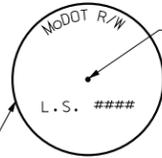


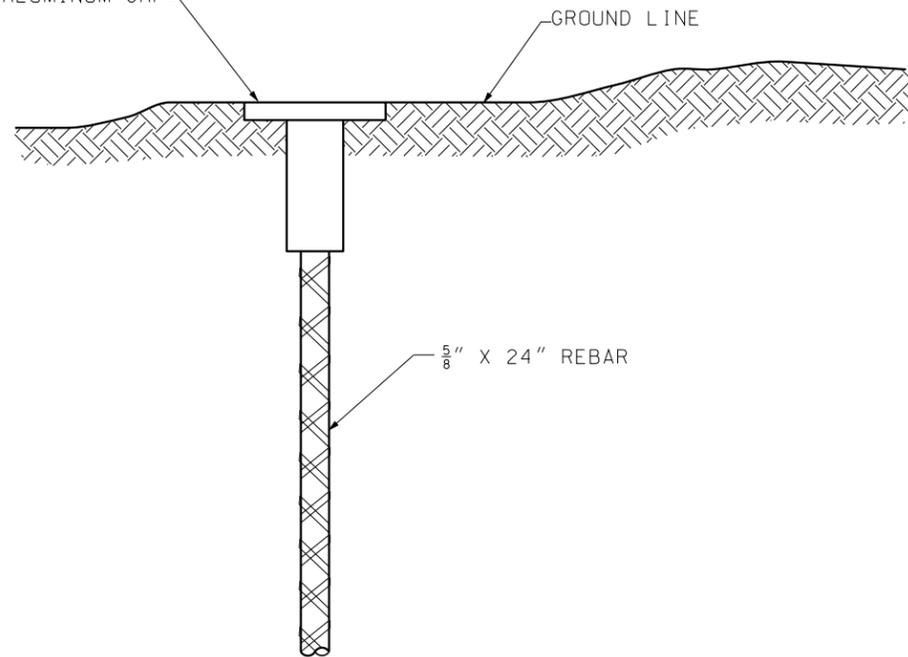
STAMP  $\frac{3}{16}$ " LETTERING INTO CAP FOR "MODOT R/W". L.S. NUMBER AND LETTERING SHALL BE  $\frac{1}{8}$ " OR LARGER



PUNCH MARK (NOT NECESSARILY CENTERED)

