SUP

AUGUST 2019

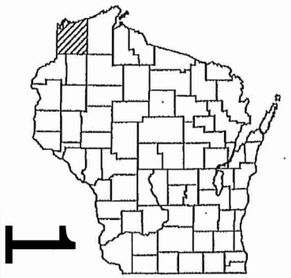
PROJECT ID: 8744-00-72

WITH: N/A

COUNTY: DOUGLAS

ORDER OF SHEETS

TOTAL SHEETS = 42



N

1 2

DESIGN DESIGNATION

			CTH Z
A.A.D.T.	2017	=	900
A.A.D.T.	2039	=	995
D.H.V.		=	95
D.D.		=	53/47
T.		=	9.5
DESIGN SPEED		=	55 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T PARKLAND, CTH Z

CANADIAN NATIONAL RR BRIDGE P-16-0070

CTH Z

DOUGLAS COUNTY

STATE PROJECT NUMBER
8744-00-72

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8744-00-72	WISC 2019601	1

PROJECT 8744-00-72
OVERHEIGHT VEHICLE DETECTION

LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, DOUGLAS COUNTY.

ACCEPTED FOR
COUNTY OF DOUGLAS

Date 5/22/19 Jason J. Fleckman
(Signature and Title of Official)

ORIGINAL PLANS PREPARED BY

SEH
Short Elliott Hendrickson Inc.
6808 Odana Road, Suite 200
Madison, WI 53719-1137
Building a Better World for All of Us®
608.620.6199 main | 888.908.8166 fax
800.732.4362 toll free | www.sehinc.com

WISCONSIN
JOSHUA M. WOLLER
E-42424-6
FITCHBURG
WI
PROFESSIONAL ENGINEER

DATE: 5/22/19 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SEH INC
Designer	SEH INC
Local Program Manager	MATTHEW VAN NATTA

APPROVED FOR THE DEPARTMENT

DATE: 5/23/19 Andy Steindorf
(Signature)

E

GENERAL NOTES

1. 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.

2. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

3. WETLANDS, WATERWAYS, AND OTHER ENVIRONMENTALLY SENSITIVE AREAS SHALL BE PROTECTED AT ALL TIMES. DO NOT STORE EQUIPMENT OR MATERIALS NEAR THESE SITES UNLESS APPROVED BY THE ENGINEER.

4. EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

5. CONTRACTOR WILL BE RESPONSIBLE TO RESTORE AREAS DISTURBED FOR CONSTRUCTION OUTSIDE OF CONDUIT AND BASE INSTALLATION ARE TO BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, SEED AND EROSION MAT IN COMPLIANCE WITH STANDARD SPECIFICATIONS AND AS APPROVED BY THE ENGINEER.

6. CONTRACTOR WILL BE RESPONSIBLE TO RESTORE ALL AREAS DISTURBED FOR CONSTRUCTION TO THE ORIGINAL CONDITION.

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

8. PLACE ALL PROPOSED INFRASTRUCTURE 18-INCHES OR MORE AWAY FROM EXISTING UTILITIES, INSTALL CONDUIT SO IT WILL BE OVER OR UNDER EXISTING UTILITY FACILITIES.

9. PURSUANT TO CHAPTER 59 OF THE WISCONSIN STATUTES, THE CONTRACTOR SHALL CAREFULLY MAKE A SEARCH FOR EVIDENCE OF A LANDMARK IN ALL AREAS WHERE SUCH A LANDMARK MAY EXIST. NOTIFY THE ENGINEER THE RESULTS OF THE SEARCH.

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

UTILITIES

SUPERIOR WATER, LIGHT & POWER
2915 HILL AVE
PO BOX 519
SUPERIOR, WI 54880
GAS: KEVIN DOUVILLE
PHONE: (715) 395-6317
EMAIL: kdouville@swlp.com
ELECTRIC: JON ALLEN
PHONE: (715) 395-6310
EMAIL: jallen@swlp.com

DALHBERG LIGHT & POWER COMPANY
DEANICE ZOLTAK
9221 E MAIN ST
SOLON SPRINGS, WI 54873
PHONE: (715) 378-2205 x110
EMAIL: deanicez@dahlberglightandpower.com

PARKLAND SANITARY DISTRICT
LESTER JOHNSON
5658 EAST COUNTY ROAD Z
PO BOX 68
SOUTH RANGE, WI 54874
PHONE: (715) 817-1930
(715) 394-0523
EMAIL: parklandsanitarydistrict@yahoo.com

CENTURYLINK - COMMUNICATION LINE
RUSSELL VANCE
135 N 21ST ST
SUPERIOR, WI 54880
PHONE: (715) 392-0045
CELL: (715) 919-8003
EMAIL: russell.vance@centurylink.com

NORVADO
GUY FOLSOM
43750 USH 63
PO BOX 67
CABLE, WI 54821
PHONE: (715) 798-7123
EMAIL: gfolsom@norvado.com

2

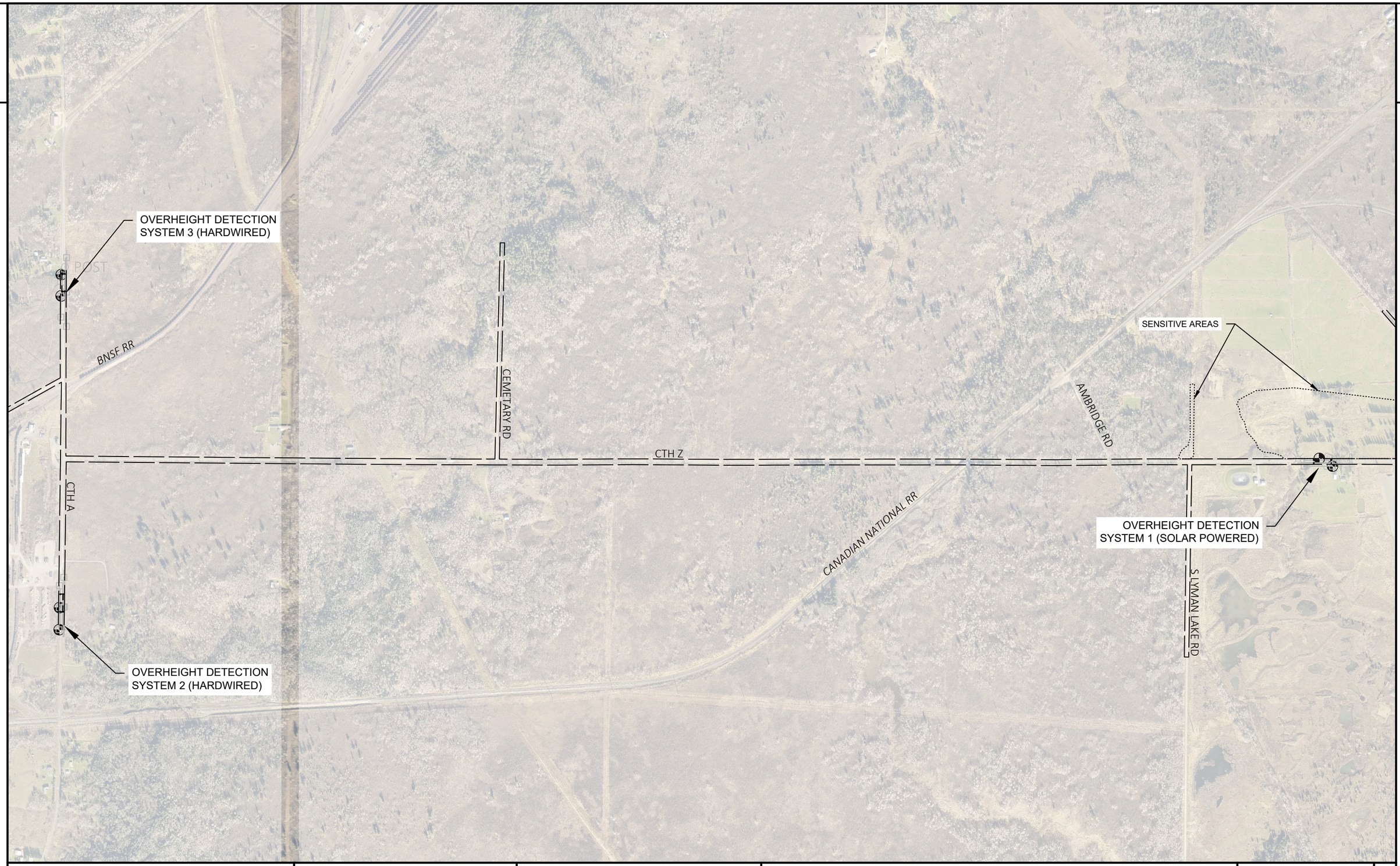
CONSULTANT DESIGN
JOSHUA WOLLER
6808 ODANA RD, SUITE 200
MADISON, WI 53719
PHONE: (608) 620-6176
EMAIL: jwoller@sehinc.com

DOUGLAS COUNTY
JASON JACKMAN
7417 COUNTY RD E
HAWTHORNE, WI 54842
PHONE: (715) 374-2575
EMAIL: jason.jackman@douglascountywi.org

WISDOT
MATTHEW VAN NATTA
1701 N 4TH ST
SUPERIOR, WI 54880
PHONE: (715) 392-7934
EMAIL: matthew.vannatta@dot.wi.gov

WDNR LIAISON
AMY CRONK
810 W MAPLE ST
SPOONER, WI 54801
PHONE: (715) 635-4229
EMAIL: amy.cronk@wisconsin.gov

2

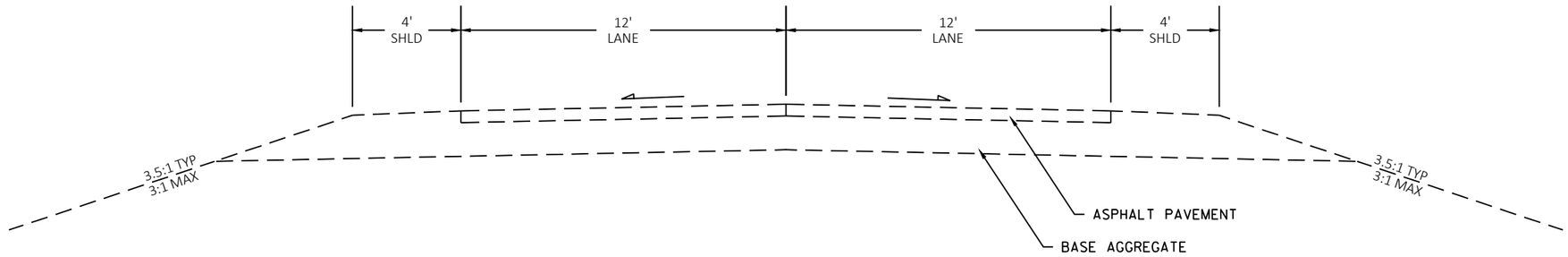


PROJECT NO: 8744-00-72	HWY: CTH Z	COUNTY: DOUGLAS	PROJECT OVERVIEW	SHEET	E

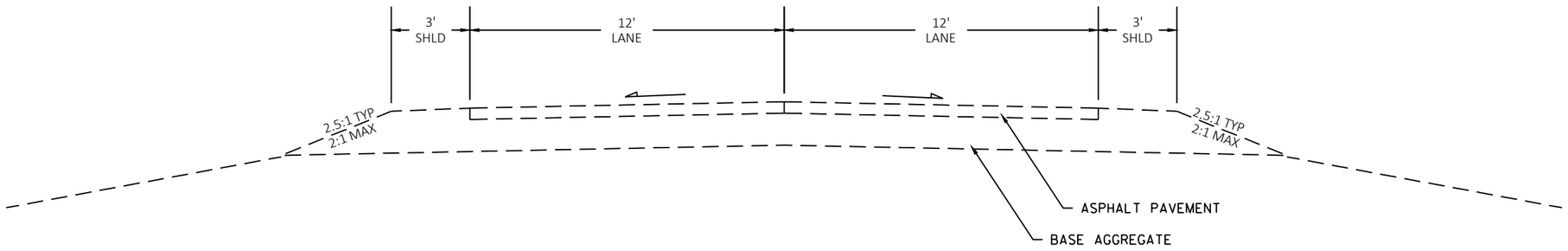
FILE NAME : P:\UZ\W\WITNW\148147\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\87440002\SHEETSPLAN\SEC 02 TYPICALS & DETAILS\020200_PO.DWG
LAYOUT NAME - PROJECT OVERVIEW

PLOT DATE : 5/14/2019 7:07 AM PLOT BY : SAVANNAH A. STEHN PLOT NAME : PLOT SCALE : 1 IN:1000 FT

2



CTH Z - EXISTING TYPICAL

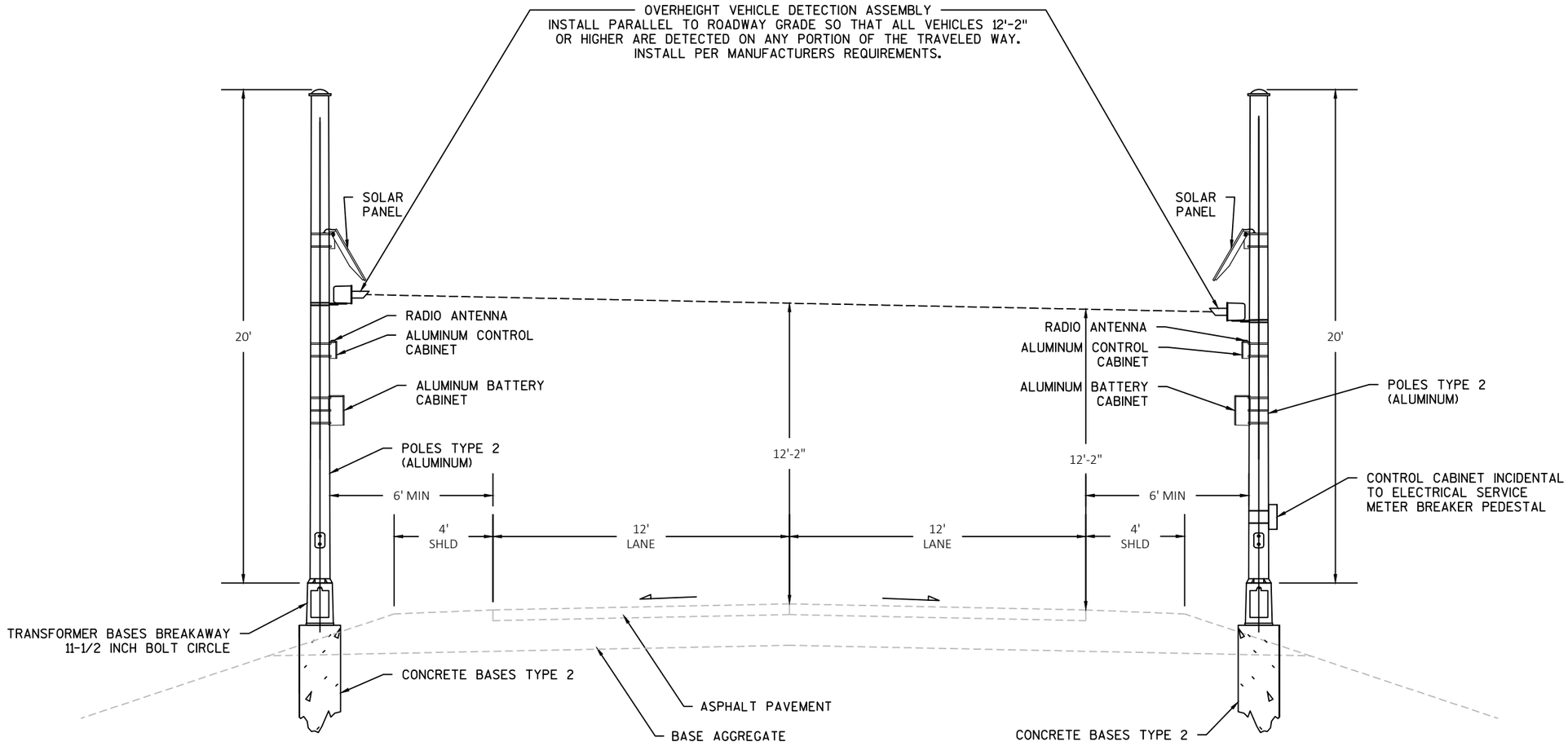


CTH A - EXISTING TYPICAL

PROJECT NO: 8744-00-72	HWY: CTH Z	COUNTY: DOUGLAS	TYPICAL SECTIONS	SHEET 4	E

FILE NAME : P:\UZ\W\WITNW\148147\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\87440002\SHEETSPLAN\SEC 02 TYPICALS & DETAILS\020300_TS.DWG
LAYOUT NAME - Typ Section
PLOT DATE : 5/3/2019 8:51 AM PLOT BY : SAVANNAH A. STEHN PLOT NAME : PLOT SCALE : 1 IN:5 FT
WISDOT/CADDS SHEET 42

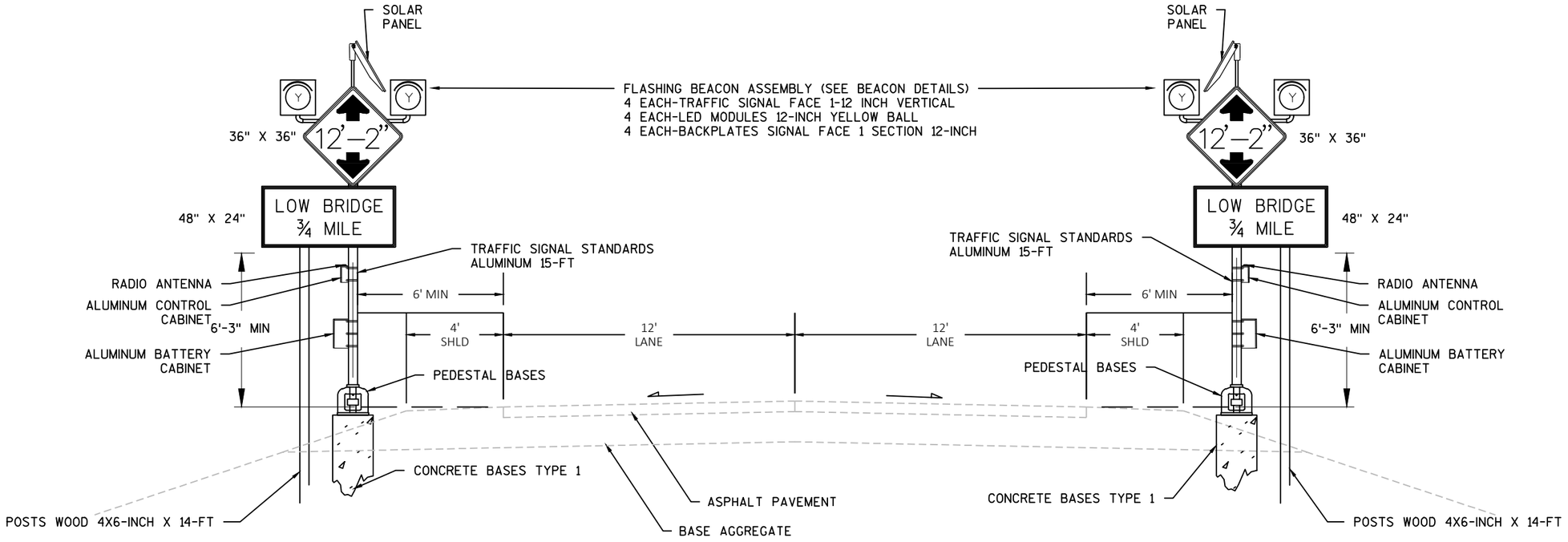
2



CTH Z - OVERHEIGHT DETECTION SYSTEM 1
(LOOKING WEST)

