WKE

FEB 2016

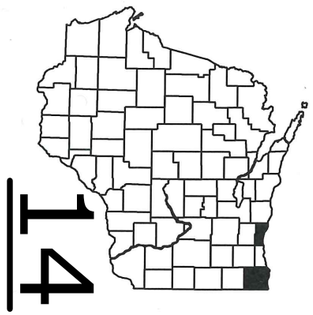
PROJECT ID: 3700-20-73

WITH:

COUNTY: KENOSHA/OZAUKEE/RACINE

ORDER OF SHEETS

TOTAL SHEETS = 188



14

N

DESIGN DESIGNATION		STH 31 & STH 165	STH 158 & 68TH AVE	STH 167 & STH 181	STH 31 & STH 38
A.A.D.T. (EXISTING)	=	24,991	20,506	24,534	26,298
A.A.D.T.	=	N/A	N/A	N/A	N/A
D.H.V.	=	N/A	N/A	N/A	N/A
D.D.	=	N/A	N/A	N/A	N/A
T.	=	N/A	N/A	N/A	N/A
DESIGN SPEED	=	50 MPH	50 MPH	50 MPH	50 MPH
ESALS	=	N/A	N/A	N/A	N/A

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

REPLACE EXISTING SIGNALS, KEN/OZ/RA

VARIOUS LOCATIONS

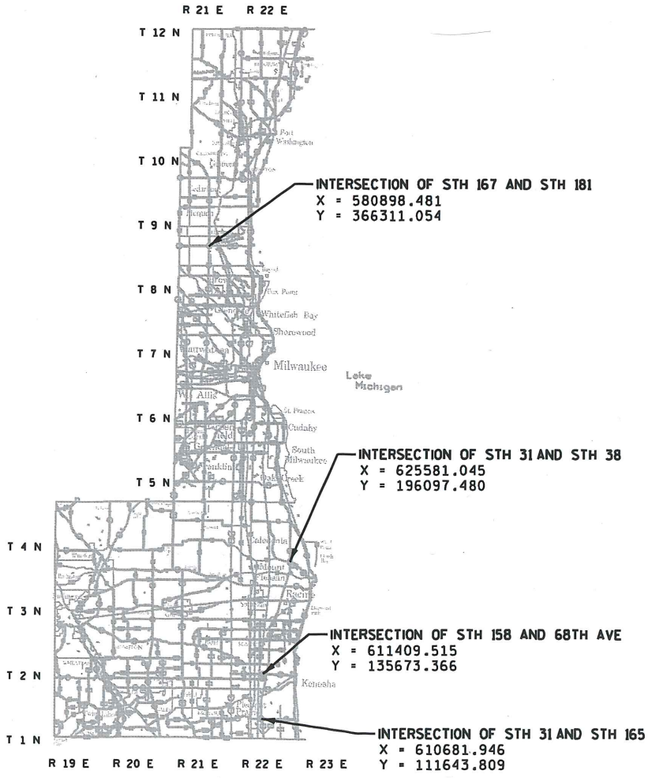
VARIOUS HIGHWAYS

SE WIDE

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3700-20-73	———	———

STATE PROJECT NUMBER

3700-20-73



LAYOUT

SCALE 0 10 MI.

TOTAL NET LENGTH OF CENTERLINE = N/A

COORDINATES ON THIS PLAN FOR KENOSHA COUNTY ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS) KENOSHA COUNTY ZONE, NAD 83 (2007) ELEVATIONS SHOWN FOR KENOSHA COUNTY ARE REFERENCED TO NAVD 88 (2007)

COORDINATES ON THIS PLAN FOR OZAUKEE COUNTY ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS) OZAUKEE COUNTY ZONE, NAD 83 (2011) ELEVATIONS SHOWN FOR OZAUKEE COUNTY ARE REFERENCED TO NAVD 88 (2012)

COORDINATES ON THIS PLAN FOR RACINE COUNTY ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS) RACINE COUNTY ZONE, NAD 83 (2011) ELEVATIONS SHOWN FOR RACINE COUNTY ARE REFERENCED TO NAVD 88 (2012)

ORIGINAL PLANS PREPARED BY

HNTB
11414 WEST PARK PLACE
MILWAUKEE, WI 53224
(414) 359-2300

WISCONSIN
JASON R. MATSON
37111
WAUKESHA, WI
PROFESSIONAL ENGINEER

11/09/2015 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	RA SMITH
Designer	HNTB
Project Manager	JARRETT GATES
Regional Examiner	
Regional Supervisor	JOHN HAUG
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 11/10/2015 (Signature)

E

UTILITY CONTACTS

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

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GENERAL NOTES

THE CONTRACTOR SHALL CONTACT THE UTILITIES AND DIGGERS HOTLINE TO LOCATE AND FIELD VERIFY UTILITIES PRIOR TO THE START OF WORK. 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. ANY LOCAL, MUNICIPAL OR OTHER UTILITY THAT IS NOT A MEMBER OF DIGGERS HOTLINE SHALL BE CONTACTED SEPERATELY.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

PROTECT INLETS WITH PROPER INLET PROTECTION AT LOCATIONS EXHIBITING RISK OF BEING IMPACTED BY CONSTRUCTION OPERATIONS AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY ANY OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AT THE CONTRACTOR'S EXPENSE.

RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZER, AND MULCH/EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.

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

EROSION CONTROL BMP'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

REMOVAL OF EROSION CONTROL DEVICES IS INCIDENTAL TO THE COST OF THEIR RESPECTIVE BID ITEMS.

EROSION CONTROL DEVICES SHALL BE PLACED IN SEQUENCE WITH CONSTRUCTION OPERATIONS OR AS DETERMINED BY THE ENGINEER

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

STATIONING, DISTANCES AND OFFSETS FOR SIGNS SHOWN IN THE PLANS ARE APPROXIMATE AND THE FINAL LOCATION OF SIGNS ARE TO BE DETERMINED BY THE ENGINEER.

DESIGN, PLANS, SPECIFICATIONS AND QUANTITIES FOR PERMANENT SIGNING PROVIDED BY WISDOT SE REGION.

DESIGN CONTACTS

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ABBREVIATIONS

AEW	APRON END WALL
AGG	AGGREGATE
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L	CENTER OR CONSTRUCTION LINE
CMCP	CORRUGATED METAL CULVERT PIPE
CONC	CONCRETE
CP	CULVERT PIPE
RCCP	REINFORCED CONCRETE CULVERT PIPE
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC-YARD
D	DEGREE OF CURVE
Δ	DELTA
DISCH	DISCHARGE
EAT	ENERGY ABSORBING TERMINAL
EB	EASTBOUND
FE	FIELD ENTRANCE
HMA	HOT MIX ASPHALT
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LT	LEFT
MIN	MINIMUM
ML	MAINLINE
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
PAVT	PAVEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASMENT
PT	POINT OF TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RC	REVERSE CROWN
RCAEW	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
REQD	REQUIRED
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RRSP	RAILROAD SPIKE
RT	RIGHT
SALV	SALVAGED
SAPBC	SALVAGED ASPHALTIC PAVEMENT BASE COARSE
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWINGS
SE	SUPER ELEVATION
SF	SQUARE FOOT
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TLE	TEMPORARY LIMITED EASEMENT
VCL	VERTICAL CURVE LENGTH
VPC	POINT OF VERTICAL CURVE
VPI	POINT OF VERTICAL INTERSECTION
VPT	POINT OF VERTICAL TANGENT
WB	WESTBOUND

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	0.08	0.16	0.22	0.12	0.20	0.27	0.15	0.24	0.33	0.19	0.28	0.38
	0.22	0.30	0.38	0.26	0.34	0.44	0.30	0.37	0.50	0.34	0.41	0.56
MEDIAN STRIP-	0.19	0.20	0.24	0.19	0.22	0.26	0.20	0.23	0.30	0.20	0.25	0.30
TURF	0.24	0.26	0.30	0.25	0.28	0.33	0.26	0.30	0.37	0.27	0.32	0.40
SIDE SLOPE-			0.25			0.27			0.28			0.30
TURF			0.32			0.34			0.36			0.38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

3700-20-73

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.1 ACRES

ORDER OF SECTION 2 DETAIL SHEETS

2

2

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TRAFFIC SIGNAL IMPROVEMENT:
INTERSECTION OF STH 158 AND 68TH AVENUE, KENOSHA

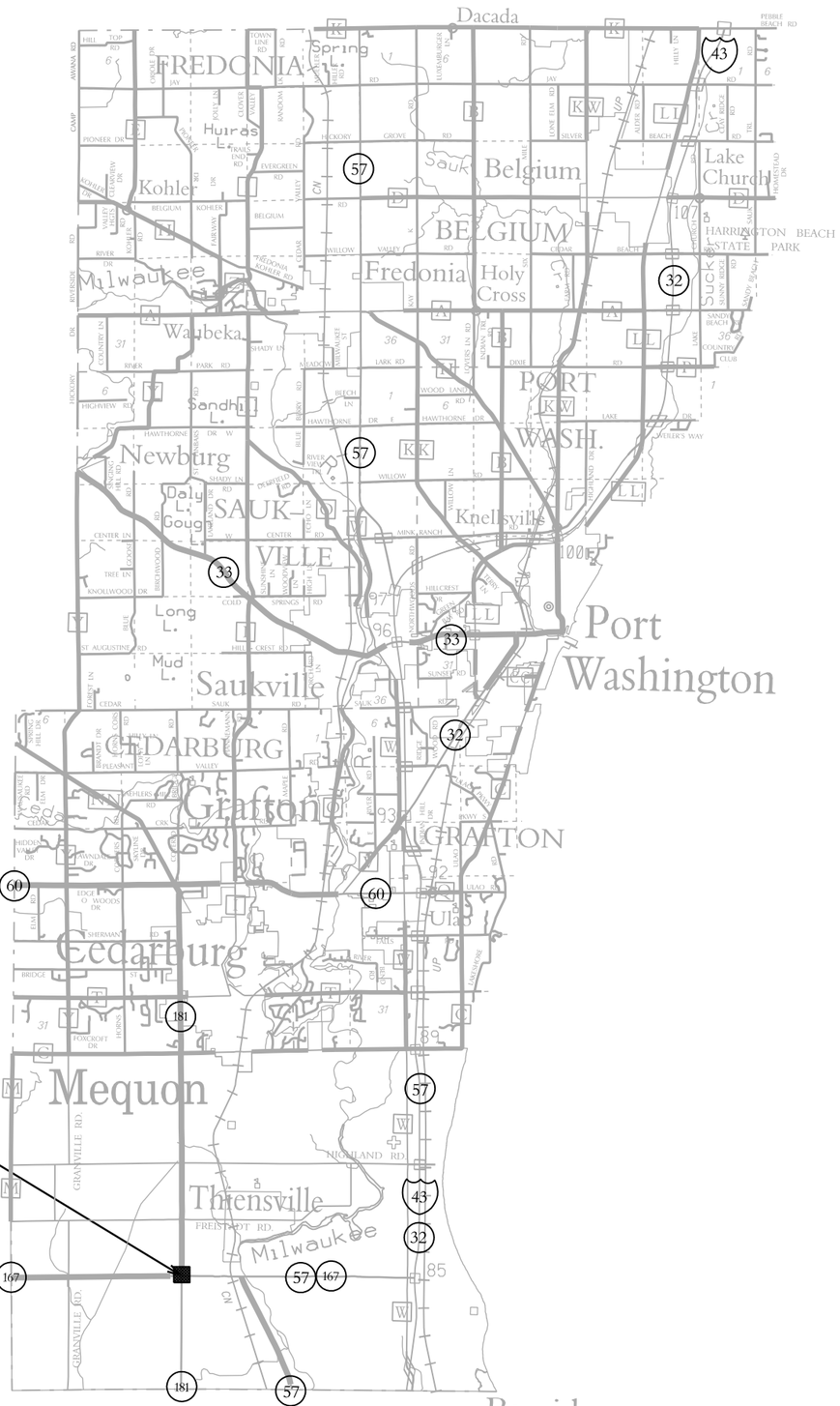
TRAFFIC SIGNAL IMPROVEMENT:
INTERSECTION OF STH 31 AND STH 165, PLEASANT PRAIRIE

PROJECT NO: 3700-20-73	HWY: STH 31 & STH 158	COUNTY: KENOSHA	PROJECT OVERVIEW	SHEET 4	E

FILE NAME : \\milw00\ingrproj\62926\t1\cds\020201_po.dgn PLOT DATE : 7/28/2015 5:47:20 PM PLOT BY : jschafer PLOT NAME : PLOT SCALE : 13750:1

WISDOT/CADDS SHEET 42

2

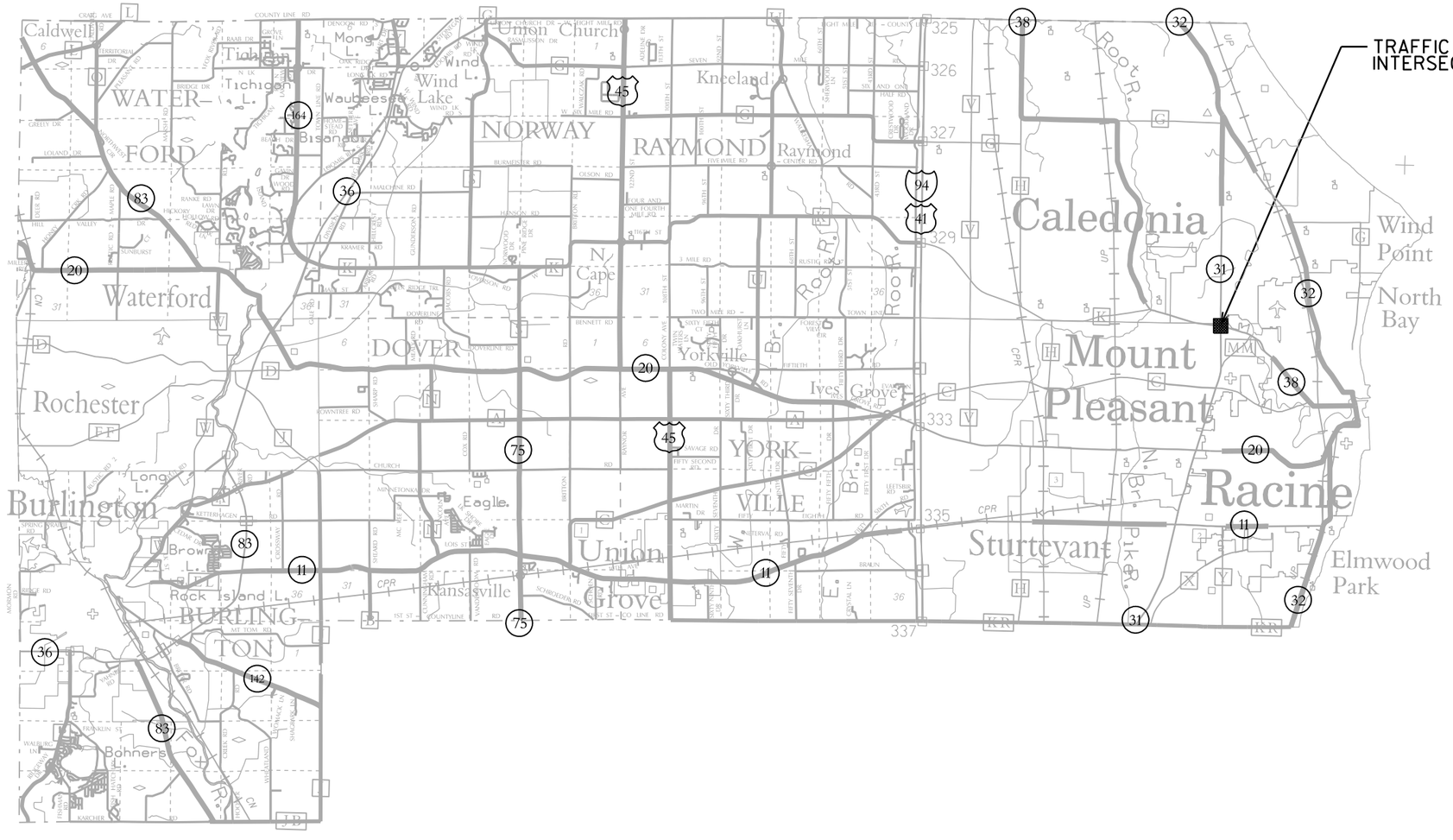


TRAFFIC SIGNAL IMPROVEMENT:
INTERSECTION OF STH 167 AND STH 181, MEQUON

PROJECT NO: 3700-20-73	HWY: STH 167	COUNTY: OZAUKEE	PROJECT OVERVIEW	SHEET 5	E

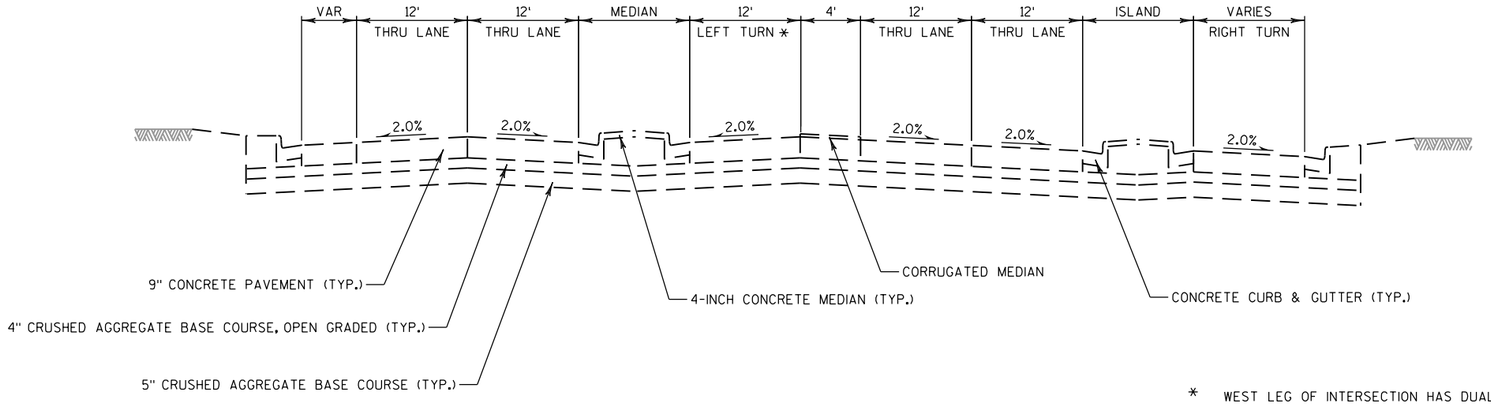
2

N



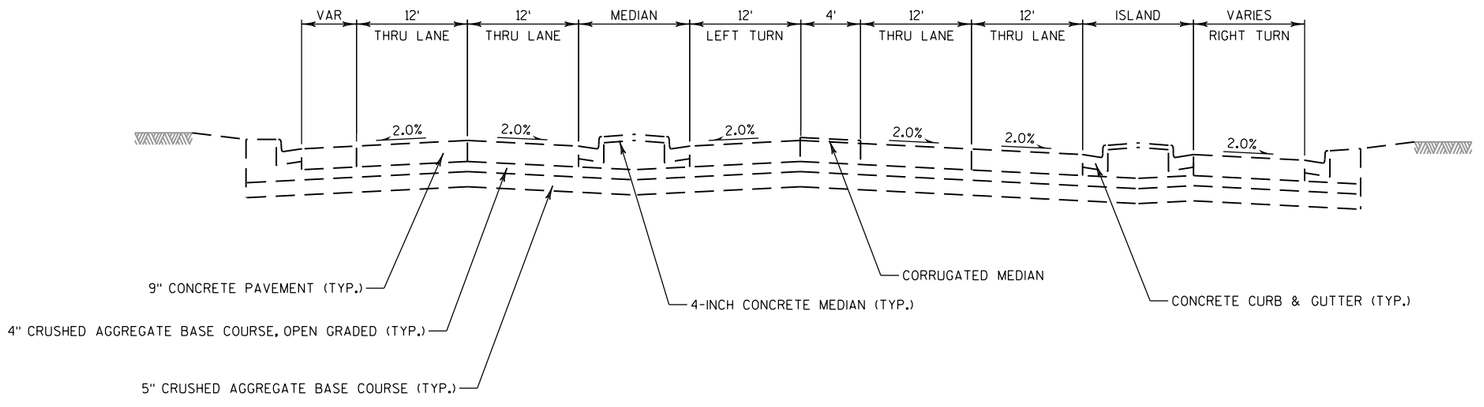
PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: RACINE	PROJECT OVERVIEW	SHEET 6	E

2



* WEST LEG OF INTERSECTION HAS DUAL LEFT TURN LANES TO STH 31 NB

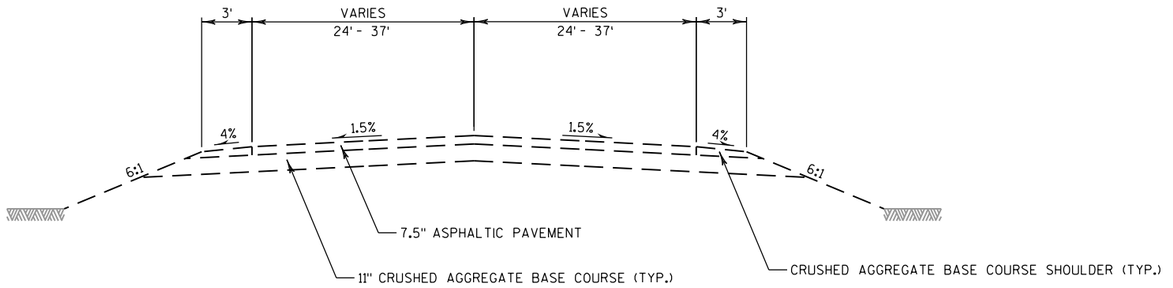
TYPICAL EXISTING SECTION
STH 165



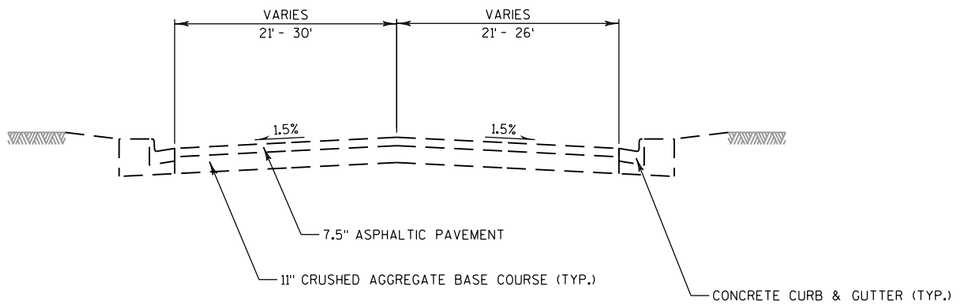
TYPICAL EXISTING SECTION
STH 31

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: KENOSHA	EXISTING TYPICAL SECTIONS	SHEET 7	E

2



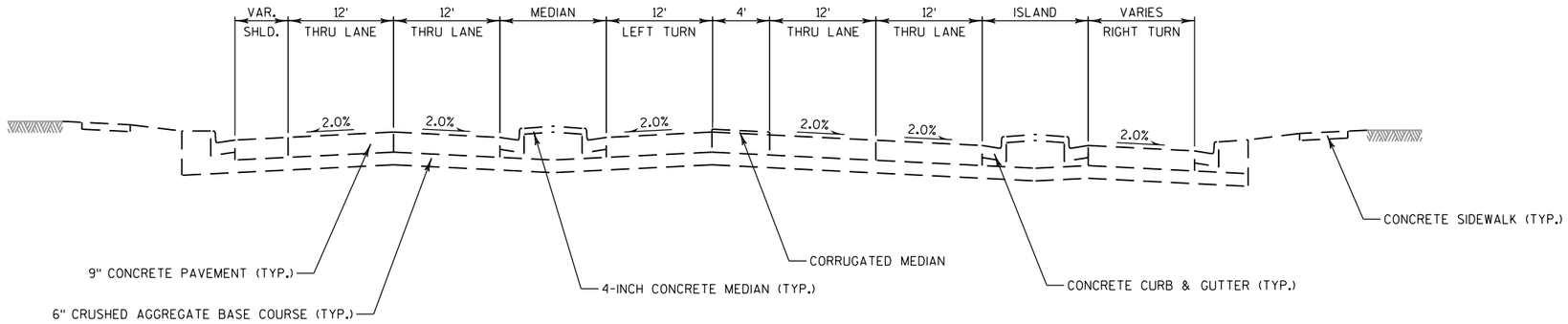
TYPICAL EXISTING SECTION
STH 158



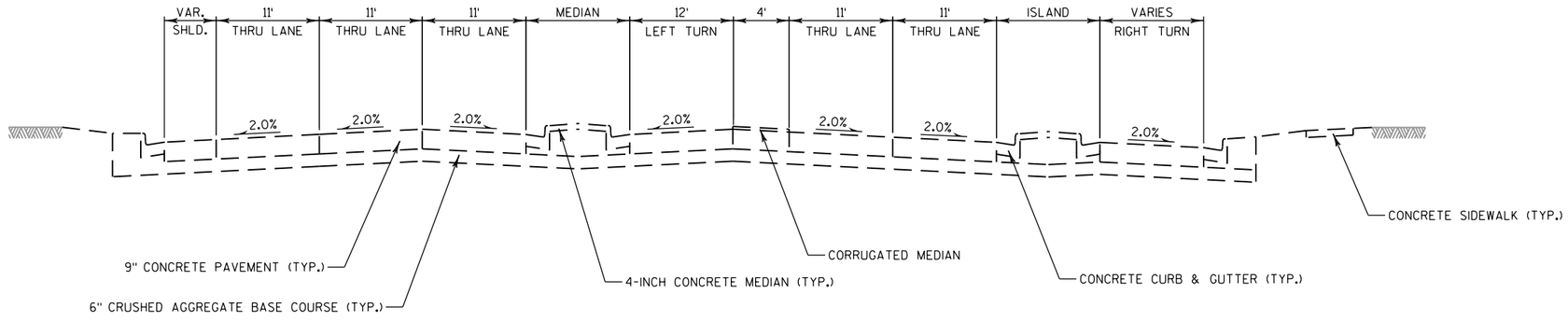
TYPICAL EXISTING SECTION
68TH AVENUE

PROJECT NO: 3700-20-73	HWY: STH 158	COUNTY: KENOSHA	EXISTING TYPICAL SECTIONS	SHEET 8	E

2



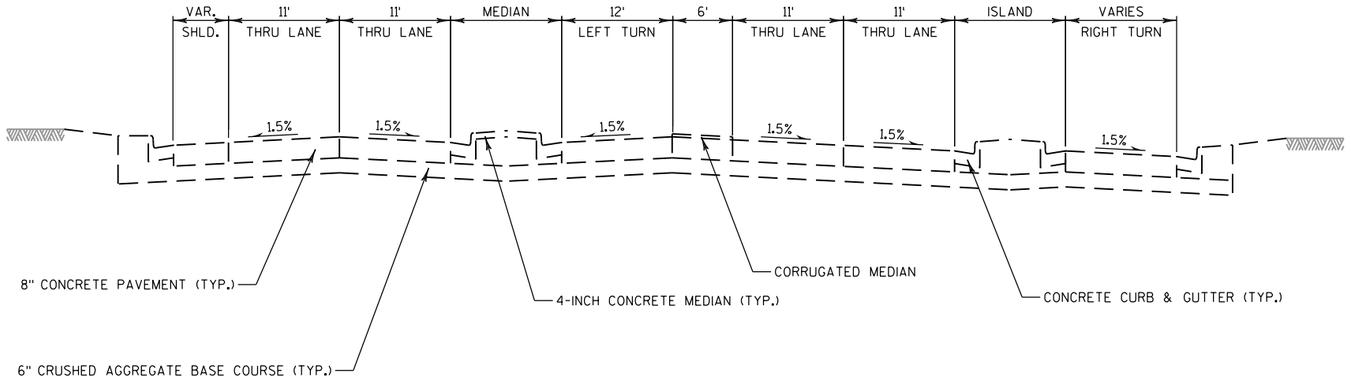
TYPICAL EXISTING SECTION
STH 167



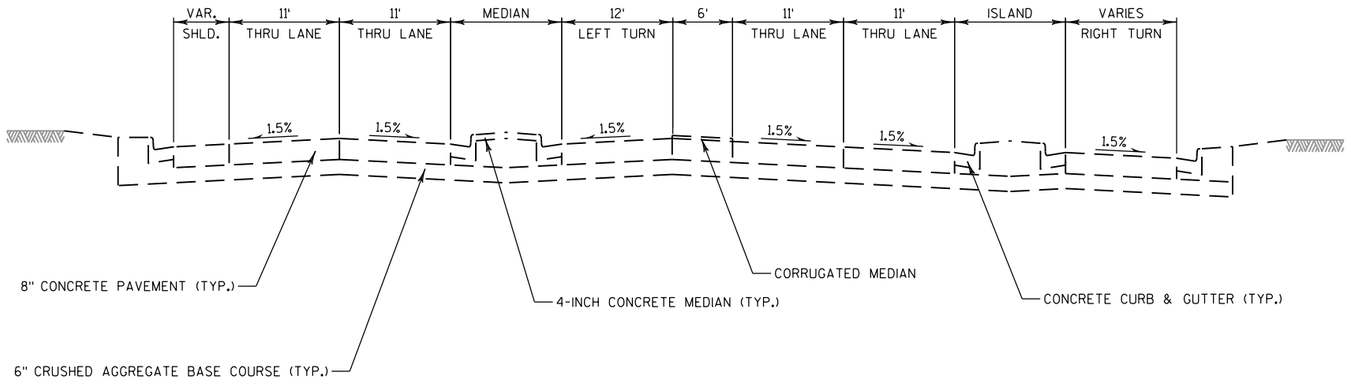
TYPICAL EXISTING SECTION
STH 181

PROJECT NO: 3700-20-73	HWY: STH 167	COUNTY: OZAUKEE	EXISTING TYPICAL SECTIONS	SHEET 9	E

2

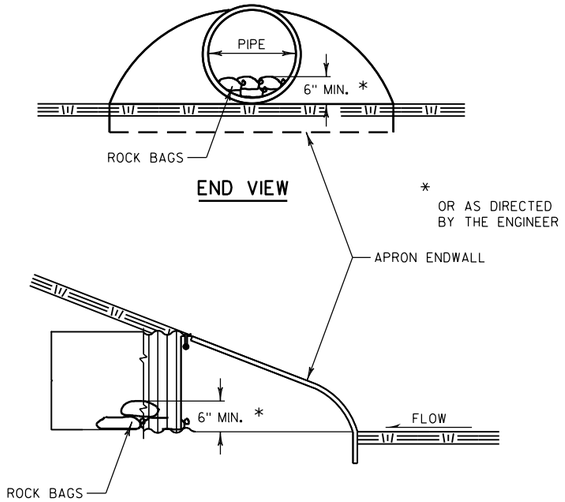


TYPICAL EXISTING SECTION
STH 38



TYPICAL EXISTING SECTION
STH 31

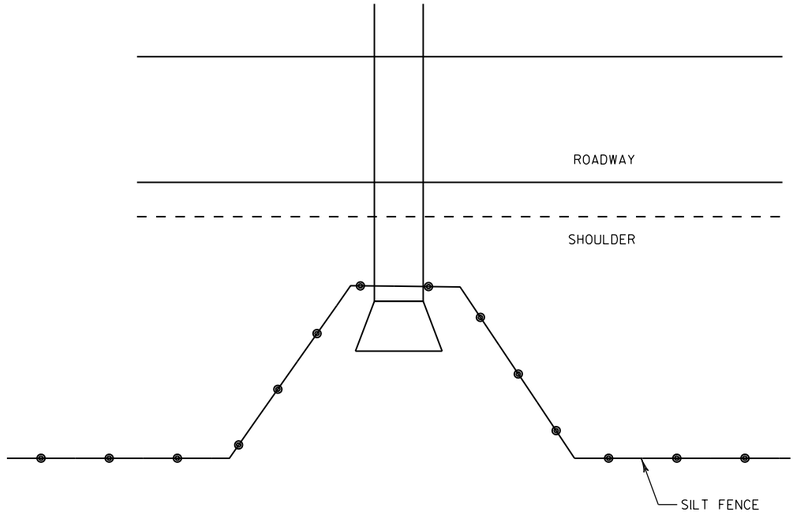
PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: RACINE	EXISTING TYPICAL SECTIONS	SHEET 10	E



ESTIMATED BAG SIZE = 24" X 12" X 6"	
PIPE SIZE	ESTIMATED NO. OF BAGS
12"	1
15"	2
18"	2
24"	3
30"	5
36"	7
42"	7
48"	10
54"	10
60"	13
72"	16
30"X19"	5
38"X24"	7
53"X34"	10
60"X38"	13
76"X48"	18

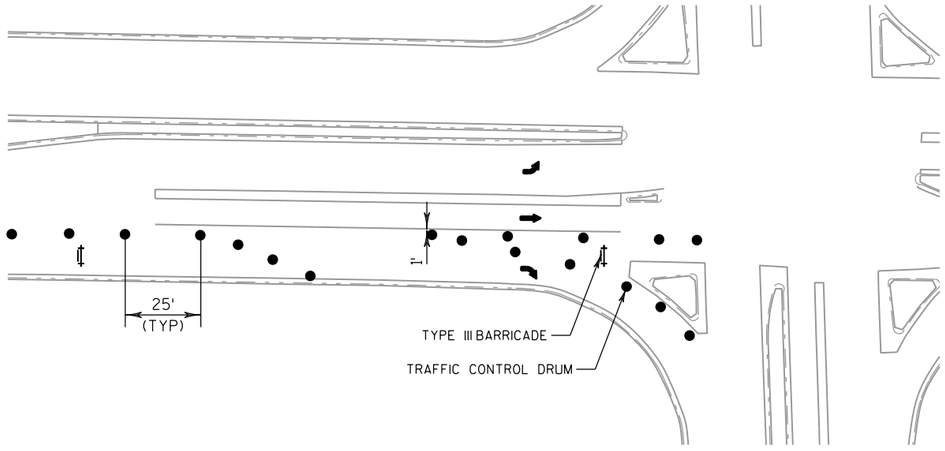
CULVERT PIPE CHECKS

AT INLET LOCATIONS



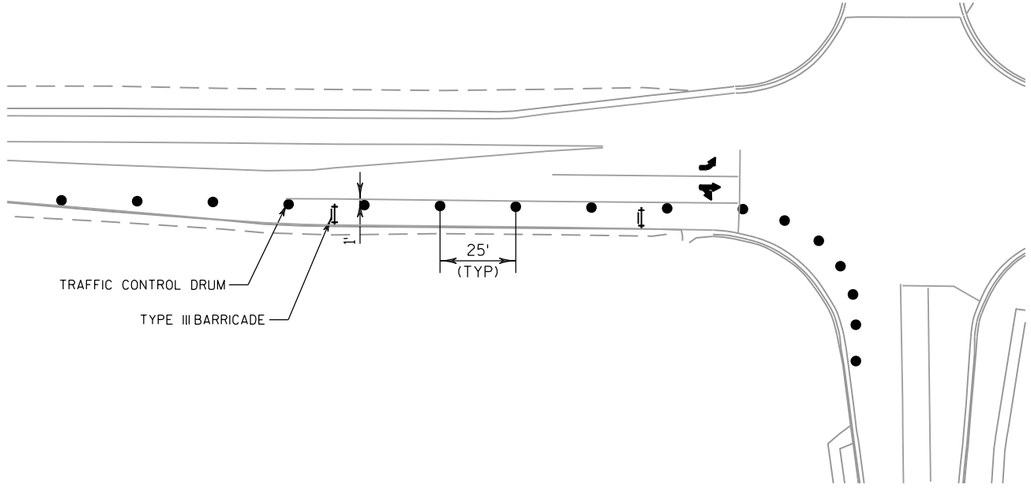
TYPICAL SILT FENCE DETAIL AT PIPE INLET

NOTE:
FOR FURTHER DETAIL SEE
SILT FENCE SDD 8E9



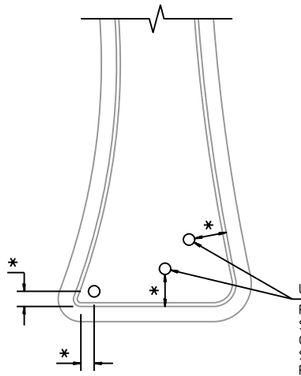
TRAFFIC CONTROL FOR LANE CLOSURE AT RIGHT TURN LANE ISLAND

REFER TO STANDARD DETAIL DRAWINGS "TRAFFIC CONTROL INTERSECTION WITHIN SINGLE LANE CLOSURE" AND "TRAFFIC CONTROL SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY" FOR MORE DETAILS AND SIGN PLACEMENT.



TRAFFIC CONTROL FOR LANE CLOSURE AT RIGHT TURN LANE

REFER TO STAND DETAIL DRAWINGS "TRAFFIC CONTROL INTERSECTION WITHIN SINGLE LANE CLOSURE" FOR DETAILS ON SIGN PLACEMENT.

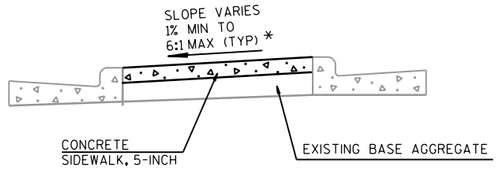


* DISTANCE TO BE LAID OUT IN THE FIELD BASED ON SIGN SIZE. TWO FOOT MINIMUM CLEARANCE BETWEEN THE EDGE OF SIGN AND THE FACE OF CURB.

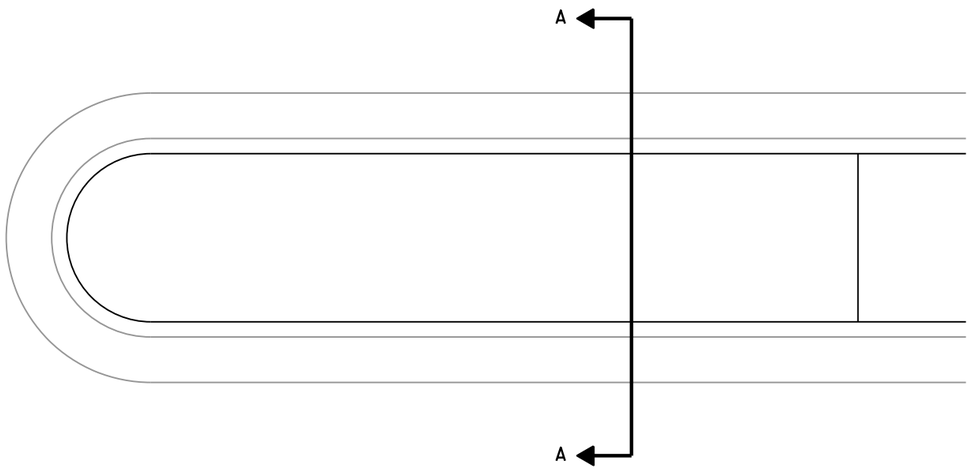
USE A 18-INCH MINIMUM INSIDE DIAMETER PVC PIPE BOX OUT IN CONCRETE FOR SIGN POST (TYP). THE NUMBER OF BOX OUTS REQUIRED VARIES BY WIDTH OF THE SIGN AND SHALL BE VERIFIED BEFORE PLACING THE CONCRETE IN THE ISLAND.

SIGN PLACEMENT

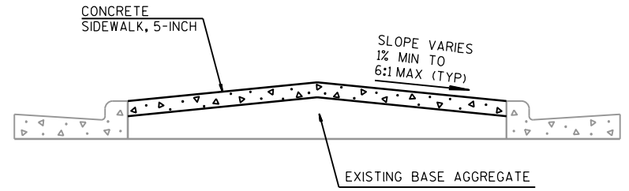
* IF SLOPE IS LESS THAN 1% IN ONE DIRECTION, CROWN THE CONCRETE SIDEWALK TO ENSURE POSITIVE DRAINAGE

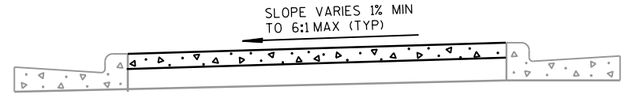


SECTION A-A

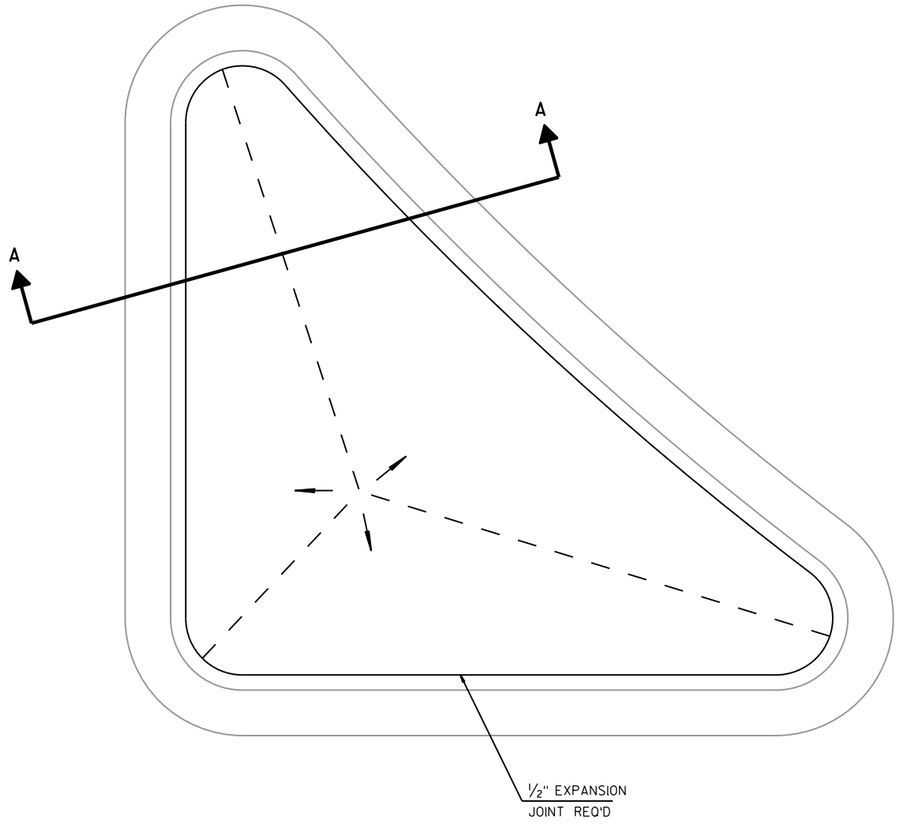


MEDIAN ISLAND DETAIL





SECTION A-A



SPLITTER ISLAND DETAIL

CURB RAMPS TO BE PLACED IN SPLITTER ISLANDS AT THE INTERSECTION OF STH 181/STH 167. FOLLOW SDD "CURB RAMPS TYPE 5, 6, 7A, 7B & 8"

2

2

LEGEND

- CONCRETE SIDEWALK 5-INCH
- INLET PROTECTION TYPE C
- (RB) ROCK BAGS
- xxxx SAWING CONCRETE

N

STH 165 WB

STH 165 EB

STH 31 SB

STH 31 NB

EXISTING R/W

+32.73

+93.96

+76.14

+04.29

RB

563 564 565 566 567 568 569

141 140 139 138

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: KENOSHA	INTERSECTION DETAILS-STH 31 & STH 165	SHEET	E

FILE NAME : \\milw00\ingrproj\62926\t1\cds\021201_pd.dgn PLOT DATE : 7/31/2015 10:06:52 AM PLOT BY : jschafer PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

2

LEGEND

CONCRETE SIDEWALK 5-INCH

INLET PROTECTION TYPE C

RB ROCK BAGS

xxxx SAWING CONCRETE

N

68TH AVE NB

68TH AVE SB

STH 158 WB

STH 158 EB

24" CMP

12" RCP

24" RCP

RB

CABC

EXISTING R/W

169 170 171 172 173 174

51 50 49

PROJECT NO: 3700-20-73	HWY: STH 158	COUNTY: KENOSHA	INTERSECTION DETAILS-STH 158 & 68TH AVE	SHEET 14	E

LEGEND

CONCRETE SIDEWALK 5-INCH

INLET PROTECTION TYPE C

(RB) ROCK BAGS

XXXX SAWING CONCRETE

N

STH 167 WB

STH 181 NB

STH 181 SB

STH 167 EB

CURB RAMP TYPE 6

CMO5

EXISTING R/W

SIGN

DECK

+44.33

+32.81

+91.21

+00.34

+82.64

+12.05

+36.26

+44.26

+02.14

+21.11

+09.78

+97.90

+02.87

+38.61

+30.61

117 118 119 120 121 122 123

223 225 226 227 228

PROJECT NO: 3700-20-73	HWY: STH 167	COUNTY: OZAUKEE	INTERSECTION DETAILS-STH 167 & STH 181	SHEET E

FILE NAME : \\milw00\ingrproj\62926\t1\cds\021203_pd.dgn PLOT DATE : 7/28/2015 5:47:45 PM PLOT BY : jschafer PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

LEGEND

- CONCRETE SIDEWALK 5-INCH
- INLET PROTECTION TYPE C
- (RB) ROCK BAGS
- xxxx SAWING CONCRETE

STH 38 WB

STH 38 EB

STH 31 NB

STH 31 SB

BRICK ATM

EXISTING R/W

CM05

+71.43

+64.59

+83.43

+85.24

+62.50

+52.48

+03.63

111

110

109

108

107

106

656

654

653

652

651

N

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: RACINE	INTERSECTION DETAILS-STH 31 & STH 38	SHEET E

FILE NAME : \\milw00\ingrproj\62926\t1\cds\021205_pd.dgn PLOT DATE : 7/31/2015 10:08:38 AM PLOT BY : jschafer PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON SIGNAL POLE OR OVERHEAD SIGN SUPPORT
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON SIGNAL POLE OR SIGNAL MAST ARM
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N

STH 165

563+00 564+00 565+00 566+00 567+00 568

STH 31

139+00 138+00 140+00 141+00

200 WEST 165 REMOVE WEST 165 J4-1(3)

201 WEST 165 REMOVE WEST 165 J3-1(3)

202 EAST 165 REMOVE EAST 165 J3-1(3)

203 REMOVE YIELD R1-2(2M)

204 MOVE (2012)

205 STOP MOVE (2013)

205A DO NOT ENTER R5-1(2M)

206 206A STOP REMOVE STOP R1-1F(3) DIVIDED HIGHWAY R6-3(2M)

207 REMOVE R4-7(3)

208 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50(2M) ABOVE SIGNAL

209 ONE WAY R6-2-L(2M)

210 NORTH 31

210A REMOVE YIELD R1-2(2M)

211 165 104th St M1-94S ON MAST ARM

212 STOP REMOVE STOP R1-1F(3)

213 213A STOP REMOVE STOP R1-1F(3) DIVIDED HIGHWAY R6-3(2M)

214 MOVE (2012)

215 NORTH 31 J3-1(3)

216 SOUTH 31 REMOVE SOUTH 31 J3-1(3)

217 REMOVE ONE WAY R6-2-L(2M)

218 REMOVE R4-7(3)

219 REMOVE R4-7(3)

220 DO NOT ENTER R5-1(2M)

221 31 Green Bay Rd M1-94S ON MAST ARM

222 31 Green Bay Rd M1-94S ON MAST ARM

223 NORTH 31 J3-1(3)

224 WRONG WAY R5-1A(3)

225 EAST 165 SOUTH 31 REMOVE SOUTH 31 J3-1(3)

226 226A STOP REMOVE STOP R1-1F(3) DIVIDED HIGHWAY R6-3(2M)

227 WRONG WAY REMOVE

228 REMOVE ABOVE SIGNAL

229 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50(2M) ON SIGNAL ARM

230 REMOVE R4-7(3)

231 165 104th St M1-94S ON MAST ARM

232 STOP REMOVE STOP R1-1F(3)

233 REMOVE YIELD R1-2(2M)

234 DO NOT ENTER R5-1(2M)

235 ONE WAY REMOVE ONE WAY R6-2-L(2M)

236 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50(2M) ABOVE SIGNAL

237 STOP REMOVE STOP R1-1F(3)

238 238A DO NOT ENTER R5-1(2M)

239 ONE WAY REMOVE ONE WAY R6-2-L(2M)

240 REMOVE STOP R1-1F(3) DIVIDED HIGHWAY R6-3(2M)

241 REMOVE YIELD R1-2(2M)

242 LANE ENDS MERGE LEFT REMOVE LANE ENDS MERGE LEFT W9-2L(3)

243 WRONG WAY REMOVE WRONG WAY R5-1A(3)

ESTR 104th ST

ESTR Greenbay Rd

ESTR (2014) EAST 165

ESTR (2014) WEST 165

ESTR ONLY ONLY

SHEET 1 OF 7

PROJECT NO: 3700-20-73	HWY: STH 31 @ STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 17	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNING\023201_STH31STH165PS.DWG
LAYOUT NAME - PS_01

PLOT DATE : 10/30/2015 7:52 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON SIGNAL POLE OR OVERHEAD SIGN SUPPORT
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON SIGNAL POLE OR SIGNAL MAST ARM
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- XXX DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N

244

REMOVE

TO WEST INTERSTATE 94 165

J3-2(2S)

568+00 569+00 570+00 571+00 572+00 573+00

STH 165

EAST 165

J4-1(2S)

245

NO PASSING ZONE

ESTR

ESTR

DO NOT ENTER

ESTR

ESTR

SHEET 2 OF 7

PROJECT NO: 3700-20-73	HWY: STH 31 @ STH 165	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 18	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNING\023201_STH31STH165PS.DWG
LAYOUT NAME - 023201_ps

PLOT DATE : 10/30/2015 7:52 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N

248 JCT 158 J1-1(2S)

300'

249 STOP REMOVE STOP R1-1F(3)

247 158 J13-1(2S)

246 WEST 158 J4-1(2S)

68TH AVENUE

52+00

51+00

250 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50(2S) ON MAST ARM

251 STOP REMOVE STOP R1-1F(3)

252 RIGHT LANE MUST TURN RIGHT REMOVE RIGHT LANE MUST TURN RIGHT R3-7-R (3)

45'

253 68th Ave M1-94-H ON MAST ARM

254 158 52nd St M1-94S ON MAST ARM

169+00 170+00 171+00 172+00 173+00 174+00

STH 158

45'

LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50(2S) 255

ON MAST ARM 257 158 52nd St M1-94S

50+00

49+00

256 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50(2S)

ON MAST ARM 258 68th Ave M1-94-H

40'

STH 158

EAST 158 J4-1(2S) 264

ONLY ONLY ONLY REMOVE ONLY ONLY ONLY R3-8-W (2S) 259

STOP REMOVE STOP R1-1F (3) 260

68TH AVENUE

STOP REMOVE STOP R1-1F(3) 261

158 J13-1(2S) 262

JCT 158 J1-1(2S) 263

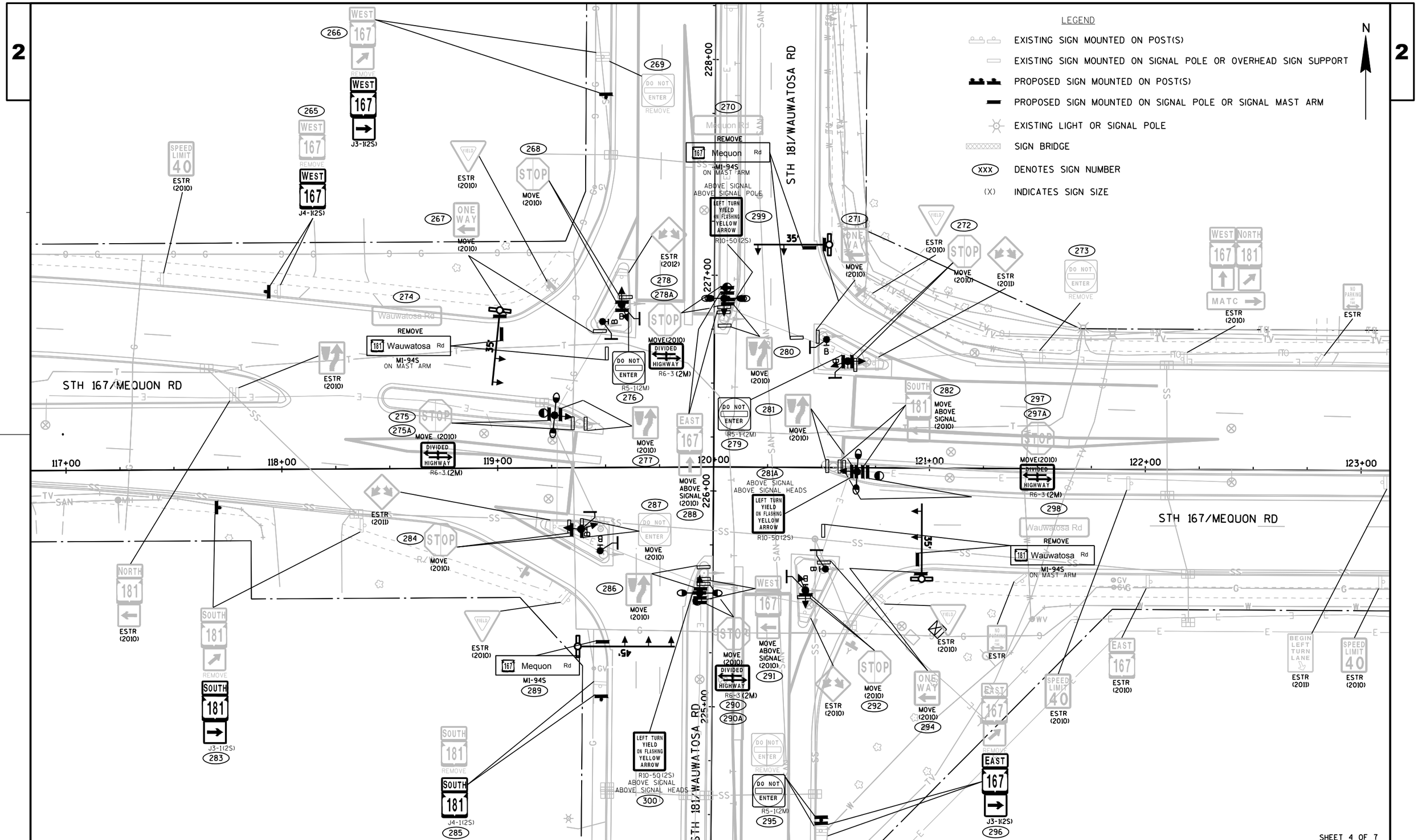
300'

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON SIGNAL POLE OR OVERHEAD SIGN SUPPORT
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON SIGNAL POLE OR SIGNAL MAST ARM
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- XXX DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

SHEET 3 OF 7

PROJECT NO: 3700-20-73	HWY: STH 158 @ 68th AVE	COUNTY: KENOSHA	PERMANENT SIGNING	SHEET 19 E



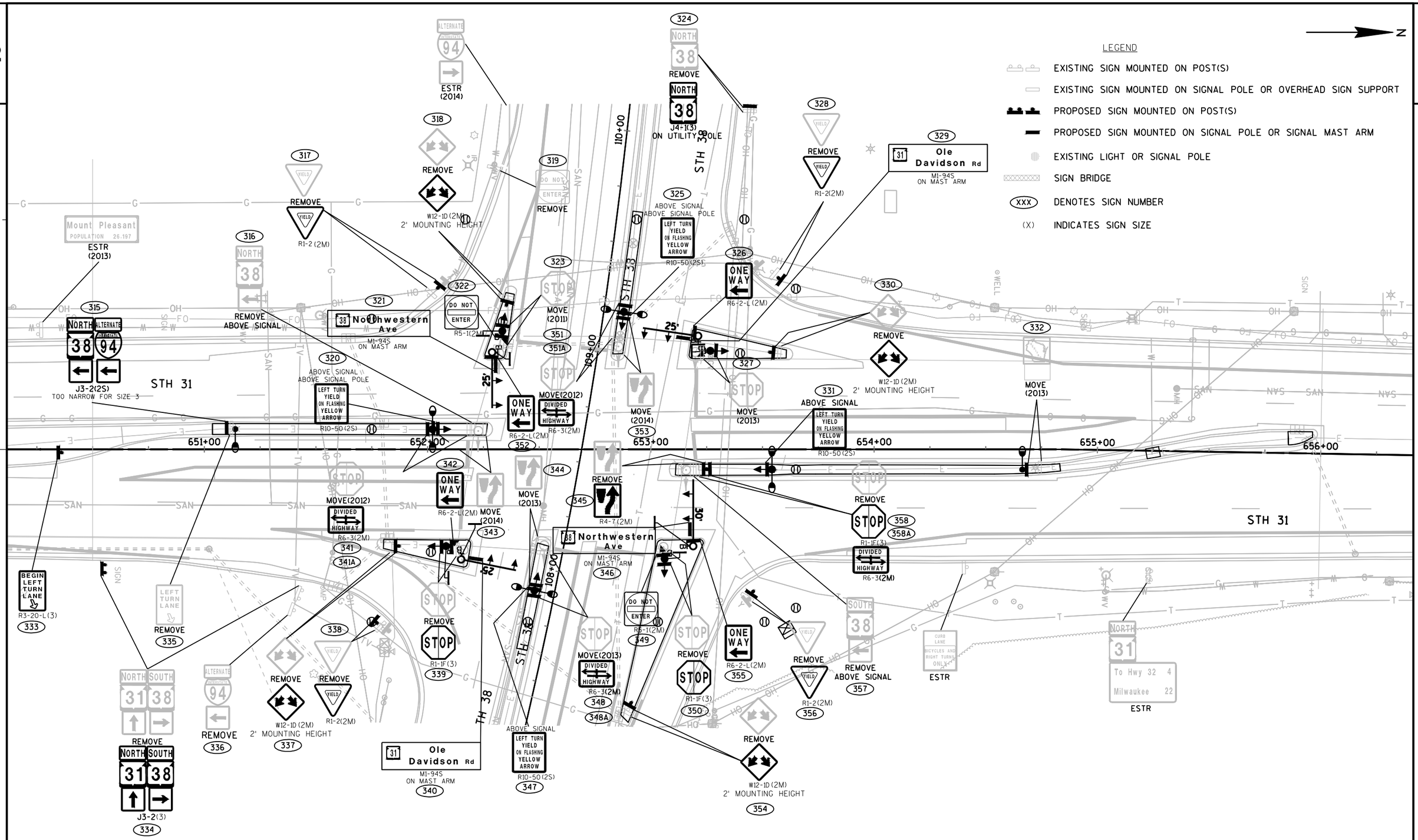
SHEET 4 OF 7

PROJECT NO: 3700-20-73	HWY: STH 167 @ STH 181	COUNTY: OZAUKEE	PERMANENT SIGNING	SHEET	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNING\023201_PS_STH167STH181.DWG
LAYOUT NAME - 023201_PS

PLOT DATE : 10/30/2015 7:54 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42



SHEET 5 OF 7

PROJECT NO: 3700-20-73	HWY: STH 31 @ STH 38	COUNTY: RACINE	PERMANENT SIGNING	SHEET 21	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNING\023201_PS_STH38_STH31.DWG PLOT DATE : 10/30/2015 7:54 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

N

ONLY ONLY ONLY ONLY
ESTR

WRONG WAY
ESTR

359
ON LIGHT POLE
SOUTH
31
J2-1(3)
SOUTH
31
REMOVE

SPEED LIMIT 45
ESTR

ESTR

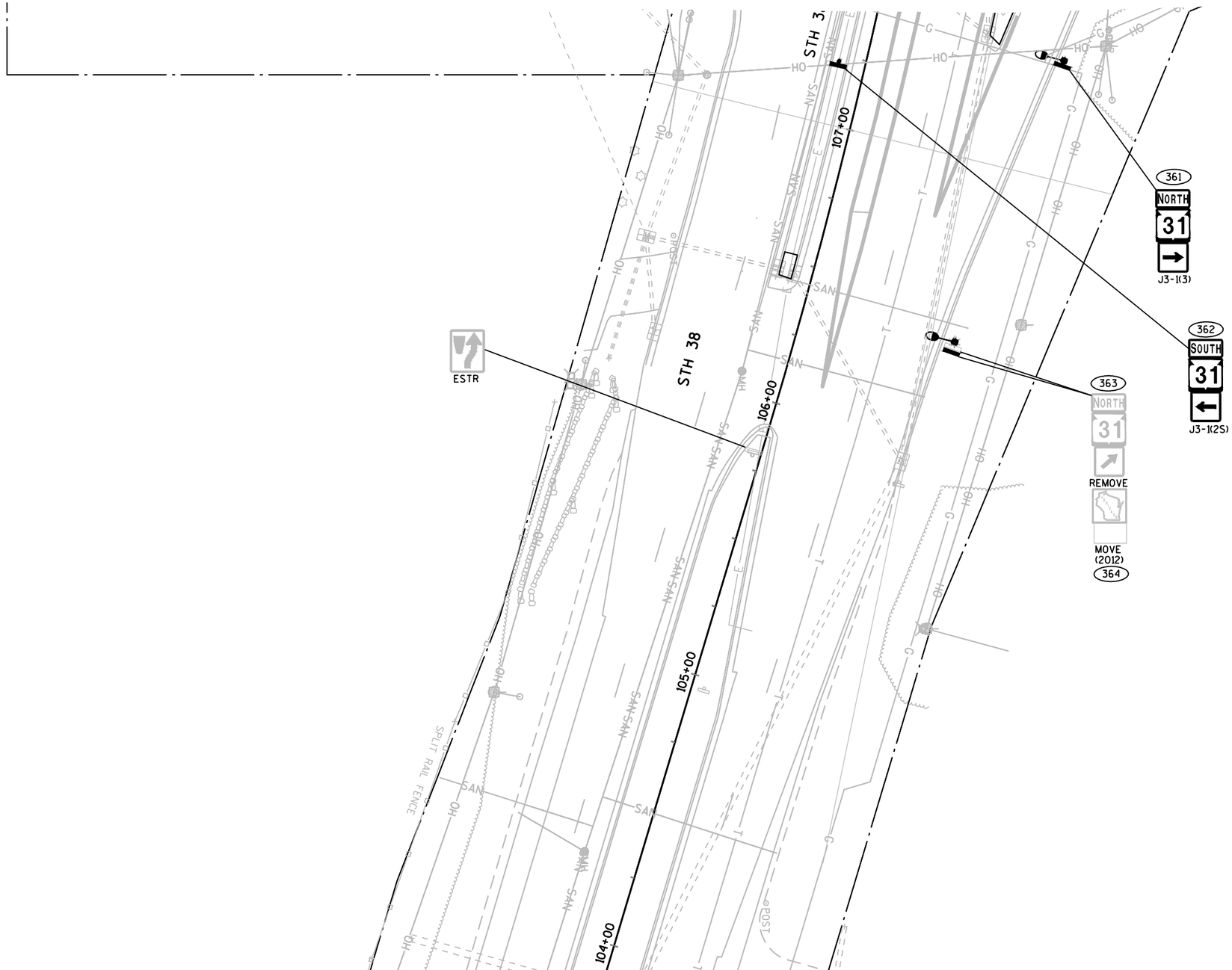
DO NOT ENTER
R5-1 (3)
DO NOT ENTER
REMOVE
360

112+00
111+00
110+00
STH 38
STH 38
R/W

SHEET 6 OF 7

PROJECT NO: 3700-20-73	HWY: STH 31 @ STH 38	COUNTY: RACINE	PERMANENT SIGNING	SHEET 22	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNING\023201_PS_STH38_STH31.DWG PLOT DATE : 10/30/2015 7:54 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : **********



SHEET 7 OF 7

PROJECT NO: 3700-20-73	HWY: STH 31 @ STH 38	COUNTY: RACINE	PERMANENT SIGNING	SHEET 23	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNING\023201_PS_STH38_STH31.DWG PLOT DATE : 10/30/2015 7:54 AM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME : PLOT SCALE : **********

WISDOT/CADDS SHEET 42

2

LEGEND

S30-XXXX — WISDOT OWNED TRAFFIC SIGNAL

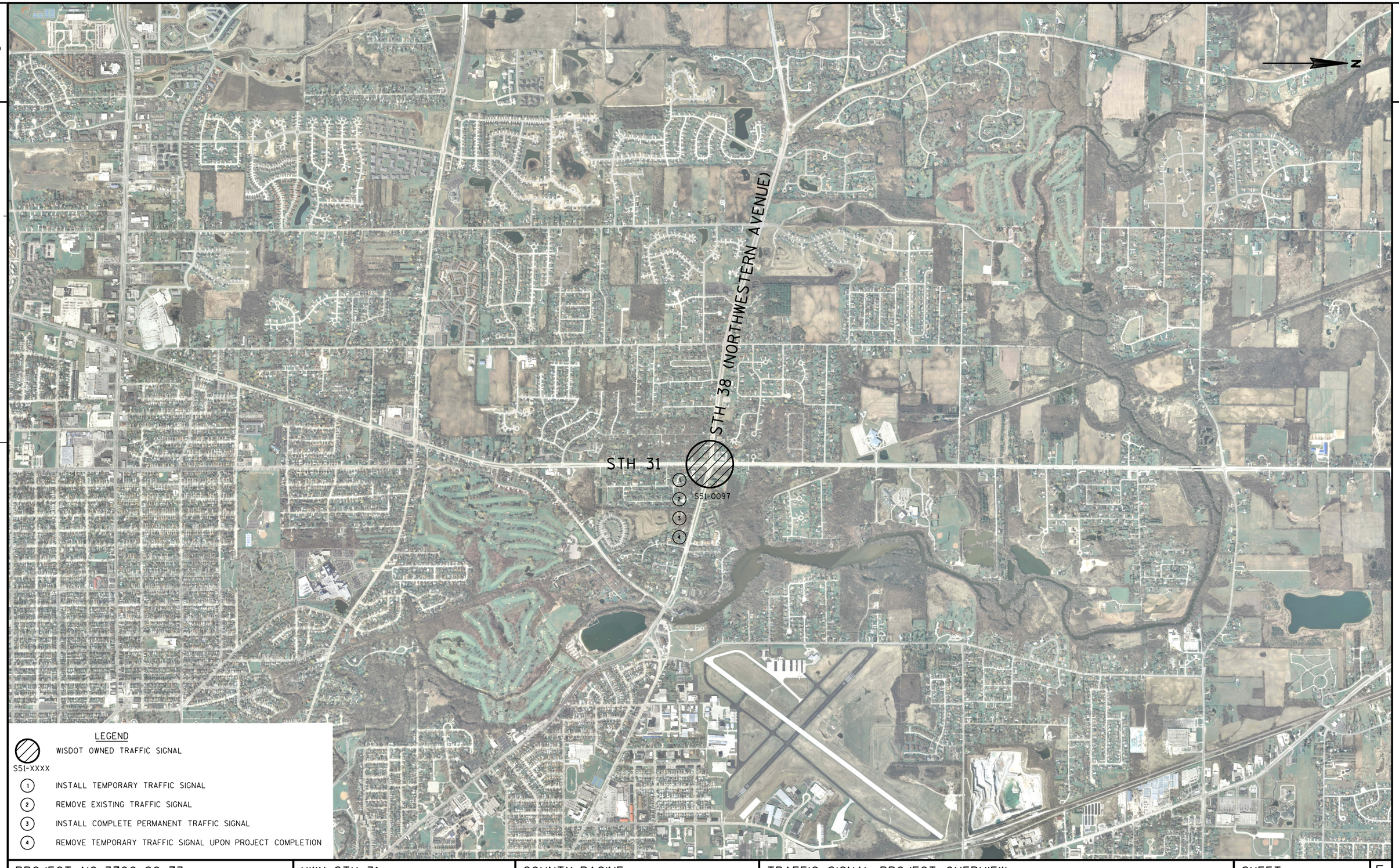
1. INSTALL TEMPORARY TRAFFIC SIGNAL
2. REMOVE EXISTING TRAFFIC SIGNAL
3. INSTALL COMPLETE PERMANENT TRAFFIC SIGNAL
4. REMOVE TEMPORARY TRAFFIC SIGNAL UPON PROJECT COMPLETION

PROJECT NO: 3700-20-73	HWY: STH 31 & STH 158	COUNTY: KENOSHA	TRAFFIC SIGNAL PROJECT OVERVIEW	SHEET	E

FILE NAME : N:±PDS±C3D±CAD±37002003±Design±Signals±024001_sp_po.dgn PLOT DATE : 29-JUL-2015 10:18 PLOT BY : MSCTMP PLOT NAME : PLOT SCALE : 1800:1

PROJECT NO: 3700-20-73	HWY: STH 167	COUNTY: OZAUKEE	TRAFFIC SIGNAL PROJECT OVERVIEW	SHEET	E

FILE NAME : N:±PDS±C3D±CAD±37002003±Design±Signals±024002_sp_po.dgn PLOT DATE : 29-JUL-2015 10:19 PLOT BY : MSCTMP PLOT NAME : PLOT SCALE : 450:1



LEGEND

S51-XXXX — WISDOT OWNED TRAFFIC SIGNAL

(1) INSTALL TEMPORARY TRAFFIC SIGNAL

(2) REMOVE EXISTING TRAFFIC SIGNAL

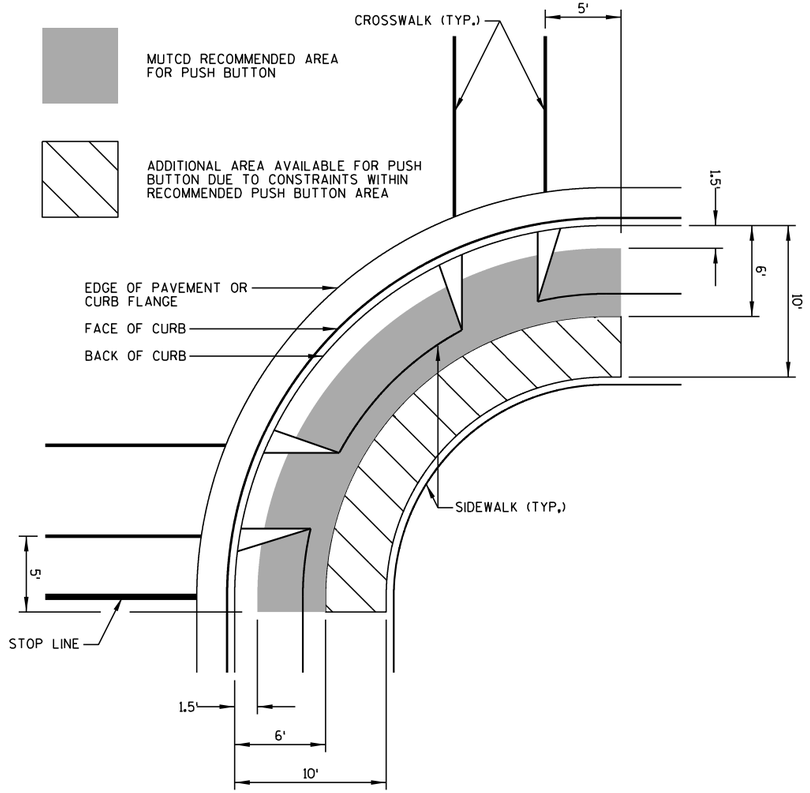
(3) INSTALL COMPLETE PERMANENT TRAFFIC SIGNAL

(4) REMOVE TEMPORARY TRAFFIC SIGNAL UPON PROJECT COMPLETION

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: RACINE	TRAFFIC SIGNAL PROJECT OVERVIEW	SHEET	E

FILE NAME : N:±PDS±C3D±CAD±37002003±Design±Signals±024003_sp_po.dgn PLOT DATE : 29-JUL-2015 10:19 PLOT BY : MSCTMP PLOT NAME : PLOT SCALE : 1944:1

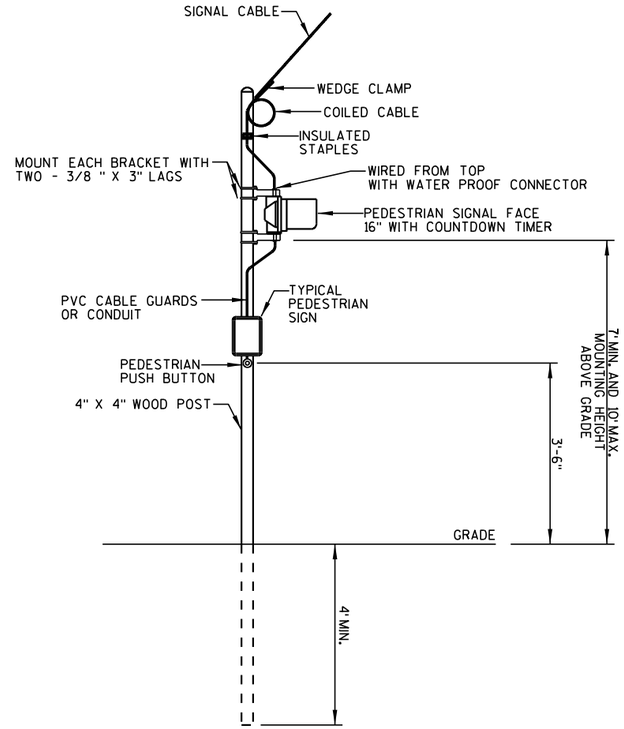
WISDOT/CADDS SHEET 42



PUSH BUTTON LOCATION NOTES:

1. PUSHBUTTONS SHOULD BE CAPABLE OF EASY ACTIVATION AND CONVENIENTLY LOCATED NEAR EACH END OF CROSSWALK OR CROSSING AREA.
2. PUSHBUTTONS SHOULD BE PLACED UNOBSTRUCTED AND ADJACENT TO A LEVEL ALL-WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR.
3. PUSHBUTTONS SHOULD BE PLACED WHERE THERE IS AN ALL-WEATHER SURFACE, A WHEELCHAIR ACCESSIBLE ROUTE FROM THE PUSHBUTTON TO THE RAMP.
4. PUSHBUTTONS SHOULD BE PLACED BETWEEN THE EDGE OF THE CROSSWALK LINE (EXTENDED) FARTHEST FROM THE CENTER OF THE INTERSECTION AND THE SIDE OF A CURB RAMP (IF PRESENT), BUT NOT GREATER THAN 5-FEET FROM SAID CROSSWALK LINE.
5. PUSHBUTTONS SHOULD BE PLACED BETWEEN 1.5-FEET AND 6-FEET FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT. IF THERE ARE PHYSICAL CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5-FEET AND 6-FEET FORM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FARTHER THAN 10-FEET FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
6. PUSHBUTTONS SHOULD BE PLACED WITH THE FACE OF THE PUSH BUTTON PARALLEL TO THE CROSSWALK TO BE USED.
7. PUSHBUTTONS ON THE SAME CORNER OF AN INTERSECTION SHOULD BE SEPARATED BY A DISTANCE OF AT LEAST 10-FEET. WHERE THERE ARE PHYSICAL CONSTRAINTS ON A PARTICULAR CORNER THAN MAKE IT IMPRACTICAL TO PROVIDE THE 10-FOOT SEPARATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.
8. PUSHBUTTON POLES SHALL BE PLACED SO THAT ALL EQUIPMENT ATTACHED TO THE POLE (PEDESTRIAN SIGNAL HEAD, PUSHBUTTON, SIGN, ETC.) IS OUTSIDE THE MINIMUM LATERAL CLEARANCE DISTANCE OF 2-FEET FROM FACE OF CURB OR EDGE OF TRAVELED WAY.
9. PUSHBUTTONS SHOULD BE PLACED SO THE THE REACH DISTANCE FROM THE EDGE OF THE FLAT SURFACE ADJACENT TO THE PUSHBUTTON DOES NOT EXCEED THE MAXIMUM ADA REACH DISTANCE OF 2-FEET.

TEMPORARY PEDESTRIAN SIGNAL AREA

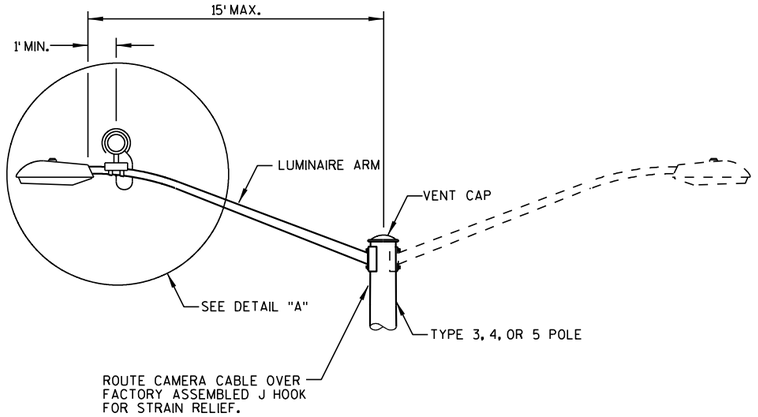


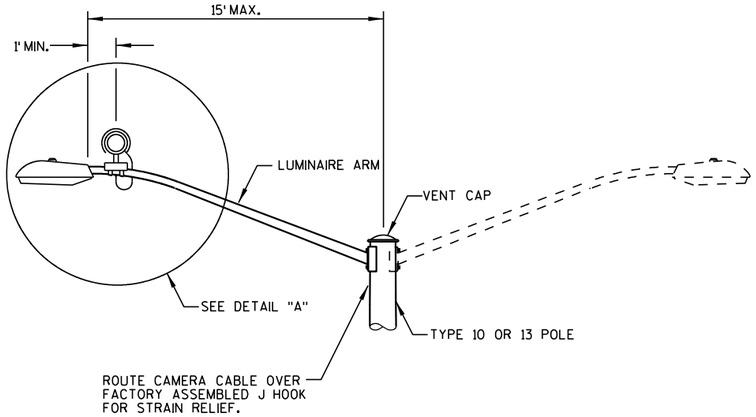
WOOD POST

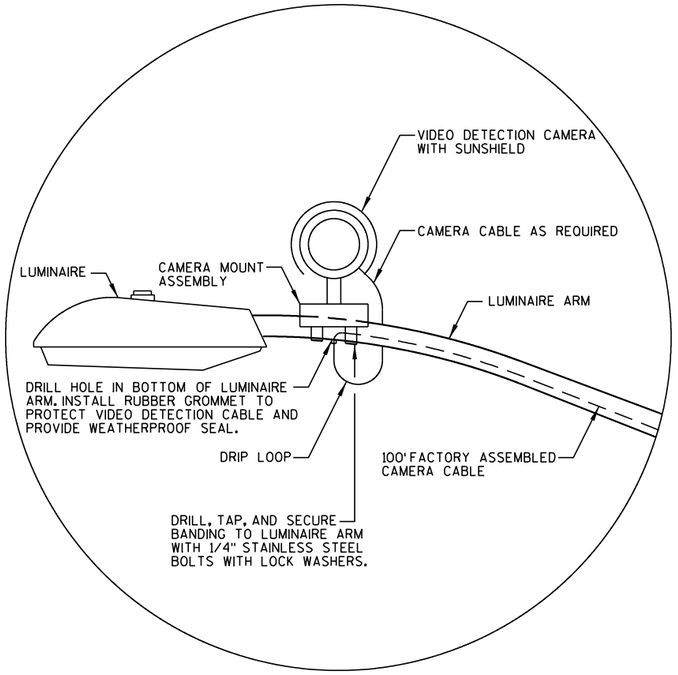
TEMPORARY PEDESTRIAN SIGNAL NOTES:

1. SIGNAL DROP CABLES SHALL BE PLACED A MINIMUM OF 12-FEET ABOVE GROUND NOT SUBJECT TO VEHICULAR TRAFFIC.
2. SIGNAL DROP CABLES SHALL BE PLACED A MINIMUM OF 17-FEET ABOVE GROUND SUBJECT TO VEHICULAR TRAFFIC, INCLUDING CONSTRUCTION VEHICLES.
3. MAXIMUM REACH DISTANCE FROM THE EDGE OF THE PEDESTRIAN AREA TO THE PUSH BUTTON SHALL NOT EXCEED THE MAXIMUM ADA REACH DISTANCE OF 2-FEET.
4. PUSHBUTTONS SHOULD BE PLACED AT A MOUNTING HEIGHT OF 3.5-FEET ABOVE THE WALKING SURFACE.
5. MAINTAIN ADA ACCESSIBLE ROUTE AND PEDESTRIAN ACCESSIBILITY REQUIREMENTS FOR ALL ACTIVE PEDESTRIAN SIGNAL INDICATION CROSSING AREAS.
6. MAINTAIN TEMPORARY PEDESTRIAN SIGNALS THROUGHOUT CONSTRUCTION TO ENSURE THAT THE PLACEMENT OF THE TEMPORARY PEDESTRIAN SIGNALS COMPLIES WITH ALL APPLICABLE ADA AND MUTCD SIGNAL PLACEMENT REQUIREMENTS.

