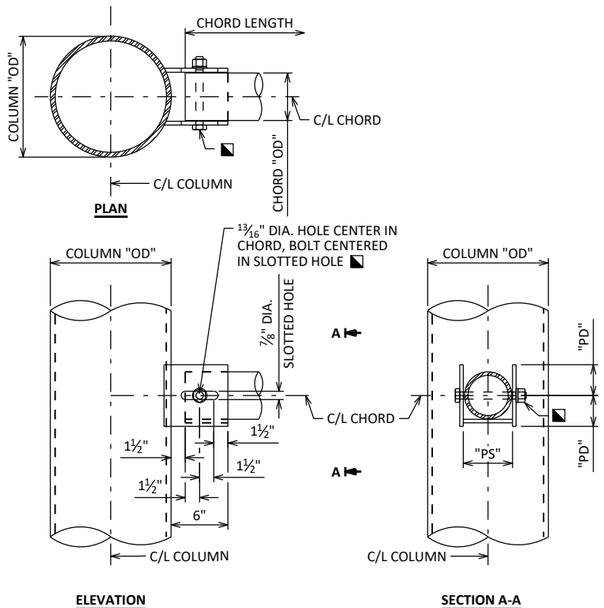
STATE PROJECT NUMBER

STANDARD



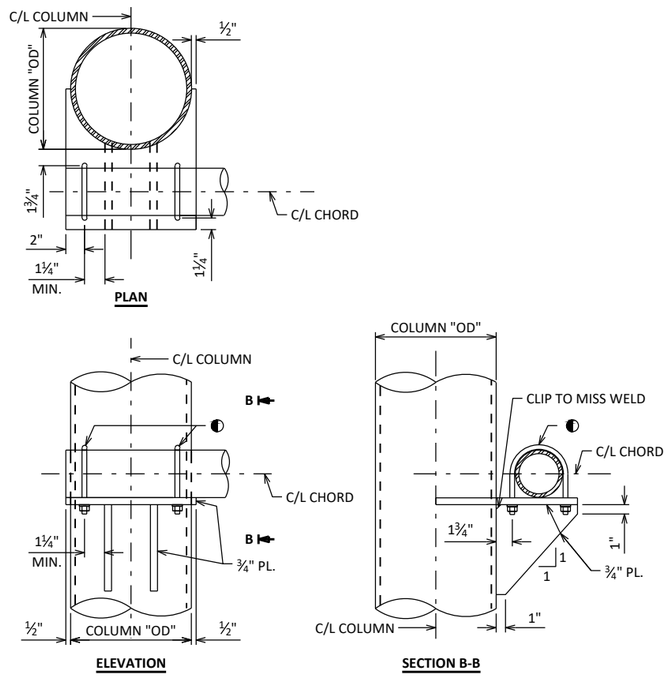
FULL SPAN SADDLE CONNECTION

PREFERRED OPTION

¾" GALVANIZED A325 OR A449 HEAVY HEX BOLT, NUT AND WASHER SNUG TIGHT ONLY, DO NOT OVER TIGHTEN

"PD" = CHORD "OD"/2 + ¾"

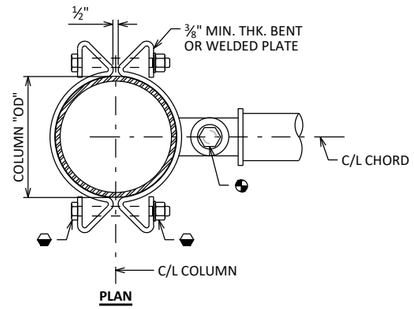
"PS" = CHORD "OD" + 1/16"

