

GENERAL NOTES:

ALL FASTENERS SHALL HAVE A HARDENED WASHER UNDER THE NUT OR BOLT HEAD, WHICHEVER IS TURNED IN TIGHTENING.

ZINC CHROMATE PRIMER SHALL MEET THE REQUIREMENTS OF FEDERAL SPECIFICATION TT-P-645 OR TT-P-1757 AND SHALL BE ACCEPTED ON THE BASIS OF THE LABEL SHOWING CONFORMANCE OR A MANUFACTURER'S CERTIFICATION.

DESIGN OF STRUCTURAL SUPPORTS SHALL COMPLY WITH AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS 2001 AND CURRENT INTERIMS.

DESIGN OF SPREAD FOOTINGS SHALL COMPLY WITH 1994
AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL
SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND
TRAFFIC SIGNALS.

OVERHEAD SIGN TRUSSES

BUTTERFLY AND CANTILEVER

STRUCTURAL STEEL

SPECIAL SHEET

DATE PREPARED 10/14/2008	
ROUTE	STATE MO
DISTRICT	SHEET NO.

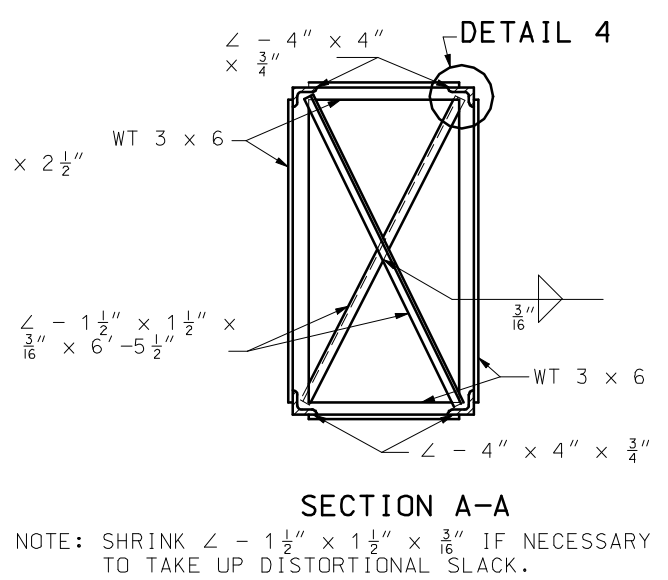
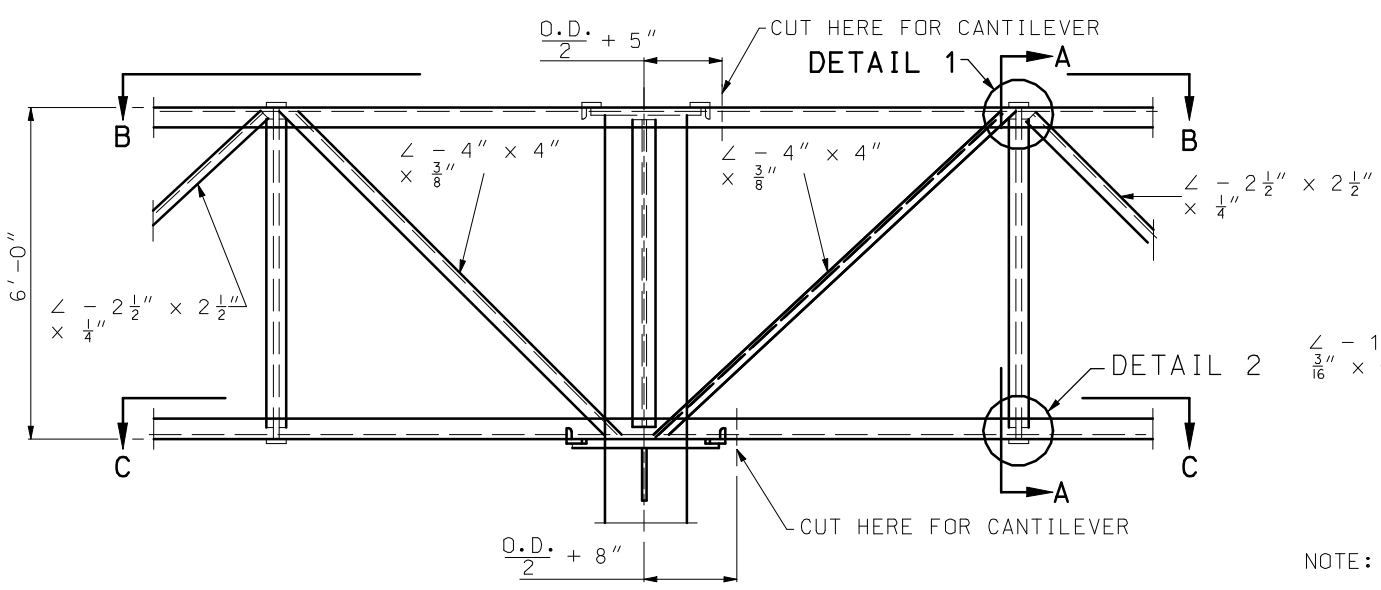
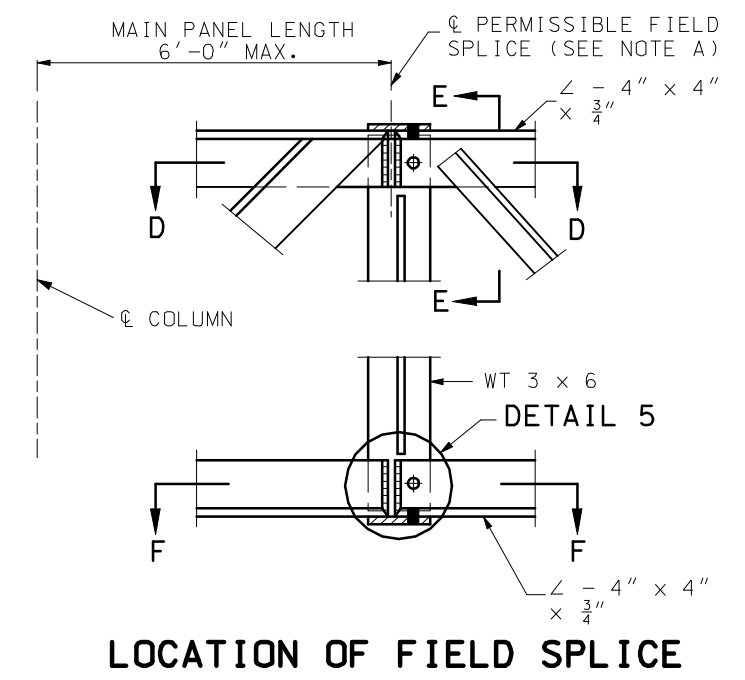
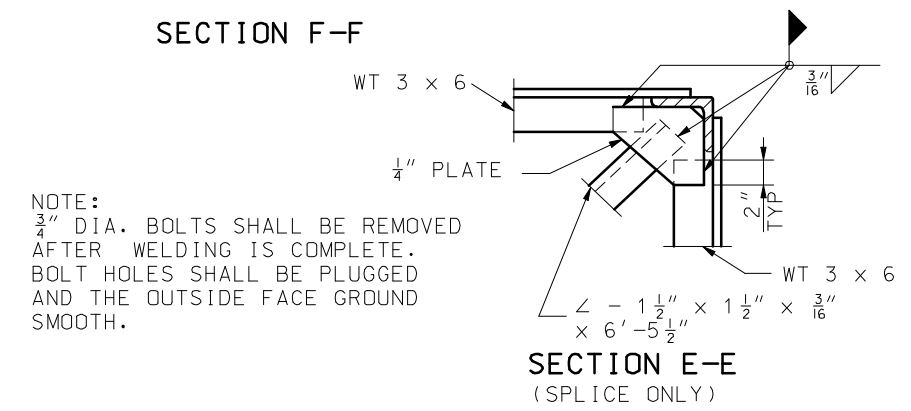
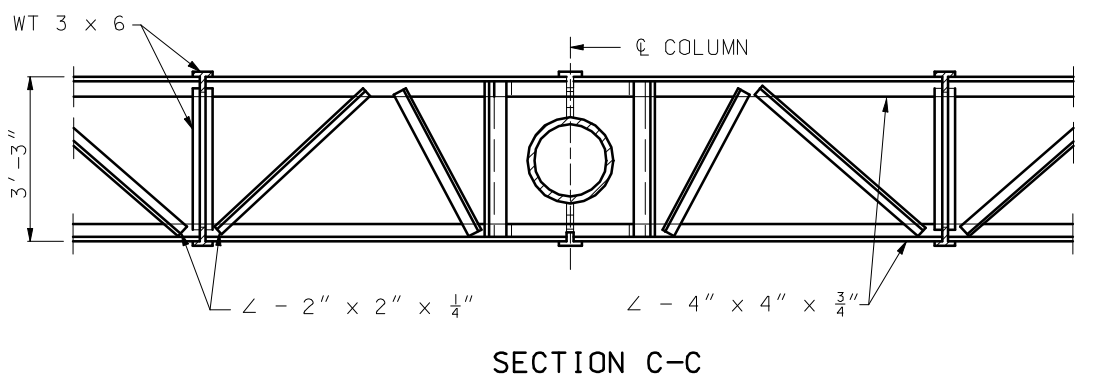
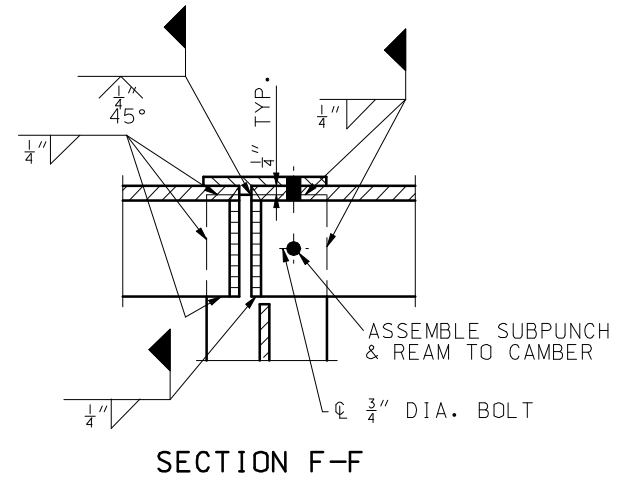
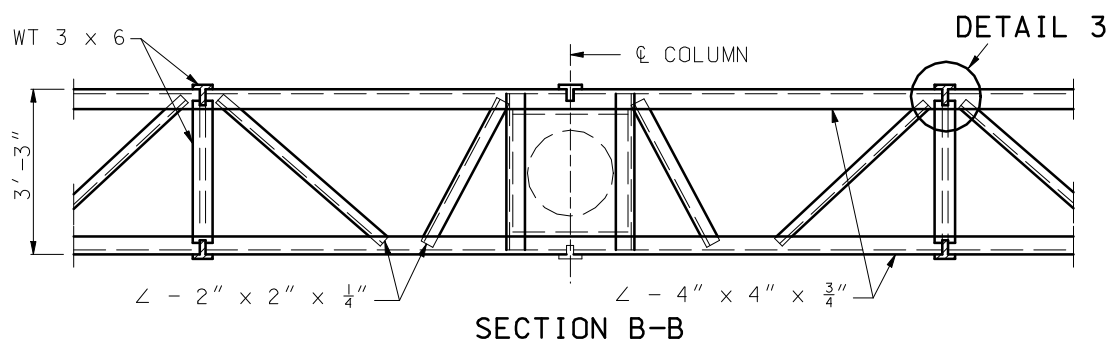
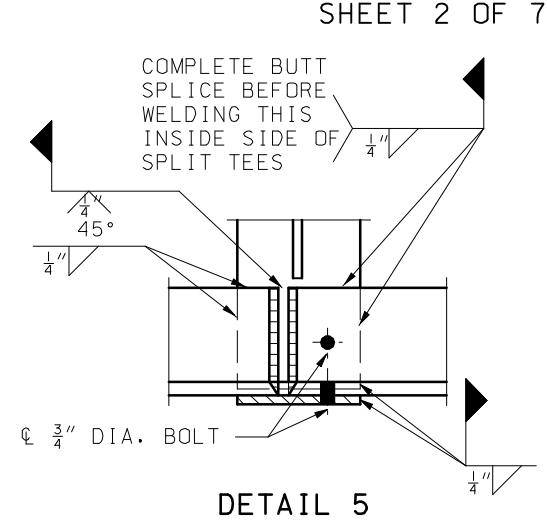
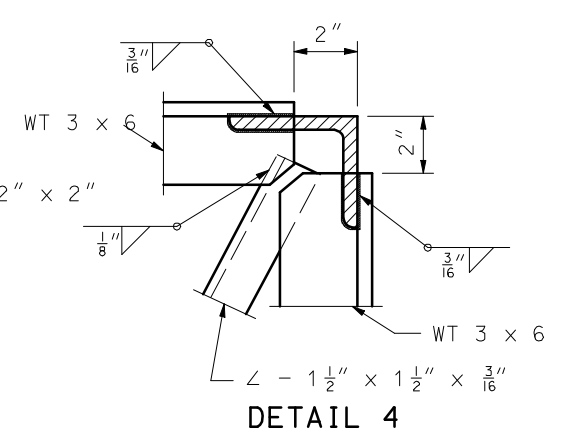
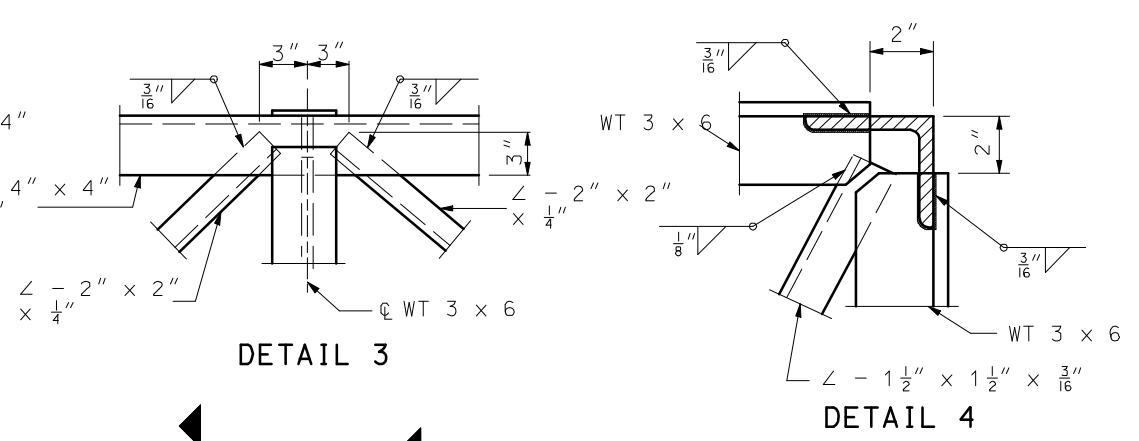
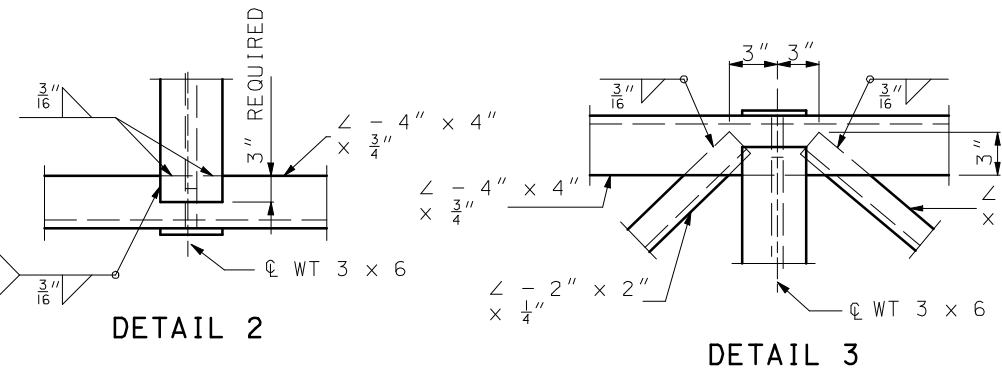
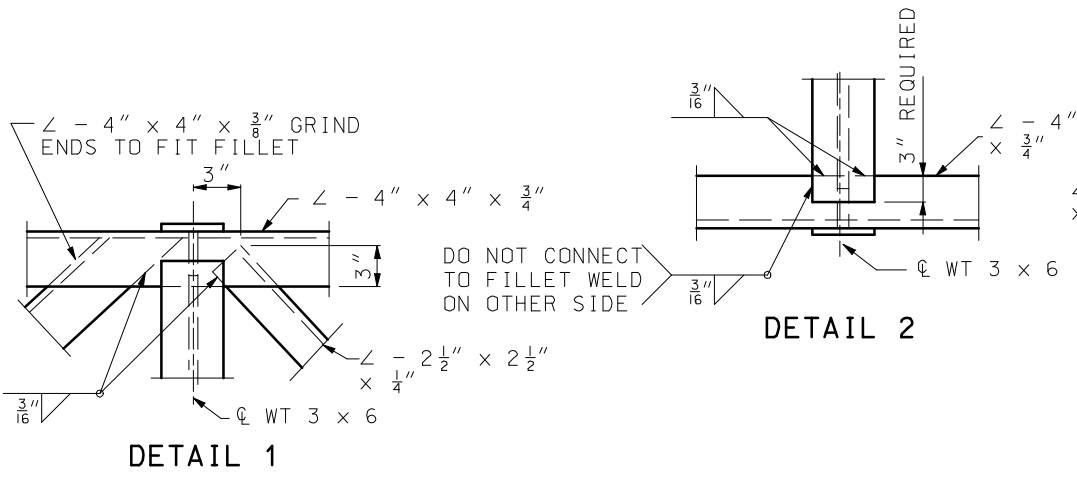
COUNTY
JOB NO.
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