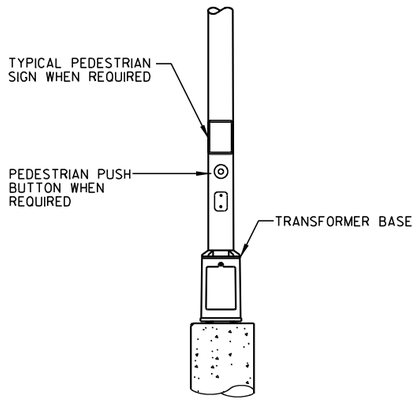
TEMPORARY PEDESTRIAN SIGNAL



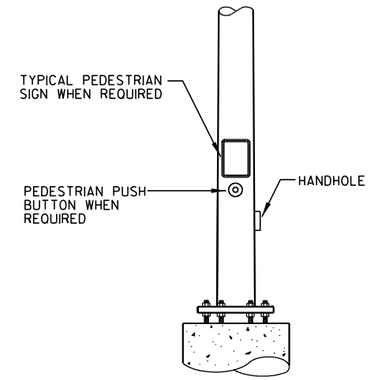




DETAIL "A"



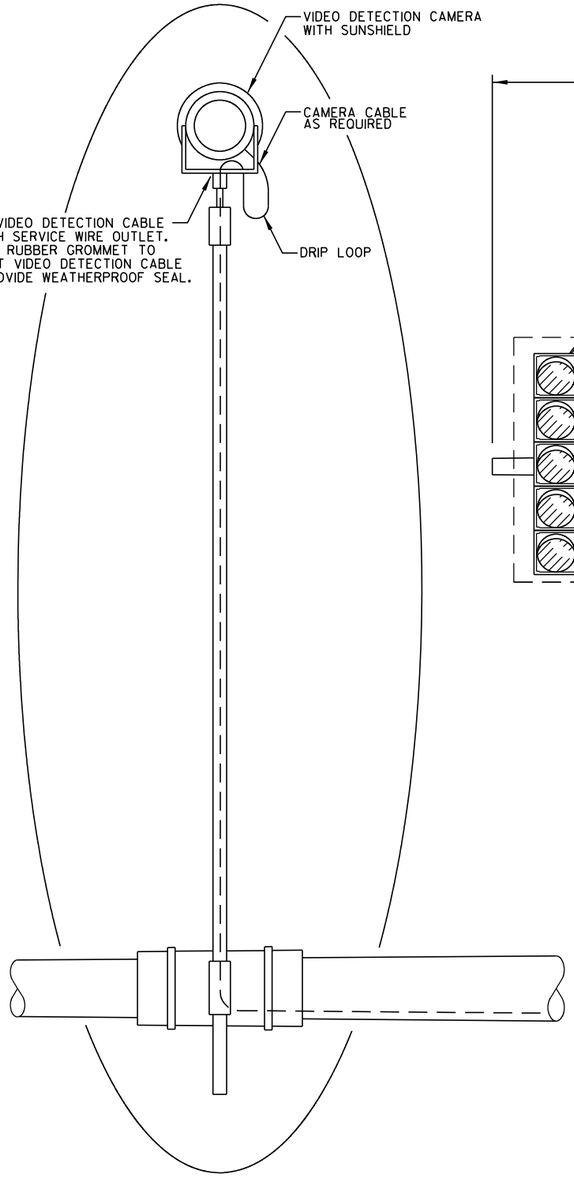
TYPE 3, 4, OR 5
MOUNTING CONFIGURATION



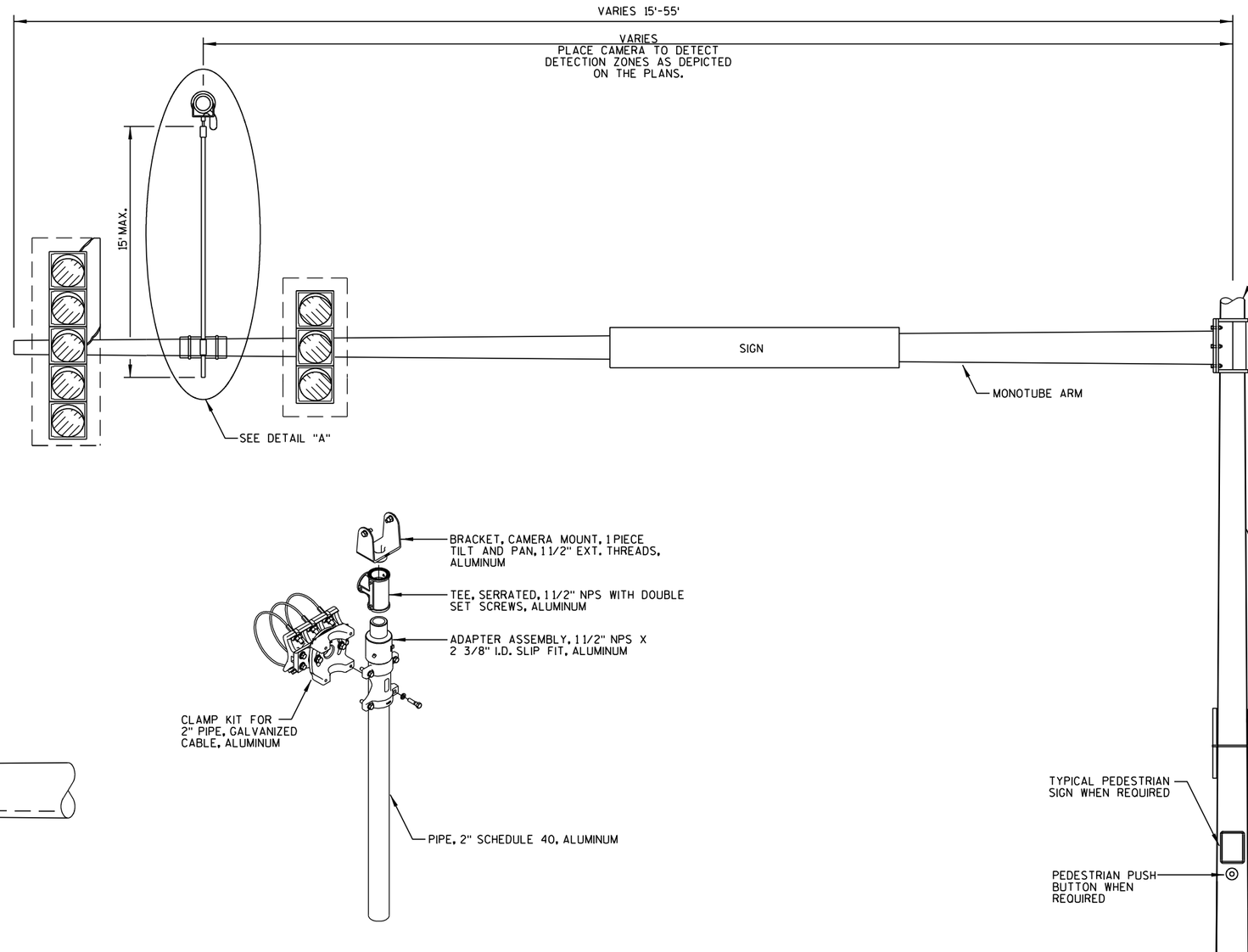
TYPE 10 OR 13
MOUNTING CONFIGURATION

VIDEO DETECTION MOUNTING DETAIL (LUMINAIRE ARM MOUNT)

2



DETAIL "A"



EXTENSION ARM

VIDEO DETECTION MOUNTING DETAIL
(MAST ARM MOUNT)

PROJECT NO: 3700-20-73	HWY: VARIOUS	COUNTY: KENOSHA/OZAUKEE/RACINE	TRAFFIC SIGNAL DETAILS	SHEET	E

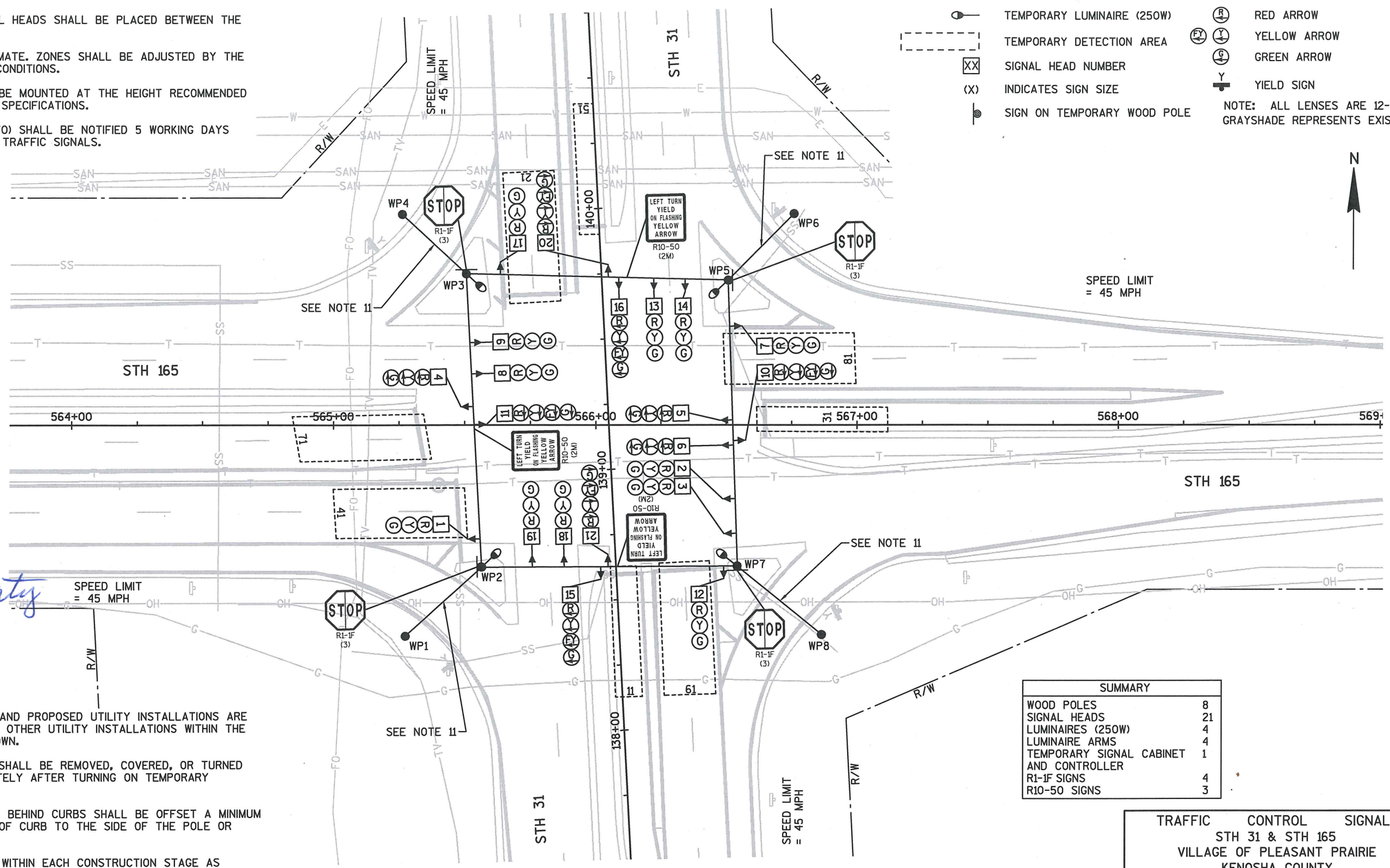
CONSTRUCTION NOTES:

1. FINAL LOCATION OF SIGNAL POLES, SIGNAL CABINET, & HEADS SHALL BE AS DIRECTED BY THE ENGINEER.
2. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
3. ALL NEAR RIGHT TRAFFIC SIGNAL HEADS SHALL BE PLACED BETWEEN THE SPAN WIRE AND TETHER WIRE.
4. DETECTION AREAS ARE APPROXIMATE. ZONES SHALL BE ADJUSTED BY THE CONTRACTOR TO MATCH FIELD CONDITIONS.
5. TEMPORARY DETECTORS SHALL BE MOUNTED AT THE HEIGHT RECOMMENDED BY THE MANUFACTURER IN THE SPECIFICATIONS.
6. WISDOT ELECTRICAL (414 266-1170) SHALL BE NOTIFIED 5 WORKING DAYS BEFORE SWITCH TO TEMPORARY TRAFFIC SIGNALS.

LEGEND

- CLASS 4 WOOD POLE
- CABLE-OVERHEAD
- SIGNAL HEAD, OVERHEAD MOUNT
- TEMPORARY LUMINAIRE (250W)
- TEMPORARY DETECTION AREA
- XX SIGNAL HEAD NUMBER
- (X) INDICATES SIGN SIZE
- SIGN ON TEMPORARY WOOD POLE
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (FY) (Y) YELLOW ARROW
- (G) GREEN ARROW
- Y YIELD SIGN

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING



CONSTRUCTION NOTES (CON'T):

7. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
8. ALL EXISTING SIGNAL HEADS SHALL BE REMOVED, COVERED, OR TURNED AWAY FROM TRAFFIC IMMEDIATELY AFTER TURNING ON TEMPORARY SIGNALS.
9. POLES AND POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF CURB TO THE SIDE OF THE POLE OR POST.
10. ADJUST TEMPORARY SIGNALS WITHIN EACH CONSTRUCTION STAGE AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
11. SPAN WIRE SHALL BE A MINIMUM OF 17-FT ABOVE ROADWAY BETWEEN ADJACENT WOOD POLES AND MEET ALL OVERHEAD LINE CLEARANCE REQUIREMENTS.

SUMMARY	
WOOD POLES	8
SIGNAL HEADS	21
LUMINAIRES (250W)	4
LUMINAIRE ARMS	4
TEMPORARY SIGNAL CABINET AND CONTROLLER	1
R1-1F SIGNS	4
R10-50 SIGNS	3

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
7-29-15

TRAFFIC CONTROL SIGNAL
STH 31 & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-0454

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 1 OF 2

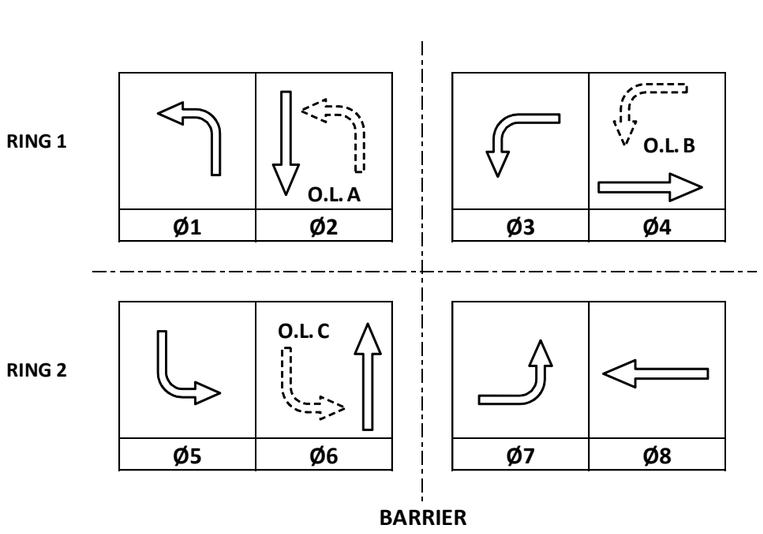
PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: KENOSHA	TEMPORARY TRAFFIC SIGNAL PLAN	SHEET 30	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S30-0454_TEMP.DWG
LAYOUT NAME - 024101_SP_TMP

PLOT DATE : 7/29/2015 8:55 AM PLOT BY : PITAS, TIANNA M PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

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



CONTROLLER LOGIC

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

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

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

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13	19	17	23	21	27	25	31	29	DETECTOR INPUT
PLAN LOOP DETECTOR*(S)	11	31	51	71													PLAN LOOP DETECTOR*(S)
ASSIGNED PHASE	1	3	5	7													ASSIGNED PHASE
OPERATION MODE	VEH	VEH	VEH	VEH													OPERATION MODE
SWITCH	2	4	6														SWITCH
EXTEND																	EXTEND
DELAY																	DELAY

DETECTOR INPUT	4	2	8	6	12	10	16	14	20	18	24	22	28	26	32	30	DETECTOR INPUT
PLAN LOOP DETECTOR*(S)	21	41	61	81													PLAN LOOP DETECTOR*(S)
ASSIGNED PHASE	2	4	6	8													ASSIGNED PHASE
OPERATION MODE	VEH	VEH	VEH	VEH													OPERATION MODE
SWITCH																	SWITCH
EXTEND																	EXTEND
DELAY																	DELAY

STH 31 & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY
SIGNAL NO: S30-0454
CONTROLLER TYPE: TEMP
DATE: 07/15 PAGE NO. 2 OF 2

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: KENOSHA	TEMPORARY SEQUENCE OF OPERATIONS	SHEET NO: 31	E

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

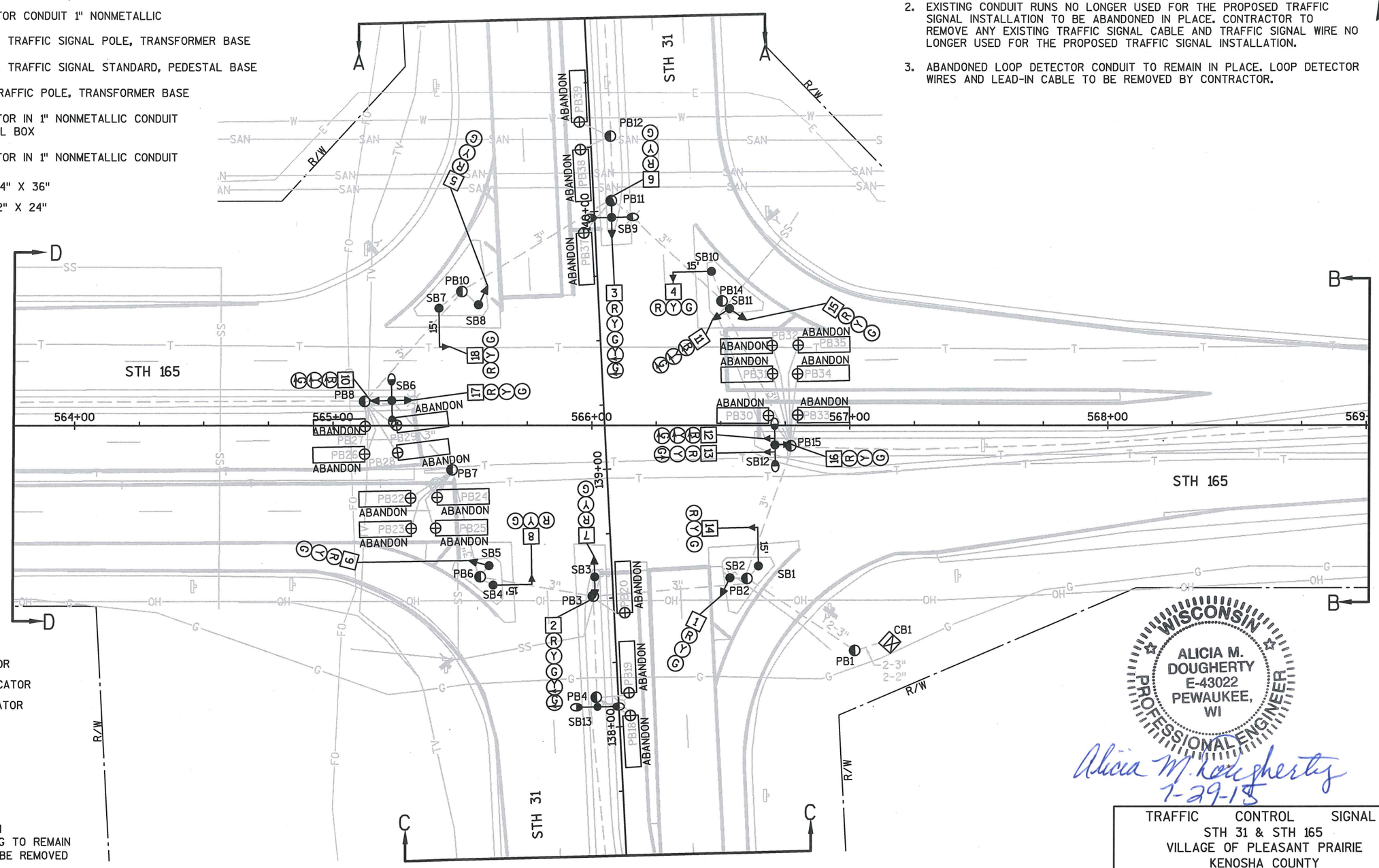
2

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT WITH 12" PULL BOX
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- PULL BOX, 12" X 24"

CONSTRUCTION NOTES:

1. THE LOCATIONS OF THE EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. EXISTING CONDUIT RUNS NO LONGER USED FOR THE PROPOSED TRAFFIC SIGNAL INSTALLATION TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY EXISTING TRAFFIC SIGNAL CABLE AND TRAFFIC SIGNAL WIRE NO LONGER USED FOR THE PROPOSED TRAFFIC SIGNAL INSTALLATION.
3. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP DETECTOR WIRES AND LEAD-IN CABLE TO BE REMOVED BY CONTRACTOR.



XX SIGNAL HEAD NUMBER
R RED CIRCULAR INDICATOR
Y YELLOW CIRCULAR INDICATOR
G GREEN CIRCULAR INDICATOR
RA RED ARROW
YA YELLOW ARROW
4G GREEN ARROW
Y YIELD SIGN

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING TO REMAIN
BOLD REPRESENTS EXISTING TO BE REMOVED

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PROFESSIONAL ENGINEER

Alicia M. Dougherty
1-29-15

TRAFFIC CONTROL SIGNAL
STH 31 & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-0454

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 1 OF 3

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: KENOSHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 32	E

TRAFFIC CONTROL SIGNAL
STH 31 & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-0454

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 2 OF 3

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: KENOSHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 33	E

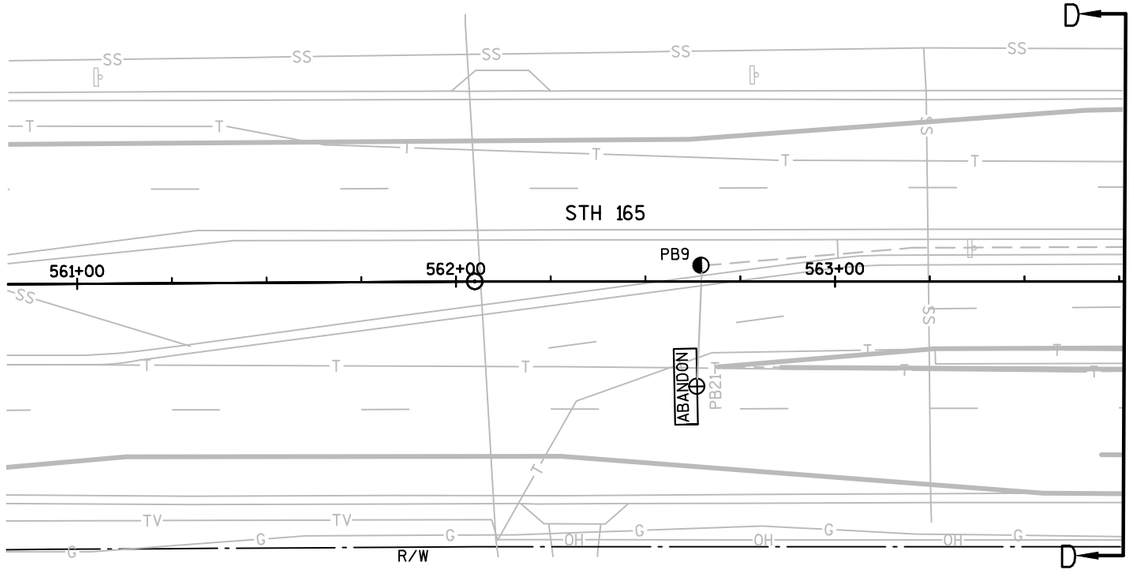
FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S30-0454_RM.DWG
LAYOUT NAME - 024239_SP_RM

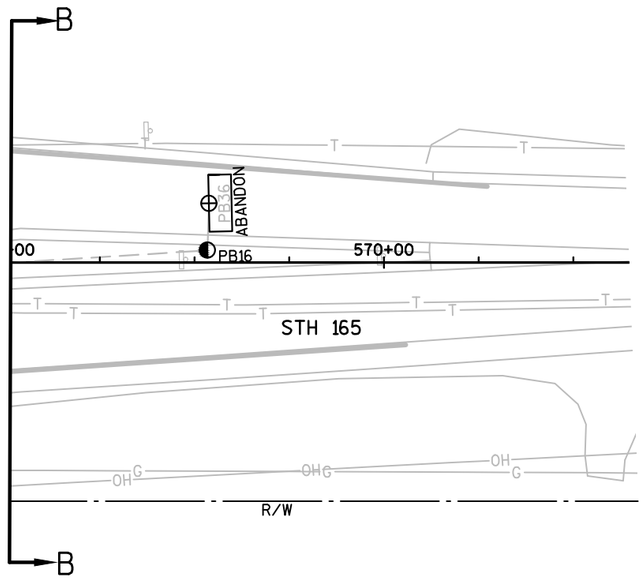
PLOT DATE : 7/29/2015 8:56 AM PLOT BY : PITAS, TIANNA M PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

N





TRAFFIC CONTROL SIGNAL
STH 31 & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-0454

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 3 OF 3

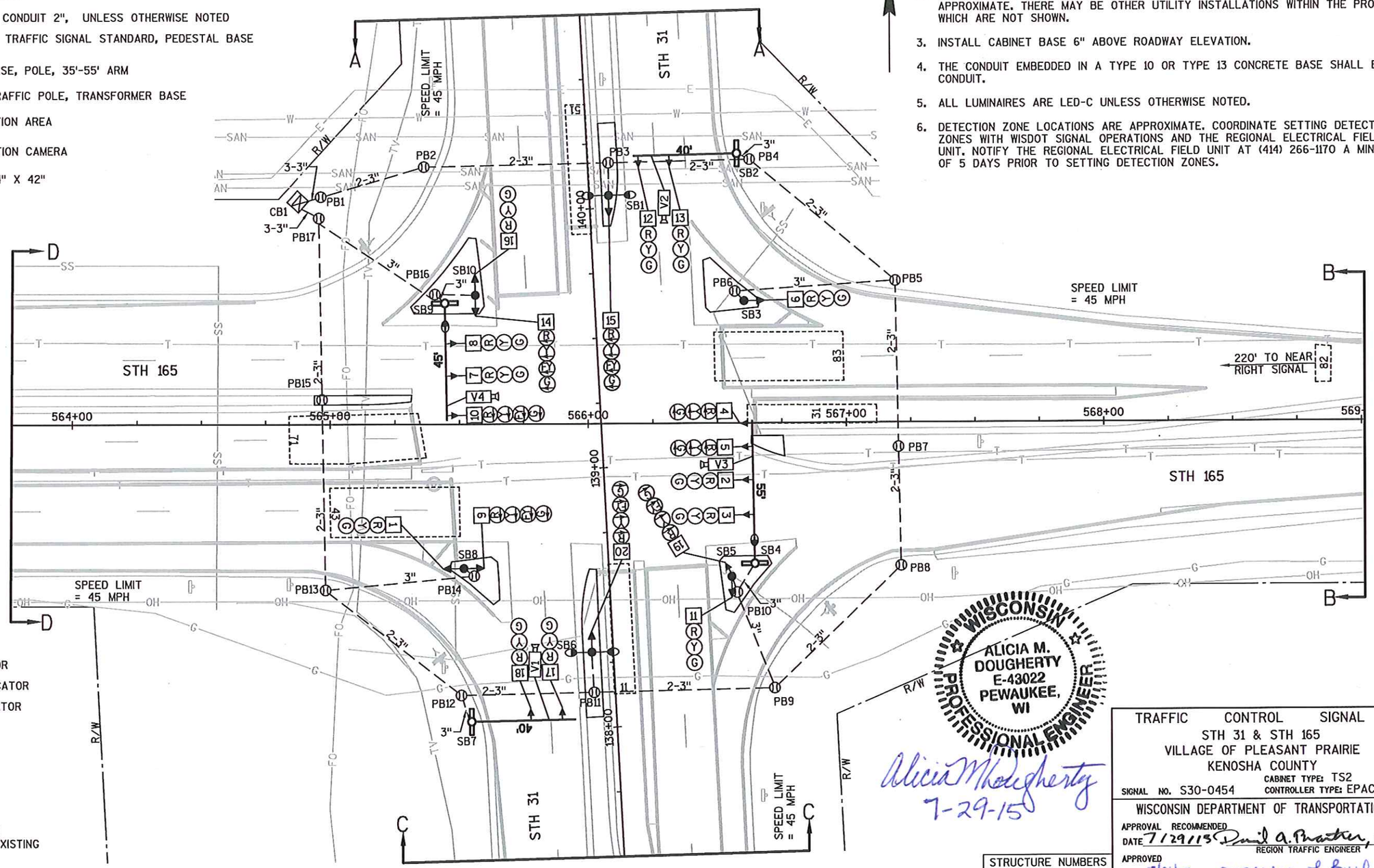
PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: KENOSHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 34	E

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA
- PULL BOX, 24" X 42"

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULLBOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS. (414) 266-1170.
2. THE LOCATIONS OF THE EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.
4. THE CONDUIT EMBEDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3" CONDUIT.
5. ALL LUMINAIRES ARE LED-C UNLESS OTHERWISE NOTED.
6. DETECTION ZONE LOCATIONS ARE APPROXIMATE. COORDINATE SETTING DETECTION ZONES WITH WISDOT SIGNAL OPERATIONS AND THE REGIONAL ELECTRICAL FIELD UNIT. NOTIFY THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170 A MINIMUM OF 5 DAYS PRIOR TO SETTING DETECTION ZONES.



- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- RA RED ARROW
- YA YELLOW ARROW
- GA GREEN ARROW
- Y YIELD SIGN

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

STRUCTURE NUMBERS
SB2 = S-30-1184
SB4 = S-30-1185
SB7 = S-30-1186
SB9 = S-30-1187

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PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia Mdougherty
7-29-15

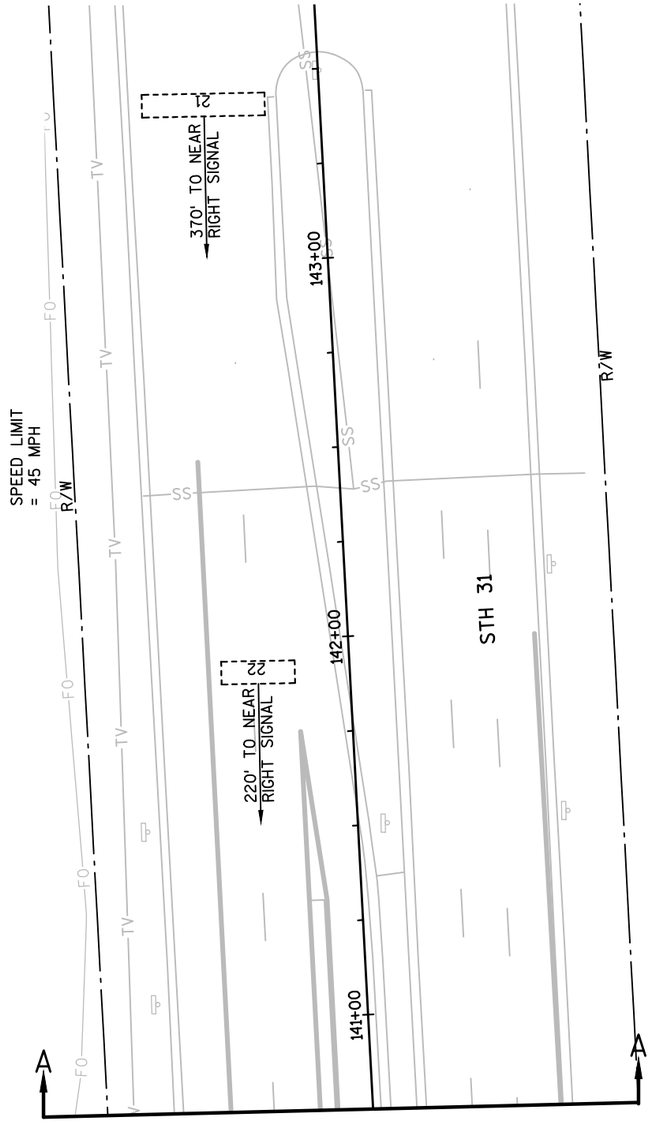
TRAFFIC CONTROL SIGNAL
STH 31 & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY
CABINET TYPE: TS2
SIGNAL NO. S30-0454 CONTROLLER TYPE: EPAC

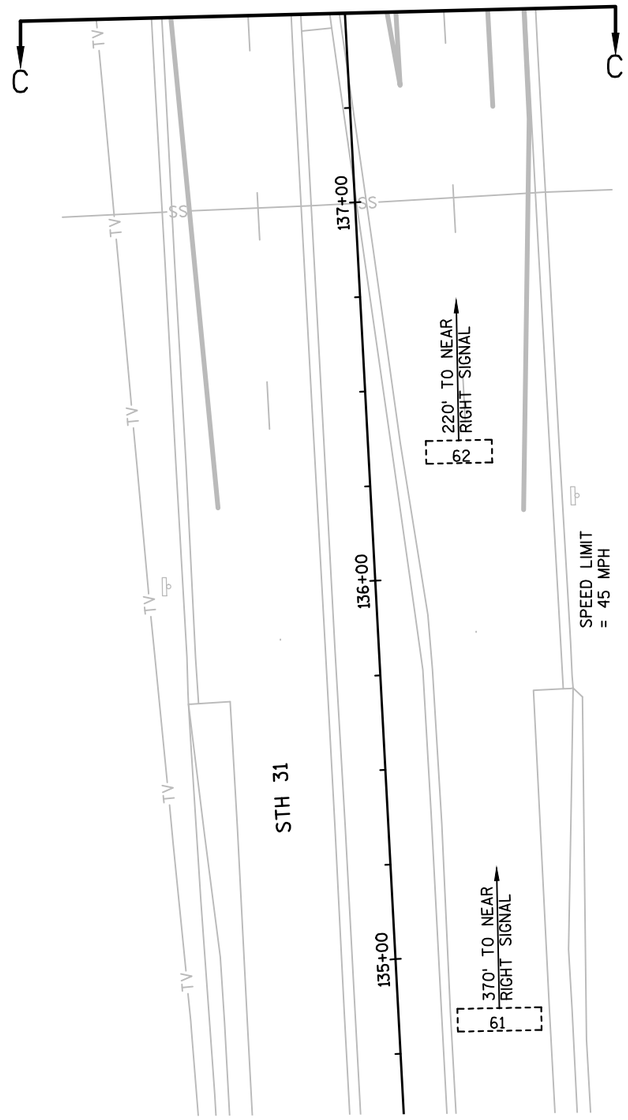
WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVAL RECOMMENDED DATE 7/29/15 David A. Bratton, P.E., REGION TRAFFIC ENGINEER
APPROVED DATE 7/31/15 Joanna L. Bush STATE TRAFFIC ENGINEER
REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:
PAGE 1 OF 4

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 35 E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S30-0454.DWG
LAYOUT NAME - 024115_SP
PLOT DATE : 7/29/2015 8:57 AM PLOT BY : PITAS, TIANNA M PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

JMG 7/29/2015





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TRAFFIC CONTROL SIGNAL
STH 31 & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-0454

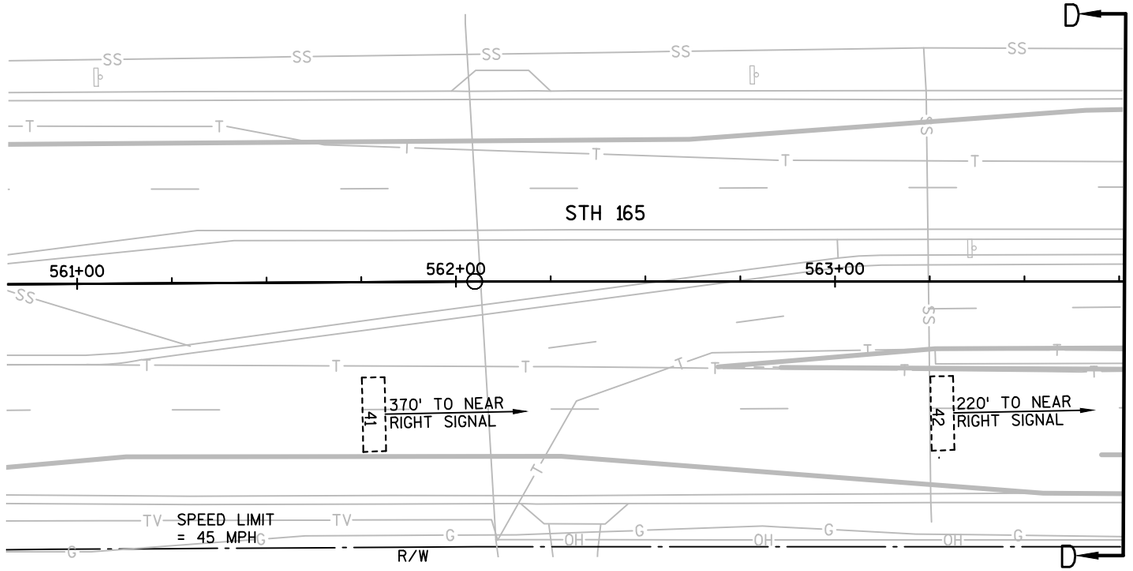
REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

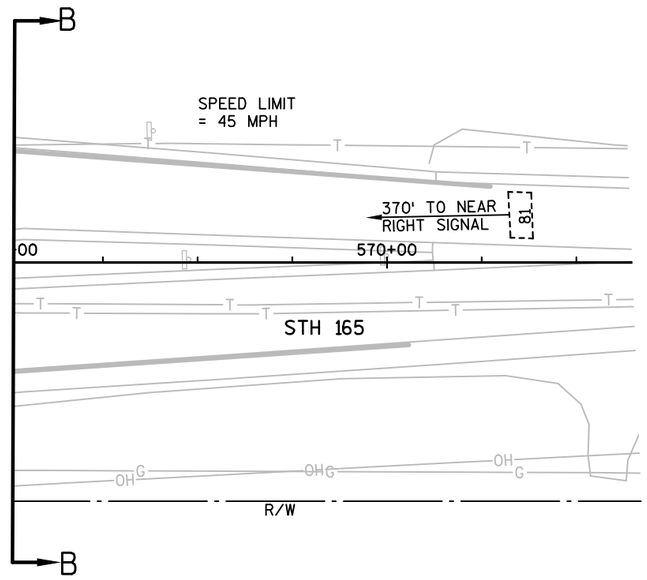
PAGE 2 OF 4

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 36	E

2

N





TRAFFIC CONTROL SIGNAL
STH 31 & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY

SIGNAL NO. S30-0454

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

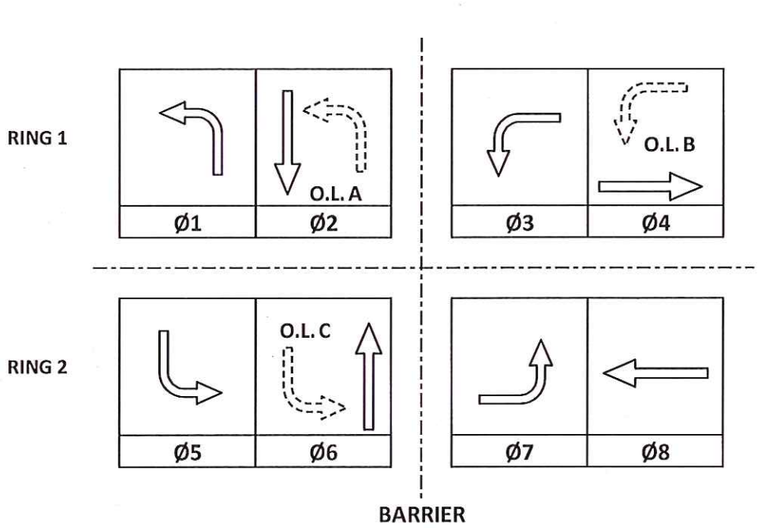
PAGE 3 OF 4

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 37	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S30-0454.DWG
LAYOUT NAME - 024117_SP

PLOT DATE : 7/29/2015 8:57 AM PLOT BY : PITAS, TIANNA M PLOT NAME : PLOT SCALE : 1 IN:40 FT

	HEAD NUMBERS	FLASH
Ø1	14,15	-
Ø2	16,17,18	R
Ø3	9,10	-
Ø4	1,2,3	R
Ø5	19,20	-
Ø6	11,12,13	R
Ø7	4,5	R←
Ø8	6,7,8	R
Ø2P		
Ø4P		
Ø6P		
Ø8P		
OLA	14,15	R←
OLB	9,10	R←
OLC	19,20	R←
OLD		



CONTROLLER LOGIC

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

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

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

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

19	17	23	21	27	25	31	29	DETECTOR INPUT
11	31	43	61/62	81/82				PLAN LOOP DETECTOR*(S)
1	3	4	6	8				ASSIGNED PHASE
VEH	VEH	VEH	VEH	VEH				OPERATION MODE
2	4							SWITCH
				X				EXTEND
								DELAY

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

20	18	24	22	28	26	32	30	DETECTOR INPUT
21/22	41/42	51	71	83				PLAN LOOP DETECTOR*(S)
2	4	5	7	8				ASSIGNED PHASE
VEH	VEH	VEH	VEH	VEH				OPERATION MODE
		6						SWITCH
	X							EXTEND
								DELAY

STH 31 & STH 165
VILLAGE OF PLEASANT PRAIRIE
KENOSHA COUNTY
SIGNAL NO: S30-0454 CABINET TYPE: TS2
CONTROLLER TYPE: EPAC
DATE: 07/15 PAGE NO. 4 OF 4

JMG 7/29/2015

7/29/15 DMB

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: KENOSHA	SEQUENCE OF OPERATIONS	SHEET NO: E

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

PROJECT ID:	3700-20-73
INTERSECTION:	STH 31 & STH 165

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

CB1 TO	NO. OF CONDUCTORS	HEAD NO.	RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	FLASHING <YELLOW>	D/WALK	WALK	PED BUTTON
SB1	12	15				RED	ORG	GRN	BLK/WHT			
SB2	12	12	RED	ORG	GRN							
		13	RED	ORG	GRN							
SB3	12	6	RED	ORG	GRN							
SB4	12	2	RED	ORG	GRN							
		3	RED	ORG	GRN							
		4				RED/BLK	ORG/BLK	GRN/BLK				
		5				RED/BLK	ORG/BLK	GRN/BLK				
SB5	12	11	RED	ORG	GRN							
		19				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB6	12	20				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB7	12	17	RED	ORG	GRN							
		18	RED	ORG	GRN							
SB8	12	1	RED	ORG	GRN							
		9				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB9	12	7	RED	ORG	GRN							
		8	RED	ORG	GRN							
		10				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB10	12	14				RED	ORG	GRN	BLK/WHT			
		16	RED/BLK	ORG/BLK	GRN/BLK							

NOTES:

USE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS.
ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
AT THE SIGNAL BASES, CONNECT ON TERMINAL FROM THE PEDESTRIAN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.

WISCONSIN
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E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
7-29-15

(CONTINUED ON NEXT SHEET)

(CONTINUED)

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN 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 GRN XLP	
FROM	TO
PB1	CB1
PB2	CB1
PB3	SB1
PB4	SB2
PB5	SB2
PB6	SB3
PB7	SB3
PB8	SB5
PB9	SB5
PB10	SB5
PB11	SB6
PB12	SB7
PB13	SB8
PB14	SB8
PB15	CB1
PB16	SB9
PB17	CB1

MULTI-SENSOR VEHICLE DETECTION CABLE	
FROM	TO
CB1	SB2 (V2)
CB1	SB4 (V3)
CB1	SB7 (V1)
CB1	SB9 (V4)

LIGHTING US 10 AWG W/ GROUND	
FROM	TO
CB1	SB1
SB1	SB4
CB1	SB9
SB9	SB6

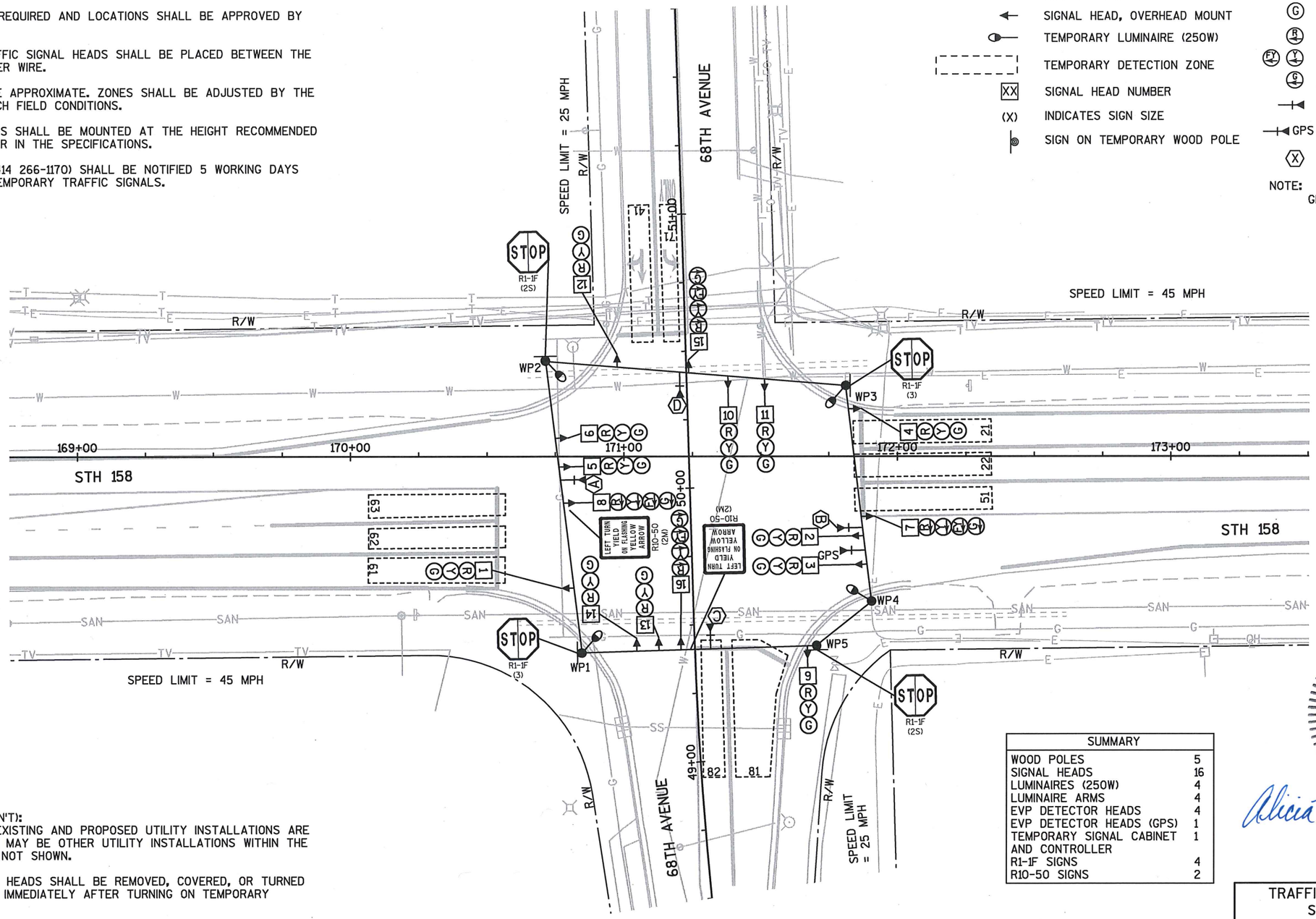
PAGE 2 OF 2

CONSTRUCTION NOTES:
1. FINAL LOCATION OF SIGNAL POLES, SIGNAL CABINET, & HEADS SHALL BE AS DIRECTED BY THE ENGINEER.
2. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
3. ALL NEAR RIGHT TRAFFIC SIGNAL HEADS SHALL BE PLACED BETWEEN THE SPAN WIRE AND TETHER WIRE.
4. DETECTION AREAS ARE APPROXIMATE. ZONES SHALL BE ADJUSTED BY THE CONTRACTOR TO MATCH FIELD CONDITIONS.
5. TEMPORARY DETECTORS SHALL BE MOUNTED AT THE HEIGHT RECOMMENDED BY THE MANUFACTURER IN THE SPECIFICATIONS.
6. WISDOT ELECTRICAL (414 266-1170) SHALL BE NOTIFIED 5 WORKING DAYS BEFORE SWITCH TO TEMPORARY TRAFFIC SIGNALS.

LEGEND

- CLASS 4 WOOD POLE
- CABLE-OVERHEAD
- SIGNAL HEAD, OVERHEAD MOUNT
- TEMPORARY LUMINAIRE (250W)
- TEMPORARY DETECTION ZONE
- XX SIGNAL HEAD NUMBER
- (X) INDICATES SIGN SIZE
- SIGN ON TEMPORARY WOOD POLE
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- RA RED ARROW
- YA YELLOW ARROW
- GA GREEN ARROW
- EVP DETECTOR HEAD
- GPS EVP DETECTOR HEAD (GPS)
- X EVP DESIGNATOR

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING



SUMMARY	
WOOD POLES	5
SIGNAL HEADS	16
LUMINAIRES (250W)	4
LUMINAIRE ARMS	4
EVP DETECTOR HEADS	4
EVP DETECTOR HEADS (GPS)	1
TEMPORARY SIGNAL CABINET AND CONTROLLER	1
R1-1F SIGNS	4
R10-50 SIGNS	2

CONSTRUCTION NOTES (CON'T):
7. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
8. ALL EXISTING SIGNAL HEADS SHALL BE REMOVED, COVERED, OR TURNED AWAY FROM TRAFFIC IMMEDIATELY AFTER TURNING ON TEMPORARY SIGNALS.
9. POLES AND POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF CURB TO THE SIDE OF THE POLE OR POST.
10. ADJUST TEMPORARY SIGNALS WITHIN EACH CONSTRUCTION STAGE AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.

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Alicia M Dougherty
10-29-15

TRAFFIC CONTROL SIGNAL
STH 158 & 68TH AVENUE
CITY OF KENOSHA
KENOSHA COUNTY

SIGNAL NO. S30-0513

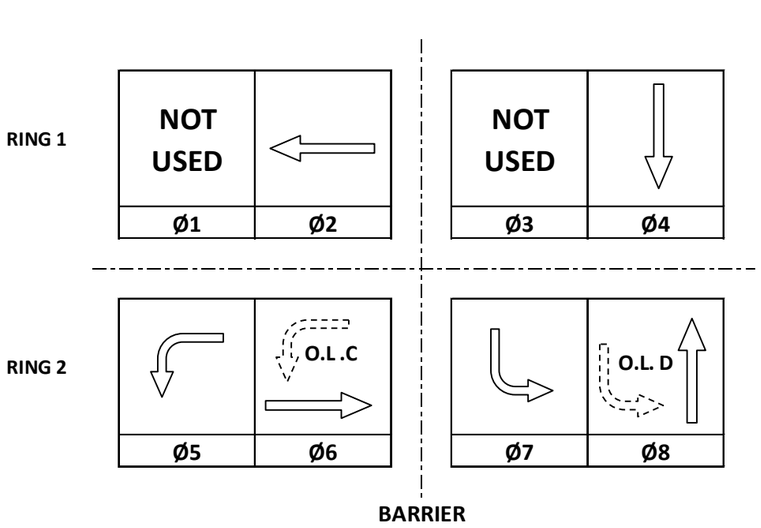
REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 1 OF 2

PROJECT NO: 3700-20-73	HWY: STH 158	COUNTY: KENOSHA	TEMPORARY TRAFFIC SIGNAL PLAN	SHEET 41 E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S30-0513_TEMP.DWG
LAYOUT NAME - 024201_SP_TMP
PLOT DATE : 10/27/2015 11:24 AM PLOT BY : DOUGHERTY, ALICIA M PLOT NAME :
PLOT SCALE : 1:40_XREF

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



CONTROLLER LOGIC

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT				
PHASE	2+6	6+2	4+8	8+4
TYPE	GPS INFRARED	GPS INFRARED	GPS INFRARED	GPS INFRARED

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

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

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

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	21	41	61	63	81			
ASSIGNED PHASE	2	4	6	6	8			
OPERATION MODE	VEH	VEH	VEH	VEH	VEH			
SWITCH								
EXTEND								
DELAY	X	X	X	X	X			

19	17	23	21	27	25	31	29	DETECTOR INPUT
								PLAN LOOP DETECTOR*(S)
								ASSIGNED PHASE
								OPERATION MODE
								SWITCH
								EXTEND
								DELAY

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	22	51	62	71	82			
ASSIGNED PHASE	2	5	6	7	8			
OPERATION MODE	VEH	VEH	VEH	VEH	VEH			
SWITCH		6		8				
EXTEND								
DELAY		X		X	X			

20	18	24	22	28	26	32	30	DETECTOR INPUT
								PLAN LOOP DETECTOR*(S)
								ASSIGNED PHASE
								OPERATION MODE
								SWITCH
								EXTEND
								DELAY

STH 158 & 68TH AVENUE
CITY OF KENOSHA
KENOSHA COUNTY
SIGNAL NO: S30-0513
CONTROLLER TYPE: TEMP
DATE: 10/15 PAGE NO. 2 OF 2

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

LEGEND

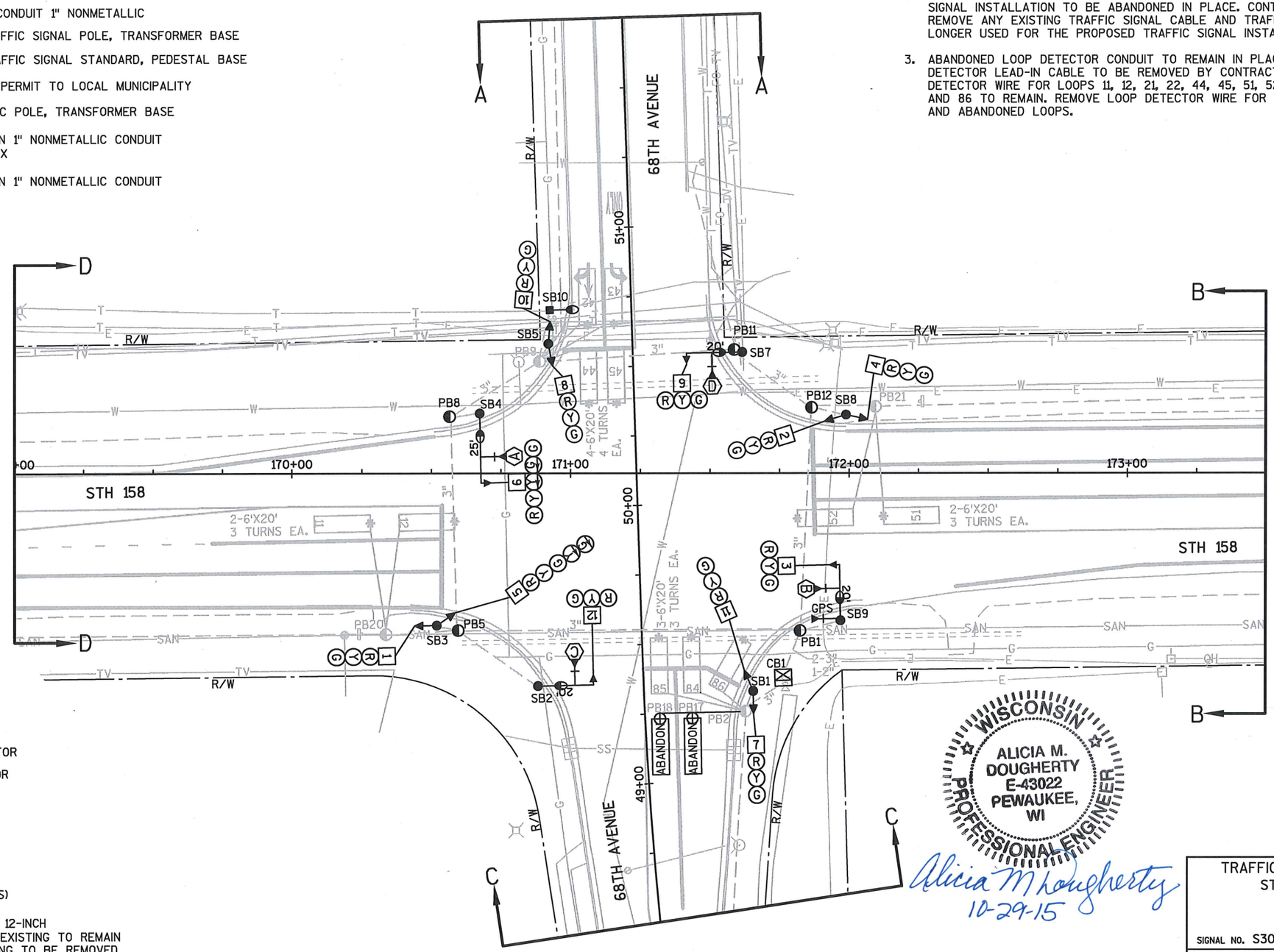
- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT WITH 12" PULL BOX
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

- PULL BOX, 24" X 36"
- PULL BOX, 18" X 24"
- PULL BOX, 12" X 24"
- PULL BOX, 24" X 42"
- XX SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- YELLOW ARROW
- GREEN ARROW
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD
- GPS EVP DETECTOR HEAD (GPS)

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING TO REMAIN
BOLD REPRESENTS EXISTING TO BE REMOVED

CONSTRUCTION NOTES:

1. THE LOCATIONS OF THE EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. EXISTING CONDUIT RUNS NO LONGER USED FOR THE PROPOSED TRAFFIC SIGNAL INSTALLATION TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY EXISTING TRAFFIC SIGNAL CABLE AND TRAFFIC SIGNAL WIRE NO LONGER USED FOR THE PROPOSED TRAFFIC SIGNAL INSTALLATION.
3. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. ALL LOOP DETECTOR LEAD-IN CABLE TO BE REMOVED BY CONTRACTOR. LOOP DETECTOR WIRE FOR LOOPS 11, 12, 21, 22, 44, 45, 51, 52, 61, 62, 84, 85, AND 86 TO REMAIN. REMOVE LOOP DETECTOR WIRE FOR LOOPS 41, 42, 43, AND ABANDONED LOOPS.



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PROFESSIONAL ENGINEER

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10-29-15

TRAFFIC CONTROL SIGNAL
STH 158 & 68TH AVENUE
CITY OF KENOSHA
KENOSHA COUNTY

SIGNAL NO. S30-0513

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 1 OF 2

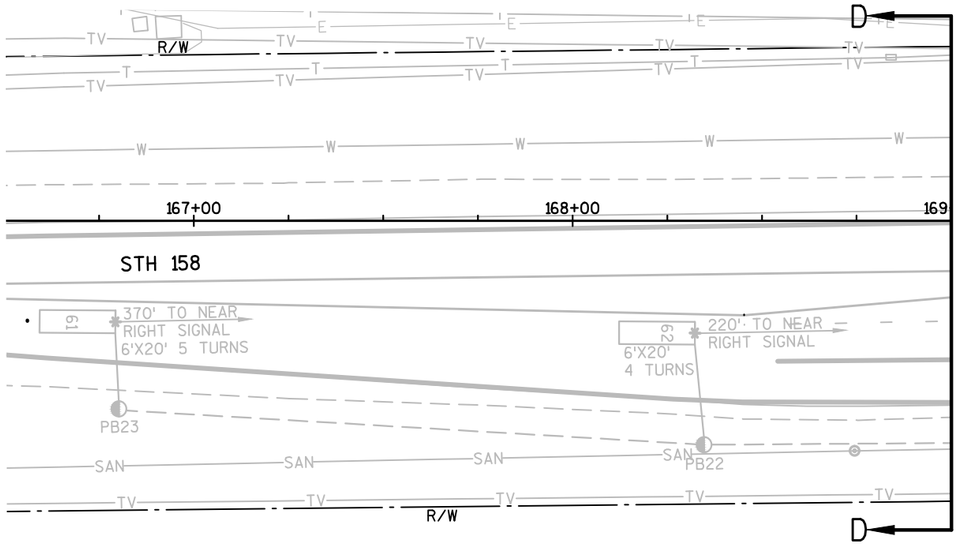
PROJECT NO: 3700-20-73	HWY: STH 158	COUNTY: KENOSHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 43 E

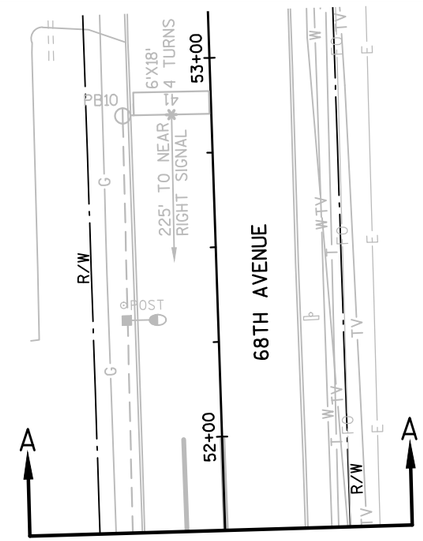
FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S30-0513_RM.DWG
LAYOUT NAME - 024249_SP_RM

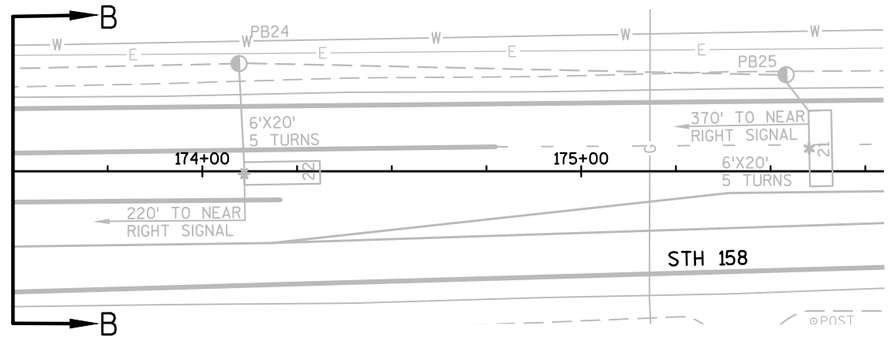
PLOT DATE : 10/27/2015 11:01 AM PLOT BY : DOUGHERTY, ALICIA M PLOT NAME : PLOT SCALE : 1" = 40'_XREF

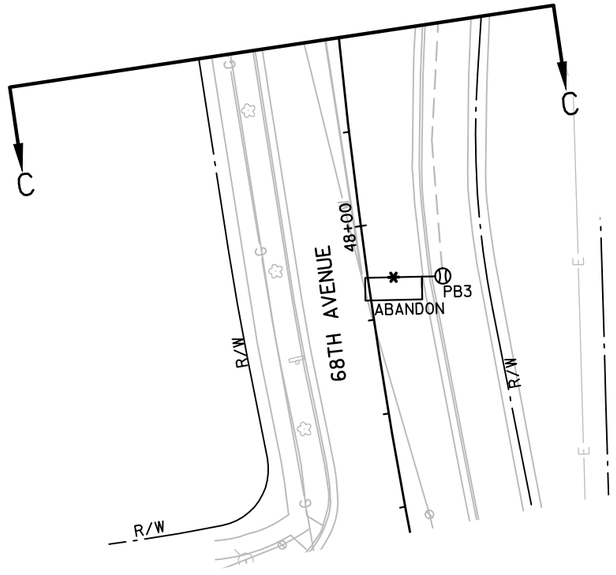
WISDOT/CADDS SHEET 42

2









TRAFFIC CONTROL SIGNAL
STH 158 & 68TH AVENUE
CITY OF KENOSHA
KENOSHA COUNTY

SIGNAL NO. S30-0513

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 3700-20-73	HWY: STH 158	COUNTY: KENOSHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 44	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S30-0513_RM.DWG
LAYOUT NAME - 024250_SP_RM
PLOT DATE : 10/27/2015 11:01 AM PLOT BY : DOUGHERTY, ALICIA M PLOT NAME : PLOT SCALE : 1" = 40'_XREF

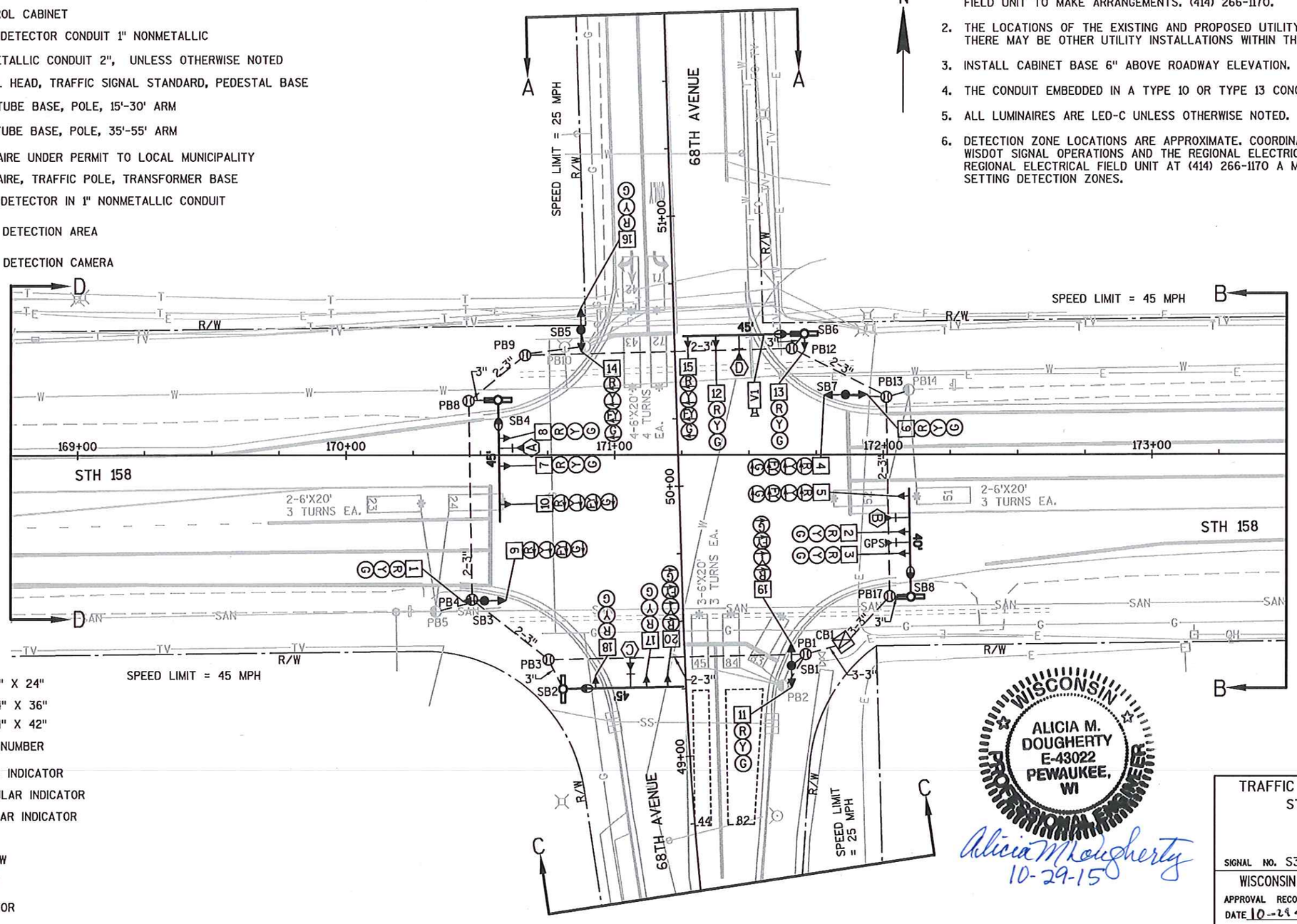
2

LEGEND

- CONTROL CABINET
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULLBOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS. (414) 266-1170.
2. THE LOCATIONS OF THE EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.
4. THE CONDUIT EMBEDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3" CONDUIT.
5. ALL LUMINAIRES ARE LED-C UNLESS OTHERWISE NOTED.
6. DETECTION ZONE LOCATIONS ARE APPROXIMATE. COORDINATE SETTING DETECTION ZONES WITH WISDOT SIGNAL OPERATIONS AND THE REGIONAL ELECTRICAL FIELD UNIT. NOTIFY THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170 A MINIMUM OF 5 DAYS PRIOR TO SETTING DETECTION ZONES.



- PULL BOX, 18" X 24"
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- RA RED ARROW
- YA YELLOW ARROW
- GA GREEN ARROW
- X EVP DESIGNATOR
- EVP DETECTOR HEAD
- GPS EVP DETECTOR HEAD (GPS)

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

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PROFESSIONAL ENGINEER

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10-29-15

STRUCTURE NUMBERS
SB2 = S-30-1188
SB4 = S-30-1189
SB6 = S-30-1190
SB8 = S-30-1191

TRAFFIC CONTROL SIGNAL
STH 158 & 68TH AVENUE
CITY OF KENOSHA
KENOSHA COUNTY
CABINET TYPE: TS2
SIGNAL NO. S30-0513 CONTROLLER TYPE: EPAC

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
DATE 10-29-15 David A. Pawlowski P.E.
REGION TRAFFIC ENGINEER

APPROVED
DATE 10/30/15 Joanna L. Bush
STATE TRAFFIC ENGINEER

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 1 OF 3

PROJECT NO: 3700-20-73	HWY: STH 158	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 45 E

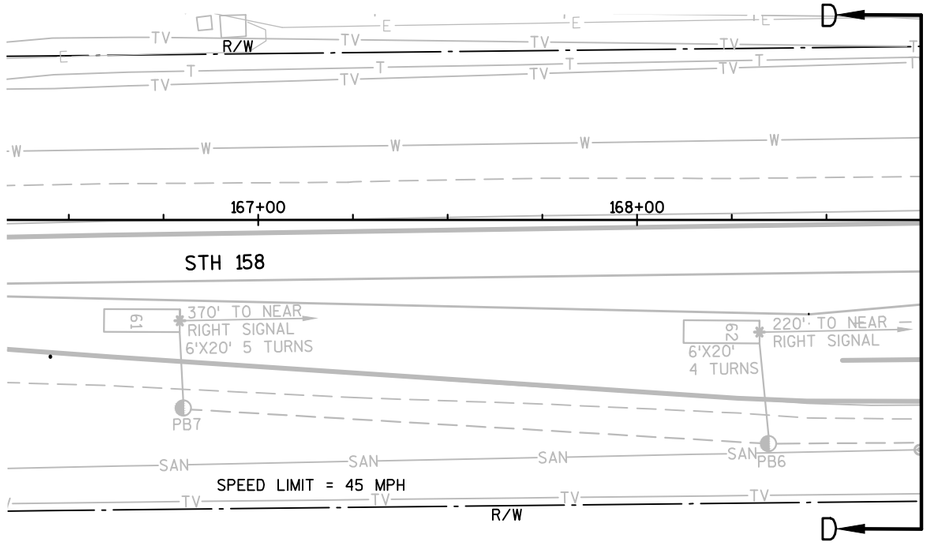
FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S30-0513.DWG
LAYOUT NAME - 024215_SP

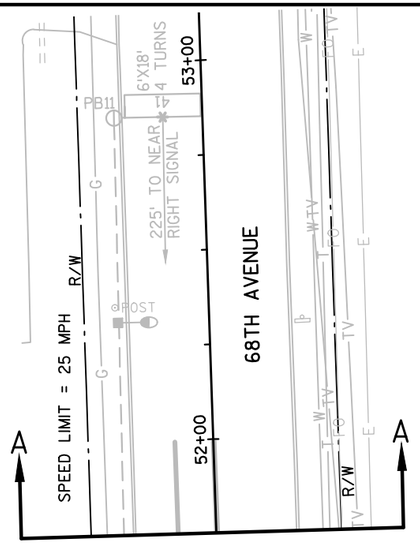
PLOT DATE : 10/27/2015 10:53 AM PLOT BY : DOUGHERTY, ALICIA M PLOT NAME :

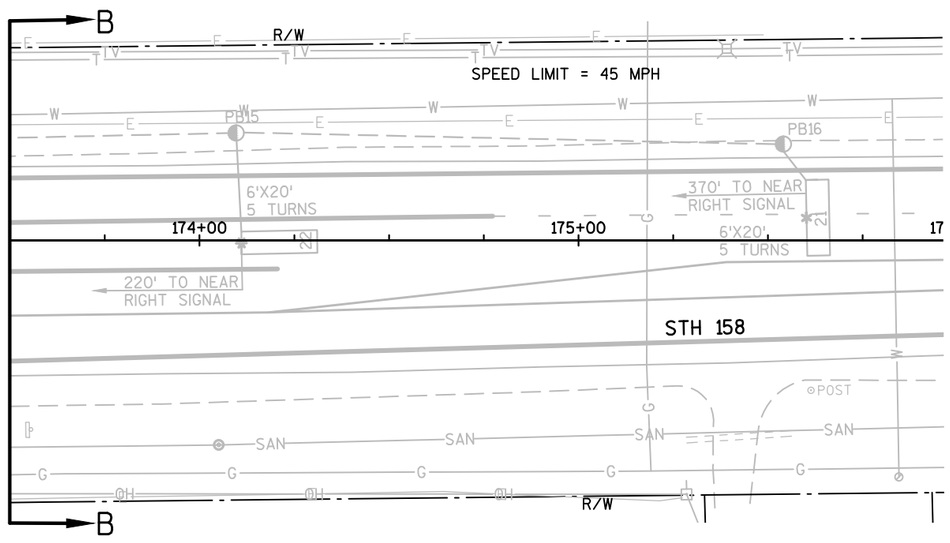
PLOT SCALE : 1" = 40'_XREF

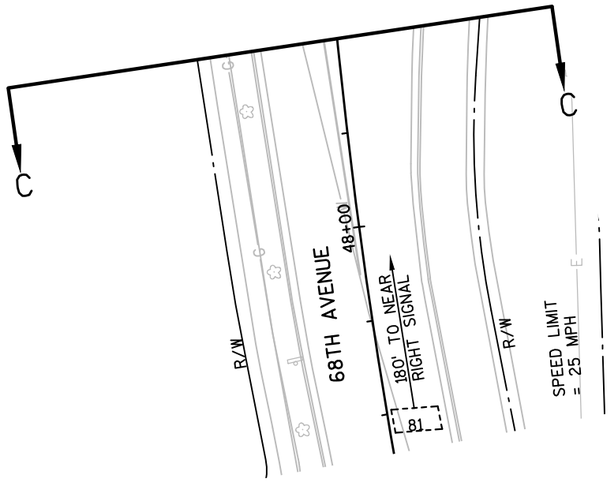
WISDOT/CADDS SHEET 42

JMG 10/29/2015









TRAFFIC CONTROL SIGNAL
STH 158 & 68TH AVENUE
CITY OF KENOSHA
KENOSHA COUNTY

SIGNAL NO. S30-0513

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

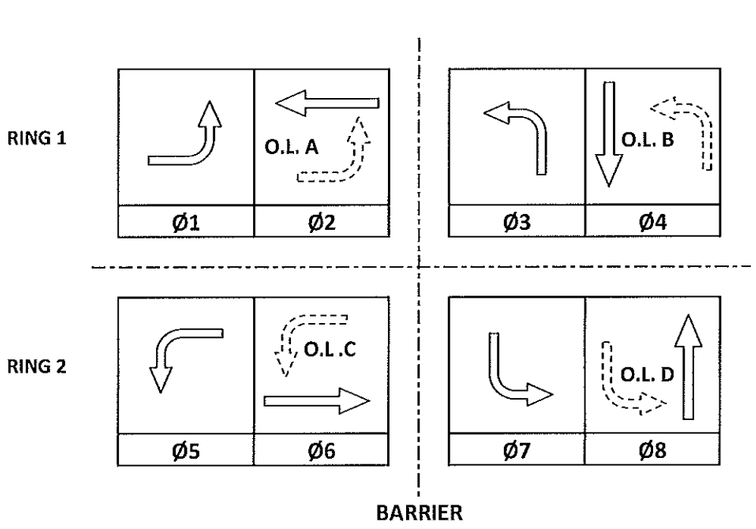
PAGE 2 OF 3

PROJECT NO: 3700-20-73	HWY: STH 158	COUNTY: KENOSHA	TRAFFIC SIGNAL PLAN	SHEET 46	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S30-0513.DWG
LAYOUT NAME - 024216_SP

PLOT DATE : 10/27/2015 10:53 AM PLOT BY : DOUGHERTY, ALICIA M PLOT NAME : PLOT SCALE : 1" = 40'_XREF

	HEAD NUMBERS	FLASH
Ø1	4,5	-
Ø2	6,7,8	R
Ø3	14,15	-
Ø4	16,17,18	R
Ø5	9,10	-
Ø6	1,2,3	R
Ø7	19,20	-
Ø8	11,12,13	R
Ø2P		
Ø4P		
Ø6P		
Ø8P		
OLA	4,5	R ←
OLB	14,15	R ←
OLC	9,10	R ←
OLD	19,20	R ←



CONTROLLER LOGIC

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

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT				
PHASE	2+5	6+1	4+7	8+3

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4+7 OR 8+3, CONTROLLER SHALL RETURN TO PHASES 4+8.

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

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

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	21	23	41	45	52	62	72	84
ASSIGNED PHASE	2	2	4	4	5	6	7	8
OPERATION MODE	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH
SWITCH					6		8	
EXTEND			X					
DELAY			X	X	X		X	

DETECTOR INPUT	19	17	23	21	27	25	31	29
PLAN LOOP DETECTOR*(S)	44	82						
ASSIGNED PHASE	4	8						
OPERATION MODE	VEH	VEH						
SWITCH								
EXTEND								
DELAY		X						

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	22	24	42/43	51	61	71	83	
ASSIGNED PHASE	2	2	4	5	6	7	8	
OPERATION MODE	VEH	VEH	VEH	VEH	VEH	VEH	VEH	
SWITCH				6		8		
EXTEND								
DELAY		X	X				X	

DETECTOR INPUT	20	18	24	22	28	26	32	30
PLAN LOOP DETECTOR*(S)	81							
ASSIGNED PHASE	8							
OPERATION MODE	VEH							
SWITCH								
EXTEND	X							
DELAY	X							

STH 158 & 68TH AVENUE
CITY OF KENOSHA
KENOSHA COUNTY
SIGNAL NO: S30-0513 CABINET TYPE: TS2
CONTROLLER TYPE: EPAC
DATE: 10/15 PAGE NO. 3 OF 3

10/29/2015 DM2
10/29/2015 JMG

STH 158 & 68TH AVENUE

2

PROJECT ID:	3700-20-73
INTERSECTION:	STH 158 & 68TH AVENUE

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

CB1 TO	NO. OF CONDUCTORS	HEAD NO.	RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	FLASHING <YELLOW>	D/WALK	WALK	PED BUTTON
SB1	12	11	RED	ORG	GRN							
		19				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB2	12	17	RED	ORG	GRN							
		18	RED	ORG	GRN							
		20				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB3	12	1	RED	ORG	GRN							
		9				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB4	12	7	RED	ORG	GRN							
		8	RED	ORG	GRN							
		10				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB5	12	14				RED	ORG	GRN	BLK/WHT			
		16	RED/BLK	ORG/BLK	GRN/BLK							
SB6	12	12	RED	ORG	GRN							
		13	RED	ORG	GRN							
		15				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB7	12	4				RED	ORG	GRN	BLK/WHT			
		6	RED/BLK	ORG/BLK	GRN/BLK							
SB8	12	2	RED	ORG	GRN							
		3	RED	ORG	GRN							
		5				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			

NOTES: USE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS.
ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
AT THE SIGNAL BASES, CONNECT ON TERMINAL FROM THE PEDESTRIAN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.

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PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia Mdougherty
10-29-15

(CONTINUED ON NEXT SHEET)

(CONTINUED)

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
PB1	SB1
PB3	SB2
PB4	SB3
PB8	SB4
PB9	SB4
PB10	SB5
PB12	SB6
PB13	SB7
PB17	SB8

VIDEO DETECTION CABLE	
FROM	TO
CB1	SB6 (V1)

EMERGENCY VEHICLE PREEMPTION	
FROM	TO
CB1	SB4 (HEAD A)
CB1	SB8 (HEAD B)
CB1	SB2 (HEAD C)
CB1	SB6 (HEAD D)
CB1	SB8 (GPS)

LIGHTING US 10 AWG W/ GROUND	
FROM	TO
CB1	SB2
SB2	SB4
CB1	SB8
SB8	SB6

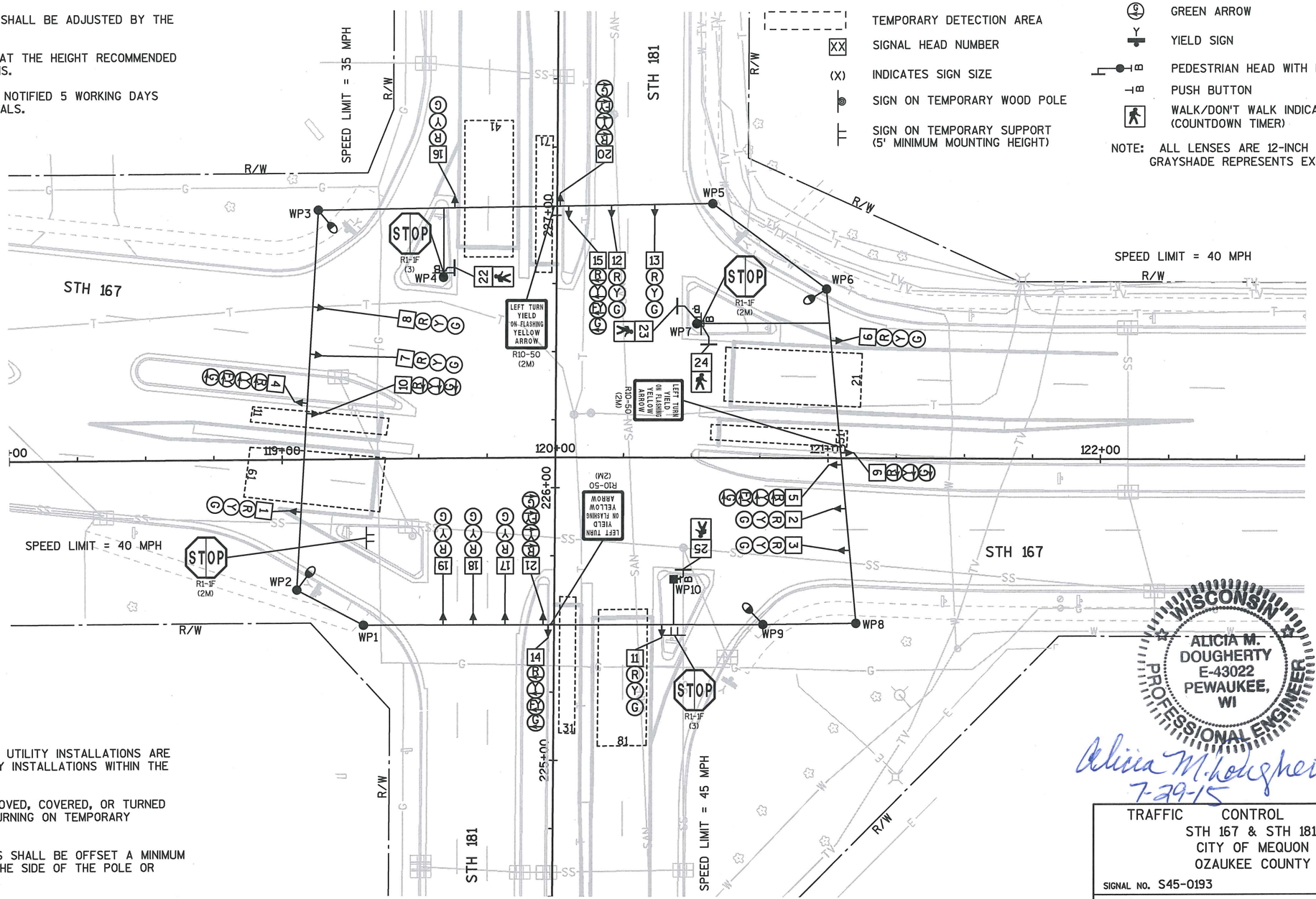
CONSTRUCTION NOTES:

1. FINAL LOCATION OF SIGNAL POLES, SIGNAL CABINET, & HEADS SHALL BE AS DIRECTED BY THE ENGINEER.
2. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
3. ALL NEAR RIGHT TRAFFIC SIGNAL HEADS SHALL BE PLACED BETWEEN THE SPAN WIRE AND TETHER WIRE.
4. DETECTION AREAS ARE APPROXIMATE. ZONES SHALL BE ADJUSTED BY THE CONTRACTOR TO MATCH FIELD CONDITIONS.
5. TEMPORARY DETECTORS SHALL BE MOUNTED AT THE HEIGHT RECOMMENDED BY THE MANUFACTURER IN THE SPECIFICATIONS.
6. WISDOT ELECTRICAL (414 266-1170) SHALL BE NOTIFIED 5 WORKING DAYS BEFORE SWITCH TO TEMPORARY TRAFFIC SIGNALS.

LEGEND

- CLASS 4 WOOD POLE
- WOOD POST
- CABLE-OVERHEAD
- SIGNAL HEAD, OVERHEAD MOUNT
- TEMPORARY LUMINAIRE (250W)
- TEMPORARY DETECTION AREA
- XX SIGNAL HEAD NUMBER
- (X) INDICATES SIGN SIZE
- SIGN ON TEMPORARY WOOD POLE
- SIGN ON TEMPORARY SUPPORT (5' MINIMUM MOUNTING HEIGHT)
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- RA RED ARROW
- FY YELLOW ARROW
- GA GREEN ARROW
- Y YIELD SIGN
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING



SUMMARY	
WOOD POLES	9
WOOD POSTS	1
SIGNAL HEADS	21
PEDESTRIAN HEADS	4
PUSH BUTTONS	4
LUMINAIRES (250W)	4
LUMINAIRE ARMS	4
TEMPORARY SIGNAL CABINET AND CONTROLLER	1
R1-1F SIGNS	4
R10-50 SIGNS	3

CONSTRUCTION NOTES (CON'T):

7. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
8. ALL EXISTING SIGNAL HEADS SHALL BE REMOVED, COVERED, OR TURNED AWAY FROM TRAFFIC IMMEDIATELY AFTER TURNING ON TEMPORARY SIGNALS.
9. POLES AND POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF CURB TO THE SIDE OF THE POLE OR POST.
10. ADJUST TEMPORARY SIGNALS WITHIN EACH CONSTRUCTION STAGE AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.

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PROFESSIONAL ENGINEER

Alicia M. Dougherty
7-29-15

TRAFFIC CONTROL SIGNAL
STH 167 & STH 181
CITY OF MEQUON
OZAUKEE COUNTY

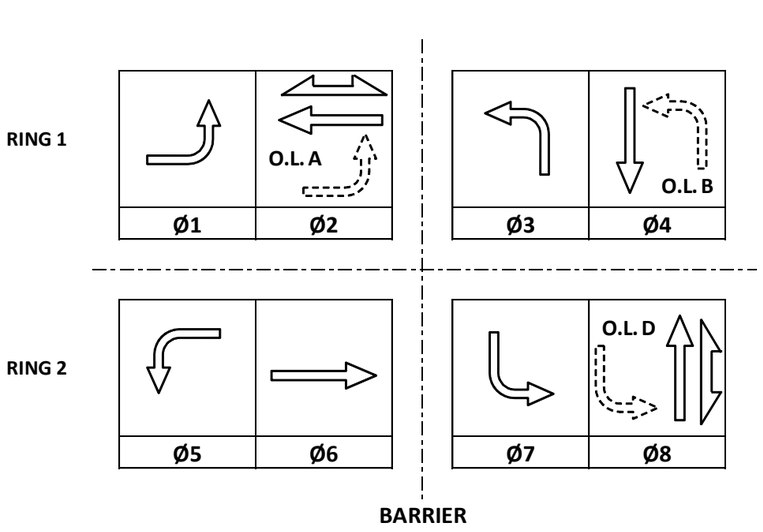
SIGNAL NO. S45-0193

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 1 OF 2

PROJECT NO: 3700-20-73	HWY: STH 167	COUNTY: OZAUKEE	TEMPORARY TRAFFIC SIGNAL PLAN	SHEET 50	E

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



CONTROLLER LOGIC

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

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

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

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13	19	17	23	21	27	25	31	29	DETECTOR INPUT
PLAN LOOP DETECTOR*(S)	11	31	51	71													PLAN LOOP DETECTOR*(S)
ASSIGNED PHASE	1	3	5	7													ASSIGNED PHASE
OPERATION MODE	VEH	VEH	VEH	VEH													OPERATION MODE
SWITCH	2	4		8													SWITCH
EXTEND																	EXTEND
DELAY																	DELAY

DETECTOR INPUT	4	2	8	6	12	10	16	14	20	18	24	22	28	26	32	30	DETECTOR INPUT
PLAN LOOP DETECTOR*(S)	21	41	61	81													PLAN LOOP DETECTOR*(S)
ASSIGNED PHASE	2	4	6	8													ASSIGNED PHASE
OPERATION MODE	VEH	VEH	VEH	VEH													OPERATION MODE
SWITCH																	SWITCH
EXTEND																	EXTEND
DELAY																	DELAY

STH 167 & STH 181
CITY OF MEQUON
OZAUKEE COUNTY

SIGNAL NO: S45-0193
CONTROLLER TYPE: TEMP
DATE: 07/15 PAGE NO. 2 OF 2

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT WITH 12" PULL BOX
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- PULL BOX, 12" X 24"

CONSTRUCTION NOTES:

1. THE LOCATIONS OF THE EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. EXISTING CONDUIT RUNS NO LONGER USED FOR THE PROPOSED TRAFFIC SIGNAL INSTALLATION TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY EXISTING TRAFFIC SIGNAL CABLE AND TRAFFIC SIGNAL WIRE NO LONGER USED FOR THE PROPOSED TRAFFIC SIGNAL INSTALLATION.
3. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP DETECTOR WIRES AND LEAD-IN CABLE TO BE REMOVED BY CONTRACTOR.