PROJECT NO: 8744-00-72	HWY: CTH Z	COUNTY: DOUGLAS	CONSTRUCTION DETAILS	SHEET 5	E

2

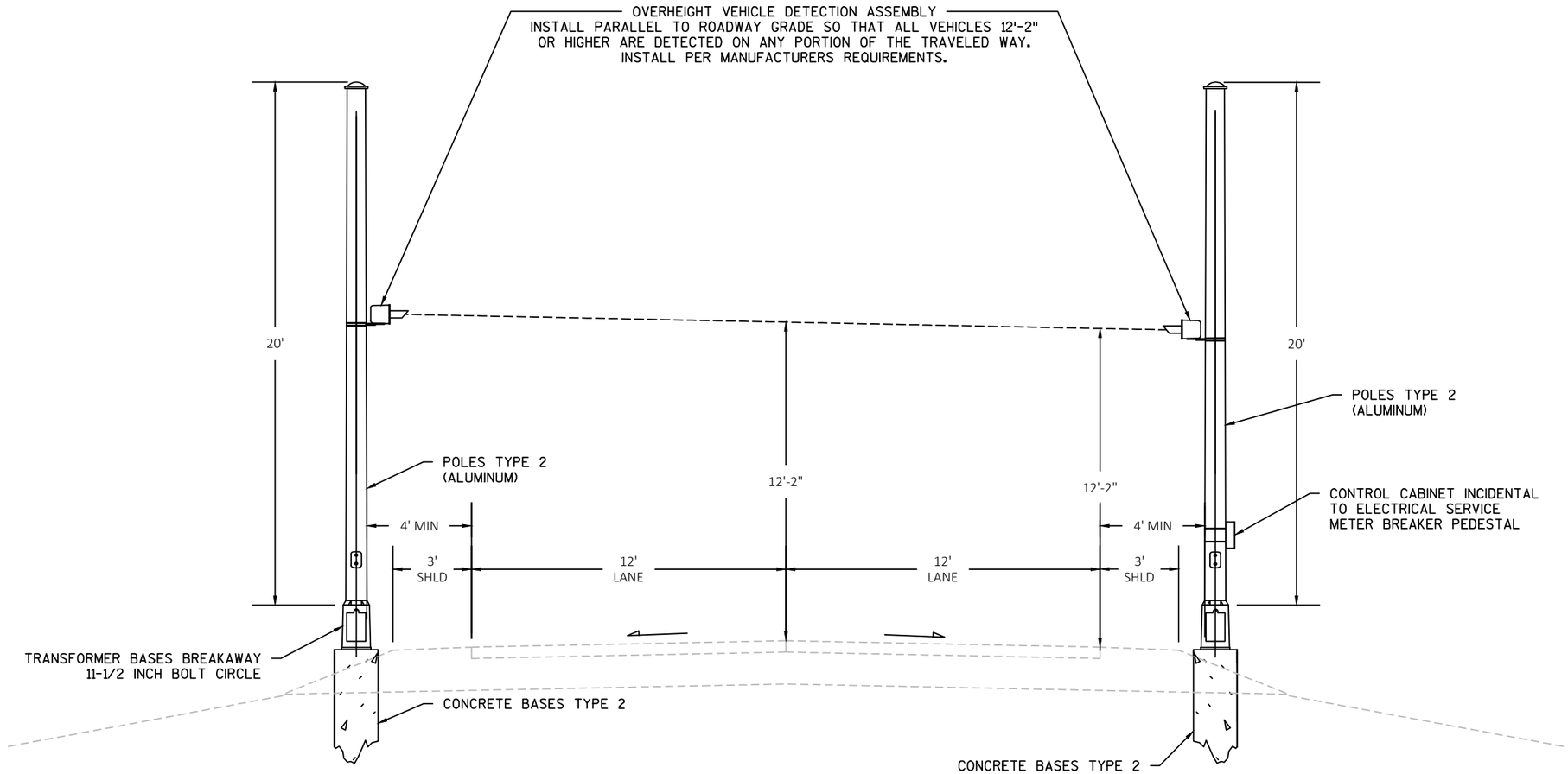


CTH Z - OVERHEIGHT DETECTION SYSTEM 1
(LOOKING WEST)

PROJECT NO: 8744-00-72	HWY: CTH Z	COUNTY: DOUGLAS	CONSTRUCTION DETAILS	SHEET 6	E

FILE NAME : P:\UZ\W\WITNW\148147\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\87440002\SHEETSPLAN\SEC 02 TYPICALS & DETAILS\021000_CD.DWG
LAYOUT NAME - 02
PLOT DATE : 5/31/2019 11:31 AM PLOT BY : SAVANNAH A. STEHN PLOT NAME : PLOT SCALE : 1 IN:5 FT
WISDOT/CADDS SHEET 42

2

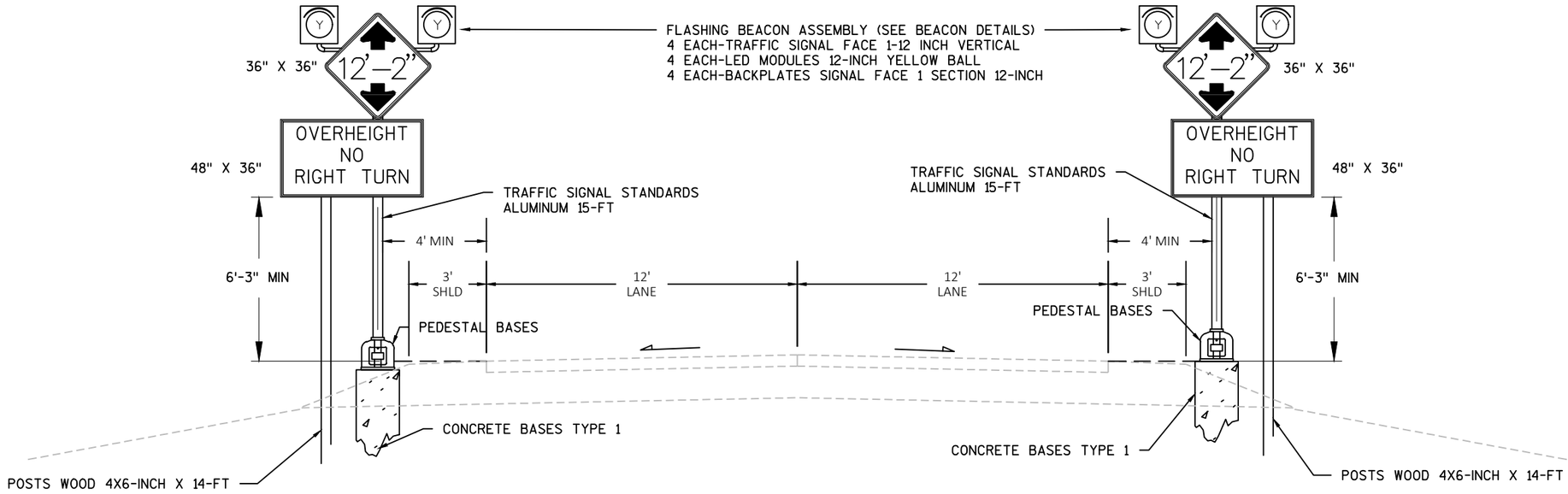


CTH A - OVERHEIGHT DETECTION SYSTEM 2
(LOOKING NORTH)

PROJECT NO: 8744-00-72	HWY: CTH Z	COUNTY: DOUGLAS	CONSTRUCTION DETAILS	SHEET 7	E

FILE NAME : P:\UZ\W\WITNW\148147\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\87440002\SHEETSPLAN\SEC 02 TYPICALS & DETAILS\021000_CD.DWG
LAYOUT NAME - 03
PLOT DATE : 5/31/2019 11:31 AM PLOT BY : SAVANNAH A. STEHN PLOT NAME : PLOT SCALE : 1 IN:5 FT
WISDOT/CADDS SHEET 42

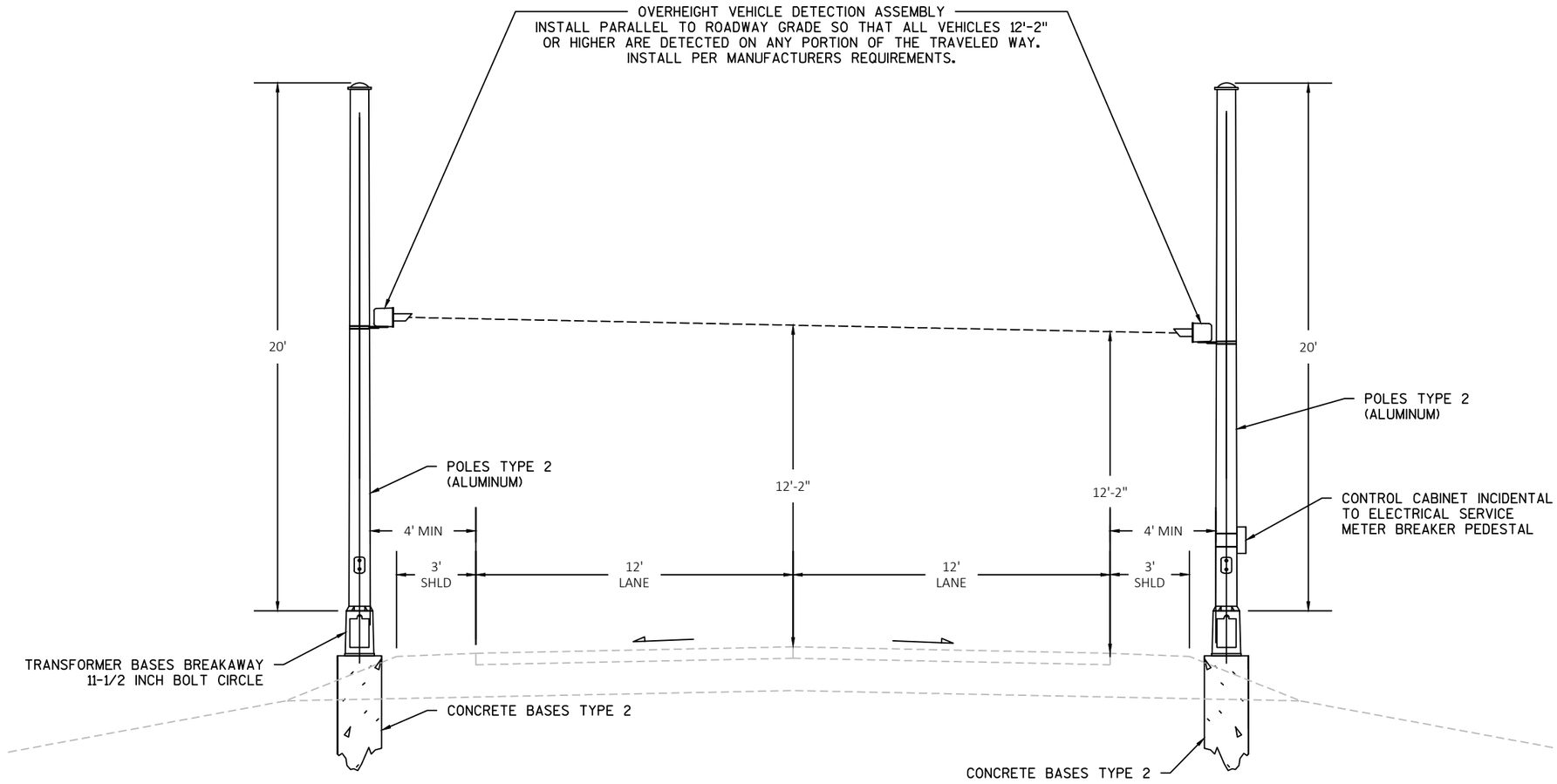
2



CTH A - OVERHEIGHT DETECTION SYSTEM 2
(LOOKING NORTH)

PROJECT NO: 8744-00-72	HWY: CTH Z	COUNTY: DOUGLAS	CONSTRUCTION DETAILS	SHEET 8	E

2

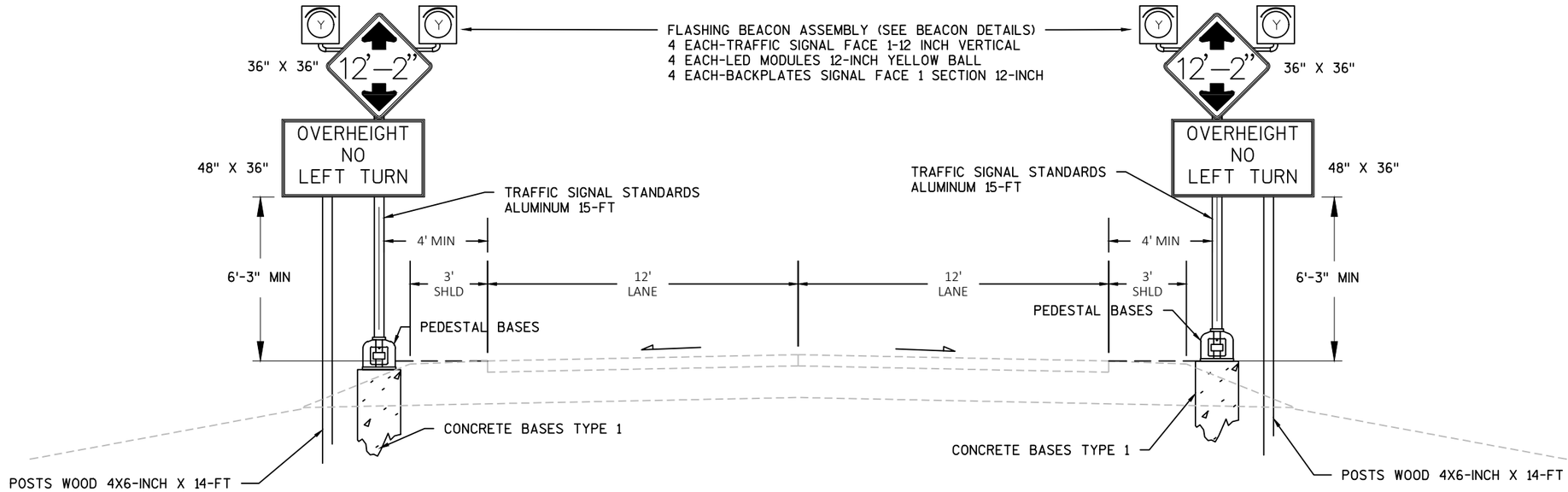


CTH A - OVERHEIGHT DETECTION SYSTEM 3
(LOOKING SOUTH)

PROJECT NO: 8744-00-72	HWY: CTH Z	COUNTY: DOUGLAS	CONSTRUCTION DETAILS	SHEET 9	E

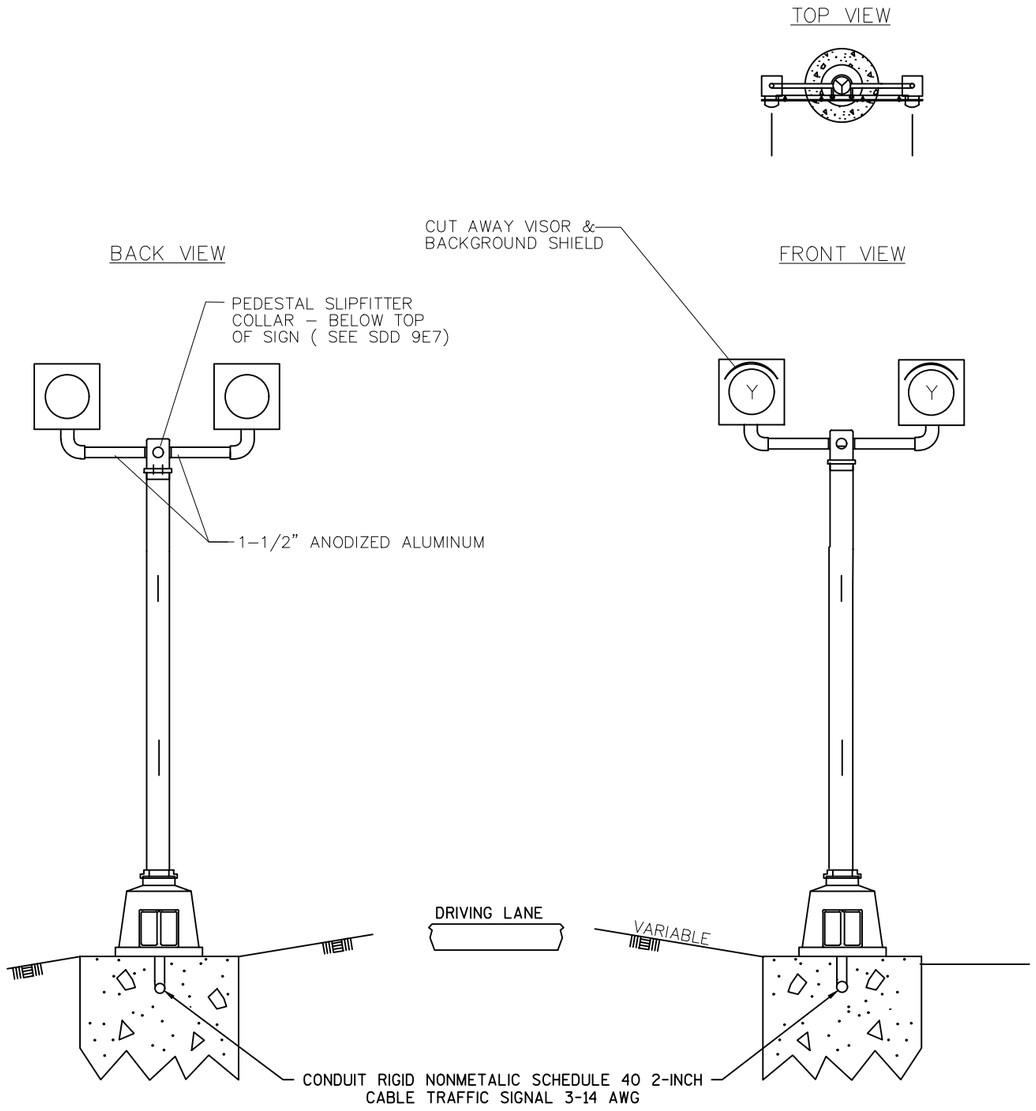
FILE NAME : P:\UZ\W\WITNW\148147\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\87440002\SHEETSPLAN\SEC 02 TYPICALS & DETAILS\021000_CD.DWG
LAYOUT NAME - 05
PLOT DATE : 5/31/2019 11:31 AM PLOT BY : SAVANNAH A. STEHN PLOT NAME : PLOT SCALE : 1 IN:5 FT
WISDOT/CADDS SHEET 42