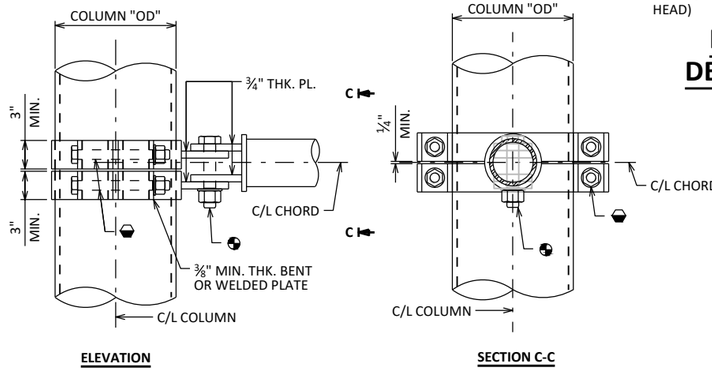


FULL SPAN STIFFENED BEARING CONNECTION

ALTERNATE 1

MIN. (2) ½" MIN. GALVANIZED OR STAINLESS U-BOLT, LOCK NUT AND WASHER



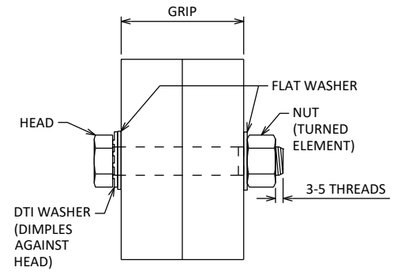


FULL SPAN CLAMP CONNECTION

ALTERNATE 2 - TAPERED COLUMNS ONLY

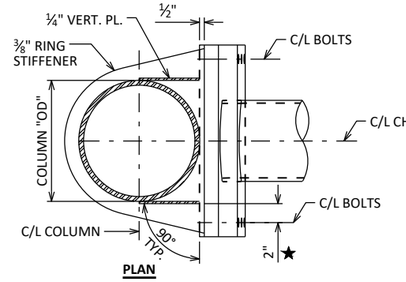
1¼" GALVANIZED A325 HEAVY HEX BOLT, NUT AND WASHER

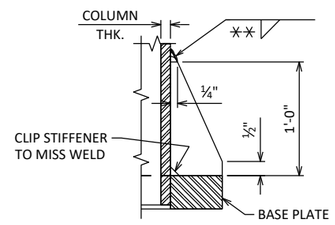
1" GALVANIZED A325 HEAVY HEX BOLT, NUT AND WASHER

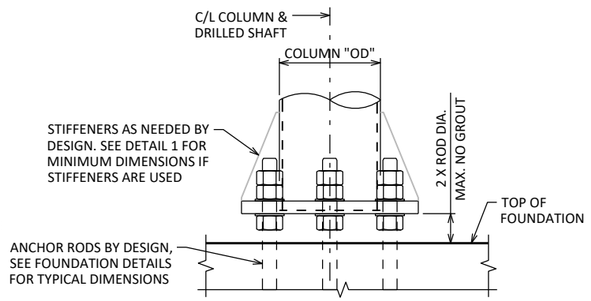


RECOMMENDED BOLT DETAIL WITH DTI WASHER

NUT IS TURNED ELEMENT



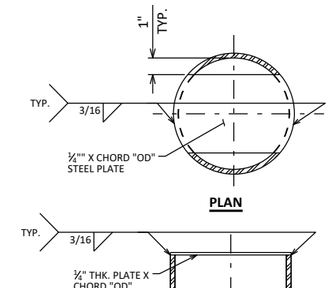




PREFERRED BASE PLATE CONNECTION

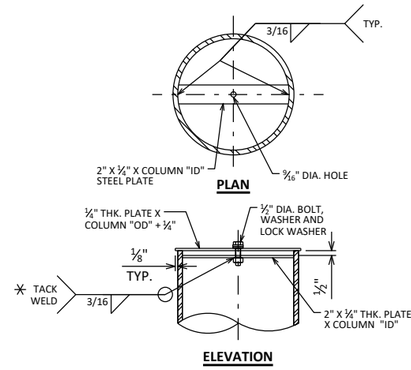
LOOKING AT F.F. OF STRUCTURE.

ALTERNATE BASE PLATE DESIGNS ALLOWED.



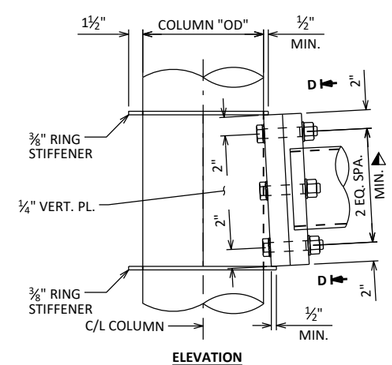
CHORD CAP DETAIL

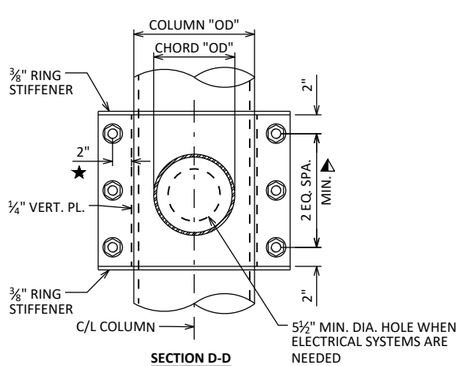
CANTILEVERS ONLY



TOWER CAP DETAIL

✳ PLACE TACK WELD EVERY OTHER FLAT TO SECURE NUT. ALTERNATE: USE ½" THK. PL. AND DRILL AND TAP HOLE FOR BOLT.

