/4	10 5/8	2 1/8	1		9.00
4	48		2 1/4	3/4	1	8	13 1/2	2 3/8	1 1/2	11 1/2	11 7/8	17 3/4	3 5/8	2 1/2	16 3/8	6 1/2	7	4	14 3/8	16 7/8	5/8	3 1/4	15 1/8	2 3/4	1 1/8		16.00
5																											

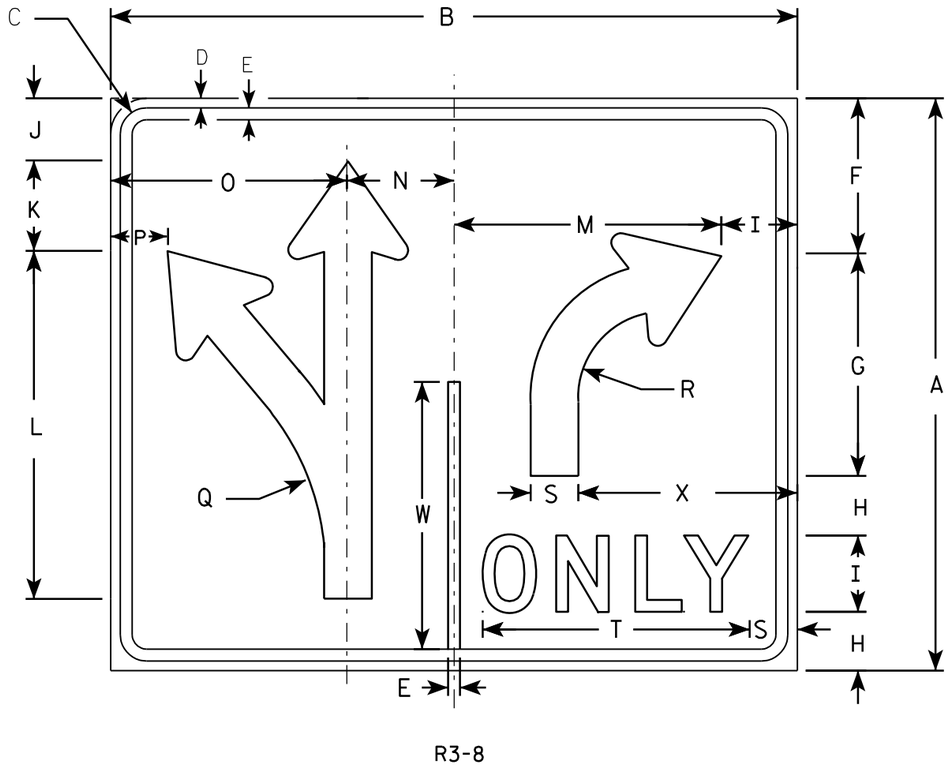
STANDARD SIGN
R3-7L & R3-7R

WISCONSIN DEPT OF TRANSPORTATION

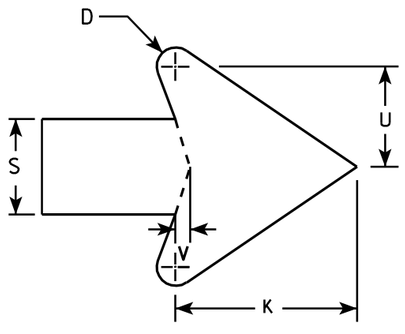
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-7.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 120 | E