N

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PROFESSIONAL ENGINEER

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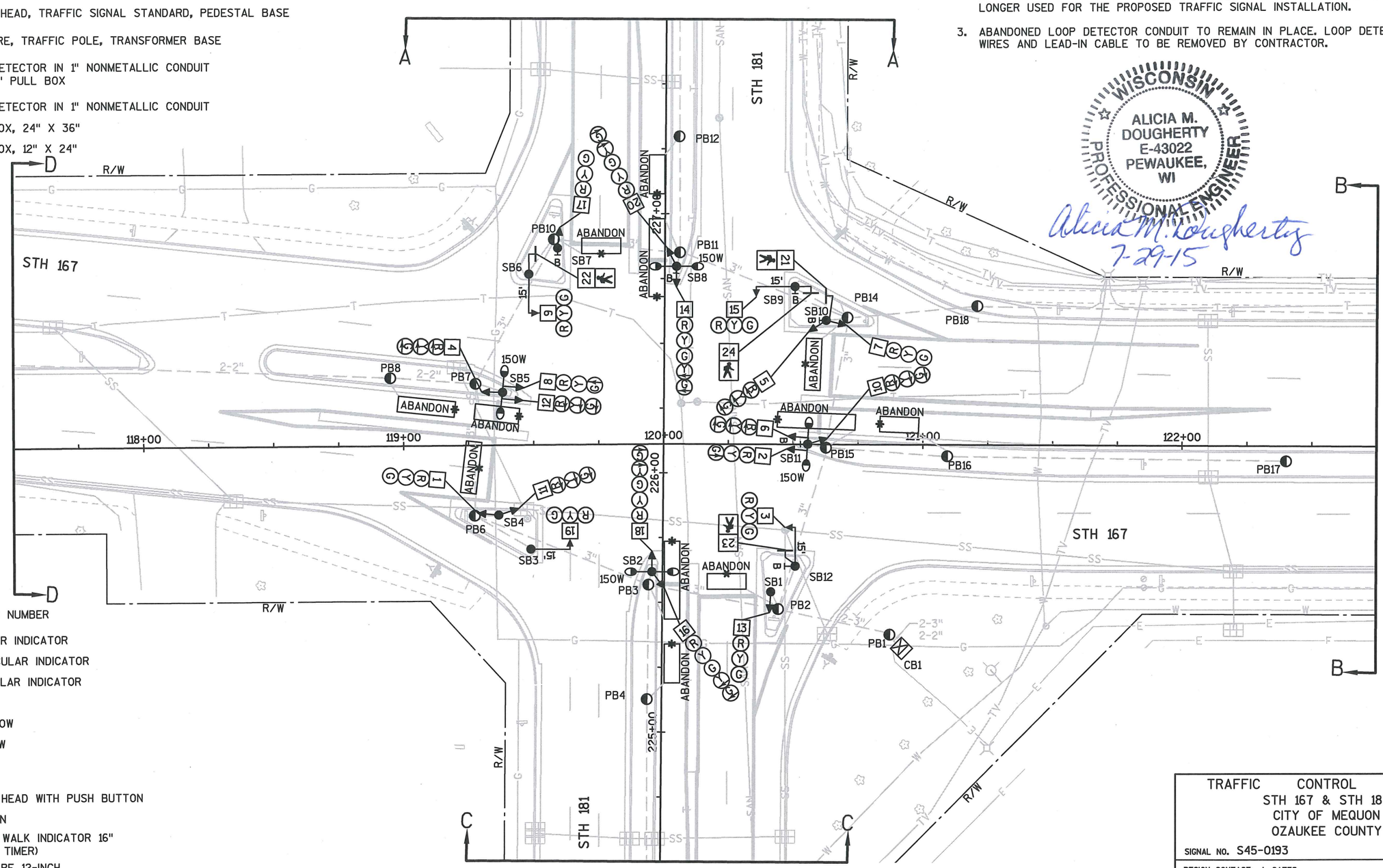
7-29-15



- XX SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (Y) YELLOW ARROW
- (G) GREEN ARROW
- Y YIELD SIGN
- B PEDESTRIAN HEAD WITH PUSH BUTTON
- B PUSH BUTTON
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING TO REMAIN
BOLD REPRESENTS EXISTING TO BE REMOVED

TRAFFIC CONTROL SIGNAL
STH 167 & STH 181
CITY OF MEQUON
OZAUKEE COUNTY

SIGNAL NO. S45-0193

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 1 OF 3

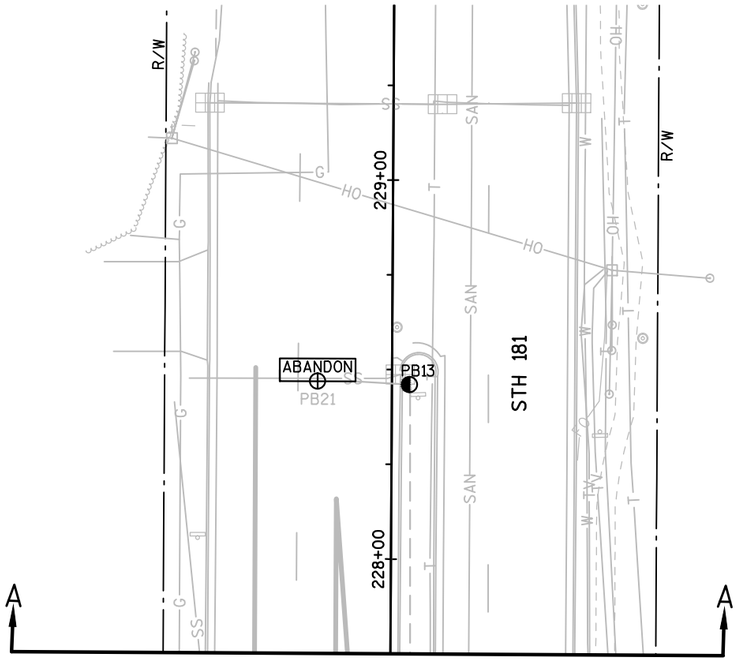
PROJECT NO: 3700-20-73	HWY: STH 167	COUNTY: OZAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 52	E

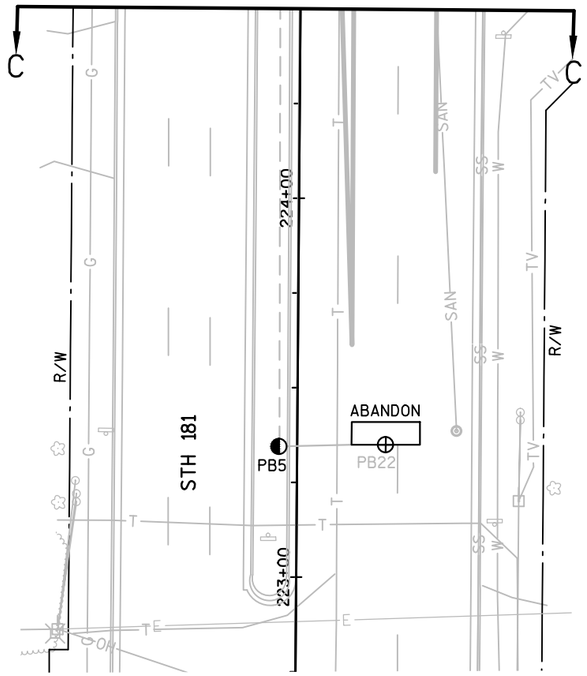
FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S45-0193_RM.DWG
LAYOUT NAME - 024228_SP_RM

PLOT DATE : 7/29/2015 9:00 AM PLOT BY : PITAS, TIANNA M PLOT NAME : PLOT SCALE : 1:40_XREF

2

N





TRAFFIC CONTROL SIGNAL
STH 167 & STH 181
CITY OF MEQUON
OZAUKEE COUNTY

SIGNAL NO. S45-0193

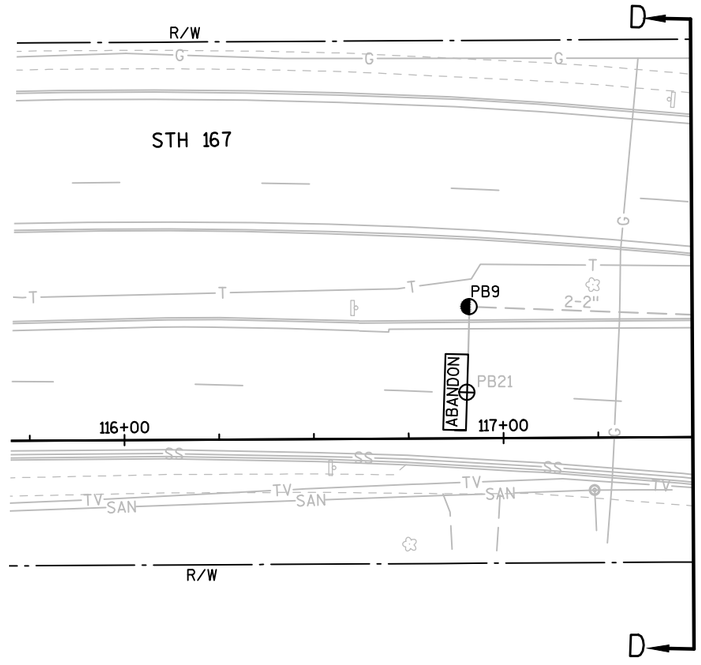
REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

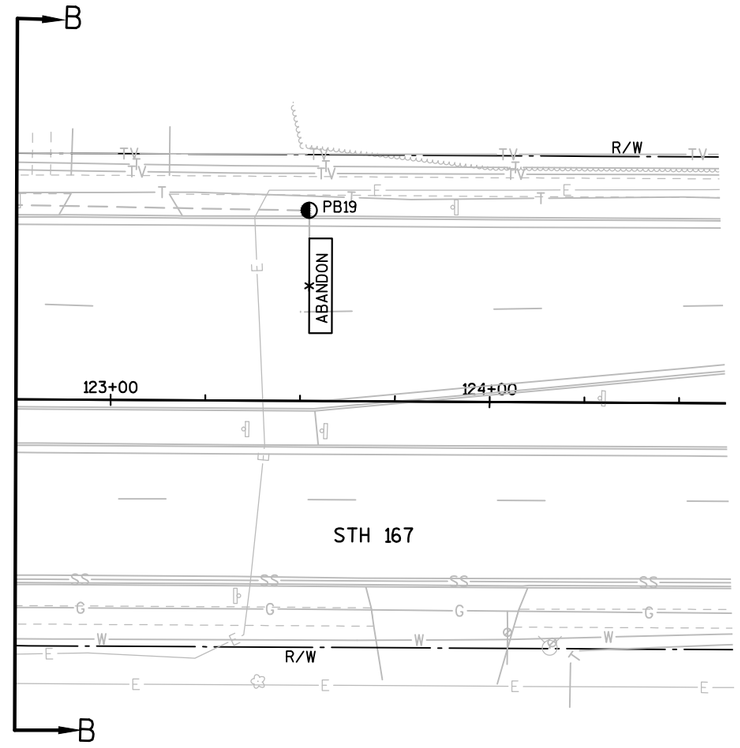
PAGE 2 OF 3

PROJECT NO: 3700-20-73	HWY: STH 167	COUNTY: OZAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 53	E

2

N





TRAFFIC CONTROL SIGNAL
STH 167 & STH 181
CITY OF MEQUON
OZAUKEE COUNTY

SIGNAL NO. S45-0193

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 3 OF 3

PROJECT NO: 3700-20-73	HWY: STH 167	COUNTY: OZAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 54	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S45-0193_RM.DWG
LAYOUT NAME - 024230_SP_RM

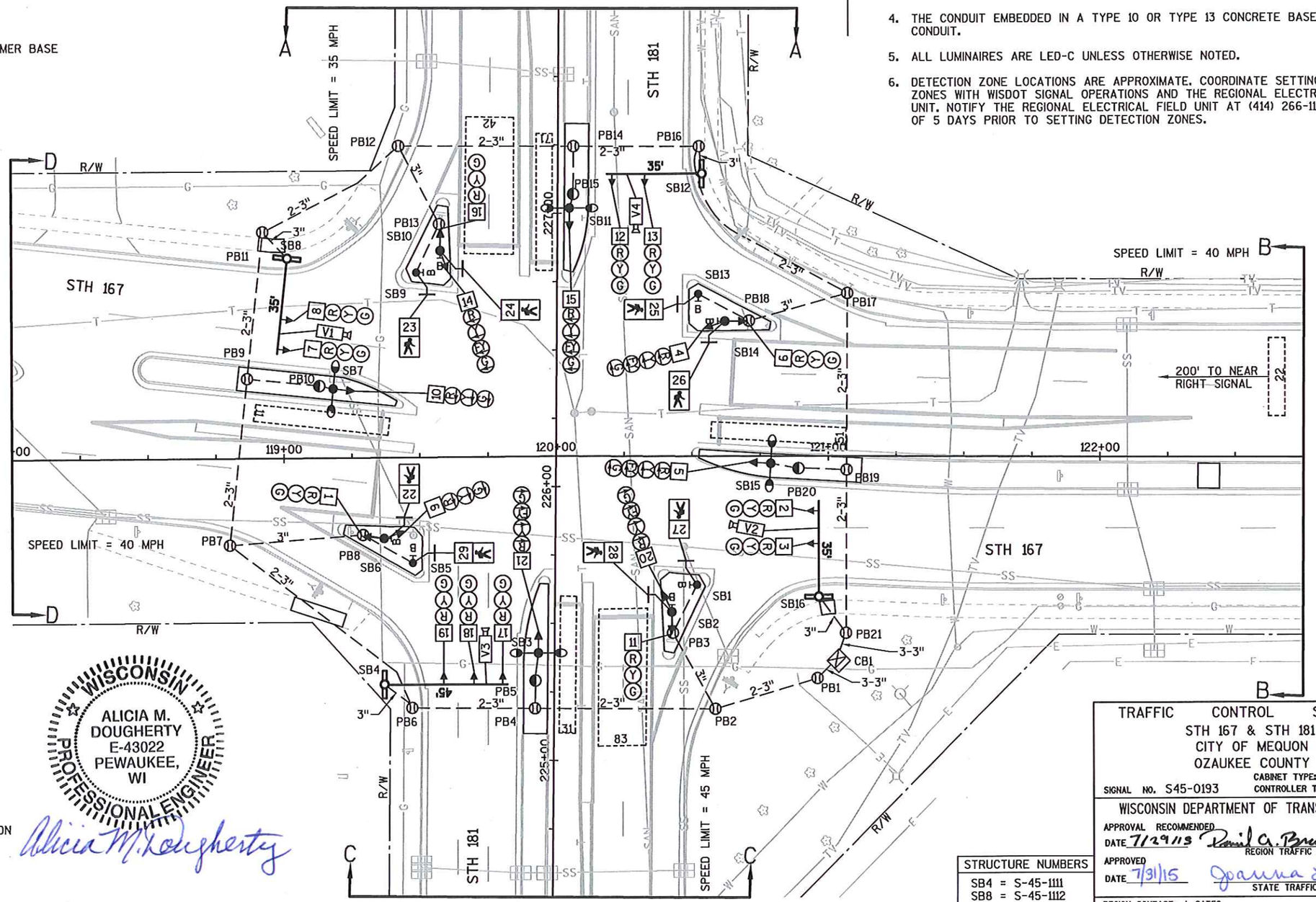
PLOT DATE : 7/29/2015 9:00 AM PLOT BY : PITAS, TIANNA M PLOT NAME : PLOT SCALE : 1:40_XREF

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- MONOTUBE BASE, POLE, 35'-55' ARM
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- VIDEO DETECTION AREA
- VX — VIDEO DETECTION CAMERA
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULLBOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS. (414) 266-1170.
2. THE LOCATIONS OF THE EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.
4. THE CONDUIT EMBEDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3" CONDUIT.
5. ALL LUMINAIRES ARE LED-C UNLESS OTHERWISE NOTED.
6. DETECTION ZONE LOCATIONS ARE APPROXIMATE. COORDINATE SETTING DETECTION ZONES WITH WISDOT SIGNAL OPERATIONS AND THE REGIONAL ELECTRICAL FIELD UNIT. NOTIFY THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170 A MINIMUM OF 5 DAYS PRIOR TO SETTING DETECTION ZONES.



- XX — SIGNAL HEAD NUMBER
- R — RED CIRCULAR INDICATOR
- Y — YELLOW CIRCULAR INDICATOR
- G — GREEN CIRCULAR INDICATOR
- RA — RED ARROW
- YA — YELLOW ARROW
- GA — GREEN ARROW
- Y — YIELD SIGN
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

WISCONSIN PROFESSIONAL ENGINEER
ALICIA M. DOUGHERTY
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PEWAUKEE, WI

Alicia M. Dougherty

STRUCTURE NUMBERS

SB4 = S-45-1111
SB8 = S-45-1112
SB12 = S-45-1113
SB16 = S-45-1114

TRAFFIC CONTROL SIGNAL
STH 167 & STH 181
CITY OF MEQUON
OZAUKEE COUNTY
CABINET TYPE: TS2
SIGNAL NO. S45-0193 CONTROLLER TYPE: EPAC

WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVAL RECOMMENDED
DATE 7/29/15 David A. Brandsen, P.E. REGION TRAFFIC ENGINEER
APPROVED
DATE 7/31/15 Joanna L. Busl STATE TRAFFIC ENGINEER

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 1 OF 4

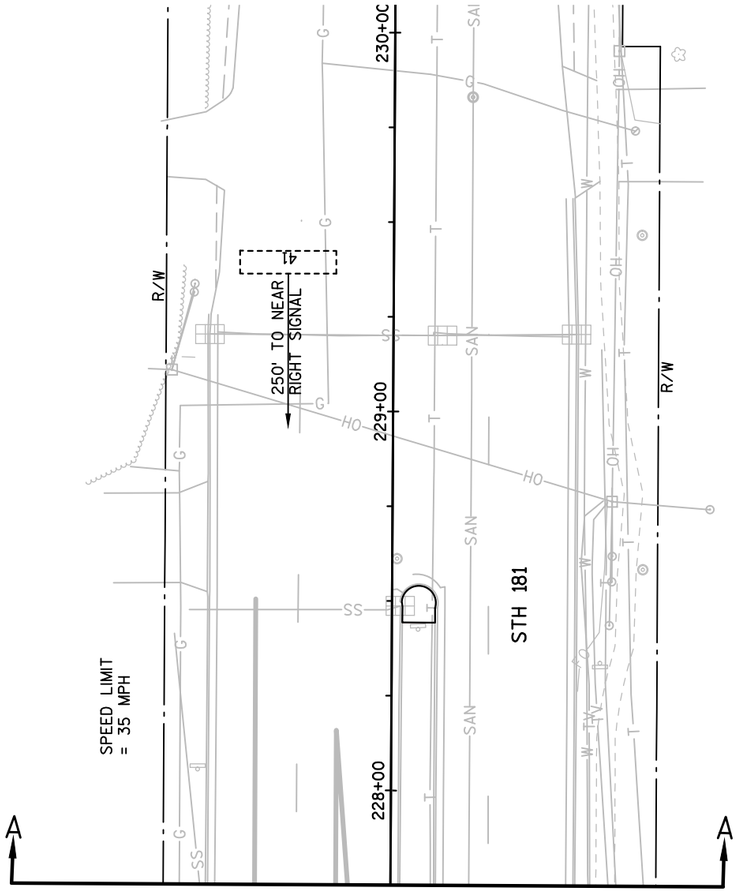
PROJECT NO: 3700-20-73	HWY: STH 167	COUNTY: OZAUKEE	TRAFFIC SIGNAL PLAN	SHEET 55 E

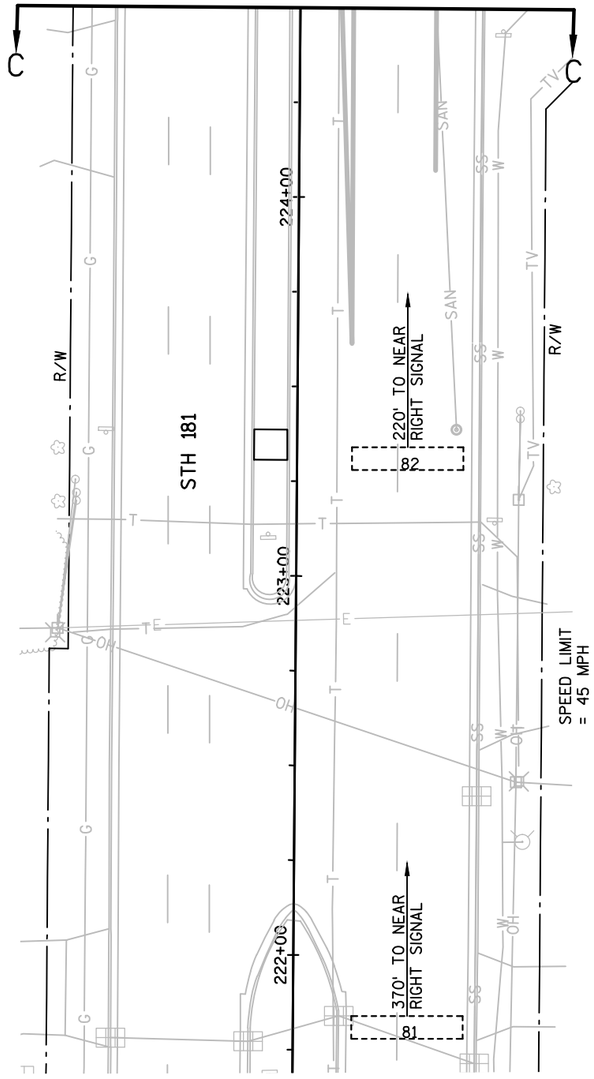
FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S45-0193.DWG
LAYOUT NAME - 024315_SP

PLOT DATE : 7/29/2015 9:01 AM PLOT BY : PITAS, TIANNA M PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

JMG 7/29/2015





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TRAFFIC CONTROL SIGNAL
STH 167 & STH 181
CITY OF MEQUON
OZAUKEE COUNTY

SIGNAL NO. S45-0193

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 2 OF 4

PROJECT NO: 3700-20-73	HWY: STH 167	COUNTY: OZAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S45-0193.DWG
LAYOUT NAME - 024316_SP

PLOT DATE : 7/29/2015 9:01 AM PLOT BY : PITAS, TIANNA M PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

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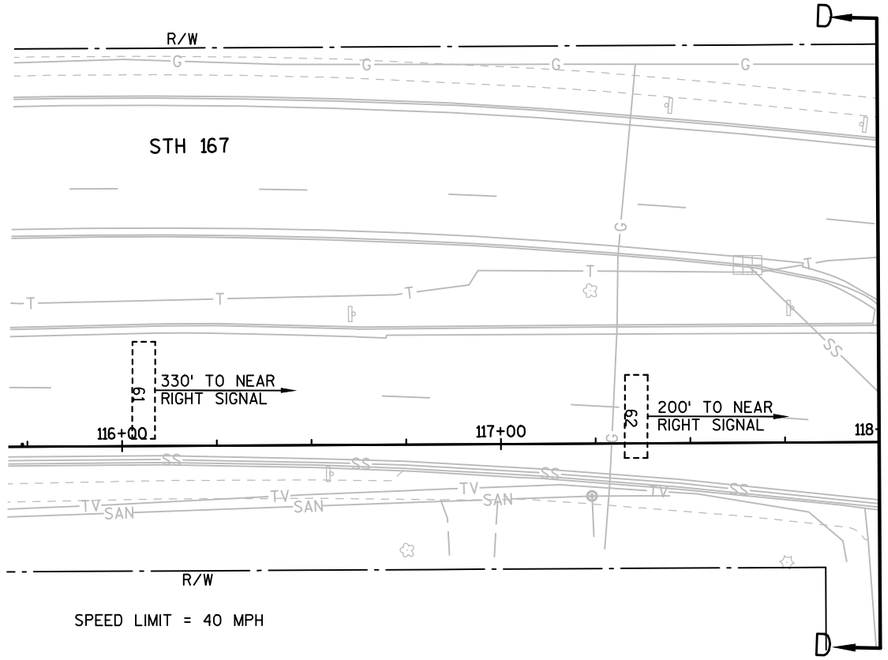
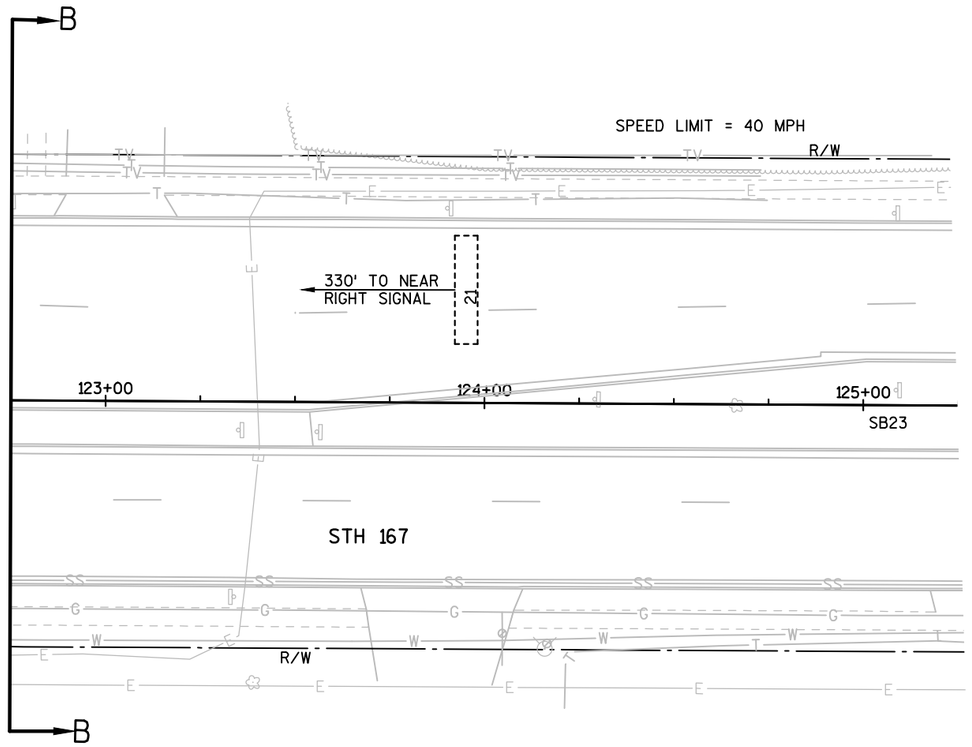




TRAFFIC CONTROL SIGNAL
STH 167 & STH 181
CITY OF MEQUON
OZAUKEE COUNTY

SIGNAL NO. S45-0193

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

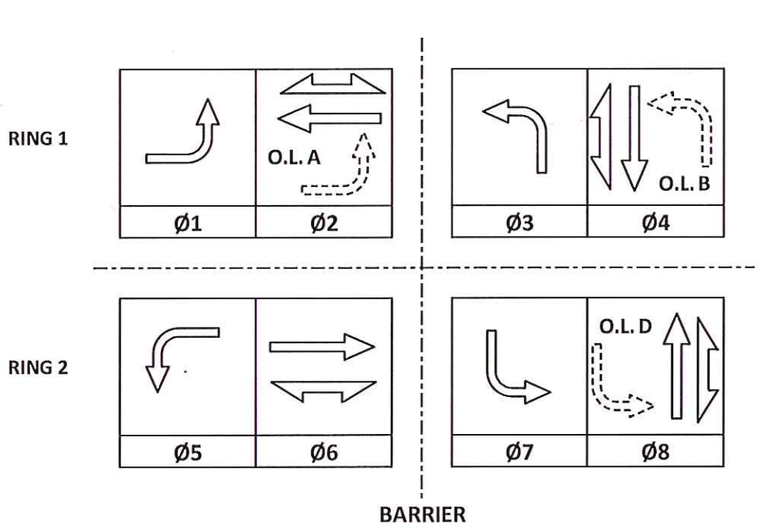
PAGE 3 OF 4

PROJECT NO: 3700-20-73	HWY: STH 167	COUNTY: OZAUKEE	TRAFFIC SIGNAL PLAN	SHEET 57	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S45-0193.DWG
LAYOUT NAME - 024317_SP

PLOT DATE : 7/29/2015 9:01 AM PLOT BY : PITAS, TIANNA M PLOT NAME : PLOT SCALE : 1:40_XREF

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



CONTROLLER LOGIC

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

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

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

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

19	17	23	21	27	25	31	29	DETECTOR INPUT
11	31	42	61/62	81/82				PLAN LOOP DETECTOR*(S)
1	3	4	6	8				ASSIGNED PHASE
VEH	VEH	VEH	VEH	VEH				OPERATION MODE
2	4							SWITCH
				X				EXTEND
								DELAY

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

20	18	24	22	28	26	32	30	DETECTOR INPUT
21/22	41	51	71	83				PLAN LOOP DETECTOR*(S)
2	4	5	7	8				ASSIGNED PHASE
VEH	VEH	VEH	VEH	VEH				OPERATION MODE
			8					SWITCH
	X							EXTEND
								DELAY

STH 167 & STH 181
CITY OF MEQUON
OZAUKEE COUNTY
SIGNAL NO: S45-0193 CABINET TYPE: TS2
CONTROLLER TYPE: EPAC
DATE: 07/15 PAGE NO. 4 OF 4

PROJECT NO: 3700-20-73	HWY: STH 167	COUNTY: OZAUKEE	SEQUENCE OF OPERATIONS	SHEET NO: E

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

JMG 7/29/2015

7/29/15 DMB

PROJECT ID:	3700-20-73
INTERSECTION:	STH 167 & STH 181

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

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

NOTES: USE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS.
ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
AT THE SIGNAL BASES, CONNECT ON TERMINAL FROM THE PEDESTRIAN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.

(CONTINUED ON NEXT SHEET)

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
7-29-15

FILE NAME : N:\PDS\C3D\CAD\37002003\Design\Signals\024320_sp_cr.ppt
PLOT DATE : 7/29/2015 8:58:44 AM PLOT BY : MSCAXW PLOT NAME : 024237_sp_cr1 PLOT SCALE : 1:1

(CONTINUED)

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	SB9
SB9	SB10
SB10	SB11
SB11	SB12
SB12	SB13
SB13	SB14
SB14	SB15
SB15	SB16
SB16	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
PB1	CB1
PB2	CB1
PB3	SB2
PB4	SB3
PB5	SB3
PB6	SB4
PB7	SB4
PB8	SB6
PB9	SB7
PB10	SB7
PB11	SB8
PB12	SB8
PB13	SB10
PB14	SB11
PB15	SB11
PB16	SB12
PB17	SB12
PB18	SB14
PB19	SB15
PB20	SB15
PB21	CB1

MULTI-SENSOR VEHICLE DETECTION CABLE	
FROM	TO
CB1	SB4 (V3)
CB1	SB8 (V1)
CB1	SB12 (V4)
CB1	SB16 (V2)

LIGHTING US 10 AWG W/ GROUND	
FROM	TO
CB1	SB3
SB3	SB7
CB1	SB15
SB15	SB11

PAGE 2 OF 2

CONSTRUCTION NOTES:

1. FINAL LOCATION OF SIGNAL POLES, SIGNAL CABINET, & HEADS SHALL BE AS DIRECTED BY THE ENGINEER.
2. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
3. ALL NEAR RIGHT TRAFFIC SIGNAL HEADS SHALL BE PLACED BETWEEN THE SPAN WIRE AND TETHER WIRE.
4. DETECTION AREAS ARE APPROXIMATE. ZONES SHALL BE ADJUSTED BY THE CONTRACTOR TO MATCH FIELD CONDITIONS.
5. TEMPORARY DETECTORS SHALL BE MOUNTED AT THE HEIGHT RECOMMENDED BY THE MANUFACTURER IN THE SPECIFICATIONS.
6. WISDOT ELECTRICAL (414 266-1170) SHALL BE NOTIFIED 5 WORKING DAYS BEFORE SWITCH TO TEMPORARY TRAFFIC SIGNALS.

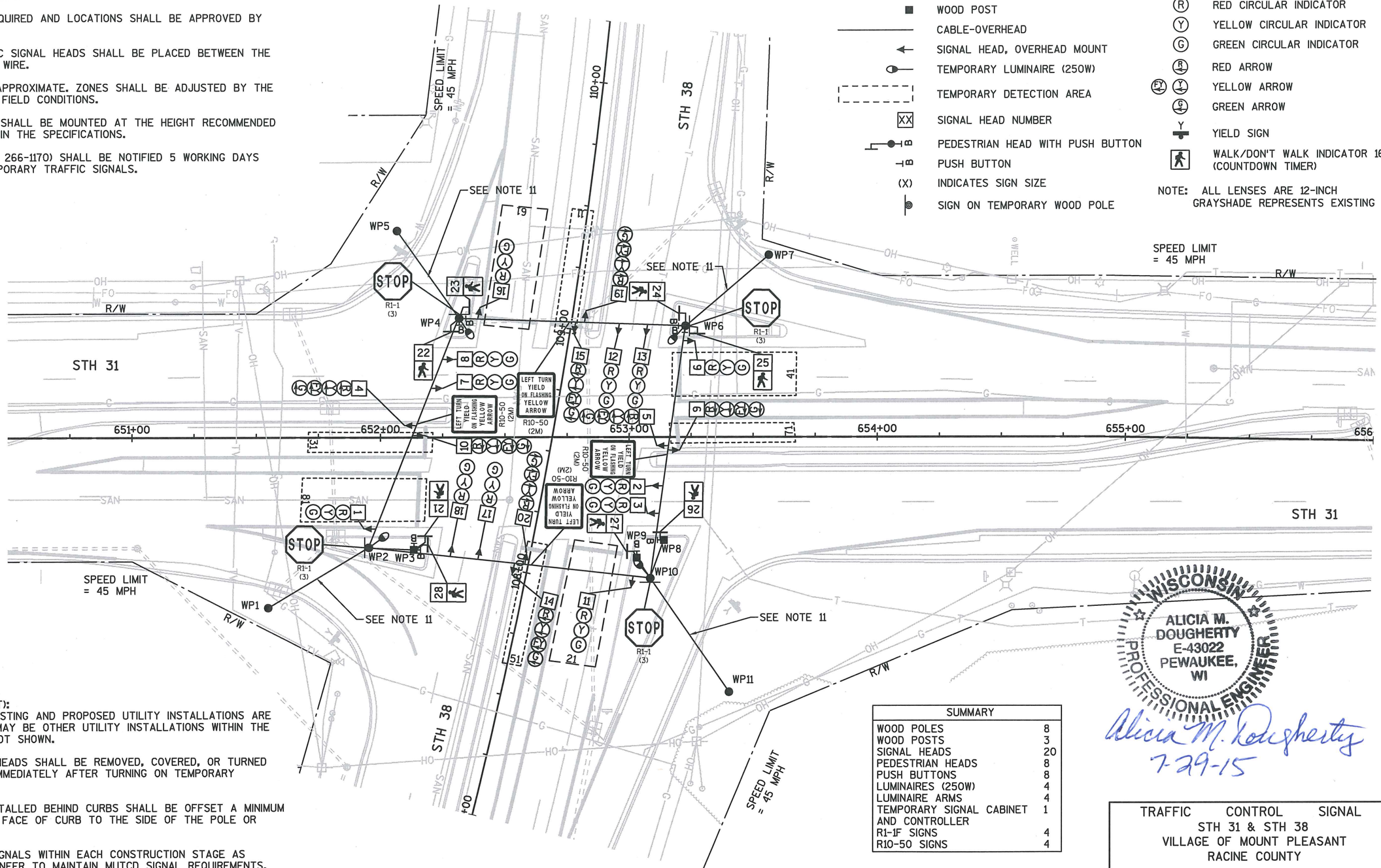
LEGEND

- CLASS 4 WOOD POLE
- WOOD POST
- CABLE-OVERHEAD
- SIGNAL HEAD, OVERHEAD MOUNT
- TEMPORARY LUMINAIRE (250W)
- TEMPORARY DETECTION AREA
- XX SIGNAL HEAD NUMBER
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- (X) INDICATES SIGN SIZE
- SIGN ON TEMPORARY WOOD POLE

- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (FY) (Y) YELLOW ARROW
- (G) GREEN ARROW
- Y YIELD SIGN
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

N



CONSTRUCTION NOTES (CON'T):

7. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
8. ALL EXISTING SIGNAL HEADS SHALL BE REMOVED, COVERED, OR TURNED AWAY FROM TRAFFIC IMMEDIATELY AFTER TURNING ON TEMPORARY SIGNALS.
9. POLES AND POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF CURB TO THE SIDE OF THE POLE OR POST.
10. ADJUST TEMPORARY SIGNALS WITHIN EACH CONSTRUCTION STAGE AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
11. SPAN WIRE SHALL BE A MINIMUM OF 17-FT ABOVE ROADWAY BETWEEN ADJACENT WOOD POLES AND MEET ALL OVERHEAD LINE CLEARANCE REQUIREMENTS.

SUMMARY	
WOOD POLES	8
WOOD POSTS	3
SIGNAL HEADS	20
PEDESTRIAN HEADS	8
PUSH BUTTONS	8
LUMINAIRES (250W)	4
LUMINAIRE ARMS	4
TEMPORARY SIGNAL CABINET AND CONTROLLER	1
R1-1F SIGNS	4
R10-50 SIGNS	4

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PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
7-29-15

TRAFFIC CONTROL SIGNAL
STH 31 & STH 38
VILLAGE OF MOUNT PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0097

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 1 OF 2

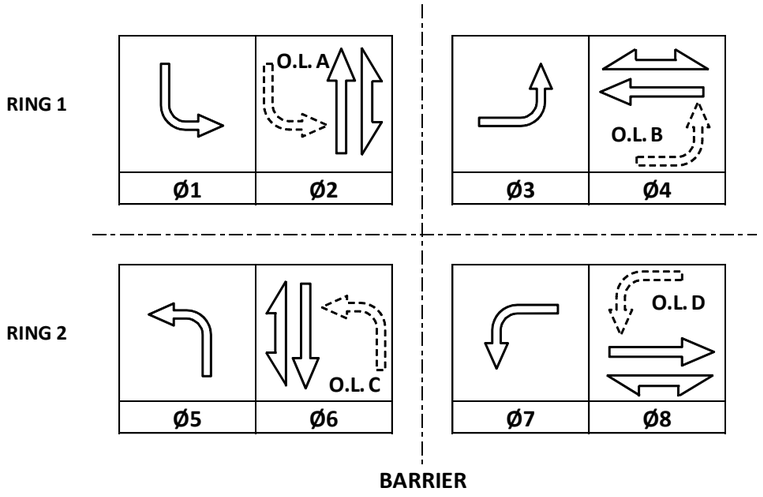
PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: RACINE	TEMPORARY TRAFFIC SIGNAL PLAN	SHEET 61	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S51-0097_TEMP.DWG
LAYOUT NAME - 024401_SP_TMP

PLOT DATE : 7/29/2015 9:02 AM PLOT BY : PITAS, TIANNA M PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
Ø1	19,20	-
Ø2	11,12,13	R
Ø3	4,5	-
Ø4	6,7,8	R
Ø5	14,15	-
Ø6	16,17,18	R
Ø7	9,10	-
Ø8	1,2,3	R
Ø2P	25,26	
Ø4P	23,24	
Ø6P	21,22	
Ø8P	27,28	
OLA	19,20	R ←
OLB	4,5	R ←
OLC	14,15	R ←
OLD	9,10	R ←



CONTROLLER LOGIC

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

N

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

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

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	11	31	51	71				
ASSIGNED PHASE	1	3	5	7				
OPERATION MODE	VEH	VEH	VEH	VEH				
SWITCH	2	4	6	8				
EXTEND								
DELAY								

19	17	23	21	27	25	31	29	DETECTOR INPUT
								PLAN LOOP DETECTOR*(S)
								ASSIGNED PHASE
								OPERATION MODE
								SWITCH
								EXTEND
								DELAY

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	21	41	61	81				
ASSIGNED PHASE	2	4	6	8				
OPERATION MODE	VEH	VEH	VEH	VEH				
SWITCH								
EXTEND								
DELAY								

20	18	24	22	28	26	32	30	DETECTOR INPUT
								PLAN LOOP DETECTOR*(S)
								ASSIGNED PHASE
								OPERATION MODE
								SWITCH
								EXTEND
								DELAY

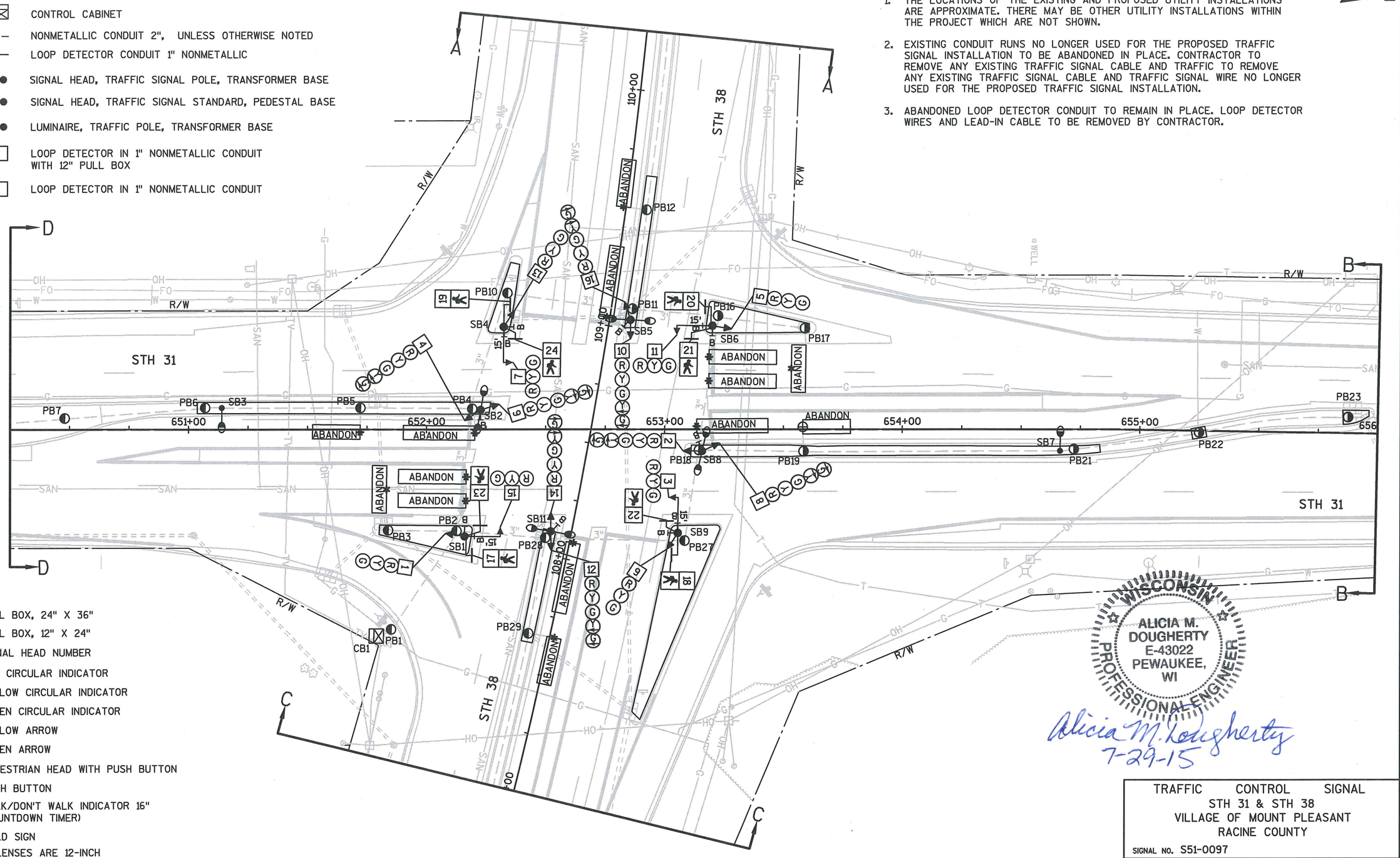
STH 31 & STH 38
VILLAGE OF MOUNT PLEASANT
RACINE COUNTY
SIGNAL NO: S51-0097
CONTROLLER TYPE: TEMP
DATE: 07/15 PAGE NO. 2 OF 2

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT WITH 12" PULL BOX
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

CONSTRUCTION NOTES:

1. THE LOCATIONS OF THE EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. EXISTING CONDUIT RUNS NO LONGER USED FOR THE PROPOSED TRAFFIC SIGNAL INSTALLATION TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY EXISTING TRAFFIC SIGNAL CABLE AND TRAFFIC TO REMOVE ANY EXISTING TRAFFIC SIGNAL CABLE AND TRAFFIC SIGNAL WIRE NO LONGER USED FOR THE PROPOSED TRAFFIC SIGNAL INSTALLATION.
3. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP DETECTOR WIRES AND LEAD-IN CABLE TO BE REMOVED BY CONTRACTOR.



- PULL BOX, 24" X 36"
- PULL BOX, 12" X 24"
- XX SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- YELLOW ARROW
- GREEN ARROW
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- Y YIELD SIGN

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING TO REMAIN
BOLD REPRESENTS EXISTING TO BE REMOVED

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7-29-15

TRAFFIC CONTROL SIGNAL
STH 31 & STH 38
VILLAGE OF MOUNT PLEASANT
RACINE COUNTY

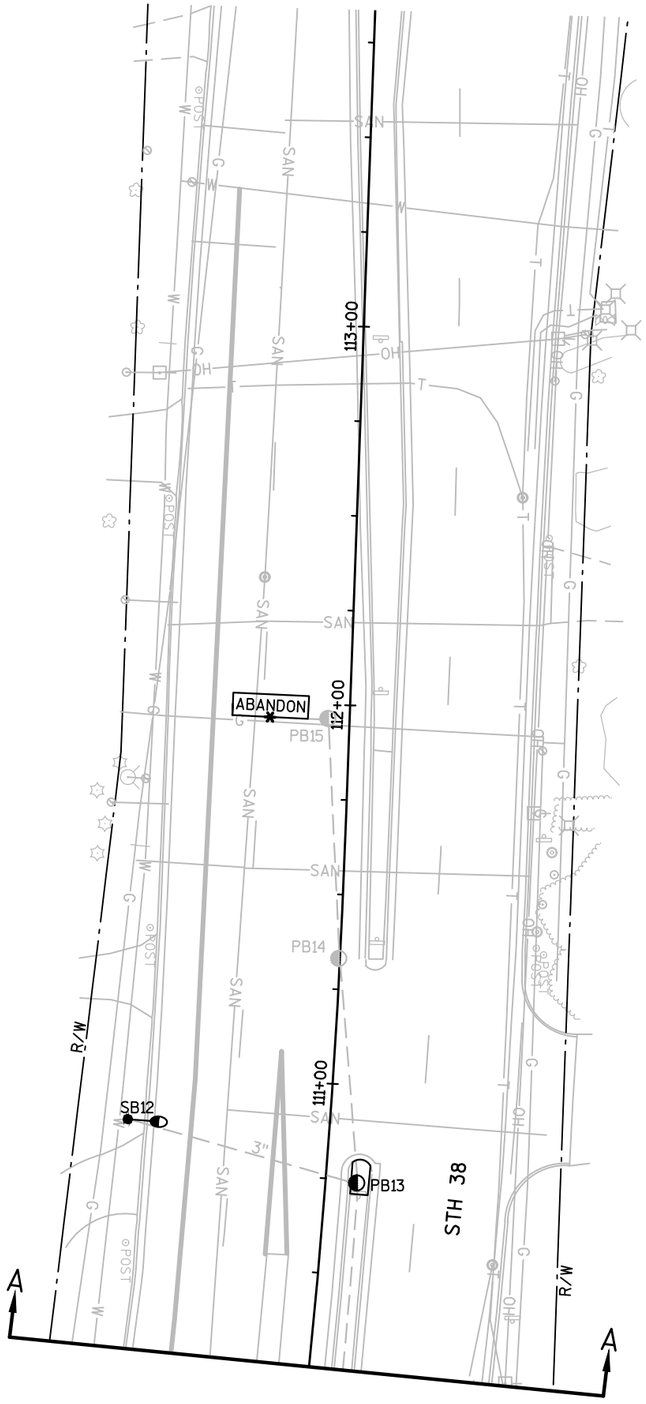
SIGNAL NO. S51-0097

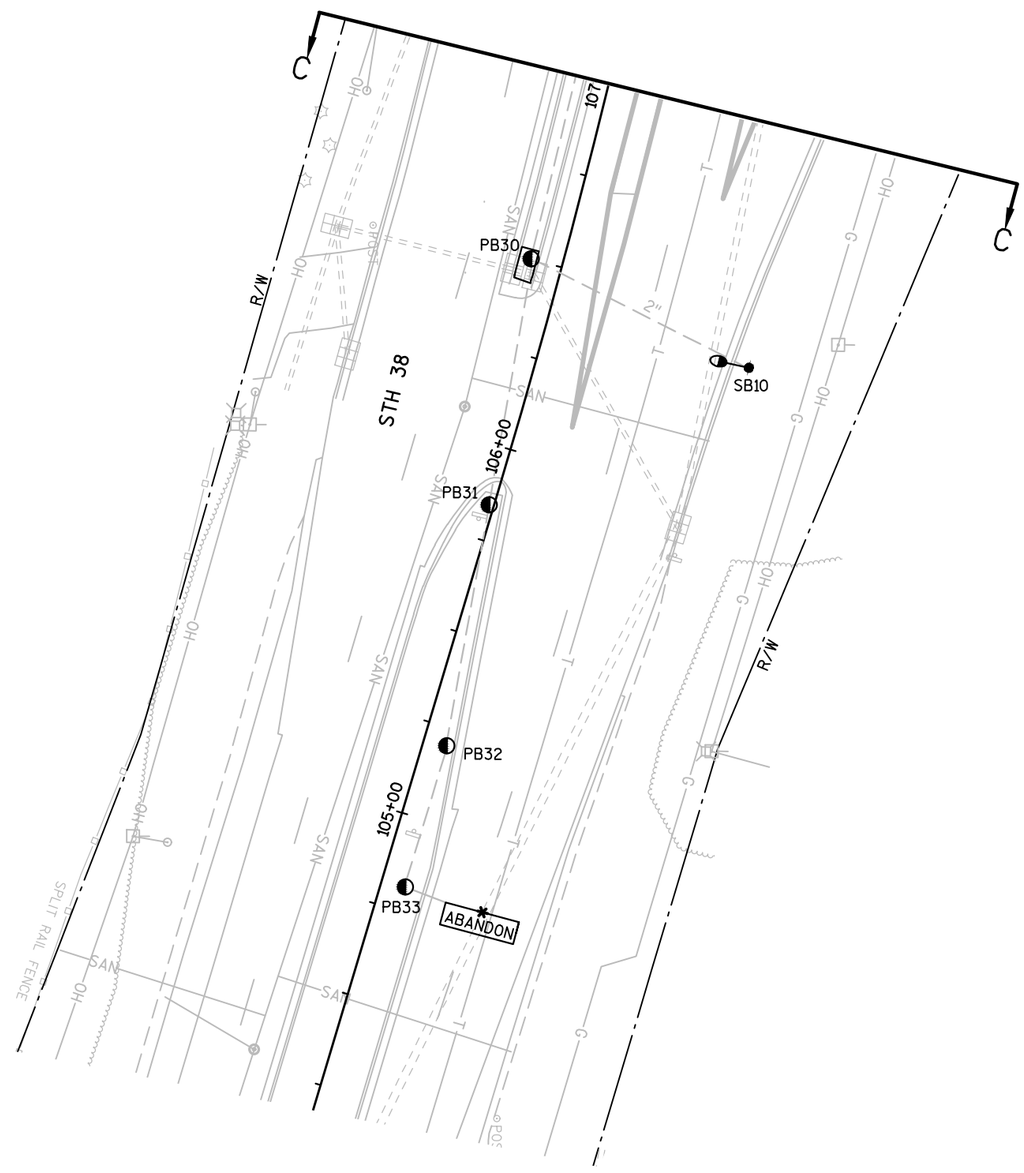
REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 1 OF 3

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: RACINE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 63	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S51-0097_RM.DWG
LAYOUT NAME - 024208_SP_RM
PLOT DATE : 7/29/2015 9:03 AM PLOT BY : PITAS, TIANNA M PLOT NAME : PLOT SCALE : 1:40_XREF





TRAFFIC CONTROL SIGNAL
STH 31 & STH 38
VILLAGE OF MOUNT PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0097

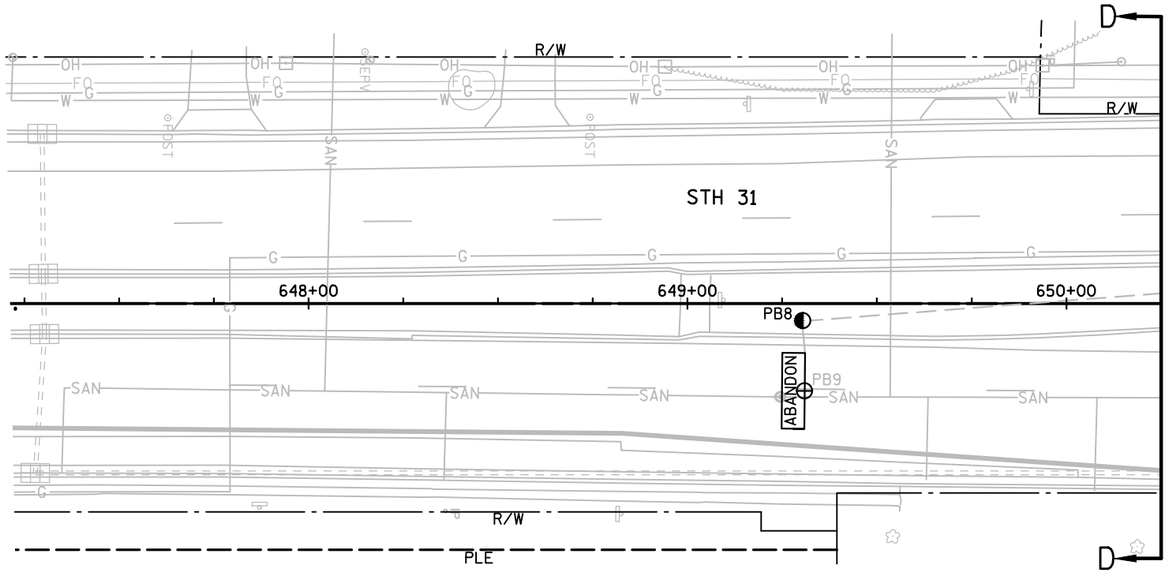
REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

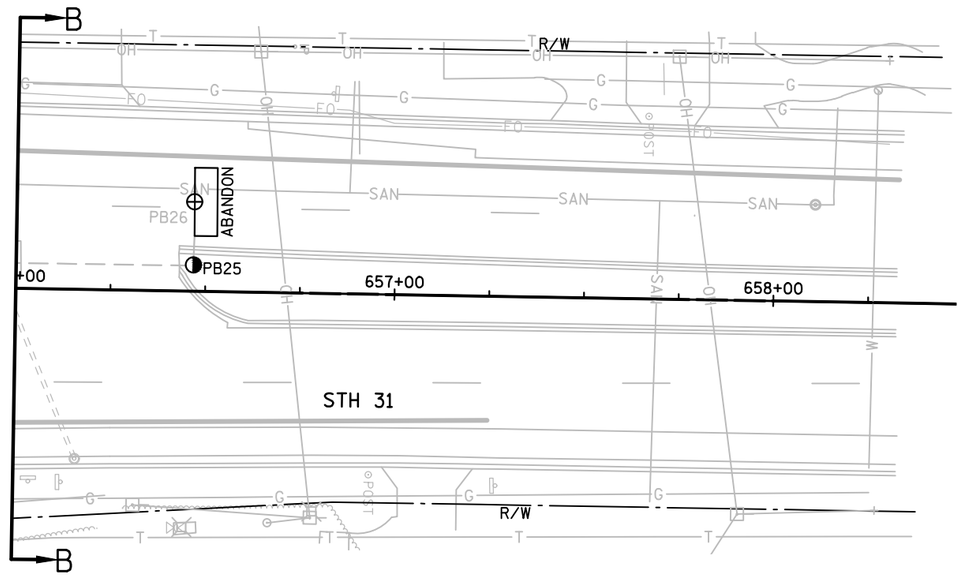
PAGE 2 OF 3

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: RACINE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 64	E

2

N





TRAFFIC CONTROL SIGNAL
STH 31 & STH 38
VILLAGE OF MOUNT PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0097

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 3 OF 3

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: RACINE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 65	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S51-0097_RM.DWG
LAYOUT NAME - 024210_SP_RM

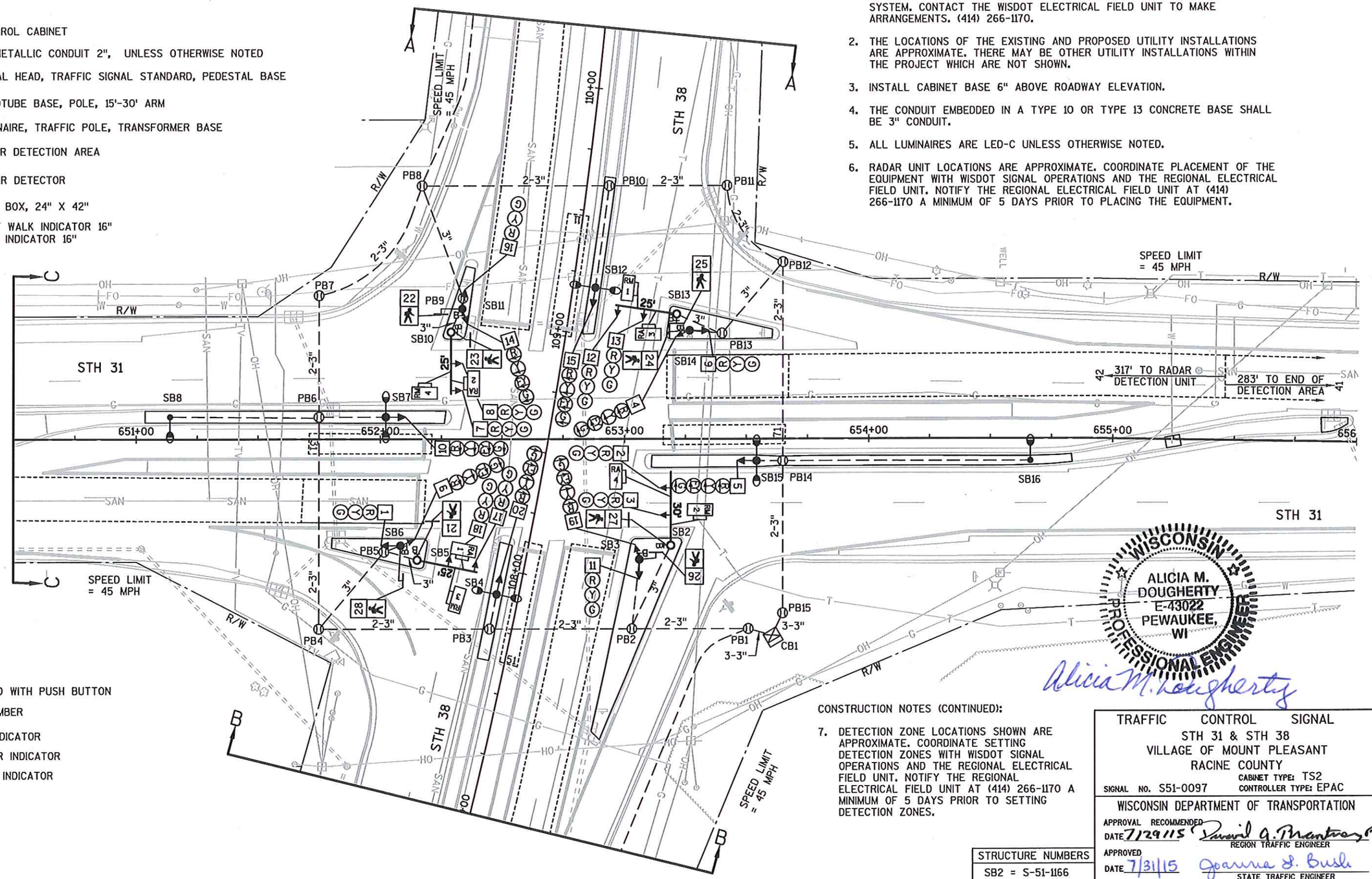
PLOT DATE : 7/29/2015 9:03 AM PLOT BY : PITAS, TIANNA M PLOT NAME : PLOT SCALE : 1:40_XREF

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- RADAR DETECTION AREA
- RADAR DETECTOR
- PULL BOX, 24" X 42"
- DON'T WALK INDICATOR 16"
  WALK INDICATOR 16"

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULLBOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS. (414) 266-1170.
2. THE LOCATIONS OF THE EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.
4. THE CONDUIT EMBEDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3" CONDUIT.
5. ALL LUMINAIRES ARE LED-C UNLESS OTHERWISE NOTED.
6. RADAR UNIT LOCATIONS ARE APPROXIMATE. COORDINATE PLACEMENT OF THE EQUIPMENT WITH WISDOT SIGNAL OPERATIONS AND THE REGIONAL ELECTRICAL FIELD UNIT. NOTIFY THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170 A MINIMUM OF 5 DAYS PRIOR TO PLACING THE EQUIPMENT.



- PUSH BUTTON
- PEDESTRIAN HEAD WITH PUSH BUTTON
- XX SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- RED ARROW
- FY YELLOW ARROW
- GREEN ARROW
- Y YIELD SIGN

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

CONSTRUCTION NOTES (CONTINUED):

7. DETECTION ZONE LOCATIONS SHOWN ARE APPROXIMATE. COORDINATE SETTING DETECTION ZONES WITH WISDOT SIGNAL OPERATIONS AND THE REGIONAL ELECTRICAL FIELD UNIT. NOTIFY THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170 A MINIMUM OF 5 DAYS PRIOR TO SETTING DETECTION ZONES.

STRUCTURE NUMBERS
SB2 = S-51-1166
SB5 = S-51-1167
SB10 = S-51-1168
SB13 = S-51-1169

WISCONSIN PROFESSIONAL ENGINEER
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PEWAUKEE, WI

Alicia M. Dougherty

TRAFFIC CONTROL SIGNAL
STH 31 & STH 38
VILLAGE OF MOUNT PLEASANT
RACINE COUNTY
SIGNAL NO. S51-0097
CABINET TYPE: TS2
CONTROLLER TYPE: EPAC

WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVAL RECOMMENDED
DATE 7/29/15 David A. Manteufel, P.E. REGION TRAFFIC ENGINEER
APPROVED
DATE 7/31/15 Joanna L. Bush STATE TRAFFIC ENGINEER

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:
PAGE 1 OF 4

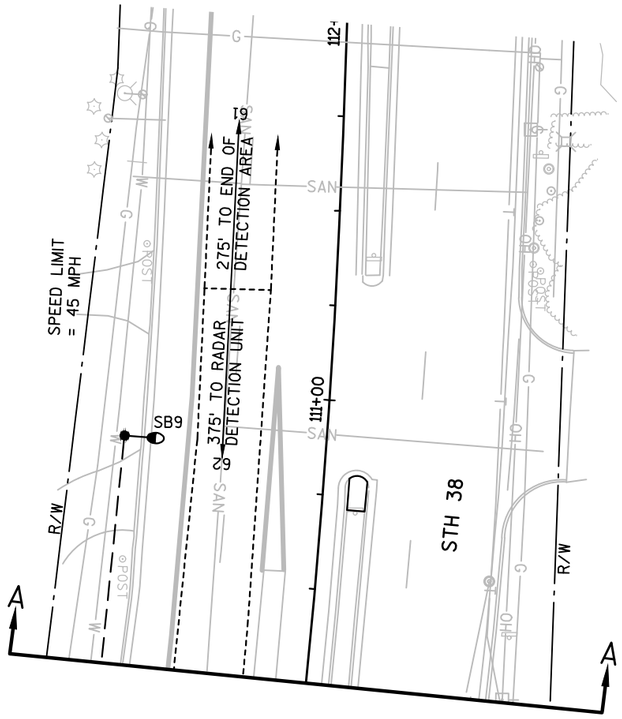
PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: RACINE	TRAFFIC SIGNAL PLAN	SHEET 66 E

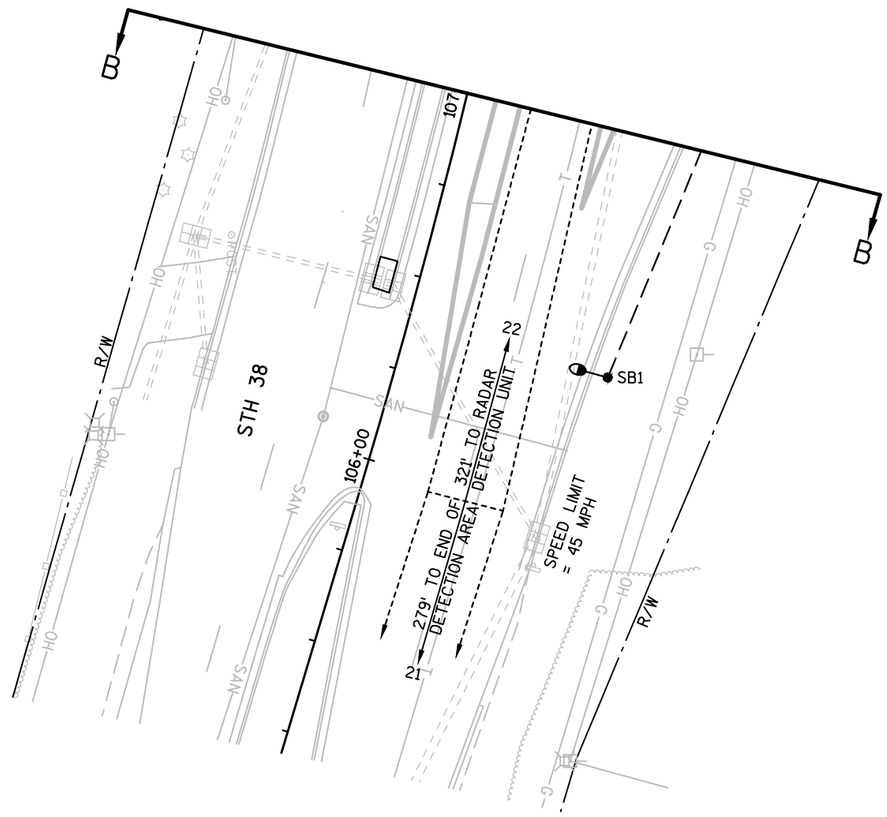
FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S51-0097.DWG
LAYOUT NAME - 024415_SP
PLOT DATE : 7/29/2015 9:27 AM PLOT BY : PITAS, TIANNA M PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

JNG 7/29/2015

2

N





TRAFFIC CONTROL SIGNAL
STH 31 & STH 38
VILLAGE OF MOUNT PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0097

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

PAGE 2 OF 4

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: RACINE	TRAFFIC SIGNAL PLAN	SHEET 67	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S51-0097.DWG
LAYOUT NAME - 024212_SP

PLOT DATE : 7/29/2015 9:03 AM PLOT BY : PITAS, TIANNA M PLOT NAME : PLOT SCALE : 1:40_XREF

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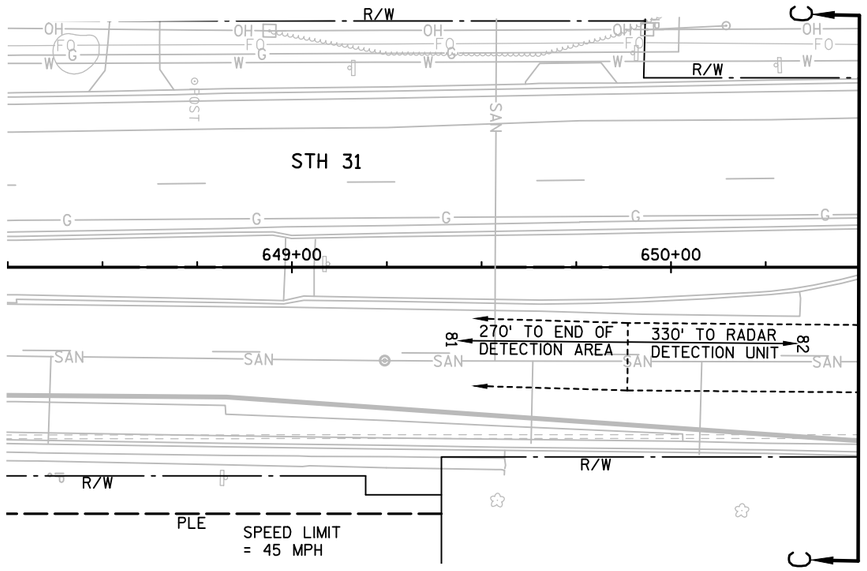


TRAFFIC CONTROL SIGNAL
STH 31 & STH 38
VILLAGE OF MOUNT PLEASANT
RACINE COUNTY

SIGNAL NO. S51-0097

REGION CONTACT: J. GATES
DESIGNED BY: A. DOUGHERTY
REVISED BY:

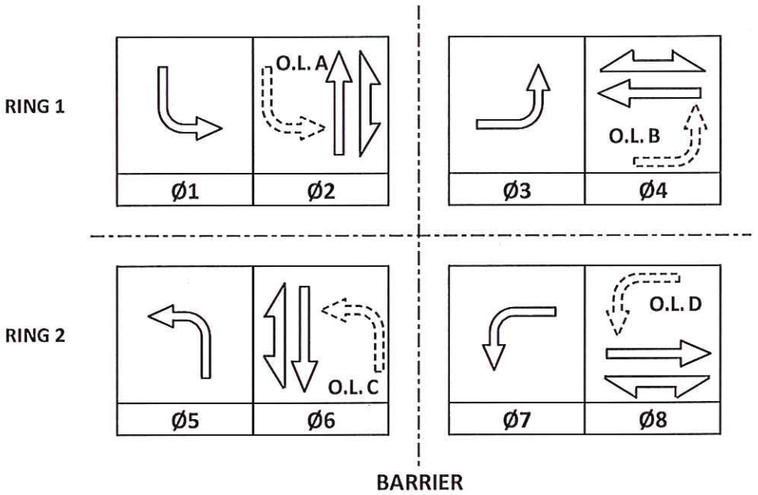
PAGE 3 OF 4

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: RACINE	TRAFFIC SIGNAL PLAN	SHEET 68	E

FILE NAME : N:\PDS\C3D\CAD\37002003\DESIGN\SIGNALS\S51-0097.DWG
LAYOUT NAME - 024213_SP

PLOT DATE : 7/29/2015 9:03 AM PLOT BY : PITAS, TIANNA M PLOT NAME : PLOT SCALE : 1:40_XREF

	HEAD NUMBERS	FLASH
Ø1	19,20	-
Ø2	11,12,13	R
Ø3	4,5	-
Ø4	6,7,8	R
Ø5	14,15	-
Ø6	16,17,18	R
Ø7	9,10	-
Ø8	1,2,3	R
Ø2P	25,26	
Ø4P	23,24	
Ø6P	21,22	
Ø8P	27,28	
OLA	19,20	R ←
OLB	4,5	R ←
OLC	14,15	R ←
OLD	9,10	R ←



CONTROLLER LOGIC

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

N

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

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

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

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

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

19	17	23	21	27	25	31	29	DETECTOR INPUT
11	22	41	51	62	81			PLAN LOOP DETECTOR*(S)
1	2	4	5	6	8			ASSIGNED PHASE
VEH	VEH	VEH	VEH	VEH	VEH			OPERATION MODE
2			6					SWITCH
		X			X			EXTEND
								DELAY

20	18	24	22	28	26	32	30	DETECTOR INPUT
21	31	42	61	71	82			PLAN LOOP DETECTOR*(S)
2	3	4	6	7	8			ASSIGNED PHASE
VEH	VEH	VEH	VEH	VEH	VEH			OPERATION MODE
	4			8				SWITCH
								EXTEND
								DELAY

STH 31 & STH 38
VILLAGE OF MOUNT PLEASANT
RACINE COUNTY
SIGNAL NO: S51-0097 CABINET TYPE: TS2
CONTROLLER TYPE: EPAC
DATE: 07/15 PAGE NO. 4 OF 4

JMG 7/29/2015

SHEET 5 11/24/17

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: RACINE	SEQUENCE OF OPERATIONS	SHEET NO: E

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

2

PROJECT ID:	3700-20-73
INTERSECTION:	STH 31 & STH 38

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

CB1 TO	NO. OF CONDUCTORS	HEAD NO.	RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	FLASHING <YELLOW>	D/WALK	WALK	PED BUTTON
SB2	12	2	RED	ORG	GRN							
		3	RED	ORG	GRN							
		27								BLK	BLU	
		BUTTON										WHT/BLK
SB3	15	11	RED/BLK	ORG/BLK	GRN/BLK							
		19				RED	ORG	GRN	BLK/WHT			
		26								BLK	BLU	
		BUTTON										WHT/BLK
SB4	12	20				RED	ORG	GRN	BLK/WHT			
SB5	12	17	RED	ORG	GRN							
		18	RED	ORG	GRN							
		21								BLK	BLU	
		BUTTON										WHT/BLK
SB6	15	1	RED	ORG	GRN							
		9				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		28								BLK	BLU	
		BUTTON										WHT/BLK
SB7	12	10				RED	ORG	GRN	BLK/WHT			
SB10	12	7	RED	ORG	GRN							
		8	RED	ORG	GRN							
		23								BLK	BLU	
		BUTTON										WHT/BLK
SB11	15	14				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		16	RED	ORG	GRN							
		22								BLK	BLU	
		BUTTON										WHT/BLK
SB12	12	15				RED	ORG	GRN	BLK/WHT			
SB13	12	12	RED	ORG	GRN							
		13	RED	ORG	GRN							
		25								BLK	BLU	
		BUTTON										WHT/BLK
SB14	15	4				RED	ORG	GRN	BLK/WHT			
		6	RED/BLK	ORG/BLK	GRN/BLK							
		24								BLK	BLU	
		BUTTON										WHT/BLK
SB15	12	5				RED	ORG	GRN	BLK/WHT			

NOTES: USE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS.
ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
AT THE SIGNAL BASES, CONNECT ON TERMINAL FROM THE PEDESTRIAN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.