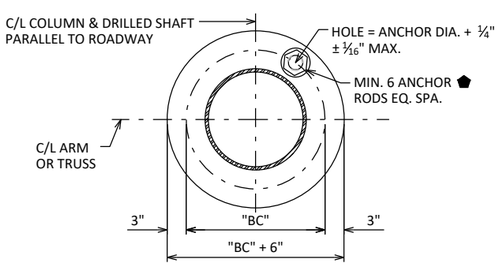




CANTILEVER POST TO CHORD CONNECTION

MIN. (6) 1" GALVANIZED A325 HEAVY HEX BOLT, NUT, DTI WASHER AND WASHER

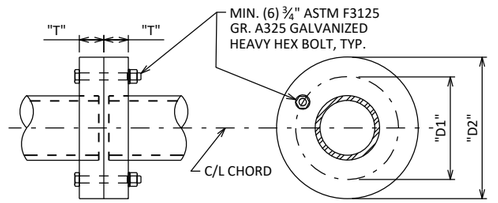
★ MIN. DIMENSIONS MEASURED FROM EXT. FACE OF VERTICAL PLATE.



BASE PLATE

"BC" = COLUMN "OD" + 6"

⬟ ANCHOR SIZE AND ORIENTATION TO BE VERIFIED WITH SHOP DRAWINGS.



CHORD SPLICE DETAIL

"D1" = COLUMN "OD" + (1.5 x DB)

"D2" = COLUMN "OD" + (3 x DB)

"T" = (BY DESIGN)

DB = BOLT DIAMETER (BY DESIGN)

NOTES:

MINIMUM VALUES SHOWN. ALL CONNECTIONS ARE TO BE DESIGNED FOR ACTUAL STRUCTURAL LOADS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: JAN. 2023

DRAWN BY: BOS | PLANS CK'D: BOS

MONOTUBE & 2-CHORD TRUSS CONNECTIONS 1

SHEET 1

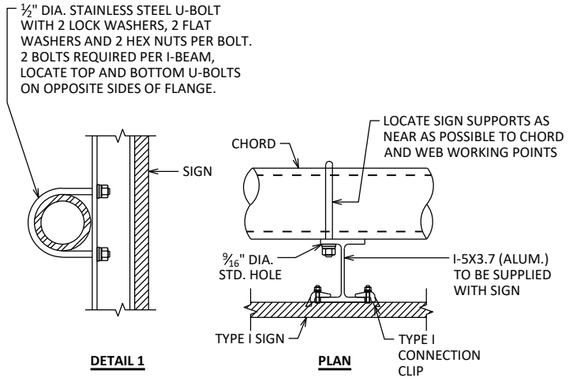
SCALE = 2.0

8

8

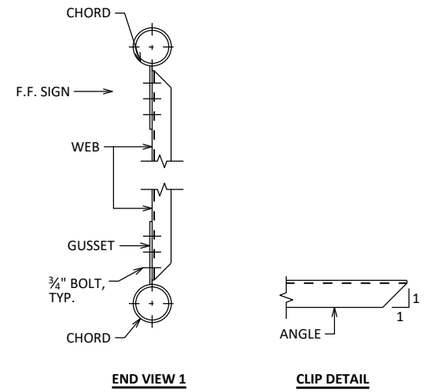
STATE PROJECT NUMBER

STANDARD



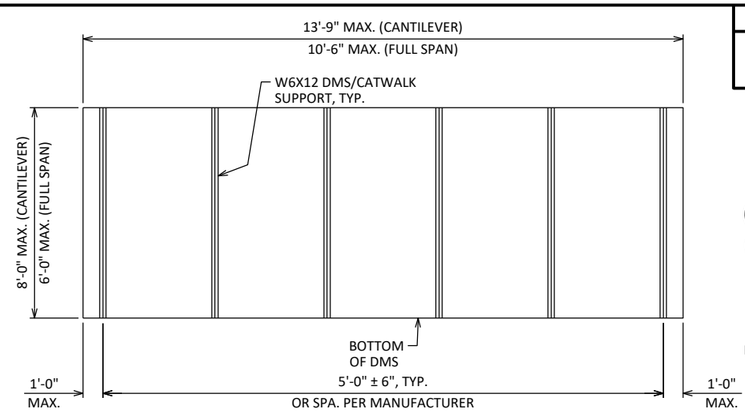
2-CHORD TRUSS SIGN CONNECTION

TYPE I SIGN PANEL SHOWN.
SEE SIGN PLATE MANUAL A4-7A AND A4-7BFOR DETAILS.
ALUMINUM I-5X3.7 I-BEAMS ARE TO BE SUPPLIED WITH SIGN PANEL, HARDWARE TO BE SUPPLIED BY THE CONTRACTOR.



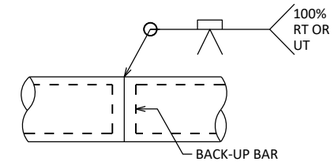
TRUSS CONNECTION DETAILS

MEMBER ORIENTATION FOR BOLTED CONNECTIONS SHOWN, WELDED CONNECTIONS SIMILAR.
ANGLES PREFERRED, OTHER WEB DESIGNS ALLOWED.