2



CTH A - OVERHEIGHT DETECTION SYSTEM 3
(LOOKING SOUTH)

2



BEACON DETAILS

PROJECT NO: 8744-00-72	HWY: CTH Z	COUNTY: DOUGLAS	CONSTRUCTION DETAILS	SHEET 11	E

2

2

SLOPE INTERCEPTS (TYP)

SILT FENCE (TYP)

PROJECT NO: 8744-00-72	HWY: CTH Z	COUNTY: DOUGLAS	EROSION CONTROL	SHEET 12	E

FILE NAME : P:\UZ\W\WITNW\148147\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\87440002\SHEETSPLAN\SEC 02 TYPICALS & DETAILS\022000_EC.DWG
LAYOUT NAME - ec_CTH Z

PLOT DATE : 5/9/2019 10:50 AM PLOT BY : SAVANNAH A. STEHN PLOT NAME : PLOT SCALE : 1 IN:20 FT

2

2

SILT FENCE (TYP)

SLOPE INTERCEPTS (TYP)

SLOPE INTERCEPTS (TYP)

SILT FENCE (TYP)

PROJECT NO: 8744-00-72	HWY: CTH Z	COUNTY: DOUGLAS	EROSION CONTROL	SHEET 13	E

8744-00-72

Line	Item	Item Description	Unit	Total	Qty
0002	213.0100	Finishing Roadway (project) 01. 8744-00-72	EACH	1.000	1.000
0004	619.1000	Mobilization	EACH	1.000	1.000
0006	625.0100	Topsoil	SY	100.000	100.000
0008	628.1504	Silt Fence	LF	950.000	950.000
0010	628.1520	Silt Fence Maintenance	LF	1,900.000	1,900.000
0012	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0014	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0016	628.2008	Erosion Mat Urban Class I Type B	SY	100.000	100.000
0018	628.7504	Temporary Ditch Checks	LF	100.000	100.000
0020	630.0110	Seeding Mixture No. 10	LB	0.200	0.200
0022	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	6.000	6.000
0024	637.2230	Signs Type II Reflective F	SF	114.000	114.000
0026	643.0310.S	Temporary Portable Rumble Strips	LS	1.000	1.000
0028	643.0900	Traffic Control Signs	DAY	160.000	160.000
0030	643.5000	Traffic Control	EACH	1.000	1.000
0032	650.8500	Construction Staking Electrical Installations (project) 01. 8744-00-72	LS	1.000	1.000
0034	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	450.000	450.000
0036	652.0605	Conduit Special 2-Inch	LF	128.000	128.000
0038	653.0164	Pull Boxes Non-Conductive 24x42-Inch	EACH	8.000	8.000
0040	654.0101	Concrete Bases Type 1	EACH	6.000	6.000
0042	654.0102	Concrete Bases Type 2	EACH	6.000	6.000
0044	655.0210	Cable Traffic Signal 3-14 AWG	LF	1,398.000	1,398.000
0046	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	1,398.000	1,398.000
0048	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. Overheight Detection System 2	LS	1.000	1.000
0050	656.0200	Electrical Service Meter Breaker Pedestal (location) 02. Overheight Detection System 3	LS	1.000	1.000
0052	657.0100	Pedestal Bases	EACH	6.000	6.000
0054	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	6.000	6.000
0056	657.0305	Poles Type 2	EACH	6.000	6.000
0058	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	6.000	6.000
0060	658.0171	Traffic Signal Face 1S 12-Inch	EACH	12.000	12.000
0062	658.5069	Signal Mounting Hardware (location) 01. Overheight Detection System 1	LS	1.000	1.000
0064	658.5069	Signal Mounting Hardware (location) 02. Overheight Detection System 2	LS	1.000	1.000
0066	658.5069	Signal Mounting Hardware (location) 03. Overheight Detection System 3	LS	1.000	1.000
0068	670.0100	Field System Integrator 01. 8744-00-72	LS	1.000	1.000
0070	670.0200	ITS Documentation 01. 8744-00-72	LS	1.000	1.000

8744-00-72

Line	Item	Item Description	Unit	Total	Qty
0072	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0074	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000
0076	SPV.0060	Special 01. Overheight Vehicle Detection Assembly Solar Powered	EACH	1.000	1.000
0078	SPV.0060	Special 02. Overheight Vehicle Detection Assembly Hardwired	EACH	2.000	2.000

FINISHING ITEMS

STATION - STATION	LOCATION	625.0100 TOPSOIL (SY)	628.2008 EROSION MAT URBAN CLASS I TYPE B (SY)	630.0110 SEEDING MIXTURE NO. 10 (LB)
UNDISTRIBUTED	CTH A, CTH Z	100	100	0.2
	PROJECT TOTALS	**100**	**100**	**0.2**

EROSION CONTROL

LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)	628.7504 TEMPORARY DITCH CHECKS (LF)	628.1905 MOBILIZATION EROSION CONTROL (EACH)	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL (EACH)
CTH Z	250	500	-	-	-
CTH A	500	1000	-	-	-
UNDISTRIBUTED	200	400	100	1	1
TOTAL	**950**	**1900**	**100**	**1**	**1**

TRAFFIC CONTROL

DESCRIPTION	DAYS	643.0310.S TEMPORARY PORTABLE RUMBLE STRIPS (LS)	SIGNS EACH	643.0900 SIGNS (DAYS)	643.5000 TRAFFIC CONTROL (EACH)
8744-00-02	16	1	10	160	1
		1		**160**	**1**

SIGNING ITEMS

LOCATION	SIGN CODE	MESSAGE	SIGN SIZE	634.0614 POSTS WOOD 4X6-INCH X 14 FT (EACH)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	REMARKS
OVERHEIGHT SYSTEM 1	W12-2	12'-2"	36"X36"	-	9	CTH Z WB
OVERHEIGHT SYSTEM 1	-	LOW BRIDGE 3/4 MILE	24"X48"	1	8	CTH Z WB
OVERHEIGHT SYSTEM 1	W12-2	12'-2"	36"X36"	-	9	CTH Z WB
OVERHEIGHT SYSTEM 1	-	LOW BRIDGE 3/4 MILE	24"X48"	1	8	CTH Z WB
OVERHEIGHT SYSTEM 2	W12-2	12'-2"	36"X36"	-	9	CTH A NB
OVERHEIGHT SYSTEM 2	-	OVERHEIGHT NO RIGHT TURN	36"X48"	1	8	CTH A NB
OVERHEIGHT SYSTEM 2	W12-2	12'-2"	36"X36"	-	9	CTH A NB
OVERHEIGHT SYSTEM 2	-	OVERHEIGHT NO RIGHT TURN	36"X48"	1	12	CTH A NB
OVERHEIGHT SYSTEM 3	W12-2	12'-2"	36"X36"	-	9	CTH A SB
OVERHEIGHT SYSTEM 3	W12-2	12'-2"	36"X36"	-	9	CTH A SB
OVERHEIGHT SYSTEM 3	-	OVERHEIGHT NO LEFT TURN	36"X48"	1	12	CTH A SB
OVERHEIGHT SYSTEM 3	-	OVERHEIGHT NO LEFT TURN	36"X48"	1	12	CTH A SB
			PROJECT TOTALS	**6.00**	**114.00**	

CONDUIT ITEMS

FROM	TO	652.0225 RIGID NONMETALLIC SCHEDULE 40 2-INCH (LF)	652.0605 SPECIAL 2-INCH (LF)
HEIGHT DETECTION SYSTEM 2			
METER PEDESTAL	PB 1	10	--
PB 1	PB 2	--	32
PB 1	PB 4	195	--
PB 3	PB 4	--	32
PB 1	SB 5	5	--
PB 2	SB 6	5	--
PB 3	SB 7	5	--
PB 4	SB 8	5	--
HEIGHT DETECTION SYSTEM 3			
METER PEDESTAL	PB 5	10	--
PB 5	PB 6	--	32
PB 5	PB 8	195	--
PB 7	PB 8	--	32
PB 5	SB 9	5	--
PB 6	SB 10	5	--
PB 7	SB 11	5	--
PB 8	SB 12	5	--
	PROJECT TOTALS	**450**	**128**

PULL BOXES

PULL BOX NUMBER	NORTHING	EASTING	653.0164 PULL BOXES NON-CONDUCTIVE 24x42-INCH (EACH)
OVERHEIGHT DETECTION SYSTEM 2			
PB1	156380.9	277074.8	1
PB2	156348.9	277075.8	1
PB3	156351.8	277269.7	1
PB4	156384.2	277269.7	1
OVERHEIGHT DETECTION SYSTEM 3			
PB5	156371.2	280903.1	1
PB6	156403.5	280902.7	1
PB7	156403.1	280708.1	1
PB8	156370.9	280708.5	1
	PROJECT TOTALS		**8**

CONCRETE BASES

BASE NUMBER	NORTHING	EASTING	654.0101 BASES TYPE 1 (EACH)	654.0102 BASES TYPE 2 (EACH)
OVERHEIGHT DETECTION SYSTEM 1				
SB1	170766.4	278794.2	1	--
SB2	170766.6	278758.8	1	--
SB3	170566.5	278758.8	--	1
SB4	170566.4	278794.6	--	1
OVERHEIGHT DETECTION SYSTEM 2				
SB5	156381.7	277072.2	--	1
SB6	156347.9	277072.9	--	1
SB7	156351.1	277272.8	1	--
SB8	156385.1	277272.9	1	--
OVERHEIGHT DETECTION SYSTEM 3				
SB9	156370.4	280905.6	--	1
SB10	156404.3	280905.3	--	1
SB11	156403.9	280705.2	1	--
SB12	156370.0	280705.6	1	--
	PROJECT TOTALS		**6**	**6**

3

ITS POLES

SIGNAL BASE NUMBER	657.0100 PEDESTAL BASES (EACH)	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2 BOLT CIRCLE (EACH)	657.0305 POLES TYPE 2 (EACH)	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT (EACH)
OVERHEIGHT DETECTION SYSTEM 1				
SB1	–	1	1	–
SB2	–	1	1	–
SB3	1	–	–	1
SB4	1	–	–	1
OVERHEIGHT DETECTION SYSTEM 2				
SB5	–	1	1	–
SB6	–	1	1	–
SB7	1	–	–	1
SB8	1	–	–	1
OVERHEIGHT DETECTION SYSTEM 3				
SB9	–	1	1	–
SB10	–	1	1	–
SB11	1	–	–	1
SB12	1	–	–	1
PROJECT TOTALS	**6**	**6**	**6**	**6**

ELECTRICAL WIRE TRAFFIC SIGNALS

FROM	TO	655.0210 CABLE TRAFFIC SIGNAL 3 - 14 AWG LF	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
OVERHEIGHT DETECTION SYSTEM 2			
METER PEDESTAL	SB5	45	45
SB5	SB6	82	82
SB5	SB8	490	490
SB7	SB8	82	82
OVERHEIGHT DETECTION SYSTEM 3			
METER PEDESTAL	SB9	45	45
SB9	SB10	82	82
SB9	SB12	490	490
SB11	SB12	82	82
PROJECT TOTALS		**1,398**	**1,398**

ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION)

LOCATION	656.0200.01 ELECTRICAL SERVICE METER BREAKER PEDESTAL LS	656.0200.02 ELECTRICAL SERVICE METER BREAKER PEDESTAL LS
OVERHEIGHT DETECTION SYSTEM 2	1	–
OVERHEIGHT DETECTION SYSTEM 3	–	1
PROJECT TOTALS	**1**	**1**

ITS SYSTEM TESTING

LOCATION	670.0100.01 FIELD SYSTEM INTEGRATOR (LS)	670.0200.01 ITS DOCUMENTATION (LS)
PROJECT ID: 8744-00-72	1	1
PROJECT TOTALS	**1**	**1**

3

SIGNAL MOUNTING HARDWARE

LOCATION	658.5069.01 SIGNAL MOUNTING HARDWARE (LS)	658.5069.02 SIGNAL MOUNTING HARDWARE (LS)	658.5069.03 SIGNAL MOUNTING HARDWARE (LS)	REMARKS
OVERHEIGHT DETECTION SYSTEM 1	1	–	–	
OVERHEIGHT DETECTION SYSTEM 2	–	1	–	
OVERHEIGHT DETECTION SYSTEM 3	–	–	1	
PROJECT TOTALS	**1**	**1**	**1**	

ITS DEVICES

SIGNAL HEAD NUMBER	SIGNAL BASE NUMBER	658.0171 TRAFFIC SIGNAL FACE 1S 12-INCH (EACH)
OVERHEIGHT DETECTION SYSTEM 1		
1	SB3	1
2	SB3	1
3	SB4	1
4	SB4	1
OVERHEIGHT DETECTION SYSTEM 1		
5	SB7	1
6	SB7	1
7	SB8	1
8	SB8	1
OVERHEIGHT DETECTION SYSTEM 1		
9	SB11	1
10	SB11	1
11	SB12	1
12	SB12	1
PROJECT TOTALS		**12**

ITS DEVICES

LOCATION	SPV.0060.01 OVERHEIGHT VEHICLE DETECTION ASSEMBLY SOLAR POWERED (EACH)	SPV.0060.02 OVERHEIGHT VEHICLE DETECTION ASSEMBLY HARDWIRED (EACH)
OVERHEIGHT DETECTION SYSTEM 1	1	–
OVERHEIGHT DETECTION SYSTEM 2	–	1
OVERHEIGHT DETECTION SYSTEM 3	–	1
PROJECT TOTALS	**1**	**2**

N

OVERHEIGHT DETECTION SYSTEM 1

CENTURYLINK

OVERHEIGHT VEHICLE DETECTION ASSEMBLY
SEE CONSTRUCTION DETAIL

BEACON ASSEMBLY
SEE CONSTRUCTION DETAIL

SB 1

SB 2

SB 3

SB 4

CTH Z

5

5

FO

SAN

OH

PARKLAND SANITARY DISTRICT (FORCEMAIN)
(DRAWN FROM SYSTEM MAPS)
CONTRACTOR TO VERIFY LOCATION PRIOR TO CONSTRUCTION

NORVADO (FIBER OPTIC)
(DRAWN FROM SYSTEM MAPS)
CONTRACTOR TO VERIFY LOCATION PRIOR TO CONSTRUCTION

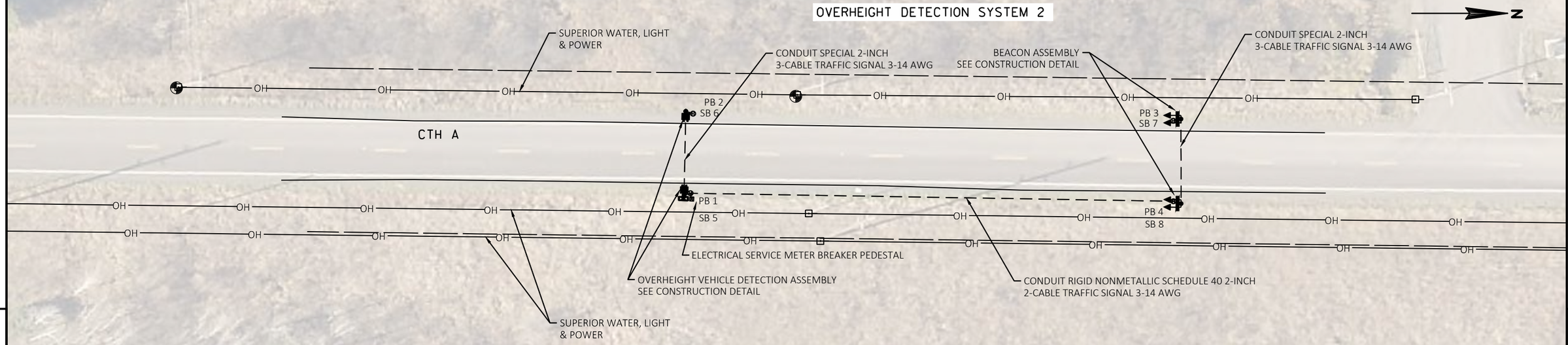
DAHLBERG LIGHT & POWER COMPANY

PROJECT NO: 8744-00-72	HWY: CTH Z	COUNTY: DOUGLAS	ITS PLANS - CTH Z	SHEET 18	E

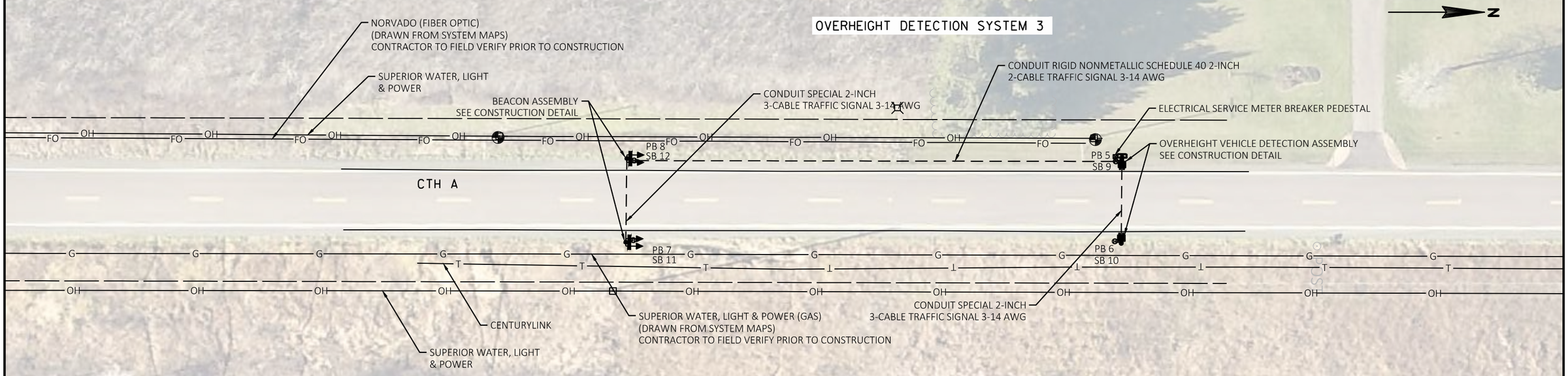
FILE NAME : P:\UZ\W\WITNW\148147\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\87440002\SHEETSPLAN\SEC 05 PLAN\050200_PN.DWG
LAYOUT NAME - pn_CTH Z