(CONTINUED ON NEXT SHEET)

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
7-29-15

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: RACINE	CABLE ROUTING	SHEET: 70 E

FILE NAME : N:\PDS\C3D\CAD\37002003\Design\Signals\024420_sp_cr.ppt PLOT DATE : 7/29/2015 8:59:28 AM PLOT BY : MSCAXW PLOT NAME : 024217_sp_cr1 PLOT SCALE : 1:1

(CONTINUED)

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP	
FROM	TO
CB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB10
SB10	SB11
SB11	SB12
SB12	SB13
SB13	SB14
SB14	SB15
SB15	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
PB1	CB1
PB2	SB3
PB3	SB4
PB4	SB6
PB5	SB6
PB6	SB7
PB7	SB7
PB8	SB11
PB9	SB11
PB10	SB12
PB11	SB12
PB12	SB14
PB13	SB14
PB14	SB15
PB15	CB1

RADAR DETECTION CABLE	
FROM	TO
CB1	RA1 (SB5)
CB1	RA2 (SB10)
CB1	RA3 (SB13)
CB1	RA4 (SB2)
CB1	RM1 (SB13)
CB1	RM2 (SB2)
CB1	RM3 (SB5)
CB1	RM4 (SB10)

LIGHTING US 10 AWG W/ GROUND	
FROM	TO
CB1	SB4
SB4	SB1
SB4	SB7
SB7	SB8
CB1	SB15
SB15	SB16
SB15	SB12
SB12	SB9

2

CP-523
APPROXIMATE LOCATION)

PI=144+00.00
X=610665.64
Y=112126.50

N

142

STH 31

140

N 1°56'07" W

CP-521

CP-522
(APPROXIMATE
LOCATION)

564

565

568

570

572

S 88°52'59" E

STH 165

PI=562+04.99
X=610281.99
Y=111651.61

R/L STH 165

PI=573+00.00
X=611376.79
Y=111630.26

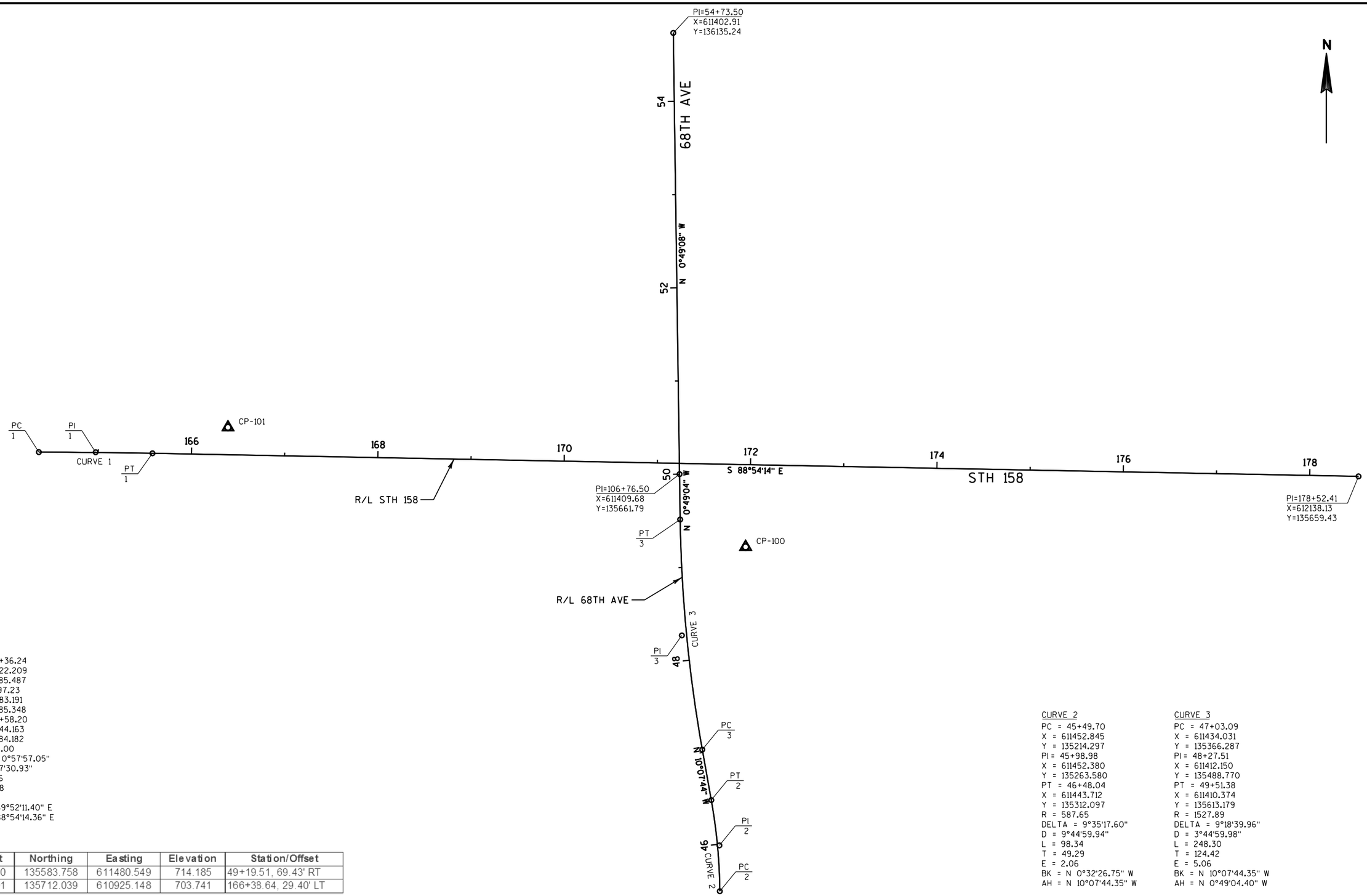
CP-517

138

R/L STH 31

PI=136+00.00
X=610692.65
Y=111326.96

Point	Northing	Easting	Elevation	Station/Offset
CP-517	111548.335	610046.049	712.31	138+43.09, 638.76' LT
CP-521	111728.271	610579.415	714.080	565+00.86, 82.45' LT
CP-522	111745.04	611689.694	727.12	139+84.17, 1010.59' RT
CP-523	112323.876	610599.913	709.010	565+09.75, 678.34' LT



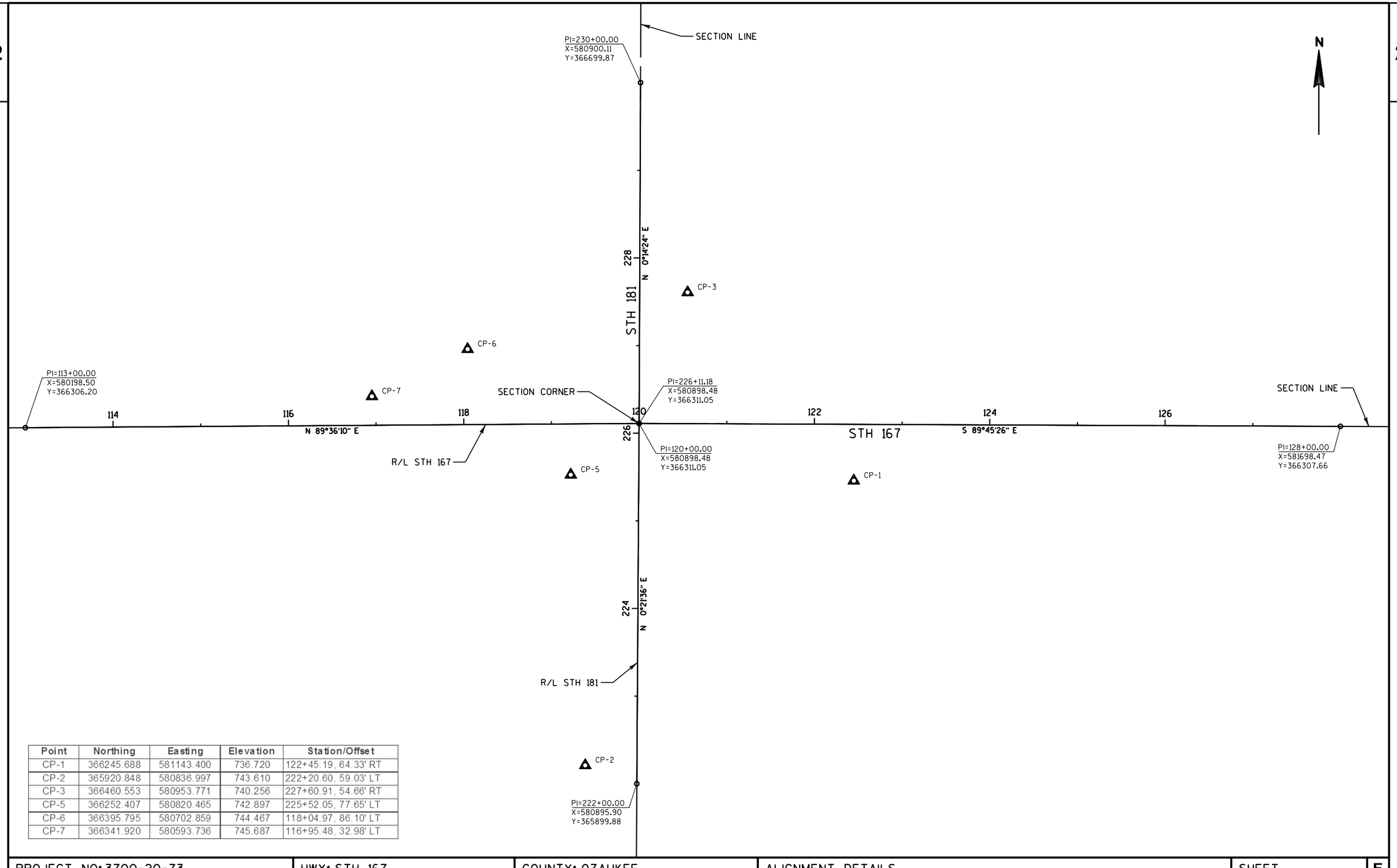
CURVE 1
PC = 164+36.24
X = 610722.209
Y = 135685.487
PI = 164+97.23
X = 610783.191
Y = 135685.348
PT = 165+58.20
X = 610844.163
Y = 135684.182
R = 7235.00
DELTA = 0°57'57.05"
D = 0°°47'30.93"
L = 121.96
T = 60.98
E = 0.26
BK = S 89°52'11.40" E
AH = S 88°54'14.36" E

Point	Northing	Easting	Elevation	Station/Offset
CP-100	135583.758	611480.549	714.185	49+19.51, 69.43' RT
CP-101	135712.039	610925.148	703.741	166+38.64, 29.40' LT

CURVE 2
PC = 45+49.70
X = 611452.845
Y = 135214.297
PI = 45+98.98
X = 611452.380
Y = 135263.580
PT = 46+48.04
X = 611443.712
Y = 135312.097
R = 587.65
DELTA = 9°35'17.60"
D = 9°44'59.94"
L = 98.34
T = 49.29
E = 2.06
BK = N 0°32'26.75" W
AH = N 10°07'44.35" W

CURVE 3
PC = 47+03.09
X = 611434.031
Y = 135366.287
PI = 48+27.51
X = 611412.150
Y = 135488.770
PT = 49+51.38
X = 611410.374
Y = 135613.179
R = 1527.89
DELTA = 9°18'39.96"
D = 3°44'59.98"
L = 248.30
T = 124.42
E = 5.06
BK = N 10°07'44.35" W
AH = N 0°49'04.40" W

PROJECT NO: 3700-20-73	HWY: STH 158	COUNTY: KENOSHA	ALIGNMENT DETAILS	SHEET 73	E



Point	Northing	Easting	Elevation	Station/Offset
CP-1	366245.688	581143.400	736.720	122+45.19, 64.33' RT
CP-2	365920.848	580836.997	743.610	222+20.60, 59.03' LT
CP-3	366460.553	580953.771	740.256	227+60.91, 54.66' RT
CP-5	366252.407	580820.465	742.897	225+52.05, 77.65' LT
CP-6	366395.795	580702.859	744.467	118+04.97, 86.10' LT
CP-7	366341.920	580593.736	745.687	116+95.48, 32.98' LT

2

N

PI=658+00.00
X=625581.65
Y=196628.45

656

N 0°27'09" E

PI=654+84.45
X=625579.16
Y=196312.91

SECTION CORNER

CP-6836

654

STH 31

CP-101

PI
1

CP-5507

108

CP-103

112

110

N 88°26'39" W

PI=113+86.97
X=625051.64
Y=196133.35

PT
1

CURVE 1

R/L STH 38

CP-102

652

N 0°30'09" W

106

PC
1

STH 38

104

CP-5508

N 73°51'14" W

102

PI=100+00.00
X=626406.90
Y=195874.88

CP-100

CURVE 1
PC = 105+86.22
X = 625843.80
Y = 196037.90
PI = 108+79.61
X = 625561.985
Y = 196119.486
PT = 111+69.83
X = 625268.70
Y = 196127.45
R = 2291.83
DELTA = 14°35'25.00"
D = 2°30'00.00"
L = 583.61
T = 293.39
E = 18.70
BK = N 73°51'13.92" W
AH = N 88°26'38.92" W

R/L STH 31

650

PI=649+00.00
X=625584.28
Y=195728.48

SECTION LINE

Point	Northing	Easting	Elevation	Station/Offset
CP-100	195868.299	626412.907	689.177	650+32.54, 829.82' RT
CP-101	196136.308	625636.819	703.377	653+07.35, 56.11' RT
CP-102	196029.431	625626.250	702.085	652+00.57, 44.61' RT
CP-103	196129.686	625356.762	706.950	110+82.08, 6.31' RT
CP-5507	196105.611	625800.590	697.124	106+45.18, 53.80' RT
CP-5508	195989.380	626037.318	692.021	103+86.85, 7.21' RT
CP-6836	196225.064	625445.087	707.211	110+03.88, 108.66' RT

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: RACINE	ALIGNMENT DETAILS	SHEET 75	E

REMOVING CONCRETE SIDEWALK

CATEGORY	INTERSECTION	204.0155 REMOVING CONCRETE SIDEWALK SY
0010	WIS 31 & WIS 165	221
	WIS 158 & 68TH AVE	-
	WIS 167 & WIS 181	380
	WIS 31 & WIS 38	434
	TOTAL	1,035

BASE AGGREGATE

CATEGORY	INTERSECTION	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
0010	WIS 31 & WIS 165	36	0.5
	WIS 158 & 68TH AVE	-	-
	WIS 167 & WIS 181	62	0.7
	WIS 31 & WIS 38	71	0.8
	TOTAL	169	2

CONCRETE SIDEWALK

CATEGORY	INTERSECTION	602.0410 CONCRETE SIDEWALK 5-INCH SF
0010	WIS 31 & WIS 165	1,935
	WIS 158 & 68TH AVE	-
	WIS 167 & WIS 181	3,350
	WIS 31 & WIS 38	3,842
	TOTAL	9,127

MOBILIZATION

CATEGORY	LOCATION	619.1000 MOBILIZATION EACH
0010	WIS 31 & WIS 165	0.25
	WIS 158 & 68TH AVE	0.25
	WIS 167 & WIS 181	0.25
	WIS 31 & WIS 38	0.25
	TOTAL	1

FINSHING MATERIALS

CATEGORY	INTERSECTION	625.0500 SALVAGED TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB
0010	WIS 31 & WIS 165	60	.04	2
	WIS 158 & 68TH AVE	60	.04	2
	WIS 167 & WIS 181	60	.04	2
	WIS 31 & WIS 38	60	.04	2
	TOTAL	240	.14	8

CURB RAMP DETECTABLE WARNING FIELD

CATEGORY	INTERSECTION	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF
0010	WIS 167 & WIS 181	96
	TOTAL	96

DATE 07DEC15 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	3700-20-73 QUANTITY
0010	204.0155	Removing Concrete Sidewalk	SY	1,035.000	1,035.000
0020	204.0195	Removing Concrete Bases	EACH	49.000	49.000
0030	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	169.000	169.000
0040	602.0410	Concrete Sidewalk 5-Inch	SF	9,127.000	9,127.000
0050	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	96.000	96.000
0060	619.1000	Mobilization	EACH	1.000	1.000
0070	624.0100	Water	MGAL	2.000	2.000
0080	625.0500	Salvaged Topsoil	SY	240.000	240.000
0090	628.1504	Silt Fence	LF	100.000	100.000
0100	628.1520	Silt Fence Maintenance	LF	100.000	100.000
0110	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0120	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0130	628.2023	Erosion Mat Class II Type B	SY	48.000	48.000
0140	628.7015	Inlet Protection Type C	EACH	31.000	31.000
0150	628.7504	Temporary Ditch Checks	LF	20.000	20.000
0160	628.7570	Rock Bags	EACH	6.000	6.000
0170	629.0210	Fertilizer Type B	CWT	0.140	0.140
0180	630.0130	Seeding Mixture No. 30	LB	8.000	8.000
0190	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	25.000	25.000
0200	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	31.000	31.000
0210	637.2210	Signs Type II Reflective H	SF	1,024.750	1,024.750
0220	637.2215	Signs Type II Reflective H Folding	SF	82.060	82.060
0230	637.2230	Signs Type II Reflective F	SF	47.380	47.380
0240	638.2102	Moving Signs Type II	EACH	32.000	32.000
0250	638.2602	Removing Signs Type II	EACH	67.000	67.000
0260	638.3000	Removing Small Sign Supports	EACH	35.000	35.000
0270	643.0200	Traffic Control Surveillance and Maintenance (project) 0001. 3700-20-73	DAY	128.000	128.000
0280	643.0300	Traffic Control Drums	DAY	12,560.000	12,560.000
0290	643.0420	Traffic Control Barricades Type III	DAY	1,600.000	1,600.000
0300	643.0705	Traffic Control Warning Lights Type A	DAY	15,360.000	15,360.000
0310	643.0800	Traffic Control Arrow Boards	DAY	640.000	640.000
0320	643.0900	Traffic Control Signs	DAY	3,216.000	3,216.000
0330	650.8500	Construction Staking Electrical Installations (project) 0001. 3700-20-73	LS	1.000	1.000
0340	650.9910	Construction Staking Supplemental Control (project) 0001. 3700-20-73	LS	1.000	1.000
0350	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	1,013.000	1,013.000
0360	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	1,993.000	1,993.000
0370	652.0615	Conduit Special 3-Inch	LF	4,294.000	4,294.000
0380	652.0700.S	Install Conduit into Existing Item	EACH	4.000	4.000
0390	653.0135	Pull Boxes Steel 24x36-Inch	EACH	4.000	4.000
0400	653.0140	Pull Boxes Steel 24x42-Inch	EACH	57.000	57.000
0410	653.0905	Removing Pull Boxes	EACH	72.000	72.000
0420	654.0101	Concrete Bases Type 1	EACH	20.000	20.000
0430	654.0102	Concrete Bases Type 2	EACH	10.000	10.000
0440	654.0105	Concrete Bases Type 5	EACH	4.000	4.000
0450	654.0110	Concrete Bases Type 10	EACH	4.000	4.000
0460	654.0113	Concrete Bases Type 13	EACH	12.000	12.000
0470	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	4.000	4.000
0480	655.0230	Cable Traffic Signal 5-14 AWG	LF	2,429.000	2,429.000

3

DATE 07DEC15 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	3700-20-73 QUANTITY
0490	655.0240	Cable Traffic Signal 7-14 AWG	LF	2,226.000	2,226.000
0500	655.0260	Cable Traffic Signal 12-14 AWG	LF	9,794.000	9,794.000
0510	655.0270	Cable Traffic Signal 15-14 AWG	LF	2,146.000	2,146.000
0520	655.0320	Cable Type UF 2-10 AWG Grounded	LF	4,700.000	4,700.000
0530	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	11,049.000	11,049.000
0540	655.0615	Electrical Wire Lighting 10 AWG	LF	3,672.000	3,672.000
0550	655.0700	Loop Detector Lead In Cable	LF	4,270.000	4,270.000
0560	655.0800	Loop Detector Wire	LF	1,046.000	1,046.000
0570	655.0900	Traffic Signal EVP Detector Cable	LF	1,034.000	1,034.000
0580	656.0200	Electrical Service Meter Breaker Pedestal (location) 3001. STH 31 & STH 38	LS	1.000	1.000
0590	656.0200	Electrical Service Meter Breaker Pedestal (location) 3002. STH 167 & STH 181	LS	1.000	1.000
0600	656.0200	Electrical Service Meter Breaker Pedestal (location) 3003. STH 31 & STH 165	LS	1.000	1.000
0610	656.0200	Electrical Service Meter Breaker Pedestal (location) 3004. STH 158 & 68th Ave	LS	1.000	1.000
0620	657.0100	Pedestal Bases	EACH	16.000	16.000
0630	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	12.000	12.000
0640	657.0310	Poles Type 3	EACH	8.000	8.000
0650	657.0322	Poles Type 5-Aluminum	EACH	4.000	4.000
0660	657.0420	Traffic Signal Standards Aluminum 13-FT	EACH	1.000	1.000
0670	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	11.000	11.000
0680	657.0430	Traffic Signal Standards Aluminum 10-FT	EACH	4.000	4.000
0690	657.0609	Luminaire Arms Single Member 4-Inch Clamp 6-FT	EACH	16.000	16.000
0700	657.0610	Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	EACH	4.000	4.000
0710	657.1345	Install Poles Type 9	EACH	4.000	4.000
0720	657.1355	Install Poles Type 12	EACH	4.000	4.000
0730	657.1360	Install Poles Type 13	EACH	4.000	4.000
0740	657.1525	Install Monotube Arms 25-FT	EACH	3.000	3.000
0750	657.1530	Install Monotube Arms 30-FT	EACH	1.000	1.000
0760	657.1535	Install Monotube Arms 35-FT	EACH	3.000	3.000
0770	657.1540	Install Monotube Arms 40-FT	EACH	1.000	1.000
0780	657.1545	Install Monotube Arms 45-FT	EACH	4.000	4.000
0790	657.1815	Install Luminaire Arms Steel 15-FT	EACH	4.000	4.000
0800	658.0110	Traffic Signal Face 3-12 Inch Vertical	EACH	39.000	39.000
0810	658.0115	Traffic Signal Face 4-12 Inch Vertical	EACH	22.000	22.000
0820	658.0215	Backplates Signal Face 3 Section 12-Inch	EACH	53.000	53.000
0830	658.0220	Backplates Signal Face 4 Section 12-Inch	EACH	28.000	28.000
0840	658.0416	Pedestrian Signal Face 16-Inch	EACH	16.000	16.000
0850	658.0500	Pedestrian Push Buttons	EACH	16.000	16.000
0860	658.0600	Led Modules 12-Inch Red Ball	EACH	49.000	49.000
0870	658.0605	Led Modules 12-Inch Yellow Ball	EACH	49.000	49.000
0880	658.0610	Led Modules 12-Inch Green Ball	EACH	49.000	49.000
0890	658.0615	Led Modules 12-Inch Red Arrow	EACH	32.000	32.000
0900	658.0620	Led Modules 12-Inch Yellow Arrow	EACH	60.000	60.000
0910	658.0625	Led Modules 12-Inch Green Arrow	EACH	32.000	32.000

3

DATE 07DEC15 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	3700-20-73 QUANTITY
0920	658.0635	Led Modules Pedestrian Countdown Timer 16-Inch	EACH	16.000	16.000
0930	658.5069	Signal Mounting Hardware (location) 3001. STH 31 & STH 38	LS	1.000	1.000
0940	658.5069	Signal Mounting Hardware (location) 3002. STH 167 & STH 181	LS	1.000	1.000
0950	658.5069	Signal Mounting Hardware (location) 3004. STH 158 & 68th Ave	LS	1.000	1.000
0960	659.1125	Luminaires Utility LED C	EACH	24.000	24.000
0970	661.0200	Temporary Traffic Signals for Intersections (location) 3001. STH 31 & STH 38	LS	1.000	1.000
0980	661.0200	Temporary Traffic Signals for Intersections (location) 3002. STH 167 & STH 181	LS	1.000	1.000
0990	661.0200	Temporary Traffic Signals for Intersections (location) 3003. STH 31 & STH 165	LS	1.000	1.000
1000	661.0200	Temporary Traffic Signals for Intersections (location) 3004. STH 158 & 68th Ave	LS	1.000	1.000
1010	661.0300	Generators	DAY	8.000	8.000
1020	690.0250	Sawing Concrete	LF	163.000	163.000
1030	SPV.0060	Special 0101. Traffic Signal Face 3-12 Inch Vertical Black	EACH	14.000	14.000
1040	SPV.0060	Special 0102. Traffic Signal Face 4-12 Inch Vertical Black	EACH	6.000	6.000
1050	SPV.0060	Special 0103. Pedestal Bases Black	EACH	4.000	4.000
1060	SPV.0060	Special 0104. Transformer Bases Breakaway 11 1/2 -Inch Bolt Circle Black	EACH	2.000	2.000
1070	SPV.0060	Special 0105. Poles Type 3 Black	EACH	2.000	2.000
1080	SPV.0060	Special 0106. Traffic Signal Standards Aluminum 13-FT Black	EACH	1.000	1.000
1090	SPV.0060	Special 0107. Traffic Signal Standards Aluminum 15-FT Black	EACH	3.000	3.000
1100	SPV.0060	Special 0108. Luminaire Arms Single Member 4-Inch Clamp 6-FT Black	EACH	4.000	4.000
1110	SPV.0060	Special 0109. Install Poles Type 12 Black	EACH	2.000	2.000
1120	SPV.0060	Special 0110. Install Poles Type 13 Black	EACH	2.000	2.000
1130	SPV.0060	Special 0111. Install Monotube Arms 40-FT Black	EACH	2.000	2.000
1140	SPV.0060	Special 0112. Install Monotube Arms 45-FT Black	EACH	1.000	1.000
1150	SPV.0060	Special 0113. Install Monotube Arms 55-FT Black	EACH	1.000	1.000
1160	SPV.0060	Special 0114. Install Luminaire Arms Steel 15-FT Black	EACH	2.000	2.000
1170	SPV.0060	Special 0115. Luminaires Utility LED C Black	EACH	6.000	6.000
1180	SPV.0090	Special 3001. Traffic Signal GPS EVP Detector Cable	LF	130.000	130.000
1190	SPV.0105	Special 0100. Signal Mounting Hardware Black STH 31 & STH 165	LS	1.000	1.000
1200	SPV.0105	Special 3001. Remove Traffic Signals STH 31 & STH 38	LS	1.000	1.000

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DATE 07DEC15 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	3700-20-73 QUANTITY
1210	SPV.0105	Special 3002. Remove Traffic Signals STH 167 & STH 181	LS	1.000	1.000
1220	SPV.0105	Special 3003. Remove Traffic Signals STH 31 & STH 165	LS	1.000	1.000
1230	SPV.0105	Special 3004. Remove Traffic Signals STH 158 & 68th Avenue	LS	1.000	1.000
1240	SPV.0105	Special 3011. Remove Loop Detector Wire and Lead-in Cable STH 31 & STH 38	LS	1.000	1.000
1250	SPV.0105	Special 3012. Remove Loop Detector Wire and Lead-in Cable STH 167 & STH 181	LS	1.000	1.000
1260	SPV.0105	Special 3013. Remove Loop Detector Wire and Lead-in Cable STH 31 & STH 165	LS	1.000	1.000
1270	SPV.0105	Special 3014. Remove Loop Detector Wire and Lead-in Cable STH 158 & 68th Avenue	LS	1.000	1.000
1280	SPV.0105	Special 3021. Install State Furnished Traffic Signal Cabinet STH 31 & STH 38	LS	1.000	1.000
1290	SPV.0105	Special 3022. Install State Furnished Traffic Signal Cabinet STH 167 & STH 181	LS	1.000	1.000
1300	SPV.0105	Special 3023. Install State Furnished Traffic Signal Cabinet STH 31 & STH 165	LS	1.000	1.000
1310	SPV.0105	Special 3024. Install State Furnished Traffic Signal Cabinet STH 158 & 68th Avenue	LS	1.000	1.000
1320	SPV.0105	Special 3031. Transporting Signal and Lighting Materials STH 31 & STH 38	LS	1.000	1.000
1330	SPV.0105	Special 3032. Transporting Signal and Lighting Materials STH 167 & STH 181	LS	1.000	1.000
1340	SPV.0105	Special 3033. Transporting Signal and Lighting Materials STH 31 & STH 165	LS	1.000	1.000
1350	SPV.0105	Special 3034. Transporting Signal and Lighting Materials STH 158 & 68th Avenue	LS	1.000	1.000
1360	SPV.0105	Special 3041. Transport and Install State Furn Radar Detection System STH 31 & STH 38	LS	1.000	1.000
1370	SPV.0105	Special 3051. Transp and Inst State Furn Multi- Sensor Veh Detect Sys STH 167 & STH 181	LS	1.000	1.000
1380	SPV.0105	Special 3052. Transp and Inst State Furn Multi- Sensor Veh Detect Sys STH 31 & STH 165	LS	1.000	1.000
1390	SPV.0105	Special 3061. Transp and Inst State Furn Autoscp Vid Detect Sys STH 158 & 68th Ave	LS	1.000	1.000
1400	SPV.0105	Special 3071. Install State Furnished EVP Detector Heads STH 158 & 68th Avenue	LS	1.000	1.000
1410	SPV.0105	Special 3081. Temporary EVP System STH 158 & 68th Avenue	LS	1.000	1.000
1420	SPV.0105	Special 3091. Temporary Vehicle Detection System for Intersection STH 31 & STH 38	LS	1.000	1.000
1430	SPV.0105	Special 3092. Temporary Vehicle Detection System for Intersection STH 167 & STH 181	LS	1.000	1.000
1440	SPV.0105	Special 3093. Temporary Vehicle Detection System for Intersection STH 31 & STH 165	LS	1.000	1.000
1450	SPV.0105	Special 3094. Temporary Vehicle Detection System for Intersection STH 158 & 68th Avenue	LS	1.000	1.000

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DATE 07DEC15 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	3700-20-73 QUANTITY
1460	SPV.0195	Special 0100. Management of Solid Waste	TON	100.000	100.000

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EROSION CONTROL

CATEGORY	INTERSECTION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2023 EROSION MAT CLASS II TYPE B SY	628.7015 INLET PROTECTION TYPE C EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7570 ROCK BAGS EACH
0010	WIS 31 & WIS 165	--	--	1	1	10	9	--	3
	WIS 158 & 68TH AVE	--	--	1	1	10	2	--	2
	WIS 167 & WIS 181	--	--	1	1	10	4	--	--
	WIS 31 & WIS 38	--	--	1	1	10	12	--	--
	UNDISTRIBUTED	100	100	--	--	8	4	20	1
	TOTAL	100	100	4	4	48	31	20	6

TRAFFIC CONTROL ITEMS

CATEGORY	INTERSECTION	STAGE DURATION DAYS	643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (3700-20-73) DAYS	643.0300 TRAFFIC CONTROL DRUMS EACH*	643.0300 DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH*	643.0420 DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH*	643.0705 DAYS	643.0800 TRAFFIC CONTROL ARROW BOARDS EACH*	643.0800 DAYS	643.0900 TRAFFIC CONTROL SIGNS EACH*	643.0900 DAYS
0010	WIS 31 & WIS 165	40	--	80	3,200	8	320	96	3,840	4	160	20	800
	WIS 158 & 68TH AVE	40	--	64	2,560	8	320	80	3,200	4	160	20	800
	WIS 167 & WIS 181	40	--	80	3,200	16	640	112	4,480	4	160	20	800
	WIS 31 & WIS 38	40	--	80	3,200	8	320	96	3,840	4	160	20	800
	UNDISTRIBUTED	--	128	--	400	--	--	--	--	--	--	--	16
	TOTAL		128		12,560		1,600		15,360		640		3,216

* FOR INFORMATION ONLY

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CONSTRUCTION STAKING

CATEGORY	INTERSECTION	650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (3700-20-73) LS	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (3700-20-73) LS
0010	PROJECT	1	1
	TOTAL	1	1

SAWING PAVEMENT

CATEGORY	INTERSECTION	690.0250 SAWING CONCRETE LF
0010	WIS 31 & WIS 165	17
	WIS 158 & 68TH AVE	--
	WIS 167 & WIS 181	109
	WIS 31 & WIS 38	37
	TOTAL	163

MANAGEMENT OF SOLID WASTE

CATEGORY	INTERSECTION	SPV.0195.0100 MANAGEMENT OF SOLID WASTE TON
0010	WIS 31 & WIS 38	100
	TOTAL	100

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SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET
2	EACH	POLES TYPE 12 BLACK
2	EACH	POLES TYPE 13 BLACK
2	EACH	MONOTUBE ARMS 40-FT BLACK
1	EACH	MONOTUBE ARMS 45-FT BLACK
1	EACH	MONOTUBE ARMS 55-FT BLACK
2	EACH	LUMINAIRE ARMS STEEL 15-FT BLACK
1	LS	MULTI-SENSOR VEHICLE DETECTION SYSTEM

REMOVING CONCRETE BASES

EXISTING BASE NO.	204.0195* REMOVING CONCRETE BASES EACH
SB1	1
SB2	1
SB3	1
SB4	1
SB5	1
SB6	1
SB7	1
SB8	1
SB9	1
SB10	1
SB11	1
SB12	1
SB13	1
CB1	1
TOTAL	14

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M Dougherty
10-29-15

CONDUIT

FROM	TO	652.0225* CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235* CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615* CONDUIT SPECIAL 3-INCH LF
CB1	PB1	--	27	--
PB1	PB2	--	84	--
PB2	PB3	--	--	144
PB3	PB4	--	--	110
PB4	PB5	--	148	--
PB5	PB6	--	--	63
PB5	PB7	--	--	130
PB7	PB8	--	--	92
PB8	PB9	--	136	--
PB9	PB10	--	--	40
PB9	PB11	--	--	140
PB11	PB12	--	--	104
PB12	PB13	--	134	--
PB13	PB14	--	--	58
PB13	PB15	--	--	148
PB15	PB17	--	--	140
PB17	PB16	--	--	54
PB17	CB1	--	30	--
PB3	SB1	13	--	--
PB4	SB2	--	6	--
PB6	SB3	6	--	--
PB10	SB4	--	13	--
PB10	SB5	7	--	--
PB11	SB6	16	--	--
PB12	SB7	--	11	--
PB14	SB8	6	--	--
PB16	SB9	--	6	--
PB16	SB10	16	--	--
	TOTAL	64	595	1223

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

PULL BOXES STEEL

PULL BOX NO.	STATION	LOCATION	653.0140* PULL BOXES STEEL 24X42-INCH EACH
PB1	564+96.29	87.7' LT	1
PB2	140+19.75	63.5' LT	1
PB3	140+17.33	08.1' RT	1
PB4	140+15.48	62.9' RT	1
PB5	567+19.12	54.6' LT	1
PB6	566+56.86	50.9' LT	1
PB7	567+20.37	09.5' RT	1
PB8	567+21.26	55.2' RT	1
PB9	138+11.48	61.7' RT	1
PB10	138+49.05	49.2' RT	1
PB11	138+13.84	08.1' LT	1
PB12	138+15.58	59.6' LT	1
PB13	564+98.32	63.9' RT	1
PB14	565+55.88	58.6' RT	1
PB15	564+96.89	09.5' LT	1
PB16	139+70.47	61.8' LT	1
PB17	564+95.52	79.5' LT	1
		TOTAL	17

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

CONCRETE BASES

BASE NO.	STATION	LOCATION	654.0101* CONCRETE BASES TYPE 1 EACH	654.0102* CONCRETE BASES TYPE 2 EACH	654.0113* CONCRETE BASES TYPE 13 EACH	654.0217* CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
CB1	564+88.15	85.3' LT	--	--	--	1
SB1	140+04.77	07.5' RT	--	1	--	--
SB2	140+18.04	58.1' RT	--	--	1	--
SB3	566+60.39	47.2' LT	1	--	--	--
SB4	566+64.58	54.1' RT	--	--	1	--
SB5	566+55.62	59.2' RT	1	--	--	--
SB6	138+29.30	08.2' LT	--	1	--	--
SB7	138+05.22	56.2' LT	--	--	1	--
SB8	565+51.80	55.6' RT	1	--	--	--
SB9	565+44.33	46.7' LT	--	--	1	--
SB10	565+56.18	49.8' LT	1	--	--	--
		TOTALS	4	2	4	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

REMOVING PULL BOXES

EXISTING PULL BOX NO.	653.0905* REMOVING PULL BOXES EACH
PB1	1
PB2	1
PB3	1
PB4	1
PB5	1
PB6	1
PB7	1
PB8	1
PB9	1
PB10	1
PB11	1
PB12	1
PB14	1
PB15	1
PB16	1
PB17	1
PB40	1
PB41	1
PB42	1
PB43	1
TOTAL	20

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

STH 31 & STH 165

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

ABOVE GROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0230* CABLE TRAFFIC SIGNAL 5-14 AWG LF	655.0240* CABLE TRAFFIC SIGNAL 7-14 AWG LF
SB1	HEAD 15	--	22
SB2	HEAD 12	66	--
SB2	HEAD 13	55	--
SB3	HEAD 6	19	--
SB4	HEAD 2	61	--
SB4	HEAD 3	47	--
SB4	HEAD 4	82	--
SB4	HEAD 5	73	--
SB5	HEAD 11	19	--
SB5	HEAD 19	--	22
SB6	HEAD 20	--	22
SB7	HEAD 17	64	--
SB7	HEAD 18	51	--
SB8	HEAD 1	19	--
SB8	HEAD 9	--	22
SB9	HEAD 7	56	--
SB9	HEAD 8	44	--
SB9	HEAD 10	--	73
SB10	HEAD 14	--	22
SB10	HEAD 16	19	--
	TOTALS	675	183

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

UNDERGROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0260* CABLE TRAFFIC SIGNAL 12-14 AWG LF
CB1	SB1	195
CB1	SB2	259
CB1	SB3	428
CB1	SB4	519
CB1	SB5	513
CB1	SB6	380
CB1	SB7	307
CB1	SB8	293
CB1	SB9	113
CB1	SB10	123
	TOTALS	3130

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LIGHTING WIRE

FROM	TO	655.0320* CABLE TYPE UF 2-10 AWG GROUNDED LF	655.0615* ELECTRICAL WIRE LIGHTING 10 AWG LF
CB1	SB1	195	--
SB1	LUMIN	--	234
SB1	SB4	494	--
SB4	LUMIN	--	144
CB1	SB9	113	--
SB9	LUMIN	--	144
SB9	SB6	443	--
SB6	LUMIN	--	234
	TOTALS	1245	756

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

FROM	TO	655.0515* ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
CB1	SB1	195
SB1	SB2	114
SB2	SB3	205
SB3	SB4	405
SB4	SB5	44
SB5	SB6	189
SB6	SB7	119
SB7	SB8	198
SB8	SB9	356
SB9	SB10	46
SB10	CB1	123
PB1	CB1	32
PB2	CB1	90
PB3	SB1	33
PB4	SB2	26
PB5	SB2	116
PB6	SB3	26
PB7	SB3	186
PB8	SB5	167
PB9	SB5	83
PB10	SB5	27
PB11	SB6	36
PB12	SB7	31
PB13	SB8	100
PB14	SB8	26
PB15	CB1	119
PB16	SB9	26
PB17	CB1	33
	TOTAL	3151

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

ELECTRICAL SERVICE METER BREAKER PEDESTAL
STH 31 & STH 165

BASE NO.	656.0200.3003 ELECTRICAL SERVICE METER BREAKER PEDESTAL LS
CB1	1
TOTAL	1

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

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS
STH 31 & STH 165

LOCATION	661.0200.3003 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS LS	661.0300* GENERATORS DAY
STH 31 & STH 165	1	2
TOTALS	1	2

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

TRAFFIC SIGNAL AND PEDESTRIAN FACES, AND BACKPLATES

SIGNAL HEAD NO.	SIGNAL BASE NO.	CATEGORY 0020 SPV.0060.0101 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL BLACK EACH	CATEGORY 0020 SPV.0060.0102 TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL BLACK EACH	658.0215* BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.0220* BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	658.0600* LED MODULES 12-INCH RED BALL EACH	658.0605* LED MODULES 12-INCH YELLOW BALL EACH	658.0610* LED MODULES 12-INCH GREEN BALL EACH	658.0615* LED MODULES 12-INCH RED ARROW EACH	658.0620* LED MODULES 12-INCH YELLOW ARROW EACH	658.0625* LED MODULES 12-INCH GREEN ARROW EACH
1	SB8	1	--	1	--	1	1	1	--	--	--
2	SB4	1	--	1	--	1	1	1	--	--	--
3	SB4	1	--	1	--	1	1	1	--	--	--
4	SB4	1	--	1	--	--	--	--	1	1	1
5	SB4	1	--	1	--	--	--	--	1	1	1
6	SB3	1	--	1	--	1	1	1	--	--	--
7	SB9	1	--	1	--	1	1	1	--	--	--
8	SB9	1	--	1	--	1	1	1	--	--	--
9	SB8	--	1	--	1	--	--	--	1	2	1
10	SB9	--	1	--	1	--	--	--	1	2	1
11	SB5	1	--	1	--	1	1	1	--	--	--
12	SB2	1	--	1	--	1	1	1	--	--	--
13	SB2	1	--	1	--	1	1	1	--	--	--
14	SB10	--	1	--	1	--	--	--	1	2	1
15	SB1	--	1	--	1	--	--	--	1	2	1
16	SB10	1	--	1	--	1	1	1	--	--	--
17	SB7	1	--	1	--	1	1	1	--	--	--
18	SB7	1	--	1	--	1	1	1	--	--	--
19	SB5	--	1	--	1	--	--	--	1	2	1
20	SB6	--	1	--	1	--	--	--	1	2	1
	TOTALS	14	6	14	6	12	12	12	8	14	8

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

3

CAST BASES, POLES, MONOTUBE ARMS, PUSH BUTTONS, AND LUMINAIRES

SIGNAL BASE NO.	CATEGORY 0020 SPV.0060.0103 PEDESTAL BASES BLACK EACH	CATEGORY 0020 SPV.0060.0104 TRANSFORMER BASE BREAKAWAY 11 1/2-INCH BOLT CIRCLE BLACK EACH	CATEGORY 0020 SPV.0060.0105 POLES TYPE 3 BLACK EACH	CATEGORY 0020 SPV.0060.0106 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT BLACK EACH	CATEGORY 0020 SPV.0060.0107 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT BLACK EACH	CATEGORY 0020 SPV.0060.0108 LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT BLACK EACH	CATEGORY 0020 SPV.0060.0109 INSTALL POLES TYPE 12 BLACK EACH	CATEGORY 0020 SPV.0060.0110 INSTALL POLES TYPE 13 BLACK EACH	CATEGORY 0020 SPV.0060.0111 INSTALL MONOTUBE ARMS 40-FT BLACK EACH	CATEGORY 0020 SPV.0060.0112 INSTALL MONOTUBE ARMS 45-FT BLACK EACH	CATEGORY 0020 SPV.0060.0113 INSTALL MONOTUBE ARMS 55-FT BLACK EACH	CATEGORY 0020 SPV.0060.0114 INSTALL LUMINAIRE ARMS STEEL 15-FT BLACK EACH	CATEGORY 0020 SPV.0060.0115 LUMINAIRES UTILITY LED C BLACK EACH
SB1	--	1	1	--	--	2	--	--	--	--	--	--	2
SB2	--	--	--	--	--	--	1	--	1	--	--	--	--
SB3	1	--	--	1	--	--	--	--	--	--	--	--	--
SB4	--	--	--	--	--	--	--	1	--	--	1	1	1
SB5	1	--	--	--	1	--	--	--	--	--	--	--	--
SB6	--	1	1	--	--	2	--	--	--	--	--	--	2
SB7	--	--	--	--	--	--	1	--	1	--	--	--	--
SB8	1	--	--	--	1	--	--	--	--	--	--	--	--
SB9	--	--	--	--	--	--	--	1	--	1	--	1	1
SB10	1	--	--	--	1	--	--	--	--	--	--	--	--
TOTALS	4	2	2	1	3	4	2	2	2	1	1	2	6

3

SIGNAL MOUNTING HARDWARE
STH 31 & STH 165

LOCATION	CATEGORY 0020 SPV.0105.0100 SIGNAL MOUNTING HARDWARE BLACK LS
STH 31 & STH 165	1
TOTAL	1

REMOVE TRAFFIC SIGNALS
STH 31 & STH 165

LOCATION	SPV.0105.3003 REMOVE TRAFFIC SIGNALS LS
STH 31 & STH 165	1
TOTAL	1

3

REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE
STH 31 & STH 165

LOCATION	SPV.0105.3013 REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE LS
STH 31 & STH 165	1
TOTAL	1

INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET
STH 31 & STH 165

LOCATION	SPV.0105.3023 INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET LS
STH 31 & STH 165	1
TOTAL	1

TRANSPORTING SIGNAL AND LIGHTING MATERIALS
STH 31 & STH 165

LOCATION	CATEGORY 0020 SPV.0105.3033 TRANSPORTING SIGNAL AND LIGHTING MATERIALS LS
STH 31 & STH 165	1
TOTAL	1

TRANSPORTING AND INSTALLING STATE FURNISHED MULTI-SENSOR VEHICLE DETECTION SYSTEM
STH 31 & STH 165

LOCATION	SPV.0105.3052 TRANSPORTING AND INSTALLING STATE FURNISHED MULTI-SENSOR VEHICLE DETECTION SYSTEM LS
STH 31 & STH 165	1
TOTAL	1

TEMPORARY VEHICLE DETECTION SYSTEM FOR INTERSECTIONS
STH 31 & STH 165

LOCATION	SPV.0105.3093 TEMPORARY VEHICLE DETECTION SYSTEM FOR INTERSECTIONS LS
STH 31 & STH 165	1
TOTAL	1

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET
4	EACH	POLES TYPE 13
1	EACH	MONOTUBE ARMS 40-FT
3	EACH	MONOTUBE ARMS 45-FT
4	EACH	LUMINAIRE ARMS STEEL 15-FT
4	EACH	EVP DETECTOR HEADS
1	EACH	EVP DETECTOR HEADS (GPS)
1	LS	VIDEO DETECTION SYSTEM

REMOVING CONCRETE BASES

EXISTING BASE NO.	204.0195* REMOVING CONCRETE BASES EACH
SB1	1
SB2	1
SB3	1
SB4	1
SB5	1
SB7	1
SB8	1
SB9	1
CB1	1
TOTAL	9

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

STH 158 & 68TH AVENUE

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

3

CONDUIT

FROM	TO	652.0225* CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235* CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615* CONDUIT SPECIAL 3-INCH LF
CB1	PB1	--	45	--
PB1	PB2	15	--	--
PB1	PB3	--	--	192
PB3	PB4	--	74	--
PB4	PB5	15	--	--
PB4	PB8	--	--	148
PB8	PB9	--	54	--
PB9	PB10	23	--	--
PB9	PB12	--	--	200
PB12	PB13	--	80	--
PB13	PB14	9	--	--
PB13	PB17	--	--	148
PB17	CB1	--	75	--
PB1	SB1	7	--	--
PB3	SB2	--	13	--
PB4	SB3	5	--	--
PB8	SB4	--	11	--
PB10	SB5	7	--	--
PB12	SB6	--	8	--
PB13	SB7	16	--	--
PB17	SB8	--	8	--
	TOTAL	97	368	688

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M Dougherty
10-29-15

PROJECT NO: 3700-20-73	HWY: STH 158	COUNTY: KENOSHA	MISCELLANEOUS QUANTITIES	SHEET: 90	E

FILE NAME : N:\PDS\C3D\CAD\37002003\Design\Signals\030121_mq_sp.ppt PLOT DATE : 10/27/2015 10:46:55 AM PLOT BY : MSCAXW PLOT NAME : 030151_mq_sp<#> PLOT SCALE : 1:1

3

INSTALL CONDUIT INTO EXISTING ITEM

STRUCTURE NO.	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EACH
PB2	1
PB5	1
PB10	1
PB14	1
TOTAL	4

REMOVING PULL BOXES

EXISTING PULL BOX NO.	653.0905* REMOVING PULL BOXES EACH
PB1	1
PB3	1
PB5	1
PB8	1
PB11	1
PB12	1
TOTAL	6

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PULL BOXES STEEL

PULL BOX NO.	STATION	LOCATION	653.0140* PULL BOXES STEEL 24X42-INCH EACH
PB1	49+35.68	44.9' RT	1
PB3	49+37.95	50.8' LT	1
PB4	170+46.96	53.5' RT	1
PB8	170+45.55	20.1' LT	1
PB9	170+66.56	37.0' LT	1
PB12	50+49.49	43.4' RT	1
PB13	172+01.10	21.3' LT	1
PB17	172+02.52	52.5' RT	1
		TOTAL	8

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

CONCRETE BASES

BASE NO.	STATION	LOCATION	654.0101* CONCRETE BASES TYPE 1 EACH	654.0113* CONCRETE BASES TYPE 13 EACH	654.0217* CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
CB1	49+40.53	58.6' RT	--	--	1
SB1	49+31.66	39.5' RT	1	--	--
SB2	49+27.20	45.8' LT	--	1	--
SB3	170+51.60	53.9' RT	1	--	--
SB4	170+56.50	20.4' LT	--	1	--
SB5	50+59.08	34.7' LT	1	--	--
SB6	50+54.78	48.3' RT	--	1	--
SB7	171+85.85	22.2' LT	1	--	--
SB8	172+10.36	52.7' RT	--	1	--
		TOTALS	4	4	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

FILE NAME : N:\PDS\C3D\CAD\37002003\Design\Signals\030121_mq_sp.ppt PLOT DATE : 10/27/2015 10:46:55 AM PLOT BY : MSCAXW PLOT NAME : 030151_mq_sp<#> PLOT SCALE : 1:1

3

ABOVE GROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0230* CABLE TRAFFIC SIGNAL 5-14 AWG LF	655.0240* CABLE TRAFFIC SIGNAL 7-14 AWG LF
SB1	HEAD 11	19	--
SB1	HEAD 19	--	22
SB2	HEAD 17	60	--
SB2	HEAD 18	41	--
SB2	HEAD 20	--	69
SB3	HEAD 1	19	--
SB3	HEAD 9	--	22
SB4	HEAD 7	53	--
SB4	HEAD 8	43	--
SB4	HEAD 10	--	68
SB5	HEAD 14	--	22
SB5	HEAD 16	19	--
SB6	HEAD 12	61	--
SB6	HEAD 13	19	--
SB6	HEAD 15	--	73
SB7	HEAD 4	--	22
SB7	HEAD 6	19	--
SB8	HEAD 2	53	--
SB8	HEAD 3	45	--
SB8	HEAD 5	--	67
	TOTALS	451	365

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

UNDERGROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0260* CABLE TRAFFIC SIGNAL 12-14 AWG LF
CB1	SB1	49
CB1	SB2	167
CB1	SB3	212
CB1	SB4	308
CB1	SB5	360
CB1	SB6	206
CB1	SB7	158
CB1	SB8	60
	TOTALS	1520

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LIGHTING WIRE

FROM	TO	655.0320* CABLE TYPE UF 2-10 AWG GROUNDED LF	655.0615* ELECTRICAL WIRE LIGHTING 10 AWG LF
CB1	SB2	167	--
SB2	LUMIN	--	144
SB2	SB4	191	--
SB4	LUMIN	--	144
CB1	SB8	60	--
SB8	LUMIN	--	144
SB8	SB6	186	--
SB6	LUMIN	--	144
	TOTALS	604	576

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PAGE 3 OF 8

3

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

FROM	TO	655.0515* ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
CB1	SB1	49
SB1	SB2	156
SB2	SB3	95
SB3	SB4	130
SB4	SB5	124
SB5	SB6	194
SB6	SB7	104
SB7	SB8	138
SB8	CB1	60
PB1	SB1	27
PB3	SB2	33
PB4	SB3	25
PB8	SB4	31
PB9	SB4	74
PB10	SB5	27
PB12	SB6	28
PB13	SB7	36
PB17	SB8	28
	TOTAL	1359

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LOOP DETECTOR SCHEDULE

LOOP NUMBER	HOMERUN PB	STATION	LOCATION	SIZE (FT)X(FT)	NO. OF TURNS	PAVEMENT TYPE	SDD INSTALLATION REFERENCE	655.0700 LOOP DETECTOR LEAD IN CABLE LF	655.0800 LOOP DETECTOR WIRE LF
21	PB16	EXIST.	EXIST.	6X20	5	EXISTING	EXISTING	481	--
22	PB15	EXIST.	EXIST.	6X20	5	EXISTING	EXISTING	336	--
23	PB5	EXIST.	EXIST.	6X20	3	EXISTING	EXISTING	190	--
24	PB5	EXIST.	EXIST.	6X20	3	EXISTING	EXISTING	190	--
41	PB11	EXIST.	EXIST.	6X18	4	EXISTING	EXISTING	543	226
42	PB10	EXIST.	EXIST.	6X20	4	EXISTING	EXISTING	289	378
43	PB10	EXIST.	EXIST.	6X20	4	EXISTING	EXISTING	289	--
45	PB2	EXIST.	EXIST.	6X20	3	EXISTING	EXISTING	57	--
51	PB14	EXIST.	EXIST.	6X20	3	EXISTING	EXISTING	135	--
52	PB14	EXIST.	EXIST.	6X20	3	EXISTING	EXISTING	135	--
61	PB7	EXIST.	EXIST.	6X20	5	EXISTING	EXISTING	544	--
62	PB6	EXIST.	EXIST.	6X20	4	EXISTING	EXISTING	389	--
71	PB10	EXIST.	EXIST.	6X20	4	EXISTING	EXISTING	289	442
72	PB10	EXIST.	EXIST.	6X20	4	EXISTING	EXISTING	289	--
83	PB2	EXIST.	EXIST.	6X20	3	EXISTING	EXISTING	57	--
84	PB2	EXIST.	EXIST.	6X20	3	EXISTING	EXISTING	57	--
							TOTALS	4270	1046

TRAFFIC SIGNAL EVP DETECTOR CABLE

FROM	TO	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE LF	SPV.0090.3001 TRAFFIC SIGNAL GPS EVP DETECTOR CABLE LF
CB1	SB4 (HEAD A)	383	--
CB1	SB8 (HEAD B)	130	--
CB1	SB2 (HEAD C)	242	--
CB1	SB6 (HEAD D)	279	--
CB1	SB8 (GPS)	--	130
	TOTALS	1034	130

3

3

ELECTRICAL SERVICE METER BREAKER PEDESTAL
STH 158 & 68TH AVENUE

BASE NO.	656.0200.3004 ELECTRICAL SERVICE METER BREAKER PEDESTAL LS
CB1	1
TOTAL	1

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

CAST BASES, POLES, MONOTUBE ARMS, PUSH BUTTONS, AND LUMINAIRES

SIGNAL BASE NO.	657.0100* PEDESTAL BASES EACH	657.0425* TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.1360 INSTALL POLES TYPE 13 EACH	657.1540 INSTALL MONOTUBE ARMS 40-FT EACH	657.1545* INSTALL MONOTUBE ARMS 45-FT EACH	657.1815 INSTALL LUMINAIRE ARMS STEEL 15-FT EACH	659.1125* LUMINAIRES UTILITY LED C EACH
SB1	1	1	--	--	--	--	--
SB2	--	--	1	--	1	1	1
SB3	1	1	--	--	--	--	--
SB4	--	--	1	--	1	1	1
SB5	1	1	--	--	--	--	--
SB6	--	--	1	--	1	1	1
SB7	1	1	--	--	--	--	--
SB8	--	--	1	1	--	1	1
TOTALS	4	4	4	1	3	4	4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

3

SIGNAL MOUNTING HARDWARE
STH 158 & 68TH AVENUE

LOCATION	658.5069.3004 SIGNAL MOUNTING HARDWARE LS
STH 158 & 68TH AVENUE	1
TOTAL	1

TRAFFIC SIGNAL AND PEDESTRIAN FACES, AND BACKPLATES

SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0110* TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0115* TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL EACH	658.0215* BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.0220* BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	658.0600* LED MODULES 12-INCH RED BALL EACH	658.0605* LED MODULES 12-INCH YELLOW BALL EACH	658.0610* LED MODULES 12-INCH GREEN BALL EACH	658.0615* LED MODULES 12-INCH RED ARROW EACH	658.0620* LED MODULES 12-INCH YELLOW ARROW EACH	658.0625* LED MODULES 12-INCH GREEN ARROW EACH
1	SB3	1	--	1	--	1	1	1	--	--	--
2	SB8	1	--	1	--	1	1	1	--	--	--
3	SB8	1	--	1	--	1	1	1	--	--	--
4	SB7	--	1	--	1	--	--	--	1	2	1
5	SB8	--	1	--	1	--	--	--	1	2	1
6	SB7	1	--	1	--	1	1	1	--	--	--
7	SB4	1	--	1	--	1	1	1	--	--	--
8	SB4	1	--	1	--	1	1	1	--	--	--
9	SB3	--	1	--	1	--	--	--	1	2	1
10	SB4	--	1	--	1	--	--	--	1	2	1
11	SB1	1	--	1	--	1	1	1	--	--	--
12	SB6	1	--	1	--	1	1	1	--	--	--
13	SB6	1	--	1	--	1	1	1	--	--	--
14	SB5	--	1	--	1	--	--	--	1	2	1
15	SB6	--	1	--	1	--	--	--	1	2	1
16	SB5	1	--	1	--	1	1	1	--	--	--
17	SB2	1	--	1	--	1	1	1	--	--	--
18	SB2	1	--	1	--	1	1	1	--	--	--
19	SB1	--	1	--	1	--	--	--	1	2	1
20	SB2	--	1	--	1	--	--	--	1	2	1
	TOTALS	12	8	12	8	12	12	12	8	16	8

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PAGE 6 OF 8

STH 158 & 68TH AVENUE

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS
STH 158 & 68TH AVENUE

LOCATION	661.0200.3004 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS LS	661.0300* GENERATORS DAY
STH 158 & 68TH AVENUE	1	2
TOTALS	1	2

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

REMOVE TRAFFIC SIGNALS
STH 158 & 68TH AVENUE

LOCATION	SPV.0105.3004 REMOVE TRAFFIC SIGNALS LS
STH 158 & 68TH AVENUE	1
TOTAL	1

3

REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE
STH 158 & 68TH AVENUE

LOCATION	SPV.0105.3014 REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE LS
STH 158 & 68TH AVENUE	1
TOTAL	1

INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET
STH 158 & 68TH AVENUE

LOCATION	SPV.0105.3024 INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET LS
STH 158 & 68TH AVENUE	1
TOTAL	1

STH 158 & 68TH AVENUE

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

TRANSPORTING SIGNAL AND LIGHTING MATERIALS
STH 158 & 68TH AVENUE

LOCATION	SPV.0105.3034 TRANSPORTING SIGNAL AND LIGHTING MATERIALS LS
STH 158 & 68TH AVENUE	1
TOTAL	1

TRANSPORTING AND INSTALLING STATE FURNISHED AUTOSCOPE VIDEO VEHICLE DETECTION SYSTEM
STH 158 & 68TH AVENUE

LOCATION	SPV.0105.3061 TRANSPORTING AND INSTALLING STATE FURNISHED AUTOSCOPE VIDEO DETECTION SYSTEM LS
STH 158 & 68TH AVENUE	1
TOTAL	1

INSTALL STATE FURNISHED EVP DETECTOR HEADS
STH 158 & 68TH AVENUE

LOCATION	SPV.0105.3071 INSTALL STATE FURNISHED EVP DETECTOR HEADS LS
STH 158 & 68TH AVENUE	1
TOTAL	1

TEMPORARY EVP SYSTEM
STH 158 & 68TH AVENUE

LOCATION	SPV.0105.3081 TEMPORARY EVP SYSTEM LS
STH 158 & 68TH AVENUE	1
TOTAL	1

TEMPORARY VEHICLE DETECTION SYSTEM FOR INTERSECTIONS
STH 158 & 68TH AVENUE

LOCATION	SPV.0105.3094 TEMPORARY VEHICLE DETECTION SYSTEM FOR INTERSECTIONS LS
STH 158 & 68TH AVENUE	1
TOTAL	1

3

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET
4	EACH	POLES TYPE 12
3	EACH	MONOTUBE ARMS 35-FT
1	EACH	MONOTUBE ARMS 45-FT
1	LS	MULTI-SENSOR VEHICLE DETECTION SYSTEM

REMOVING CONCRETE BASES

EXISTING BASE NO.	204.0195* REMOVING CONCRETE BASES EACH
SB1	1
SB2	1
SB3	1
SB4	1
SB5	1
SB6	1
SB7	1
SB8	1
SB9	1
SB10	1
SB11	1
SB12	1
CB1	1
TOTAL	13

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

WISCONSIN
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E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M Dougherty
10-29-15

STH 167 & STH 181

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

3

CONDUIT

FROM	TO	652.0225* CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235* CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615* CONDUIT SPECIAL 3-INCH LF
CB1	PB1	--	30	--
PB1	PB2	--	78	--
PB2	PB3	--	--	32
PB2	PB4	--	--	134
PB4	PB5	11	--	--
PB4	PB6	--	--	92
PB6	PB7	--	182	--
PB7	PB8	--	--	50
PB7	PB9	--	--	124
PB9	PB10	27	--	--
PB9	PB11	--	--	108
PB11	PB12	--	120	--
PB12	PB13	--	--	33
PB12	PB14	--	--	130
PB14	PB15	18	--	--
PB14	PB16	--	--	94
PB16	PB17	--	168	--
PB17	PB18	--	--	38
PB17	PB19	--	--	130
PB19	PB20	18	--	--
PB19	PB21	--	--	120
PB21	CB1	--	33	--
PB3	SB1	20	--	--
PB3	SB2	8	--	--
PB5	SB3	11	--	--
PB6	SB4	--	14	--
PB8	SB5	21	--	--
PB8	SB6	10	--	--
PB10	SB7	6	--	--
PB11	SB8	--	13	--
PB13	SB9	20	--	--
PB13	SB10	10	--	--
PB15	SB11	6	--	--
PB16	SB12	--	11	--
PB18	SB13	22	--	--
PB18	SB14	9	--	--
PB20	SB15	11	--	--
PB21	SB16	--	17	--
	TOTAL	228	666	1085

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PROJECT NO: 3700-20-73	HWY: STH 167	COUNTY: OZAUKEE	MISCELLANEOUS QUANTITIES	SHEET: 98	E

FILE NAME : N:\PDS\C3D\CAD\37002003\Design\Signals\030131_mq_sp.ppt PLOT DATE : 10/22/2015 1:20:08 PM PLOT BY : MSCAXW PLOT NAME : 030131_mq_sp<#> PLOT SCALE : 1:1

PULL BOXES STEEL

PULL BOX NO.	STATION	LOCATION	653.0135* PULL BOXES STEEL 24X36-INCH EACH	653.0140* PULL BOXES STEEL 24X42-INCH EACH
PB1	225+30.22	96.6' RT	--	1
PB2	225+18.97	59.3' RT	--	1
PB3	225+46.67	43.5' RT	--	1
PB4	225+18.97	07.0' LT	--	1
PB5	225+29.14	06.9' LT	1	--
PB6	225+18.97	52.0' LT	--	1
PB7	118+80.00	31.7' RT	--	1
PB8	119+29.01	28.2' RT	--	1
PB9	118+86.59	29.1' LT	--	1
PB10	119+13.08	26.4' LT	1	--
PB11	118+92.39	82.7' LT	--	1
PB12	227+24.49	58.7' LT	--	1
PB13	226+95.95	43.5' LT	--	1
PB14	227+24.47	05.7' RT	--	1
PB15	227+07.02	05.8' RT	1	--
PB16	227+24.49	52.0' RT	--	1
PB17	121+06.73	59.6' LT	--	1
PB18	120+70.65	49.5' LT	--	1
PB19	121+06.73	05.0' RT	--	1
PB20	120+89.07	04.5' RT	1	--
PB21	121+06.73	64.6' RT	--	1
		TOTAL	4	17

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

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

REMOVING PULL BOXES

EXISTING PULL BOX NO.	653.0905* REMOVING PULL BOXES EACH
PB1	1
PB2	1
PB3	1
PB4	1
PB5	1
PB6	1
PB7	1
PB8	1
PB9	1
PB10	1
PB11	1
PB12	1
PB13	1
PB14	1
PB15	1
PB16	1
PB17	1
PB18	1
PB19	1
TOTAL	19

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONCRETE BASES

BASE NO.	STATION	LOCATION	654.0101* CONCRETE BASES TYPE 1 EACH	654.0102* CONCRETE BASES TYPE 2 EACH	654.0113* CONCRETE BASES TYPE 13 EACH	654.0217* CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
CB1	121+03.43	74.1' RT	--	--	--	1
SB1	120+52.10	47.1' RT	1	--	--	--
SB2	225+54.27	43.0' RT	1	--	--	--
SB3	225+39.20	05.9' LT	--	1	--	--
SB4	225+27.46	62.2' LT	--	--	1	--
SB5	225+71.92	52.3' LT	1	--	--	--
SB6	119+36.75	29.5' RT	1	--	--	--
SB7	119+18.18	25.3' LT	--	1	--	--
SB8	119+01.40	73.1' LT	--	--	1	--
SB9	226+78.26	51.8' LT	1	--	--	--
SB10	226+86.20	43.0' LT	1	--	--	--
SB11	227+01.88	04.4' RT	--	1	--	--
SB12	227+14.49	53.1' RT	--	--	1	--
SB13	226+70.53	52.0' RT	1	--	--	--
SB14	120+61.86	49.3' LT	1	--	--	--
SB15	120+78.85	02.7' RT	--	1	--	--
SB16	120+96.73	51.4' RT	--	--	1	--
		TOTALS	8	4	4	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

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

ABOVE GROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0230* CABLE TRAFFIC SIGNAL 5-14 AWG LF	655.0240* CABLE TRAFFIC SIGNAL 7-14 AWG LF
SB1	HEAD 27	14	--
SB2	HEAD 11	19	--
SB2	HEAD 20	--	22
SB2	HEAD 28	14	--
SB3	HEAD 21	--	22
SB4	HEAD 17	72	--
SB4	HEAD 18	61	--
SB4	HEAD 19	50	--
SB5	HEAD 29	14	--
SB6	HEAD 1	19	--
SB6	HEAD 9	19	--
SB6	HEAD 22	14	--
SB7	HEAD 10	19	--
SB8	HEAD 7	62	--
SB8	HEAD 8	51	--
SB9	HEAD 23	14	--
SB10	HEAD 14	--	22
SB10	HEAD 16	19	--
SB10	HEAD 24	14	--
SB11	HEAD 15	--	22
SB12	HEAD 12	62	--
SB12	HEAD 13	50	--
SB13	HEAD 25	14	--
SB14	HEAD 4	--	22
SB14	HEAD 6	19	--
SB14	HEAD 26	14	--
SB15	HEAD 5	--	22
SB16	HEAD 2	60	--
SB16	HEAD 3	48	--
	TOTALS	742	132

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

UNDERGROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0240* CABLE TRAFFIC SIGNAL 7-14 AWG LF	655.0260* CABLE TRAFFIC SIGNAL 12-14 AWG LF	655.0270* CABLE TRAFFIC SIGNAL 15-14 AWG LF
CB1	SB1	160	--	--
CB1	SB2	--	--	148
CB1	SB3	--	213	--
CB1	SB4	--	251	--
CB1	SB5	431	--	--
CB1	SB6	--	420	--
CB1	SB7	--	471	--
CB1	SB8	--	505	--
CB1	SB9	508	--	--
CB1	SB10	--	--	498
CB1	SB11	--	398	--
CB1	SB12	--	306	--
CB1	SB13	271	--	--
CB1	SB14	--	--	258
CB1	SB15	--	159	--
CB1	SB16	--	55	--
	TOTALS	1370	2778	904

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LIGHTING WIRE

FROM	TO	655.0320* CABLE TYPE UF 2-10 AWG GROUNDED LF	655.0615* ELECTRICAL WIRE LIGHTING 10 AWG LF
CB1	SB3	213	--
SB3	LUMIN	--	234
SB3	SB7	358	--
SB7	LUMIN	--	234
CB1	SB15	159	--
SB15	LUMIN	--	234
SB15	SB11	353	--
SB11	LUMIN	--	234
	TOTALS	1083	936

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

FROM	TO	655.0515* ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
CB1	SB1	160
SB1	SB2	52
SB2	SB3	201
SB3	SB4	138
SB4	SB5	232
SB5	SB6	55
SB6	SB7	227
SB7	SB8	156
SB8	SB9	182
SB9	SB10	54
SB10	SB11	204
SB11	SB12	138
SB12	SB13	211
SB13	SB14	55
SB14	SB15	213
SB15	SB16	162
SB16	CB1	55
PB1	CB1	33
PB2	CB1	88
PB3	SB2	28
PB4	SB3	58
PB5	SB3	31
PB6	SB4	34
PB7	SB4	141
PB8	SB6	30
PB9	SB7	69
PB10	SB7	26
PB11	SB8	33
PB12	SB8	109
PB13	SB10	30
PB14	SB11	60
PB15	SB11	26
PB16	SB12	31
PB17	SB12	131
PB18	SB14	29
PB19	SB15	65
PB20	SB15	31
PB21	CB1	34
	TOTAL	3612

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

3

ELECTRICAL SERVICE METER BREAKER PEDESTAL
STH 167 & STH 181

BASE NO.	656.0200.3002 ELECTRICAL SERVICE METER BREAKER PEDESTAL LS
CB1	1
TOTAL	1

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

CAST BASES, POLES, MONOTUBE ARMS, PUSH BUTTONS, AND LUMINAIRES

SIGNAL BASE NO.	657.0100* PEDESTAL BASES EACH	657.0255* TRANSFORMER BASE BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0310* POLES TYPE 3 EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.0425* TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT EACH	657.0609* LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT EACH	657.1355 INSTALL POLES TYPE 12 EACH	657.1535 INSTALL MONOTUBE ARMS 35-FT EACH	657.1545* INSTALL MONOTUBE ARMS 45-FT EACH	658.0500* PEDESTRIAN PUSH BUTTONS EACH	659.1125* LUMINAIRES UTILITY LED C EACH
SB1	1	--	--	--	--	1	--	--	--	--	1	--
SB2	1	--	--	--	1	--	--	--	--	--	1	--
SB3	--	1	1	--	--	--	2	--	--	--	--	2
SB4	--	--	--	--	--	--	--	1	--	1	--	--
SB5	1	--	--	--	--	1	--	--	--	--	1	--
SB6	1	--	--	1	--	--	--	--	--	--	1	--
SB7	--	1	1	--	--	--	2	--	--	--	--	2
SB8	--	--	--	--	--	--	--	1	1	--	--	--
SB9	1	--	--	--	--	1	--	--	--	--	1	--
SB10	1	--	--	--	1	--	--	--	--	--	1	--
SB11	--	1	1	--	--	--	2	--	--	--	--	2
SB12	--	--	--	--	--	--	--	1	1	--	--	--
SB13	1	--	--	--	--	1	--	--	--	--	1	--
SB14	1	--	--	--	1	--	--	--	--	--	1	--
SB15	--	1	1	--	--	--	2	--	--	--	--	2
SB16	--	--	--	--	--	--	--	1	1	--	--	--
TOTALS	8	4	4	1	3	4	8	4	3	1	8	8

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRAFFIC SIGNAL AND PEDESTRIAN FACES, AND BACKPLATES

SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0110* TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0115* TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL EACH	658.0215* BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.0220* BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	658.0416* PEDESTRIAN SIGNAL FACE 16-INCH EACH	658.0600* LED MODULES 12-INCH RED BALL EACH	658.0605* LED MODULES 12-INCH YELLOW BALL EACH	658.0610* LED MODULES 12-INCH GREEN BALL EACH	658.0615* LED MODULES 12-INCH RED ARROW EACH	658.0620* LED MODULES 12-INCH YELLOW ARROW EACH	658.0625* LED MODULES 12-INCH GREEN ARROW EACH	658.0635* LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH
1	SB6	1	--	1	--	--	1	1	1	--	--	--	--
2	SB16	1	--	1	--	--	1	1	1	--	--	--	--
3	SB16	1	--	1	--	--	1	1	1	--	--	--	--
4	SB14	--	1	--	1	--	--	--	--	1	2	1	--
5	SB15	--	1	--	1	--	--	--	--	1	2	1	--
6	SB14	1	--	1	--	--	1	1	1	--	--	--	--
7	SB8	1	--	1	--	--	1	1	1	--	--	--	--
8	SB8	1	--	1	--	--	1	1	1	--	--	--	--
9	SB6	1	--	1	--	--	--	--	--	1	1	1	--
10	SB7	1	--	1	--	--	--	--	--	1	1	1	--
11	SB2	1	--	1	--	--	1	1	1	--	--	--	--
12	SB12	1	--	1	--	--	1	1	1	--	--	--	--
13	SB12	1	--	1	--	--	1	1	1	--	--	--	--
14	SB10	--	1	--	1	--	--	--	--	1	2	1	--
15	SB11	--	1	--	1	--	--	--	--	1	2	1	--
16	SB10	1	--	1	--	--	1	1	1	--	--	--	--
17	SB4	1	--	1	--	--	1	1	1	--	--	--	--
18	SB4	1	--	1	--	--	1	1	1	--	--	--	--
19	SB4	1	--	1	--	--	1	1	1	--	--	--	--
20	SB2	--	1	--	1	--	--	--	--	1	2	1	--
21	SB3	--	1	--	1	--	--	--	--	1	2	1	--
22	SB6	--	--	--	--	1	--	--	--	--	--	--	1
23	SB9	--	--	--	--	1	--	--	--	--	--	--	1
24	SB10	--	--	--	--	1	--	--	--	--	--	--	1
25	SB13	--	--	--	--	1	--	--	--	--	--	--	1
26	SB14	--	--	--	--	1	--	--	--	--	--	--	1
27	SB1	--	--	--	--	1	--	--	--	--	--	--	1
28	SB2	--	--	--	--	1	--	--	--	--	--	--	1
29	SB5	--	--	--	--	1	--	--	--	--	--	--	1
TOTALS		15	6	15	6	8	13	13	13	8	14	8	8

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

SIGNAL MOUNTING HARDWARE
STH 167 & STH 181

LOCATION	658.5069.3002 SIGNAL MOUNTING HARDWARE LS
STH 167 & STH 181	1
TOTAL	1

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS
STH 167 & STH 181

LOCATION	661.0200.3002 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS LS	661.0300* GENERATORS DAY
STH 167 & STH 181	1	2
TOTALS	1	2

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

REMOVE TRAFFIC SIGNALS
STH 167 & STH 181

LOCATION	SPV.0105.3002 REMOVE TRAFFIC SIGNALS LS
STH 167 & STH 181	1
TOTAL	1

REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE
STH 167 & STH 181

LOCATION	SPV.0105.3012 REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE LS
STH 167 & STH 181	1
TOTAL	1

3

INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET
STH 167 & STH 181

LOCATION	SPV.0105.3022 INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET LS
STH 167 & STH 181	1
TOTAL	1

TRANSPORTING SIGNAL AND LIGHTING MATERIALS
STH 167 & STH 181

LOCATION	SPV.0105.3032 TRANSPORTING SIGNAL AND LIGHTING MATERIALS LS
STH 167 & STH 181	1
TOTAL	1

TRANSPORTING AND INSTALLING STATE FURNISHED MULTI-SENSOR VEHICLE DETECTION SYSTEM
STH 167 & STH 181

LOCATION	SPV.0105.3051 TRANSPORTING AND INSTALLING STATE FURNISHED MULTI-SENSOR VEHICLE DETECTION SYSTEM LS
STH 167 & STH 181	1
TOTAL	1

TEMPORARY VEHICLE DETECTION SYSTEM FOR INTERSECTIONS
STH 167 & STH 181

LOCATION	SPV.0105.3092 TEMPORARY VEHICLE DETECTION SYSTEM FOR INTERSECTIONS LS
STH 167 & STH 181	1
TOTAL	1

3

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET
4	EACH	POLES TYPE 9
3	EACH	MONOTUBE ARMS 25-FT
1	EACH	MONOTUBE ARMS 30-FT
1	LS	RADAR DETECTION SYSTEM

REMOVING CONCRETE BASES

EXISTING BASE NO.	204.0195* REMOVING CONCRETE BASES EACH
SB1	1
SB2	1
SB3	1
SB4	1
SB5	1
SB6	1
SB7	1
SB8	1
SB9	1
SB10	1
SB11	1
SB12	1
CB1	1
TOTAL	13

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M Dougherty
10-29-15

STH 31 & STH 38

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

3

CONDUIT

FROM	TO	652.0225* CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235* CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615* CONDUIT SPECIAL 3-INCH LF
CB1	PB1	--	33	--
PB1	PB2	--	--	96
PB2	PB3	--	--	118
PB3	PB4	--	--	140
PB4	PB5	--	--	42
PB4	PB6	--	--	174
PB6	PB7	--	--	100
PB7	PB8	--	128	--
PB8	PB9	--	--	49
PB8	PB10	--	--	154
PB10	PB11	--	--	98
PB11	PB12	--	82	--
PB12	PB13	--	--	39
PB12	PB14	--	--	162
PB14	PB15	--	--	126
PB15	CB1	--	33	--
PB1	SB1	173	--	--
PB2	SB2	--	38	--
PB2	SB3	29	--	--
PB3	SB4	15	--	--
PB5	SB5	--	14	--
PB5	SB6	8	--	--
PB6	SB7	28	--	--
PB6	SB8	62	--	--
PB8	SB9	135	--	--
PB9	SB10	--	15	--
PB9	SB11	5	--	--
PB10	SB12	42	--	--
PB13	SB13	--	21	--
PB13	SB14	14	--	--
PB14	SB15	11	--	--
PB14	SB16	102	--	--
	TOTAL	624	364	1298

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PROJECT NO: 3700-20-73	HWY: STH 31	COUNTY: RACINE	MISCELLANEOUS QUANTITIES	SHEET: 105	E

FILE NAME : N:\PDS\C3D\CAD\37002003\Design\Signals\030141_mq_sp.ppt PLOT DATE : 10/29/2015 9:12:26 AM PLOT BY : MSCAXW PLOT NAME : 030111_mq_sp‹#› PLOT SCALE : 1:1

3

PULL BOXES STEEL

PULL BOX NO.	STATION	LOCATION	653.0140* PULL BOXES STEEL 24X42-INCH EACH
PB1	107+96.15	94.8' RT	1
PB2	107+86.90	48.0' RT	1
PB3	107+75.12	09.0' LT	1
PB4	651+75.00	77.4' RT	1
PB5	652+01.49	46.0' RT	1
PB6	651+75.00	09.0' LT	1
PB7	651+75.00	58.4' LT	1
PB8	109+51.13	67.1' LT	1
PB9	652+33.79	57.3' LT	1
PB10	109+61.14	09.0' RT	1
PB11	109+67.10	56.9' RT	1
PB12	653+65.00	71.9' LT	1
PB13	653+40.00	43.0' LT	1
PB14	653+65.00	09.0' RT	1
PB15	653+65.00	71.0' RT	1
		TOTAL	15

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

CONCRETE BASES

BASE NO.	STATION	LOCATION	654.0101* CONCRETE BASES TYPE 1 EACH	654.0102* CONCRETE BASES TYPE 2 EACH	654.0105 CONCRETE BASES TYPE 5 EACH	654.0110 CONCRETE BASES TYPE 10 EACH	654.0217* CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
CB1	653+60.56	80.0' RT	--	--	--	--	1
SB1	106+37.52	54.7' RT	--	--	1	--	--
SB2	653+18.94	43.4' RT	--	--	--	1	--
SB3	108+14.66	45.4' RT	1	--	--	--	--
SB4	107+89.57	09.0' LT	--	1	--	--	--
SB5	107+96.81	43.9' LT	--	--	--	1	--
SB6	652+08.29	43.4' RT	1	--	--	--	--
SB7	652+02.23	09.0' LT	--	1	--	--	--
SB8	651+13.86	09.1' LT	--	--	1	--	--
SB9	110+86.78	53.3' LT	--	--	1	--	--
SB10	652+28.88	43.5' LT	--	--	--	1	--
SB11	652+33.49	53.0' LT	1	--	--	--	--
SB12	109+19.49	09.0' RT	--	1	--	--	--
SB13	653+21.21	50.8' LT	--	--	--	1	--
SB14	653+26.62	44.1' LT	1	--	--	--	--
SB15	653+54.23	09.0' RT	--	1	--	--	--
SB16	654+66.32	09.1' RT	--	--	1	--	--
		TOTALS	4	4	4	4	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

REMOVING PULL BOXES

EXISTING PULL BOX NO.	653.0905* REMOVING PULL BOXES EACH
PB1	1
PB2	1
PB3	1
PB4	1
PB5	1
PB6	1
PB7	1
PB8	1
PB10	1
PB11	1
PB12	1
PB13	1
PB16	1
PB17	1
PB18	1
PB19	1
PB21	1
PB22	1
PB23	1
PB25	1
PB27	1
PB28	1
PB29	1
PB30	1
PB31	1
PB32	1
PB33	1
TOTAL	27

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

FILE NAME : N:\PDS\C3D\CAD\37002003\Design\Signals\030141_mq_sp.ppt PLOT DATE : 10/29/2015 9:12:26 AM PLOT BY : MSCAXW PLOT NAME : 030111_mq_sp<#> PLOT SCALE : 1:1

ABOVE GROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0230* CABLE TRAFFIC SIGNAL 5-14 AWG LF	655.0240* CABLE TRAFFIC SIGNAL 7-14 AWG LF
SB2	HEAD 2	52	--
SB2	HEAD 3	41	--
SB2	HEAD 27	14	--
SB3	HEAD 11	19	--
SB3	HEAD 19	--	22
SB3	HEAD 26	14	--
SB4	HEAD 20	--	22
SB5	HEAD 17	52	--
SB5	HEAD 18	41	--
SB5	HEAD 21	14	--
SB6	HEAD 1	19	--
SB6	HEAD 9	--	22
SB6	HEAD 28	14	--
SB7	HEAD 10	--	22
SB10	HEAD 7	52	--
SB10	HEAD 8	41	--
SB10	HEAD 23	14	--
SB11	HEAD 14	--	22
SB11	HEAD 16	19	--
SB11	HEAD 22	14	--
SB12	HEAD 15	--	22
SB13	HEAD 12	52	--
SB13	HEAD 13	42	--
SB13	HEAD 25	14	--
SB14	HEAD 4	--	22
SB14	HEAD 6	19	--
SB14	HEAD 24	14	--
SB15	HEAD 5	--	22
	TOTALS	561	176

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

UNDERGROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0260* CABLE TRAFFIC SIGNAL 12-14 AWG LF	655.0270* CABLE TRAFFIC SIGNAL 15-14 AWG LF
CB1	SB2	140	--
CB1	SB3	--	131
CB1	SB4	192	--
CB1	SB5	335	--
CB1	SB6	--	329
CB1	SB7	394	--
CB1	SB10	509	--
CB1	SB11	--	499
CB1	SB12	378	--
CB1	SB13	290	--
CB1	SB14	--	283
CB1	SB15	128	--
	TOTALS	2366	1242

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LIGHTING WIRE

FROM	TO	655.0320* CABLE TYPE UF 2-10 AWG GROUNDED LF	655.0615* ELECTRICAL WIRE LIGHTING 10 AWG LF
CB1	SB4	192	--
SB4	LUMIN	--	234
SB4	SB1	351	--
SB1	LUMIN	--	117
SB4	SB7	256	--
SB7	LUMIN	--	234
SB7	SB8	114	--
SB8	LUMIN	--	117
CB1	SB15	128	--
SB15	LUMIN	--	234
SB15	SB16	137	--
SB16	LUMIN	--	117
SB15	SB12	296	--
SB12	LUMIN	--	234
SB12	SB9	294	--
SB9	LUMIN	--	117
	TOTALS	1768	1404

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

STH 31 & STH 38

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

FROM	TO	655.0515* ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
CB1	SB2	140
SB2	SB3	91
SB3	SB4	143
SB4	SB5	197
SB5	SB6	46
SB6	SB7	221
SB7	SB10	278
SB10	SB11	44
SB11	SB12	229
SB12	SB13	264
SB13	SB14	59
SB14	SB15	201
SB15	CB1	128
PB1	CB1	34
PB2	SB3	49
PB3	SB4	35
PB4	SB6	86
PB5	SB6	28
PB6	SB7	48
PB7	SB7	114
PB8	SB11	90
PB9	SB11	25
PB10	SB12	62
PB11	SB12	127
PB12	SB14	89
PB13	SB14	34
PB14	SB15	31
PB15	CB1	34
	TOTAL	2927

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

3

ELECTRICAL SERVICE METER BREAKER PEDESTAL
STH 31 & STH 38

BASE NO.	656.0200.3001 ELECTRICAL SERVICE METER BREAKER PEDESTAL LS
CB1	1
TOTAL	1

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

CAST BASES, POLES, MONOTUBE ARMS, PUSH BUTTONS, AND LUMINAIRES

SIGNAL BASE NO.	657.0100* PEDESTAL BASES EACH	657.0255* TRANSFORMER BASE BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0310* POLES TYPE 3 EACH	657.0322 POLES TYPE 5-ALUMINUM EACH	657.0425* TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0609* LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT EACH	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	657.1345 INSTALL POLES TYPE 9 EACH	657.1525 INSTALL MONOTUBE ARMS 25-FT EACH	657.1530 INSTALL MONOTUBE ARMS 30-FT EACH	658.0500* PEDESTRIAN PUSH BUTTONS EACH	659.1125* LUMINAIRES UTILITY LED C EACH
SB1	--	1	--	1	--	--	1	--	--	--	--	1
SB2	--	--	--	--	--	--	--	1	--	1	1	--
SB3	1	--	--	--	1	--	--	--	--	--	1	--
SB4	--	1	1	--	--	2	--	--	--	--	--	2
SB5	--	--	--	--	--	--	--	1	1	--	1	--
SB6	1	--	--	--	1	--	--	--	--	--	1	--
SB7	--	1	1	--	--	2	--	--	--	--	--	2
SB8	--	1	--	1	--	--	1	--	--	--	--	1
SB9	--	1	--	1	--	--	1	--	--	--	--	1
SB10	--	--	--	--	--	--	--	1	1	--	1	--
SB11	1	--	--	--	1	--	--	--	--	--	1	--
SB12	--	1	1	--	--	2	--	--	--	--	--	2
SB13	--	--	--	--	--	--	--	1	1	--	1	--
SB14	1	--	--	--	1	--	--	--	--	--	1	--
SB15	--	1	1	--	--	2	--	--	--	--	--	2
SB16	--	1	--	1	--	--	1	--	--	--	--	1
TOTALS	4	8	4	4	4	8	4	4	3	1	8	12

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

TRAFFIC SIGNAL AND PEDESTRIAN FACES, AND BACKPLATES

SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0110* TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0115* TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL EACH	658.0215* BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.0220* BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	658.0416* PEDESTRIAN SIGNAL FACE 16-INCH EACH	658.0600* LED MODULES 12-INCH RED BALL EACH	658.0605* LED MODULES 12-INCH YELLOW BALL EACH	658.0610* LED MODULES 12-INCH GREEN BALL EACH	658.0615* LED MODULES 12-INCH RED ARROW EACH	658.0620* LED MODULES 12-INCH YELLOW ARROW EACH	658.0625* LED MODULES 12-INCH GREEN ARROW EACH	658.0635* LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH
1	SB6	1	--	1	--	--	1	1	1	--	--	--	--
2	SB2	1	--	1	--	--	1	1	1	--	--	--	--
3	SB2	1	--	1	--	--	1	1	1	--	--	--	--
4	SB14	--	1	--	1	--	--	--	--	1	2	1	--
5	SB15	--	1	--	1	--	--	--	--	1	2	1	--
6	SB14	1	--	1	--	--	1	1	1	--	--	--	--
7	SB10	1	--	1	--	--	1	1	1	--	--	--	--
8	SB10	1	--	1	--	--	1	1	1	--	--	--	--
9	SB6	--	1	--	1	--	--	--	--	1	2	1	--
10	SB7	--	1	--	1	--	--	--	--	1	2	1	--
11	SB3	1	--	1	--	--	1	1	1	--	--	--	--
12	SB13	1	--	1	--	--	1	1	1	--	--	--	--
13	SB13	1	--	1	--	--	1	1	1	--	--	--	--
14	SB11	--	1	--	1	--	--	--	--	1	2	1	--
15	SB12	--	1	--	1	--	--	--	--	1	2	1	--
16	SB11	1	--	1	--	--	1	1	1	--	--	--	--
17	SB5	1	--	1	--	--	1	1	1	--	--	--	--
18	SB5	1	--	1	--	--	1	1	1	--	--	--	--
19	SB3	--	1	--	1	--	--	--	--	1	2	1	--
20	SB4	--	1	--	1	--	--	--	--	1	2	1	--
21	SB5	--	--	--	--	1	--	--	--	--	--	--	1
22	SB11	--	--	--	--	1	--	--	--	--	--	--	1
23	SB10	--	--	--	--	1	--	--	--	--	--	--	1
24	SB14	--	--	--	--	1	--	--	--	--	--	--	1
25	SB13	--	--	--	--	1	--	--	--	--	--	--	1
26	SB3	--	--	--	--	1	--	--	--	--	--	--	1
27	SB2	--	--	--	--	1	--	--	--	--	--	--	1
28	SB6	--	--	--	--	1	--	--	--	--	--	--	1
TOTALS		12	8	12	8	8	12	12	12	8	16	8	8

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

SIGNAL MOUNTING HARDWARE
STH 31 & STH 38

LOCATION	658.5069.3001 SIGNAL MOUNTING HARDWARE LS
STH 31 & STH 38	1
TOTAL	1

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS
STH 31 & STH 38

LOCATION	661.0200.3001 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS LS	661.0300* GENERATORS DAY
STH 31 & STH 38	1	2
TOTALS	1	2

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

REMOVE TRAFFIC SIGNALS
STH 31 & STH 38

LOCATION	SPV.0105.3001 REMOVE TRAFFIC SIGNALS LS
STH 31 & STH 38	1
TOTAL	1

STH 31 & STH 38

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE
STH 31 & STH 38

LOCATION	SPV.0105.3011 REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE LS
STH 31 & STH 38	1
TOTAL	1

3

INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET
STH 31 & STH 38

LOCATION	SPV.0105.3021 INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET LS
STH 31 & STH 38	1
TOTAL	1

TRANSPORTING SIGNAL AND LIGHTING MATERIALS
STH 31 & STH 38

LOCATION	SPV.0105.3031 TRANSPORTING SIGNAL AND LIGHTING MATERIALS LS
STH 31 & STH 38	1
TOTAL	1

TRANSPORTING AND INSTALLING STATE FURNISHED RADAR DETECTION SYSTEM
STH 31 & STH 38

LOCATION	SPV.0105.3041 TRANSPORTING AND INSTALLING STATE FURNISHED RADAR DETECTION SYSTEM LS
STH 31 & STH 38	1
TOTAL	1

TEMPORARY VEHICLE DETECTION SYSTEM FOR INTERSECTIONS
STH 31 & STH 38

LOCATION	SPV.0105.3091 TEMPORARY VEHICLE DETECTION SYSTEM FOR INTERSECTIONS LS
STH 31 & STH 38	1
TOTAL	1

TYPE I & II PERMANENT SIGNING

CATEGORY CODE 0010

SIGN NO.	SIGN CODE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	**637.2210** SIGNS TYPE II REFLECTIVE H [SF]	**637.2215** SIGNS TYPE II REFLECTIVE H FOLDING [SF]	**637.2230** SIGNS TYPE II REFLECTIVE F [SF]	**634.0616** POSTS WOOD 4X6-INCH X 16-FT [EA]	**634.0618** POSTS WOOD 4X6-INCH X 18-FT [EA]	**638.2602** REMOVING SIGNS TYPE II [EA]	**638.3000** REMOVING SMALL SIGN SUPPORTS [EA]	**638.2102** MOVING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
200	J4-1(3)	--	36 x 54	13.50	--	--	--	1	1	1	--	--	--
	M3-4	--	36 x 18	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 165	36 x 36	--	--	--	--	--	--	--	--	--	--
201	J3-1(3)	--	36 x 84	21.00	--	--	--	2	1	1	--	--	--
	M3-4	--	36 x 18	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 165	36 x 36	--	--	--	--	--	--	--	--	--	--
	M6-1	--	30 x 30	--	--	--	--	--	--	--	--	--	--
202	J3-1(3)	--	36 x 84	21.00	--	--	--	2	1	1	--	--	--
	M3-2	--	36 x 18	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 165	36 x 36	--	--	--	--	--	--	--	--	--	--
	M6-1	--	30 x 30	--	--	--	--	--	--	--	--	--	--
203	R1-2(2M)	--	48 x 42	7.00	--	--	1	--	1	1	--	--	--
204	--	WI HERITAGE	-- x --	--	--	--	1	--	--	--	1	--	--
205	R1-1F	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
205A	R5-1(2M)	--	36 x 36	9.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
206	R1-1F(3)	--	36 x 36	--	7.46	--	--	--	1	--	--	--	ON SIGNAL POLE
206A	R6-3(2M)	--	30 x 24	5.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
207	R4-7(3)	--	36 x 48	12.00	--	--	--	--	1	--	--	--	ON SIGNAL POLE
208	R10-50(2M)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ABOVE SIGNALS
209	R6-2L(2M)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ON SIGNAL POLE
210	J3-1	ROUTE ASSEMBLY	-- x --	--	--	--	--	--	1	--	--	--	--
210A	R1-2(2M)	--	48 x 42	7.00	--	--	1	--	1	1	--	--	--
211	M1-94S	STH 165, 104TH ST	78 x 18	9.75	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
212	R1-1F(3)	--	36 x 36	--	7.46	--	--	--	1	--	--	--	ON SIGNAL POLE
213	R1-1F(3)	--	36 x 36	--	7.46	--	--	1	1	--	--	219	--
213A	R6-3(2M)	--	30 x 24	5.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
214	--	WI HERITAGE	-- x --	--	--	--	1	--	--	--	1	--	--
215	J3-1(3)	--	36 x 84	21.00	--	--	--	2	--	--	--	--	--
	M3-1	--	36 x 18	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 31	36 x 36	--	--	--	--	--	--	--	--	--	--
	M6-1	--	30 x 30	--	--	--	--	--	--	--	--	--	--
216	J3-1(3)	--	36 x 84	21.00	--	--	--	2	1	1	--	--	--
	M3-3	--	36 x 18	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 31	36 x 36	--	--	--	--	--	--	--	--	--	--
	M6-1	--	30 x 30	--	--	--	--	--	--	--	--	--	--
217	R6-2L(2M)	--	30 x 36	7.50	--	--	--	--	1	--	--	--	ON SIGNAL POLE
218	R4-7(3)	--	36 x 48	12.00	--	--	--	--	1	--	--	--	ON SIGNAL POLE
219	R4-7(3)	--	36 x 48	12.00	--	--	--	--	1	--	--	213	--
220	R5-1(2M)	--	36 x 36	9.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
221	M1-94S	STH 31, GREENBAY RD	102 x 18	12.75	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
222	M1-94S	STH 31, GREENBAY RD	102 x 18	12.75	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
223	J3-1(3)	--	36 x 84	21.00	--	--	--	2	--	--	--	--	--
	M3-1	--	36 x 18	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 31	36 x 36	--	--	--	--	--	--	--	--	--	--
	M6-1	--	30 x 30	--	--	--	--	--	--	--	--	--	--
224	R5-1A(3)	--	42 x 30	8.75	--	--	1	--	--	--	--	--	--
225	J3-1(3)	--	36 x 84	21.00	--	--	--	2	1	1	--	--	--
	M3-3	--	36 x 18	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 31	36 x 36	--	--	--	--	--	--	--	--	--	--
	M6-1	--	30 x 30	--	--	--	--	--	--	--	--	--	--