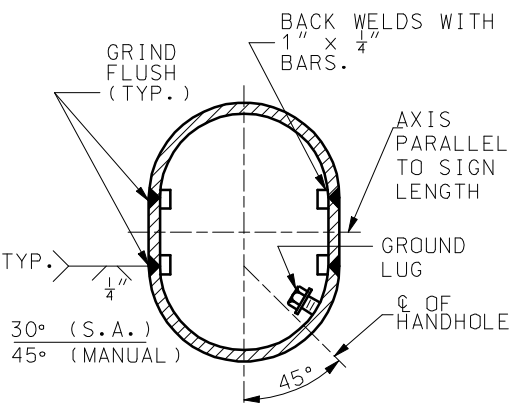
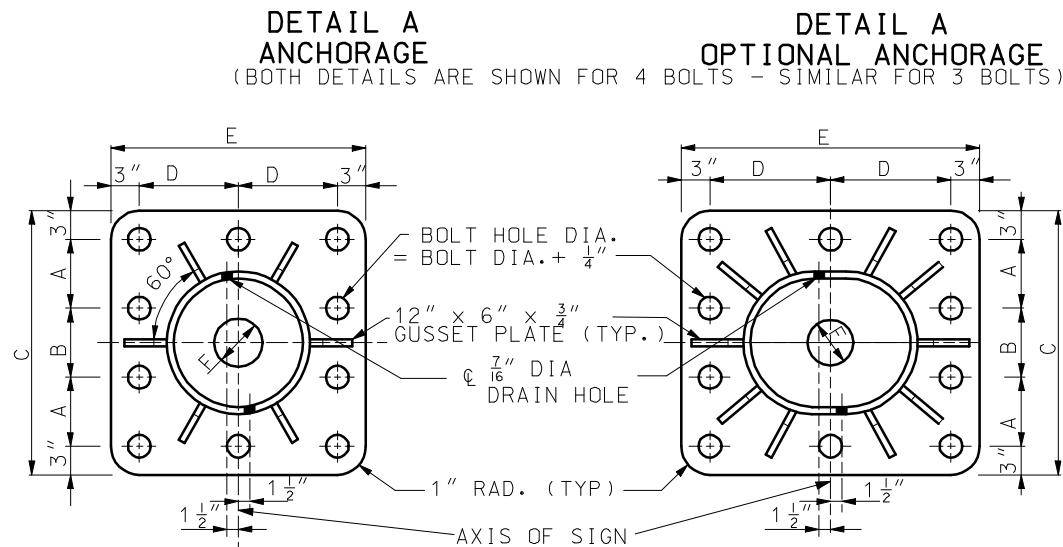
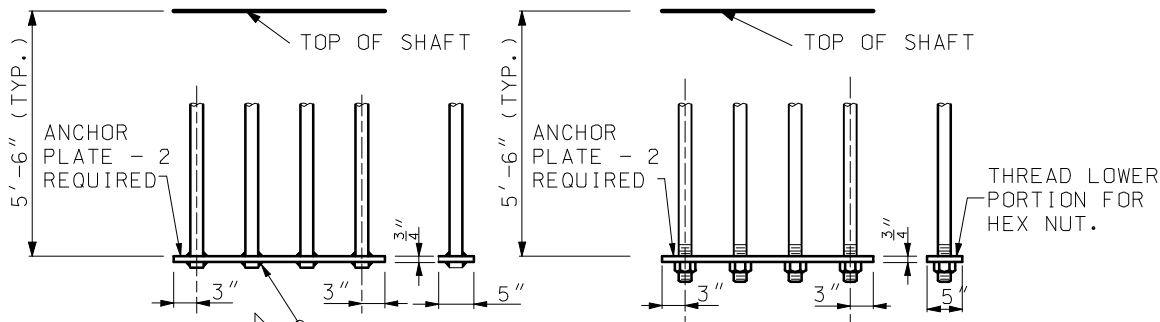
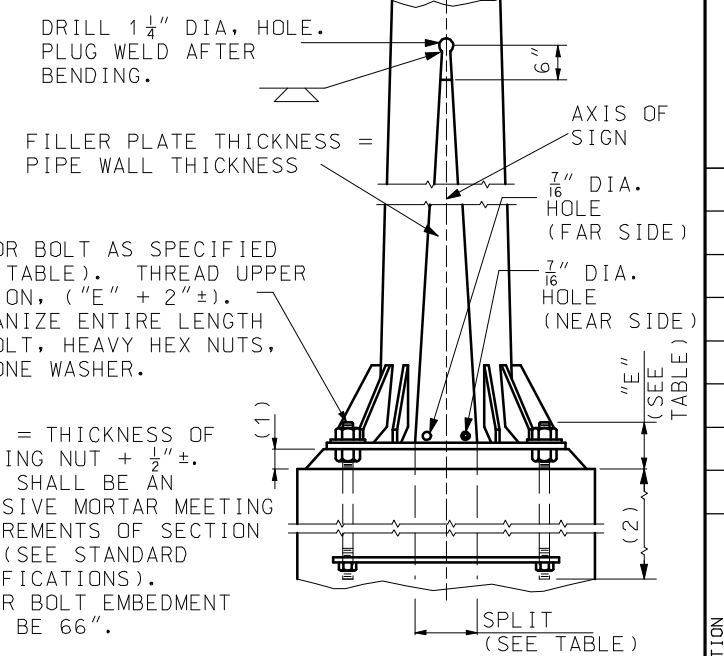
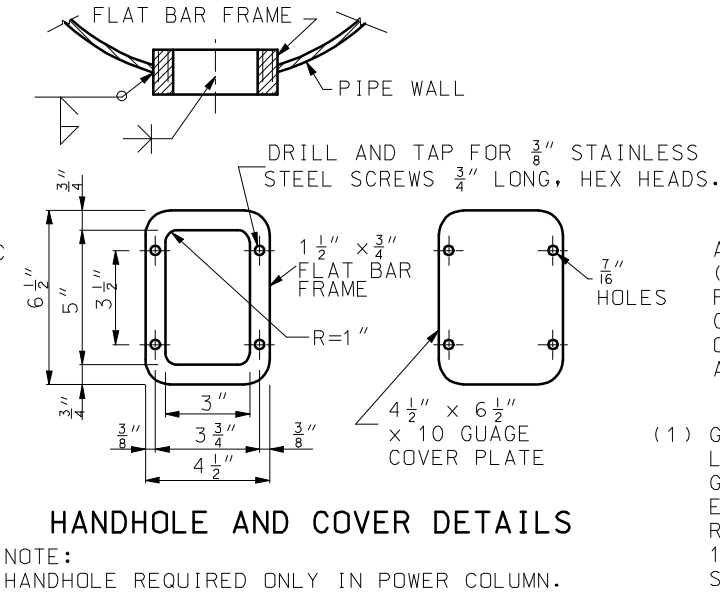
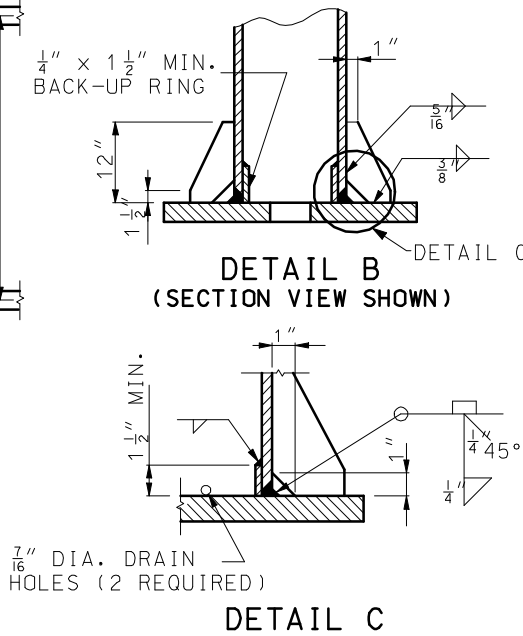
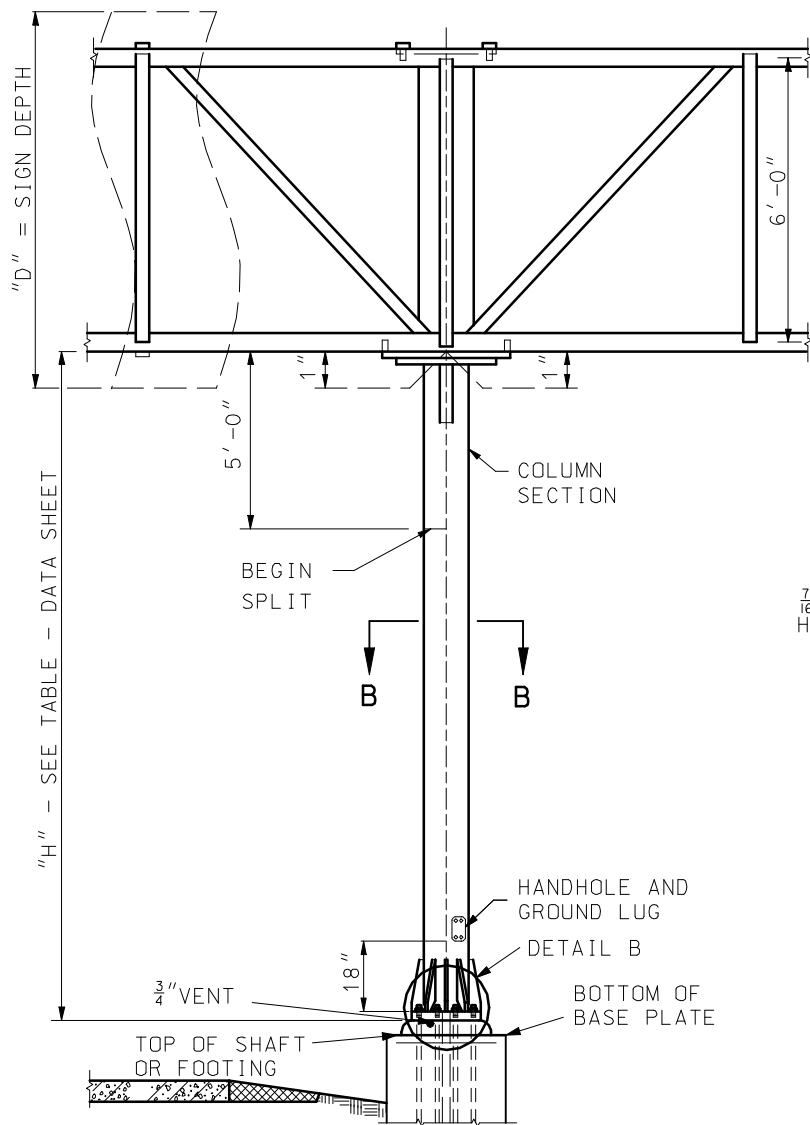
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
800-ASK-MODOT / 1-800-275-6636