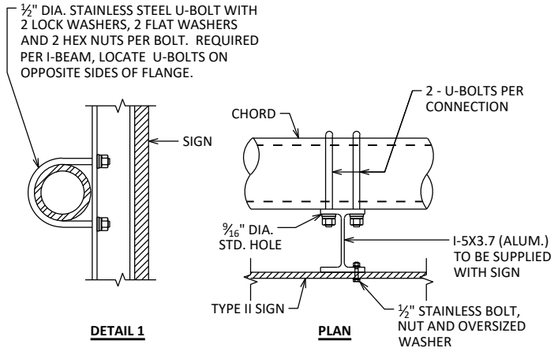
DMS MOUNTING POST DETAIL

POST SPACING MAY BE ADJUSTED AS REQUIRED IF SPACING CONFLICTS WITH GUSSET PLATES OF TRUSS WITHIN TOLERANCES NOTED.



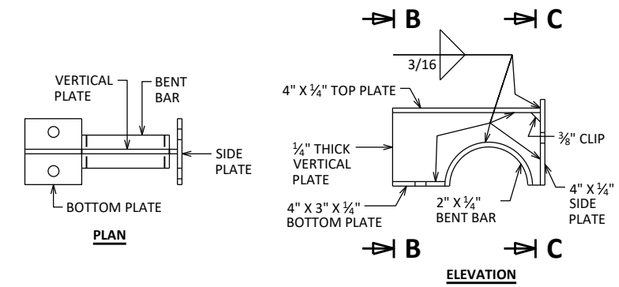
CHORD SPLICE

SEPARATE OPTIONAL SPLICE FROM GUSSET PLATES BY 6" MIN.

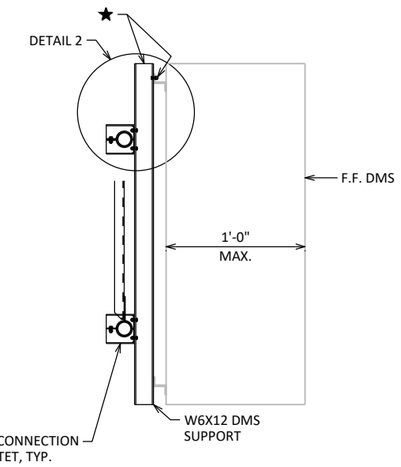


MONOTUBE SIGN CONNECTION

TYPE II SIGN PANEL SHOWN.
SEE SIGN PLATE MANUAL A4-7A AND A4-7B FOR DETAILS.
ALUMINUM I-5X3.7 I-BEAMS ARE TO BE SUPPLIED WITH SIGN PANEL, HARDWARE TO BE SUPPLIED BY THE CONTRACTOR.



DMS WELDED PLATE CONNECTION DETAILS

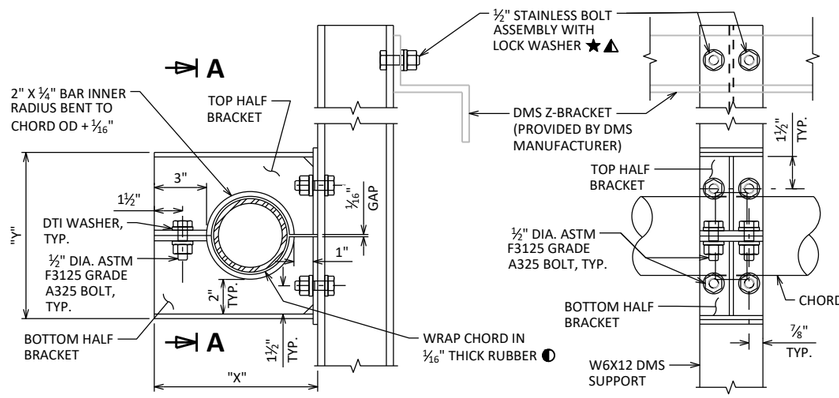


SECTION THRU TRUSS - DMS

FOR DMS/CATWALK CONNECTIONS

★ W6X12 SUPPORTS AND HARDWARE ARE TO BE SUPPLIED BY THE CONTRACTOR. ½" STAINLESS BOLT, NUT, WASHER AND LOCK WASHER REQUIRED, 4 PER W6X12

TOP HALF OF BRACKET SHOWN, BOTTOM HALF SIMILAR.

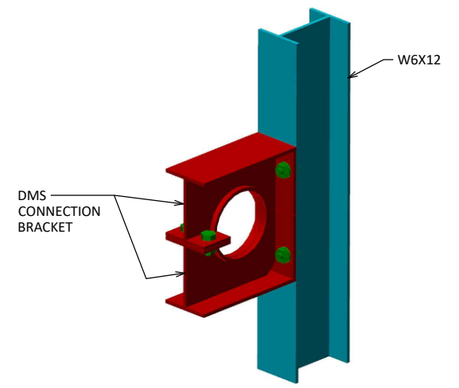


CHORD "OD"	"X"	"Y"
"OD"	"OD" + $4\frac{13}{16}$"	"OD" + $5\frac{5}{16}$"

TYPICAL DMS CONNECTION

◐ NEOPRENE, GRADE 45±5, OTHERWISE MEETING THE REQUIREMENTS OF STD. SPEC. 506.2.6.1

⚠ IF DMS CONNECTION BRACKET IS USED WITH A TYPE II SIGN PANEL, THE BOLT HOLE MUST BE GALVANIZED AND A STAINLESS WASHER USED BETWEEN THE I-BEAM AND SIGN PANEL.