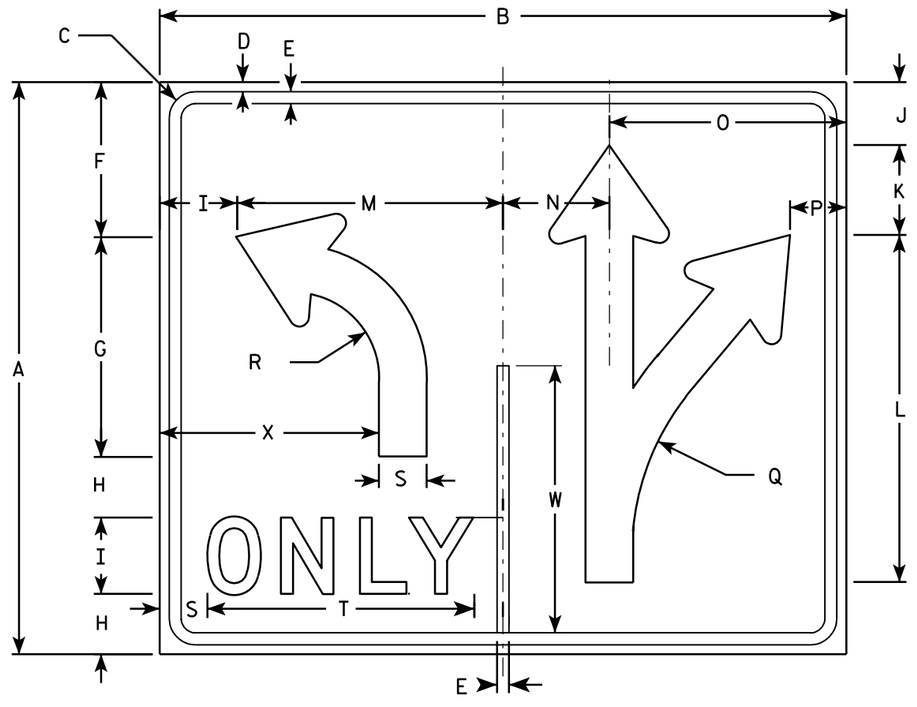
R3-8



ARROW DETAIL

NOTES

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



R3-8A

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	3 1/4	4 3/4	18 1/4	14	5 5/8	12 3/8	3	13 1/4	4 1/2	2 1/2	14	2 5/8	3/8	14	11 1/2			7.5
2M	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	3 1/4	4 3/4	18 1/4	14	5 5/8	12 3/8	3	13 1/4	4 1/2	2 1/2	14	2 5/8	3/8	14	11 1/2			7.5
3																											
4	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	5 1/4	7 1/8	29 1/8	21	8 3/8	18 5/8	4 3/8	21 7/8	7 1/4	3 3/4	20 5/8	4	5/8	22 3/8	17 1/4			18.0
5	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	5 1/4	7 1/8	29 1/8	21	8 3/8	18 5/8	4 3/8	21 7/8	7 1/4	3 3/4	20 5/8	4	5/8	22 3/8	17 1/4			18.0

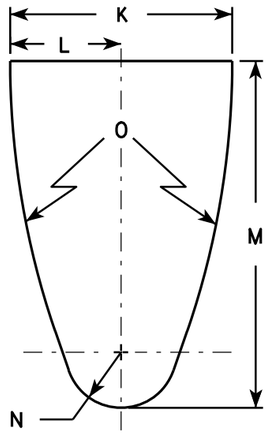
STANDARD SIGN
R3-8 & R3-8A

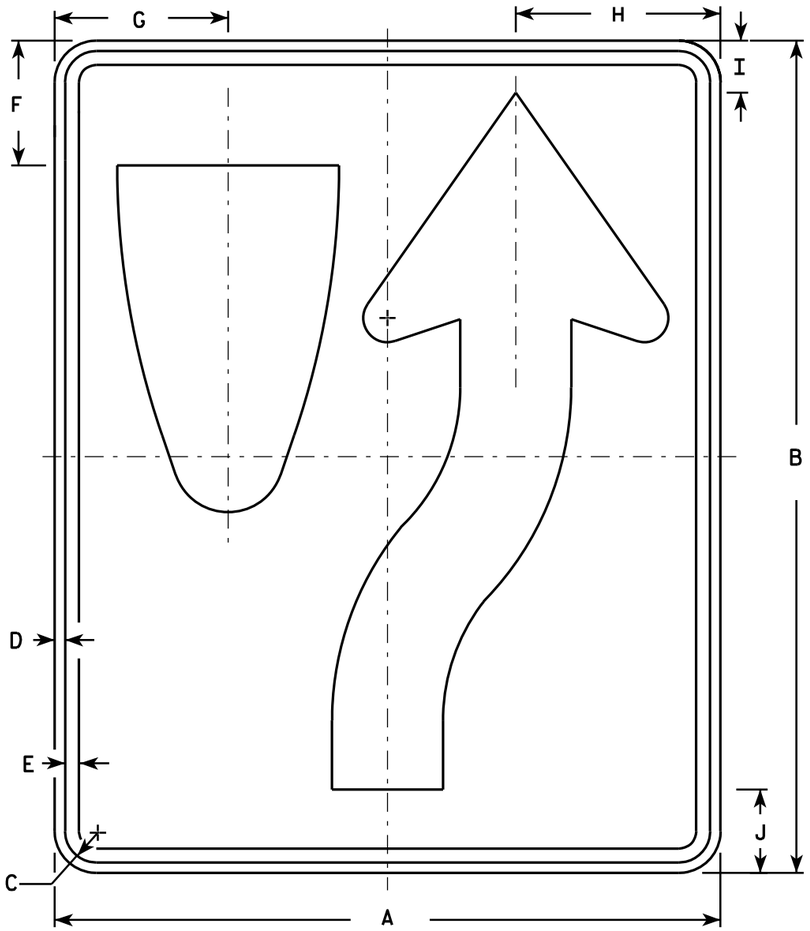
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-8.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 121	E