NOTE A:
SPLICING CHORD ANGLES IN THE SHOP AND THE FIELD SPLICE SHOWN IN THIS SHEET WILL NOT BE ALLOWED WITHOUT SPECIAL PERMISSION. IF PERMISSION IS GRANTED SUCH SPLICES SHALL BE LOCATED AT THE CENTER LINE OF MAIN PANEL POINT NEXT TO COLUMN.

OVERHEAD SIGN TRUSSES
BUTTERFLY & CANTILEVER
STRUCTURAL STEEL

DATE PREPARED		10/14/2008
ROUTE	STATE	MO
DISTRICT	SHEET NO.	
COUNTY		
JOB NO.		
CONTRACT ID.		
PROJECT NO.		
BRIDGE NO.		
DESCRIPTION		
DATE		
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION		
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)		



SECTION B-B
(FOR SPLIT
COLUMNS ONLY)

TYPICAL BASE PLATE (10 ANCHOR TYPE) BUTTERFLY AND CANTILEVER (B.C.)					
	III	IV	V	VI	VII
A	8"	9"	8"	9"	10½"
B	10"	10"	10"	10"	11"
C	32"	34"	32"	34"	38"
D	13"	14"	16½"	18"	20"
E	32"	34"	39"	42"	46"
F	6"	6"	6"	6"	6"

NOTE:
FOR DETAILS OF OPTIONAL
SUBSTRUCTURES, SEE
OTHER SHEETS.

ANCHOR BOLTS AND PLATE NOT SHOWN.

GENERAL NOTES:

SUBSTRUCTURE SHALL BE BACKFILLED PRIOR TO
ERECTION OF POST.

ASTM A 106 GRADE B STEEL PIPE OR A TAPERED TUBE OF EQUIVALENT SIZE AND THICKNESS MAY BE SUBSTITUTED FOR PIPE POST.