3-D VIEW OF DMS CONNECTION

CHORD NOT SHOW FOR CLARITY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: OCT. 2023

DRAWN BY BOS | PLANS CK'D BOS

MONOTUBE & 2-CHORD TRUSS CONNECTIONS 2

SHEET II

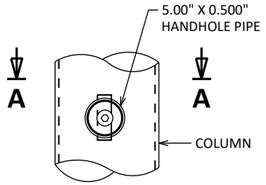
SCALE = 4.0

8

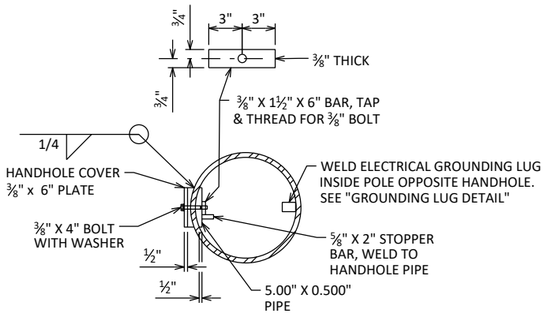
8

STATE PROJECT NUMBER

STANDARD



ELEVATION

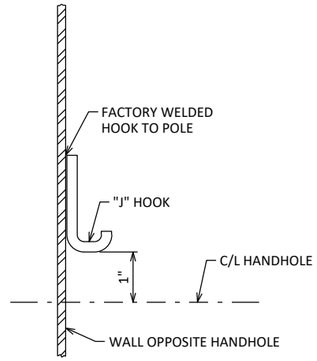


SECTION A-A

HANDHOLE DETAILS

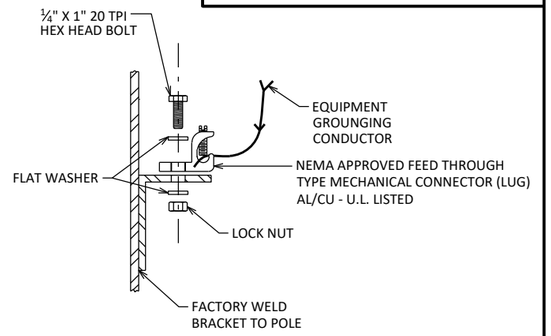
HANDHOLES SHALL BE LOCATED IN ONE COLUMN OF THE SIGN BRIDGE STRUCTURE IF ELECTRICALLY OPERATED DEVICES ARE INSTALLED ON/IN THE STRUCTURE. COLUMNS WITH HANDHOLES SHALL BE NEAR THE ELECTRICAL SERVICE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE ELECTRICAL SERVICE ENTRANCE WITH THE REGION TRAFFIC SECTION PRIOR TO FABRICATION OF THE SIGN BRIDGE COLUMNS AND MEMBERS. CONDUIT (AS REQ'D.) SHALL BE LOCATED, PLACED AND SIZED AS SHOWN ON THE ELECTRICAL PLAN DETAIL SHEETS.

UNLESS OTHERWISE NOTED, ALL HANDHOLE ELEMENTS TO BE GALVANIZED PER THE WISDOT STANDARD SPECIFICATIONS.



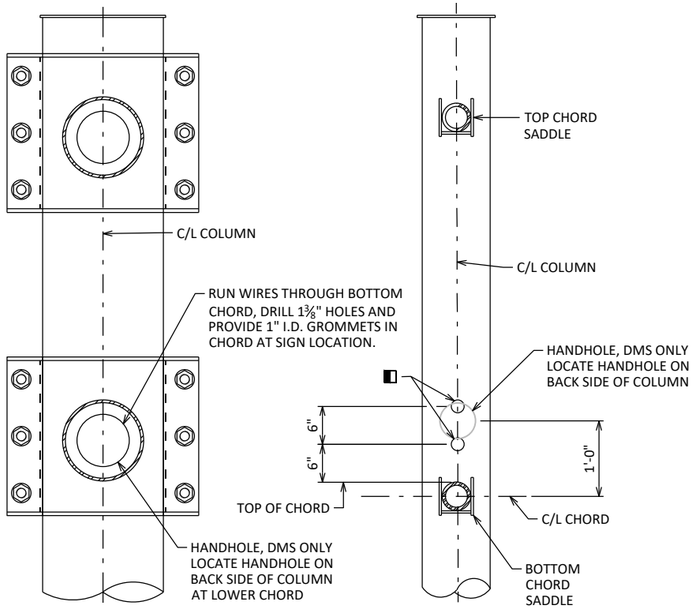
TYPICAL "J" HOOK LOCATION

THE "J" HOOK SHALL BE FACTORY WELDED TO THE INSIDE OF THE COLUMN CONTAINING ELECTRICAL WIRING. THE "J" HOOK SHALL BE ATTACHED ABOVE THE CENTERLINE OF THE UPPER HANDHOLE AND MOUNTED DIRECTLY OPPOSITE THE HANDHOLE AS SHOWN IN THE DRAWING.