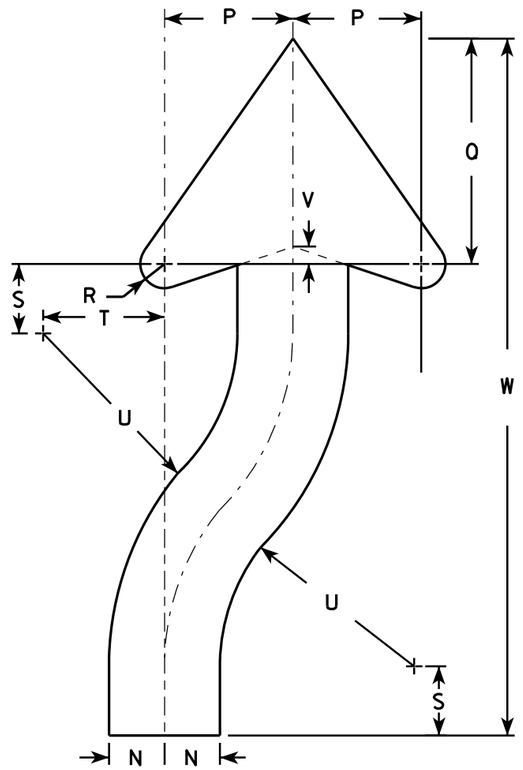




R4-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

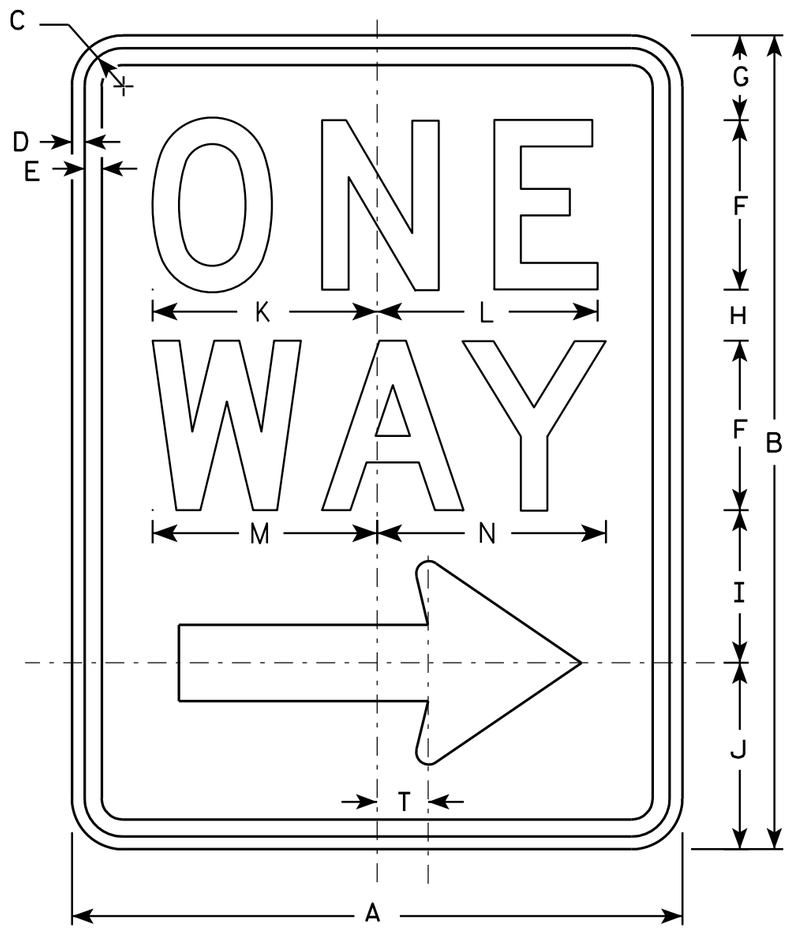
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

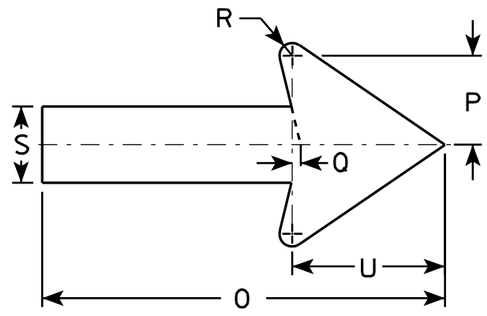
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 122	E