TYPE I & II PERMANENT SIGNING

CATEGORY CODE 0010

SIGN NO.	SIGN CODE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	637.2230 SIGNS TYPE II REFLECTIVE F [SF]	634.0616 POSTS WOOD 4X6-INCH X 16-FT [EA]	634.0618 POSTS WOOD 4X6-INCH X 18-FT [EA]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	638.2102 MOVING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
226	R1-1F(3)	--	36 x 36	--	7.46	--	--	1	1	--	--	230	--
226A	R6-3(2M)	--	30 x 24	5.00	--	--	--	--	--	--	--	226	--
227	R5-1A	--	-- x --	--	--	--	--	--	1	--	--	--	--
228	J3-1	ROUTE ASSEMBLY	-- x --	--	--	--	--	--	1	--	--	--	--
229	R10-50(2M)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
230	R4-7(3)	--	36 x 48	12.00	--	--	--	--	1	--	--	226	--
231	M1-94S	STH 165, 104TH ST	78 x 18	9.75	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
232	R1-1F(3)	--	36 x 36	--	7.46	--	--	--	1	--	--	--	ON SIGNAL POLE
233	R1-2(2M)	--	48 x 42	7.00	--	--	1	--	1	1	--	--	--
234	R5-1(2M)	--	36 x 36	9.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
235	R6-2L(2M)	--	30 x 36	7.50	--	--	1	--	1	--	--	--	--
236	R10-50(2M)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ABOVE SIGNALS
237	R1-1F(3)	--	36 x 36	--	7.46	--	--	--	1	--	--	--	ON SIGNAL POLE
238	R1-1F(3)	--	36 x 36	--	7.46	--	--	--	1	--	--	--	ON SIGNAL POLE
238A	R6-3(2M)	--	30 x 24	5.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
239	R6-2L(2M)	--	30 x 36	7.50	--	--	--	--	1	--	--	--	ON SIGNAL POLE
240	R5-1(2M)	--	36 x 36	9.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
241	R1-2(2M)	--	48 x 42	7.00	--	--	1	--	1	1	--	--	--
242	W9-2L(3)	--	36 x 36	--	--	9.00	--	1	1	1	--	243	--
243	R5-1A(3)	--	42 x 30	8.75	--	--	--	--	1	--	--	242	--
244	J3-2(2S)	--	48 x 57	19.00	--	--	--	2	1	2	--	--	--
	MB4-5	--	24 x 12	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	--	--	--
	MB6-1	--	21 x 21	--	--	--	--	--	--	--	--	--	--
	M3-4	--	24 x 12	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 165	24 x 24	--	--	--	--	--	--	--	--	--	--
	M6-1	--	21 x 21	--	--	--	--	--	--	--	--	--	--
245	J4-1(2S)	--	24 x 36	6.00	--	--	--	1	--	--	--	--	--
	M3-2	--	24 x 12	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 165	24 x 24	--	--	--	--	--	--	--	--	--	--
246	J4-1(2S)	--	24 x 36	6.00	--	--	--	1	--	--	--	--	--
	M3-4	--	24 x 12	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 158	24 x 24	--	--	--	--	--	--	--	--	--	--
247	J13-1(2S)	--	24 x 45	7.50	--	--	1	--	--	--	--	--	--
	M1-6	STH 158	24 x 24	--	--	--	--	--	--	--	--	--	--
	M6-4	--	21 x 21	--	--	--	--	--	--	--	--	--	--
248	J1-1(2S)	--	24 x 39	6.50	--	--	1	--	--	--	--	--	--
	M2-1	--	21 x 15	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 158	24 x 24	--	--	--	--	--	--	--	--	--	--
249	R1-1F(3)	--	36 x 36	--	7.46	--	--	--	1	--	--	--	ON SIGNAL POLE
250	R10-50(2S)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
251	R1-1F(3)	--	36 x 36	--	7.46	--	--	--	1	--	--	--	ON SIGNAL POLE
252	R3-7R(3)	--	36 x 36	9.00	--	--	1	--	1	1	--	--	--
253	M1-94H	68TH AVE	54 x 18	6.75	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
254	M1-94S	STH 158, 52ND ST	72 x 18	9.00	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
255	R10-50(2S)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
256	R10-50(2S)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
257	M1-94S	STH 158, 52ND ST	72 x 18	9.00	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
258	M1-94H	68TH AVE	54 x 18	6.75	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
259	R3-8W(2S)	--	54 x 30	11.25	--	--	2	--	1	2	--	--	--

TYPE I & II PERMANENT SIGNING

CATEGORY CODE 0010

SIGN NO.	SIGN CODE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	637.2230 SIGNS TYPE II REFLECTIVE F [SF]	634.0616 POSTS WOOD 4X6-INCH X 16-FT [EA]	634.0618 POSTS WOOD 4X6-INCH X 18-FT [EA]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	638.2102 MOVING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
260	R1-1F(3)	--	36 x 36	--	7.46	--	--	--	1	--	--	--	ON SIGNAL POLE
261	R1-1F(3)	--	36 x 36	--	7.46	--	--	--	1	--	--	--	ON SIGNAL POLE
262	J13-1(2S)	--	24 x 45	7.50	--	--	1	--	--	--	--	--	--
	M1-6	STH 158	24 x 24	--	--	--	--	--	--	--	--	--	--
	M6-4	--	21 x 21	--	--	--	--	--	--	--	--	--	--
263	J1-1(2S)	--	24 x 39	6.50	--	--	1	--	--	--	--	--	--
	M2-1	--	21 x 15	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 158	24 x 24	--	--	--	--	--	--	--	--	--	--
264	J4-1(2S)	--	24 x 36	6.00	--	--	--	1	--	--	--	--	--
	M3-2	--	24 x 12	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 158	24 x 24	--	--	--	--	--	--	--	--	--	--
265	J4-1(2S)	--	24 x 36	6.00	--	--	--	1	1	1	--	--	--
	M3-4	--	24 x 12	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 167	24 x 24	--	--	--	--	--	--	--	--	--	--
266	J3-1(2S)	--	24 x 57	9.50	--	--	--	1	1	1	--	--	--
	M3-4	--	24 x 12	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 167	24 x 24	--	--	--	--	--	--	--	--	--	--
	M6-1	--	21 x 21	--	--	--	--	--	--	--	--	--	--
267	R6-2L	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
268	R1-1F	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
269	R5-1	--	-- x --	--	--	--	--	--	1	--	--	--	--
270	M1-94S	STH 167, MEQUON RD	90 x 18	11.25	--	--	--	--	1	--	--	--	ON SIGNAL MAST ARM
271	R6-2L	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
272	R1-1F	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
273	R5-1	--	-- x --	--	--	--	--	--	1	1	--	--	--
274	M1-94S	STH 181, WAUWATOSA RD	100 x 18	12.50	--	--	--	--	1	--	--	--	ON SIGNAL MAST ARM
275	R1-1F	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
275A	R6-3(2M)	--	30 x 24	5.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
276	R5-1(2M)	--	36 x 36	9.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
277	R4-7	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
278	R1-1F	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
278A	R6-3(2M)	--	30 x 24	5.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
279	R5-1(2M)	--	36 x 36	9.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
280	R4-7	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
281	R4-7	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
281A	R10-50(2S)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ABOVE SIGNALS
282	J3-1	ROUTE ASSEMBLY	-- x --	--	--	--	--	--	--	--	1	--	ABOVE SIGNALS
283	J3-1(2S)	--	24 x 57	9.50	--	--	--	1	1	1	--	--	--
	M3-3	--	24 x 12	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 181	24 x 24	--	--	--	--	--	--	--	--	--	--
	M6-1	--	21 x 21	--	--	--	--	--	--	--	--	--	--
284	R1-1F	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
285	J4-1(2S)	--	24 x 36	6.00	--	--	--	1	1	1	--	--	--
	M3-3	--	24 x 12	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 181	24 x 24	--	--	--	--	--	--	--	--	--	--
286	R4-7	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
287	R5-1	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
288	J3-1	ROUTE ASSEMBLY	-- x --	--	--	--	--	--	--	--	1	--	ABOVE SIGNALS
289	M1-94S	STH 167, MEQUON RD	90 x 18	11.25	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
290	R1-1F	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE

TYPE I & II PERMANENT SIGNING

CATEGORY CODE 0010

SIGN NO.	SIGN CODE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	637.2230 SIGNS TYPE II REFLECTIVE F [SF]	634.0616 POSTS WOOD 4X6-INCH X 16-FT [EA]	634.0618 POSTS WOOD 4X6-INCH X 18-FT [EA]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	638.2102 MOVING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
290A	R6-3(2M)	--	30 x 24	5.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
291	J3-1	ROUTE ASSEMBLY	-- x --	--	--	--	--	--	--	--	1	--	ABOVE SIGNALS
292	R1-1F	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
293	NOT USED	--	-- x --	--	--	--	--	--	--	--	--	--	--
294	R6-2L	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
295	R5-1(2M)	--	36 x 36	9.00	--	--	1	--	1	1	--	--	--
296	J3-1(2S)	--	24 x 57	9.50	--	--	--	1	1	--	--	--	--
	M3-2	--	24 x 12	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 167	24 x 24	--	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
	M6-1	--	21 x 21	--	--	--	--	--	--	--	--	--	--
297	R1-1F	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
297A	R6-3(2M)	--	30 x 24	5.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
298	M1-94S	STH 181, WAUWATOSA RD	100 x 18	12.50	--	--	--	--	1	--	--	--	ON SIGNAL MAST ARM
299	R10-50(2S)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ABOVE SIGNALS
300	R10-50(2S)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ABOVE SIGNALS
301-314	NOT USED	--	-- x --	--	--	--	--	--	--	--	--	--	--
315	J3-2(2S)	--	-- x --	--	--	--	--	--	--	--	--	--	--
	M3-1	--	24 x 12	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 38	24 x 24	--	--	--	--	--	--	--	--	--	--
	M6-1	--	21 x 21	--	--	--	--	--	--	--	--	--	--
	MB4-1	--	24 x 12	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	--	--	--
	MB6-1	--	21 x 21	--	--	--	--	--	--	--	--	--	--
316	J3-1	--	-- x --	--	--	--	--	--	1	--	--	--	--
317	R1-2(2M)	--	48 x 42	7.00	--	--	1	--	1	1	--	--	--
318	W12-1D(2M)	--	24 x 24	--	--	4.00	1	--	1	1	--	--	2' MOUNTING HEIGHT
319	R5-1	--	-- x --	--	--	--	--	--	1	1	--	--	--
320	R10-50(2M)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ABOVE SIGNALS
321	M1-94S	STH 38, NORTHWESTERN AVE	102 x 30	21.25	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
322	R5-1(2M)	--	36 x 36	9.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
323	R1-1F	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
324	J4-1(3)	--	36 x 54	13.50	--	--	--	--	--	1	--	--	ON UTILITY POLE
	M3-1	--	36 x 18	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 38	36 x 36	--	--	--	--	--	--	--	--	--	--
325	R10-50(2M)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ABOVE SIGNALS
326	R6-2L(2M)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ON SIGNAL POLE
327	R1-1F	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
328	R1-2(2M)	--	48 x 42	7.00	--	--	1	--	1	1	--	--	--
329	M1-94S	STH 31, OLE DAVIDSON RD	84 x 33	19.25	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
330	W12-1D(2M)	--	24 x 24	--	--	4.00	1	--	1	1	--	--	2' MOUNTING HEIGHT
331	R10-50(2M)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ABOVE SIGNALS
332	--	WI HERITAGE	-- x --	--	--	--	--	--	--	--	1	--	ON LIGHT POLE
333	R3-20L(3)	--	36 x 54	13.50	--	--	--	1	--	--	--	--	--
334	J3-2(3)	--	72 x 84	42.00	--	--	--	2	1	2	--	--	--
	M3-1	--	36 x 18	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 31	36 x 36	--	--	--	--	--	--	--	--	--	--
	M6-1	--	30 x 30	--	--	--	--	--	--	--	--	--	--
	M3-3	--	36 x 18	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 38	36 x 36	--	--	--	--	--	--	--	--	--	--
	M6-1	--	30 x 30	--	--	--	--	--	--	--	--	--	--

TYPE I & II PERMANENT SIGNING

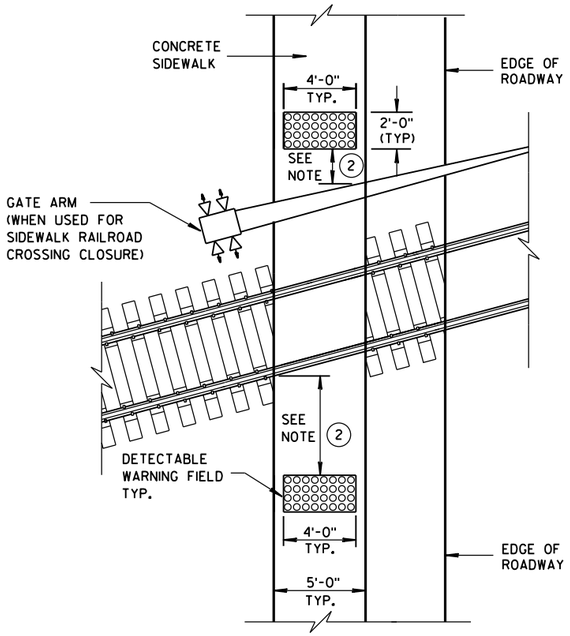
CATEGORY CODE 0010

SIGN NO.	SIGN CODE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	637.2230 SIGNS TYPE II REFLECTIVE F [SF]	634.0616 POSTS WOOD 4X6-INCH X 16-FT [EA]	634.0618 POSTS WOOD 4X6-INCH X 18-FT [EA]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	638.2102 MOVING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
335	R3-55L	--	-- x --	--	--	--	--	--	1	--	--	--	--
336	J3-1	--	-- x --	--	--	--	--	--	1	1	--	--	--
337	W12-1D(2M)	--	24 x 24	--	--	4.00	1	--	1	1	--	--	2' MOUNTING HEIGHT
338	R1-2(2M)	--	48 x 42	7.00	--	--	1	--	1	1	--	--	--
339	R1-1F(3)	--	36 x 36	--	--	7.46	--	--	1	--	--	--	ON SIGNAL POLE
340	M1-94S	STH 31, OLE DAVIDSON RD	84 x 33	19.25	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
341	R1-1F	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
341A	R6-3(2M)	--	30 x 24	5.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
342	R6-2L(2M)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ON SIGNAL POLE
343	R4-7	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
344	R4-7	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
345	R4-7(2M)	--	24 x 30	5.00	--	--	--	1	1	--	--	358	--
346	M1-94S	STH 38, NORTHWESTERN AVE	102 x 30	21.25	--	--	--	--	--	--	--	--	ON SIGNAL MAST ARM
347	R10-50(2M)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ABOVE SIGNALS
348	R1-1F	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
348A	R6-3(2M)	--	30 x 24	5.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
349	R5-1(2M)	--	36 x 36	9.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
350	R1-1F(3)	--	36 x 36	--	--	7.46	--	--	1	--	--	--	ON SIGNAL POLE
351	R1-1F	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
351A	R6-3(2M)	--	30 x 24	5.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
352	R6-2L(2M)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ON SIGNAL POLE
353	R4-7	--	-- x --	--	--	--	--	--	--	--	1	--	ON SIGNAL POLE
354	W12-1D(2M)	--	24 x 24	--	--	4.00	1	--	1	1	--	--	2' MOUNTING HEIGHT
355	R6-2L(2M)	--	30 x 36	7.50	--	--	--	--	--	--	--	--	ON SIGNAL POLE
356	R1-2(2M)	--	48 x 42	7.00	--	--	1	--	1	1	--	--	--
357	J3-1	--	-- x --	--	--	--	--	--	1	--	--	--	--
358	R1-1F(3)	--	30 x 30	--	--	7.46	--	--	1	--	--	--	ON SIGNAL POLE
358A	R6-3(2M)	--	30 x 24	5.00	--	--	--	--	--	--	--	--	ON SIGNAL POLE
359	J2-1(3)	--	36 x 84	21.00	--	--	--	--	1	--	--	--	ON LIGHT POLE
	M3-3	--	36 x 18	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 31	36 x 36	--	--	--	--	--	--	--	--	--	--
	M5-1R	--	30 x 30	--	--	--	--	--	--	--	--	--	--
360	R5-1(3)	--	36 x 36	9.00	--	--	1	--	1	1	--	--	--
361	J3-1(3)	--	36 x 84	21.00	--	--	--	--	--	--	--	--	ON LIGHT POLE
	M3-1	--	36 x 18	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 31	36 x 36	--	--	--	--	--	--	--	--	--	--
	M6-1	--	36 x 36	--	--	--	--	--	--	--	--	--	--
362	J3-1(2S)	--	24 x 57	9.50	--	--	--	1	--	--	--	--	--
	M3-3	--	24 x 12	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 31	24 x 24	--	--	--	--	--	--	--	--	--	--
	M6-1	--	21 x 21	--	--	--	--	--	--	--	--	--	--
363	J3-1	--	-- x --	--	--	--	--	--	1	--	--	--	--
364	--	WI HERITAGE	-- x --	--	--	--	--	--	--	--	1	--	ON LIGHT POLE
	TOTALS			1024.75	82.06	47.38	25	31	67	35	32	--	--

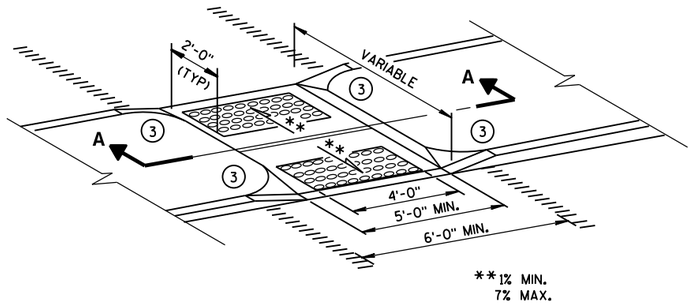
Standard Detail Drawing List

08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-08	CONDUIT
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C11-06	CONCRETE BASE TYPE 10
09C12-06A	CONCRETE BASE TYPE 13
09C12-06B	CONCRETE BASE TYPE 13
09C13-02	CONCRETE BASE TYPE 10 & TYPE 13 EXTENSION
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-03	SIGNAL CONTROL CABINET
09E01-14B	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3 (HEAVY DUTY)
09E01-14C	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 4
09E01-14D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-14G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E07-05	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09E08-06A	TYPE 9 POLE 15'-30' MONOTUBE ARM
09E08-06B	TYPE 10 POLE 15'-30' MONOTUBE ARM
09E08-06C	TYPE 12 POLE 35'-55' MONOTUBE ARM
09E08-06D	TYPE 13 POLE 35'-55' MONOTBE ARM
09E08-06E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09F15-04A	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
09F15-04B	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
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D20-03	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-03	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE

6



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

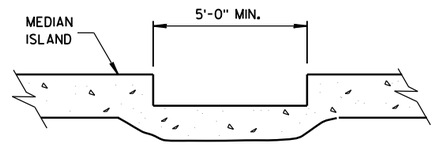
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

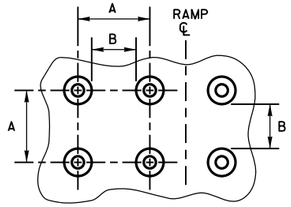
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET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



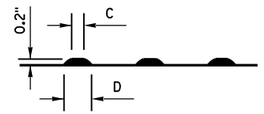
SECTION A-A



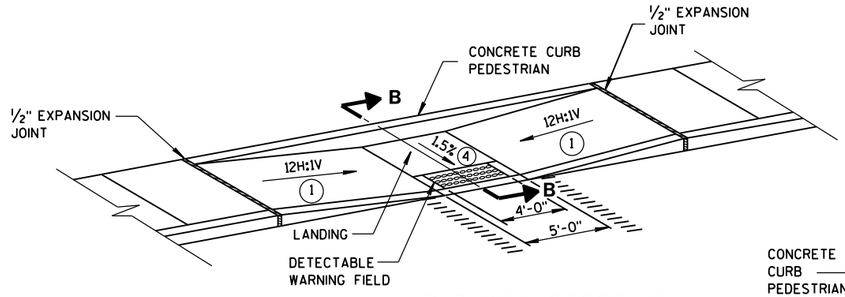
PLAN VIEW

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

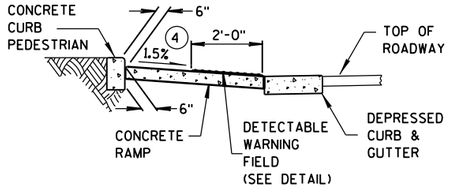
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

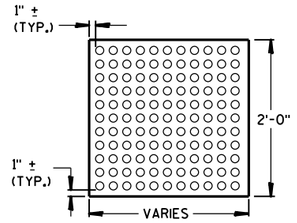


MID-BLOCK CROSSING
TYPE 7A



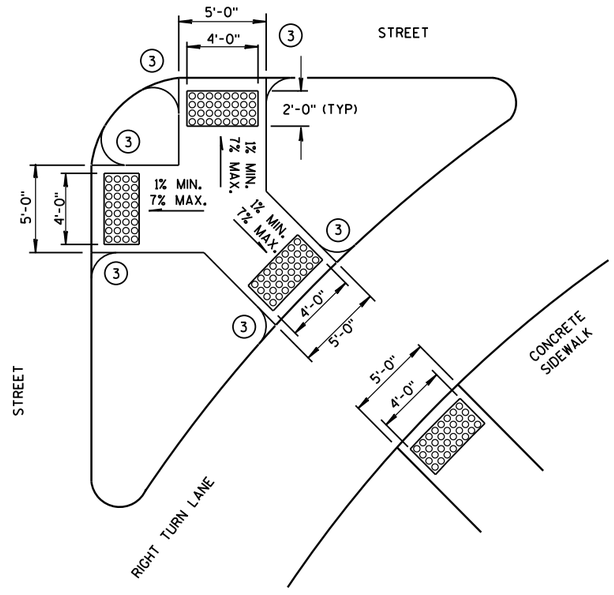
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

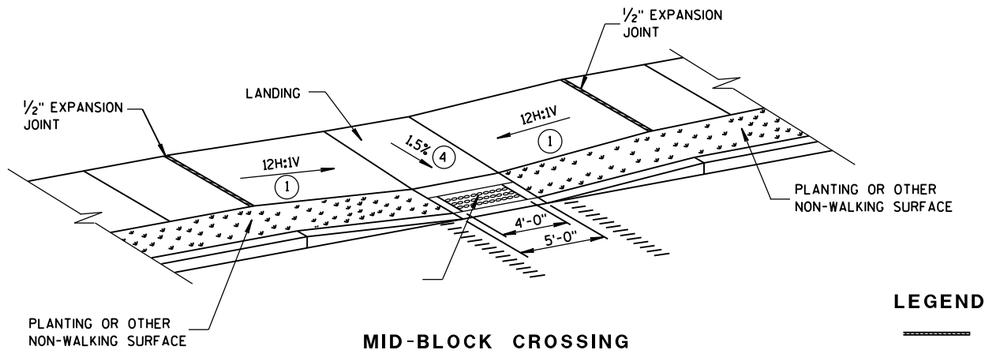


PLAN VIEW

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

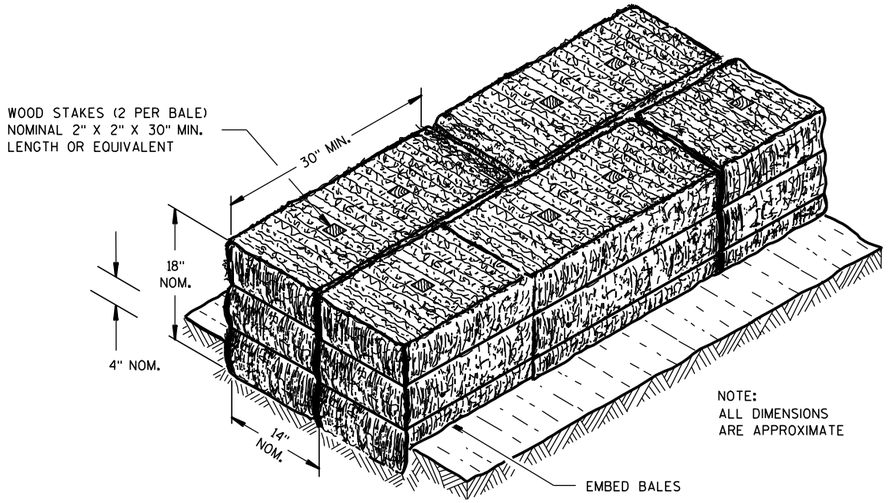
APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

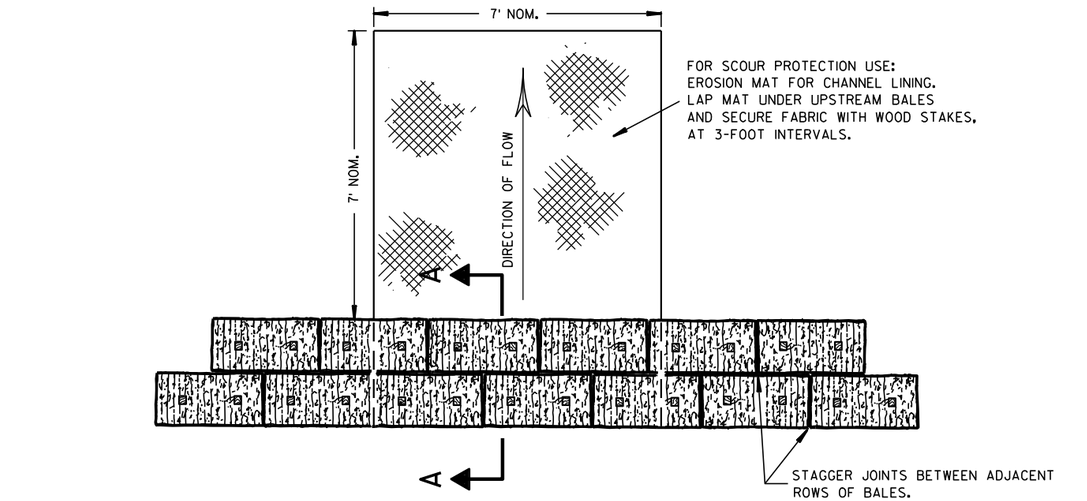
S.D.D. 8 D 5-15e

6

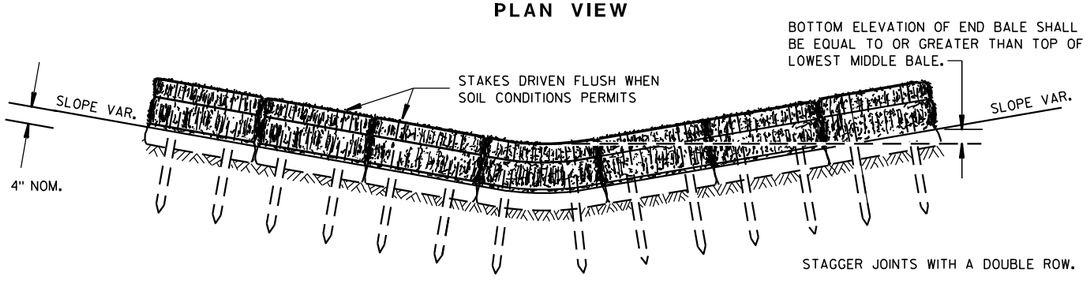
S.D.D. 8 D 5-15e



SECTION A-A



PLAN VIEW



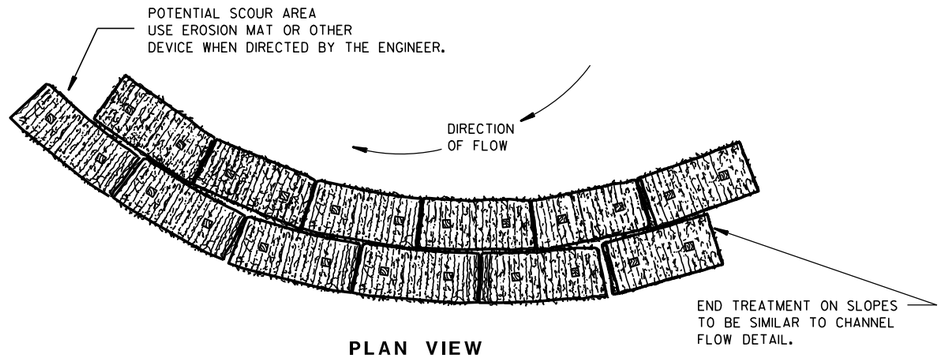
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

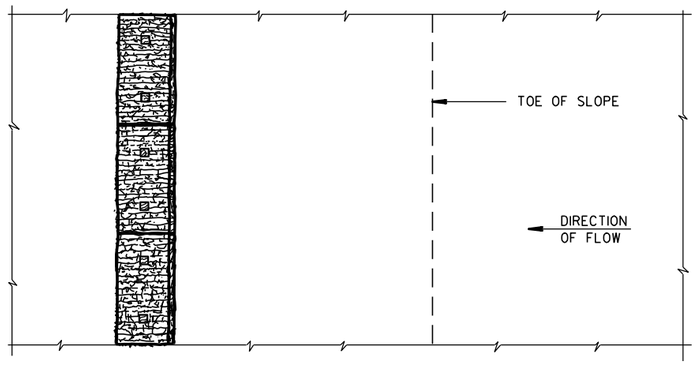
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

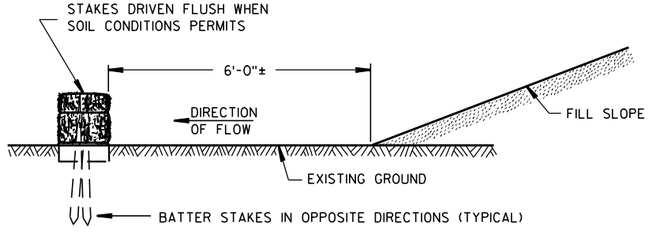


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

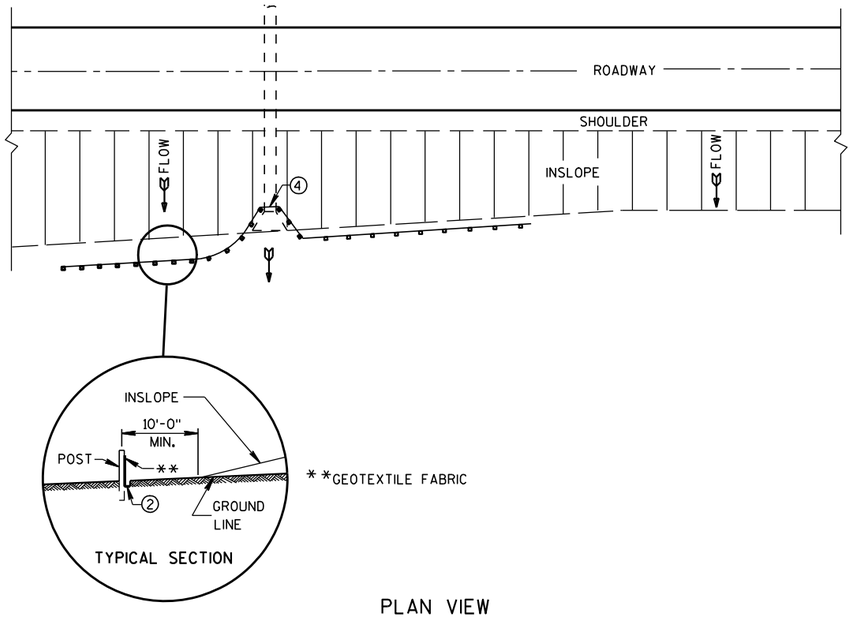
APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

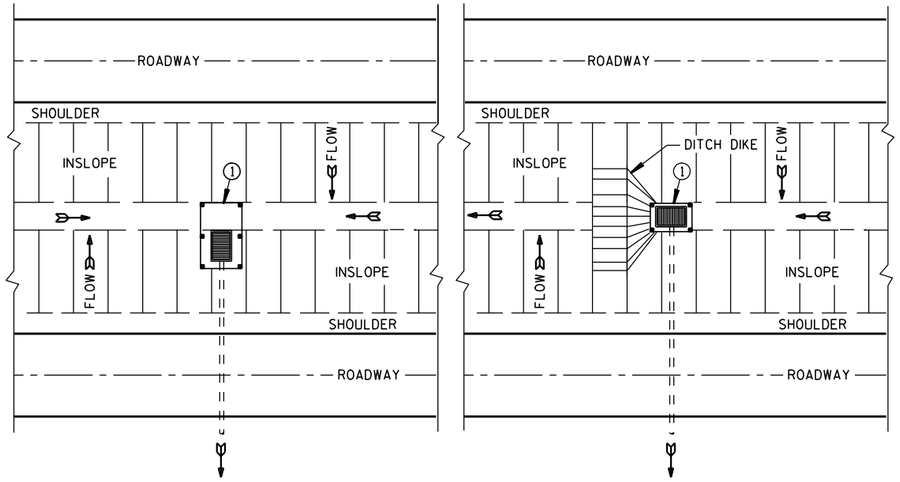
6

S.D.D. 8 E 8-3



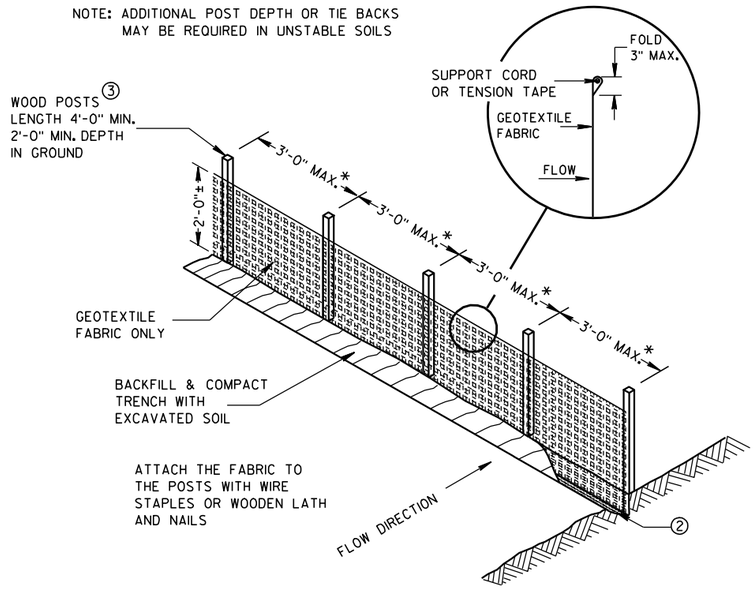
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE

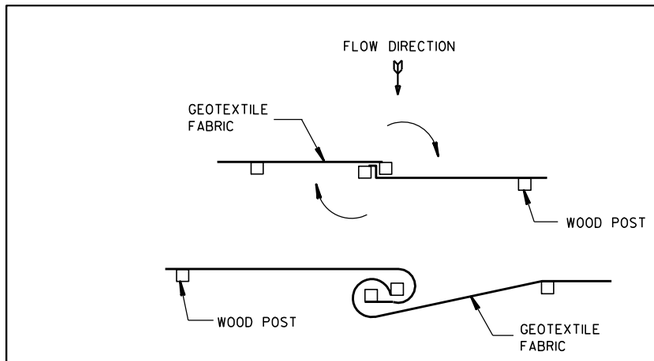


PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



SILT FENCE

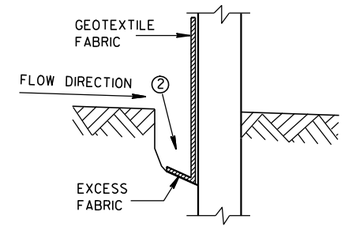


JOINING TWO LENGTHS OF SILT FENCE 5

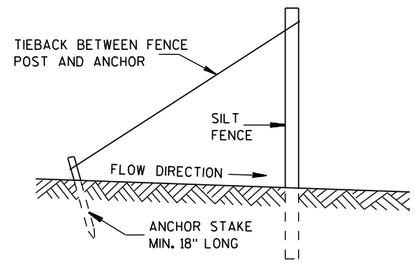
GENERAL NOTES

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 TIE BACK

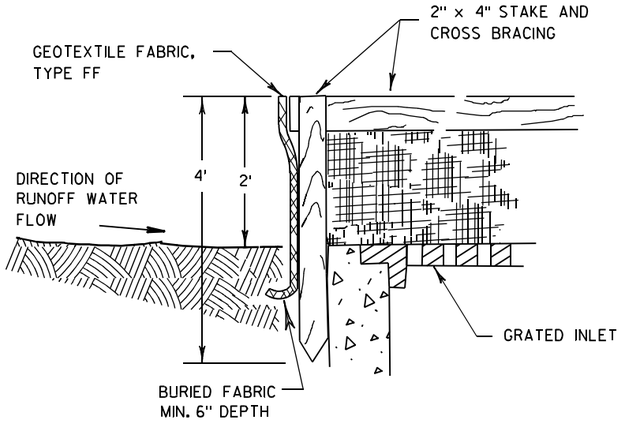
(WHEN REQUIRED BY THE ENGINEER)

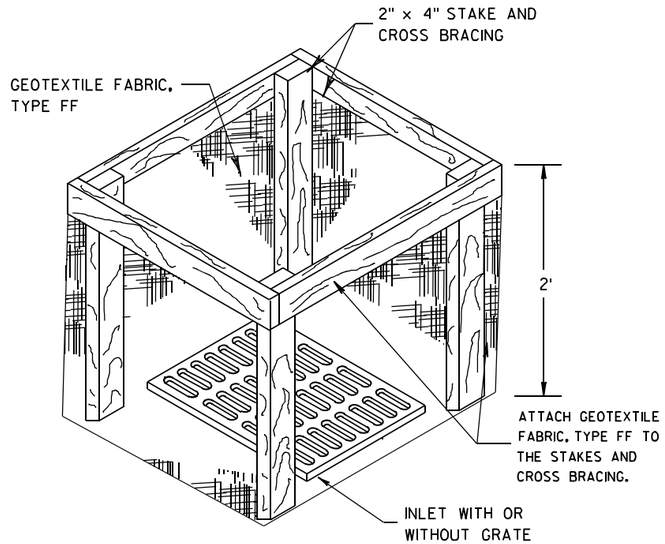
SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

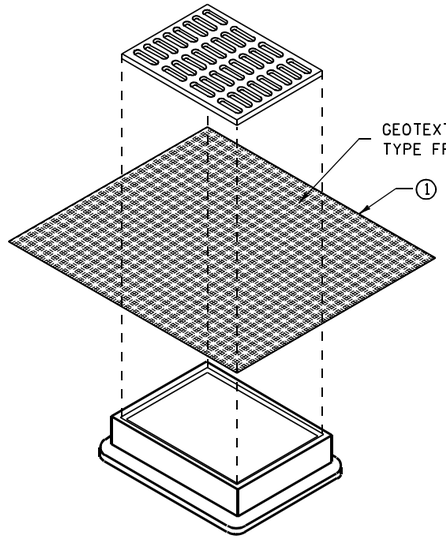
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 9-6



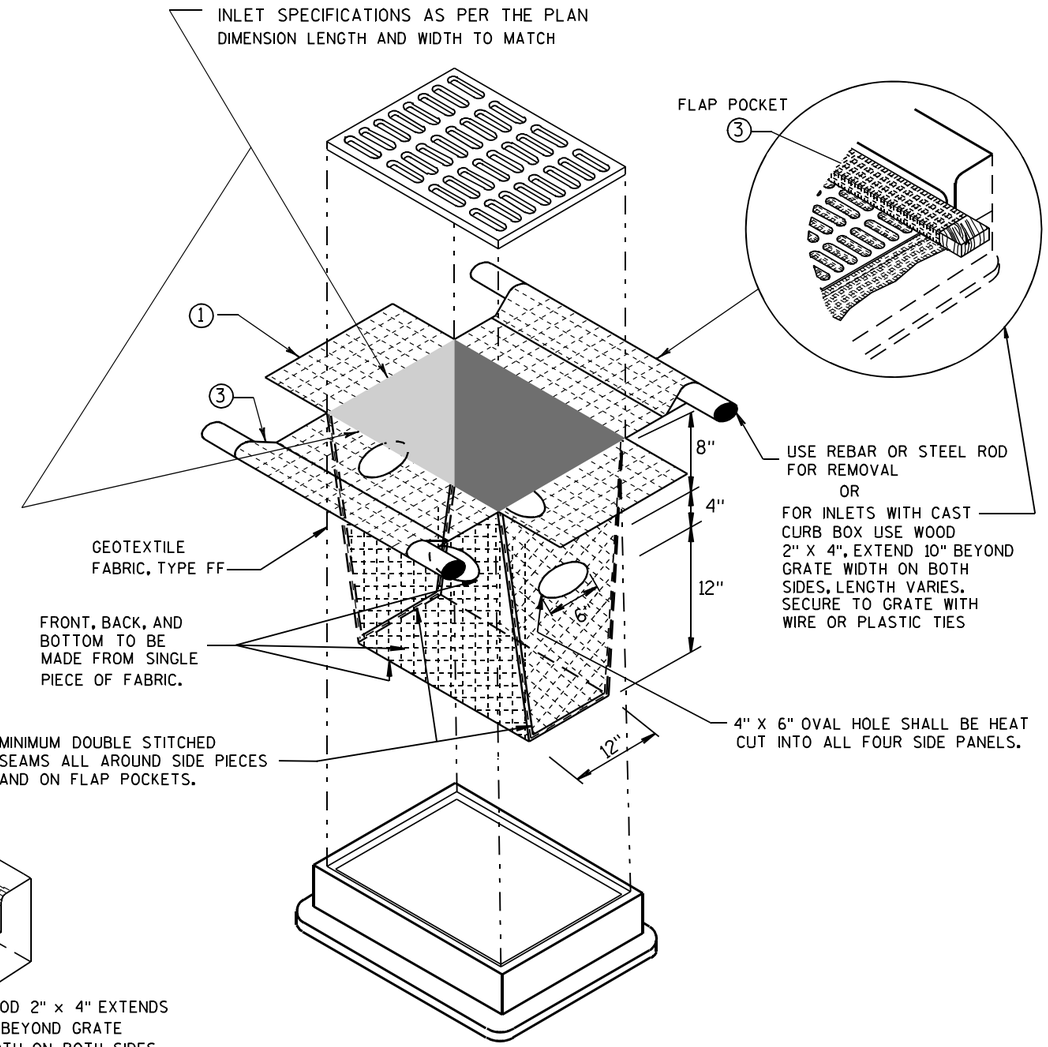


INLET PROTECTION, TYPE A



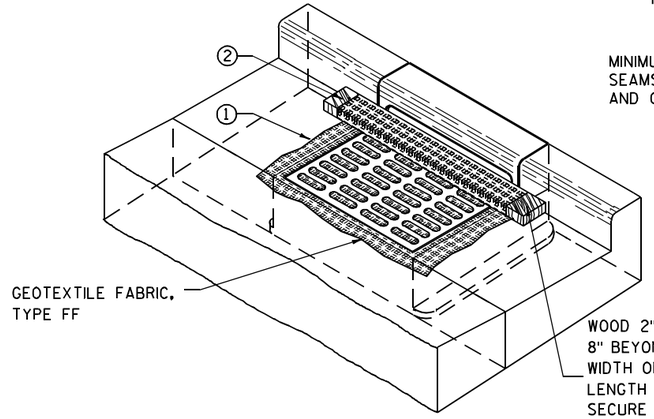
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

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S.D.D. 8 E 10-2

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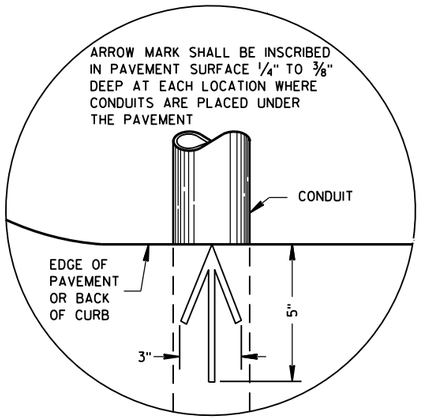
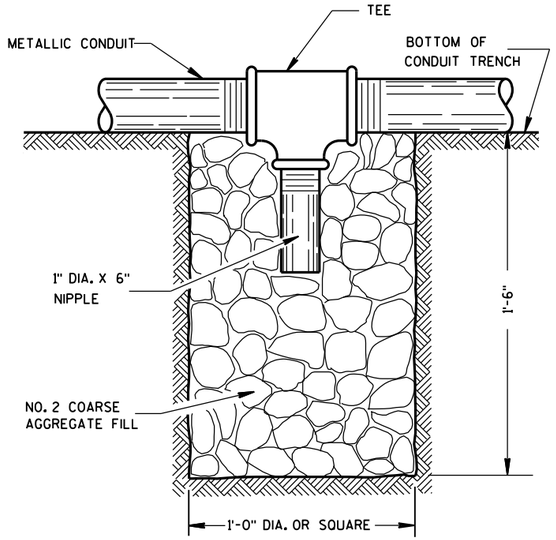
S.D.D. 8 E 10-2



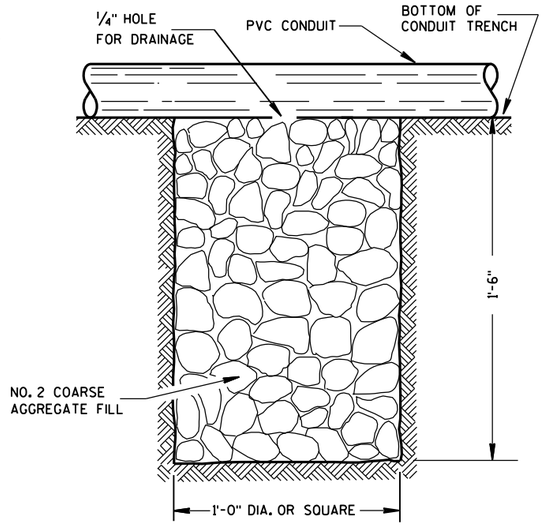
PLAN VIEW

ARROW MARK



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

DRAIN SUMP FOR METALLIC CONDUIT



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

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

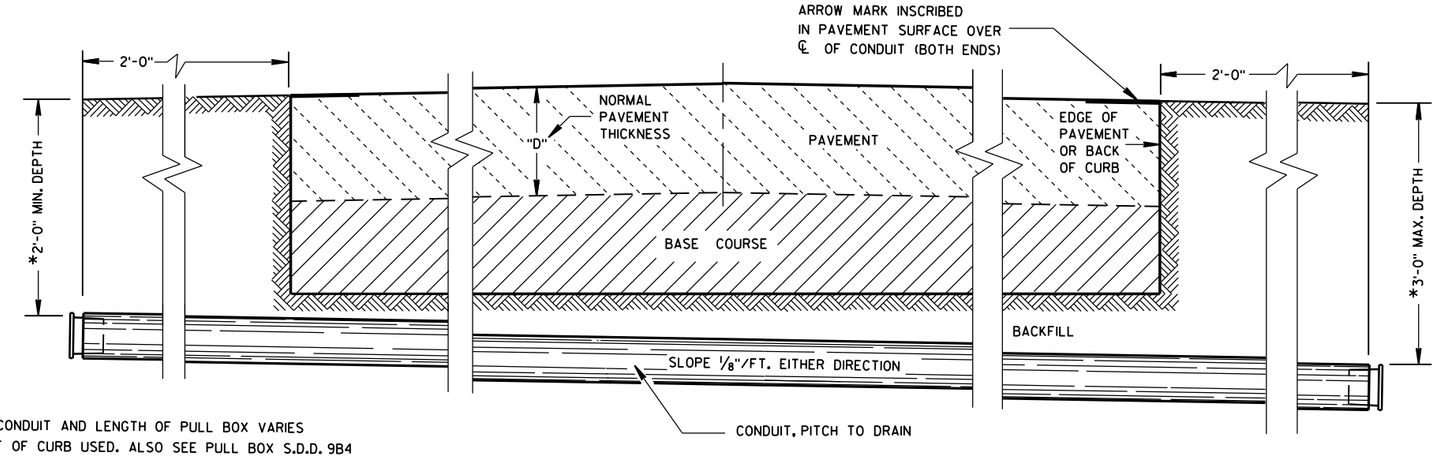
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

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

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



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

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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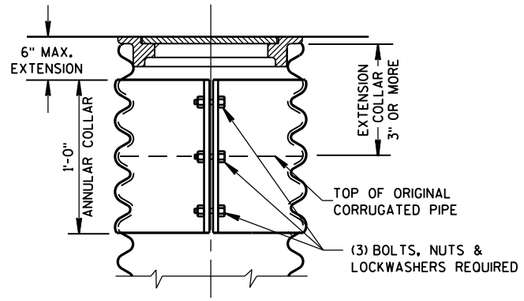
S.D.D. 9 B 2-8

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

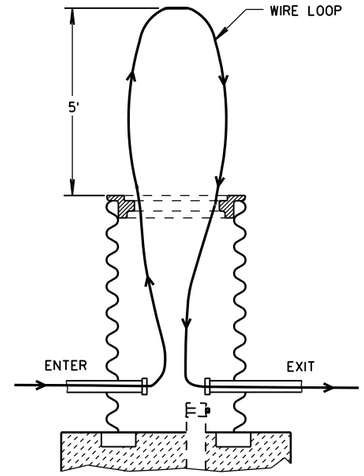
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2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

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

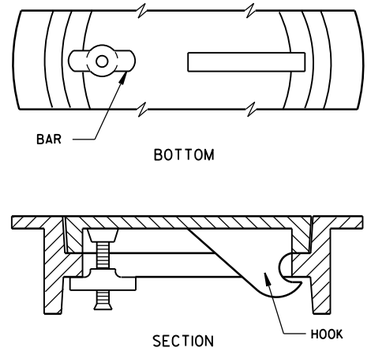
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

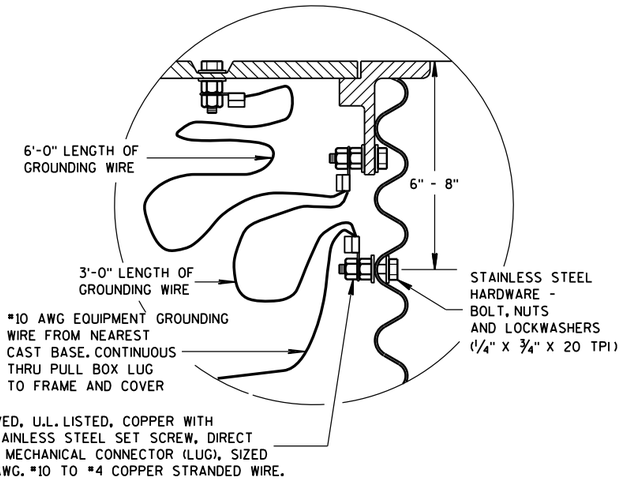


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

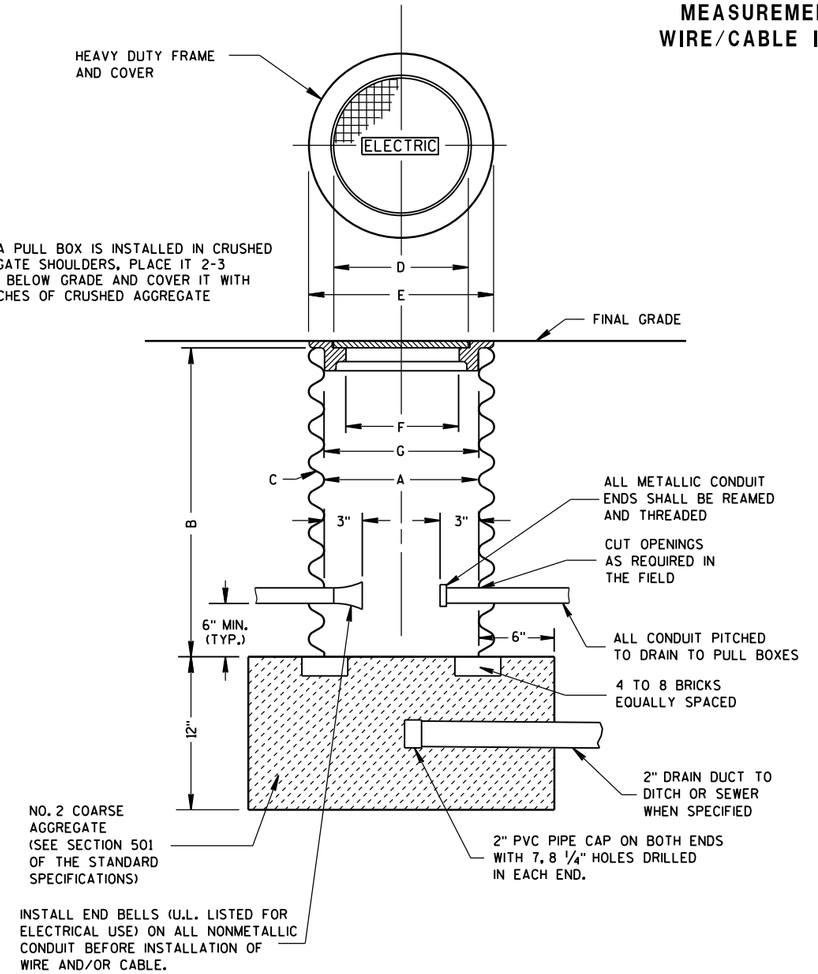
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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

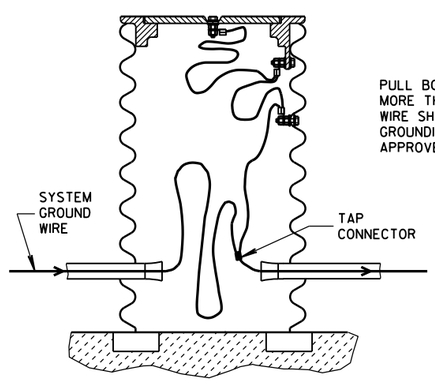
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

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

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



PULL BOX



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

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

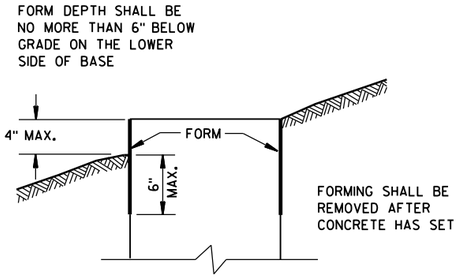
PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 9 B 4-11



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

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

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

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

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

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

GENERAL NOTES (CONTINUED)

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

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

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

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

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

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

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

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

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

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

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

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

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

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

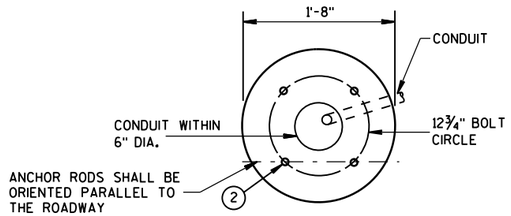
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

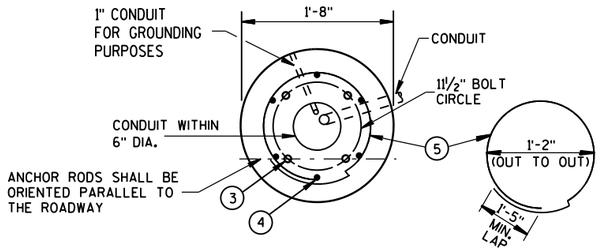
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

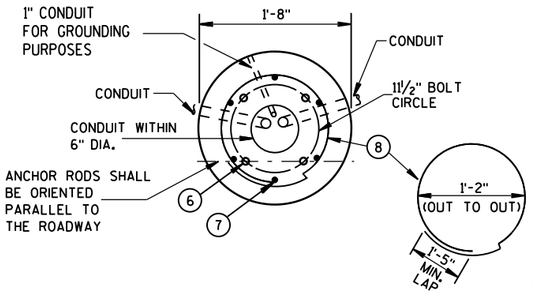
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

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

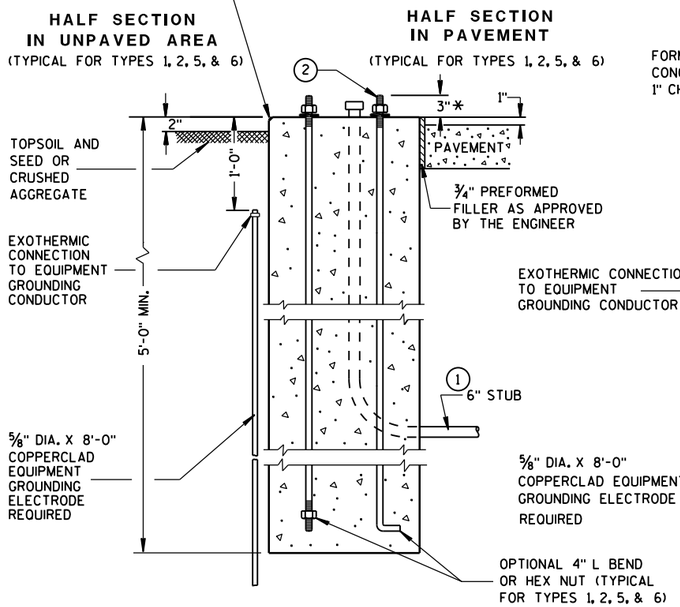
(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



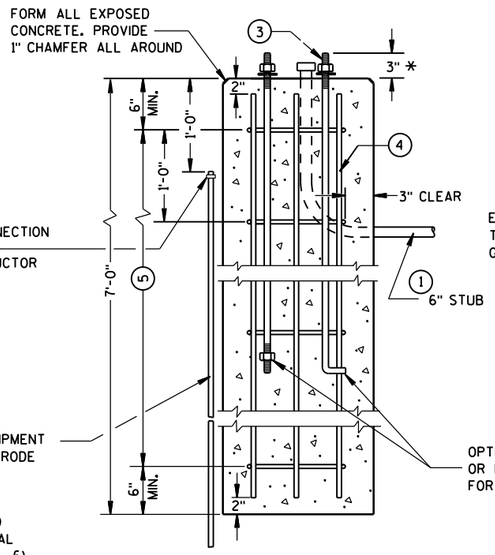




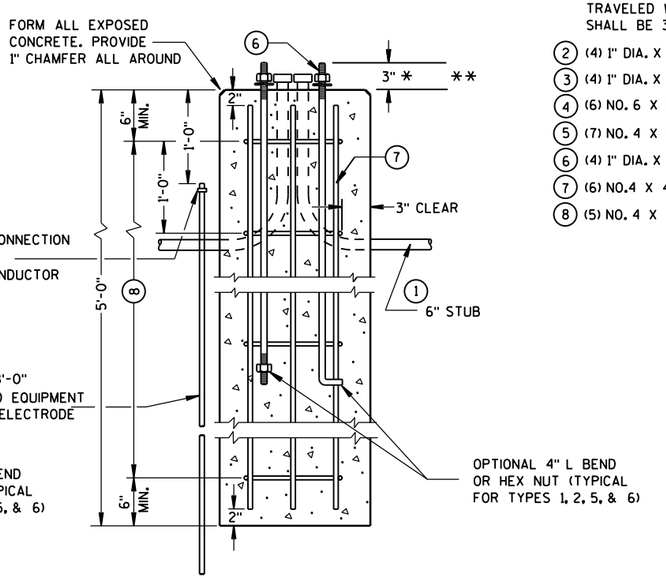
HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2, 5, & 6)



HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5, & 6)



TYPE 2



TYPE 5 & 6

CONCRETE BASES

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

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

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

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

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

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

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

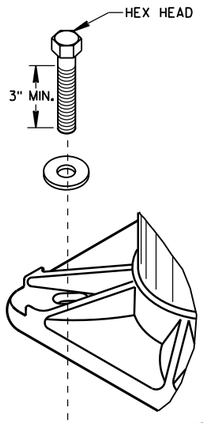
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

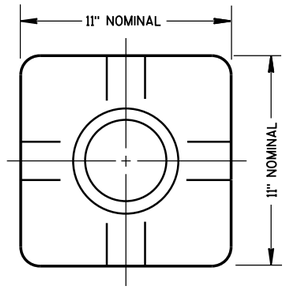
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

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

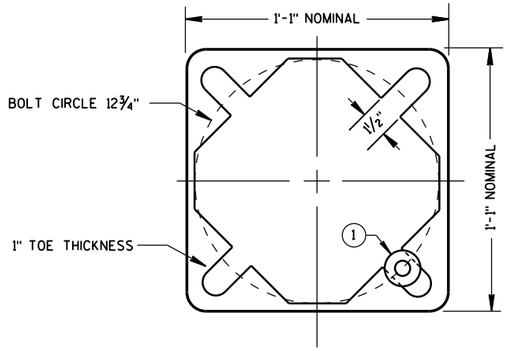
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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

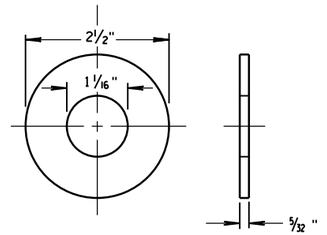




TOP VIEW
(PEDESTAL BASE)

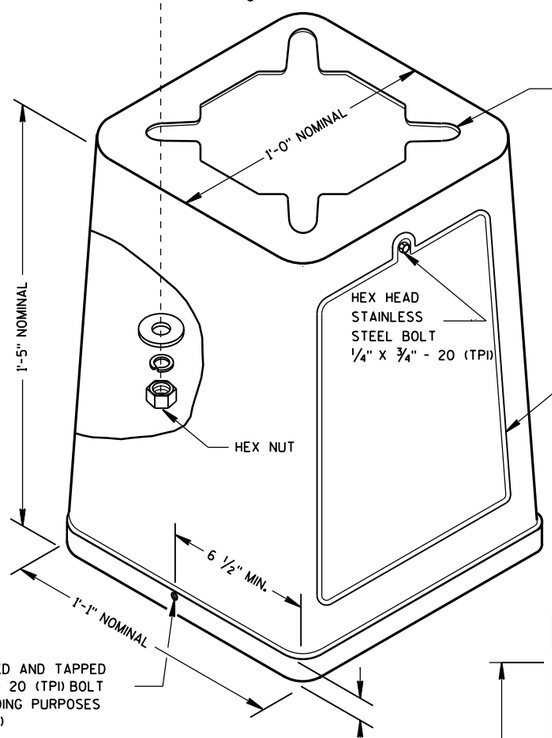


BOTTOM VIEW
(PEDESTAL BASE)

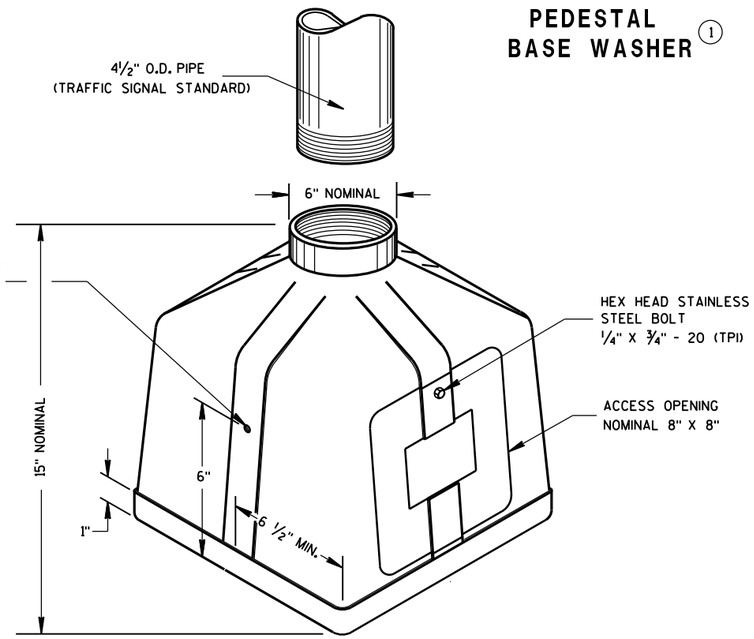


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

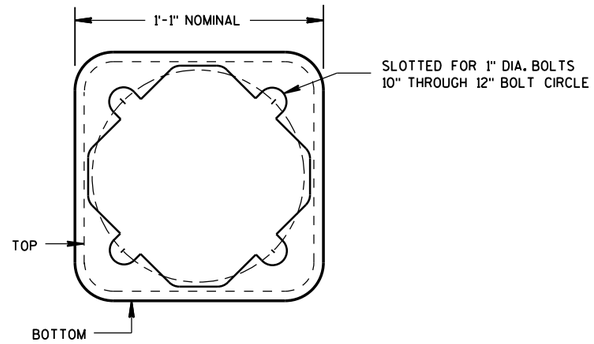
PEDESTAL BASE WASHER (1)



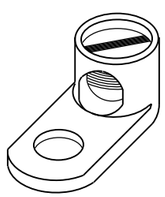
ISOMETRIC VIEW



ISOMETRIC VIEW
PEDESTAL BASE

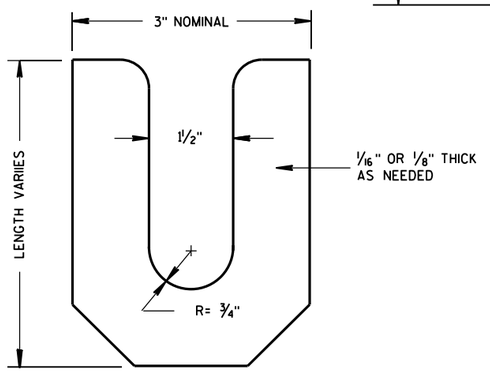


BOTTOM VIEW
(TRANSFORMER BASE)



TYPICAL MECHANICAL CONNECTOR LUG
TO BE FURNISHED WITH EACH BASE

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



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
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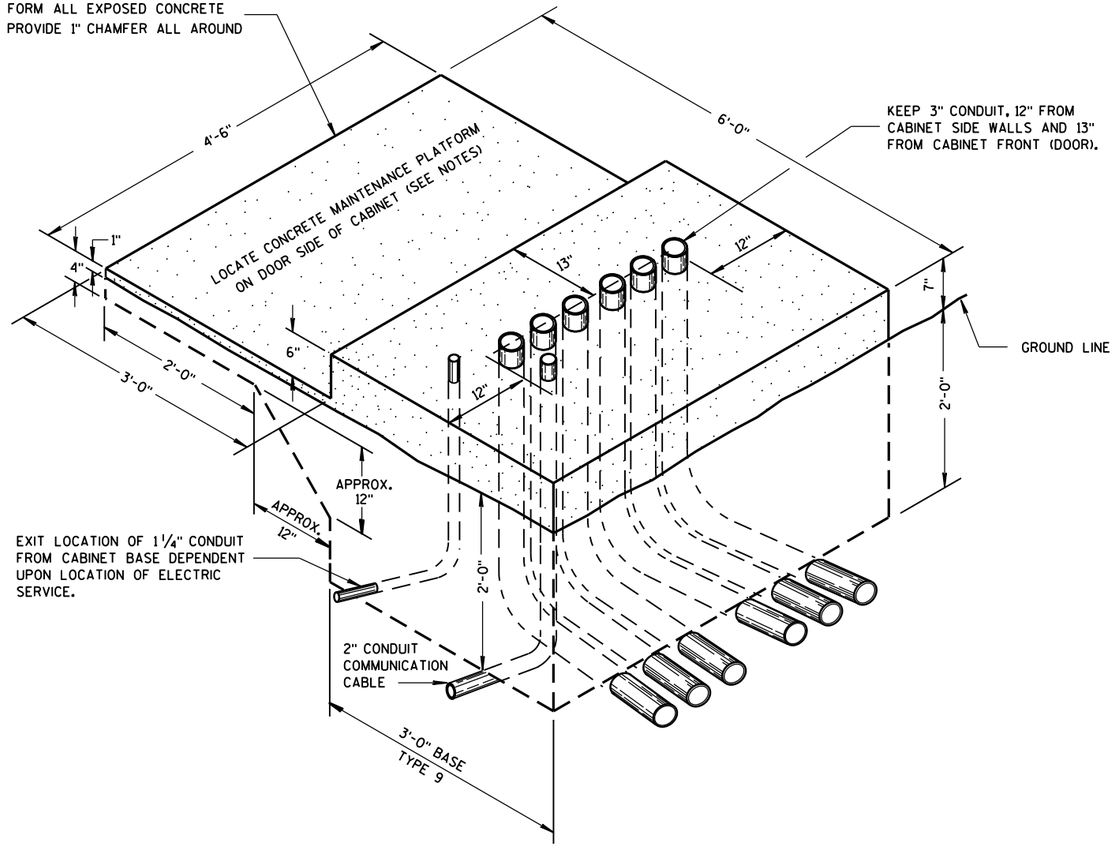
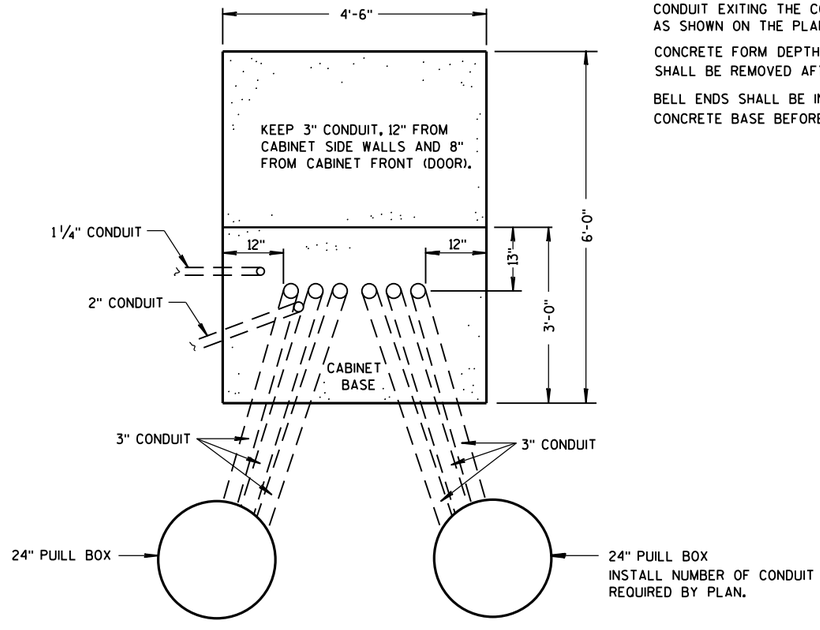


ISOMETRIC VIEW

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 WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT 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
Sept. 2014 — DATE
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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.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

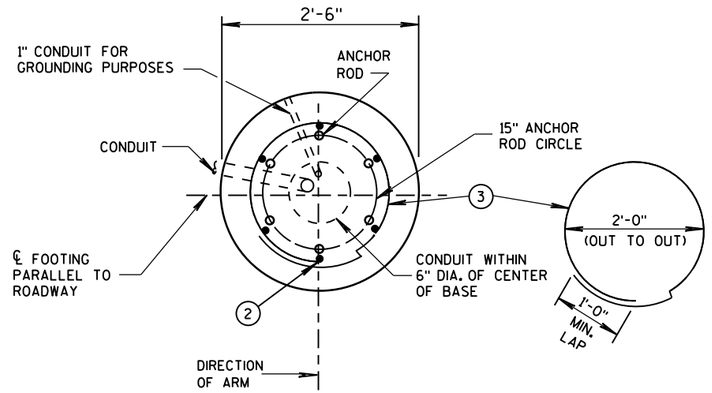
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

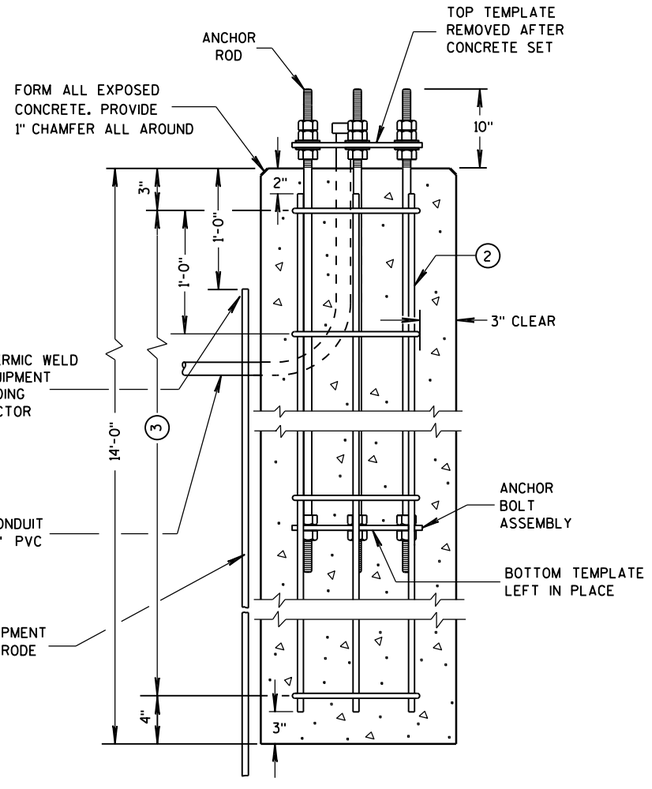
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES, (GREATER THAN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

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

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

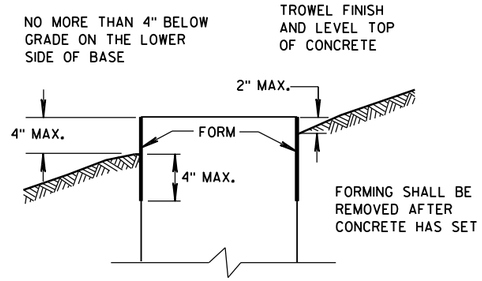
CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM, A709 GRADE 36	fy=36,000 p.s.i.



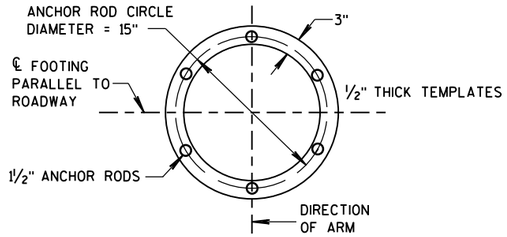


CONCRETE BASE TYPE 10
(FOR TYPE 9 & 10 POLES)

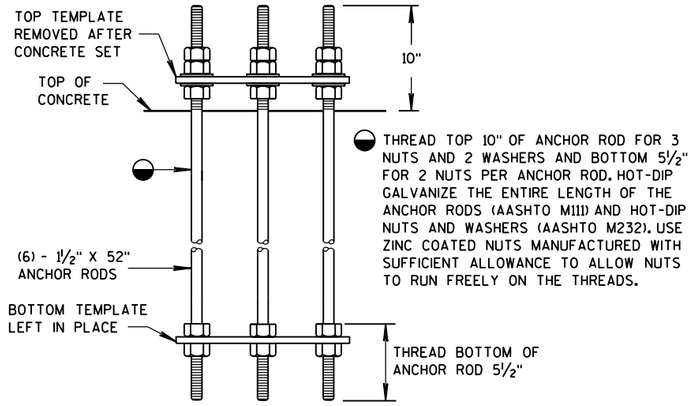
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.



FORMING DETAIL



TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 10
ANCHOR ASSEMBLY

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

CONCRETE BASE TYPE 10

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Feb. 2015 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

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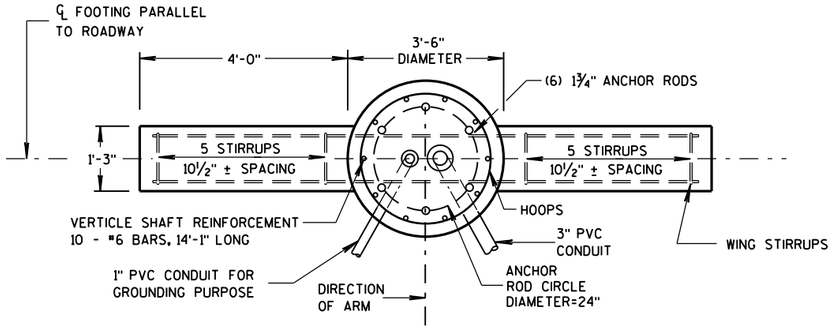
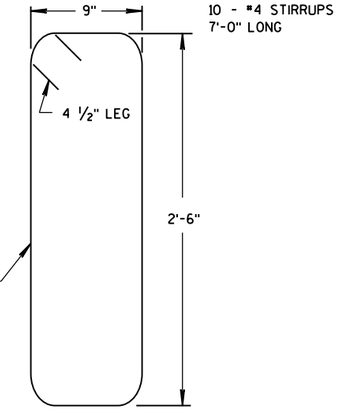
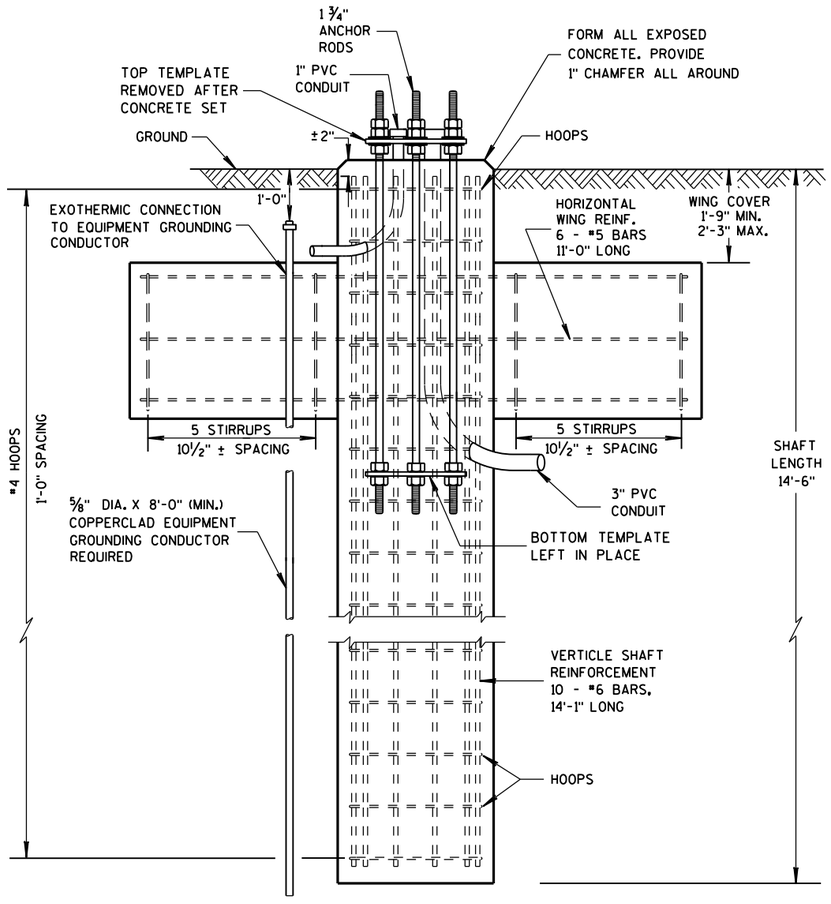


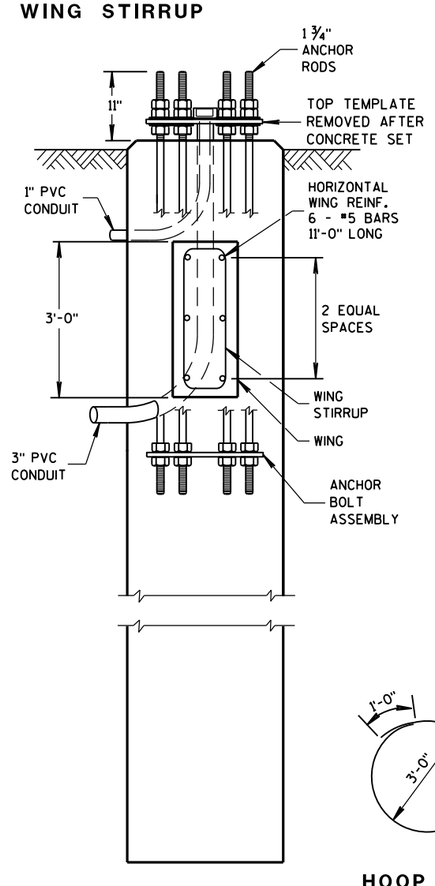
PLAN VIEW



WING STIRRUP

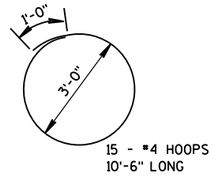


ELEVATION VIEW



SIDE VIEW

DOES NOT SHOW HOOPS OR VERTICAL SHAFT REINFORCEMENT



HOOP DETAIL

GENERAL NOTES

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

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

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

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

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

BASES (SHAFT), BELOW THE WING, SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUNG THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

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

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

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

CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4½" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

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

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

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTOR FITTINGS, UL LISTED FOR ELECTRICAL USE, SHALL BE USED.

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

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

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

THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVEL 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 THE WRITTEN APPROVAL OF THE ENGINEER.

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

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.

(FOR TYPE 12 & 13 POLES)

CONCRETE = 6.3 C.Y.
H.S. REINFORCEMENT = 433 LBS.

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.