ALL STEEL PIPE COLUMNS SHALL BE EITHER GRADE "B" SEAMLESS STEEL PIPE OR GRADE "B" ELECTRIC RESISTANCE WELDED STEEL PIPE; A.S.T.M. SPECIFICATION A53.

ALL STRUCTURES SHALL BE GROUNDED.

BURR THREADS ON ALL ANCHOR BOLTS.

A HORIZONTAL WELDED SPLICE MAY BE FABRICATED IN THE COLUMN BETWEEN THE TOP OF PIPE AND 4'-0" BELOW THE BOTTOM CHORDS OF THE TRUSS WHEN DETAILED ON THE SHOP DRAWINGS AND APPROVED BY THE ENGINEER.

GROUND LUGS SHALL BE LOCATED INSIDE COLUMN
NEAR HAND HOLE.

OVERHEAD SIGN TRUSS

COLUMN AND BASE PLATES

SPECIAL SHEET

101

COMMISSION



JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

DRILLED SHAFT OPTION																											ALTERNATE PEDESTALS			
POST TYPE	PIPE COLUMN		"E "	SPLIT	BASE PLATE SIZE**	ANCHOR BOLT		C	FA	FB	FC	FD	FH	COLLAR REINFORCEMENT						SHAFT REINFORCEMENT				REBAR TOTAL (LBS.)	CON- CRETE (CU.YDS.)	REBAR TOTAL (LBS.)		CONCRETE (CU.YDS.)		
	O.D.	WEIGHT (LBS.)				NO.	DIA.							MOMENT-C1		SHEAR-C2		SKIN-C3		LONGITUDINAL S1		SHEAR-S2				TYPE A	TYPE C	TYPE A	TYPE C	
														BARS	SPACING	BARS	SPACING	BARS	SPACING	QUANTITY	BARS	BARS	SPACING							
III	18"	93.45	8 1/2"	0"	2'-8" x 2'-8" x 1 3/4"	10	2"	2'-10"	4'-0"	7'-6"	1'-6"	4'-6"	14'-0"	#6	6"	#4	12"	#4	12"	19	#10	#5	6"	2126	12.4	2066	2077	13.4	14.5	
IV	20"	104.13	8 1/2"	0"	2'-10" x 2'-10" x 2"	10	2 1/4"	3'-0"	4'-0"	7'-6"	1'-6"	4'-6"	14'-0"	#6	6"	#4	12"	#4	12"	19	#10	#5	6"	2126	12.4	2066	2077	13.5	14.6	
V	18"	93.45	8 1/2"	7"	3'-3" x 2'-8" x 2"	10	2 1/4"	2'-10"	5'-0"	13'-6"	4'-0"	5'-6"	17'-0"	#6	6"	#4	12"	#4	12"	22	#11	#6	6"	3901	26.5	3763	3782	28.8	30.7	
VI	20"	104.13	8 1/2"	8"	3'-6' x 2'-10" x 2 1/4"	10	2 1/4"	3'-0"	5'-0"	14'-0"	4'-0"	6'-0"	18'-0"	#6	6"	#4	12"	#4	12"	27	#11	#6	6"	4742	31.8	4528	4547	34.1	36.2	
VII	24"	125.49	9"	8"	3'-10" x 3'-2" x 2 1/4"	10	2 1/2"	3'-4"	5'-0"	14'-0"	4'-0"	6'-0"	18'-0"	#6	6"	#4	12"	#4	12"	27	#11	#6	6"	4742	31.8	4528	4547	34.5	36.8	

SPREAD FOOTING OPTION																				
POST TYPE	PIPE COLUMN		"E"	SPLIT	BASE PLATE SIZE**	ANCHOR BOLT		PEDESTAL SIZE *		FOOTING SIZE *	LONGITUDINAL FOOTING REINFORCEMENT				PEDESTAL REINFORCEMENT				REBAR TOTAL (LBS.)	CON-CRETE (CU.YDS.)
	O.D.	WEIGHT (LBS.)				NO.	DIA.	a	b		TOP		BOTTOM							
											NO.	BARS	NO.	BARS	NO.	BARS	NO.	BARS		
III	18"	93.45	8½"	0"	2'-8" x 2'-8" x 1¾"	10	2"	4'-2"	3'-8"	10'-0" x 13'-0"	10	#5	10	#5	10	#4	14	#8	695	14.4
IV	20"	104.13	8½"	0"	2'-10" x 2'-10" x 2"	10	2¼"	4'-4"	3'-10"	10'-0' x 14'-0"	10	#5	10	#5	10	#4	14	#8	733	15.6
V	18"	93.45	8½"	7"	3'-3" x 2'-8" x 2"	10	2¼"	4'-9"	3'-8"	9'-0" x 17'-0"	9	#5	10	#7	10	#4	14	#8	955	16.5
VI	20"	104.13	8½"	8"	3'-6' x 2'-10" x 2¼"	10	2¼"	5'-0"	3'-10"	9'-0" x 19'-0"	9	#5	10	#7	10	#4	14	#8	1028	18.4
VII	24"	125.49	9"	8"	3'-10" x 3'-2" x 2¼"	10	2½"	5'-4"	4'-2"	10'-0" x 20'-0"	9	#5	12	#7	10	#4	14	#8	1196	21.5

SPREAD FOOTING OPTION WITH ALTERNATE PEDESTALS																																			
POST TYPE	PIPE COLUMN		"E"	SPLIT	BASE PLATE SIZE**	ANCHOR BOLT		PEDESTAL SIZE *			FOOTING SIZE *	TYPE A LONGITUDINAL FOOTING REINFORCEMENT				TYPE A PEDESTAL REINFORCEMENT				TYPE A REBAR TOTAL (LBS.)	TYPE A CONCRETE (CU.YDS.)	TYPE C LONGITUDINAL FOOTING REINFORCEMENT				TYPE C PEDESTAL REINFORCEMENT				TYPE C REBAR TOTAL (LBS.)	TYPE C CONCRETE (CU.YDS.)				
	O.D.	WEIGHT (LBS.)				NO.	DIA.	c	d	e		TOP		BOTTOM		NO.	BARS	NO.	BARS			NO.	BARS	NO.	BARS	NO.	BARS	NO.	BARS			NO.	BARS	NO.	BARS
												NO.	BARS	NO.	BARS																				
III	18"	93.45	8½"	0"	2'-8" x 2'-8" x 1¾"	10	2"	2'-10"	6'-6"	15"	10'-0" x 13'-0"	10	#5	10	#5	10	#4	14	#8	757	14.4	10	#4	10	#5	12	#4	14	#8	800	15.3				
IV	20"	104.13	8½"	0"	2'-10" x 2'-10" x 2"	10	2¼"	3'-0"	6'-9"	18"	10'-0' x 14'-0"	10	#5	10	#5	10	#4	14	#8	795	15.6	10	#4	10	#5	12	#4	14	#8	839	16.5				
V	18"	93.45	8½"	7"	3'-3" x 2'-8" x 2"	10	2¼"	2'-10"	7'-0"	12"	9'-0" x 17'-0"	9	#5	10	#7	10	#4	14	#8	1015	16.5	10	#4	10	#7	12	#4	14	#8	1059	17.5				
VI	20"	104.13	8½"	8"	3'-6' x 2'-10" x 2¼"	10	2¼"	3'-0"	7'-6"	15"	9'-0" x 19'-0"	9	#5	10	#7	10	#4	14	#8	1099	18.4	10	#4	10	#7	12	#4	14	#8	1134	19.5				
VII	24"	125.49	9"	8"	3'-10" x 3'-2" x 2¼"	10	2½"	3'-4"	7'-10"	15"	10'-0" x 20'-0"	9	#5	12	#7	10	#4	14	#8	1257	21.5	10	#4	12	#7	12	#4	14	#8	1302	22.6				

* BASE PLATES, PEDESTAL AND FOOTINGS, LONGER SIDES SHALL BE NORMAL TO AXIS OF SIGN.
** BASE PLATES, PEDESTAL AND FOUNDATIONS, LONGER SIDES SHALL BE NORMAL TO AXIS OF SIGN.