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

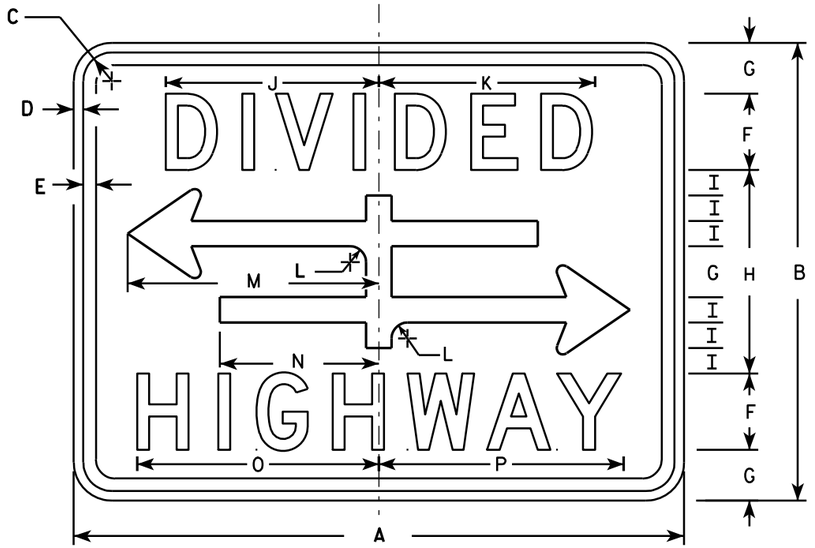
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

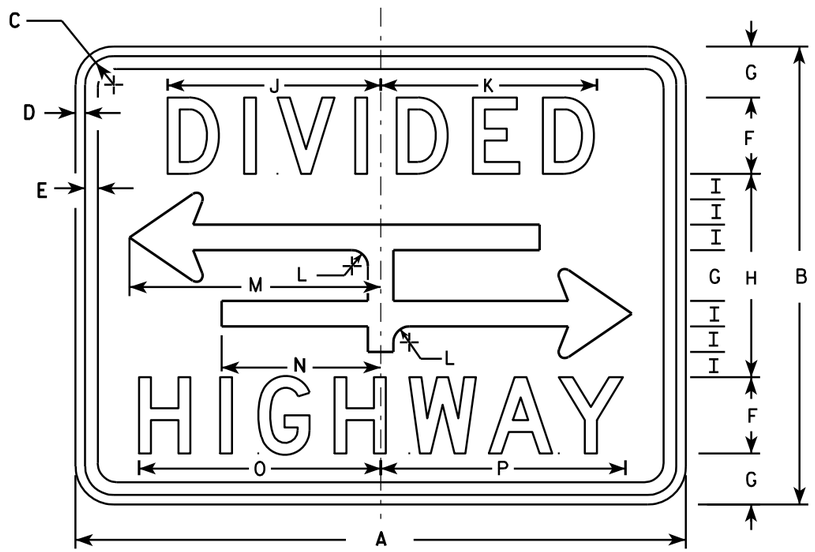
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 123	E



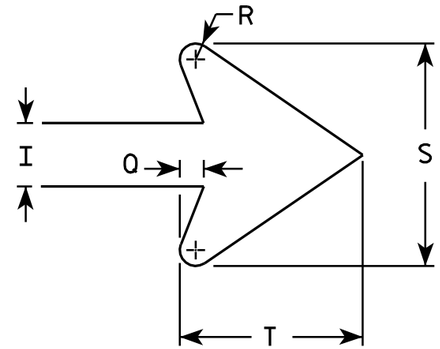
R6-3

NOTES

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



R6-3A



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	18	1 1/8	3/8	3/8	3	2	8	1	8 3/8	8 1/2	5/8	9 7/8	6 1/4	9 1/2	9 5/8	3/8	1/4	3 1/2	2 3/4							3.0
2S	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
2M	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
3																											
4																											
5																											