CONCRETE BASE TYPE 13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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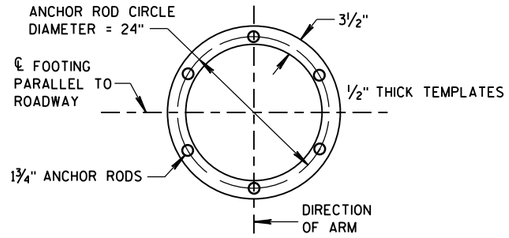
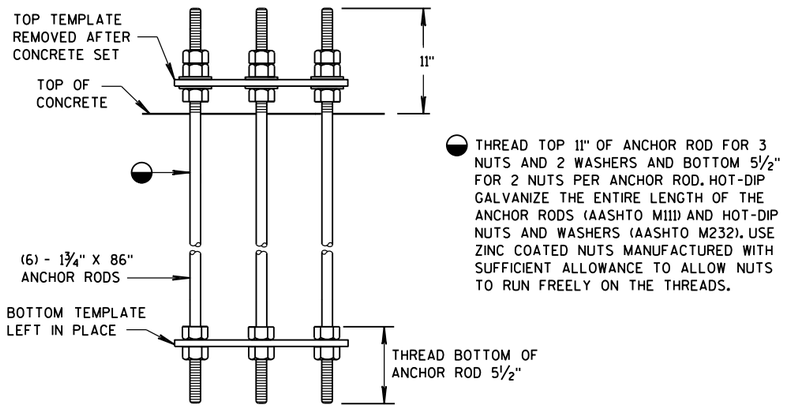
S.D.D. 9 C 12-6a

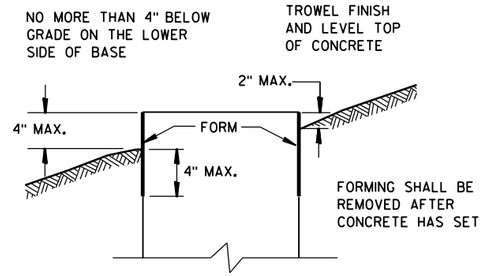


TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY



FORMING DETAIL

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CONCRETE BASE TYPE 13

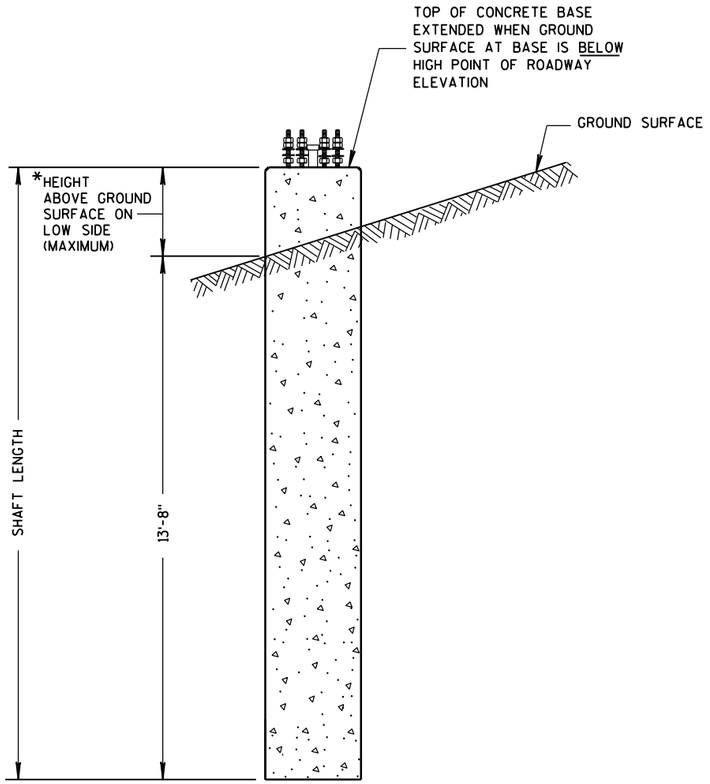
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Feb. 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

S.D.D. 9 C 12-6b

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 10 CONCRETE BASE

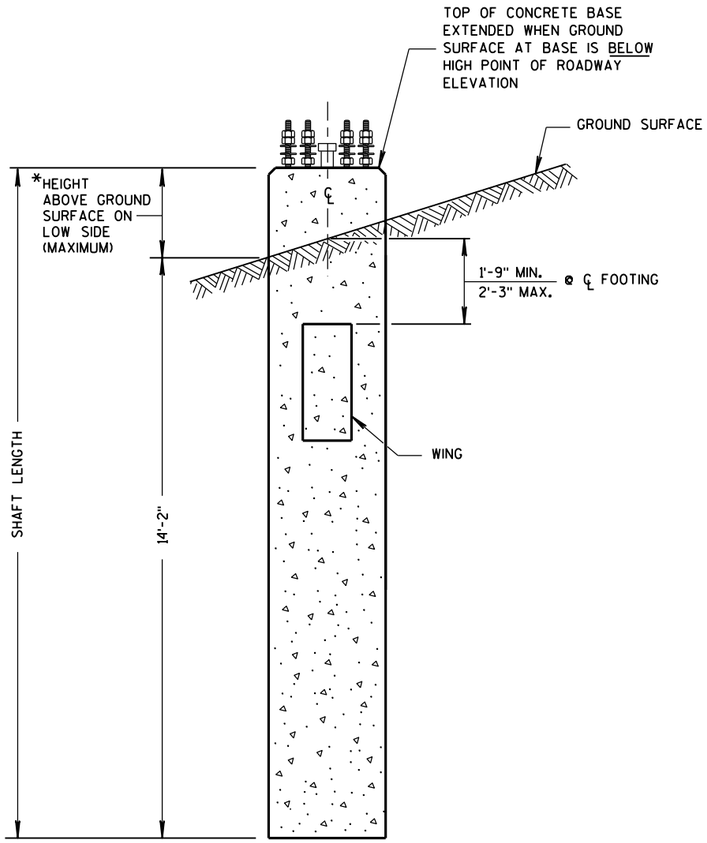
HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF HOOP BAR STEEL	LBS. OF VERTICAL BAR STEEL
>0" TO 6"	10"	14'-6"	14'-1"	16	2.6	78	127
>6" TO 1'-0"	1'-4"	15'-0"	14'-7"	16	2.7	78	131
>1'-0" TO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



CONCRETE BASE TYPE 10 (EXTENDED)

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 13 CONCRETE BASE

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



CONCRETE BASE TYPE 13 (EXTENDED)

CONCRETE BASE
TYPE 10 & TYPE 13 EXTENSION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-26-2013
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
FHWA

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S.D.D. 9 C 13-2

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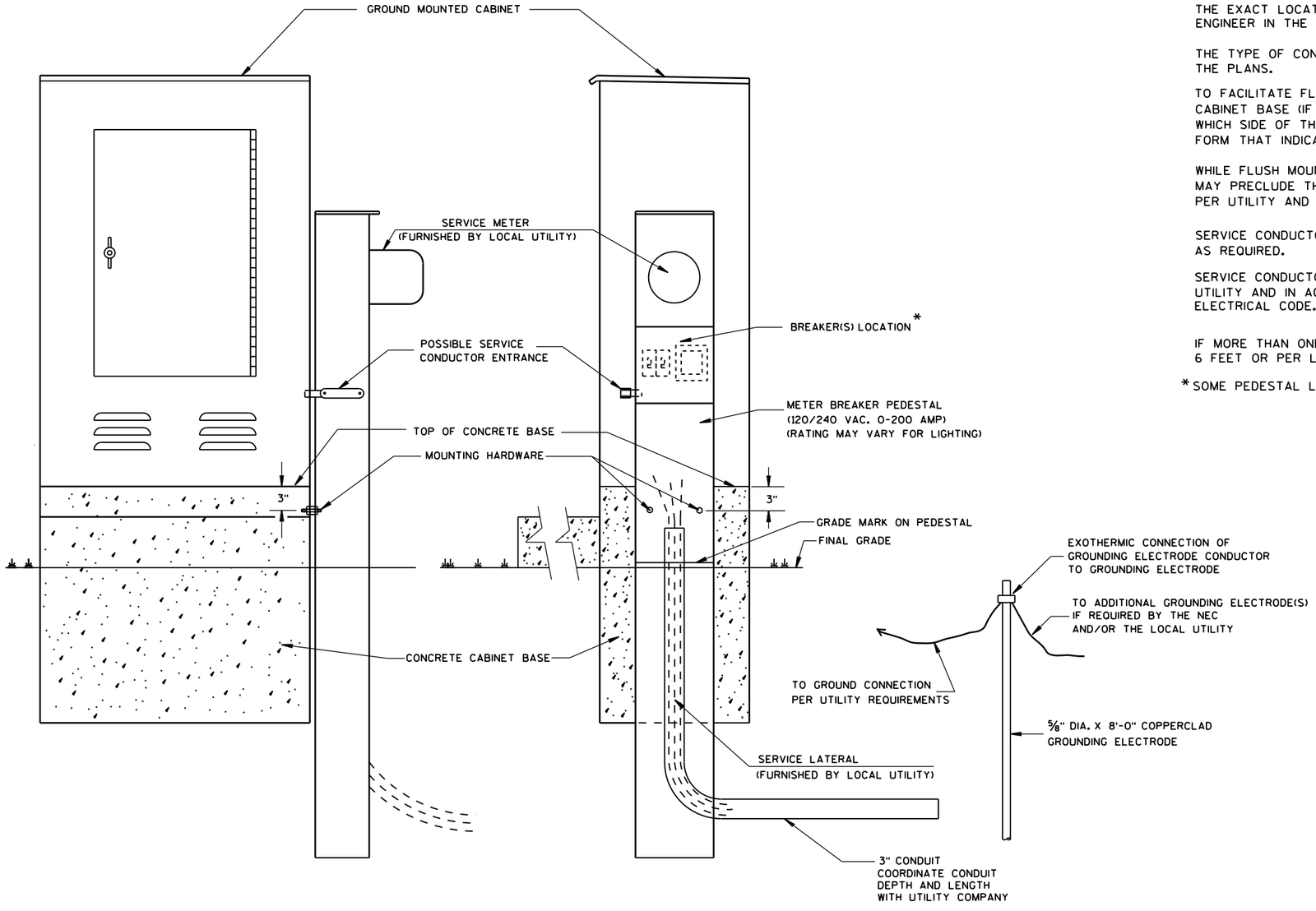
S.D.D. 9 C 13-2



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

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

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

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

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

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

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

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

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

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S.D.D. 9 D 1-5

6

S.D.D. 9 D 1-5

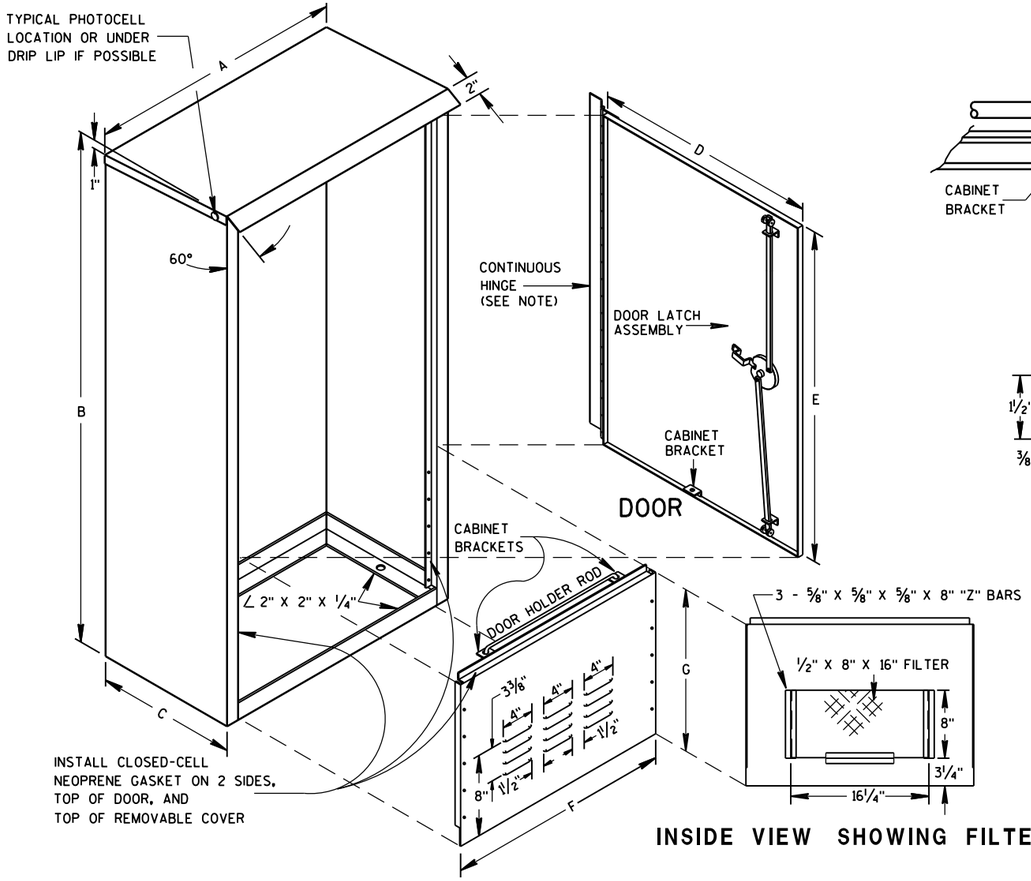
CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE

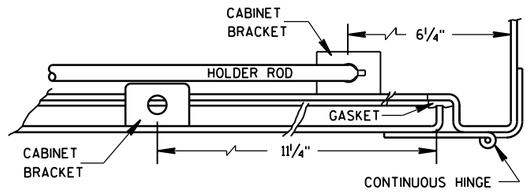
/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA

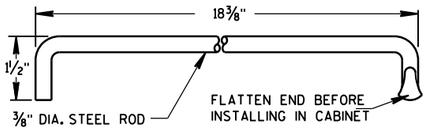


REMOVABLE COVER

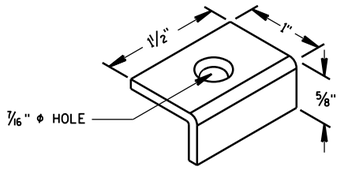
INSIDE VIEW SHOWING FILTER



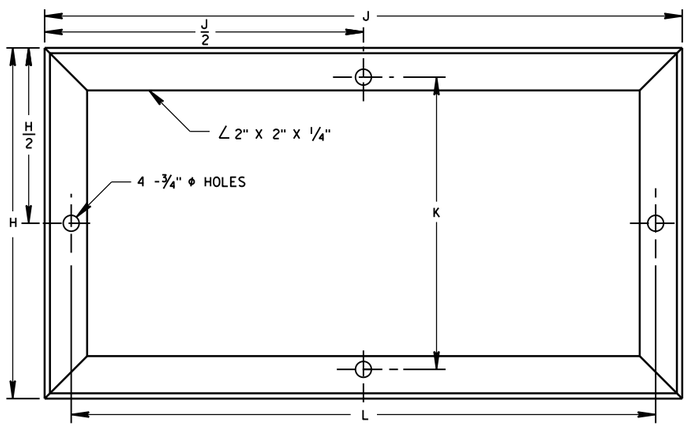
HINGE & DOOR HOLDER



HOLDER ROD



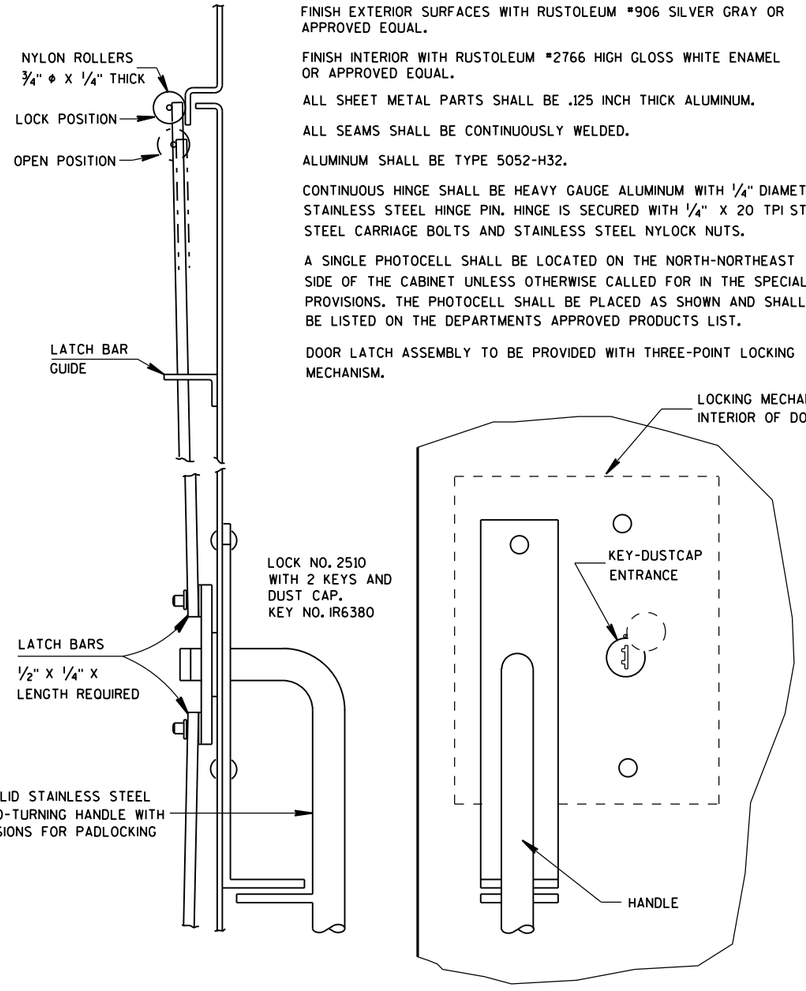
CABINET BRACKET



MOUNTING BASE

TABLE OF DIMENSIONS (INCHES)

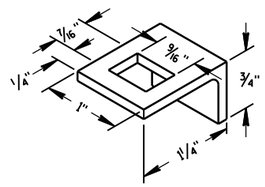
MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2



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 LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST.

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

SIGNAL CONTROL CABINET

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

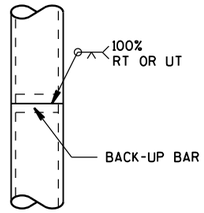
FHWA

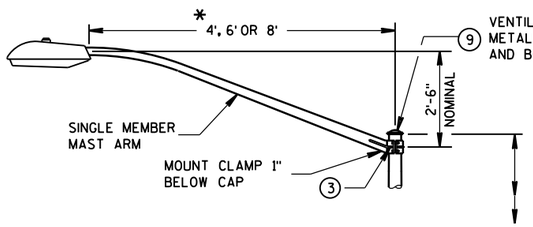
6
S.D.D. 9 D 2-3

FOR MANUFACTURERS USE ONLY

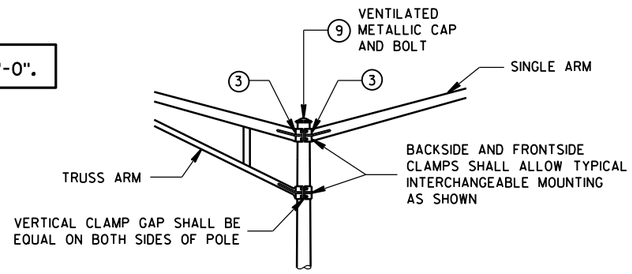
WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN/BRIDGE FOR VERIFICATION AND APPROVAL.

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





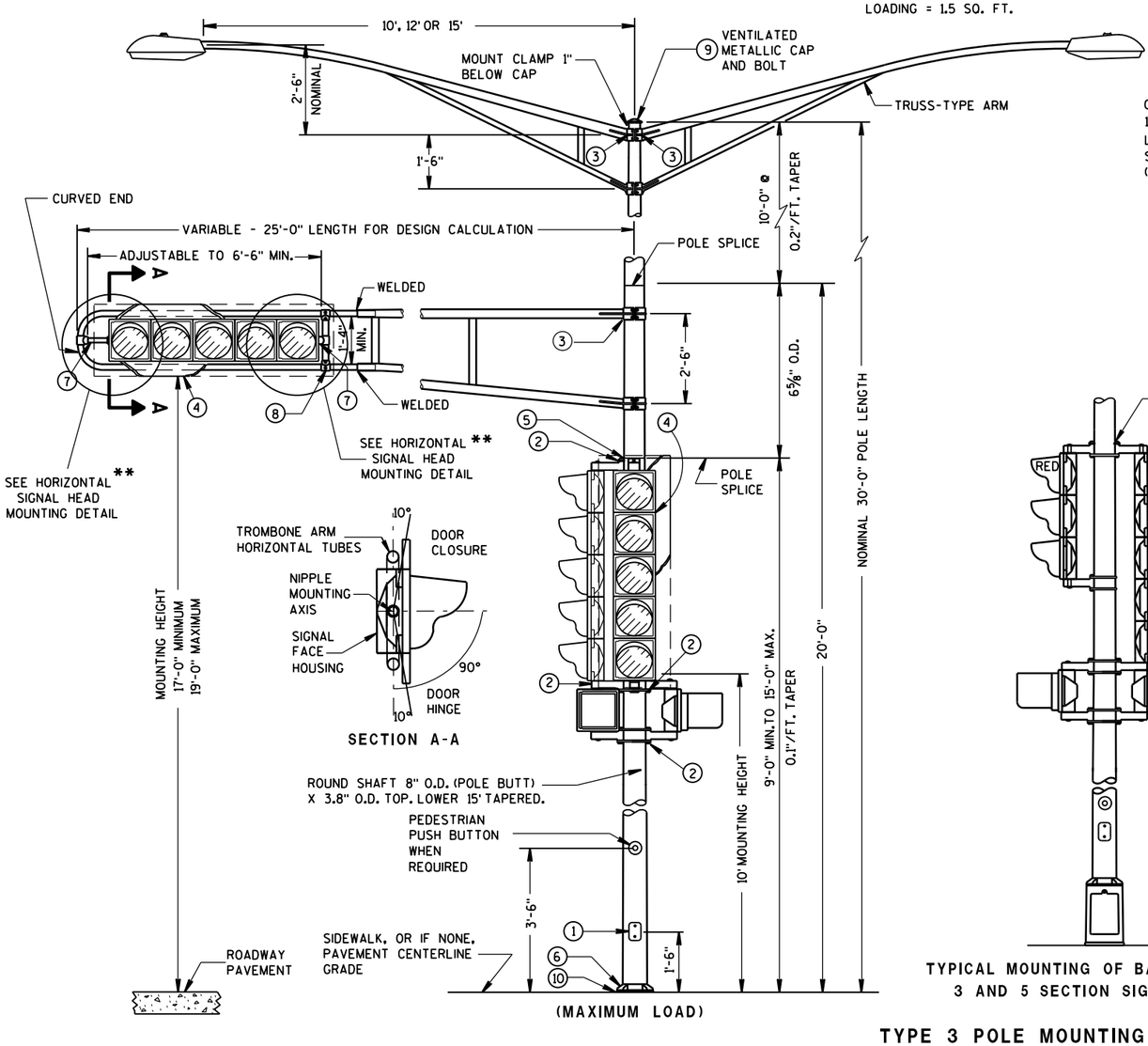
POLE SPLICE DETAIL

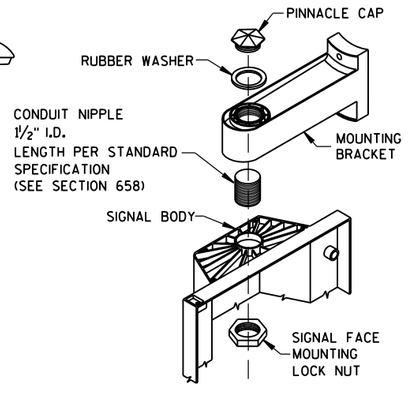


INTERCHANGEABLE MOUNTING DETAIL

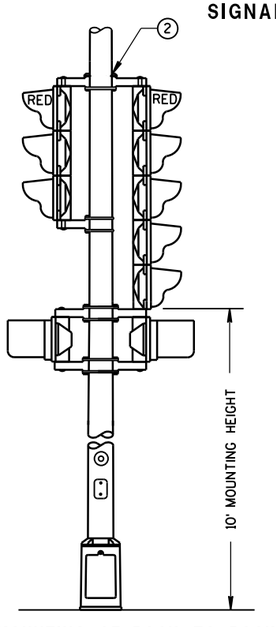
LUMINAIRE

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

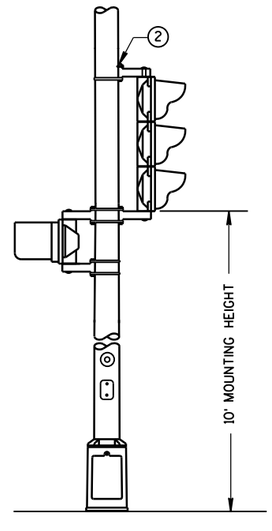




SIGNAL FACE MOUNTING DETAIL
(BANDED)



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.

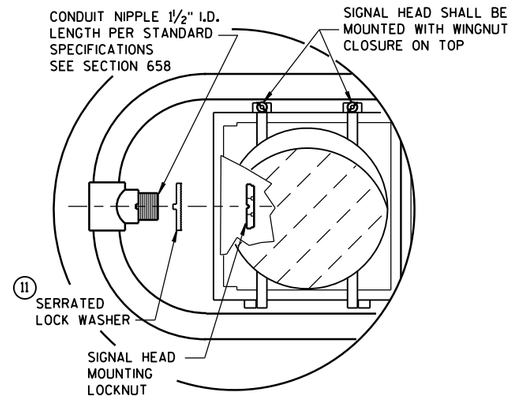
(7) MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE(S) SHALL BE 2 INCHES IN LENGTH AND 1½ INCHES IN DIAMETER. (SEE STANDARD SPECIFICATION - SECTION 658)

(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.



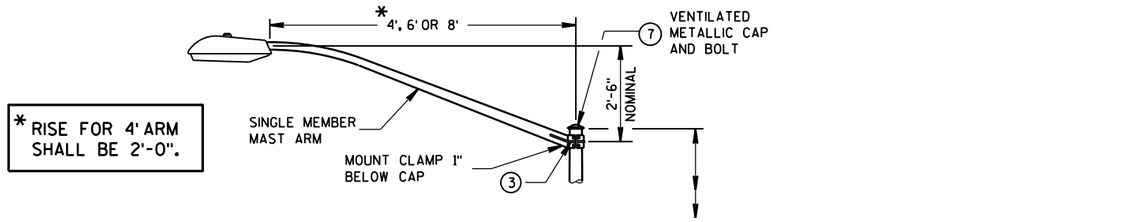
HORIZONTAL SIGNAL HEAD MOUNTING DETAIL**

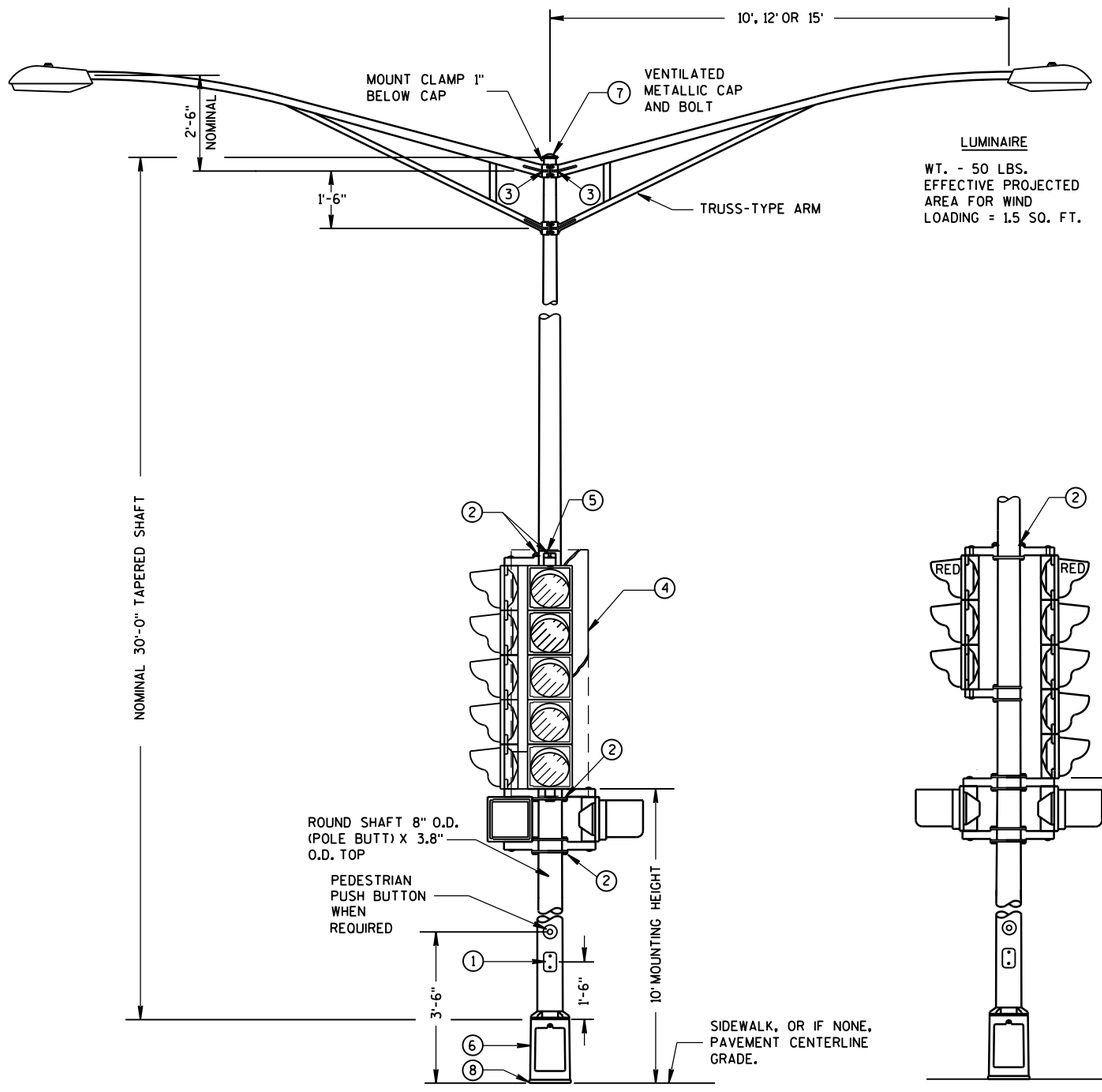
** SIGNAL HEAD ATTACHMENT ALSO APPLYS TO MOUNTING AT CROSS BAR

TYPE 3 POLE MOUNTING CONFIGURATION

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

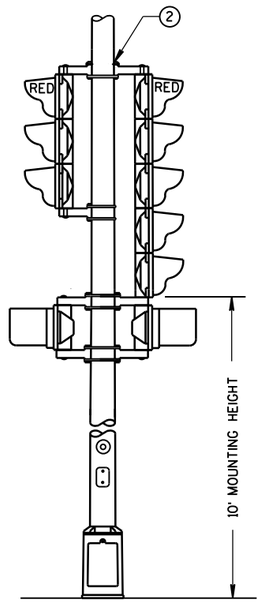




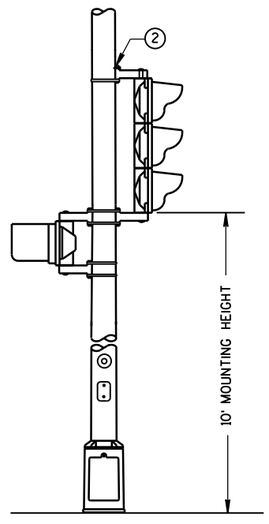
LUMINAIRE

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

(MAXIMUM LOAD)

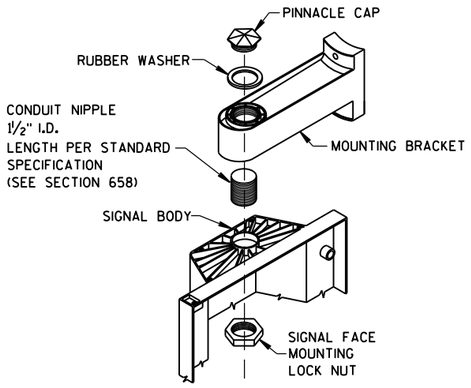


TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE

TYPE 4 POLE MOUNTING CONFIGURATION



SIGNAL FACE MOUNTING DETAIL
(BANDED)

GENERAL NOTES

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

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

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

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

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, 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.

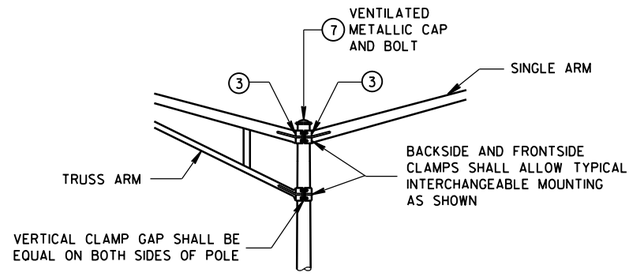
(4) SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.

(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) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

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

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



INTERCHANGEABLE MOUNTING DETAIL

POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 4

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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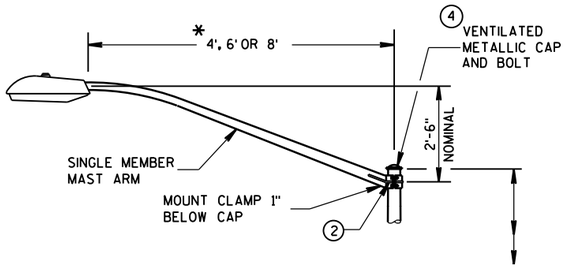
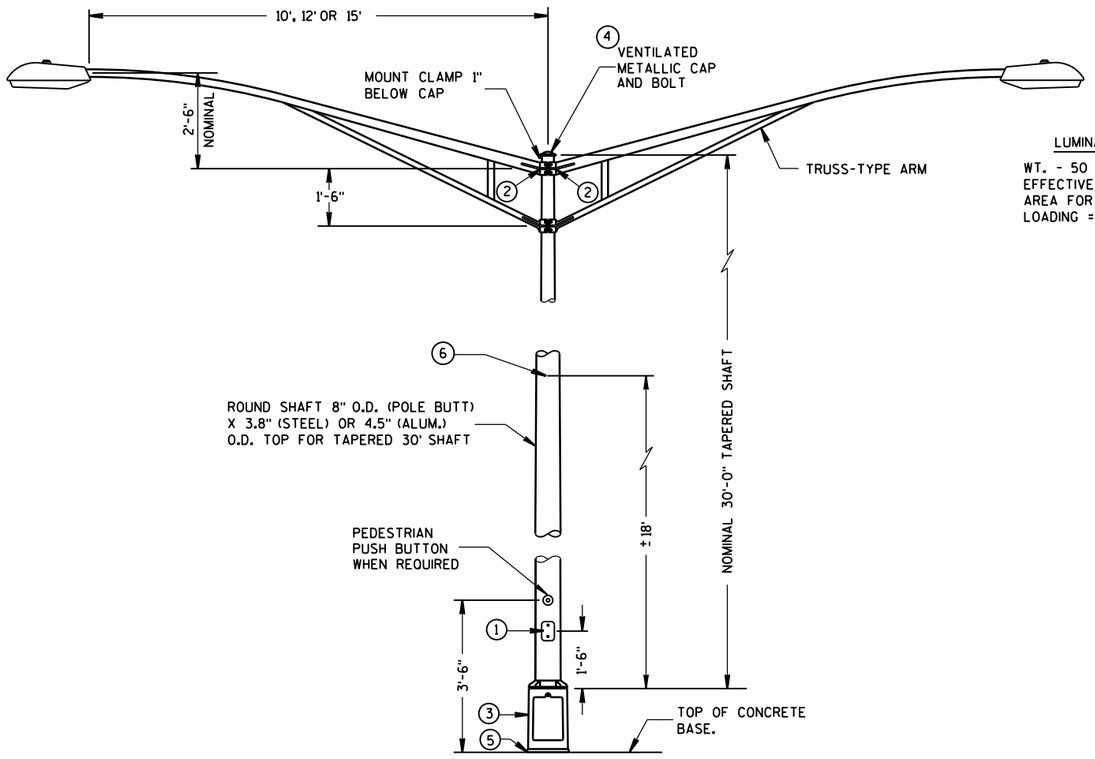
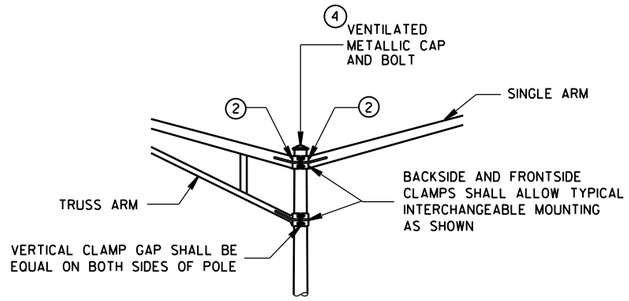
S.D.D. 9 E 1-14c

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





TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY



INTERCHANGEABLE MOUNTING DETAIL

LUMINAIRE

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

GENERAL NOTES

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

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

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

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

(2) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(3) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

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

(5) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

(6) INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

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POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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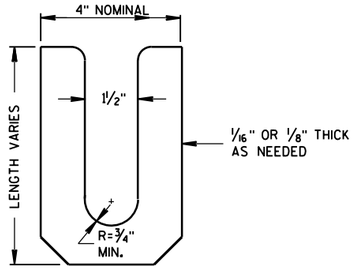
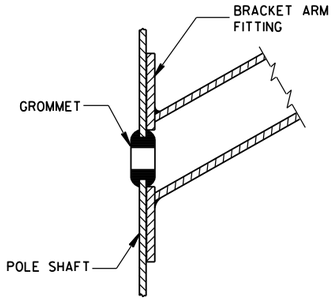
S.D.D. 9 E 1-14d

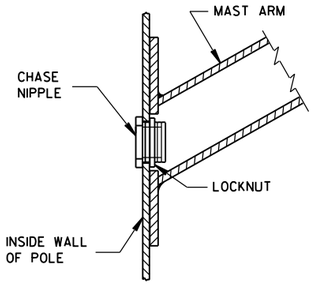


LEVELING SHIM (13)

SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

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

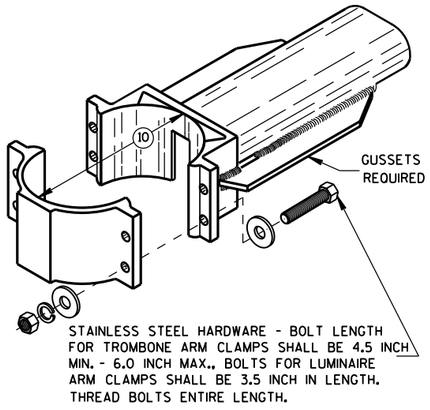
(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

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

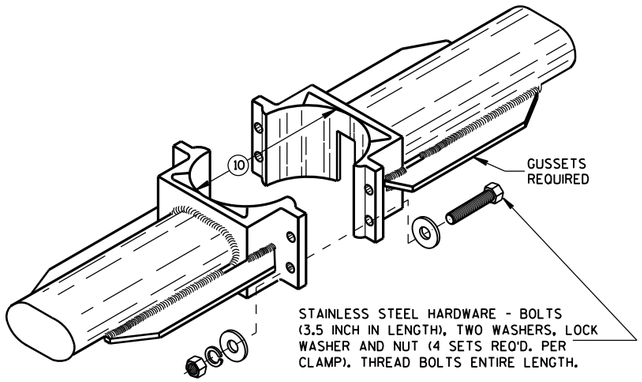
(12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

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

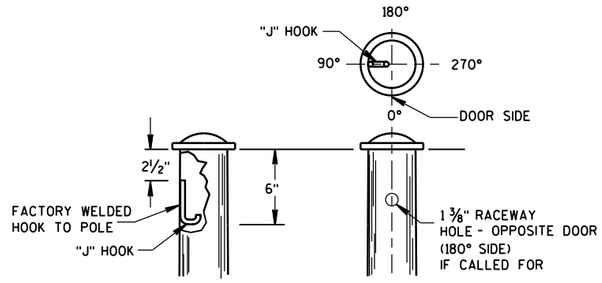
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



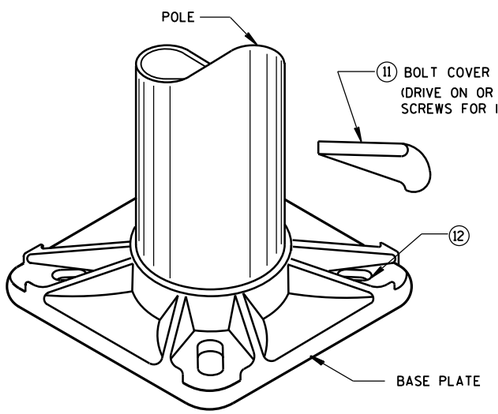
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



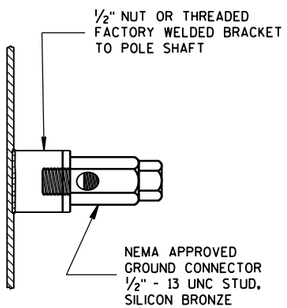
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

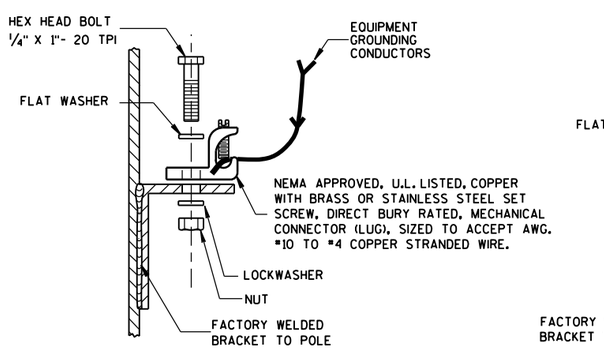


TYPICAL "J" HOOK LOCATION



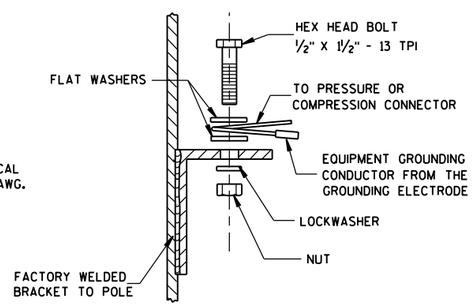
BASE PLATE





TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Feb. 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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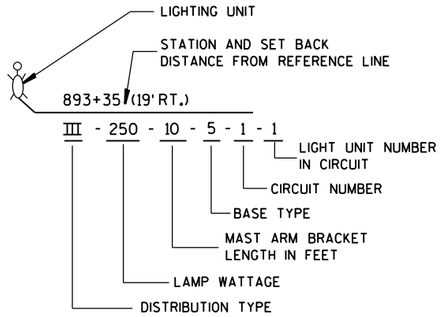
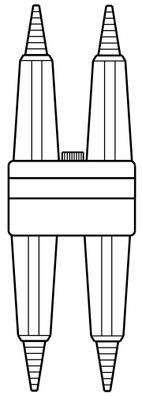
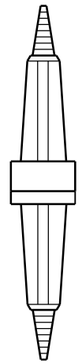
S.D.D. 9 E 1-14g



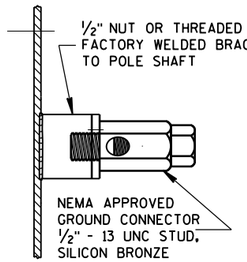
LIGHTING UNIT CODE
(TYPICAL)

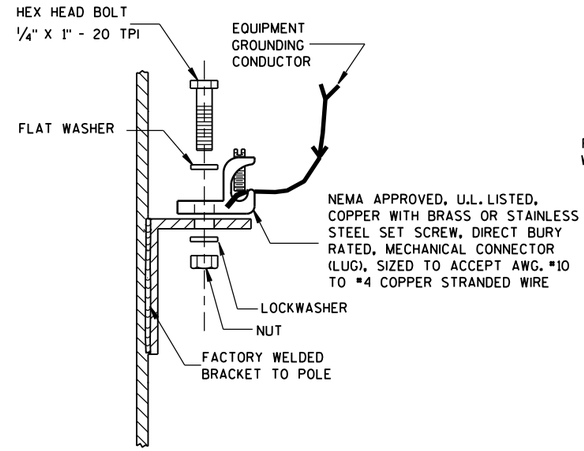


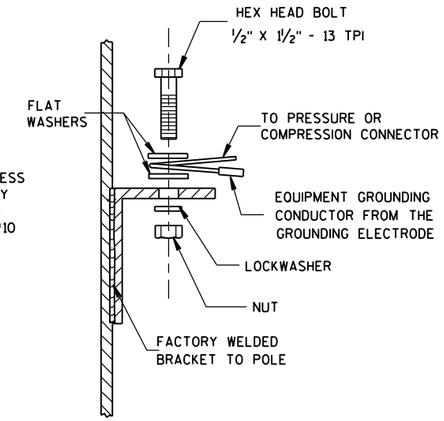
DETAIL "A"
BREAKAWY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



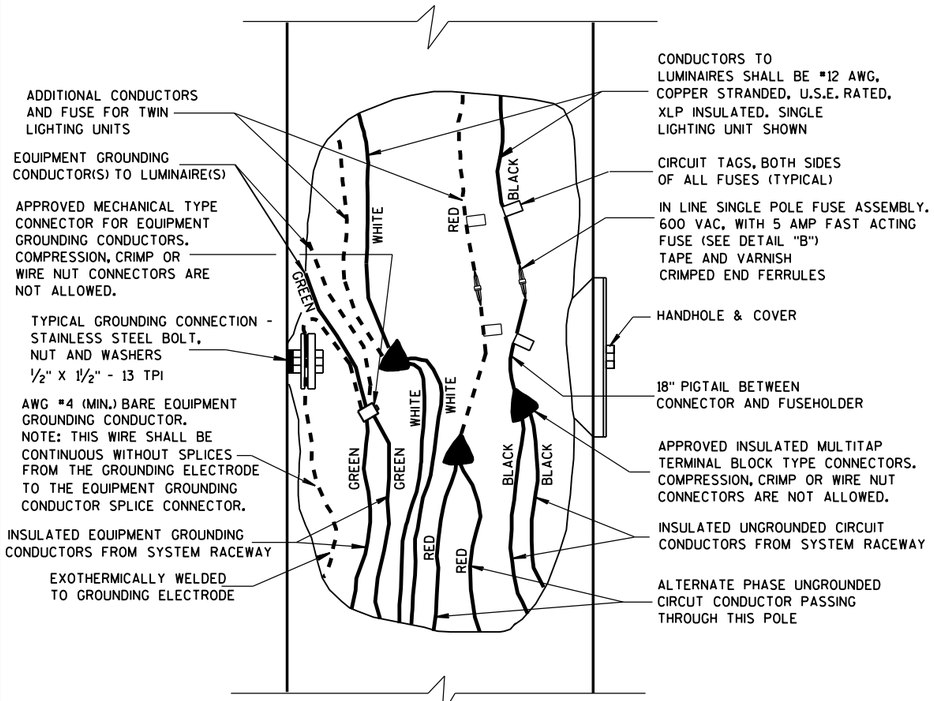
DETAIL "B"
BREAKAWY SINGLE POLE WITH WATERPROOF INSULATING BOOT



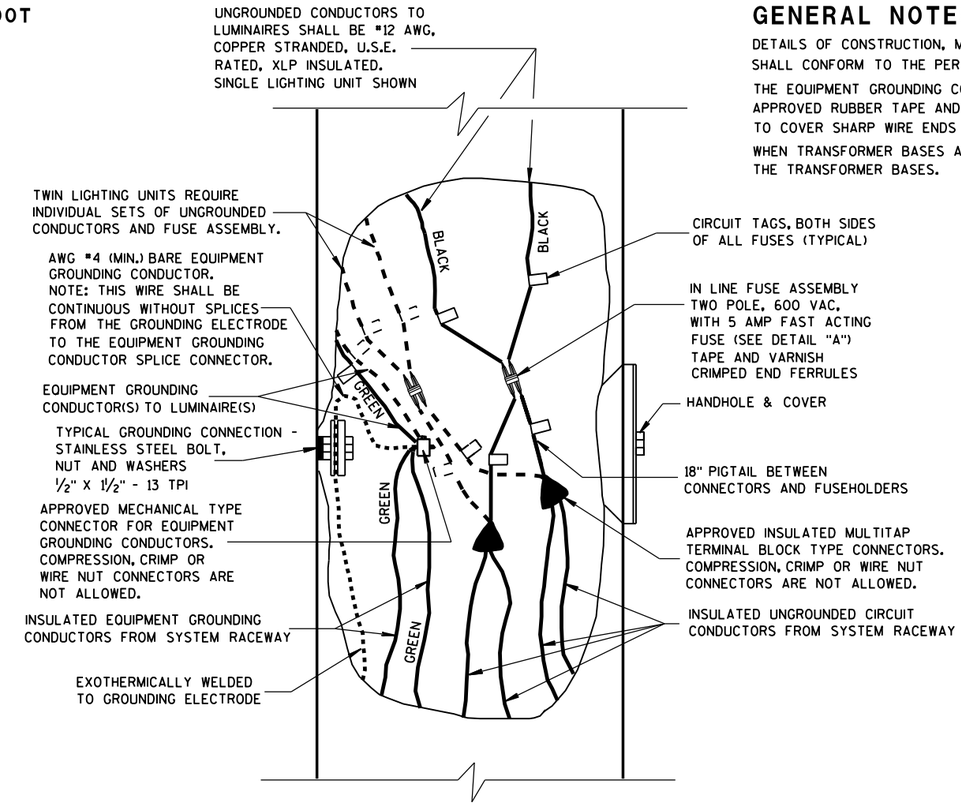




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



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

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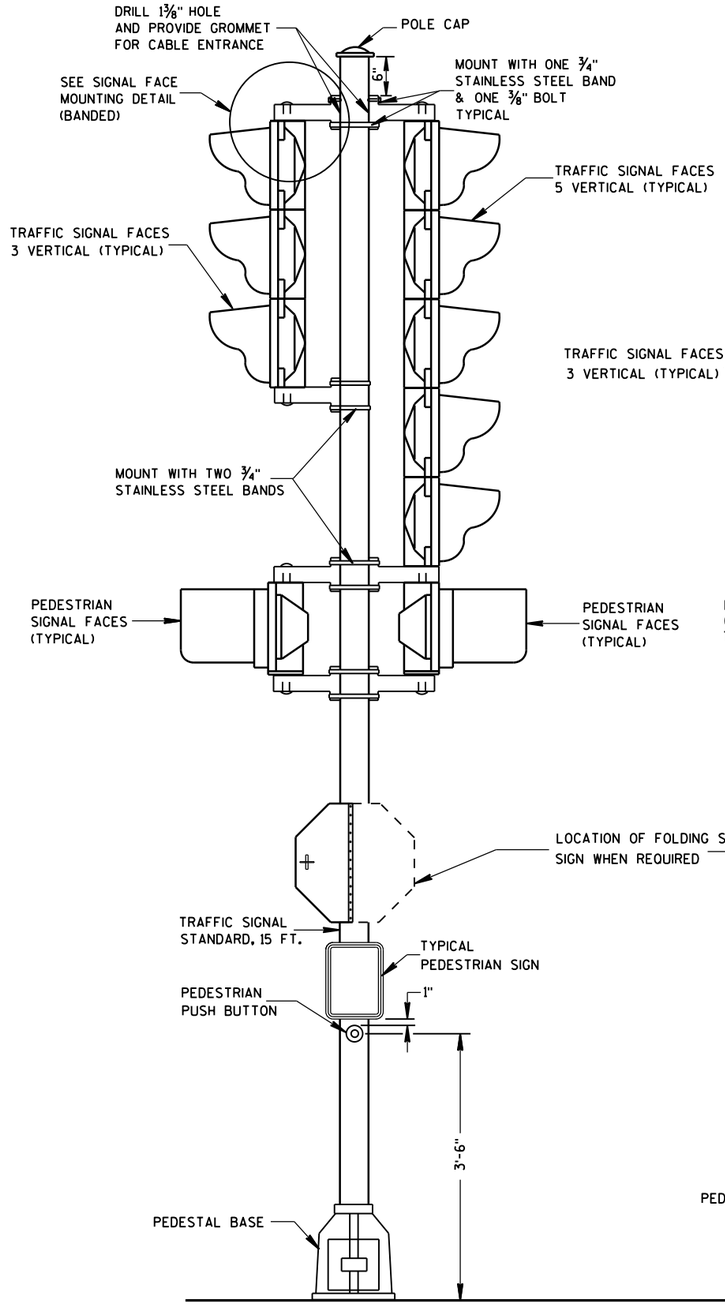
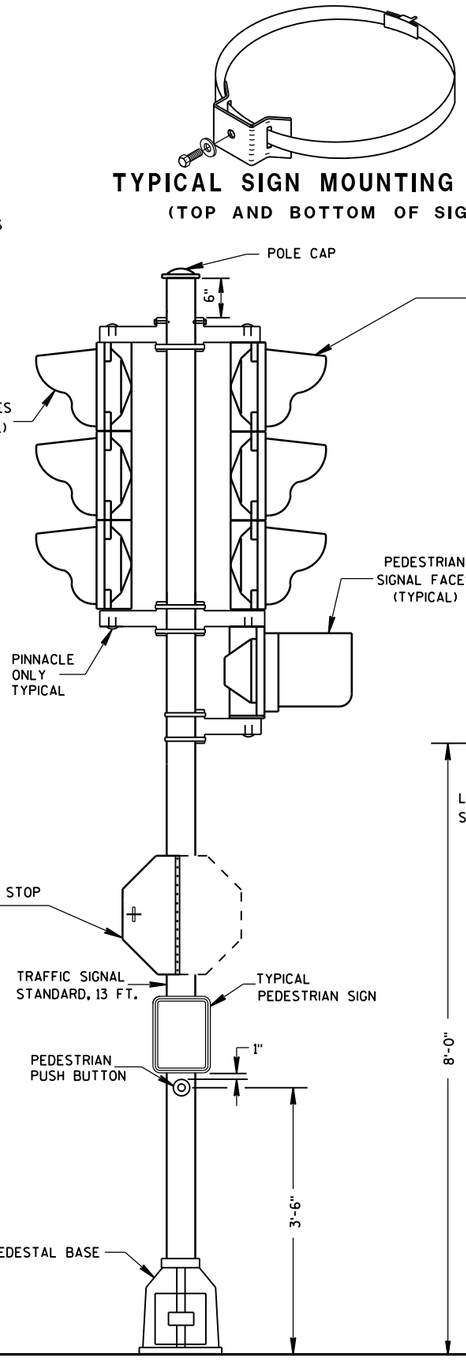
S.D.D. 9 E 3-5

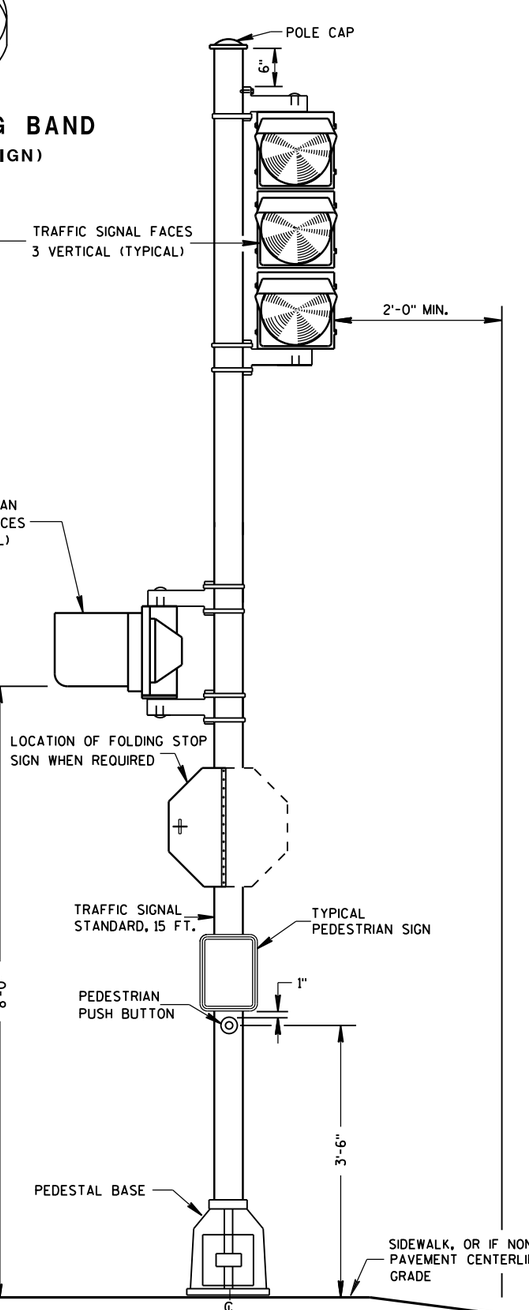


TRAFFIC SIGNAL STANDARD-15 FT.



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.

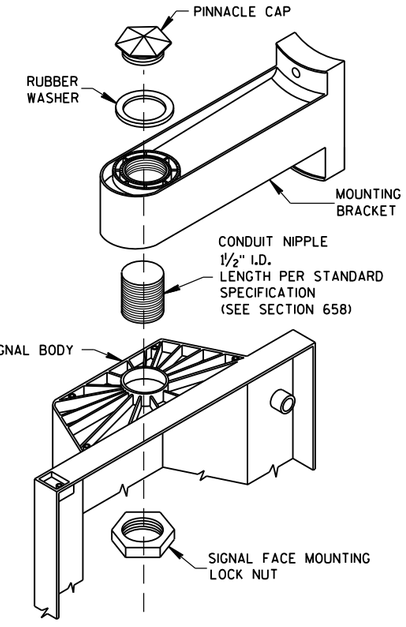
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

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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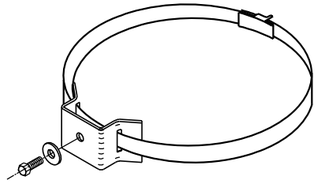
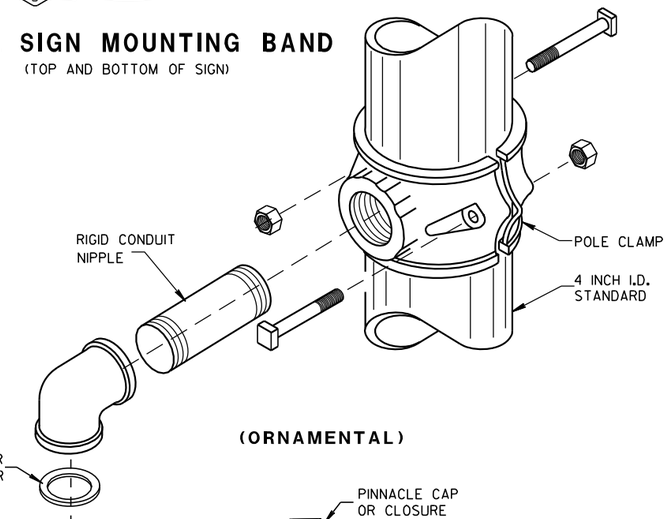
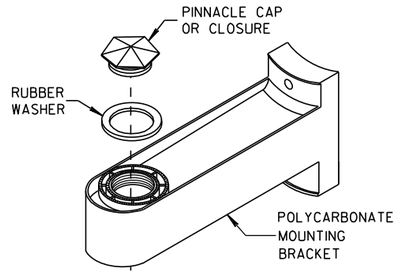


TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



(ORNAMENTAL)



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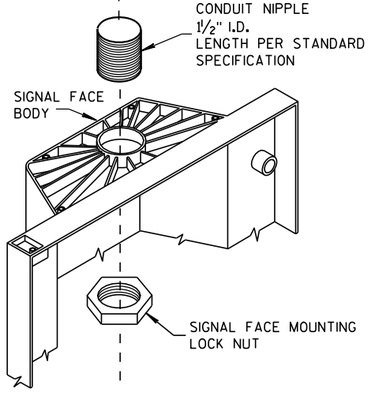
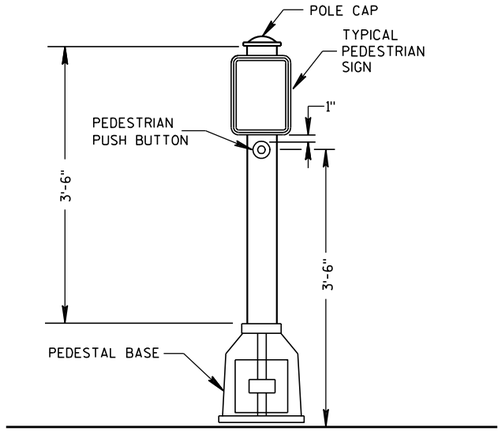
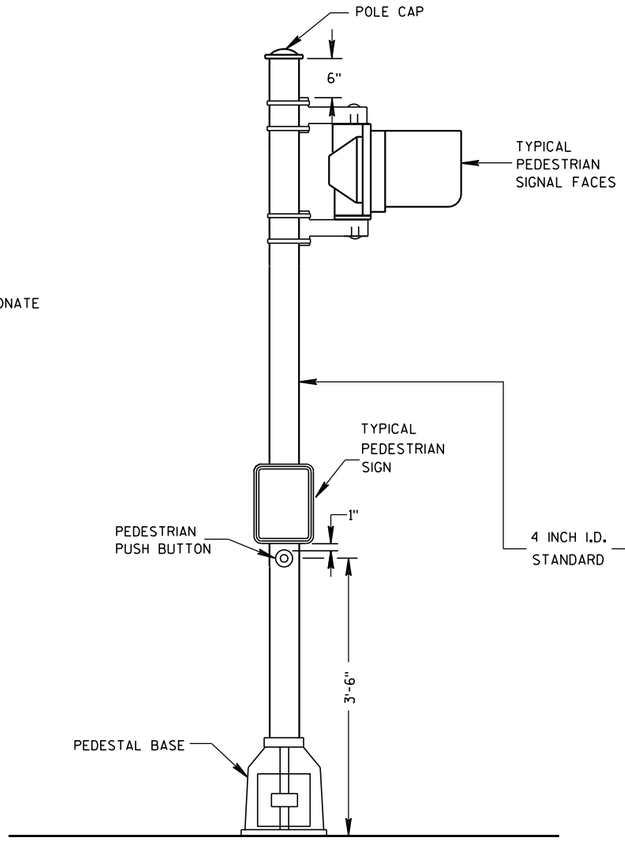


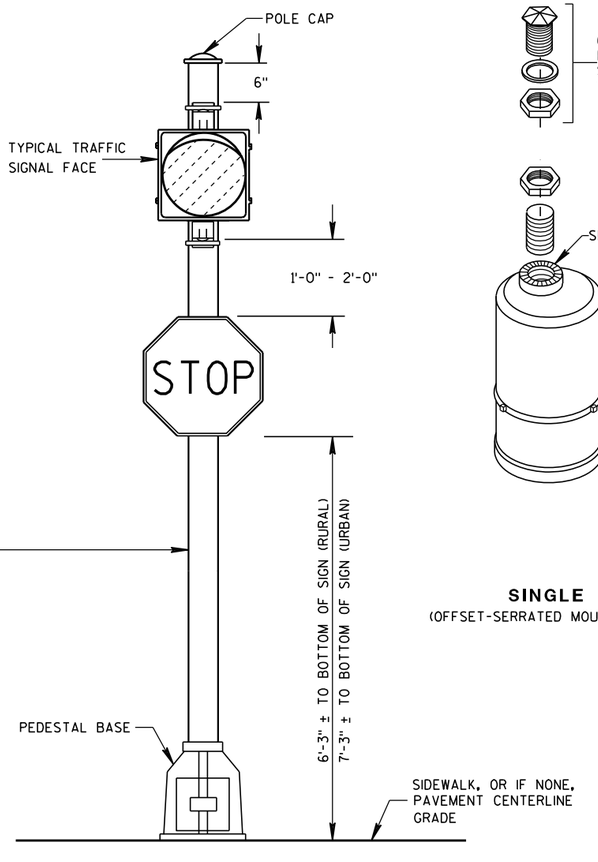
SIGNAL FACE MOUNTING DETAILS



PEDESTRIAN PUSH BUTTON TYPICAL MOUNTING



PEDESTRIAN FACE STANDARD-10 FT.
(WALK-DON'T WALK)



STANDARD FLASHER.
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

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

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

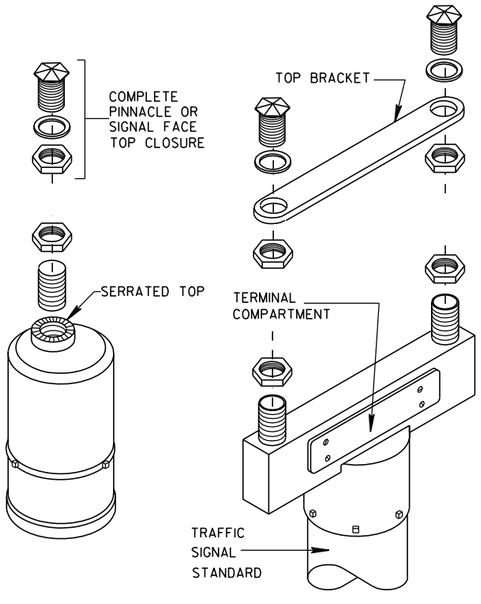
POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

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

MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE DISTRICT TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

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



SINGLE
(OFFSET-SERRATED MOUNTING)

DOUBLE
(SERRATED MOUNTING)

SLIPFITTERS

TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/11/10
DATE

/S/ John Corbin
STATE ELECTRICAL ENGI

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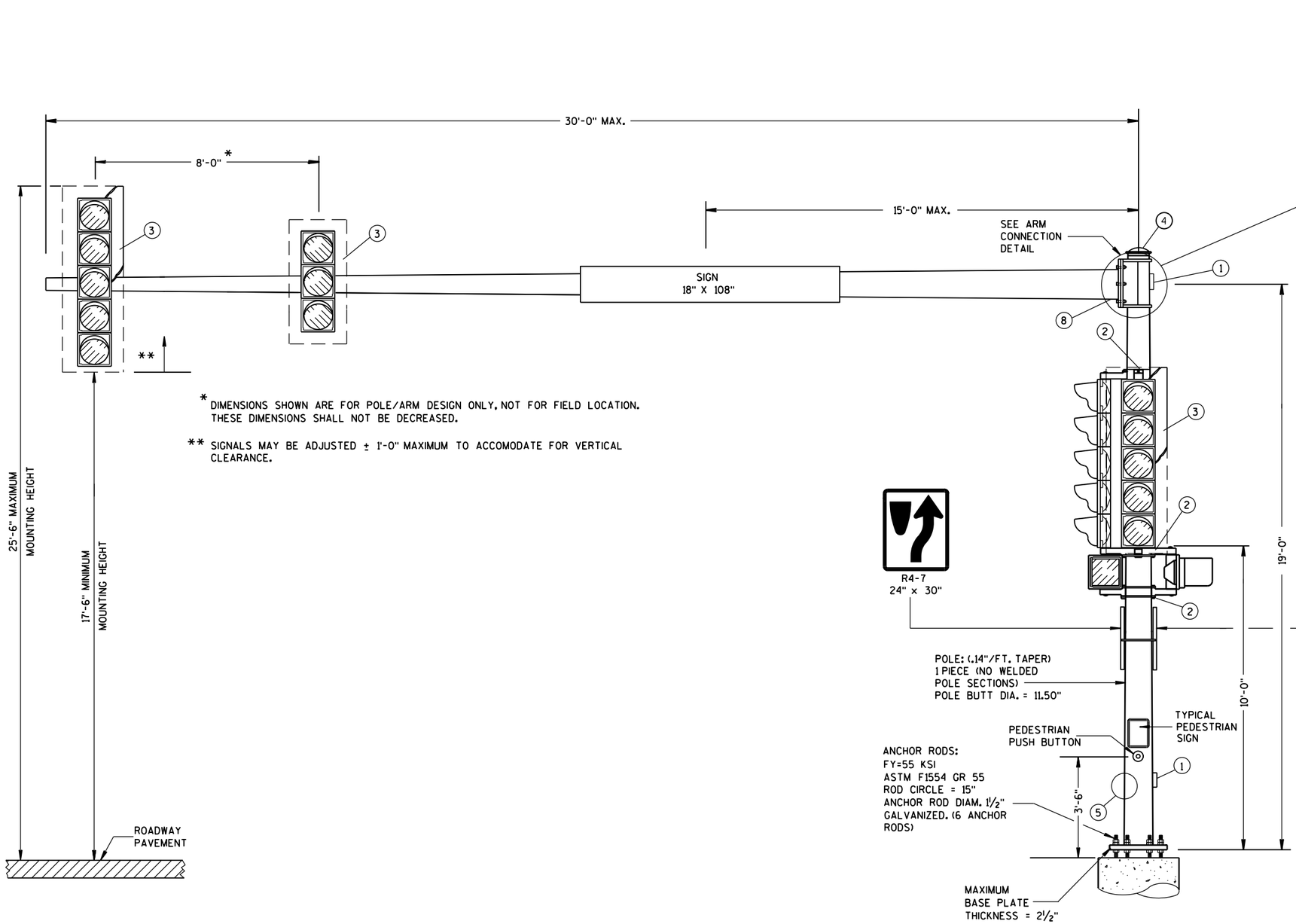
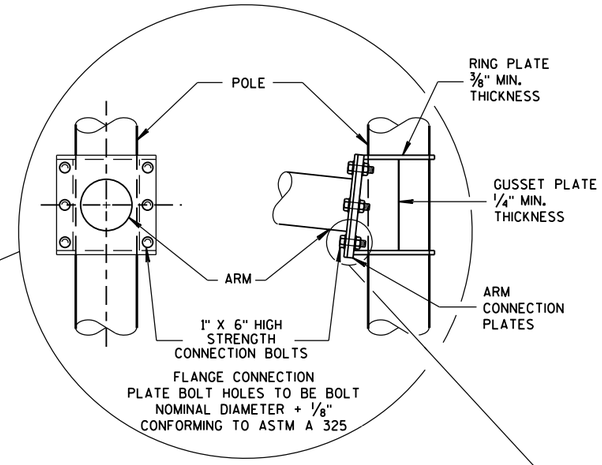
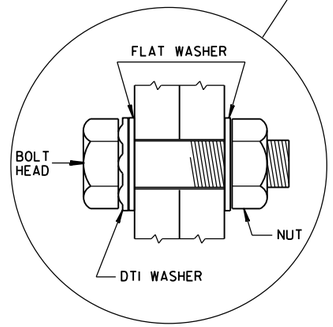


* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

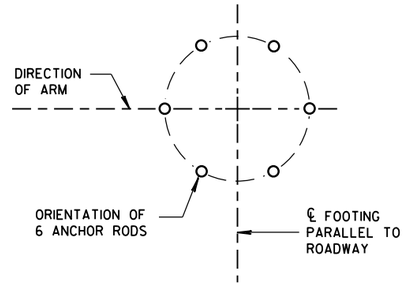
** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



6 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 9 POLE 15'- 30' MONOTUBE ARM

TYPE 9 POLE 15' - 30' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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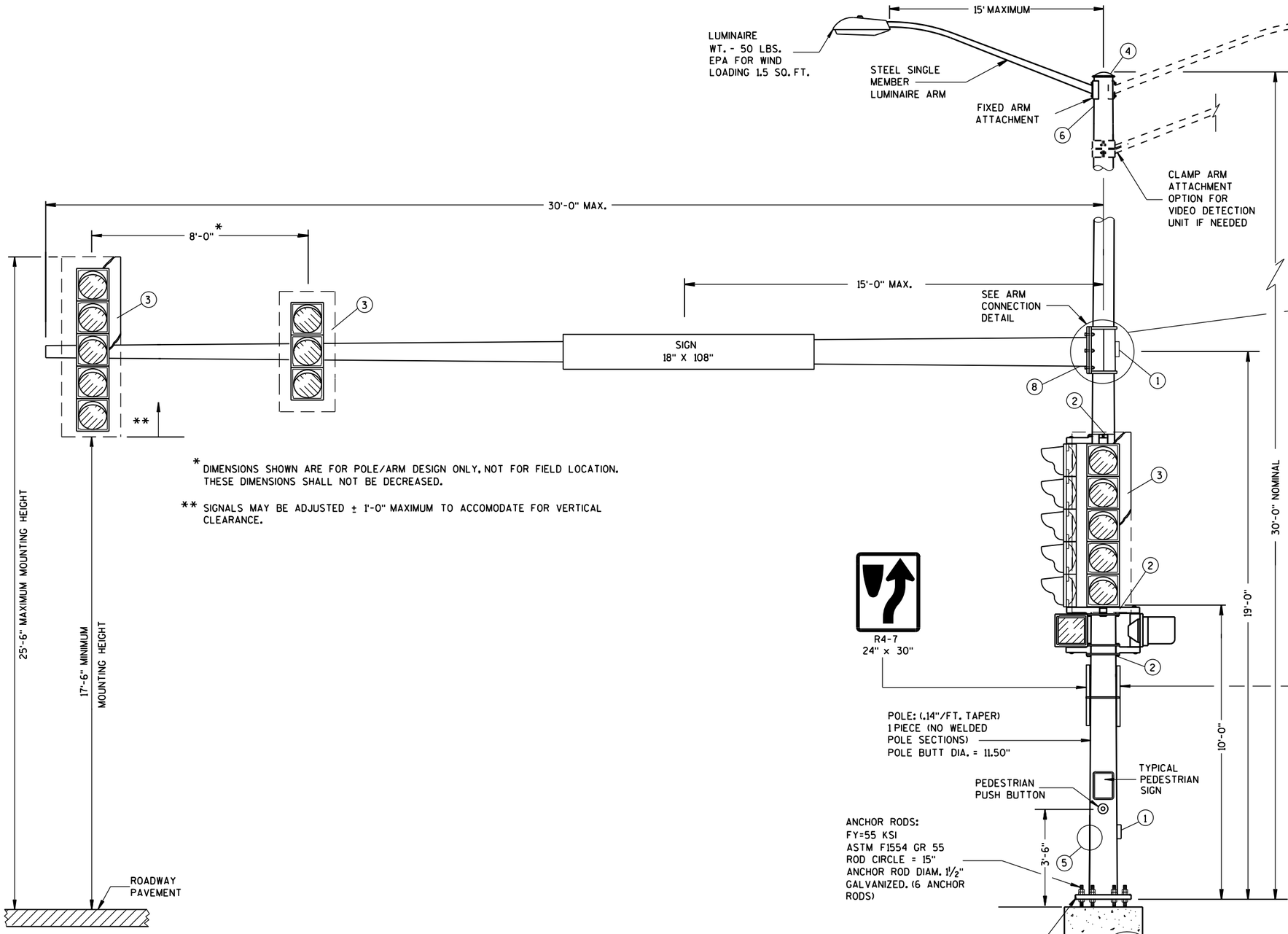
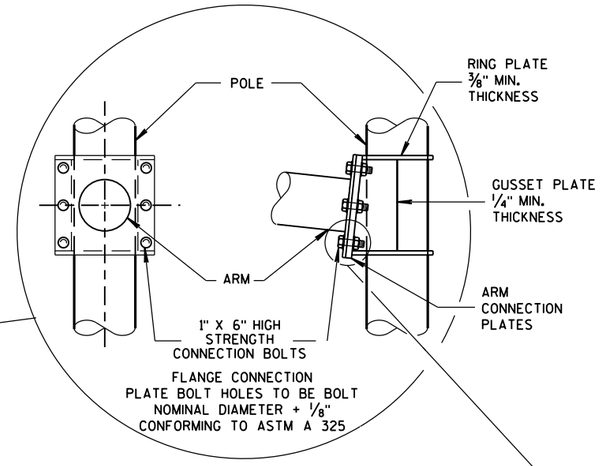
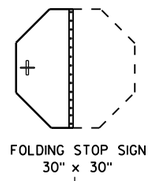
* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

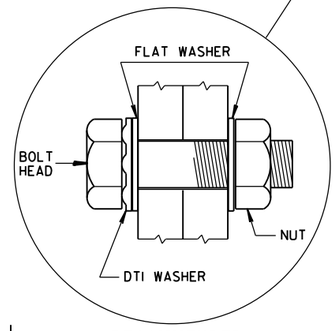
** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



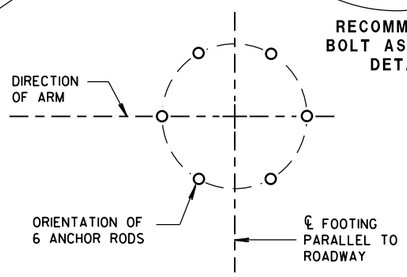


6 BOLT ARM CONNECTION DETAIL





RECOMMENDED
BOLT ASSEMBLY
DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 10 POLE
15'- 30' MONOTUBE ARM

TYPE 10 POLE
15' - 30' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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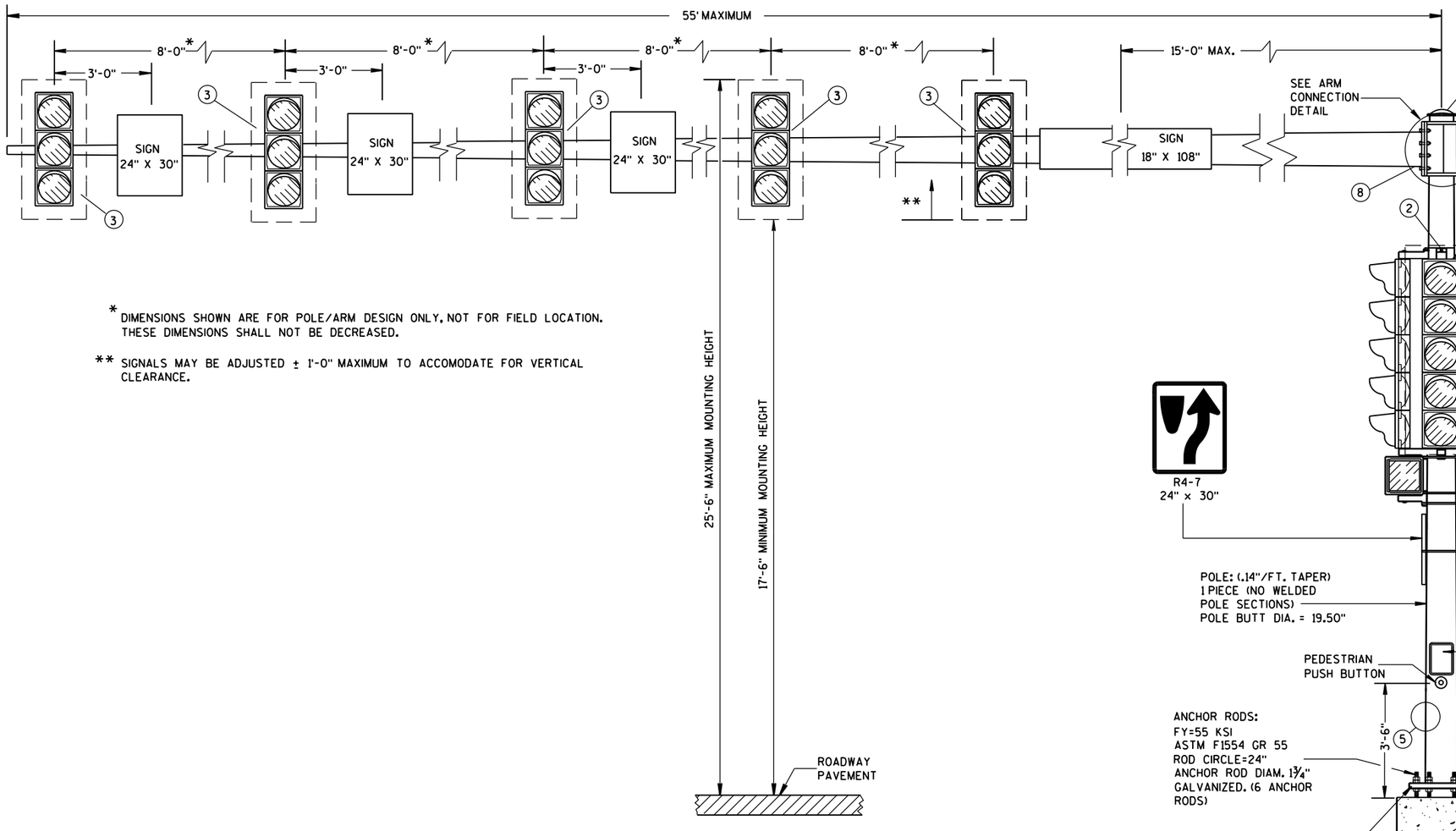
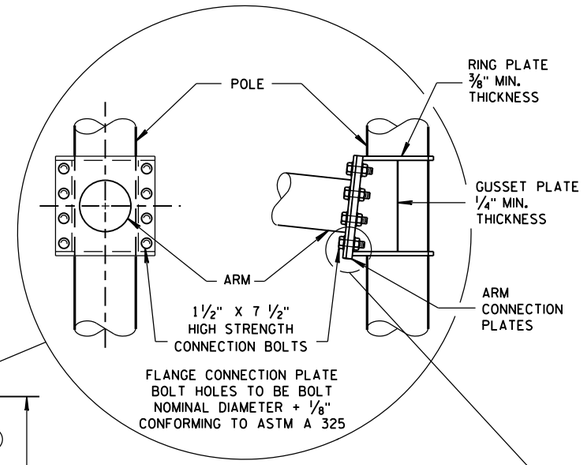
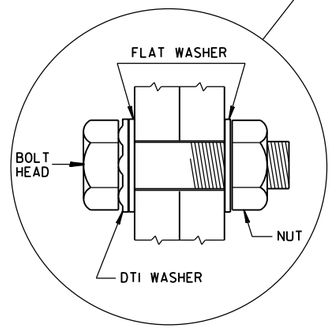


* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

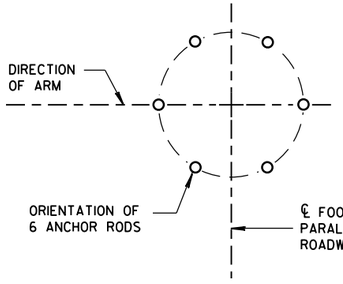
** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



8 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 12 POLE 35'- 55' MONOTUBE ARM

TYPE 12 POLE 35' - 55' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL
FHWA	141

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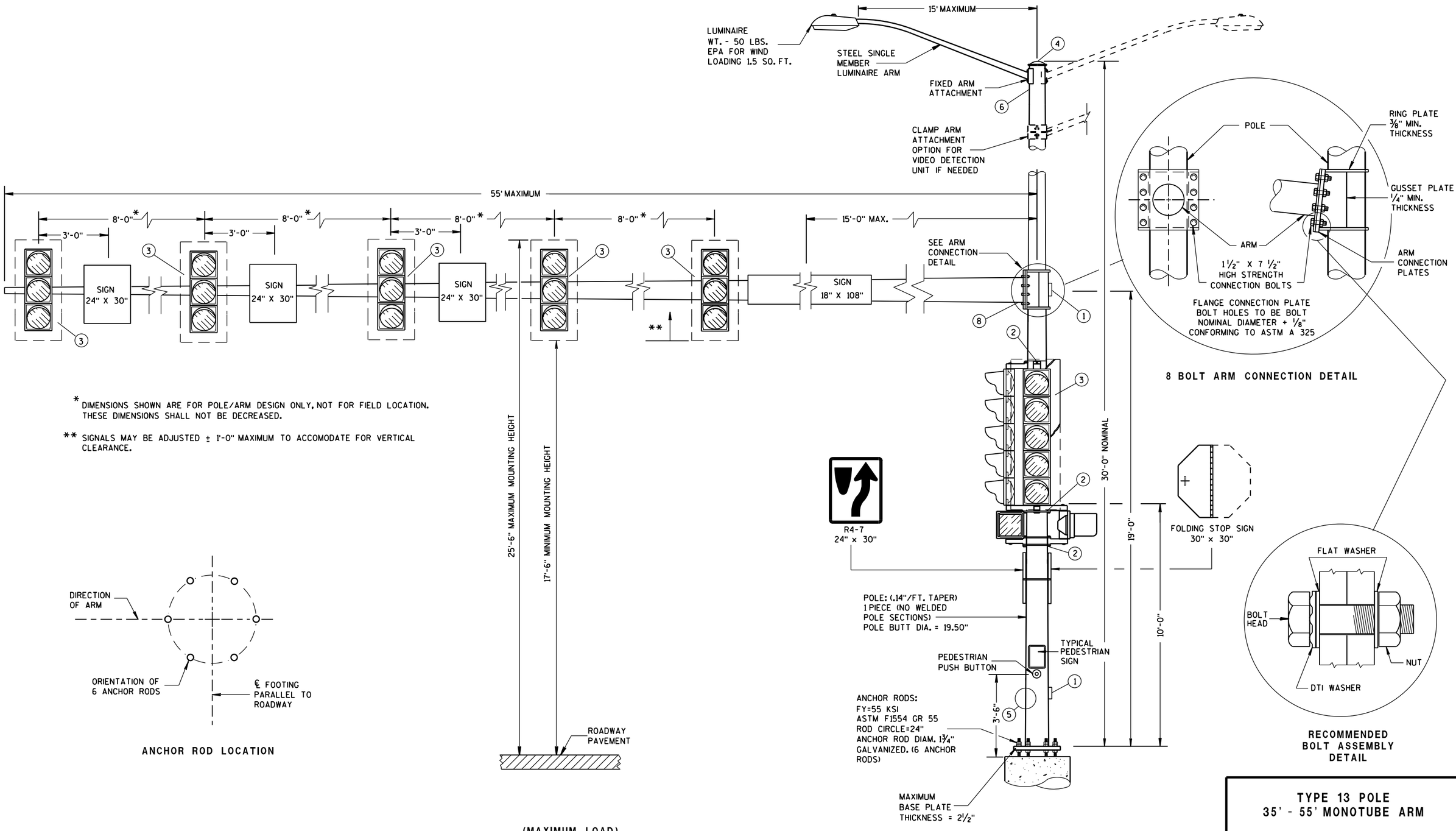
S.D.D. 9 E 8-6c



* 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.

ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 13 POLE 35'- 55' MONOTUBE ARM

TYPE 13 POLE 35' - 55' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL 142
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 AASHTO 2013 6TH EDITION AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

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

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

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

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

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

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

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

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

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

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

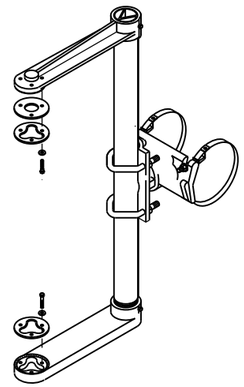
(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL DEPARTMENT PROVIDED STRUCTURAL IDENTIFICATION PLAQUES.