OVERHEAD SIGN TRUSSES
OPTIONAL SUBSTRUCTURE DATA

DATE PREPARED
10/14/2008

ROUTESTATE
MO

DISTRICTSHEET NO.

COUNTY

JOB NO.

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

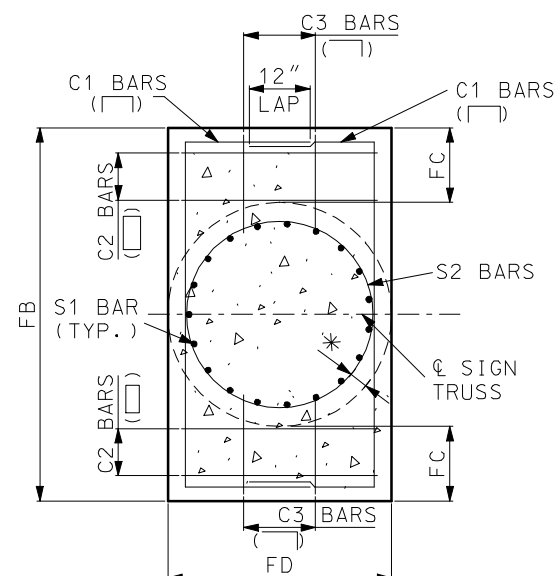
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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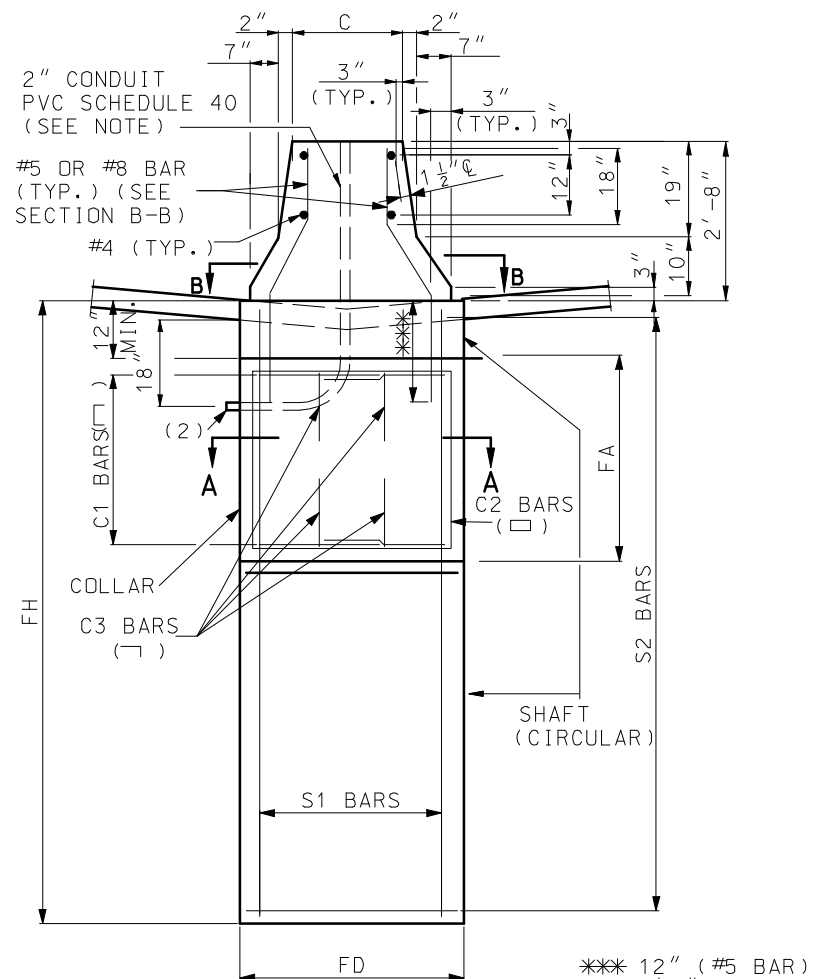
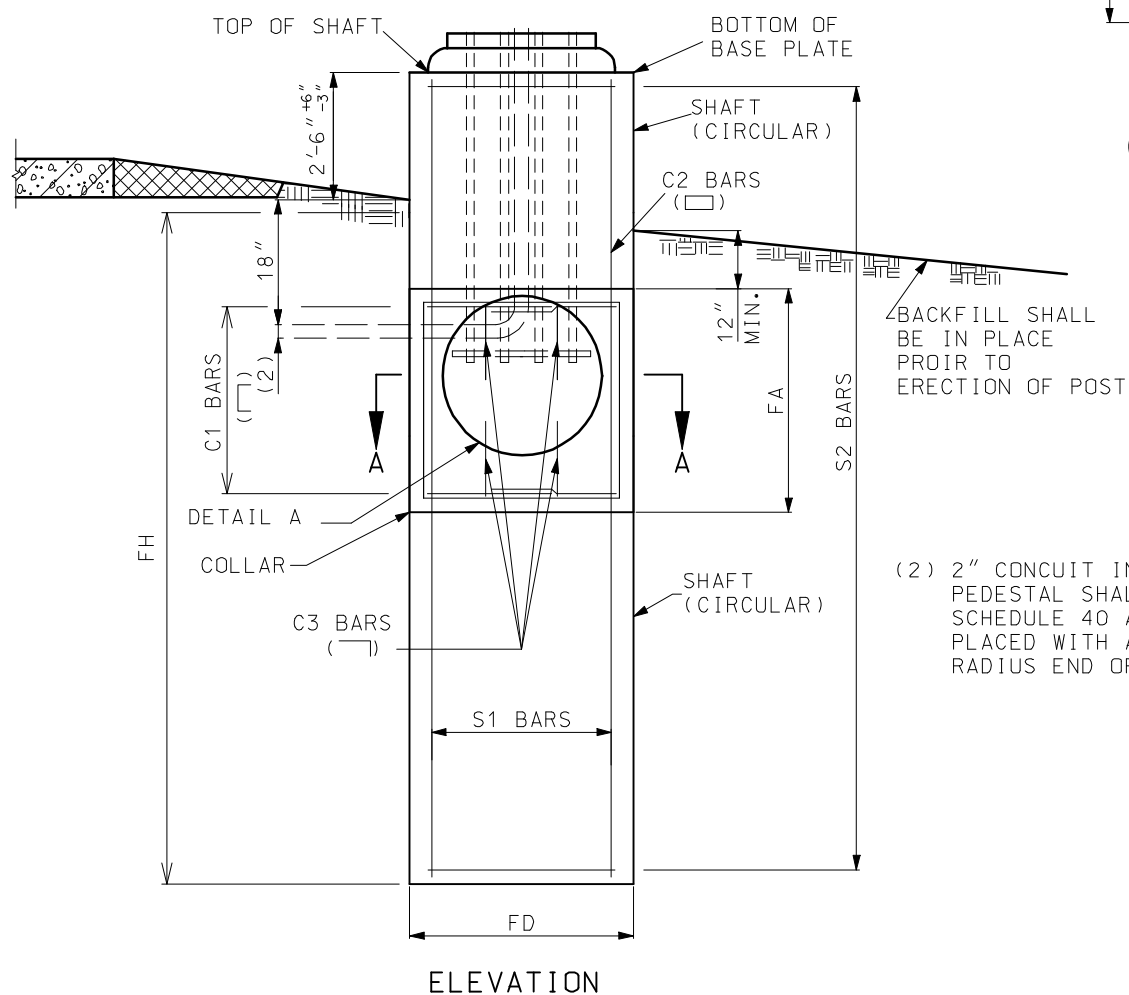