PLOT DATE : 5/9/2019 10:31 AM PLOT BY : SAVANNAH A. STEHN PLOT NAME : PLOT SCALE : 1 IN:40 FT

OVERHEIGHT DETECTION SYSTEM 2



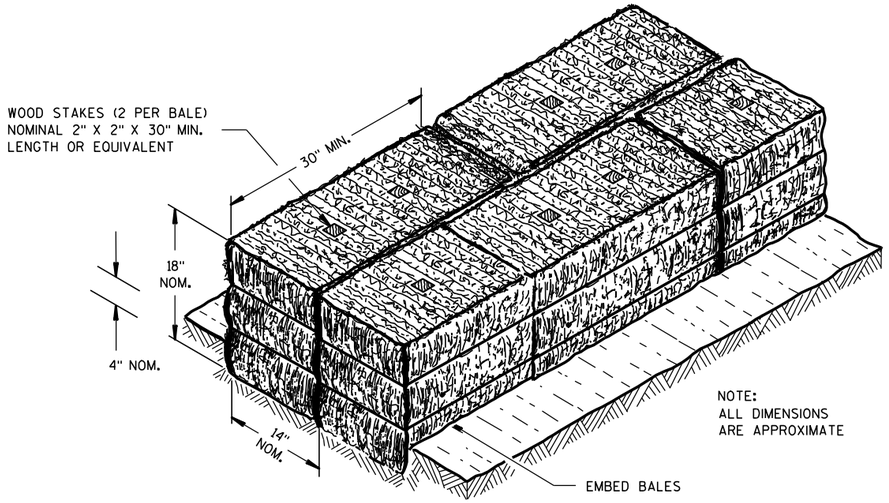
OVERHEIGHT DETECTION SYSTEM 3



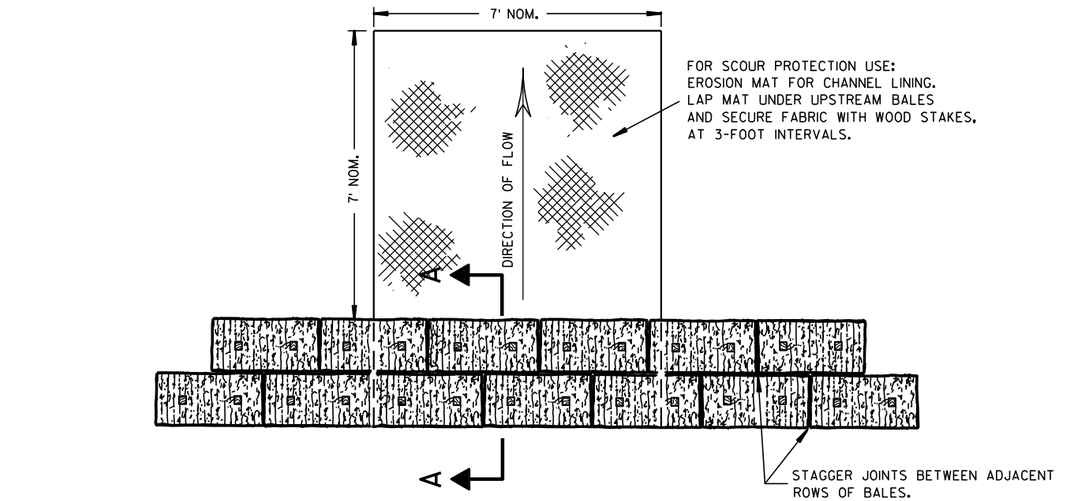
PROJECT NO: 8744-00-72	HWY: CTH Z	COUNTY: DOUGLAS	ITS PLANS - CTH A	SHEET 19	E

Standard Detail Drawing ListStandard Detail Drawing List

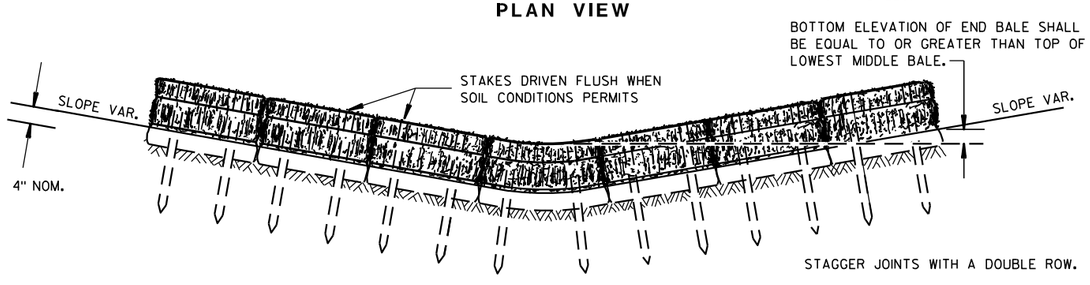
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
09B02-10	CONDUIT
09B16-01	PULL BOX NON-CONDUCTIVE
09C02-08	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09E07-06	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
15C12-06	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



SECTION A-A



PLAN VIEW



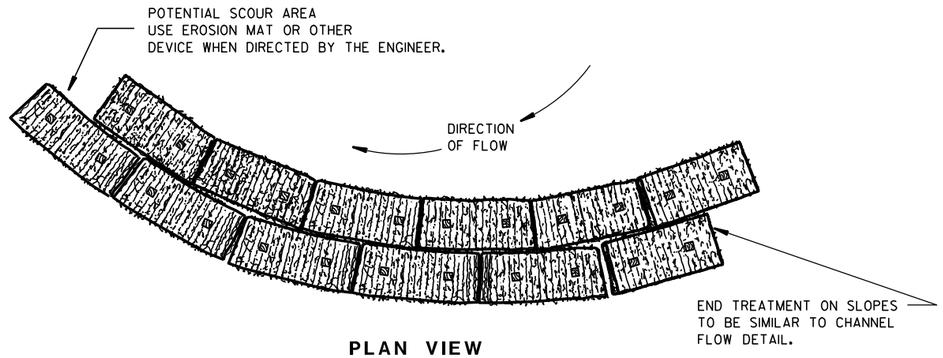
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

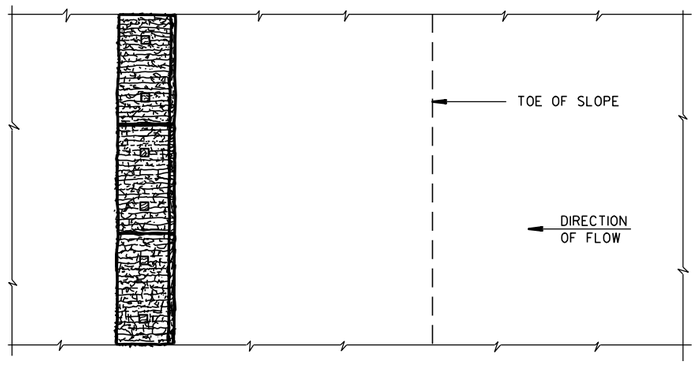
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

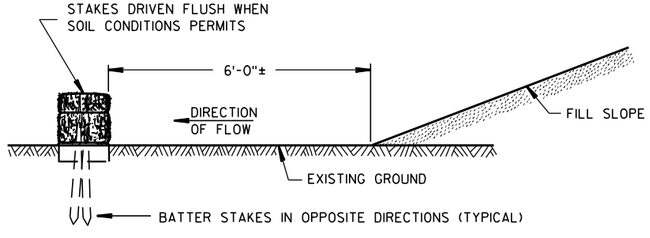


PLAN VIEW

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

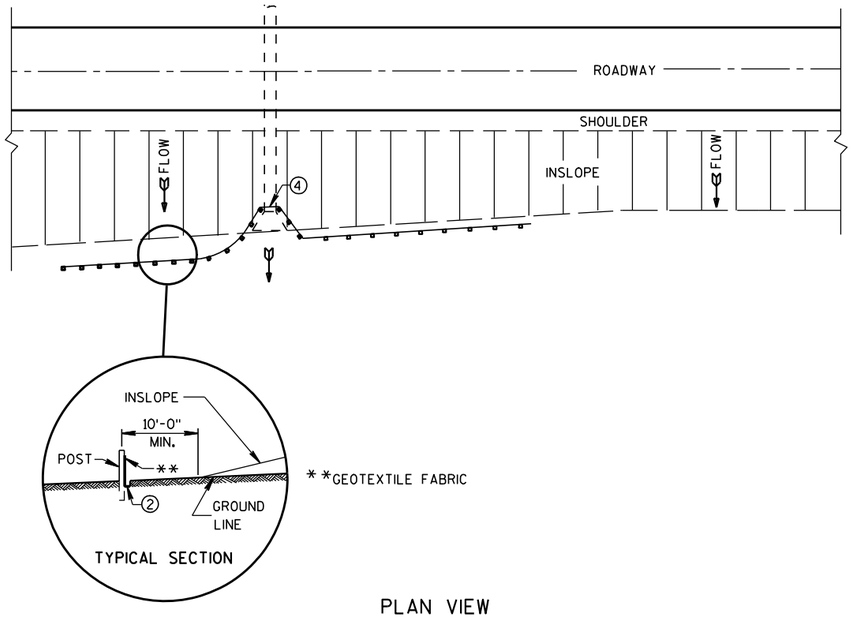
FHWA

6

S.D.D. 8 E 8-3

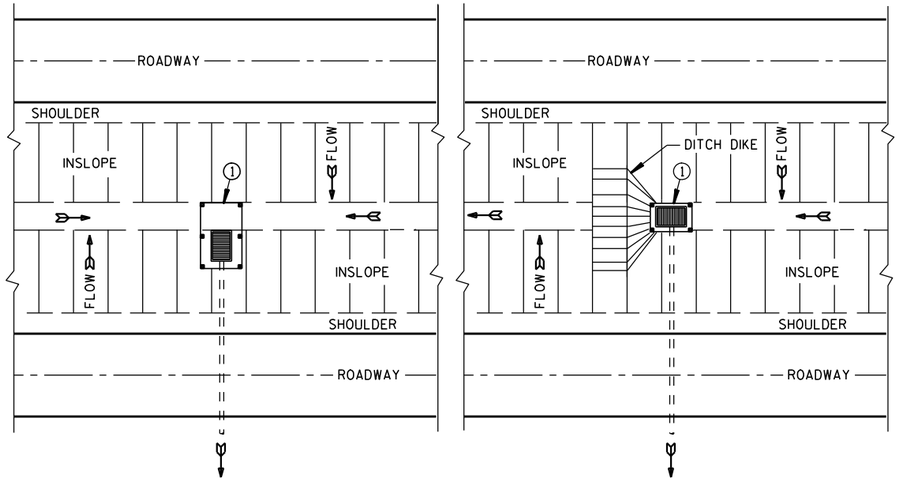
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

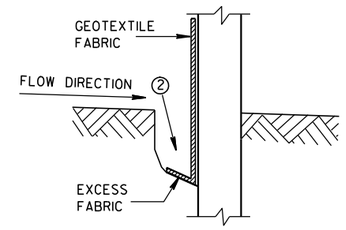
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

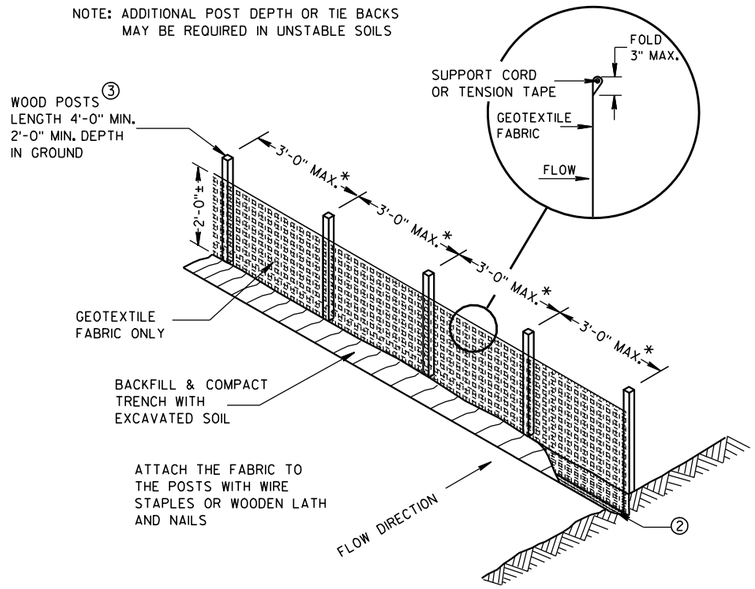
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

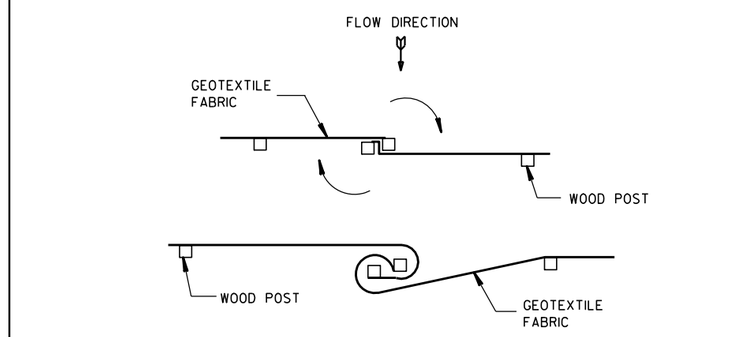


TRENCH DETAIL

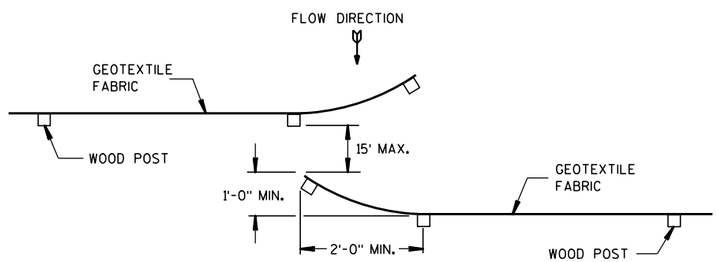


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

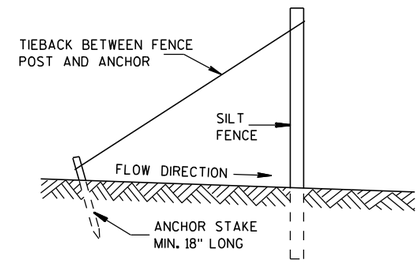


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

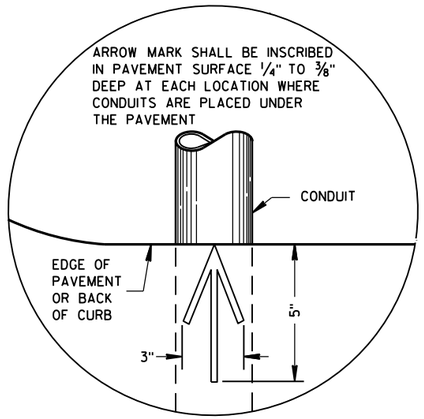
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 9-6

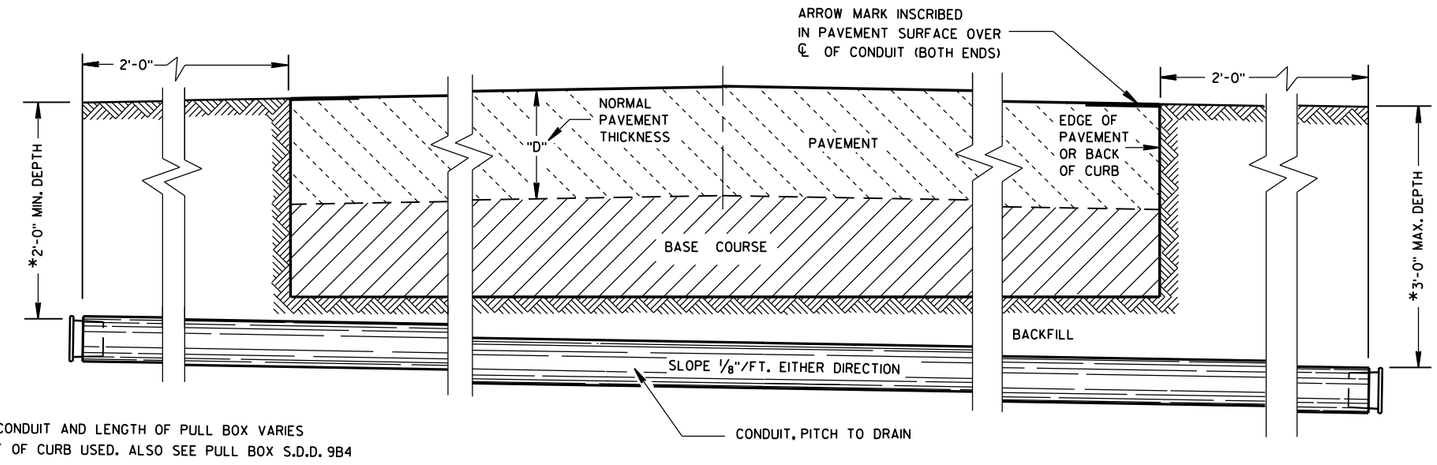
6

S.D.D. 8 E 9-6



PLAN VIEW

ARROW MARK



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

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

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

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

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

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

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

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 9 B 2-10

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		NON-CONDUCTIVE PULL BOX	
BOX DIAMETER ** (INSIDE)	A	24	24
BOX OVERALL OUTSIDE DIAMETER	B	27	27
BOX LENGTH	C	36	42
FRAME OPENING	D	22 1/2	22 1/2
WEIGHT IN POUNDS *			
COVER		50	50
BOX ONLY		75	85

* THE ACTUAL WEIGHT OF THE COVER OR BOX ONLY MAY VARY NOT TO EXCEED 100 LBS INDIVIDUALLY.

** DIAMETER VARIES FROM TOP TO BOTTOM WITH THE DIAMETER LARGER AT THE BOTTOM TO PREVENT FROST HEAVE

GENERAL NOTES

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

ALL BOXES, FRAMES AND COVERS SHALL BE SUITABLE FOR TIER 15 LOADING AS SPECIFIED IN ANSI/SCTE 77.

PROVIDE AN OPENING FOR TOOL ASSISTED COVER REMOVAL NOT LARGE ENOUGH TO PERMIT PASSAGE OF A SPHERE MORE THAN 1/2" DIAMETER

ENSURE COVER SURFACE IS SKID RESISTANT WITH A COEFFICIENT OF FRICTION OF AT LEAST 0.5 AND VERTICAL SURFACE DICONTINUITIES LESS THAN 1/4".

COVER SHALL BE MAGNETICALLY LOCATABLE.

BOXES AND EXTENSIONS ARE TRIMMABLE FOR CUSTOM LENGTHS. TRIMMED PIECES SHALL MAINTAIN A UNIFORM LENGTH.

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".