GROUNDING LUG DETAIL

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



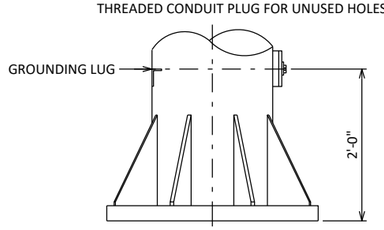
2-CHORD CANTILEVER

2-CHORD FULL SPAN

SADDLE CONNECTION SHOWN, OTHERS SIMILAR

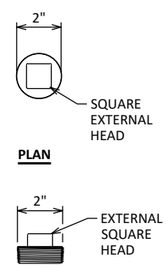
CONDUIT HOLE LOCATIONS

◧ 2" HOLE WITH STANDARD PIPE THREADS, USE THREADED CONDUIT PLUG FOR UNUSED HOLES



GROUNDING LUG LOCATION

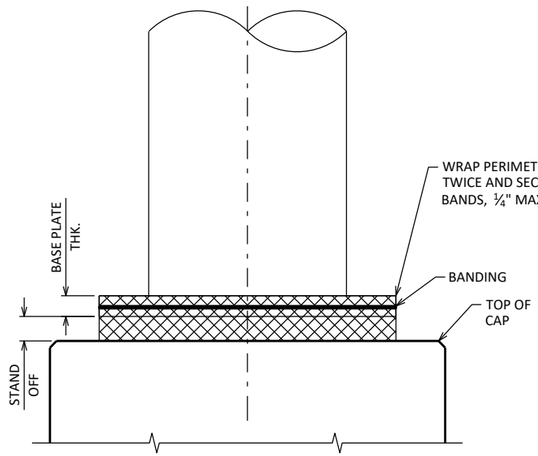
LOOKING AT THE F.F. OF STRUCTURE



PLAN

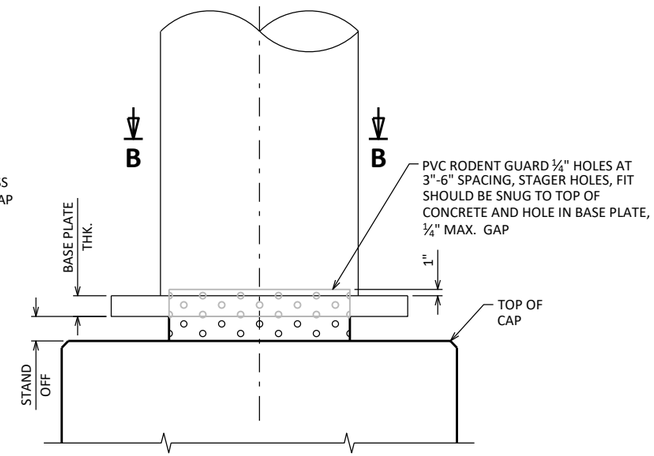
ELEVATION

CONDUIT PLUG DETAILS



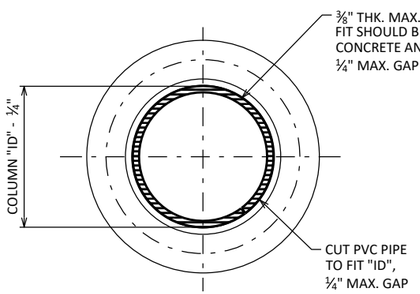
RODENT SCREEN

ONLY REQ'D WHEN ELECTRICAL DEVICES ARE PRESENT
ANCHOR RODS NOT SHOWN



RODENT SCREEN - ALTERNATE

ONLY REQ'D WHEN ELECTRICAL DEVICES ARE PRESENT
ANCHOR RODS NOT SHOWN



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: JAN. 2023

DRAWN BY: BOS | PLANS CK'D: BOS

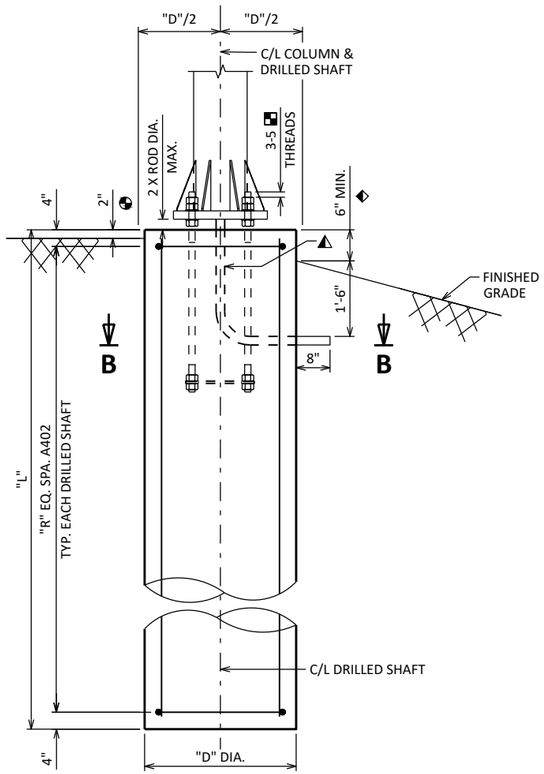
MONOTUBE & 2-CHORD TRUSS ELECTRICAL DETAILS

SHEET III

SCALE = 2.0

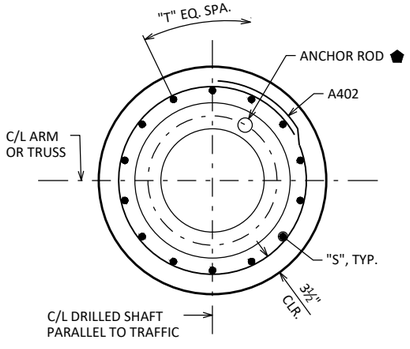
8

8



ELEVATION

- TYPICAL FOR DRILLED SHAFT FOOTINGS INSTALLED ADJACENT TO SIDEWALKS OR BEHIND CURB AND GUTTER ON LOW SPEED ROADS. TOP OF SHAFT SHALL BE FLUSH IF SURROUNDED BY CONCRETE AND 2" ABOVE FINISHED GRADE FOR ALL OTHER SURFACES.