SECTION A-A

(TYPICAL SECTION SHOWING
REINFORCING STEEL)

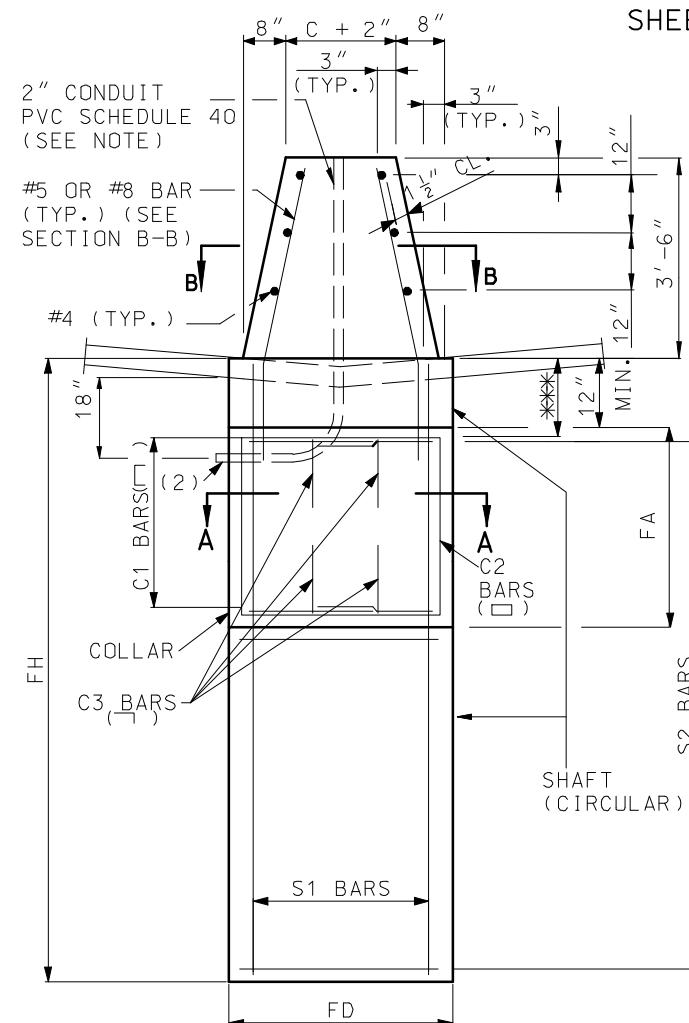
* 4" CLEAR FOR FD = 4'-6"
6" CLEAR FOR FD > 4'-6"

VERTICAL LEG OF C3 SHALL BE PLACED
INSIDE SHAFT S2 BARS.



2 1

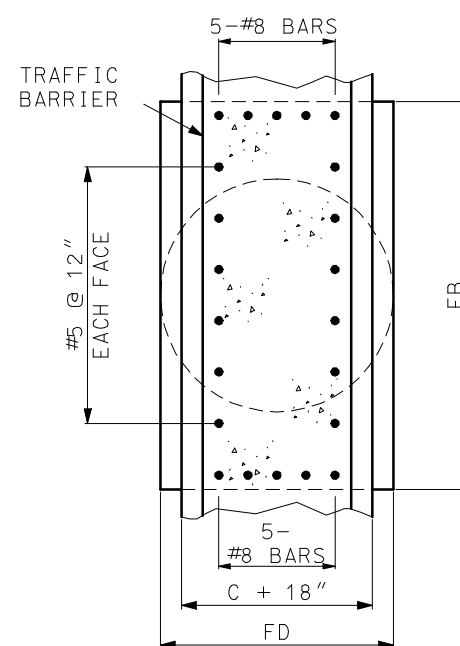
PART ELEVATION
(TYPE A CONCRETE TRAFFIC BARRIER)



PART ELEVATION
(TYPE C CONCRETE TRAFFIC BARRIER)

DETAILS OF ALTERNATE PEDESTAL

(TO BE USED ADJACENT TO TYPE "A" OR "C" MEDIAN BARRIER)



SECTION B-B

GENERAL NOTES:

SHAFT AND COLLAR SHALL BE CLASS B (P.C.C.).

MINIMUM CLEARANCE TO REINFORCEMENT IS 3" EXCEPT AS SHOWN.

WHEN ROCK IS ENCOUNTERED AT A DEPTH NOT EXCEEDING "FH"/2 FOR $FD > 3'-0"$ OR "FH"/4 FOR $FD \leq 3'-0"$, THE DIMENSION "FH" MAY BE ADJUSTED TO A MINIMUM OF $3 \times "FD"$, SUBJECT TO APPROVAL BY THE ENGINEER.

CONTACT THE ENGINEER IF WATER TABLE IS ENCOUNTERED
DURING EXCAVATION.

PIPE COLUMN, BASE PLATE, ANCHOR BOLTS AND NOTES
PERTAINING TO THESE ITEMS HAVE BEEN OMITTED FOR
CLARITY. REFER TO SHEET 3 OF 7 FOR DETAILS OF
THESE ITEMS.

OVERHEAD SIGN TRUSSES

DRILLED SHAFT OPTION

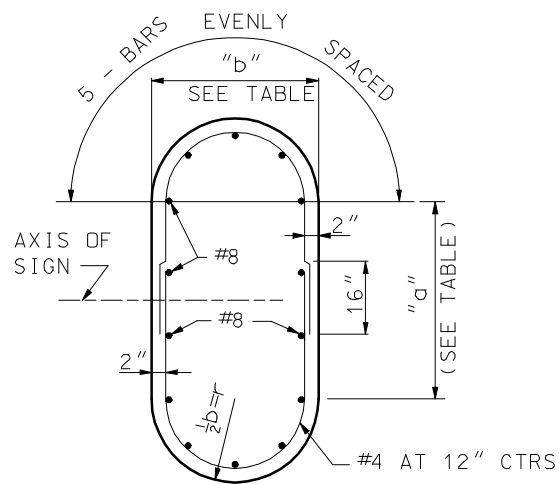
SPECIAL SHEET

DATE PREPARED	
10/14/2008	
ROUTE	STATE
	MO
DISTRICT	SHEET NO.

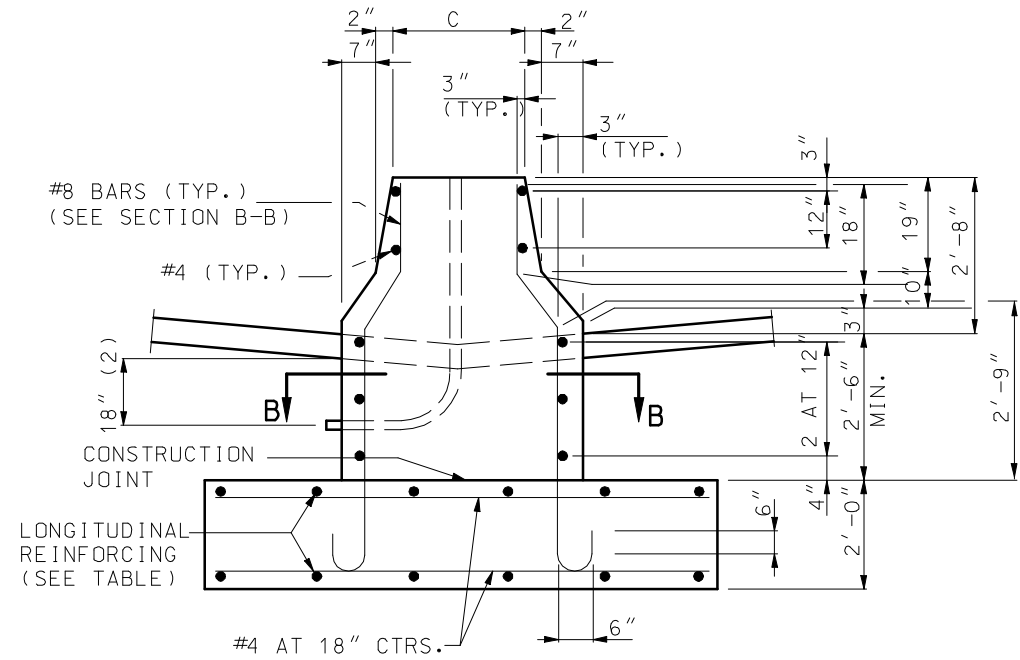
	COUNTY
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	BRIDGE NO.