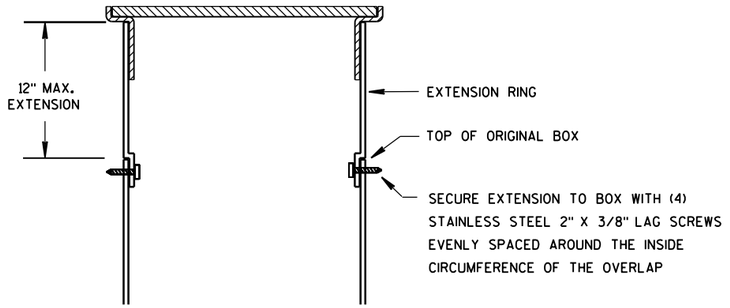
THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

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

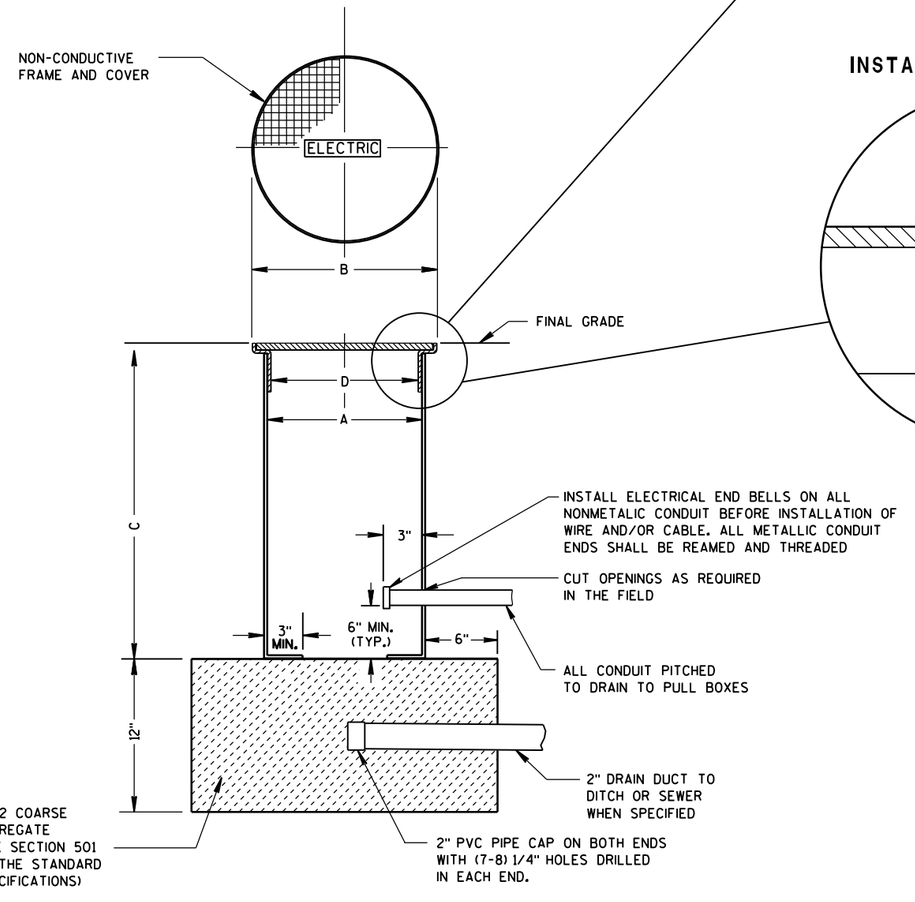
ENTIRE BOX MUST BE CONSTRUCTED OF NON-CONDUCTIVE MATERIALS WITH THE EXCEPTION OF STAINLESS STEEL FASTENERS AND MAGNETIC LOCATABLE DEVICE.

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

LABEL ON COVER SHALL READ "ELECTRIC" FOR SIGNAL AND LIGHTING SYSTEMS, "WISDOT ITS" FOR COMMUNICATIONS AND ITS EQUIPMENT SYSTEMS.

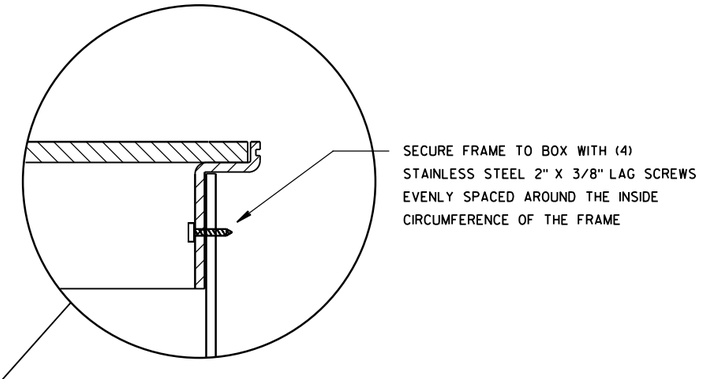


BOX EXTENSION

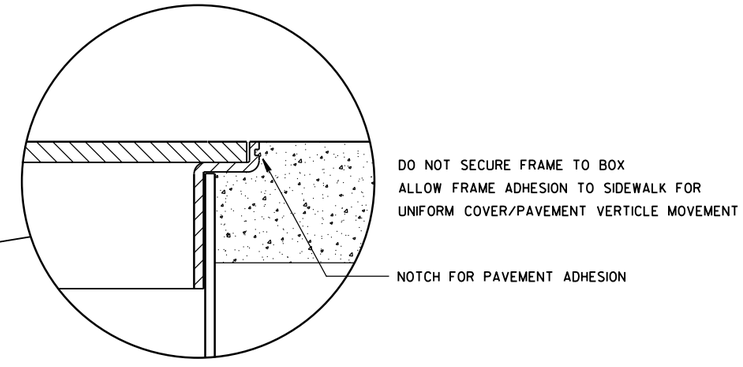


NON-CONDUCTIVE PULL BOX

INSTALLED IN SOD OR CRUSHED AGGREGATE



INSTALLED IN SIDEWALK



PULL BOX NON-CONDUCTIVE

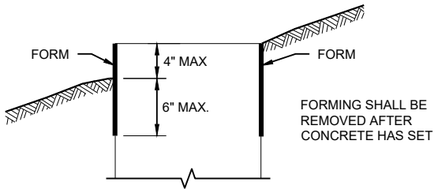
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 B 16-1

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



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 DRAWINGSHALL 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 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 A THE ENTRANCE OF THE BASE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FRO FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6X 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 NON-METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL BENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION.

WHEN REQUIRED TO CONNECT NON-METALLIC 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 ALL BASE TYPES 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.

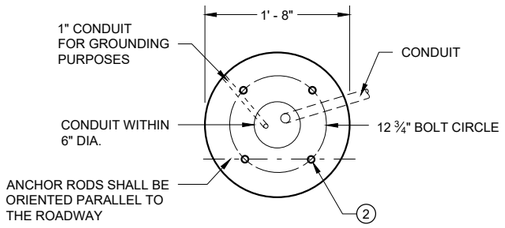
WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

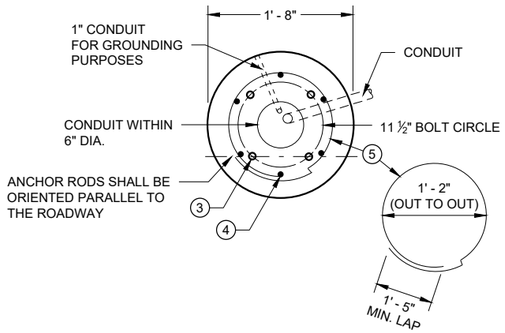
WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4 INCH"L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND SHALL NOT BE THREADED.

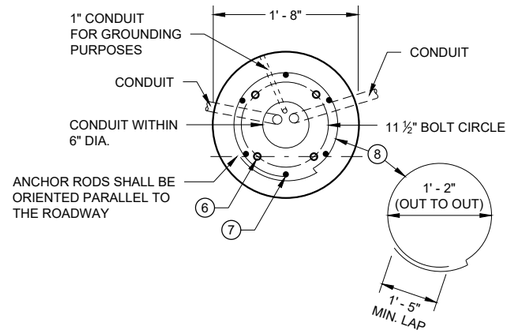
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

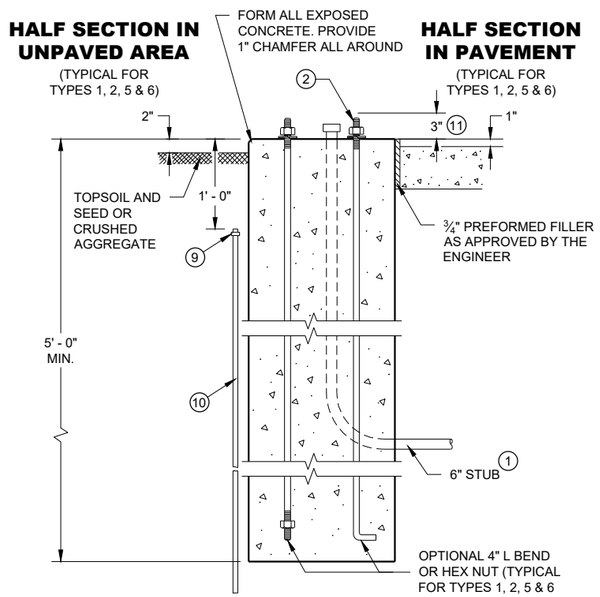
WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

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

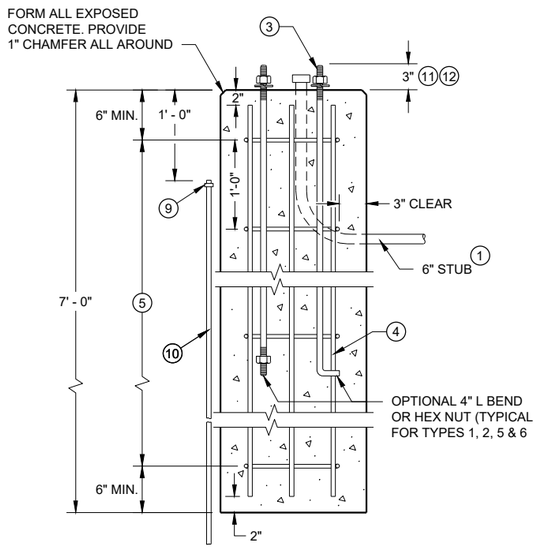




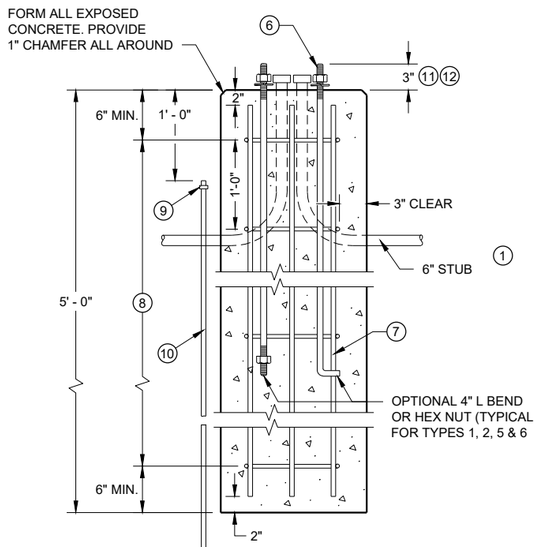




TYPE 1



TYPE 2



TYPE 5 & 6

(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 OF 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 STELL REINFORCEMENT @ 1' - 0" C -C.

(9) EXOTHERMIC CONNECTION TO EUIPMENT GROUNDING CONDUCTOR

(10) ⅝" DIA. X 8' -0" COPPERCLAD EQUIPMENT GROUNDING ELECTRODE REQUIRED

(11) ANY ANCHOR ROD PROJECTION SHORTER THAN 2 ¾" OR LONGER THAN 3 ¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

(12) FOR NON - BREAKAWAY INSTALLATIONS, 4 ½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES

CONCRETE BASES TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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SDD 09C02 - 08

GENERAL NOTES

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

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

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

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

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

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

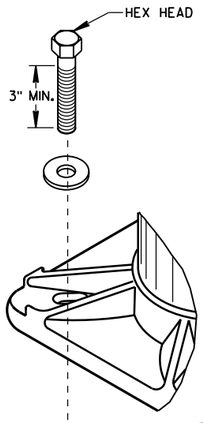
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

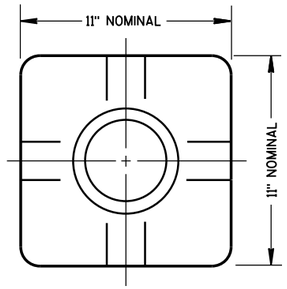
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

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

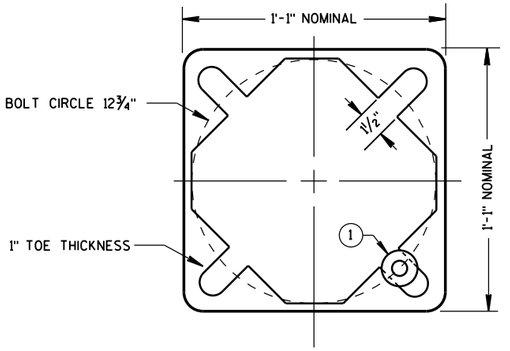
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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

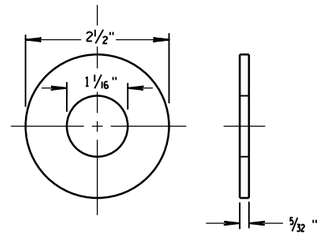




TOP VIEW
(PEDESTAL BASE)

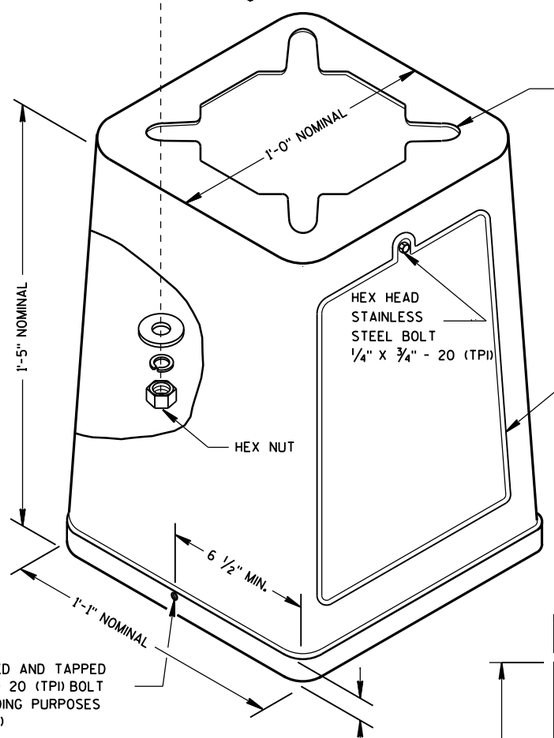


BOTTOM VIEW
(PEDESTAL BASE)

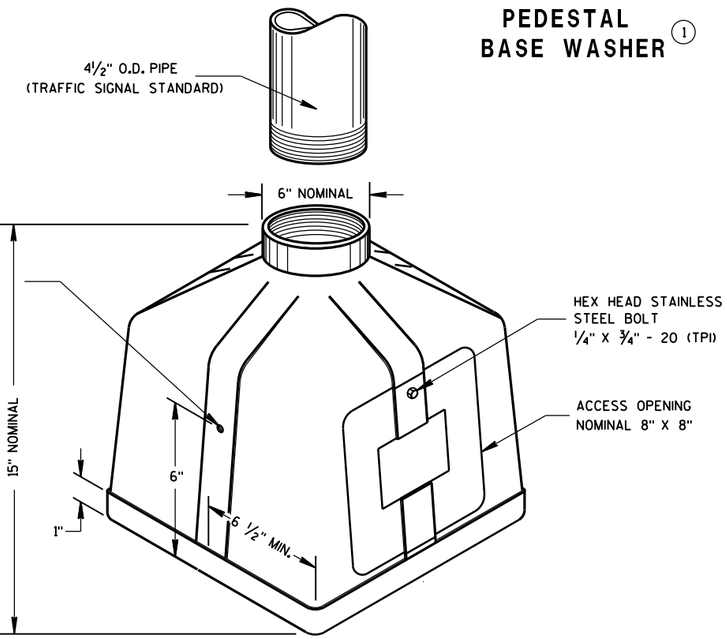


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

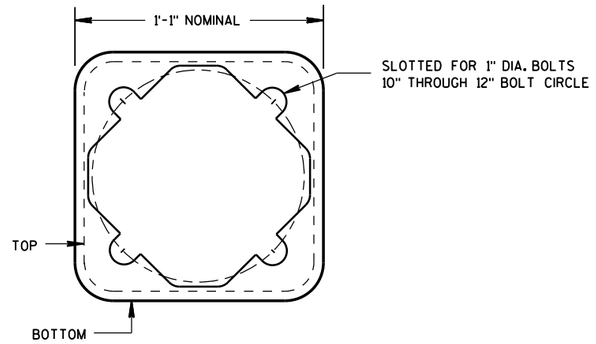


ISOMETRIC VIEW

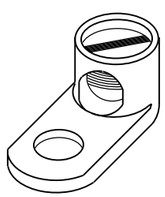


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

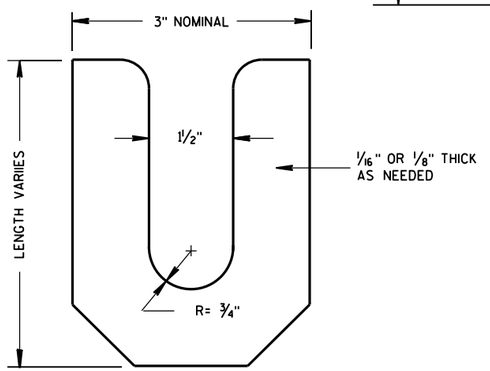


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

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



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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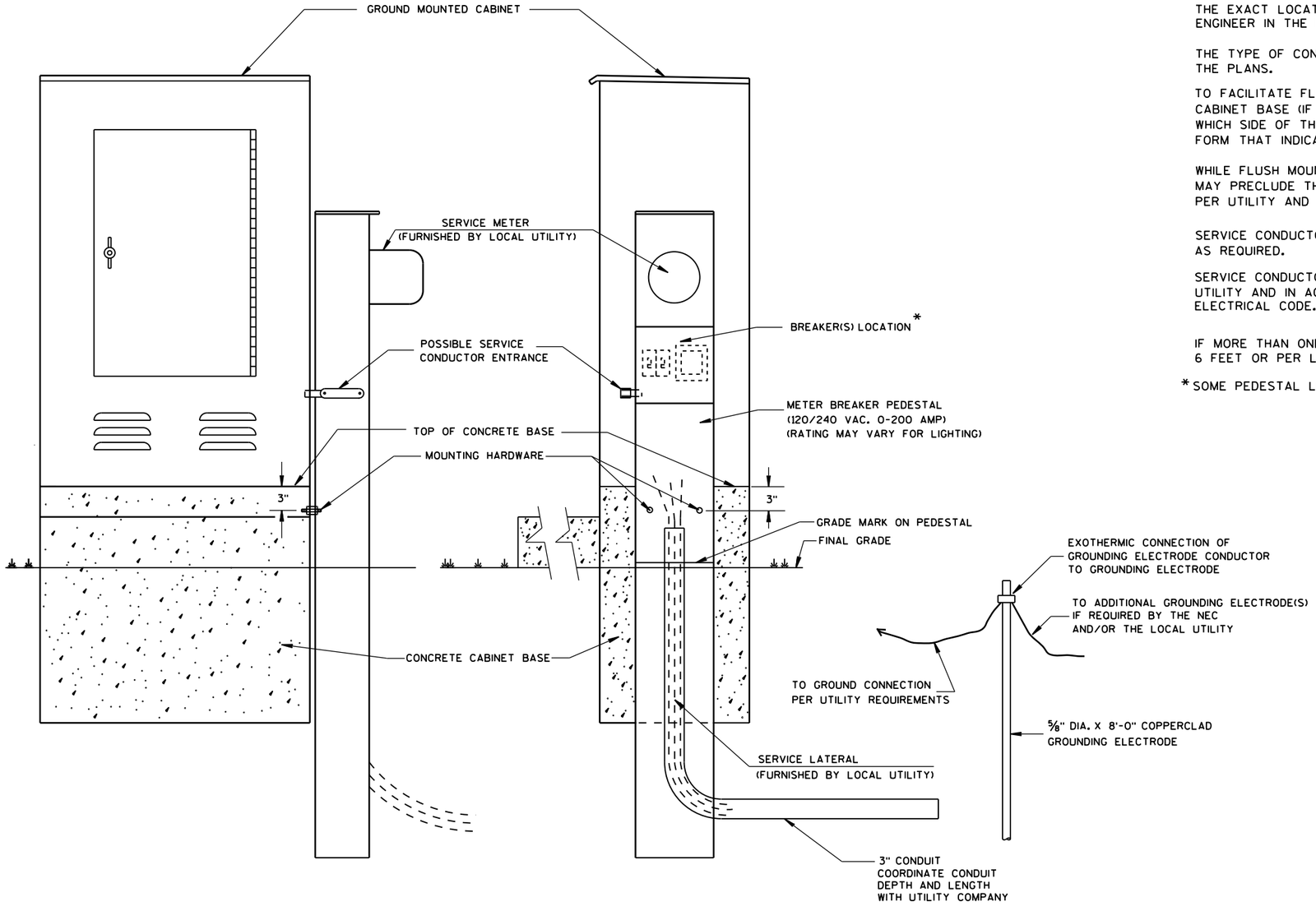
S.D.D. 9 C 3-4