- TYPICAL FOR EACH DRILLED SHAFT FOOTING INSTALLED ADJACENT TO ROADWAY FACILITIES OR ON SIDE SLOPES WITHIN CLEAR ZONE. BARRIER OR BEAMGUARD MAY BE REQUIRED.



SECTION B-B

TYPICAL FOR EACH DRILLED SHAFT FOOTING

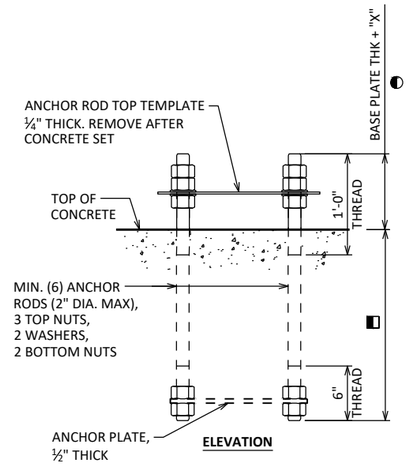
FOUNDATION DIMENSION DATA

STANDARD DESIGN TYPE	FOUNDATION DIMENSIONS					
	"D"	"L"	"R"	"S"	"T"	"BC" MAX.
MFI	2'-0"	12'-0"	12	A801	6	1'-0"
MFII	2'-6"	13'-0"	13	A801	10	1'-5"
MCI/MCII/TFI	2'-6"	17'-0"	17	A801	10	1'-5"
TCI	3'-0"	18'-0"	18	A801	14	1'-10"
TFII	3'-0"	20'-0"	20	A801	14	1'-10"
MCIII/TCII/TFIII	3'-6"	18'-0"	18	A901	14	2'-4"
MCIV/TFIV	3'-6"	23'-0"	23	A901	14	2'-4"
TCIII	4'-0"	23'-0"	23	A1001	14	2'-10"
TCIV	4'-0"	28'-0"	28	A1001	14	2'-10"

ESTIMATED QUANTITIES - FOUNDATION

STANDARD DESIGN TYPE	CONCRETE MASONRY	STEEL REINFORCEMENT HS	FOUNDATION DRILLING (DIA.) (LF)				
	(CY)	(LBS)	24"	30"	36"	42"	48
MFI	2	240	12	---	---	---	---
MFII	3	410	---	13	---	---	---
MCI/MCII/TFI	4	540	---	17	---	---	---
TCI	5	780	---	---	18	---	---
TFII	6	860	---	---	20	---	---
MCIII/TCII/TFIII	7	970	---	---	---	18	---
MCIV/TFIV	9	1,250	---	---	---	23	---
TCIII	11	1,560	---	---	---	---	23
TCIV	13	1,900	---	---	---	---	28

✶✶ QUANTITIES ARE FOR INFORMATION ONLY AND ARE BASED ON A SINGLE DRILLED SHAFT. MULTIPLY BY 2 FOR FULL SPAN STRUCTURES.