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COMMISSION

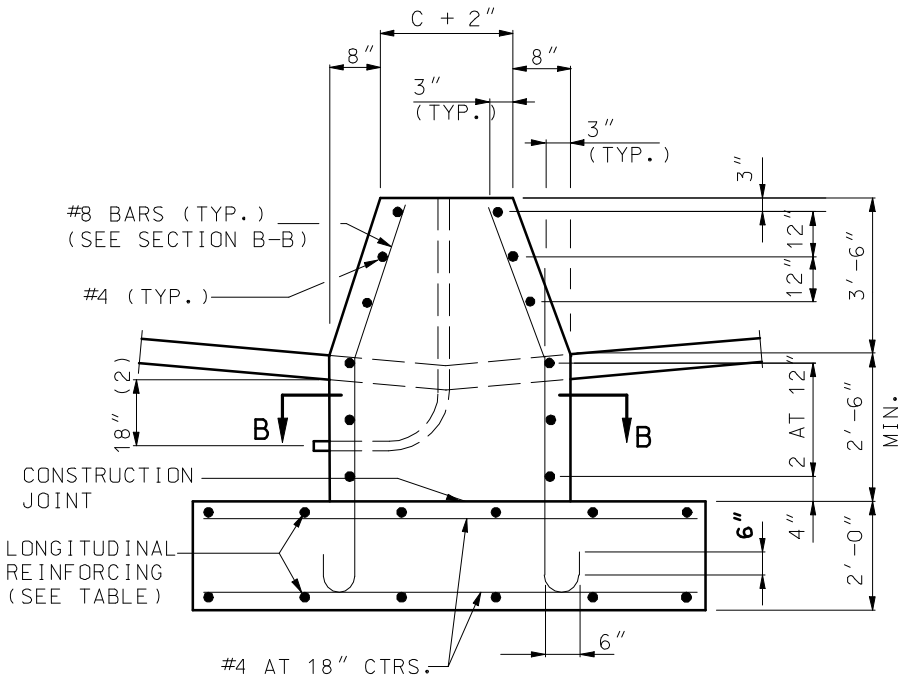
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JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



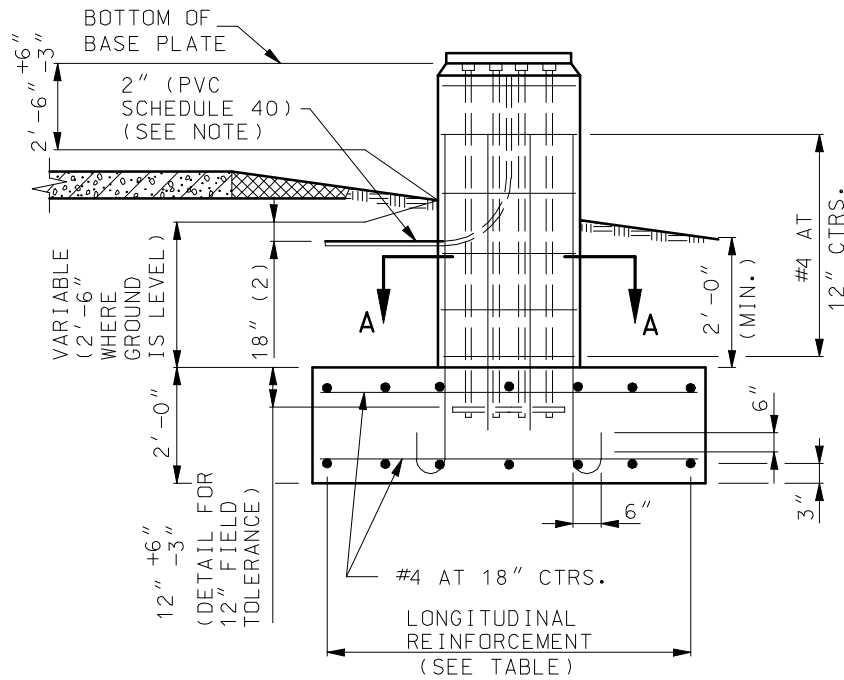
SECTION A-A
(TYPICAL SECTION SHOWING
REINFORCING STEEL)



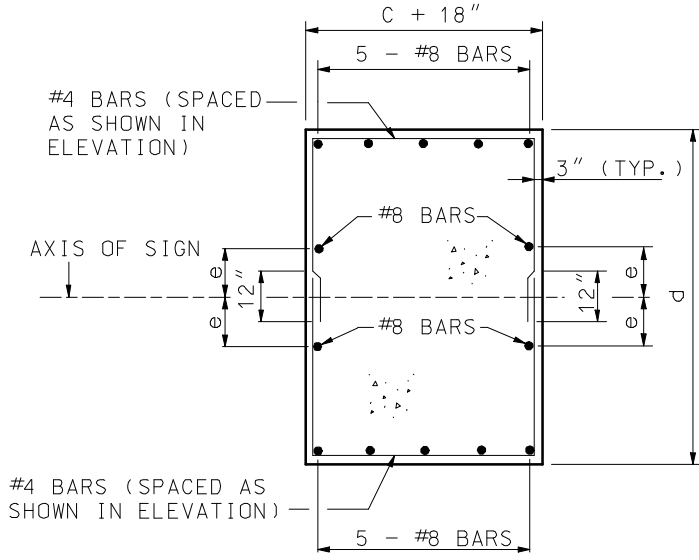
PART ELEVATION
(TYPE A CONCRETE TRAFFIC BARRIER)



PART ELEVATION
(TYPE C CONCRETE TRAFFIC BARRIER)



ELEVATION



SECTION B-B
TYPICAL SECTION SHOWING
REINFORCING STEEL
DETAILS OF ALTERNATE PEDESTAL

GENERAL NOTES:

PEDESTAL AND FOOTING SHALL BE CLASS B (P.C.C.).


MINIMUM CLEAR TO REINFORCEMENT IS 3" EXCEPT AS SHOWN.

CONTACT THE ENGINEER IF WATER TABLE IS ENCOUNTERED DURING EXCAVATION.

PIPE COLUMN, BASE PLATE, ANCHOR BOLTS AND NOTES PERTAINING TO THESE ITEMS HAVE BEEN OMITTED FOR CLARITY. REFER TO SHEET 3 OF 7 FOR DETAILS OF THESE ITEMS.

(2) THE 2" CONDUIT IN THE CONCRETE PEDESTAL SHALL BE PVC SCHEDULE 40 AND SHALL BE PLACED WITH A MINIMUM RADIUS BEND OF 9 1/2".

OVERHEAD SIGN TRUSSES
SPREAD FOOTING

DATE PREPARED 10/14/2008	
ROUTE	STATE MO
DISTRICT	SHEET NO.
COUNTY	
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