STANDARD SIGN
R6-3 & R6-3A

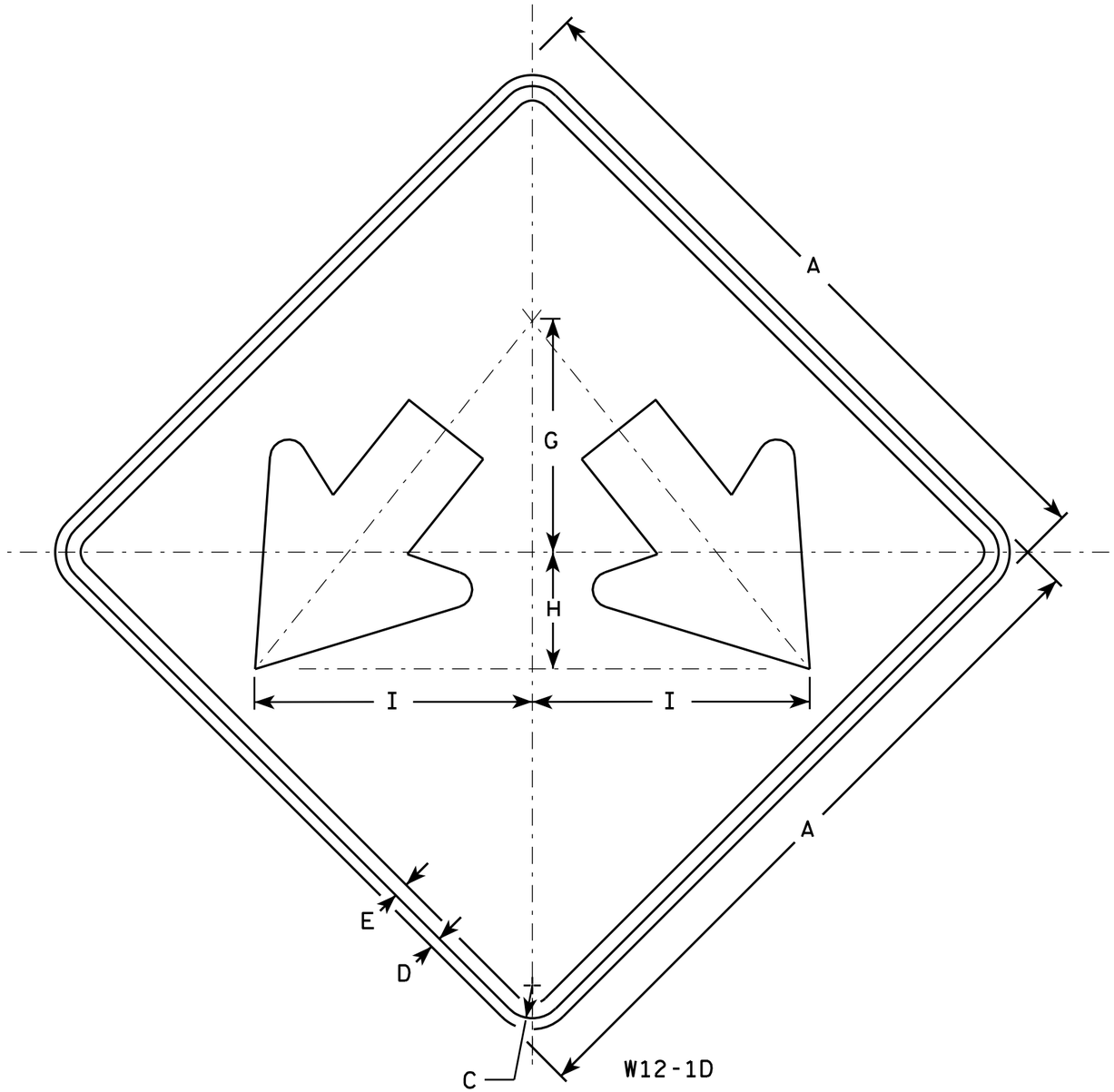
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

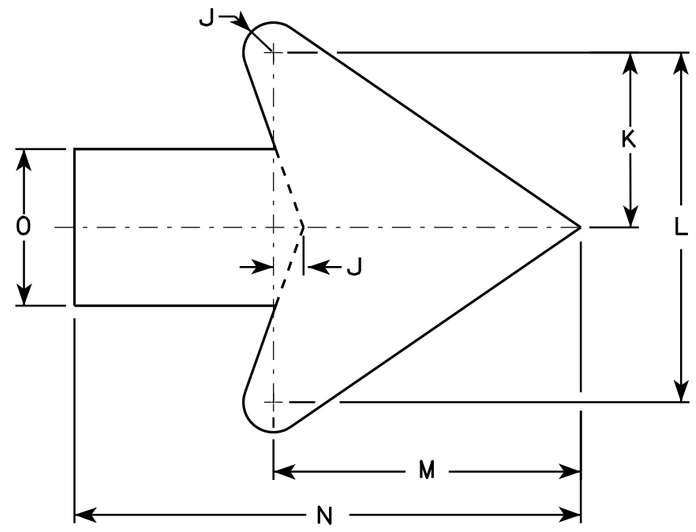
PROJECT NO:

SHEET NO: 124 E



NOTES

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



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-1D.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 125 | E

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
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