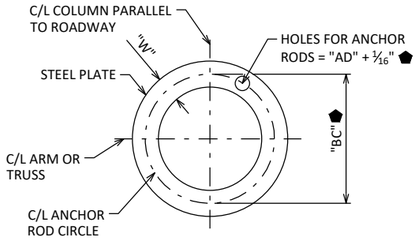
ANCHOR ROD ASSEMBLY DETAILS

◧ ANCHOR RODS PER ASSEMBLY TO BE DESIGNED BY CONTRACTOR AND SHOWN ON SHOP DRAWINGS. SHOW DIAMETER, NUMBER, ORIENTATION AND EMBEDMENT OF ANCHOR RODS.

CENTER ANCHOR ROD ASSEMBLY AND ENSURE ASSEMBLY IS PLUMB. MAINTAIN ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE AS DETAILED. ANCHOR ROD ASSEMBLY SHALL BE RIGIDLY SECURED IN POSITION DURING AND AFTER CONCRETE PLACEMENT. DO NOT WELD THE ANCHORS.

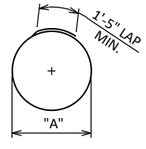
ANCHOR DIAMETER	MAX. STICK OUT ◐
	"X"
1"	5"
1¼"	6"
1½"	7"
1¾"	8"
2"	9"

◐ ADD BASE PLATE THICKNESS TO VALUE SHOWN FOR MAX. STICK OUT DIMENSION. CONTRACTOR TO COORDINATE WITH FABRICATOR FOR PROPER ANCHOR PLACEMENT.



ANCHOR PLATE & TOP TEMPLATE

⬟ ANCHOR SIZE, BOLT CIRCLE, AND POSITION TO BE VERIFIED WITH SHOP DRAWINGS.



A402

LEGEND

◩ ANCHOR ROD STICK OUT IN FINAL CONDITION. EXCESSIVE STICK OUT BEYOND DIMENSION SHOWN TO BE CUT OFF AFTER PLACING STRUCTURE. ANCHORS TO BE ULTRASONIC TESTED TO DETERMINE EMBEDDED LENGTH MEETS REQUIREMENTS PRIOR TO CUTTING. NOTE REMAINING LENGTH ON AS-BUILT.

◭ 2 - 2" DIA. NON-METALLIC CONDUITS. INSTALL ONLY WITH DMS. EXTEND CONDUITS AS SHOWN AND CAP OR SEAL EACH END WITH A SUITABLE REMOVABLE PLUG. PLACE CONDUITS UNDER COLUMN ADJACENT TO DMS. CONDUITS INCIDENTAL TO THE FOUNDATION BID ITEMS.

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BILL OF BARS

STATE PROJECT NUMBER

STANDARD

STANDARD TYPE MFI

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A801		6	11'-8"			DRILLED SHAFT - VERTICAL
A402		13	5'-10"	X		DRILLED SHAFT - HORIZONTAL

STANDARD TYPE MFII

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A801		10	12'-8"			DRILLED SHAFT - VERTICAL
A402		14	9'-4"	X		DRILLED SHAFT - HORIZONTAL

STANDARD TYPES MCI/MCII/TFI

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A901		10	16'-8"			DRILLED SHAFT - VERTICAL
A402		18	9'-4"	X		DRILLED SHAFT - HORIZONTAL

STANDARD TYPE TCI

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A901		14	17'-8"			DRILLED SHAFT - VERTICAL
A402		19	10'-10"	X		DRILLED SHAFT - HORIZONTAL

STANDARD TYPE TFII

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A1001		14	19'-8"			DRILLED SHAFT - VERTICAL
A402		21	10'-10"	X		DRILLED SHAFT - HORIZONTAL

STANDARD TYPES MCIII/TCII/TFIII

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A1001		14	17'-8"			DRILLED SHAFT - VERTICAL
A402		19	12'-5"	X		DRILLED SHAFT - HORIZONTAL

STANDARD TYPES MCIV/TFIV

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A1001		14	22'-8"			DRILLED SHAFT - VERTICAL
A402		24	12'-5"	X		DRILLED SHAFT - HORIZONTAL

STANDARD TYPE TCIII

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A1001		14	22'-8"			DRILLED SHAFT - VERTICAL
A402		24	14'-0"	X		DRILLED SHAFT - HORIZONTAL

STANDARD TYPE TCIV

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A1001		14	27'-8"			DRILLED SHAFT - VERTICAL
A402		29	14'-0"	X		DRILLED SHAFT - HORIZONTAL

✶✶ VALUES IN BAR TABLES ARE FOR A SINGLE FOUNDATION ONLY. MULTIPLY BY 2 FOR FULL ✶✶ SPAN STRUCTURES.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

UPDATED: OCT. 2023

DRAWN BY BOS | PLANS CK'D BOS

MONOTUBE & 2-CHORD TRUSS FOUNDATIONS

SHEET IV

SCALE = 3.0

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