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

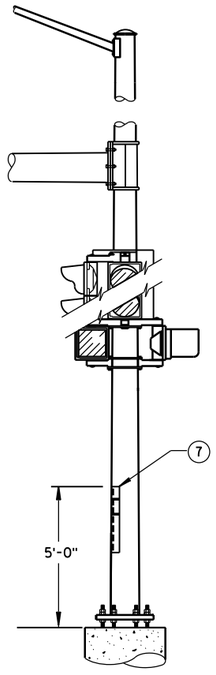
MOUNTING HEIGHT SHALL BE 5'-0" ABOVE THE CURB OR SHOULDER . ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

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

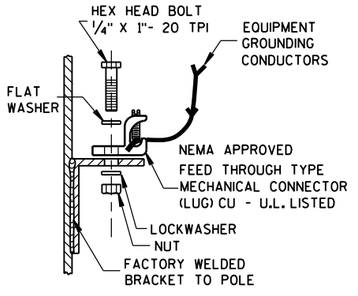


SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

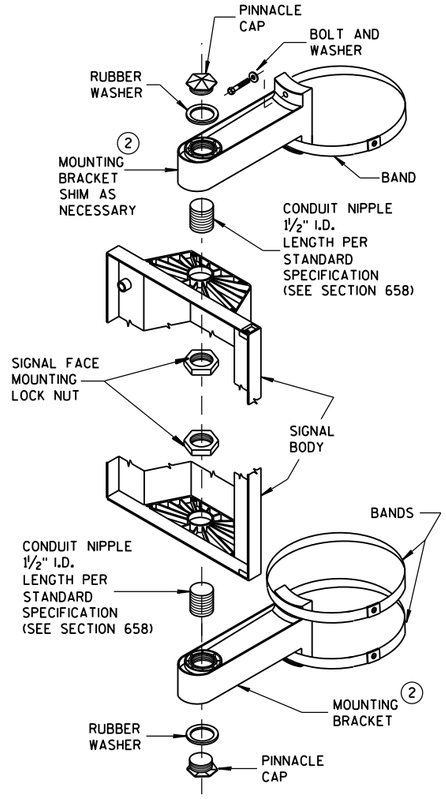


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT

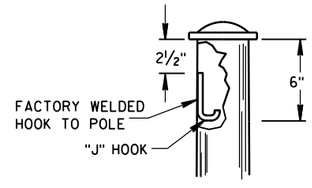


TYPICAL GROUNDING CONNECTIONS (5)

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

Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

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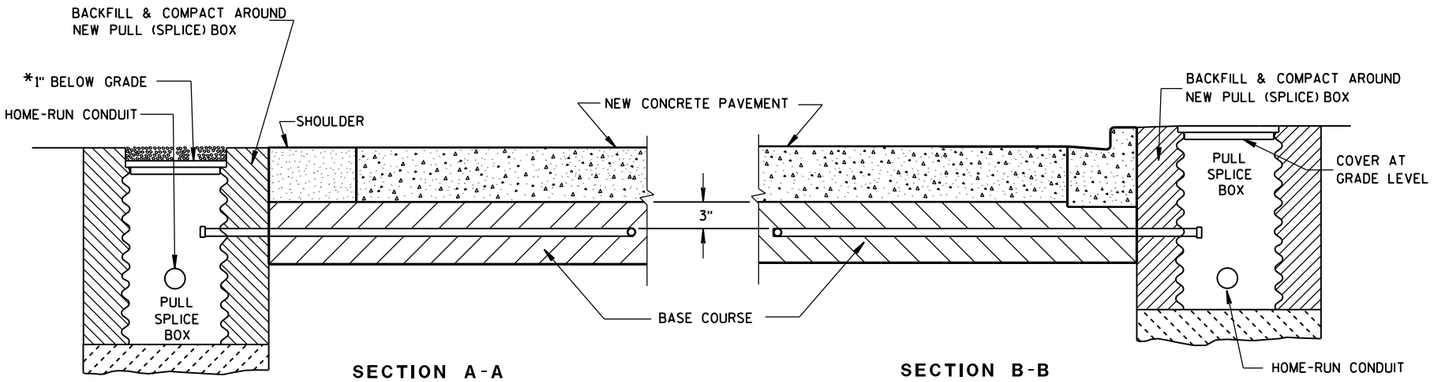


SECTION A-A
NO CURB & GUTTER

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 LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

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

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

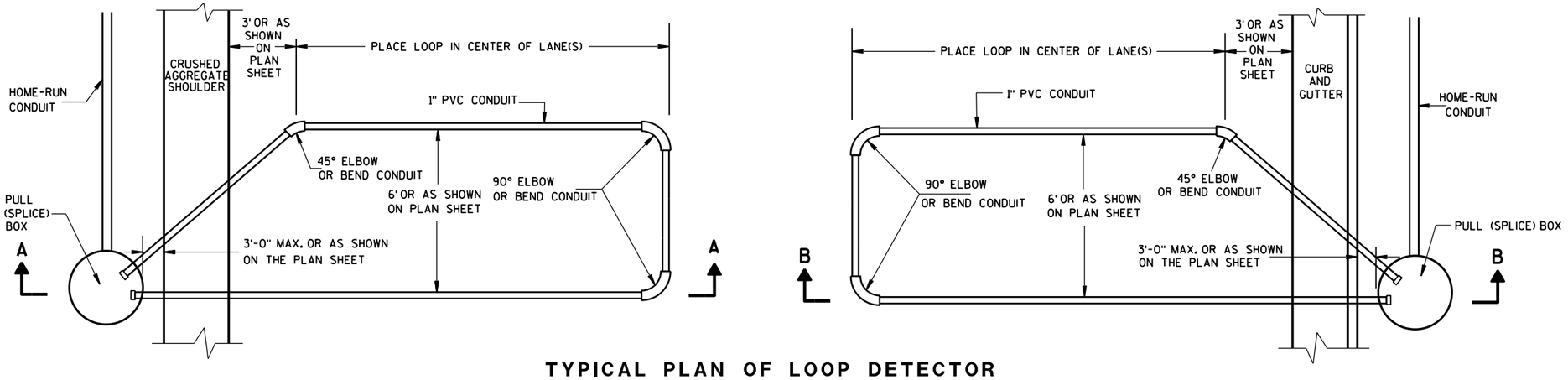
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

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-SPLICE CONTINUOUS LENGTH.

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

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



TYPICAL PLAN OF LOOP DETECTOR WITH 18" OR 24" PULL (SPLICE) BOX

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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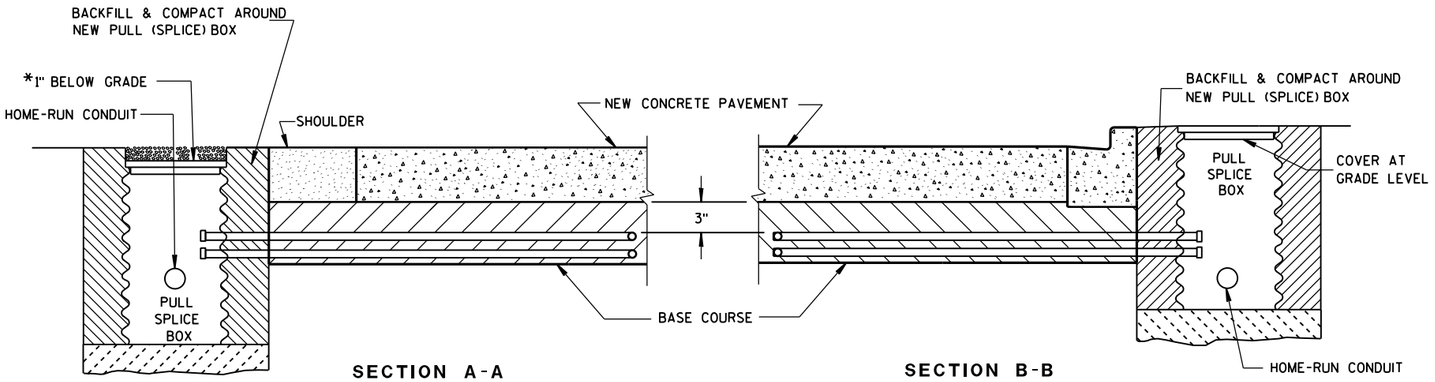


SECTION A-A
NO CURB & GUTTER

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 LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

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

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

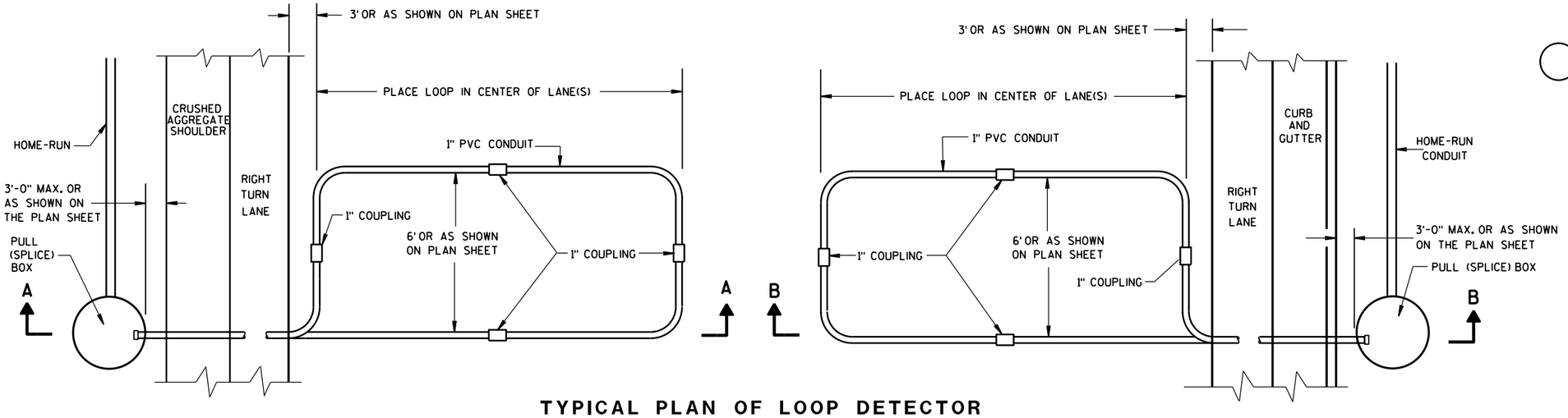
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

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

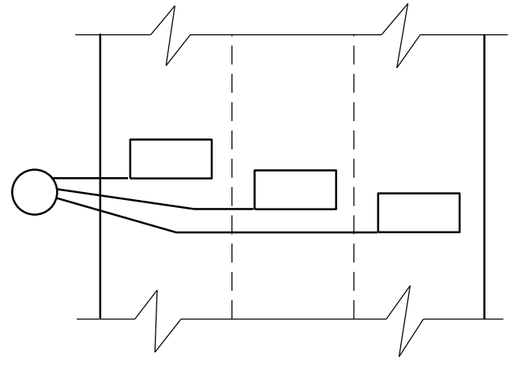
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICED CONTINUOUS LENGTH.

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

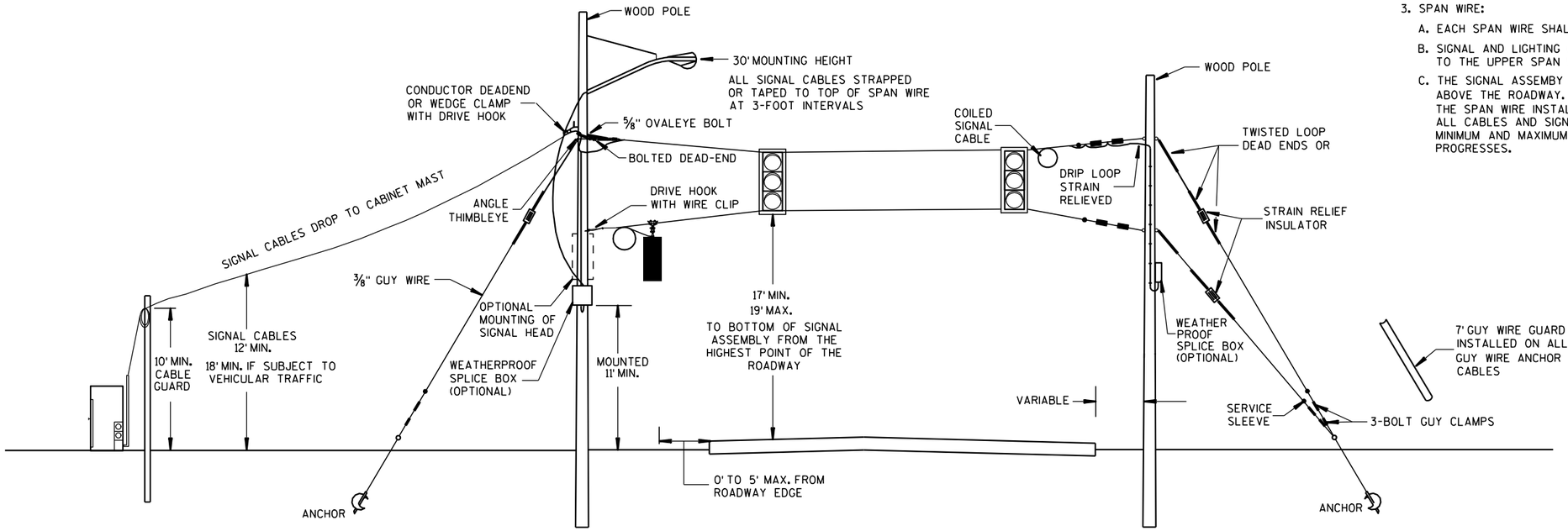
GENERAL NOTES

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

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
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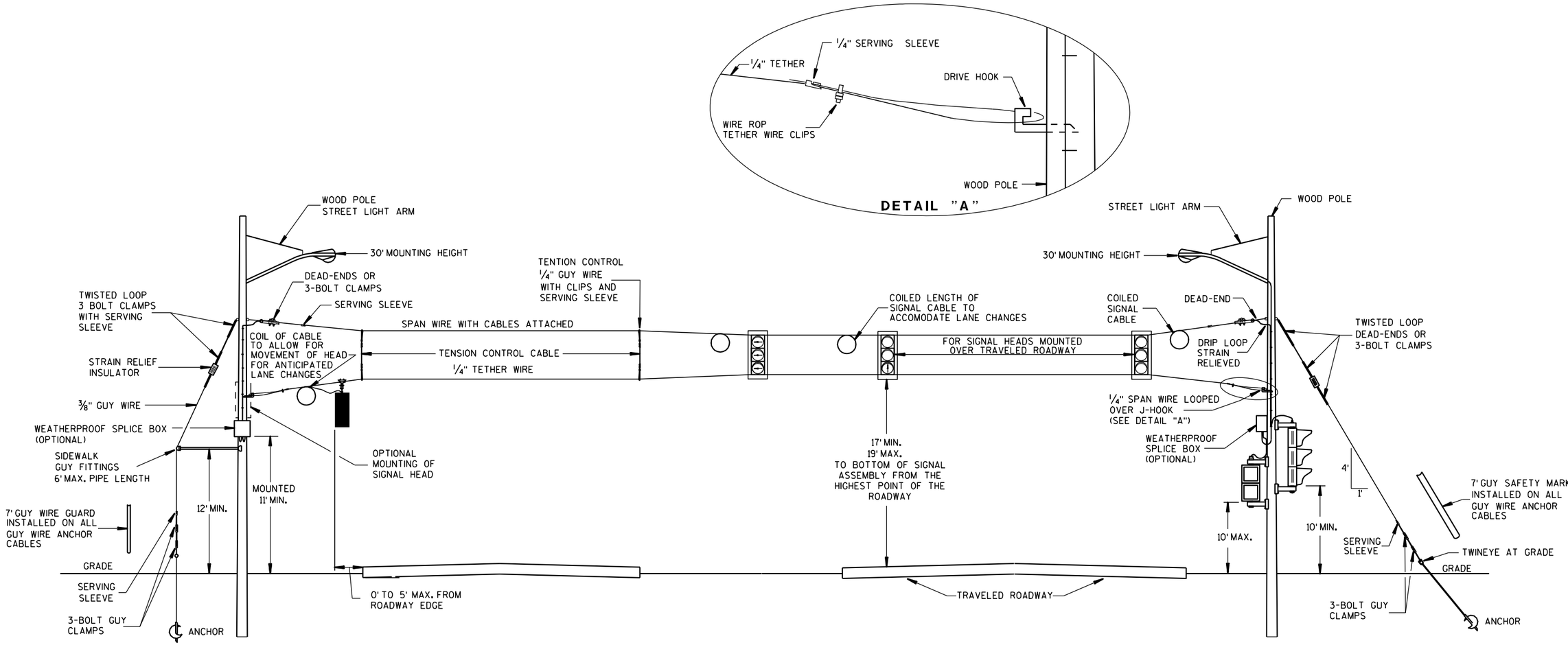

GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.
2. SIGNAL FACES:
   A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
   B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
   C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
   D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL 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
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, STATE ELECTRICAL ENGI — HWYS

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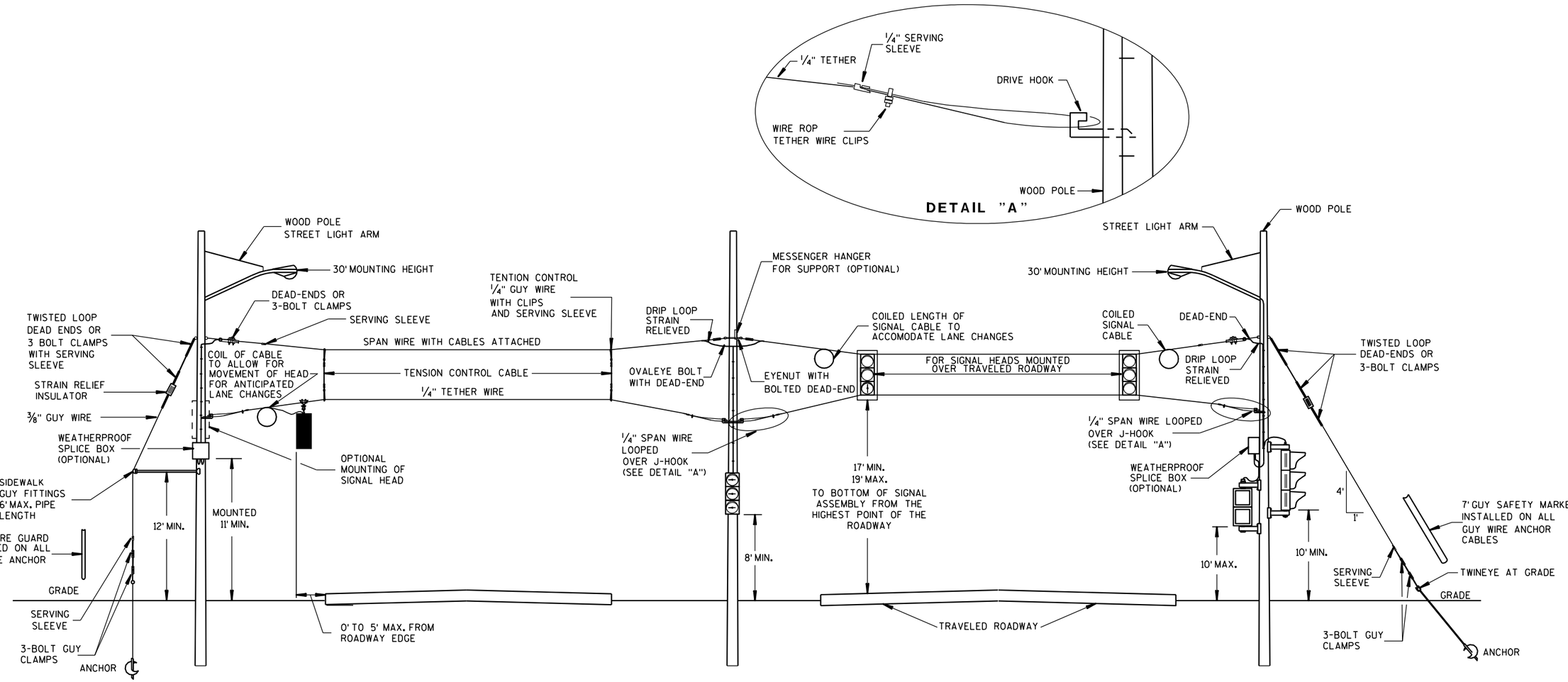
S.D.D. 9 G 1-3b



SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.

2. SIGNAL FACES:
   A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
   B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
   C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
   D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.

3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL 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.

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 Aganthangarayanan
STATE ELECTRICAL ENGI

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HWYS

FHWA

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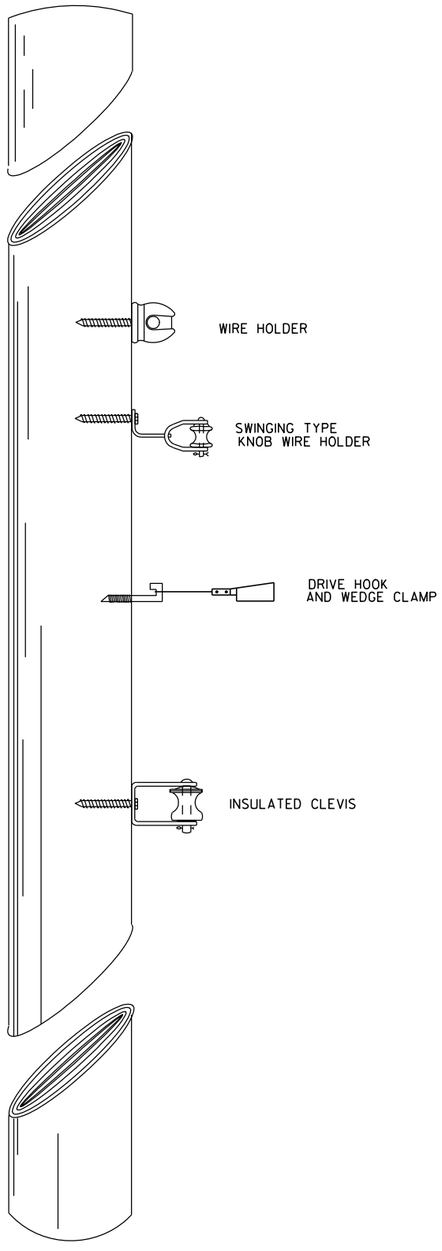
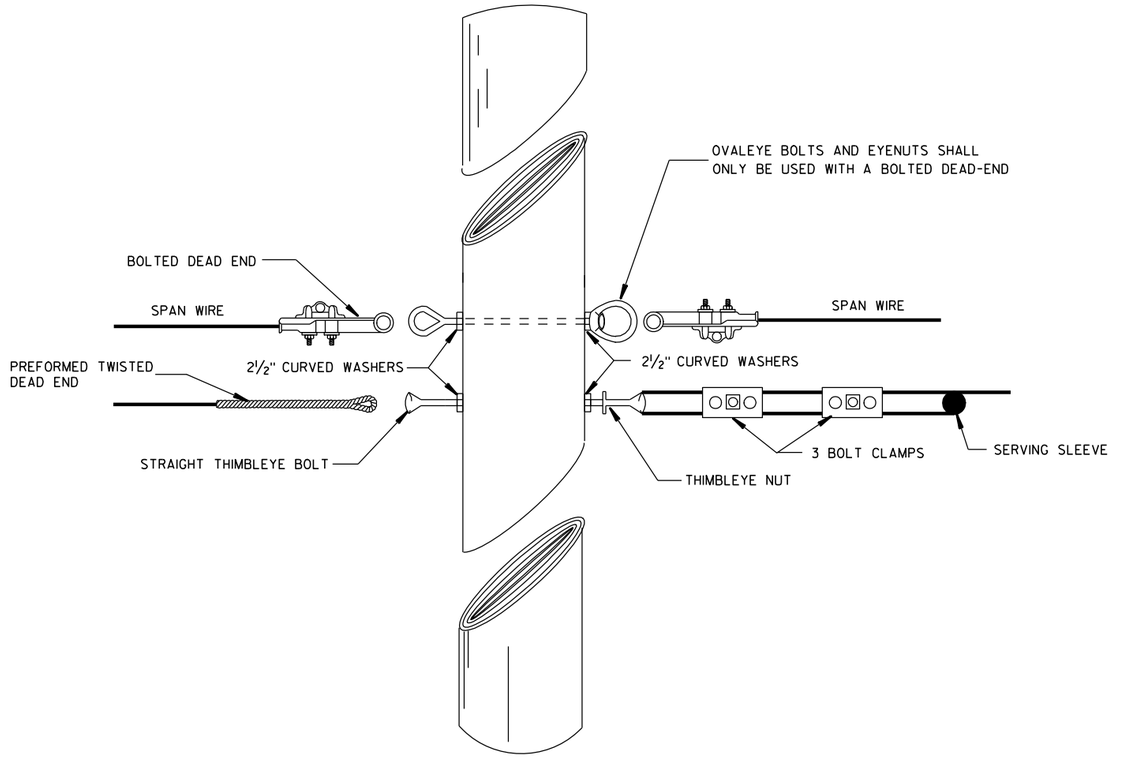
S.D.D. 9 G 1-3c



TYPICAL CABLE HANGERS



TYPICAL DEAD-ENDING

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S.D.D. 9 G 1-3d

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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7-14-08
DATE

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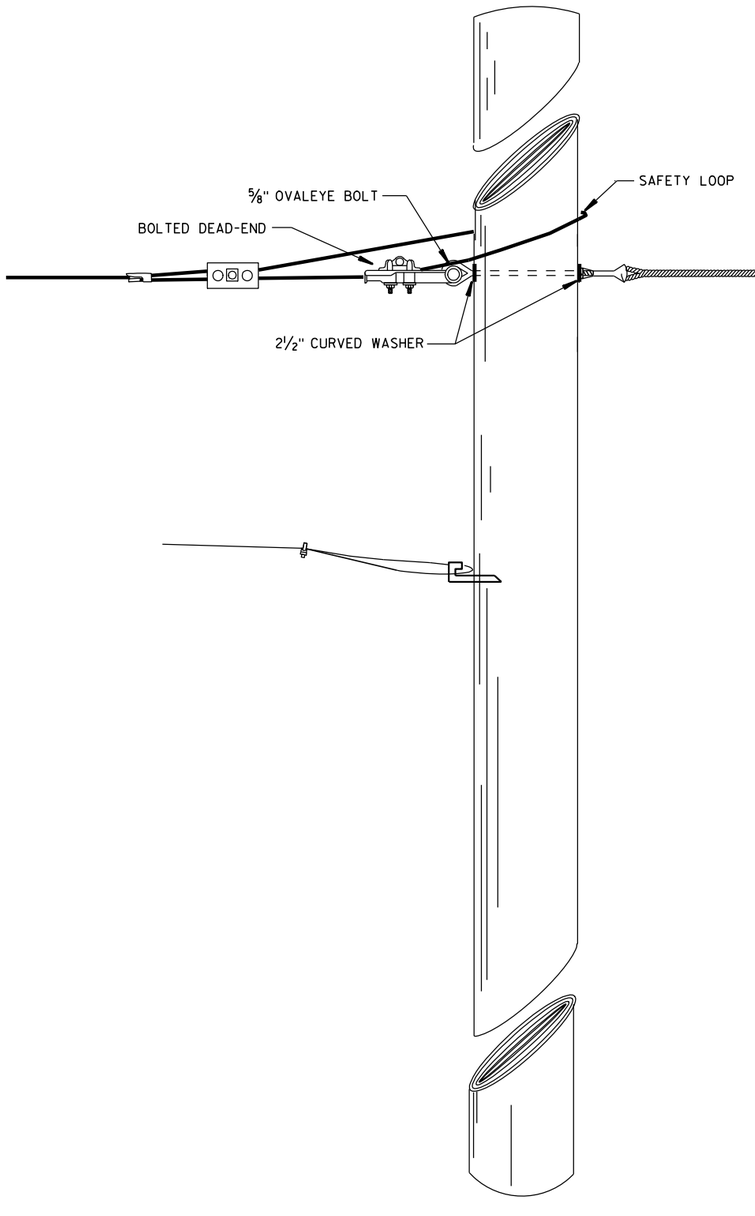
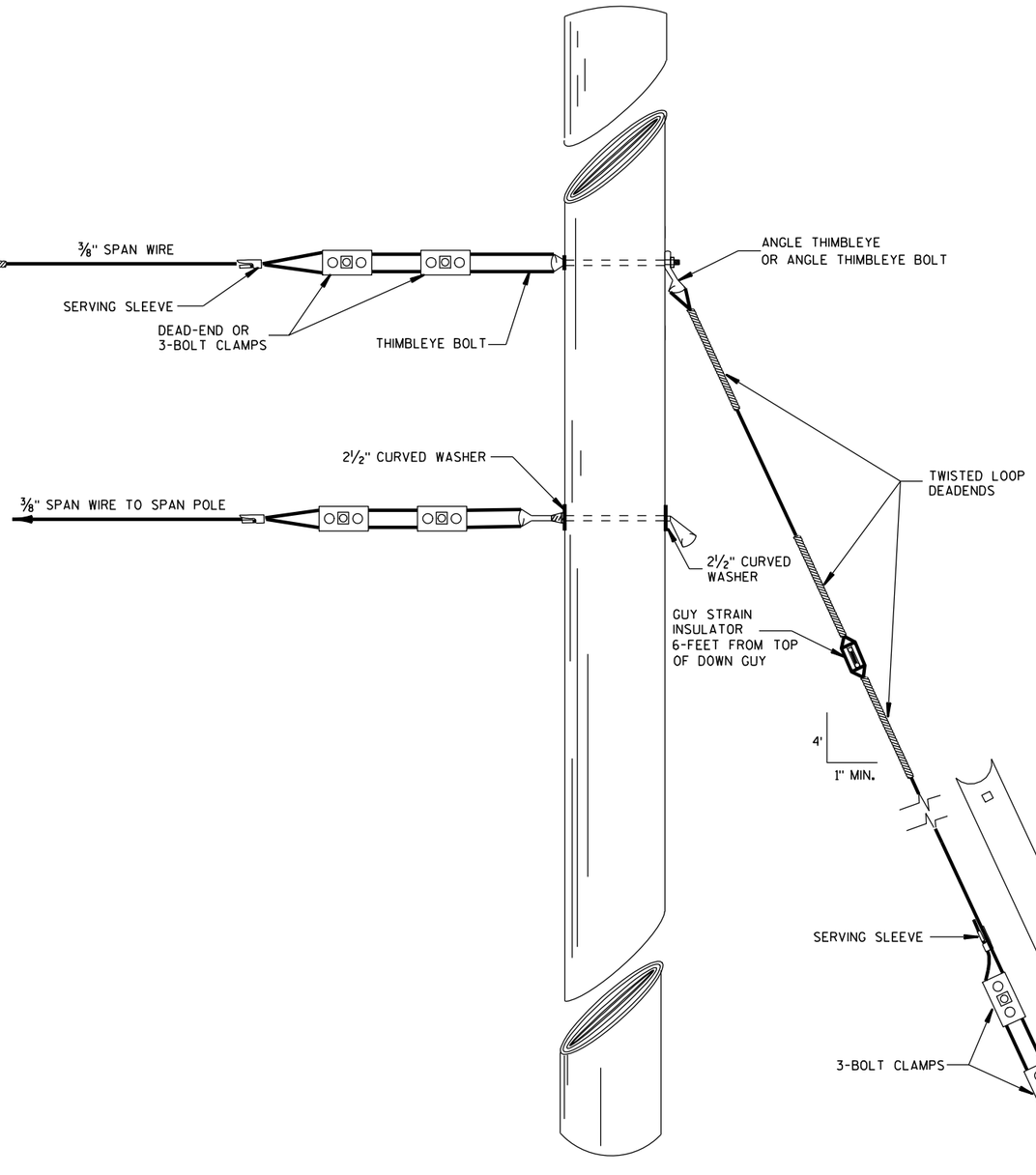
GENERAL NOTES

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



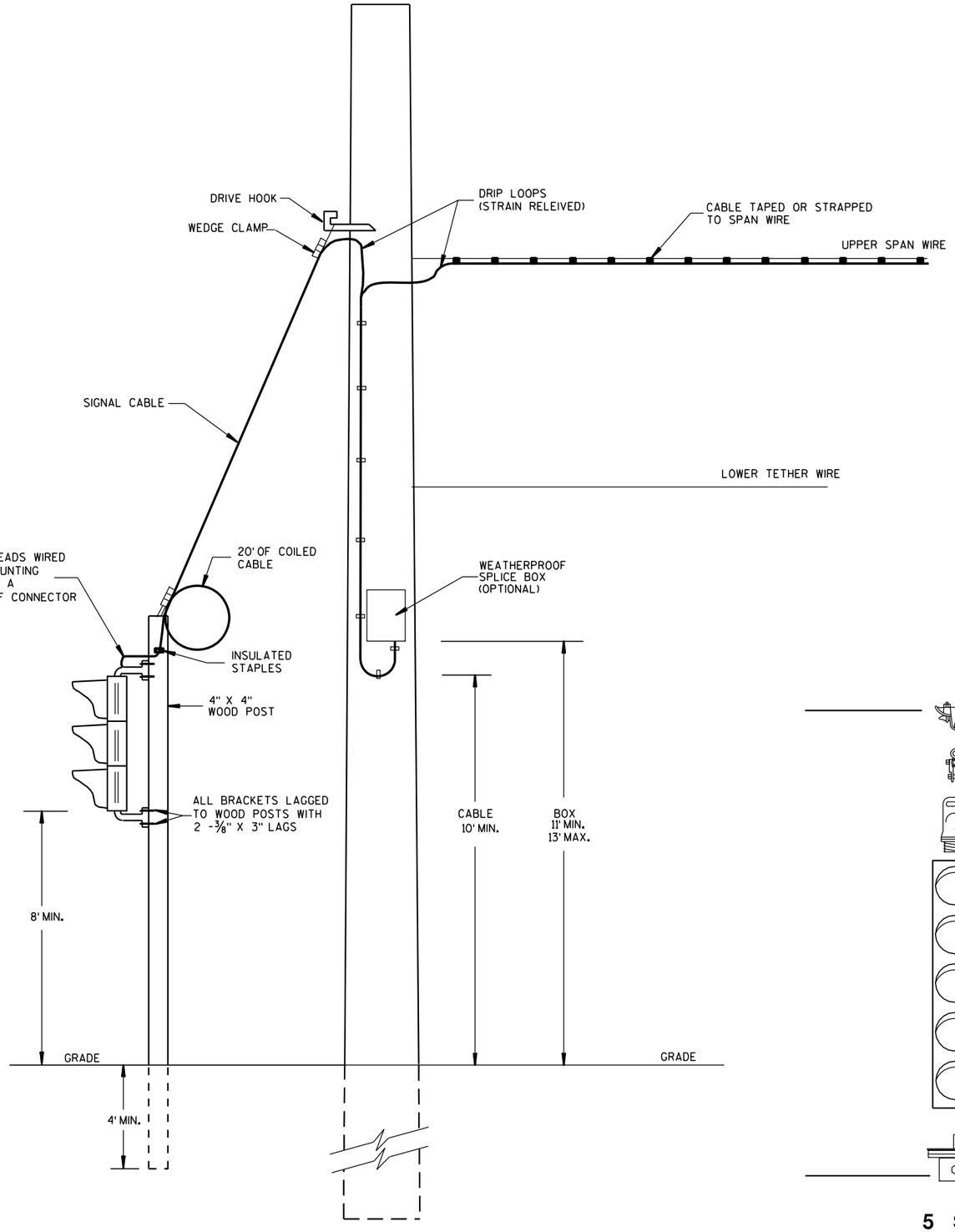
GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

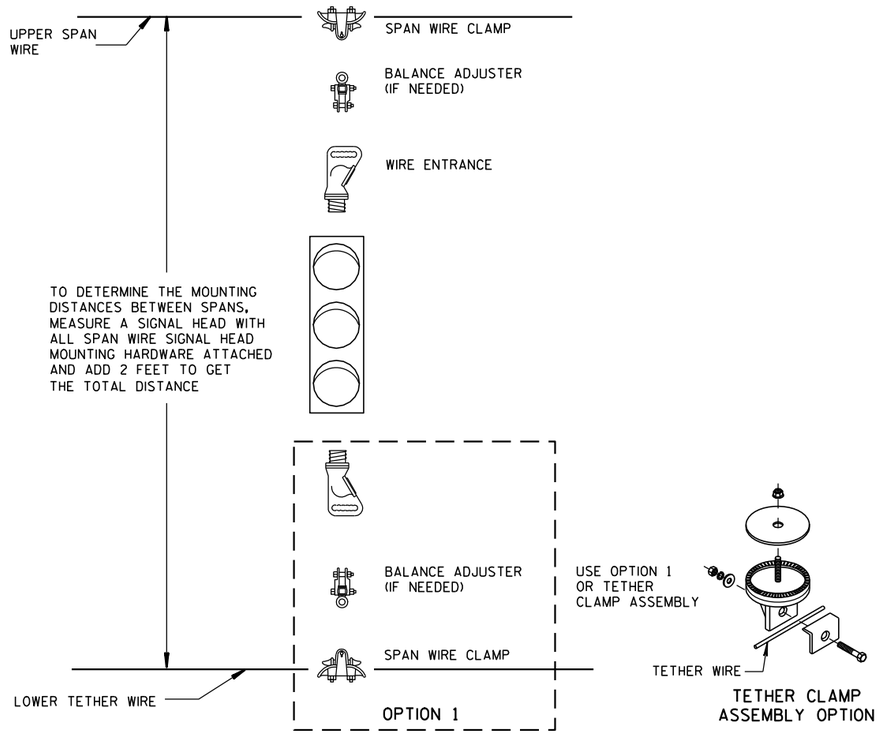
SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

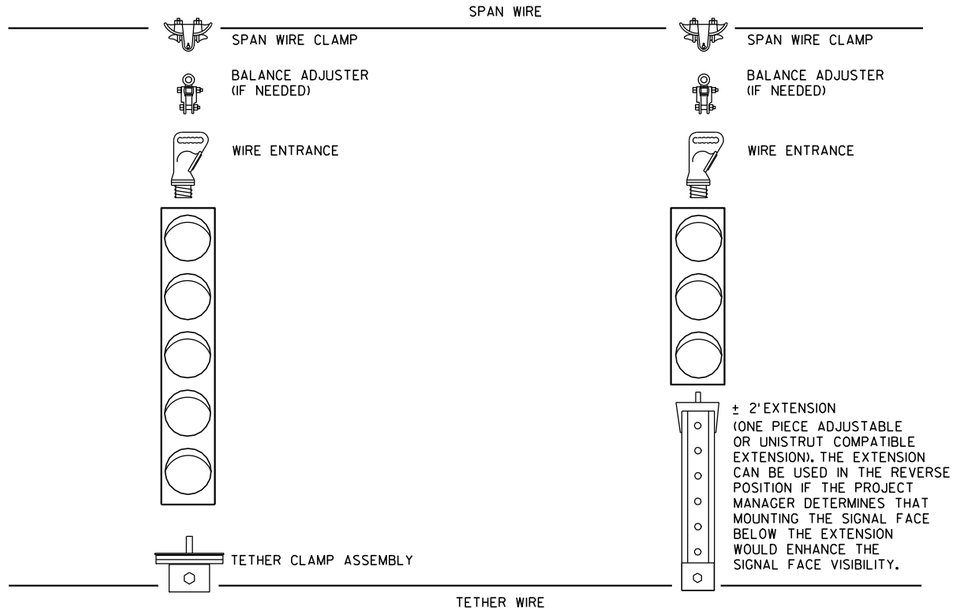
APPROVED
7-14-08 DATE
/S/ Balu Aganthanarayanan
STATE ELECTRICAL ENGI 150 HWYS
FHWA



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 151 HWYS
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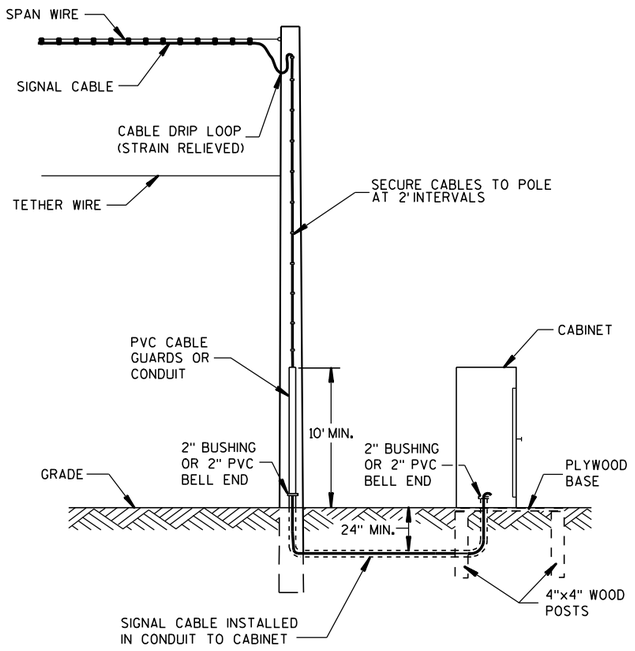

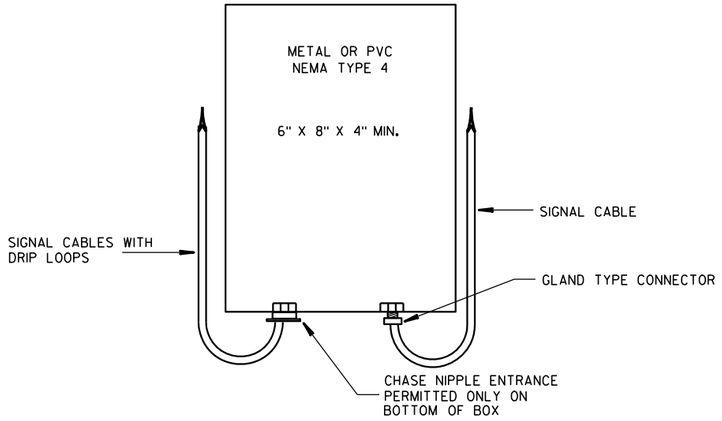

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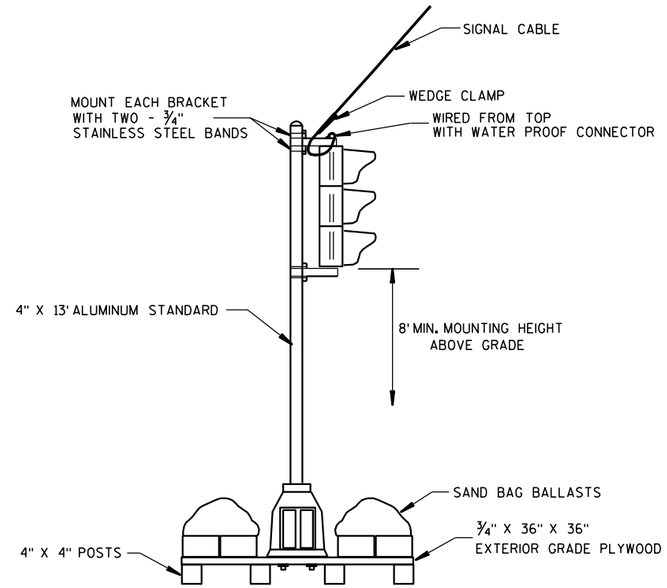
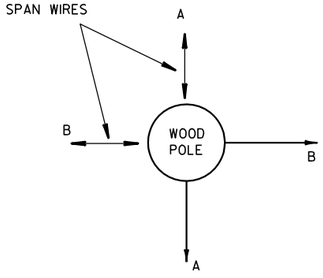
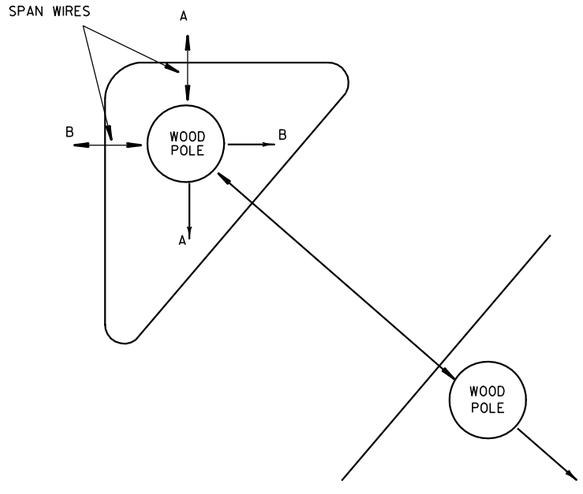


TYPICAL SKID TYPE TEMPORARY

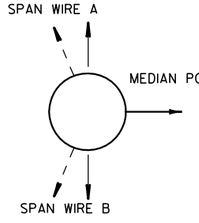


ALL DOWN OR SIDEWALK GUYS
SHALL BE INSTALLED IN THE
OPPOSITE DIRECTION OF THE
STRAIN OF THE SPAN WIRE

CORNER POLES



ISLAND POLES



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

MEDIAN POLES

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08
DATE

/S/ Balu Aganthangayanan
STATE ELECTRICAL ENGI

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FHWA

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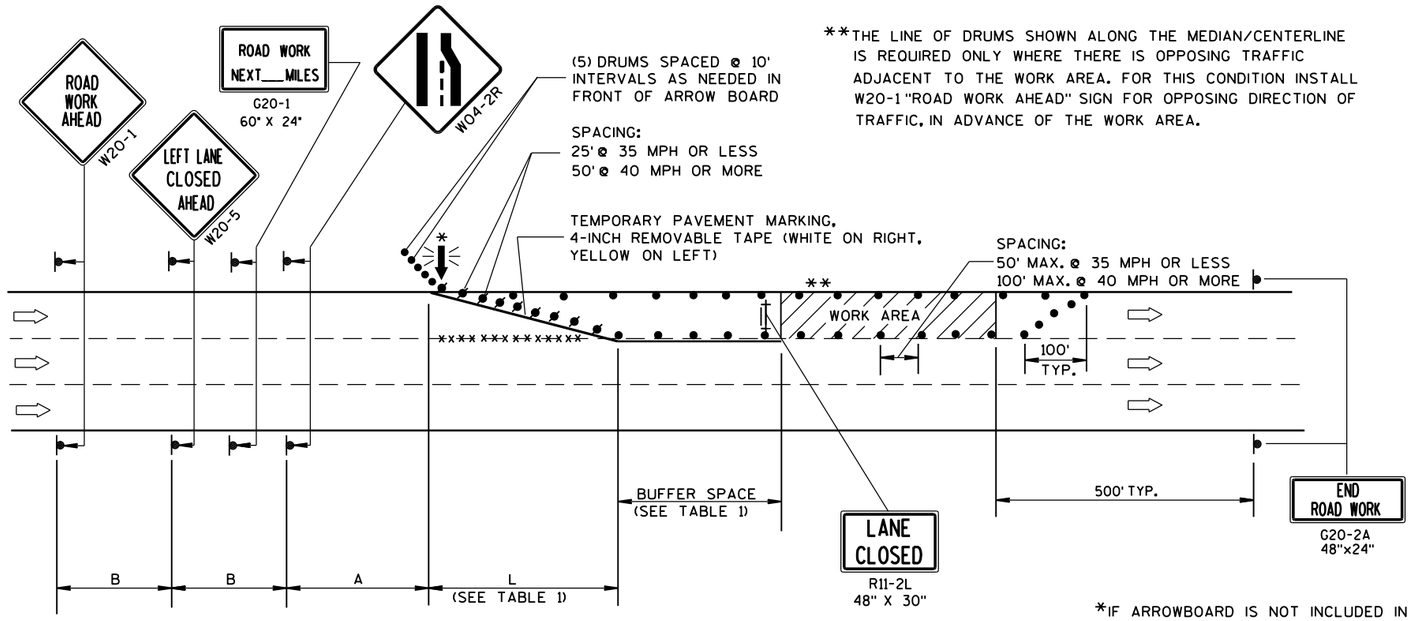

**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

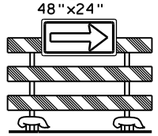

TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

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

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

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

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

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

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

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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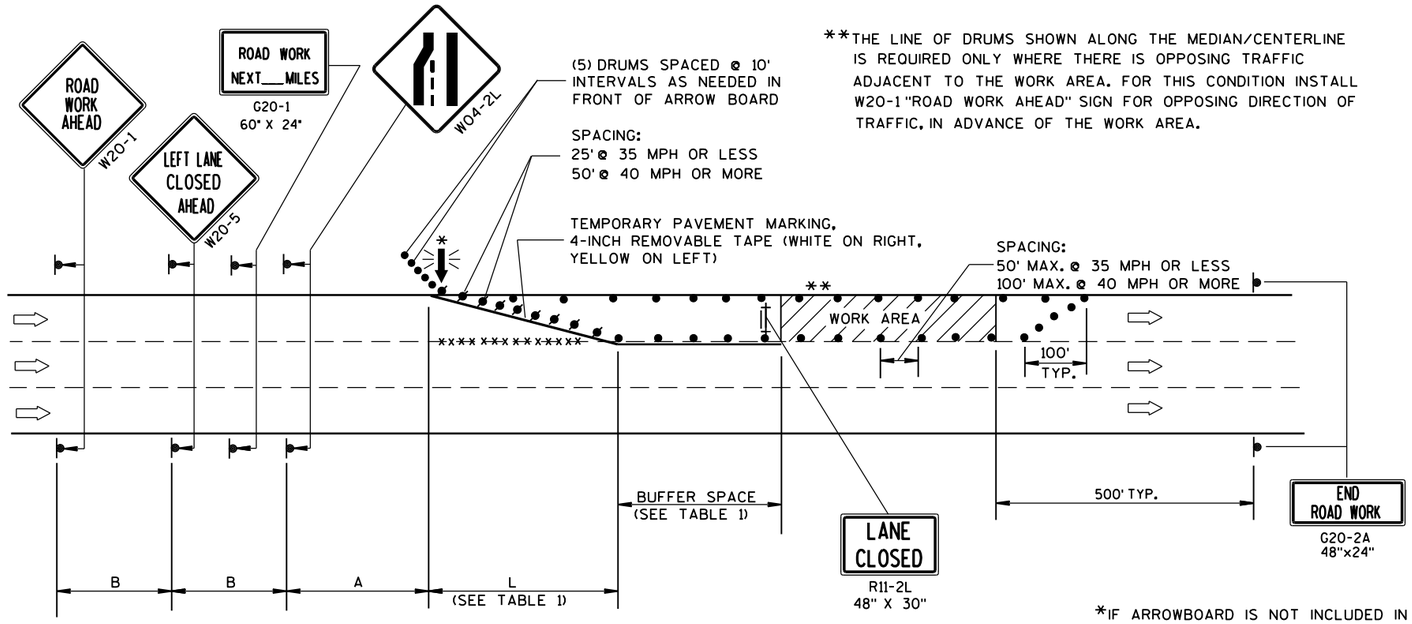
S.D.D. 15 D 20-2



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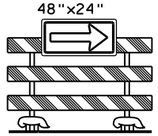
W01-6
48"x24"



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50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

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

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

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

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

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

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

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Feb. 2015 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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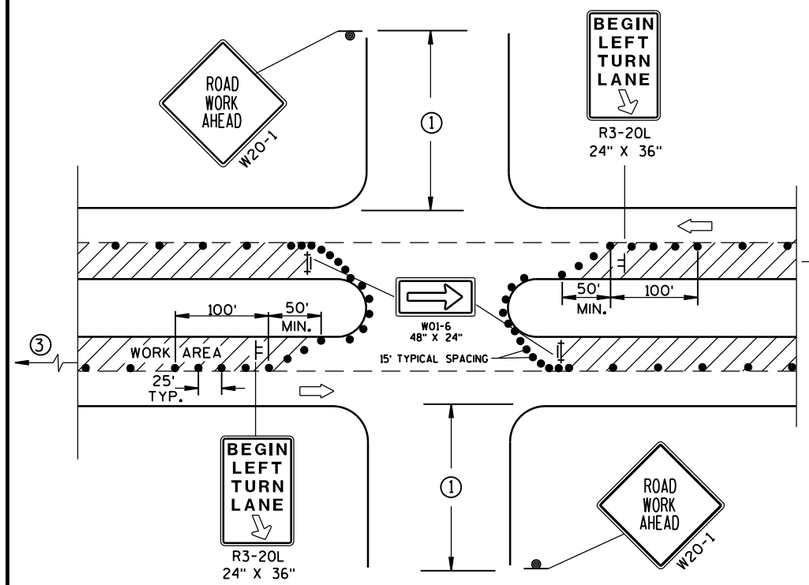
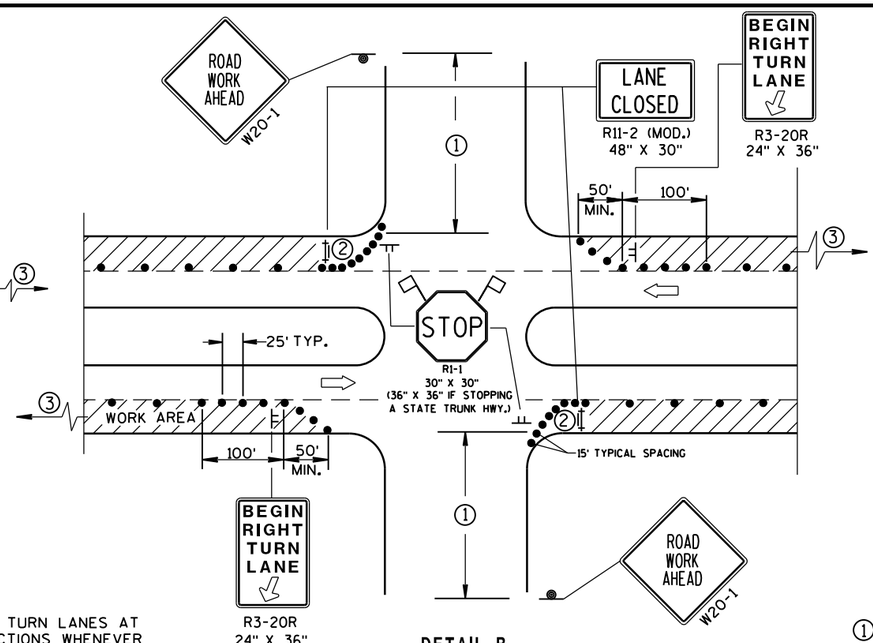
S.D.D. 15 D 20-3



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.

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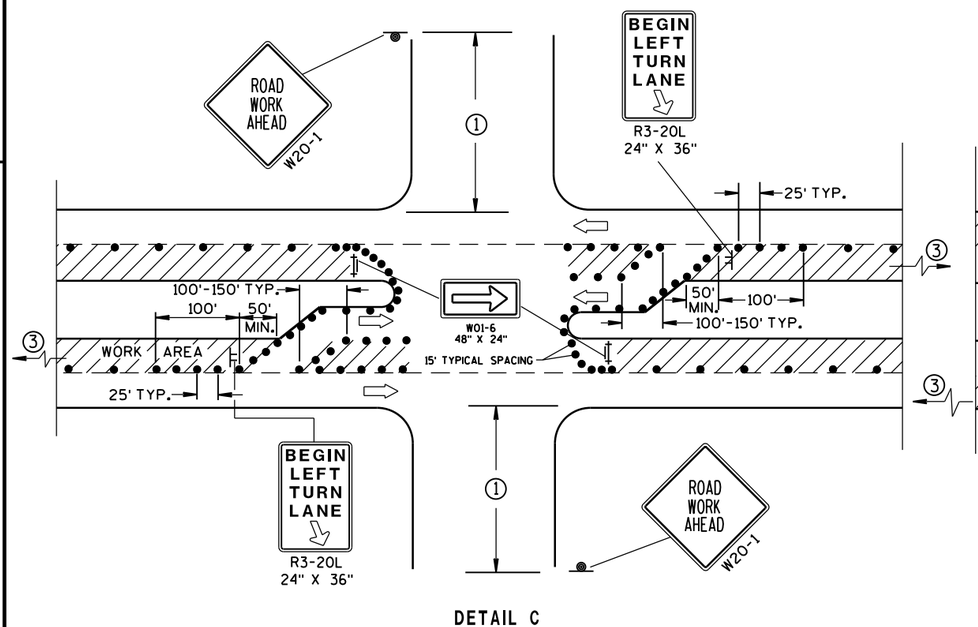
BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

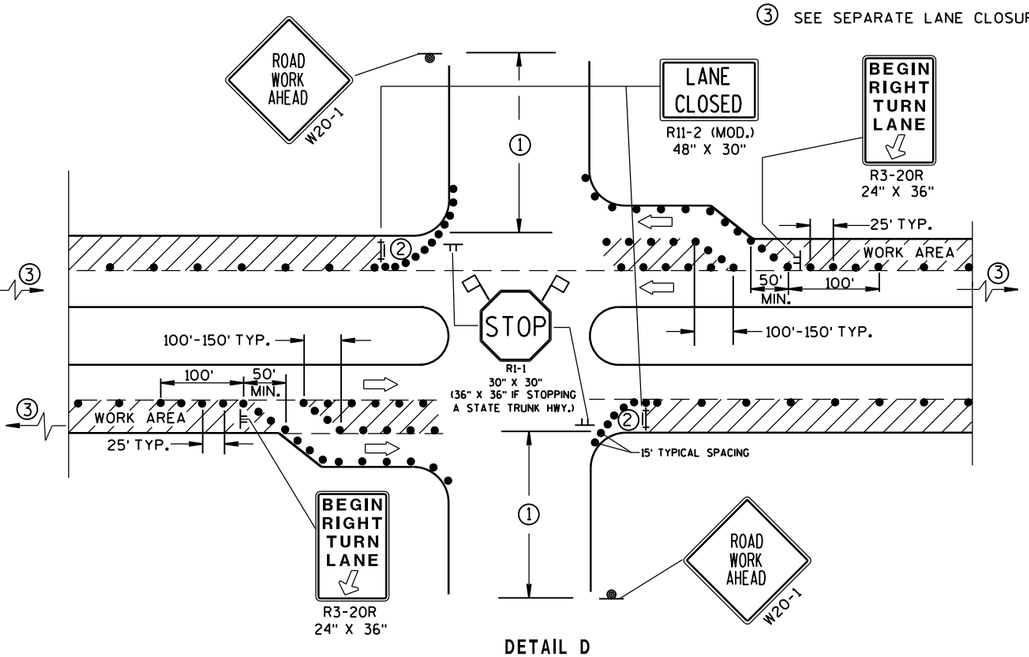
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

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



DETAIL D

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

LEGEND

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

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Nov. 2014 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINE
FHWA

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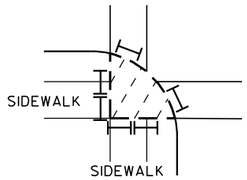
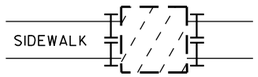
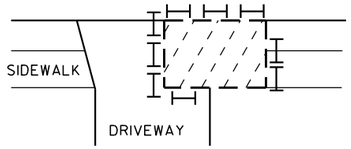
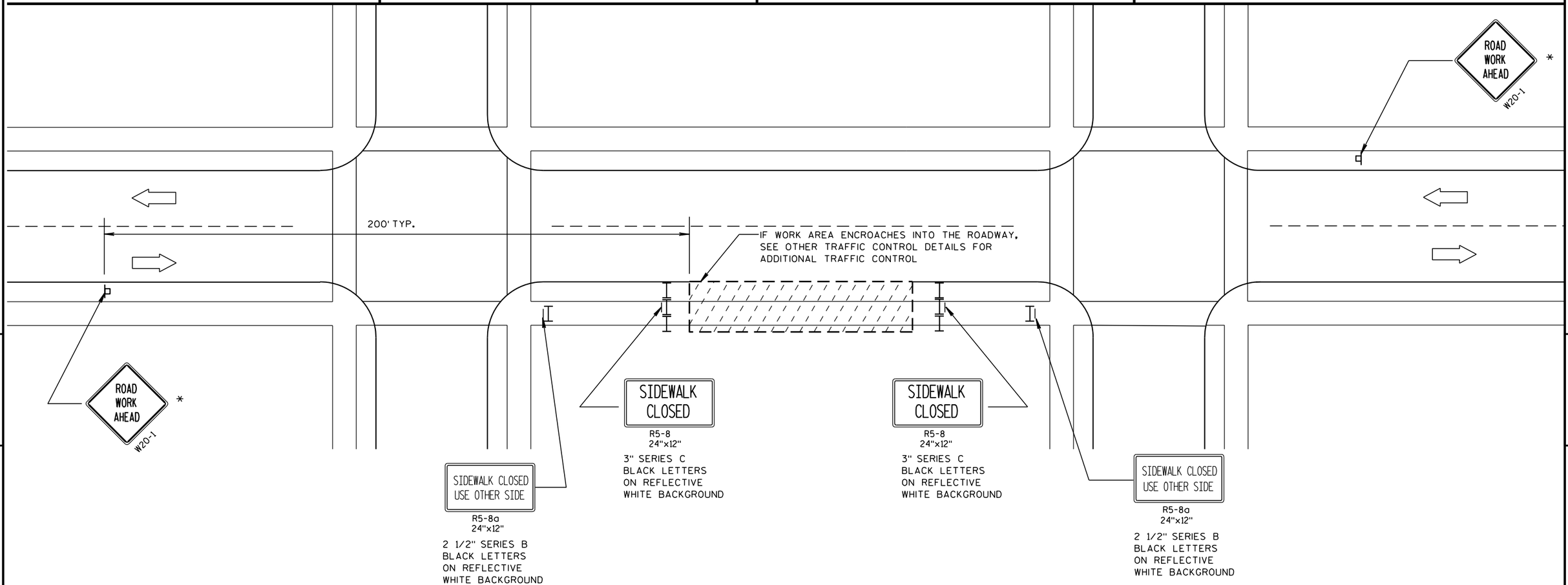
WARNING OF LOCALIZED SIDEWALK WORK AREAS









LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

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

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

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

* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

TRAFFIC CONTROL, SIDEWALK CLOSURE

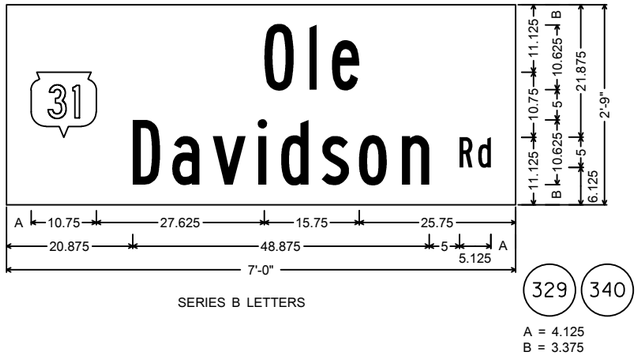
TRAFFIC CONTROL, SIDEWALK CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2000 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARK[illegible] ENGINEER
FHWA

6

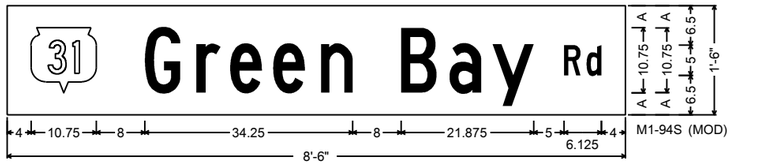
S.D.D. 15 D 30-1



329 340

SERIES B LETTERS

A = 4.125
B = 3.375

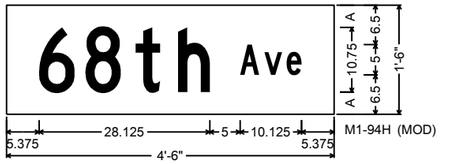


M1-94S (MOD)

SERIES C LETTERS

221 222

A = 3.625

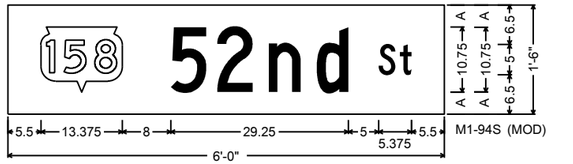


M1-94H (MOD)

SERIES C LETTERS

253 258

A = 3.625



M1-94S (MOD)

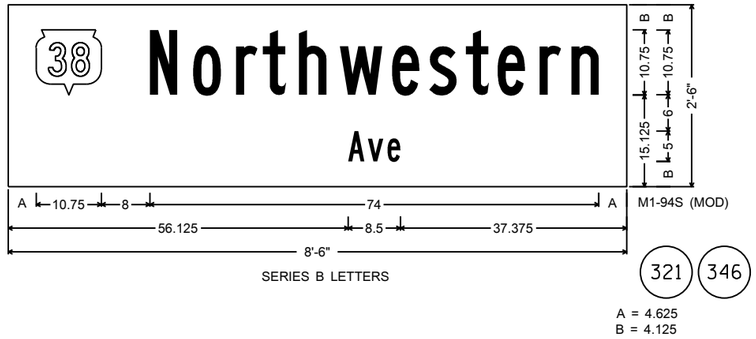
SERIES C LETTERS

254 257

A = 3.625

GENERAL NOTES:

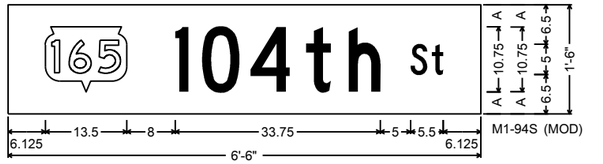
1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE II".
3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE "TYPE SH REFLECTIVE SHEETING".
4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
5. TYPE II SIGNS ALL UPPERCASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E". ALL LOWERCASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E".
6. TYPE I SIGNS ALL UPPERCASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E MODIFIED". ALL LOWER CASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E MODIFIED". ALL CAP WORDS ARE "SERIES E".
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE "SERIES E" PER PLATES A11-7 AND A11-10.
11. DO NOT SCALE.



SERIES B LETTERS

321 346

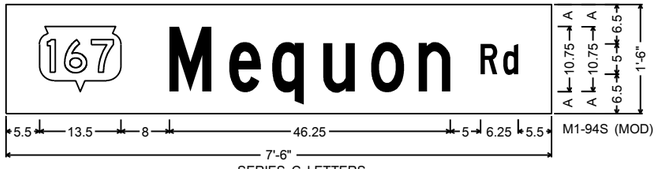
A = 4.625
B = 4.125



SERIES C LETTERS

211 231

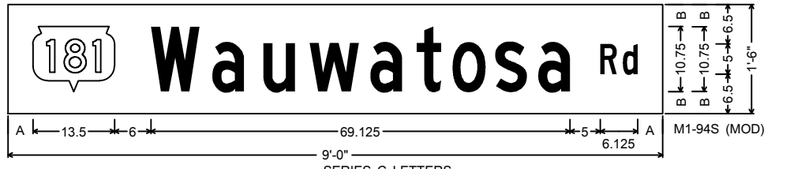
A = 3.625



SERIES C LETTERS

270 289

A = 3.625



SERIES C LETTERS

274 298

A = 4.125
B = 3.625

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
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3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE "TYPE SH REFLECTIVE SHEETING".
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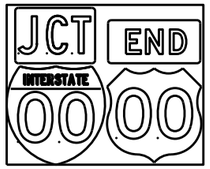
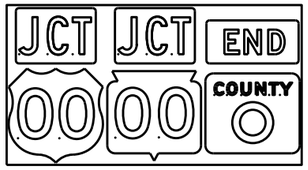
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE "SERIES E" PER PLATES A11-7 AND A11-10.
11. DO NOT SCALE.

TYPICAL ASSEMBLIES

J1-1

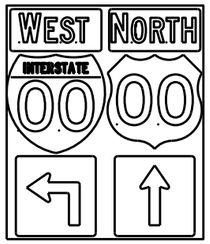


J1-2

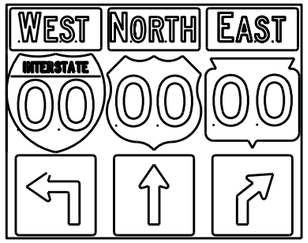


J1-3

J2-1



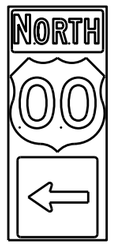
J2-2



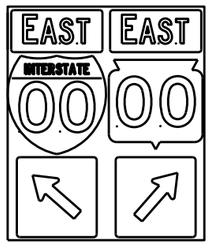
J2-3

JV

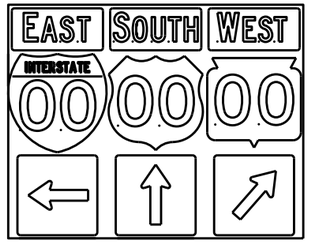
(Typical Vertical J-Assembly
See Note 10 and 11)



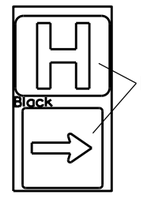
J3-1



J3-2



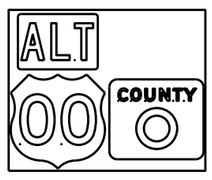
J3-3



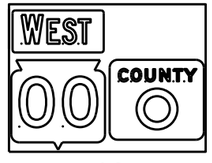
Blue Background

JH-1

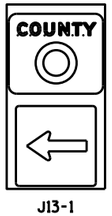
J4-1



J4-2



J4-2



J13-1

J12-1

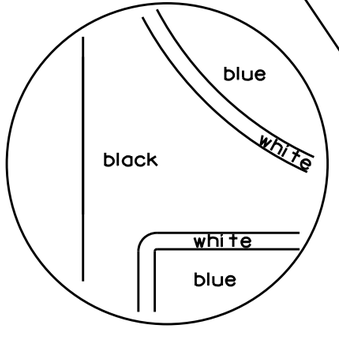
J32-1

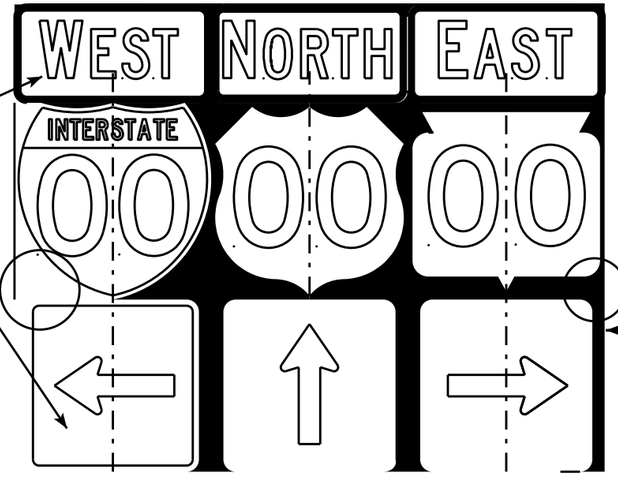
J33-1

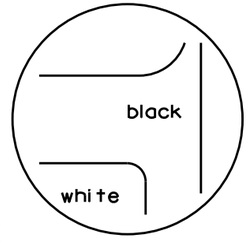
J23-1

J22-1

[blue background with interstate]







[black background]

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/14 PL... A2-1S.8

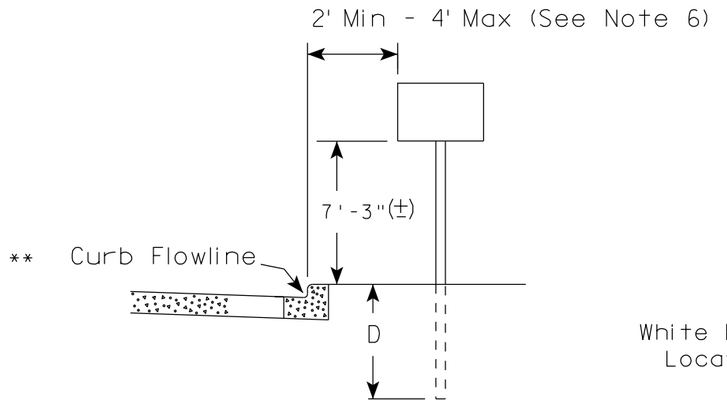
PROJECT NO:

SHEET NO: E

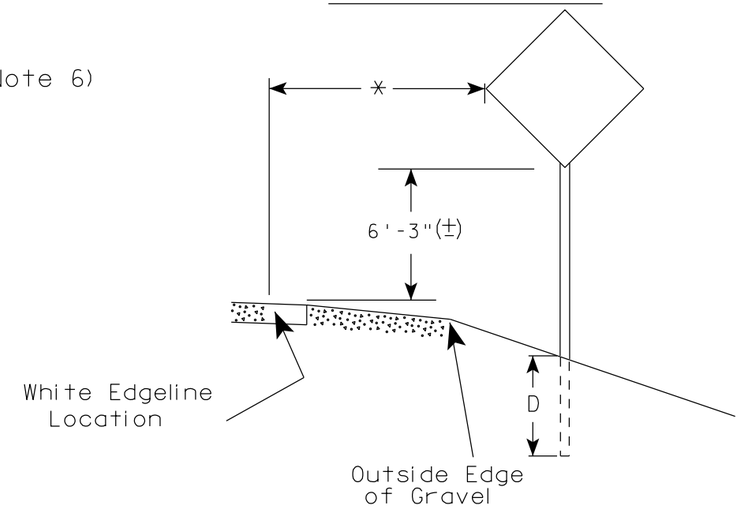
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :

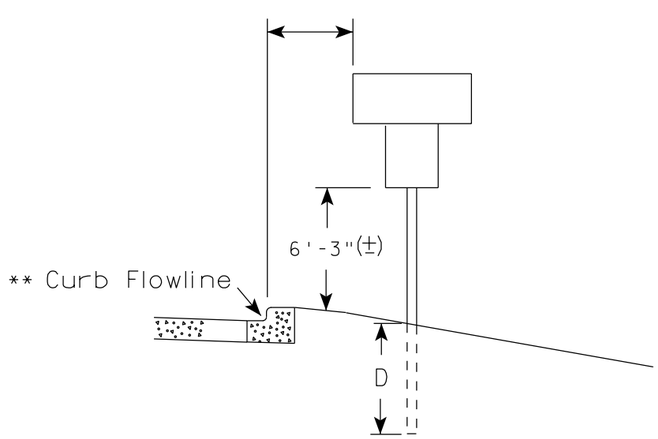
WISDOT/CADDS SHEET 42

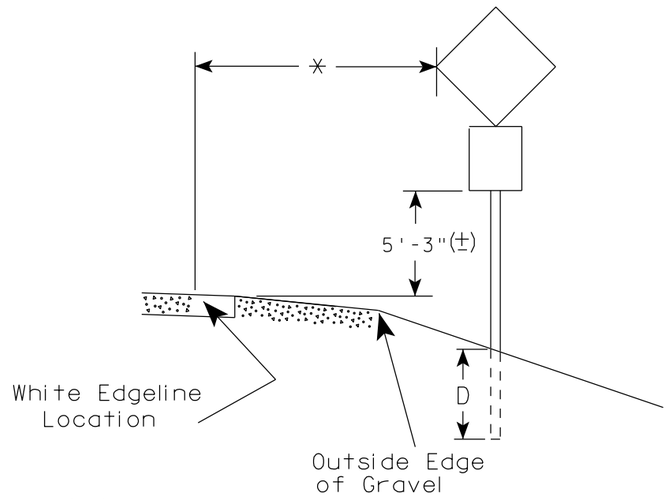
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

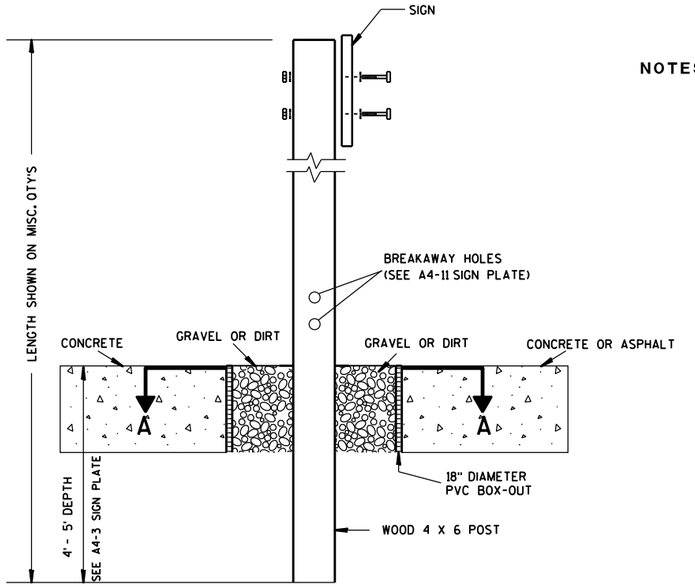
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

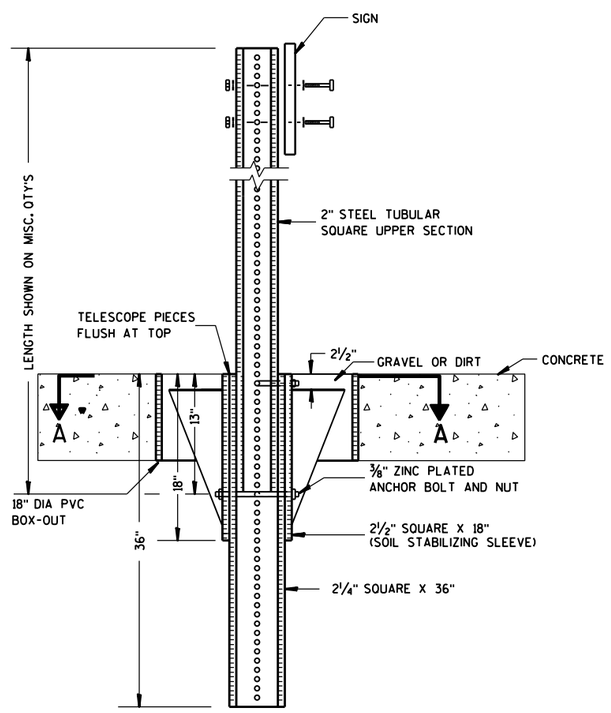
7



ELEVATION VIEW

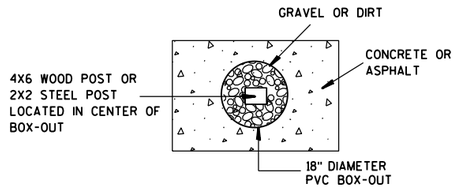
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

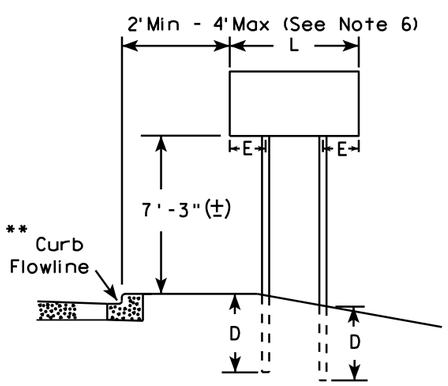
APPROVED Matthew R Rauch
for State Traffic Engineer

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

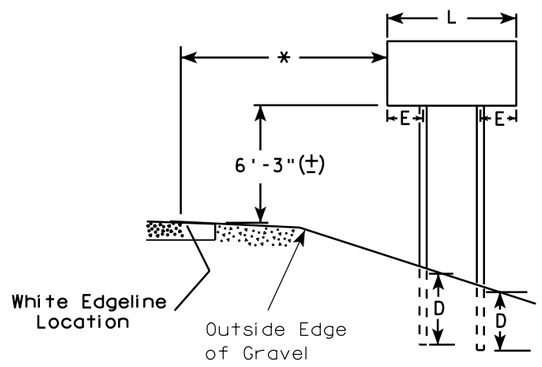
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

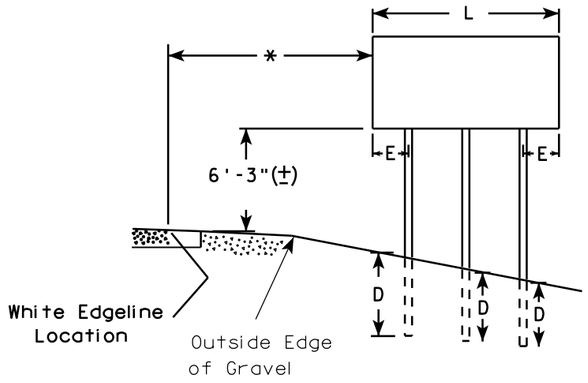
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

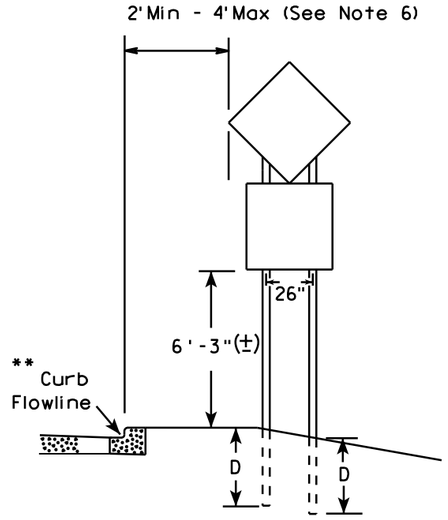
URBAN AREA



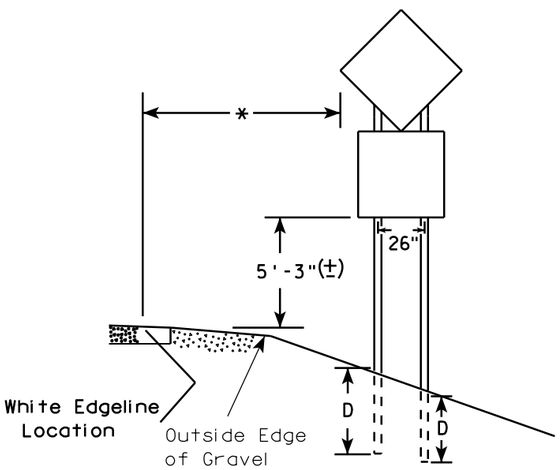
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

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

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

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

***

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

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

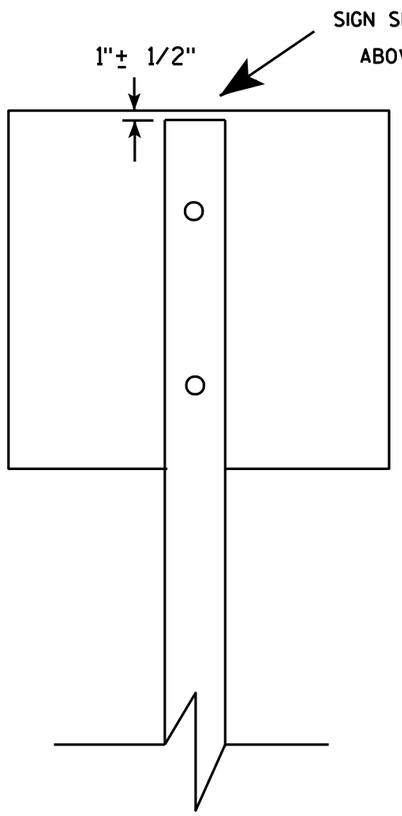
WISCONSIN DEPT OF TRANSPORTATION

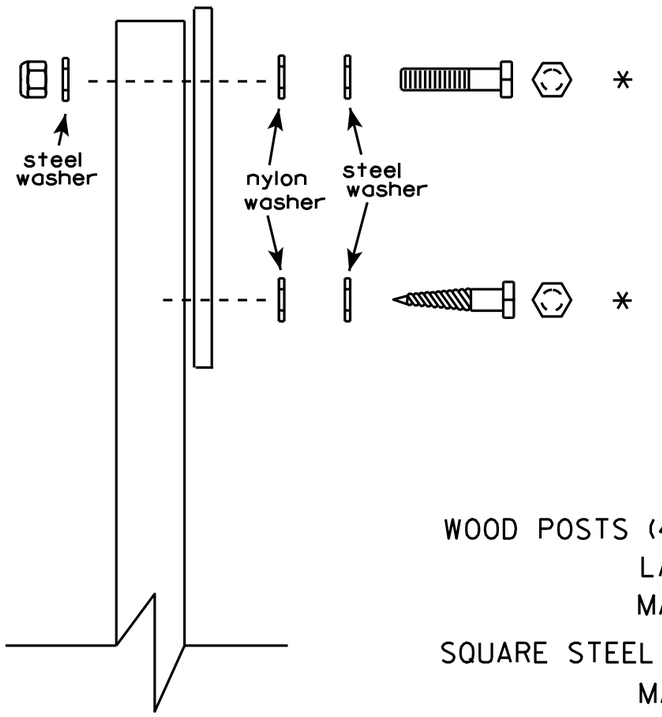
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 23-JUL-2015 15:23 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 :

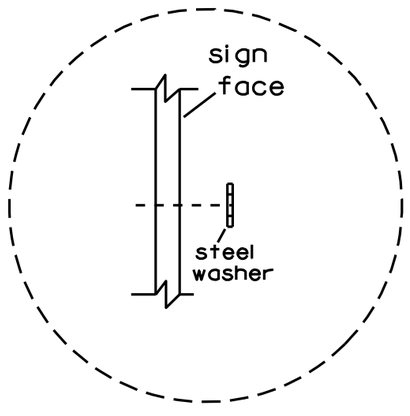
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