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

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

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

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

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

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

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

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

*SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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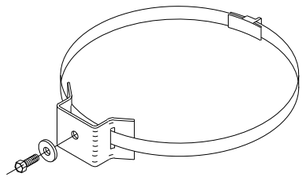
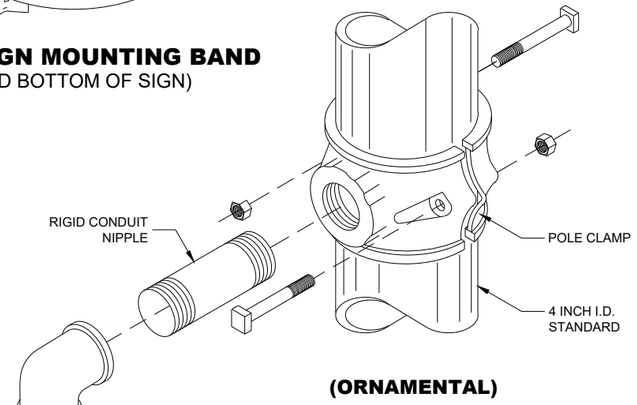


TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



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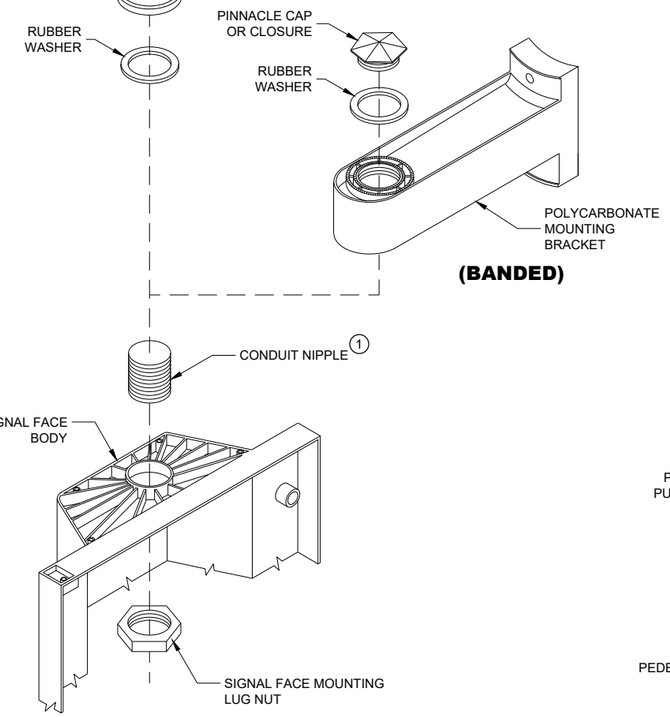
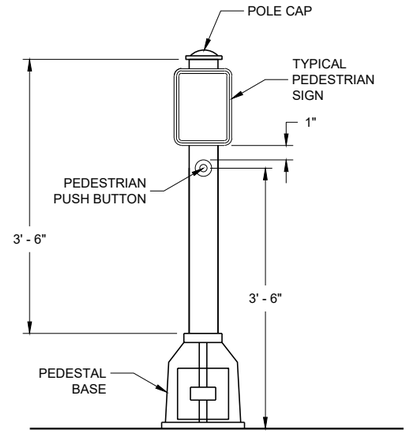


(BANDED)

SIGNAL FACE MOUNTING DETAILS



PEDESTRIAN PUSH BUTTON TYPICAL MOUNTING

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, UNLESS APPROVED BY THE ENGINEER IN THE FIELD.

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.

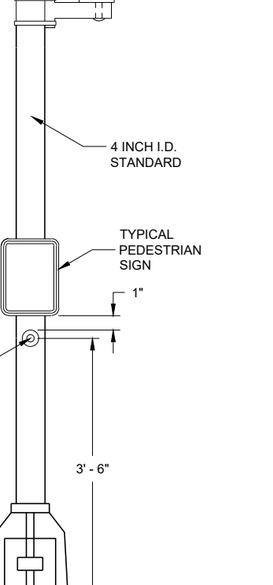
LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

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

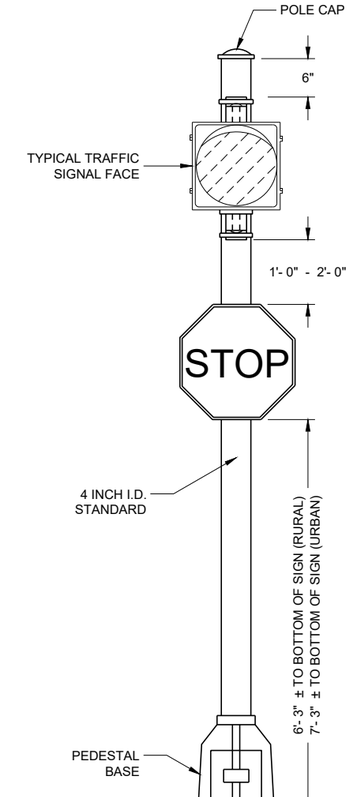
PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

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

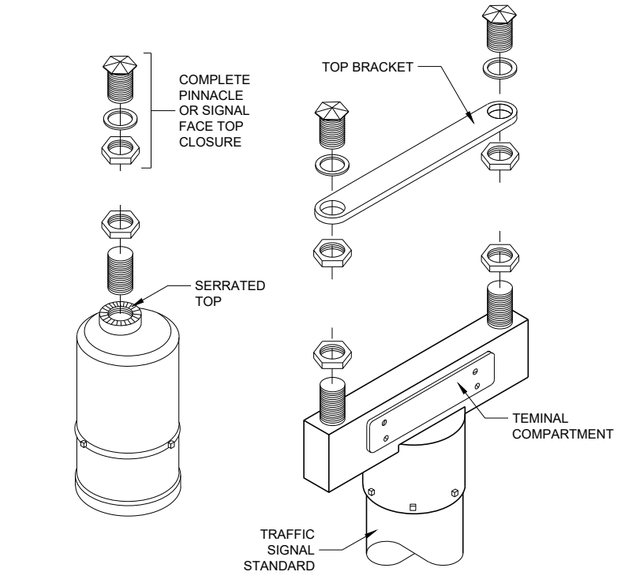
(1) USE 1 ½" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE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



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



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



SINGLE
(OFFSET - SERRATED MOUNTING)

DOUBLE
(SERRATED MOUNTING)

SLIPFITTERS

TRAFFIC SIGNAL STANDARD
PEDESTRIAN AND FLASHER
TYPICAL MOUNTING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGI

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SDD 09E07 - 06

SDD 09E07 - 06

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

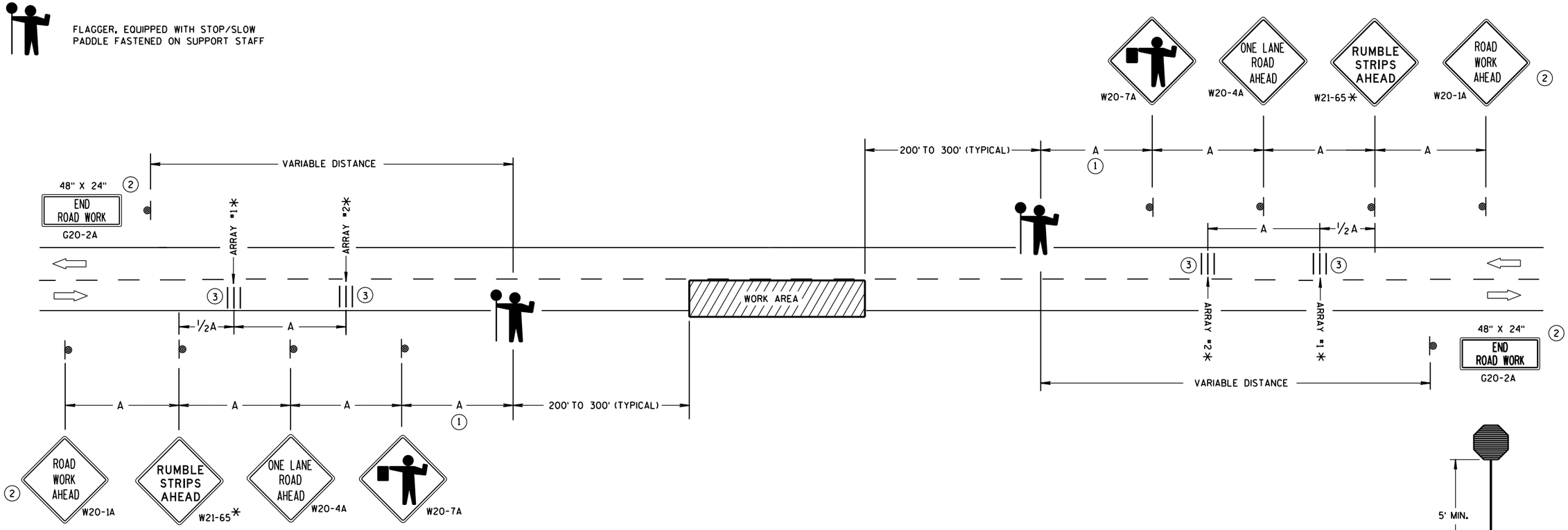
WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING A
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING A.



STOP/SLOW PADDLE ON SUPPORT STAFF

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

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

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, REMOVE TEMPORARY RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

(3) EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

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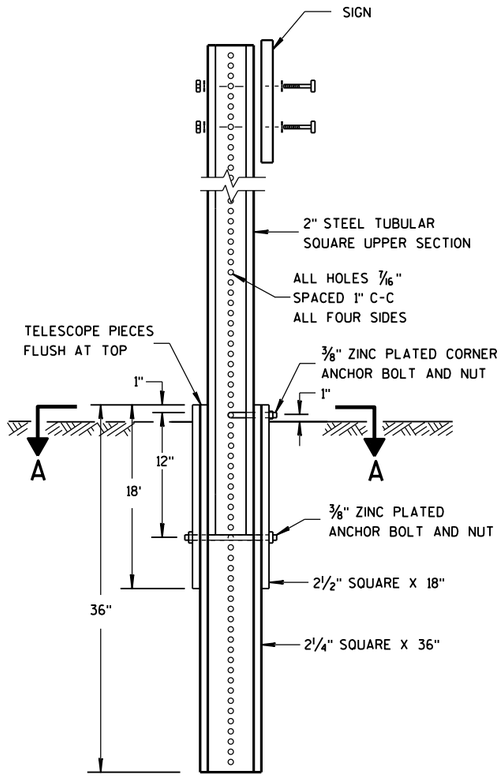
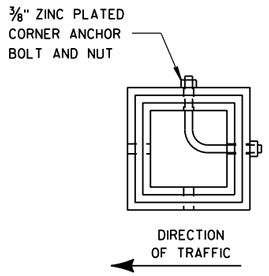
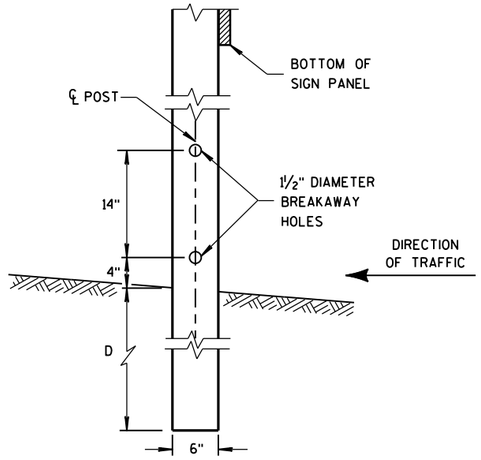
S.D.D. 15 C 12-6



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



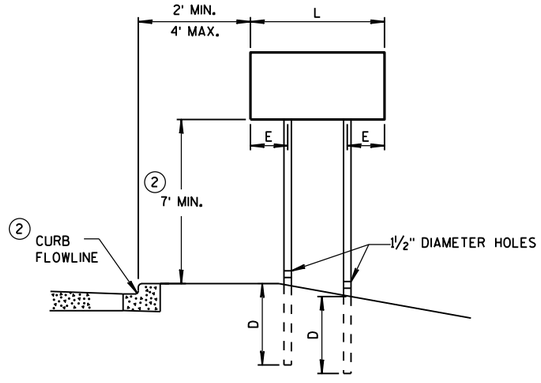
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

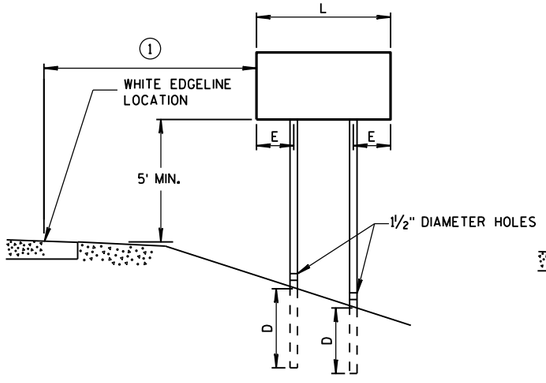
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

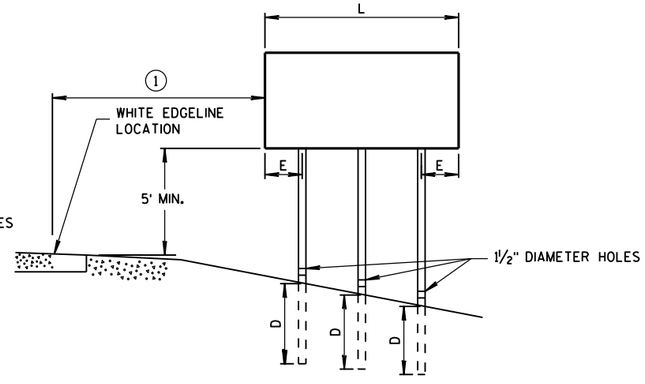
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

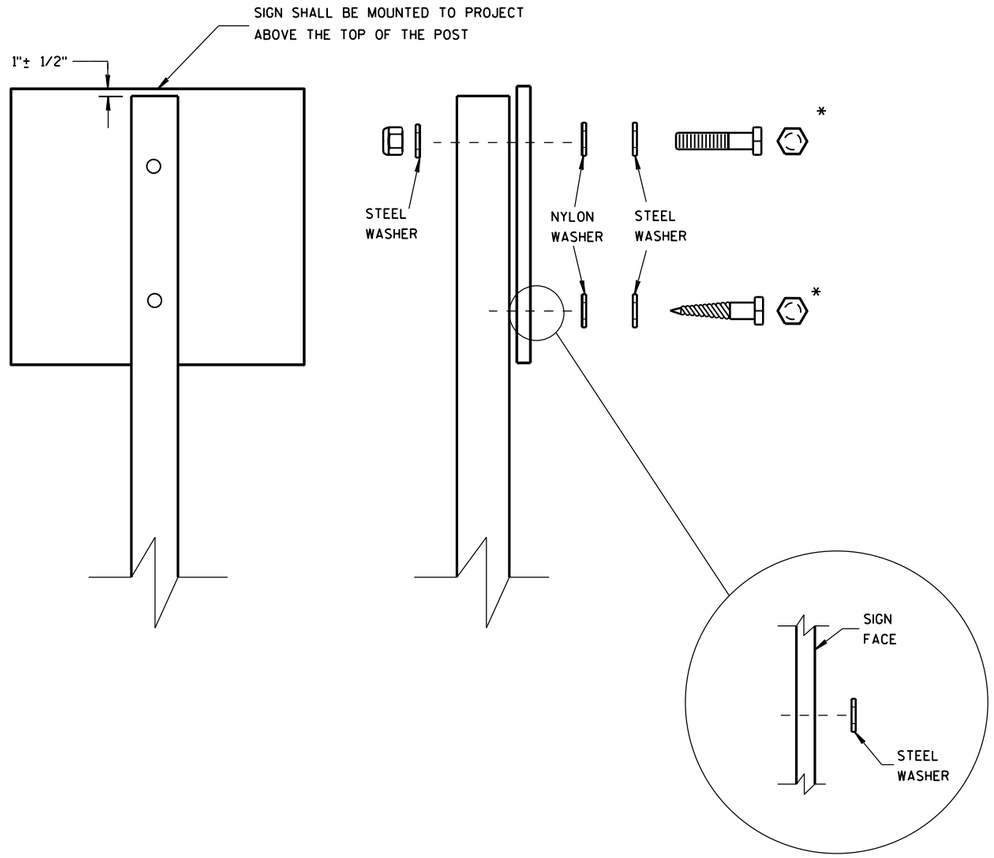
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

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

WASHERS (ALL POSTS) -

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

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

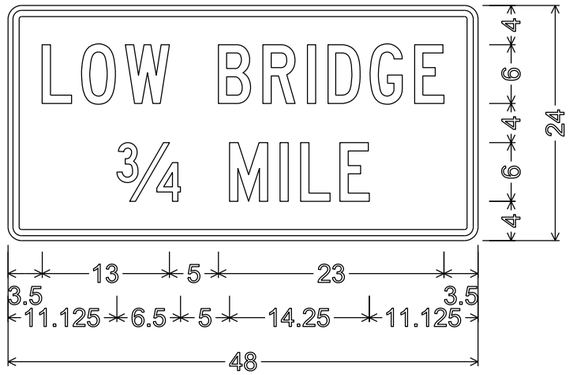
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

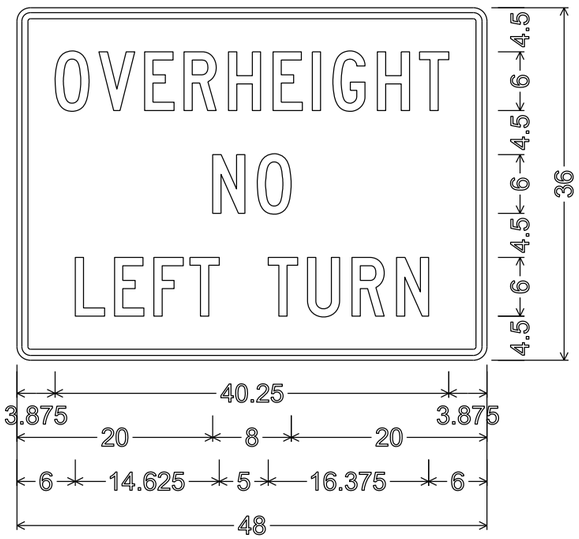
FHWA

NOTES

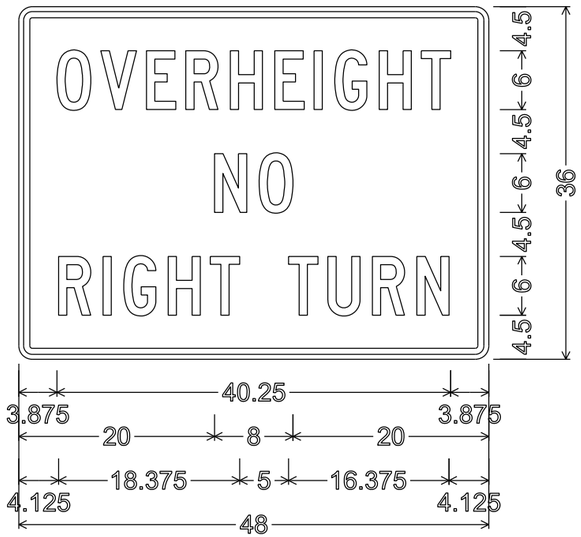
1. All Signs Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - C



1.375" Radius, 0.625" Border, 0.500" Indent



1.375" Radius, 0.625" Border, 0.500" Indent

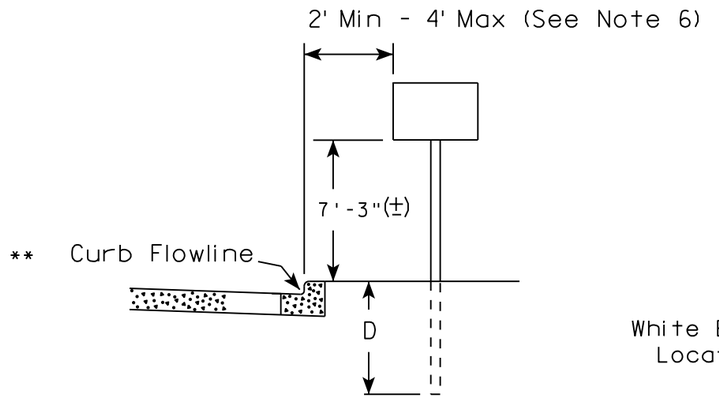


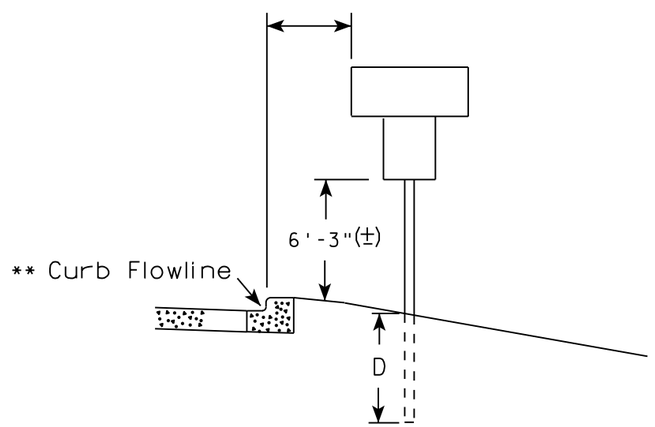
1.375" Radius, 0.625" Border, 0.500" Indent

7

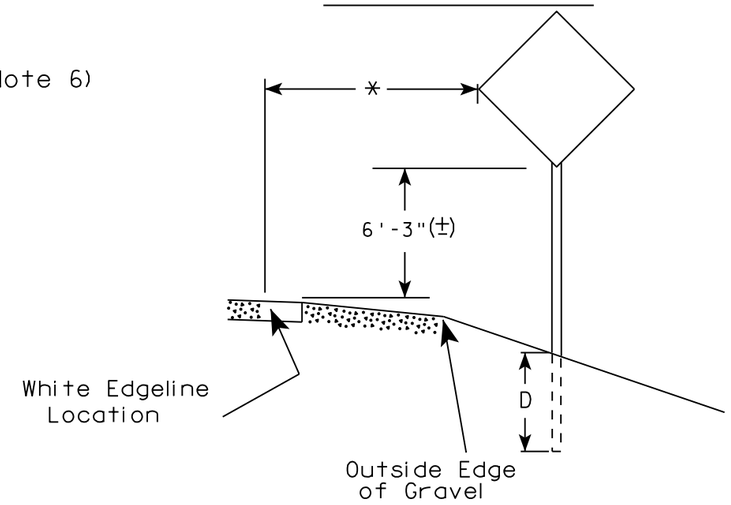
7

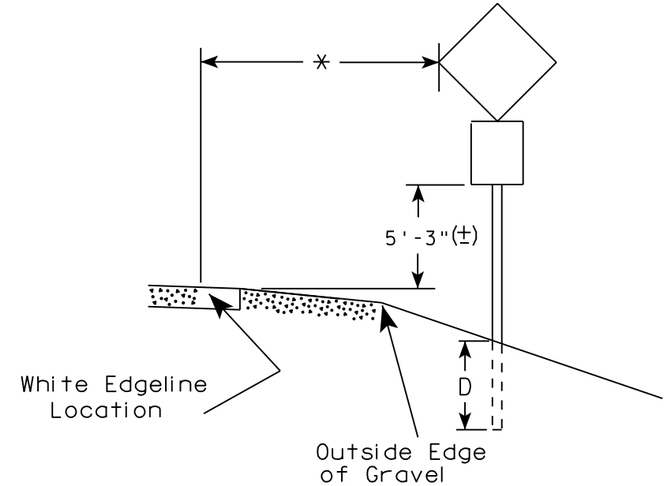
URBAN AREA





RURAL AREA (See Note 2)





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. J-Assemblies are considered to be one sign for mounting height.
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" (±).

POST EMBEDMENT DEPTH

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

** 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.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

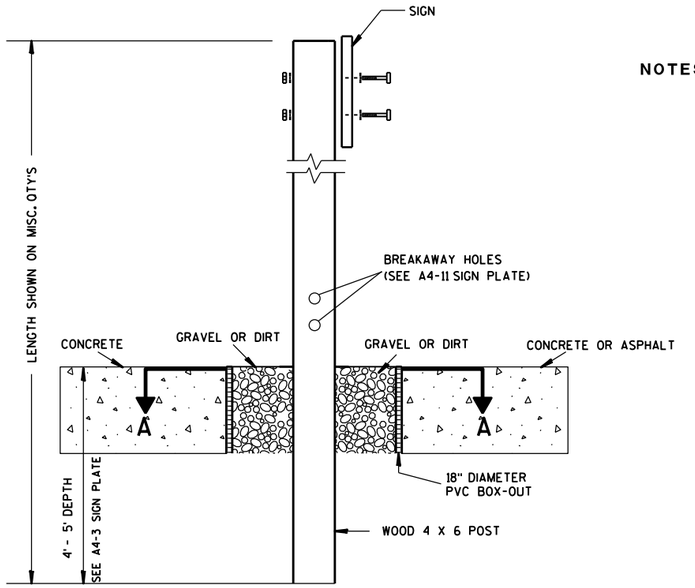
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

7

7

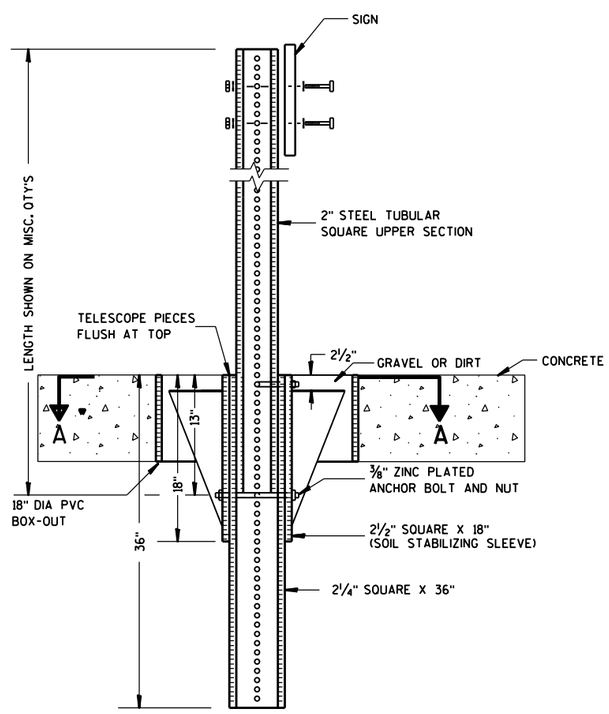
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 33	E



ELEVATION VIEW

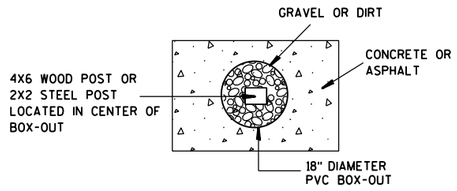
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

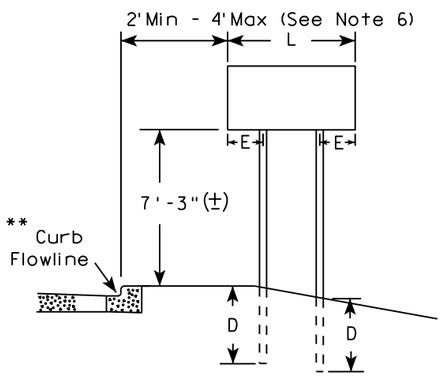
APPROVED Matthew R Rauch
for State Traffic Engineer

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

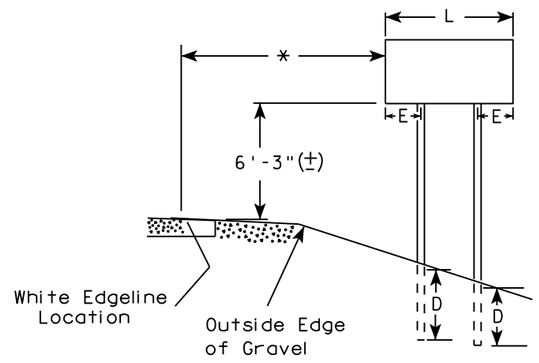
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

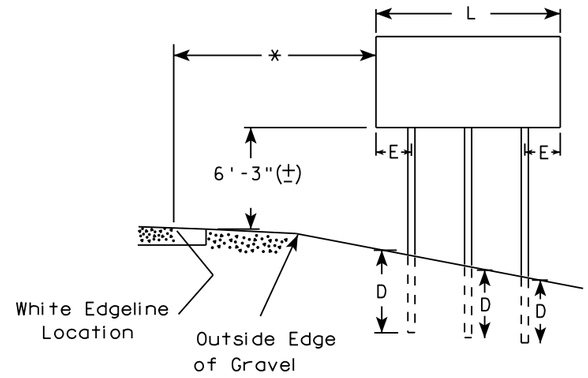
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

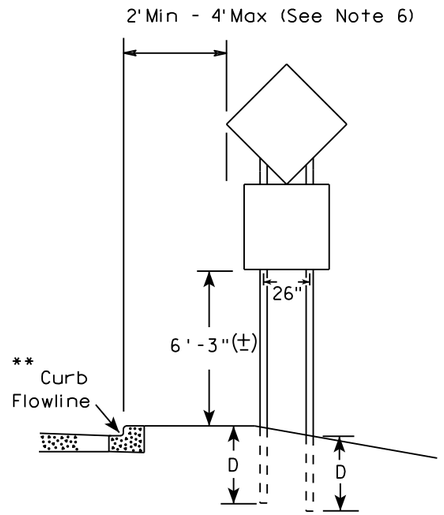
URBAN AREA



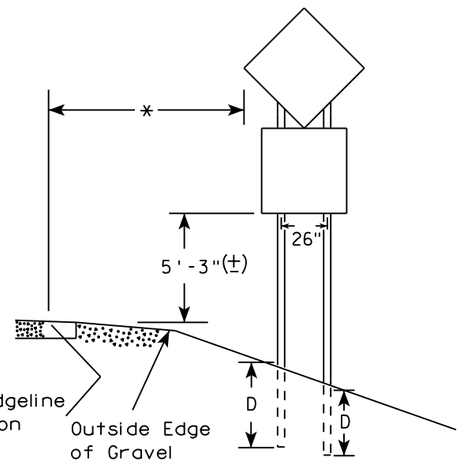
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

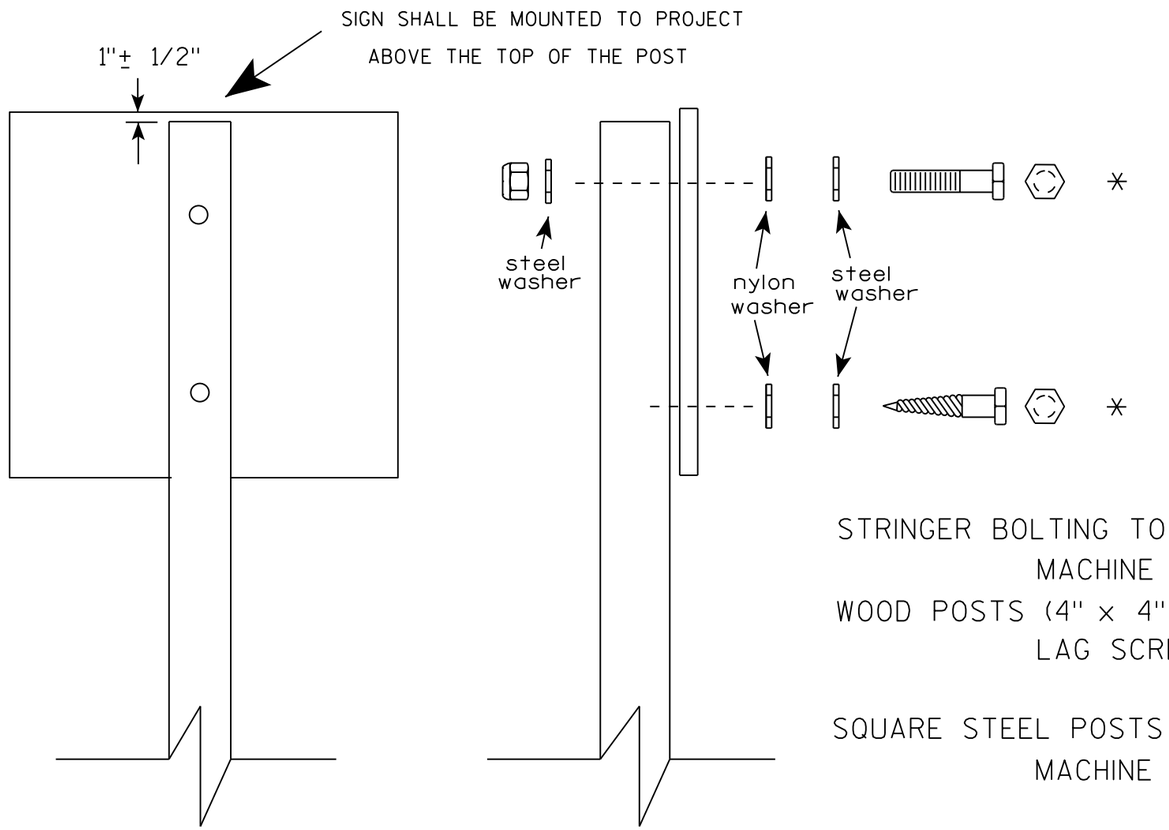
DATE 8/21/17 PLATE NO. A4-4.15

7

7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 35 | E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 21-AUG-2017 15:54 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : 108.188297:1.000000



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)
SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

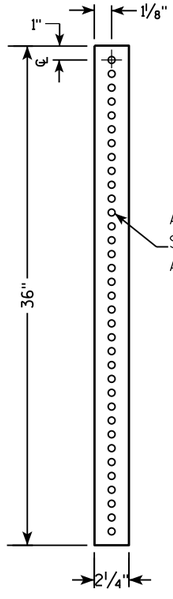
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8

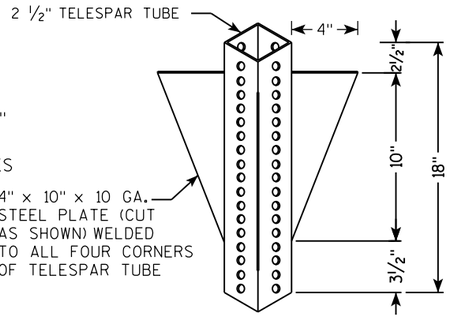
PROJECT NO: SHEET NO: E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