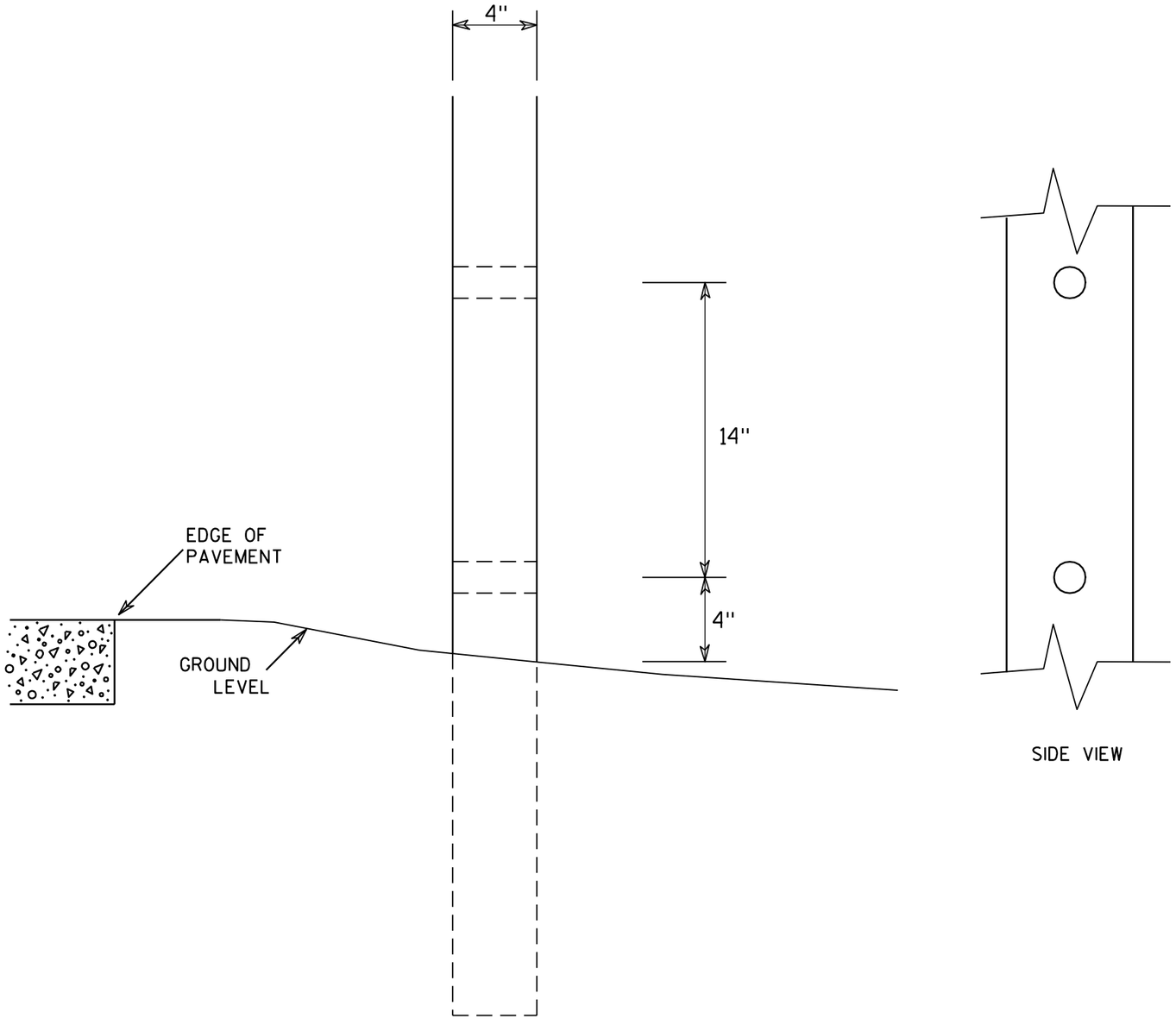
DATE 3/23/10 PLATE NO. A4-8.7

7

7

PROJECT NO:

SHEET NO: 163 E



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

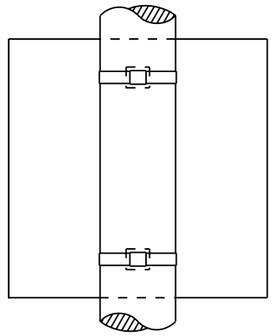
APPROVED Chester J Spang
for State Traffic Engineer

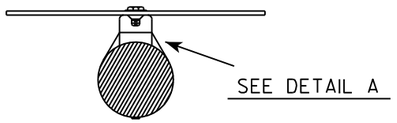
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 164	E

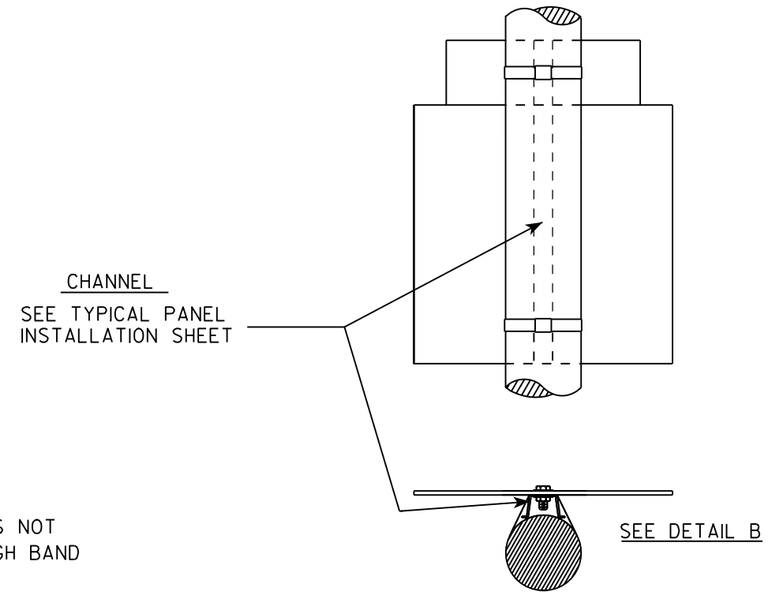
BANDING

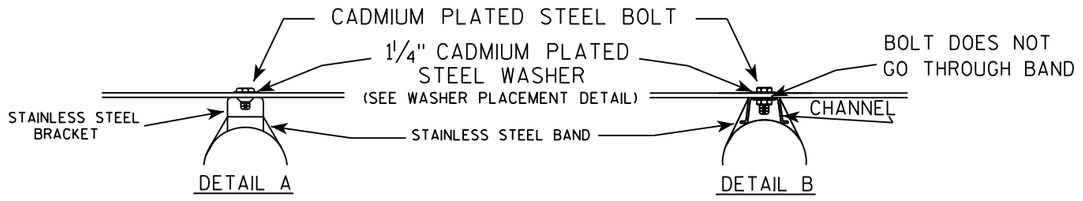
SINGLE SIGN



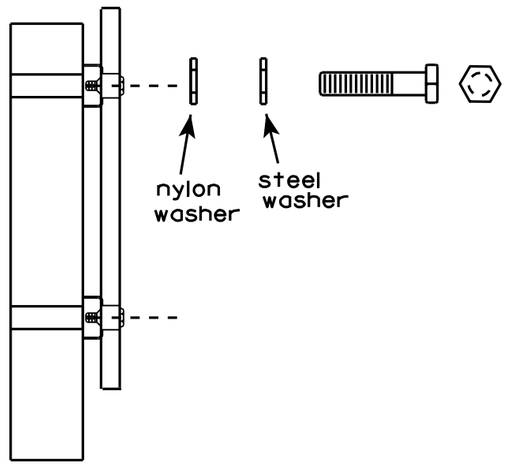


"J" ASSEMBLY





WASHER PLACEMENT



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

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

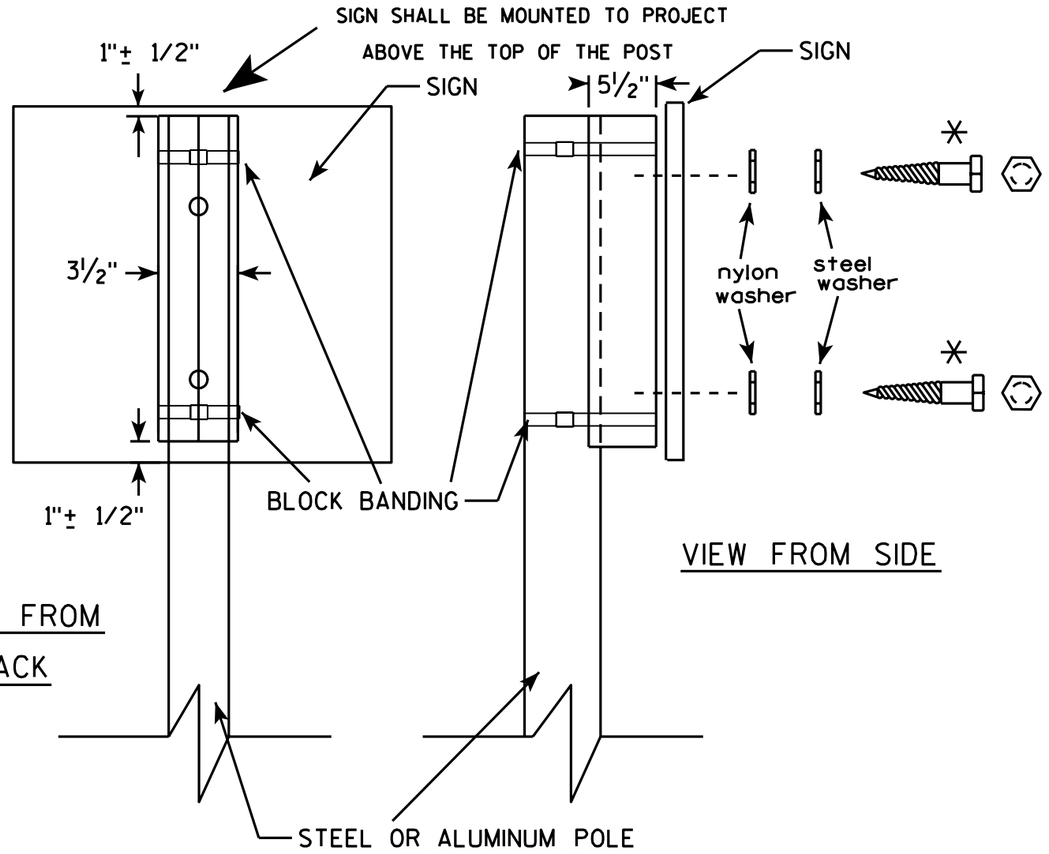
STANDARD SIGN
SIGN BANDING DETAILS

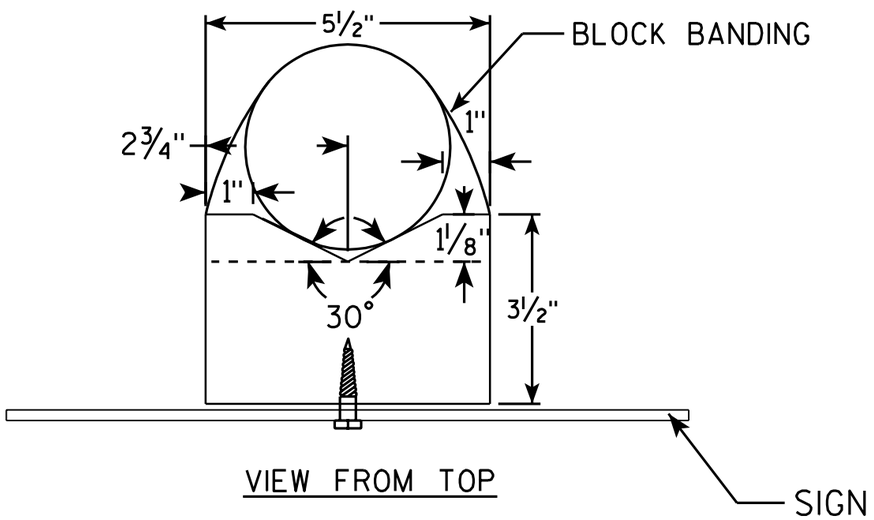
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 165	E





GENERAL NOTES

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

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

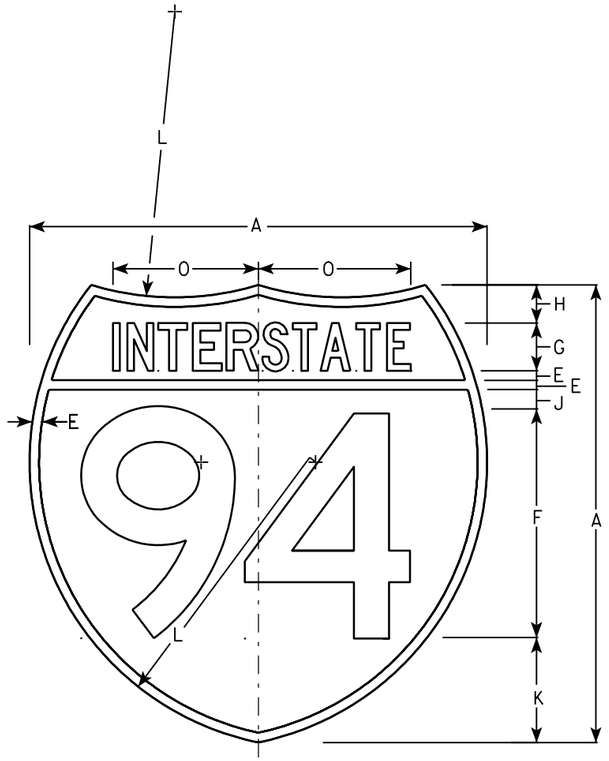
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

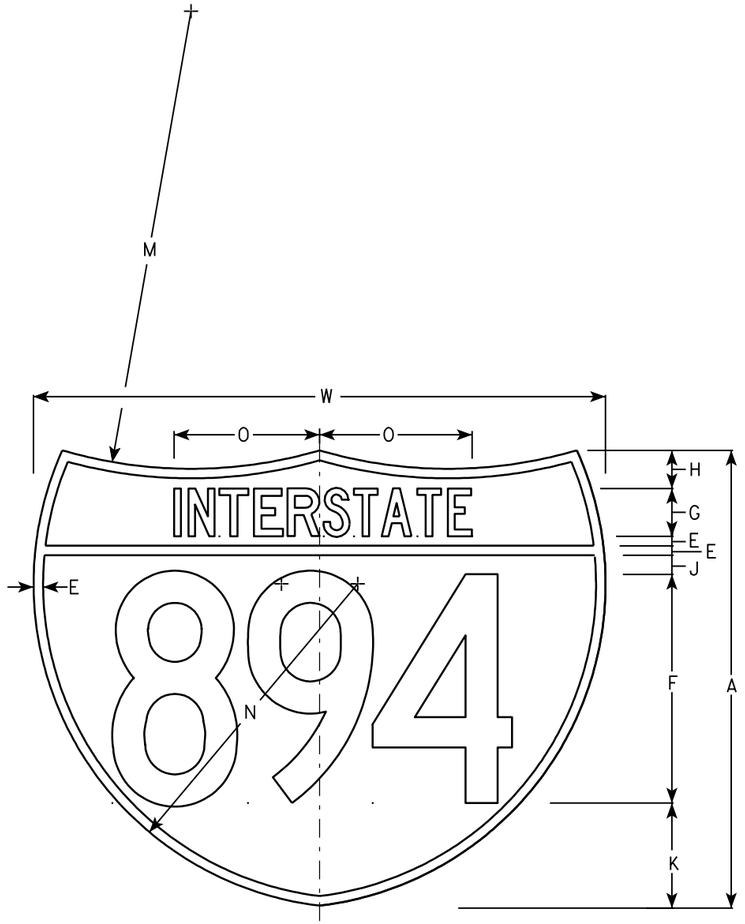
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

SHEET NO: 166 E



M1-1



M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

7

7

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

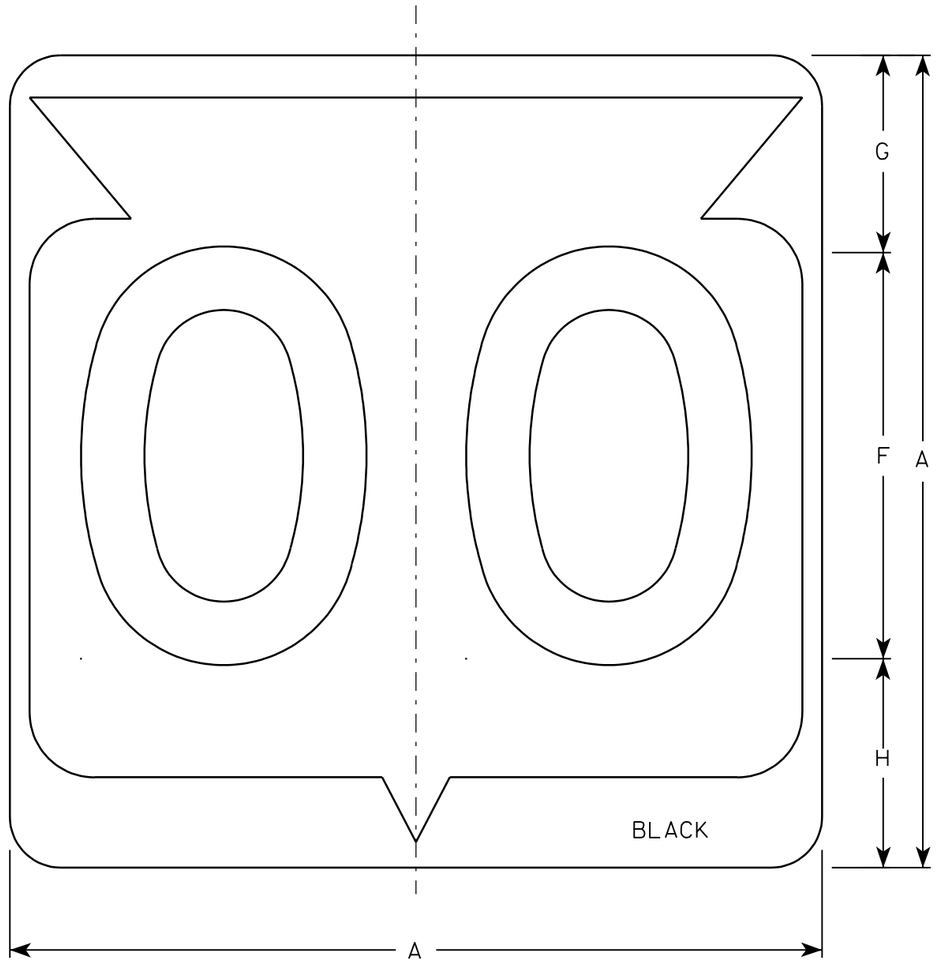
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

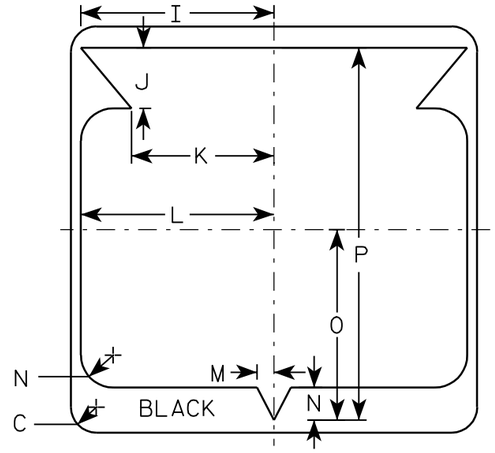
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 167	E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

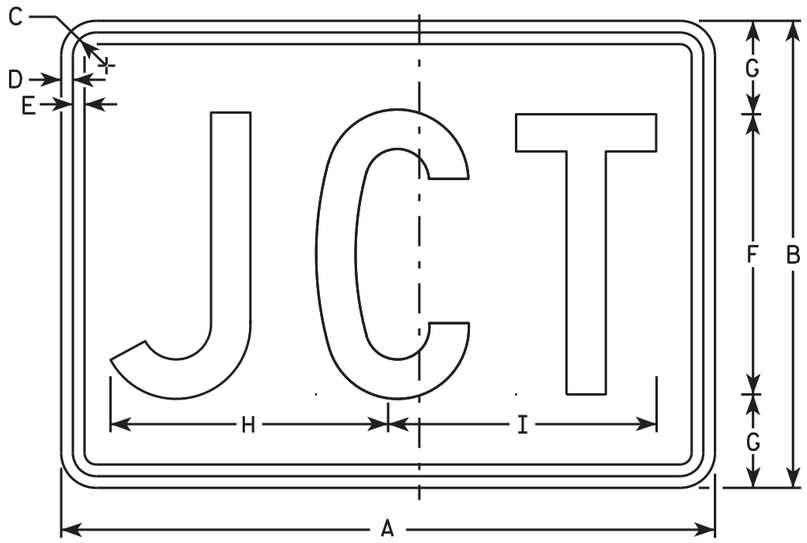
STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

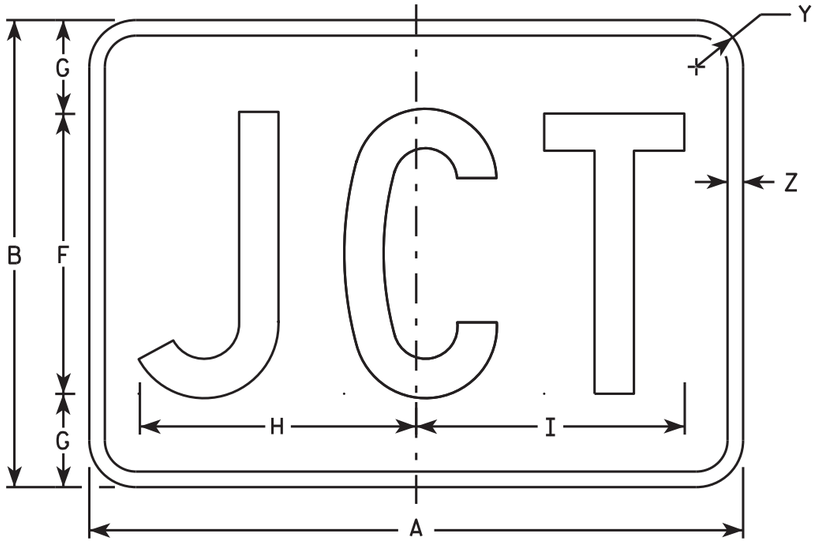
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 168	E



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M2-1 Background - White
   Message - Black
   MB2-1 Background - Blue
   Message - White
   MK2-1 Background - Green
   Message - White
   MM2-1 Background - White
   Message - Green
   MN2-1 Background - Brown
   Message - White
   MP2-1 Background - White
   Message - Blue
   MR2-1 Background - Brown
   Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

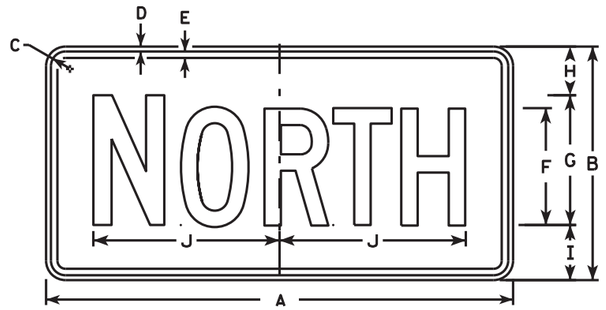
STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

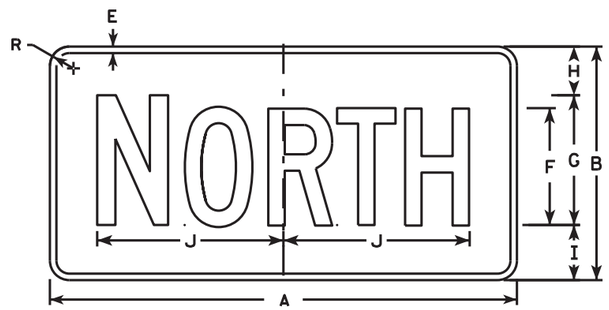
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M2-1.12

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



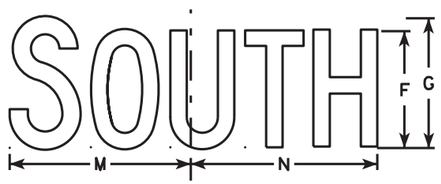
M3-1
MM3-1
MP3-1



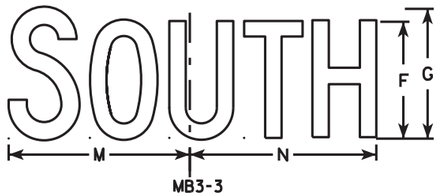
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

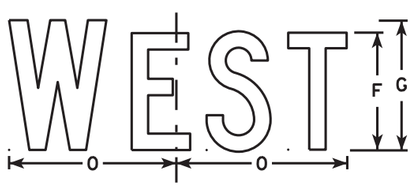
MB3-2
MK3-2
MN3-2



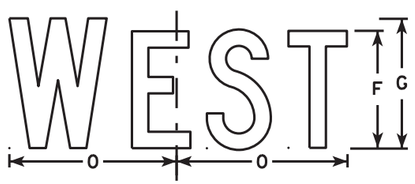
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

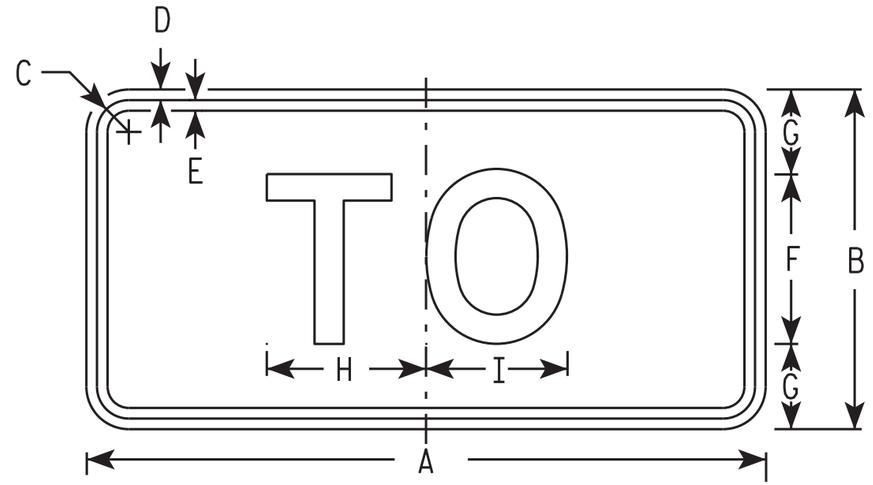
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

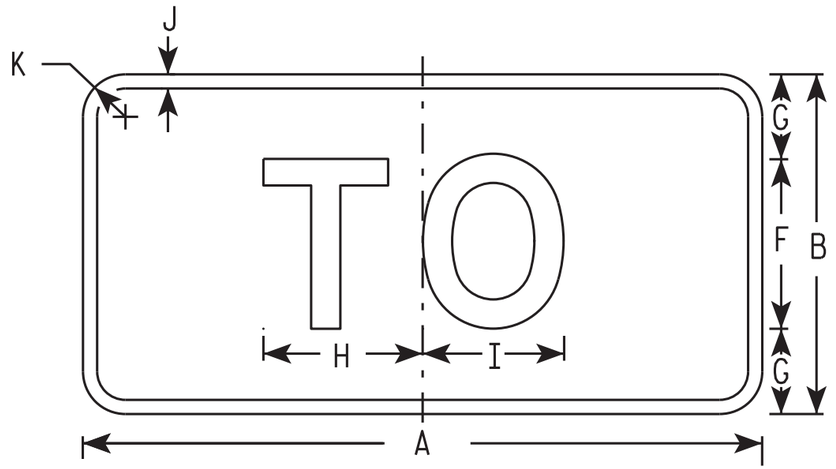
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO. M3-1.14

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



M4-5
MM4-5
MP4-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
   Message - Black

   MB4-5 Background - Blue
   Message - White

   MK4-5 Background - Green
   Message - White

   MM4-5 Background - White
   Message - Green

   MN4-5 Background - Brown
   Message - White

   MP4-5 Background - White
   Message - Blue

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	5 3/8	5 1/4	1/2	1 1/2																2.00
3	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
4	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
5	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5

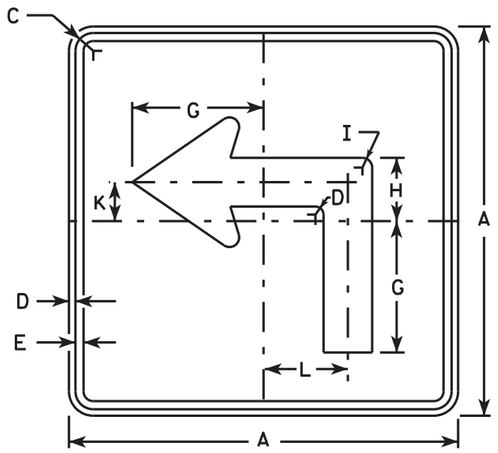
STANDARD SIGN
M4-5

WISCONSIN DEPT OF TRANSPORTATION

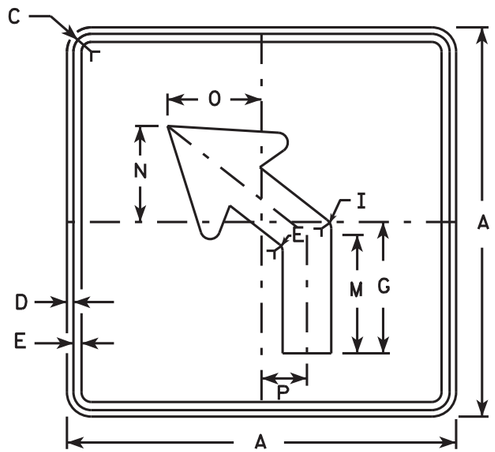
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M4-5.8

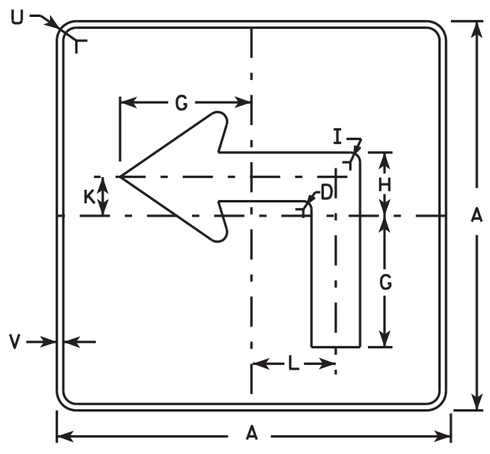
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



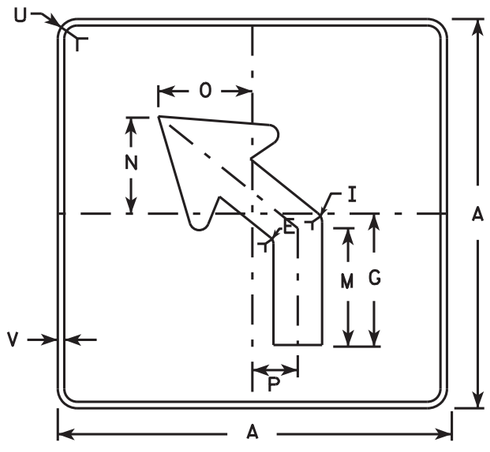
M5-1L
MM5-1L
MO5-1L
MP5-1L



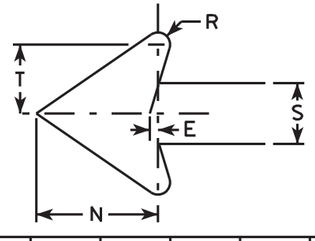
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

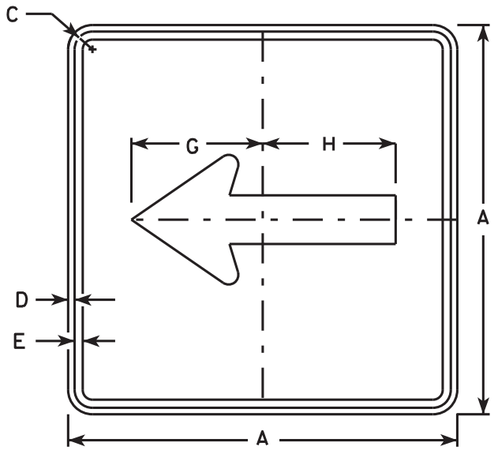
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

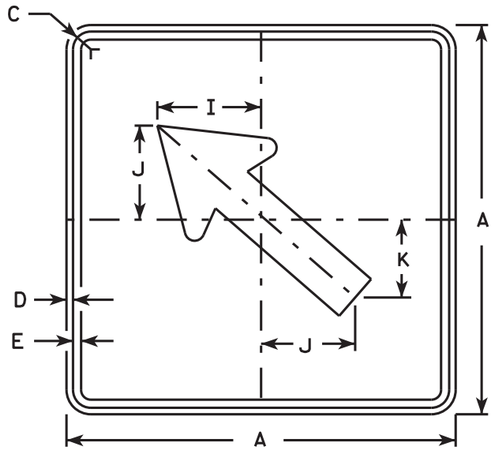
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M5-1.13

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



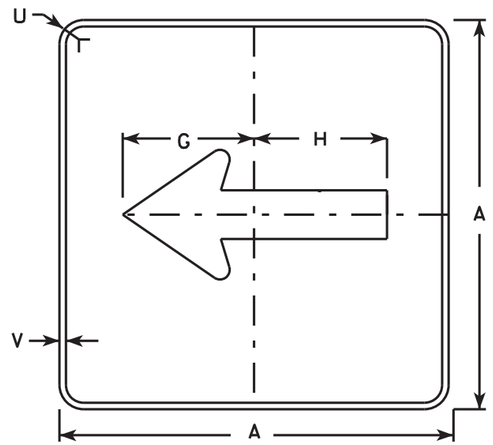
M6-1
MM6-1
MO6-1
MP6-1



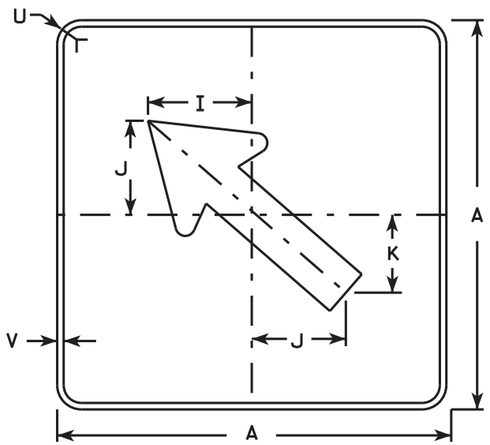
M6-2
MM6-2
MO6-2
MP6-2

NOTES

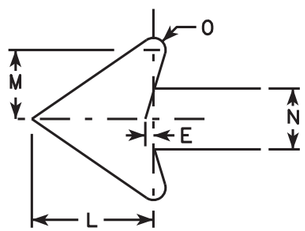
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

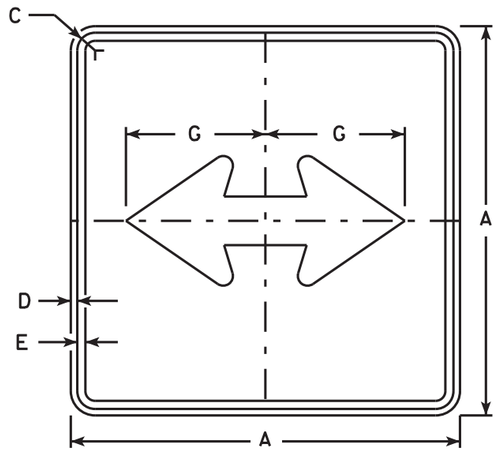
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

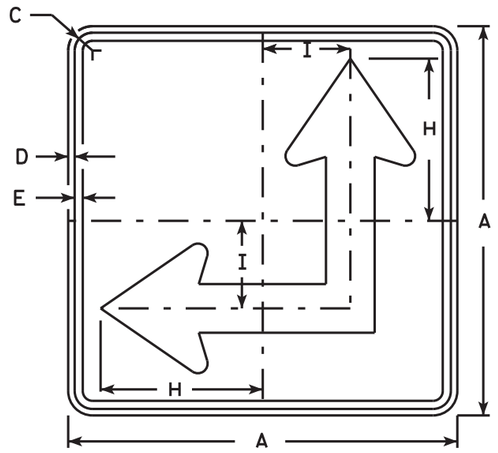
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15

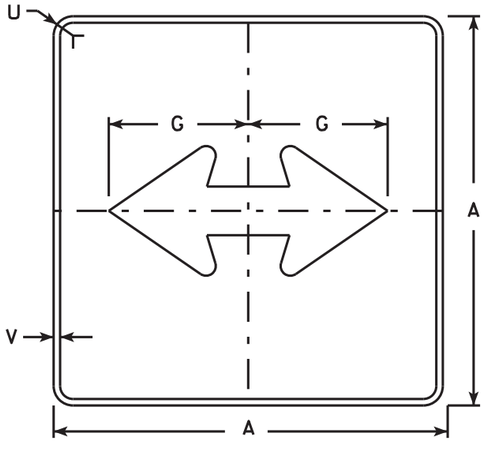
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



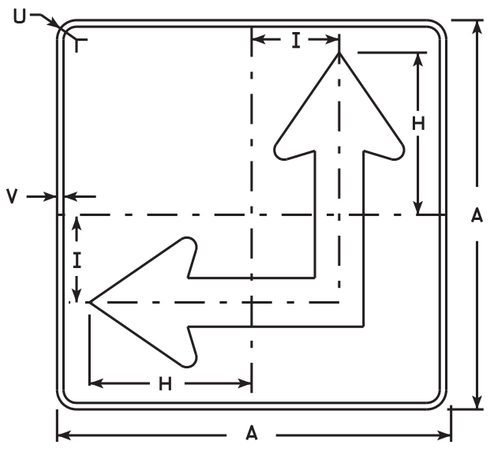
M6-4
MM6-4
MO6-4
MP6-4



M6-6
MM6-6
MO6-6
MP6-6



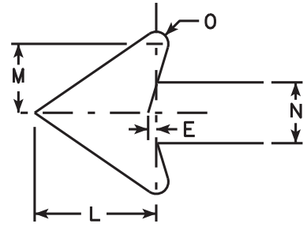
MB6-4
MK6-4
MN6-4
MR6-4



MB6-6
MK6-6
MN6-6
MR6-6

NOTES

1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White
   MK6-4 and MK6-6 Background - Green
   Message - White
   MM6-4 and MM6-6 Background - White
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and right.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

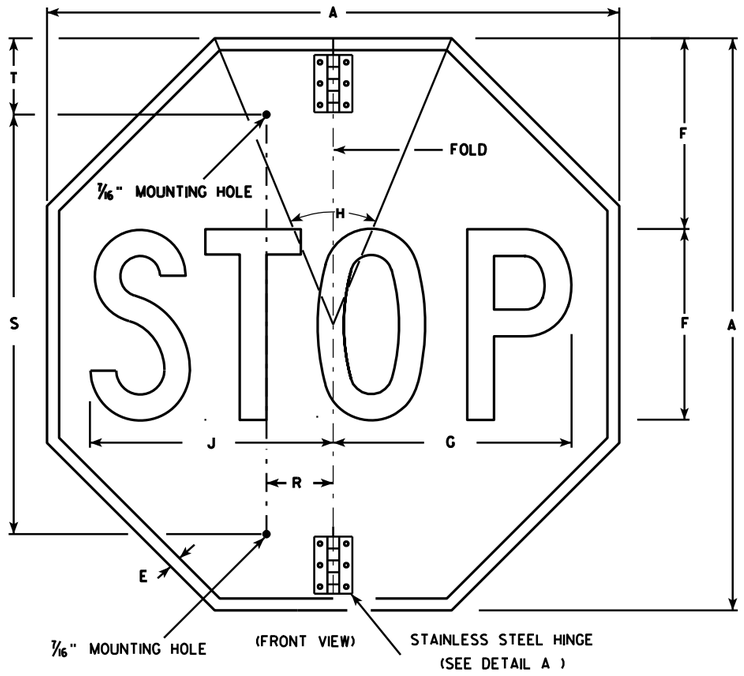
STANDARD SIGN
M6-4 & M6-6
SERIES

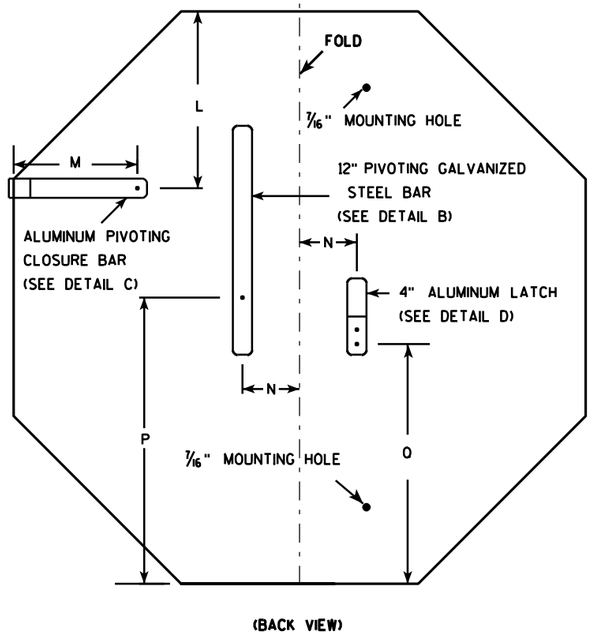
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-4.10

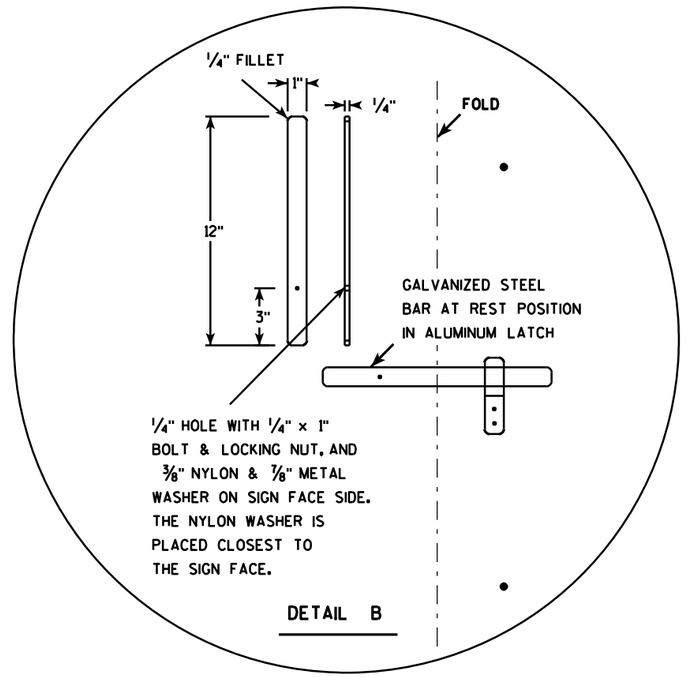
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

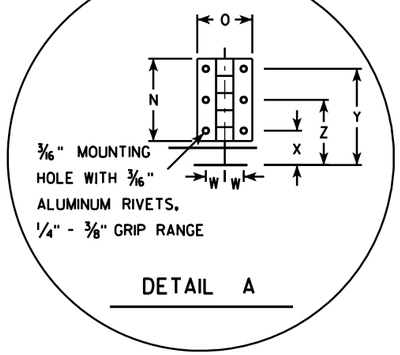


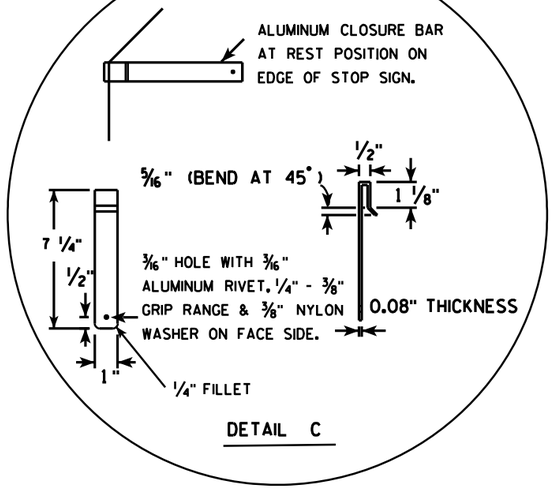


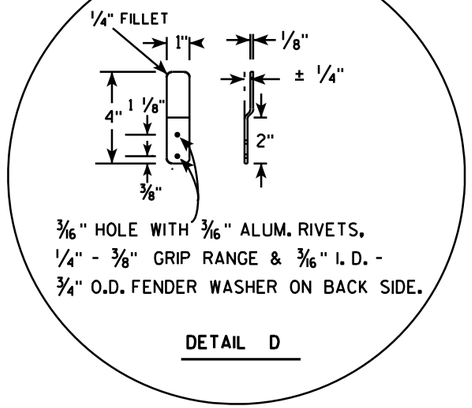
NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
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																											

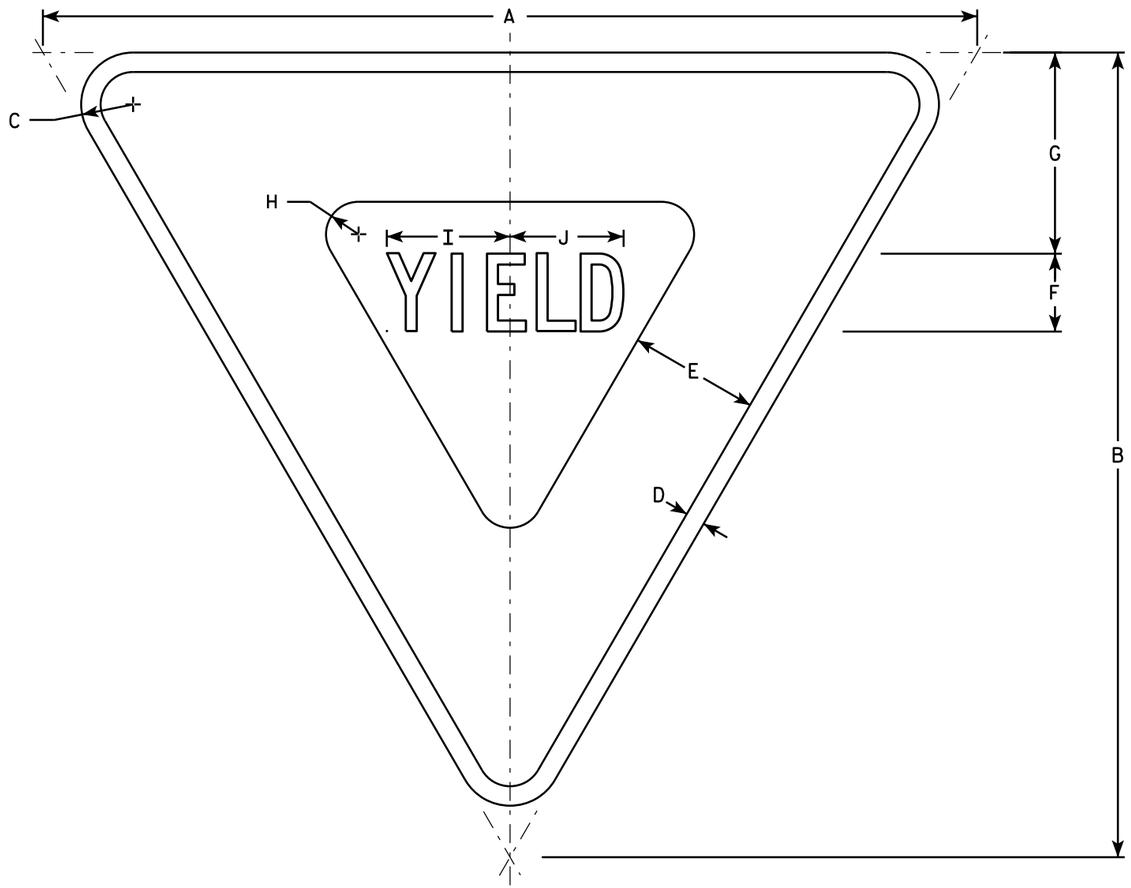
STANDARD SIGN
R1-1F

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: 175	E



R1-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

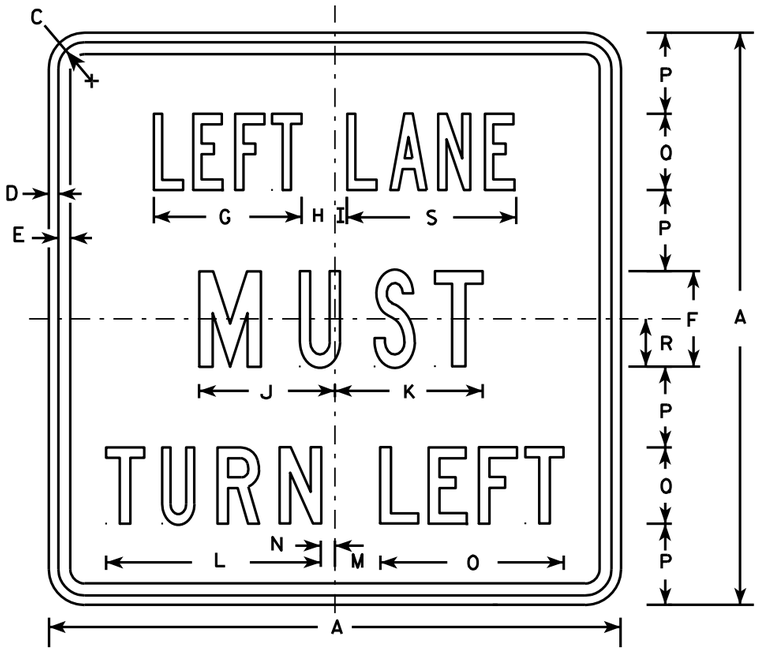
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

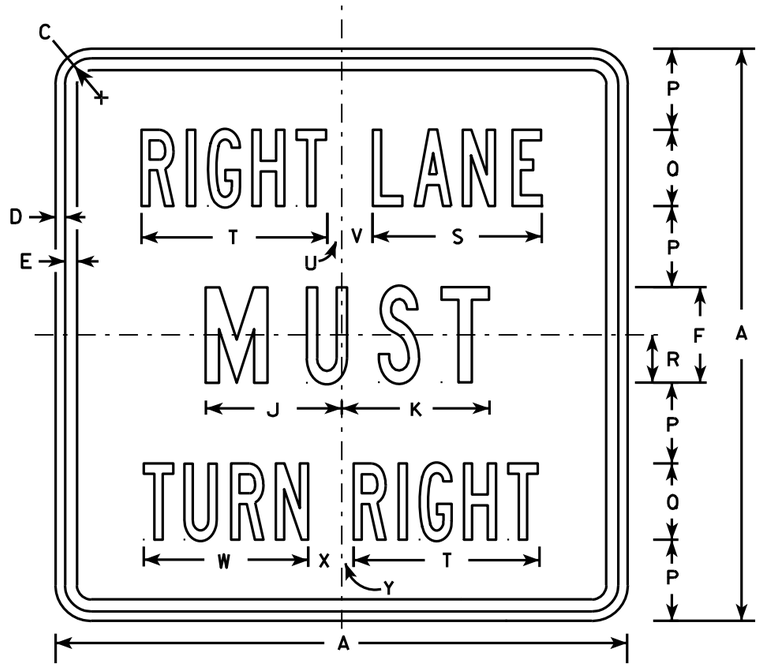
DATE 10/13/14 PLATE R1-2.12

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



R3-7L



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																											

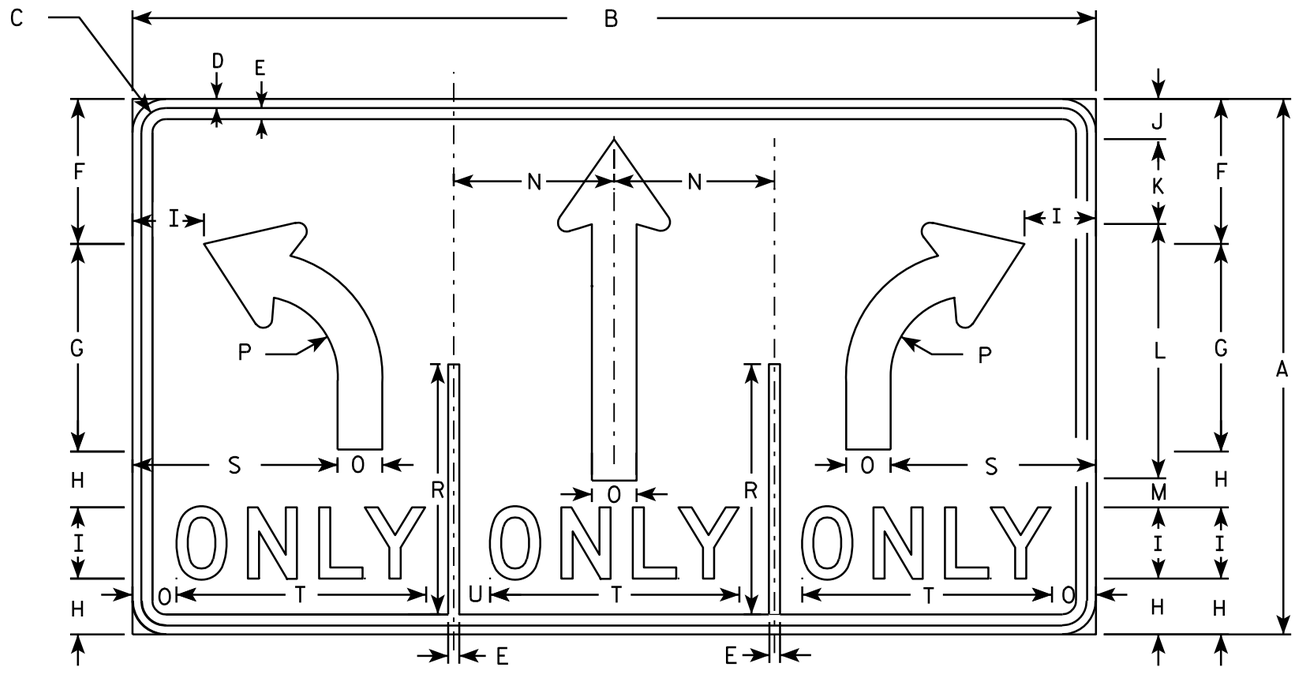
STANDARD SIGN
R3-7L & R3-7R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-7.3

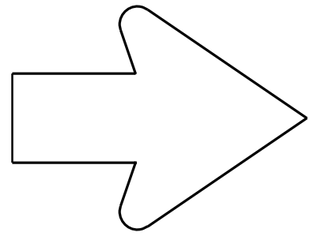
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 177 | E



R3-8W

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.



SEE R3-8 FOR 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	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	9	2 1/2	4 1/2		14	11 1/2	14	2						11.25
2M	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	9	2 1/2	4 1/2		14	11 1/2	14	2						11.25
3																											
4	48	84	2 1/4	3/4	1	13	18 1/2	5 1/4	6	3 3/4	7	29 1/8	2 3/8	14	3 3/4	7 1/4		22 3/8	17 1/4	20 1/2	3 1/4						28.0
5	48	84	2 1/4	3/4	1	13	18 1/2	5 1/4	6	3 3/4	7	29 1/8	2 7/8	14	3 3/4	7 1/4		22 3/8	17 1/4	20 1/2	3 1/4						28.0

STANDARD SIGN
R3-8W

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-8W.4

PROJECT NO:

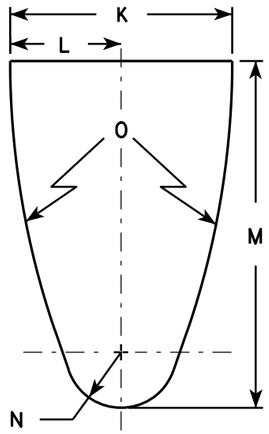
SHEET NO: 178 E

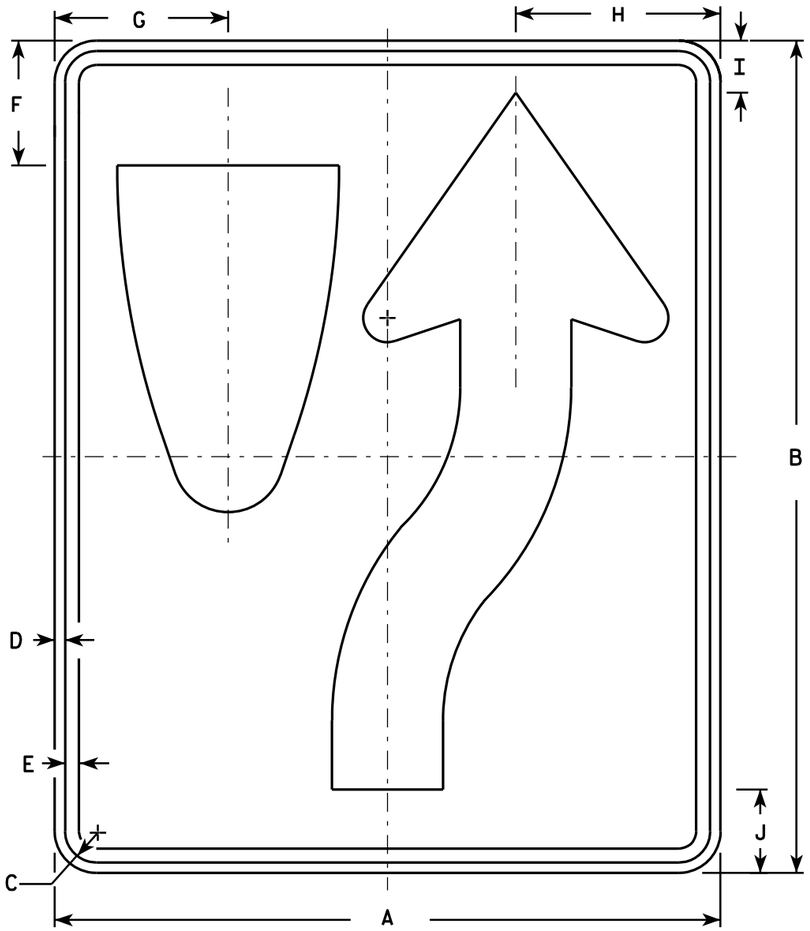
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R38W.DGN PLOT DATE : 24-MAR-2011 10:19 PLOT BY : mscsja PLOT NAME :

WISDOT/CADDS SHEET 42

7

7

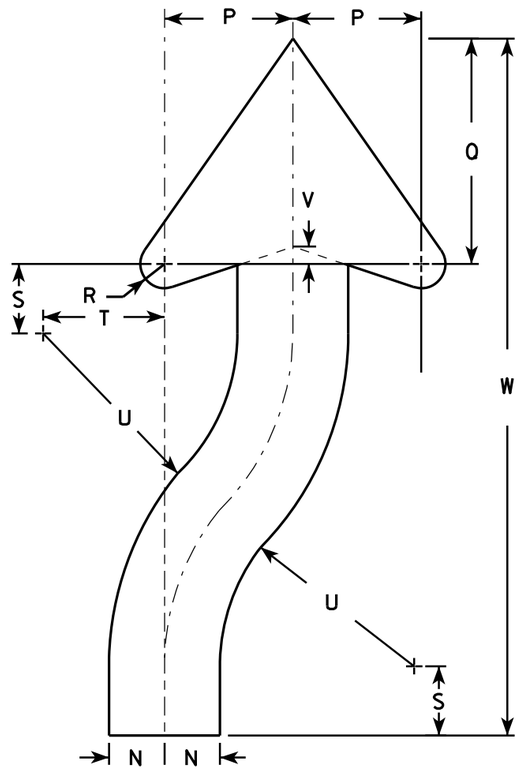




R4-7

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

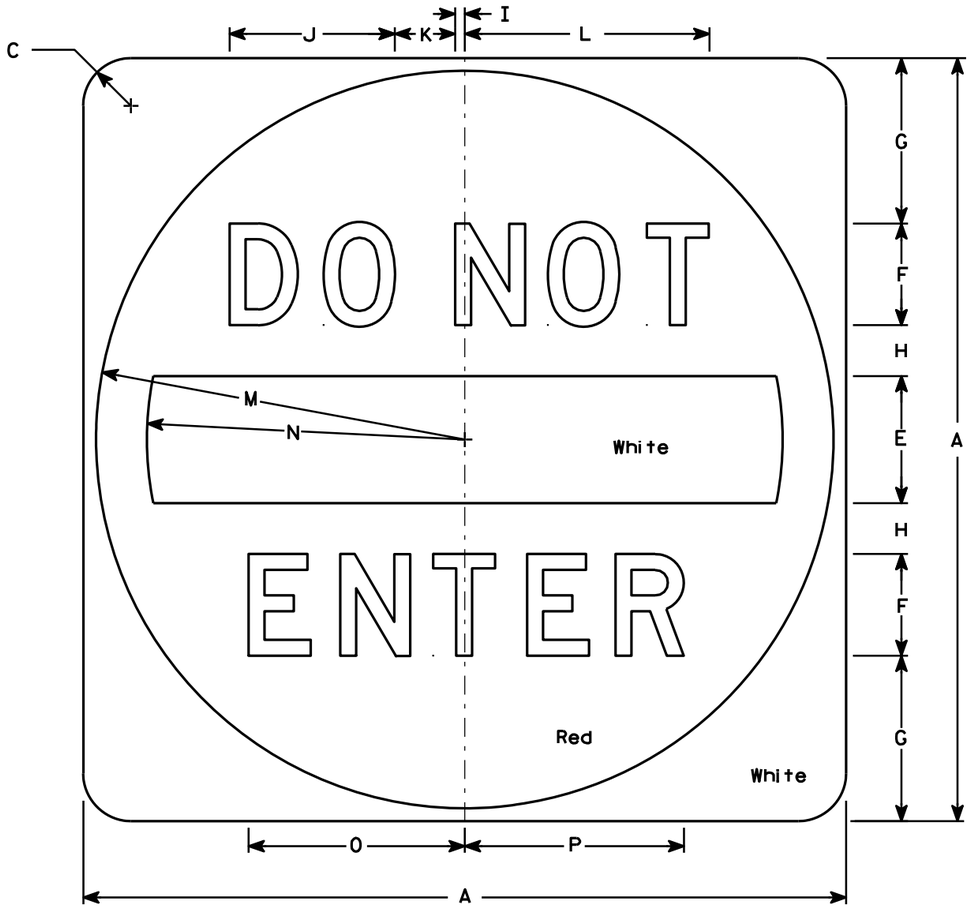
STANDARD SIGN
R4-7 & R4-8

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: 179	E



R5-1

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

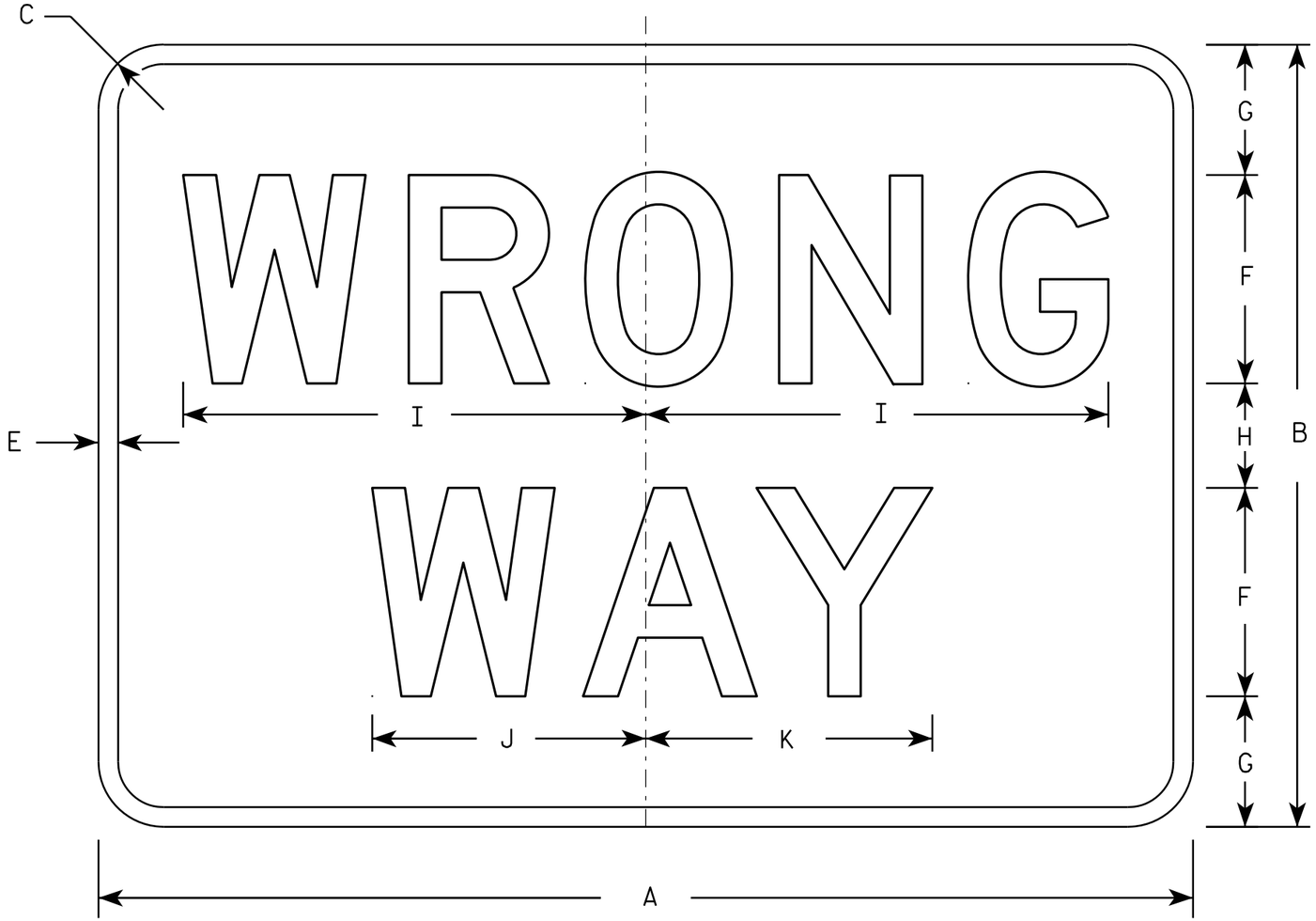
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 180 | E



R5-1A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

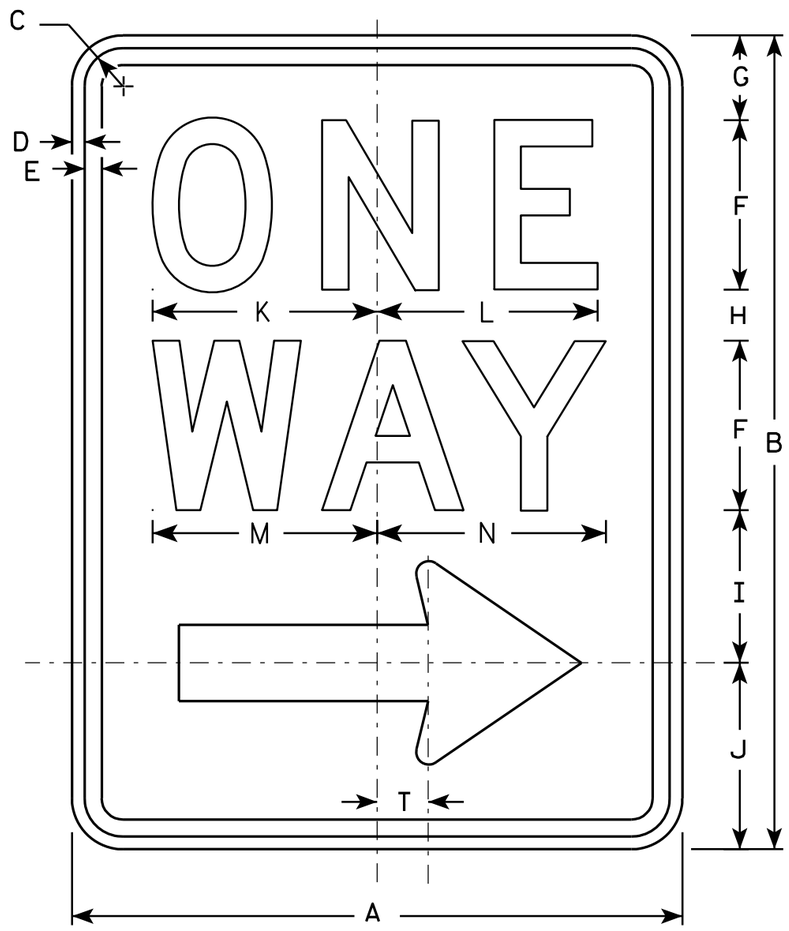
STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

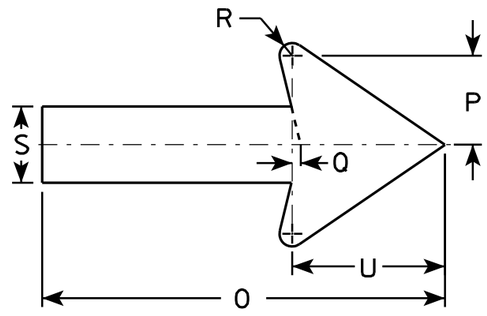
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 181 | E



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	Q	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																										

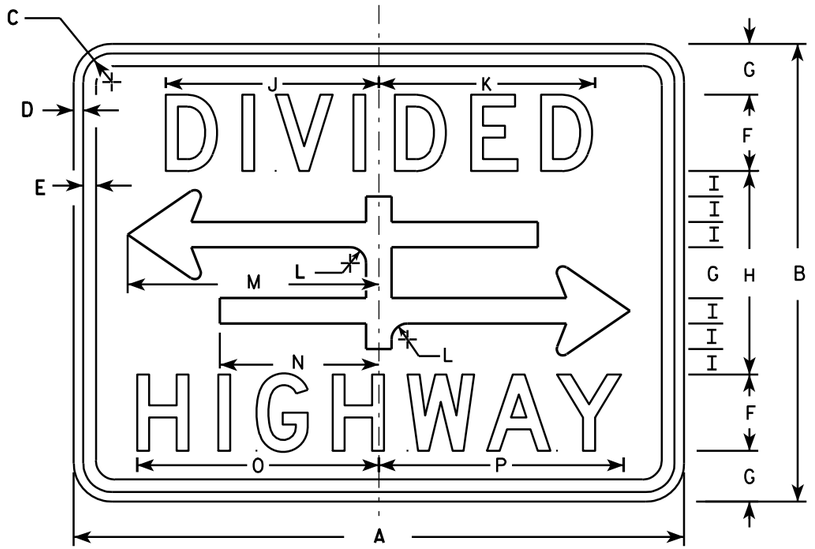
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

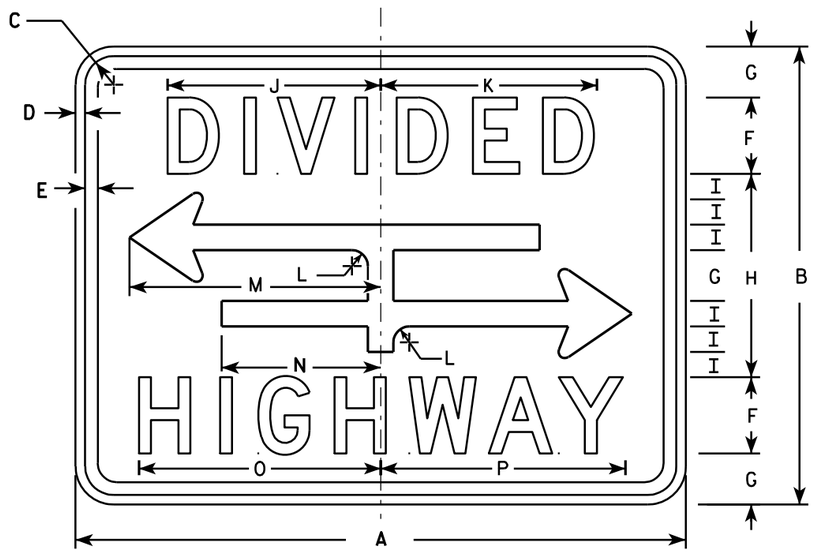
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 182	E



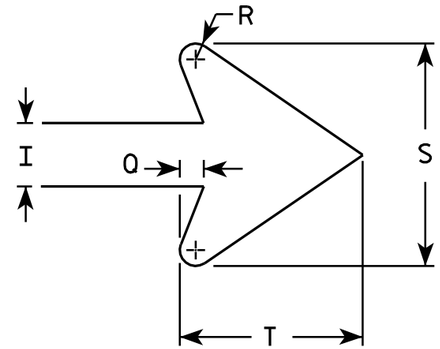
R6-3

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

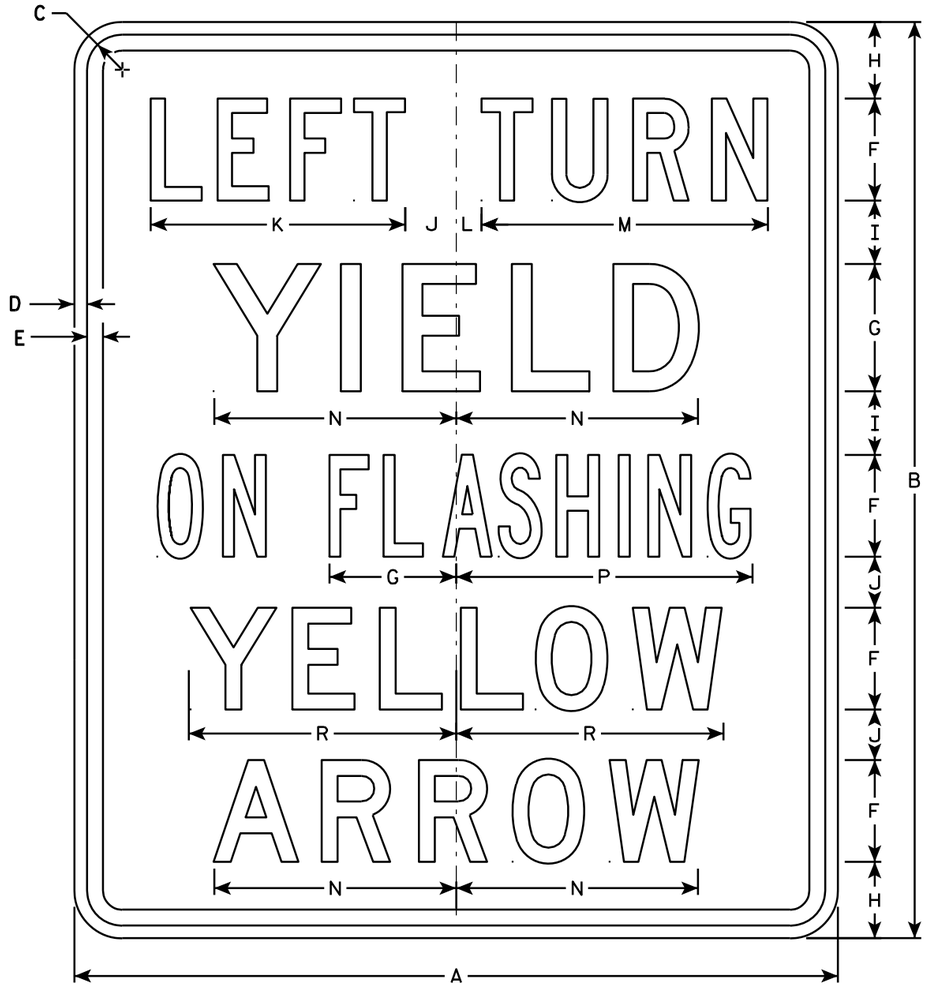
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

PROJECT NO:

SHEET NO: 183 E

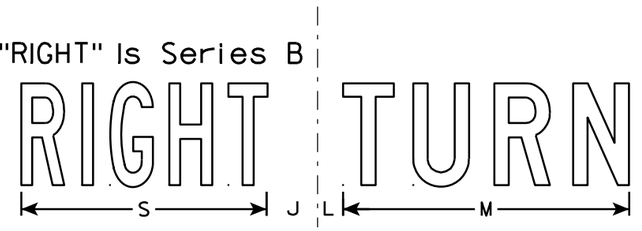


R10-50L

NOTES

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

"RIGHT" Is Series B



R10-50R

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	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 5/8		10 1/2	9 5/8								7.5
2M	30	36	1 3/8	1/2	5/8	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 5/8		10 1/2	9 5/8								7.5
3																											
4																											
5																											

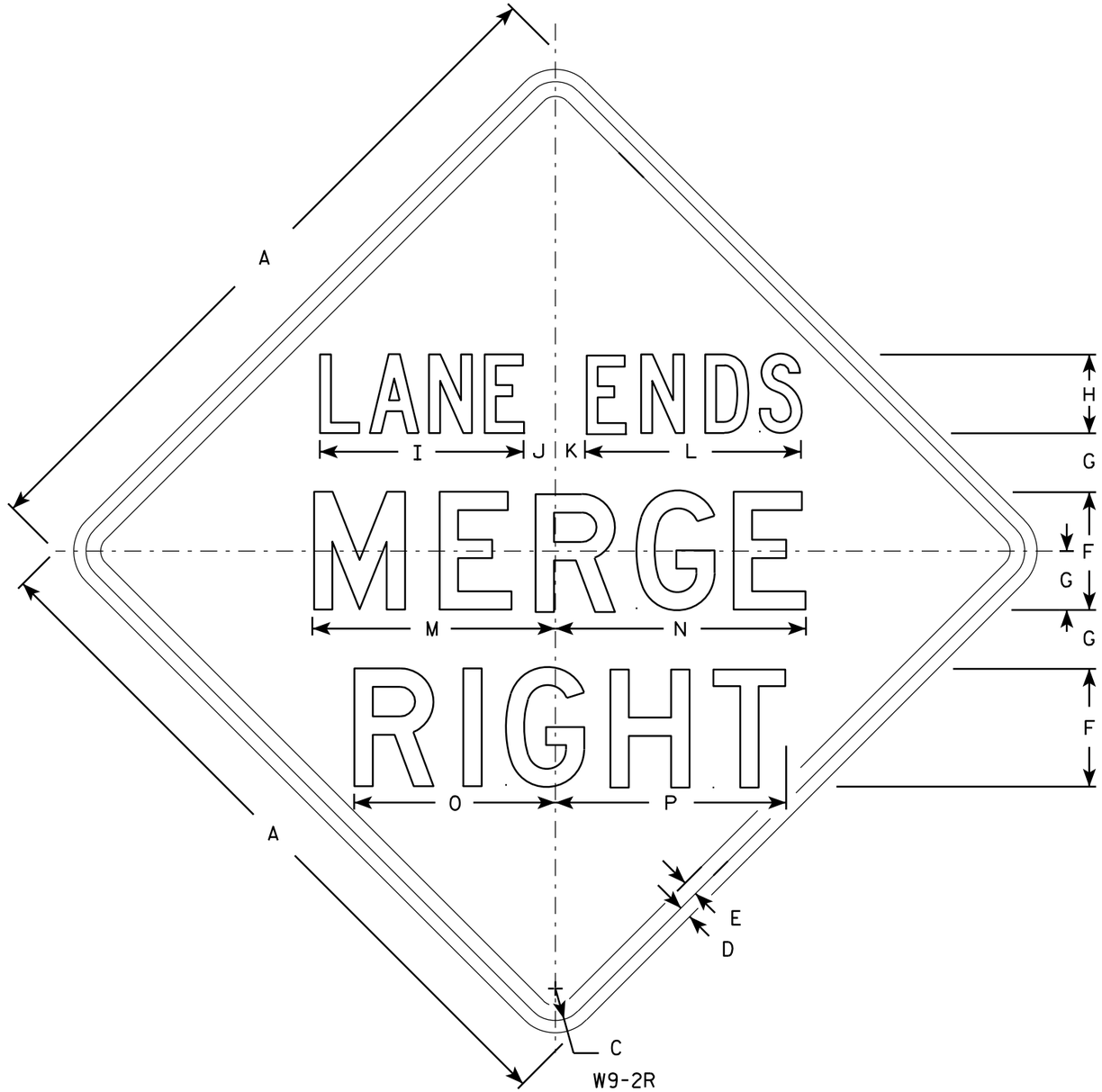
STANDARD SIGN
R10-50

WISCONSIN DEPT OF TRANSPORTATION

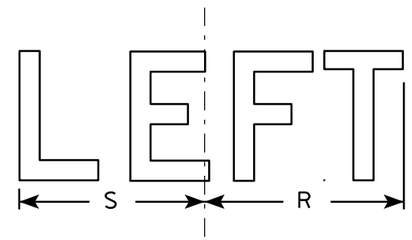
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/11/13 PLATE NO. R10-50.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 184	E



W9-2R



W9-2L

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series C, lines 2 & 3 are Series D.
6. W9-1L is the same as W9-2R except the word LEFT replaces RIGHT.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	2 1/2	3	8	1	1 1/8	8 1/4	10 3/8	10 5/8	8 5/8	9 7/8		7 5/8	7 1/8								6.25
2S	36		1 5/8	5/8	3/4	6	3	4	10 3/8	1 5/8	1 1/2	11	12 3/8	12 3/4	10 1/4	11 3/4		9 1/8	8 1/2								9.0
2M	36		1 5/8	5/8	3/4	6	3	4	10 3/8	1 5/8	1 1/2	11	12 3/8	12 3/4	10 1/4	11 3/4		9 1/8	8 1/2								9.0
3																											
4	48		2 1/4	3/4	1	8	4	6	14 1/2	2	3 1/4	13 3/4	16 3/8	17 1/8	13 3/4	15 3/4		12 1/4	11 1/4								16.0
5	48		2 1/4	3/4	1	8	4	6	14 1/2	2	3 1/4	13 3/4	16 3/8	17 1/8	13 3/4	15 3/4		12 1/4	11 1/4								16.0

STANDARD SIGN
W9-2

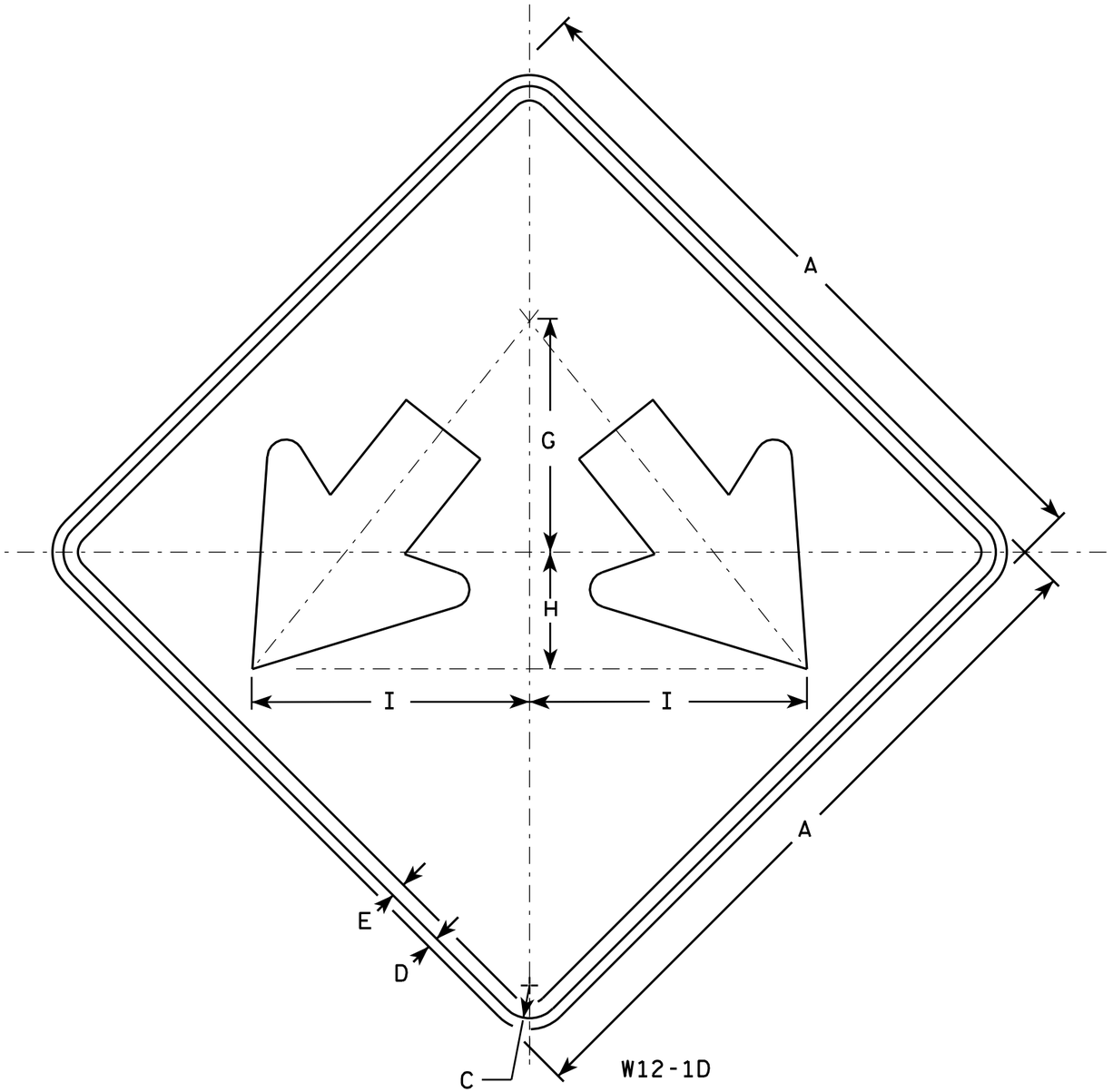
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/18/13 PLATE NO. W9-2.10

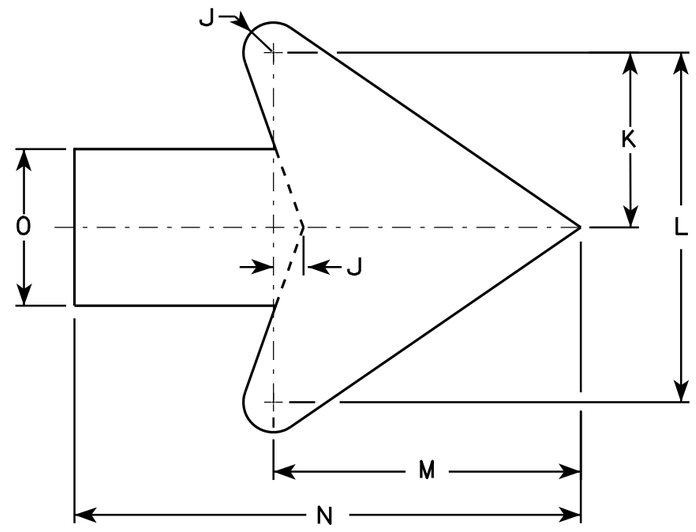
PROJECT NO:

SHEET NO: 185 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: 186	E

Notes

Wisconsin Department of Transportation

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