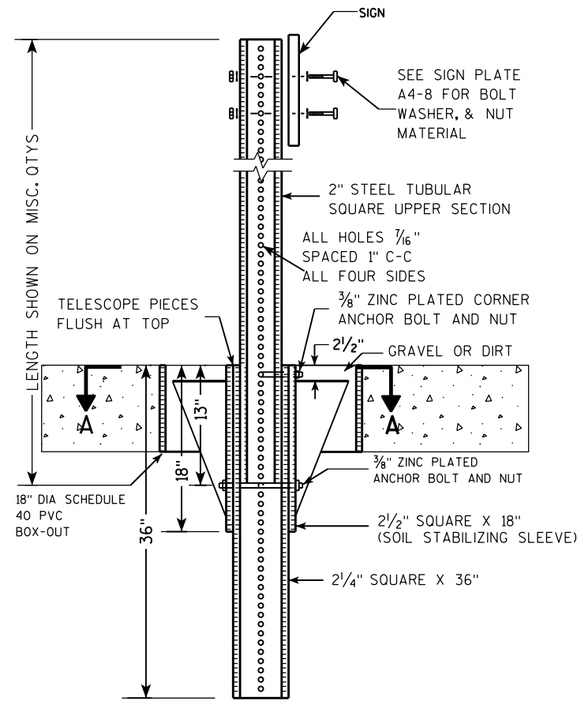
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



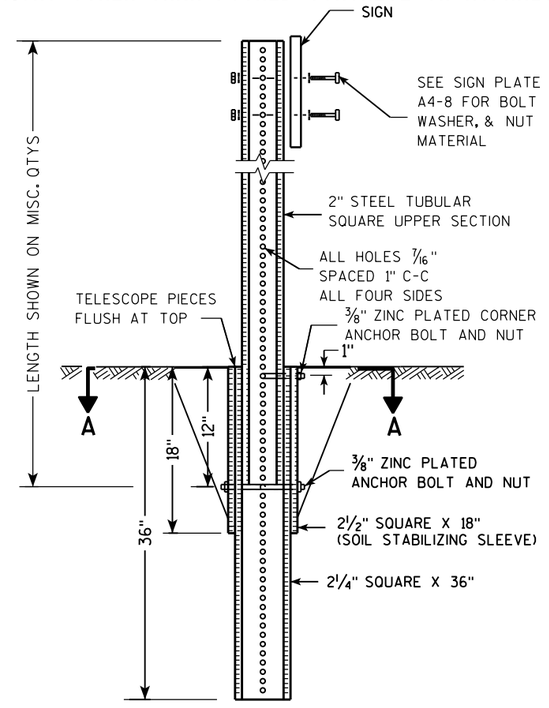
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

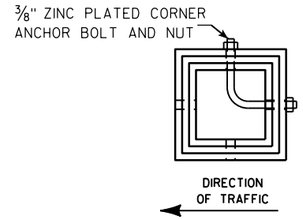


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

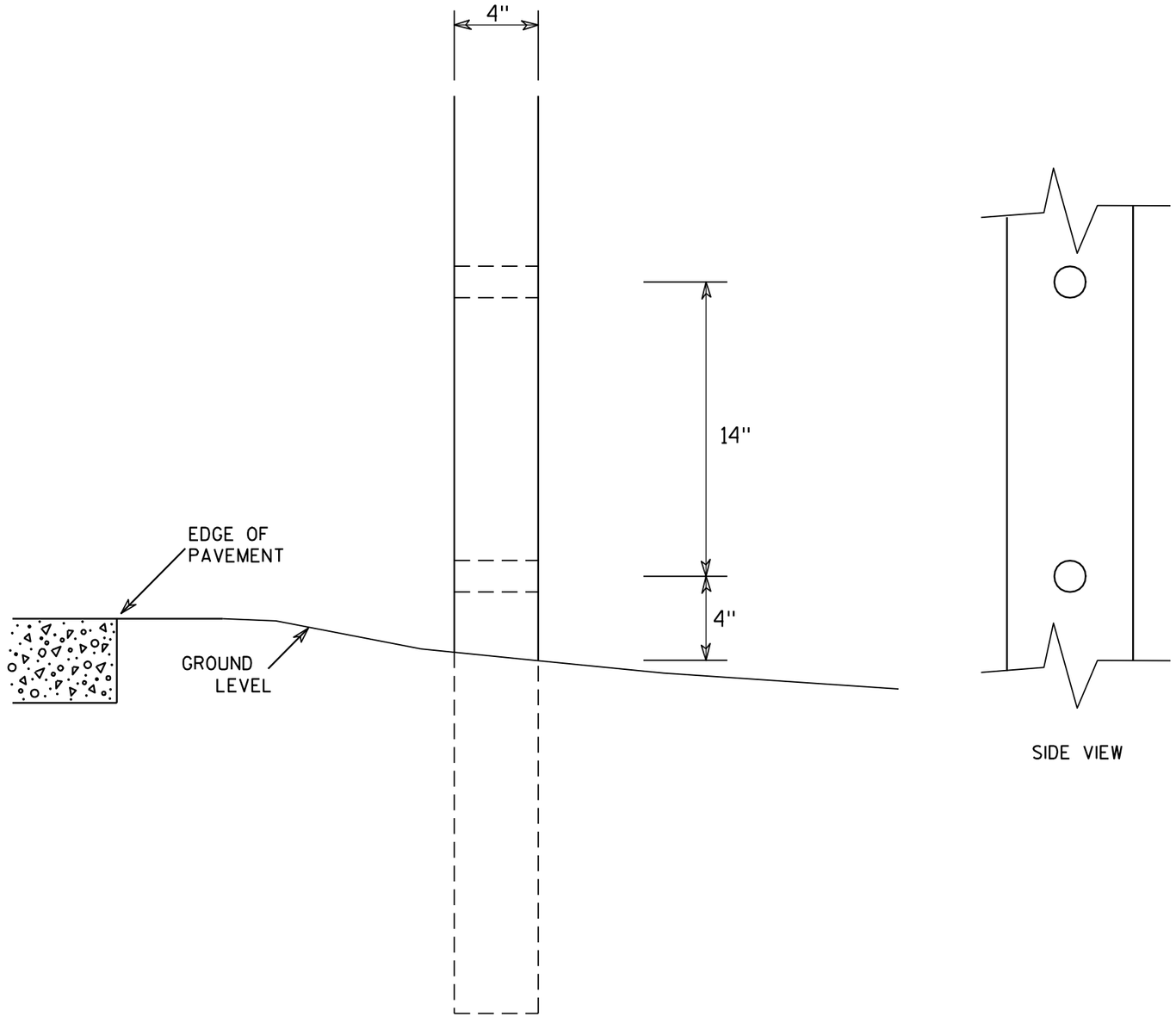
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



SIDE VIEW

GENERAL NOTES

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

7

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4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

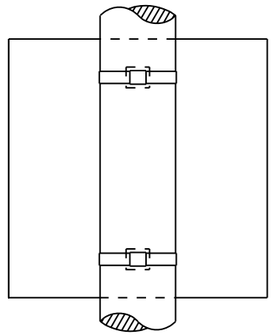
APPROVED Chester J Spang for State Traffic Engineer

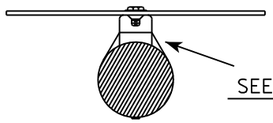
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 38	E

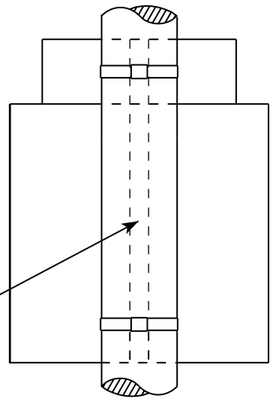
BANDING

SINGLE SIGN

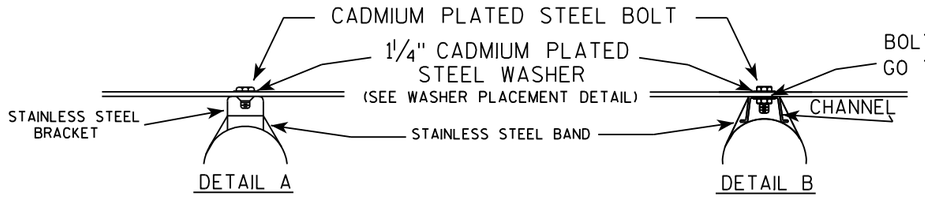




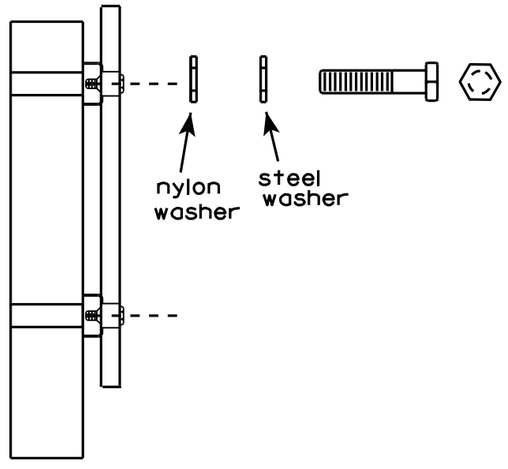
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL INSTALLATION SHEET



WASHER PLACEMENT



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

GENERAL NOTES

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

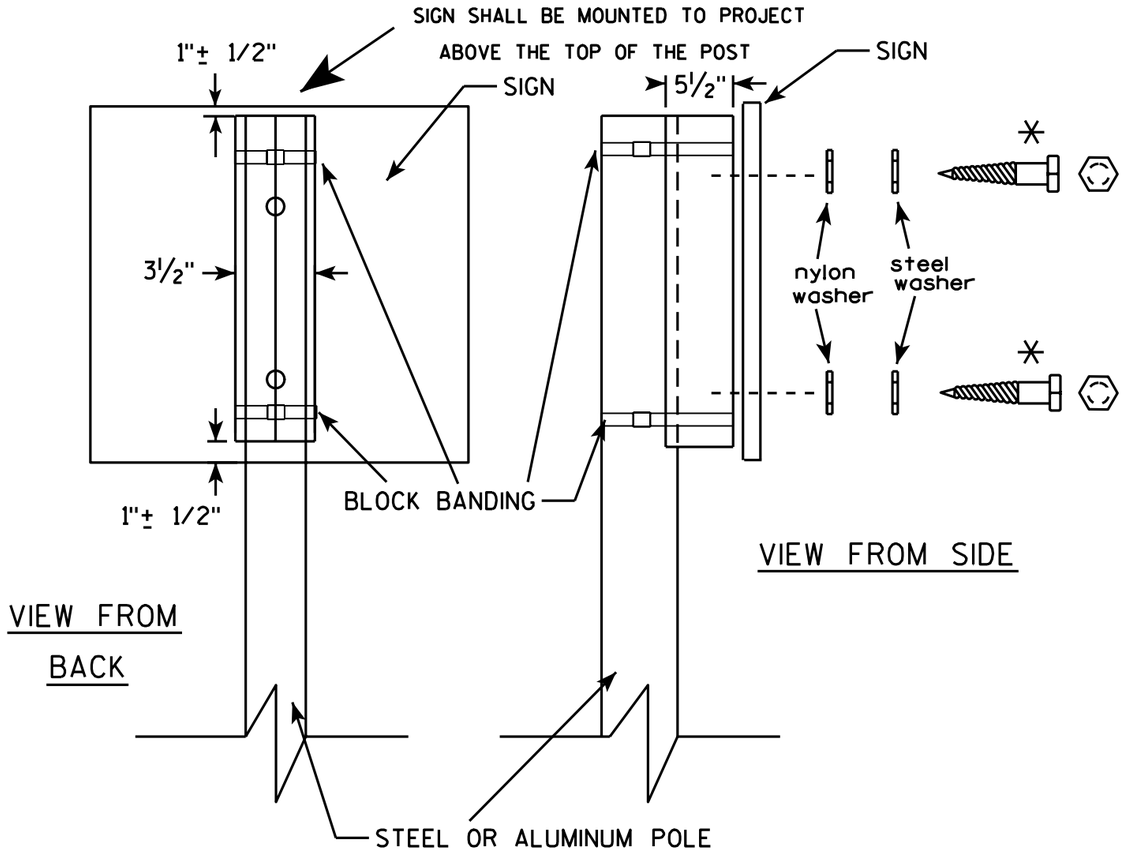
STANDARD SIGN
SIGN BANDING DETAILS

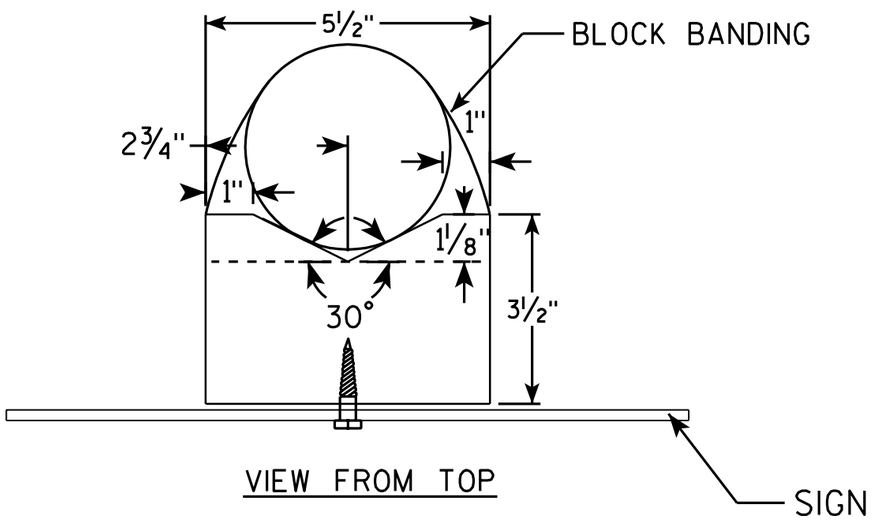
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 39	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

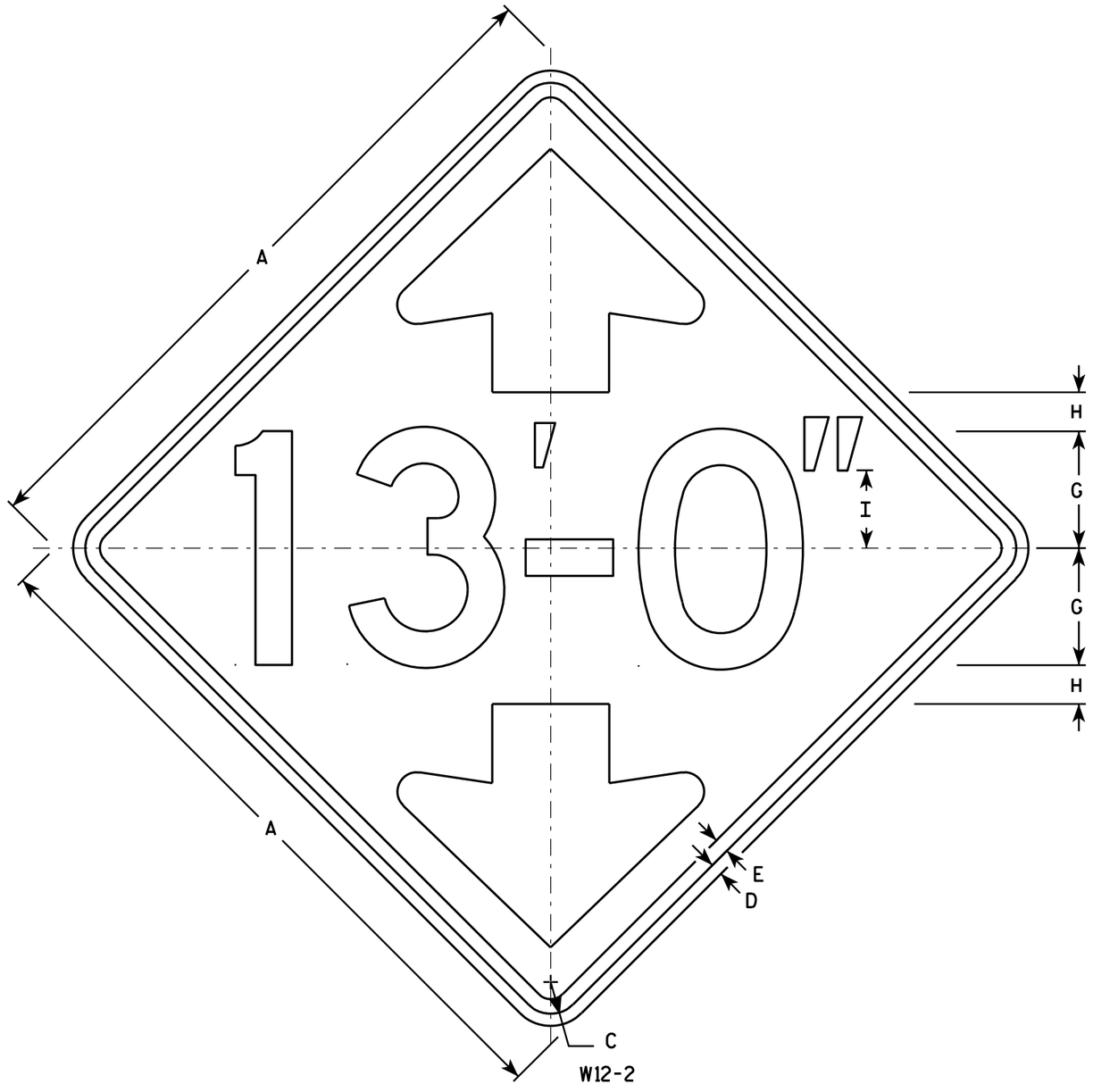
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

SHEET NO: 40 E

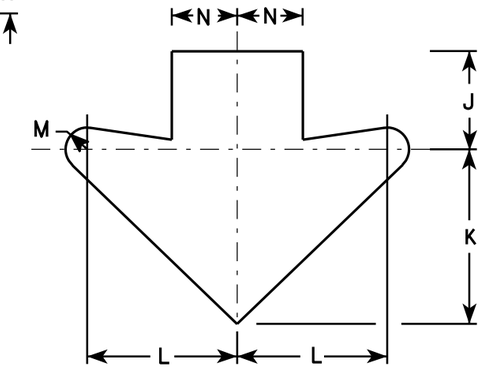
FILE NAME : C:\Users\Projects\tr_stdplate\A510.dgn PLOT DATE : 06-AUG-2007 13:37 PLOT BY : ditjph

WISDOT/CADDS SHEET 42

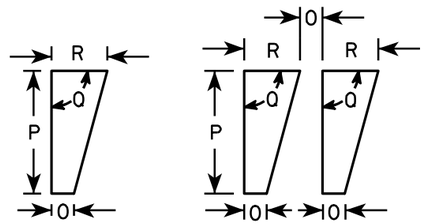


NOTES

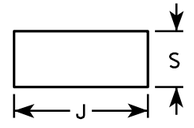
1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing of numerals, hyphen, foot & inch marks to achieve proper balance.



Arrow Detail



Foot Mark & Inch Mark Detail



Hyphen Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		5	1 5/8	3 3/8	3 3/4	6 5/8	5 3/4	3/4	2 1/2	1/2	2 1/4	90°	1	1 5/8								6.25
2S	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
2M	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
3	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
4	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
5	48		2 1/4	3/4	1		8	2 5/8	5 1/2	5 7/8	10 5/8	9 1/4	1 3/8	4	5/8	3 5/8	90°	1 5/8	2 1/2								16.00

STANDARD SIGN
W12-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-2.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 41	E

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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