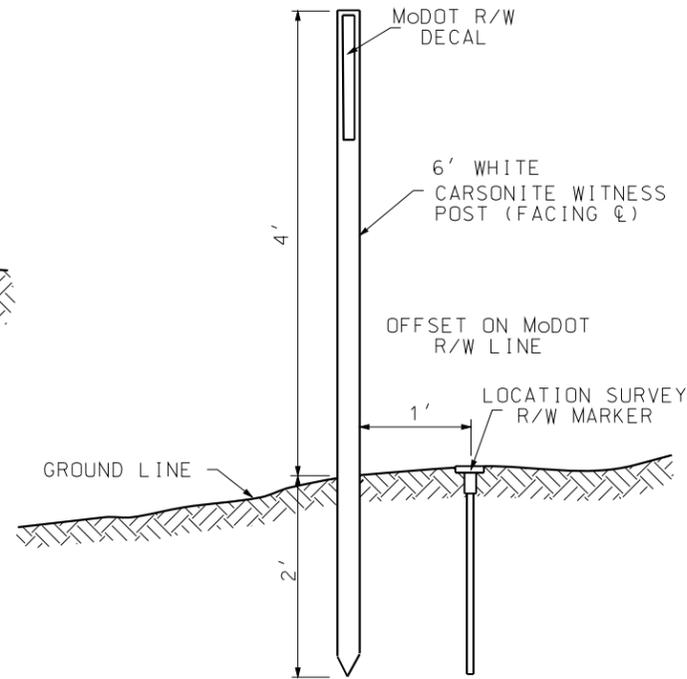
2" DIA. FLAT ALUMINUM CAP

TOP VIEW

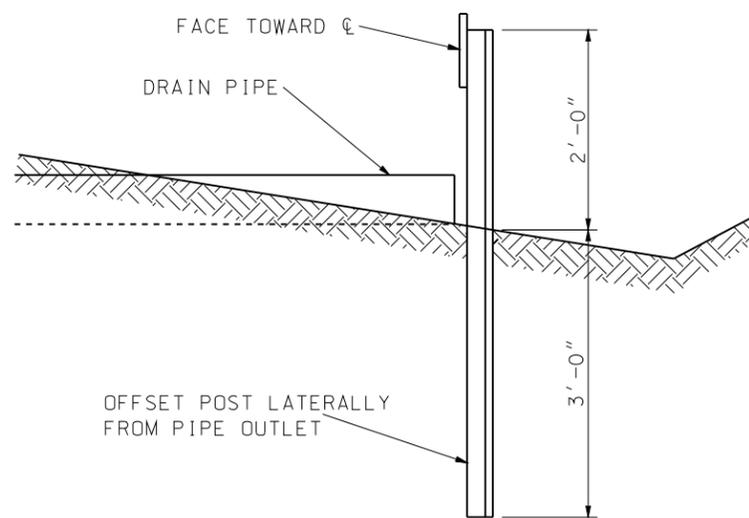


SIDE VIEW

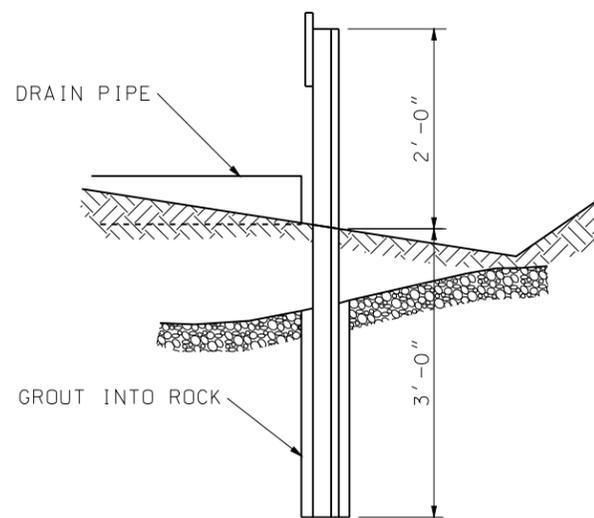
LOCATION SURVEY RIGHT-OF-WAY MARKER



WITNESS POST



IN EARTH



IN ROCK

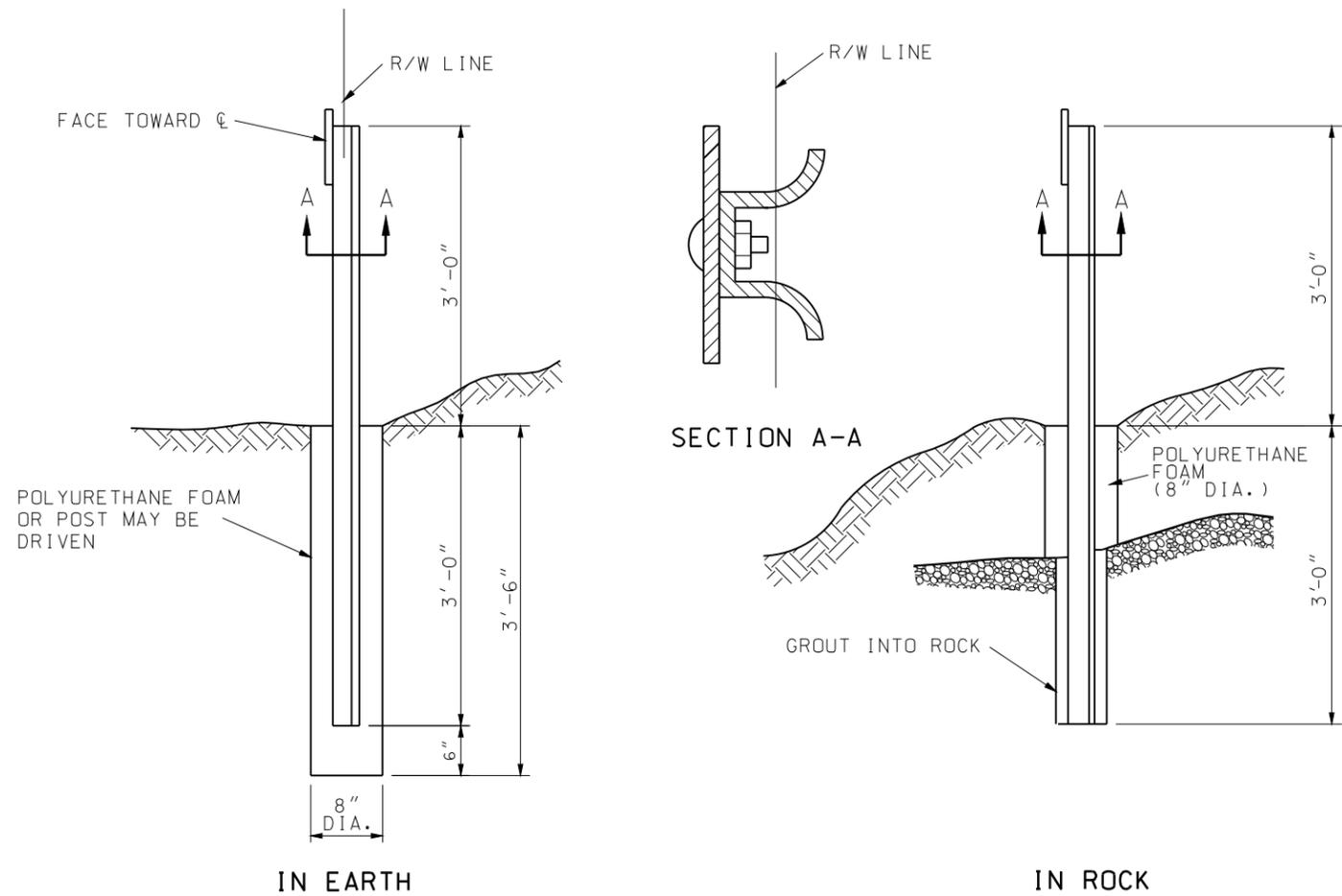
DRAIN MARKER

GENERAL NOTES:

WHEN STEEL AND LOCATION SURVEY R/W MARKERS ARE NOT SUITABLE DUE TO NATURAL GROUND FEATURES OR MAN-MADE STRUCTURES, ALTERNATIVE MONUMENTATION (IN COMPLIANCE WITH THE APPROVED MONUMENTATION, AS SPECIFIED BY THE MISSOURI MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS) MAY BE SET.

	<b>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION</b>	
	105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	<b>RIGHT-OF-WAY AND DRAIN MARKERS</b>	
	DATE EFFECTIVE: 01/01/2003 DATE PREPARED: 8/21/2009	<b>602.00D</b>

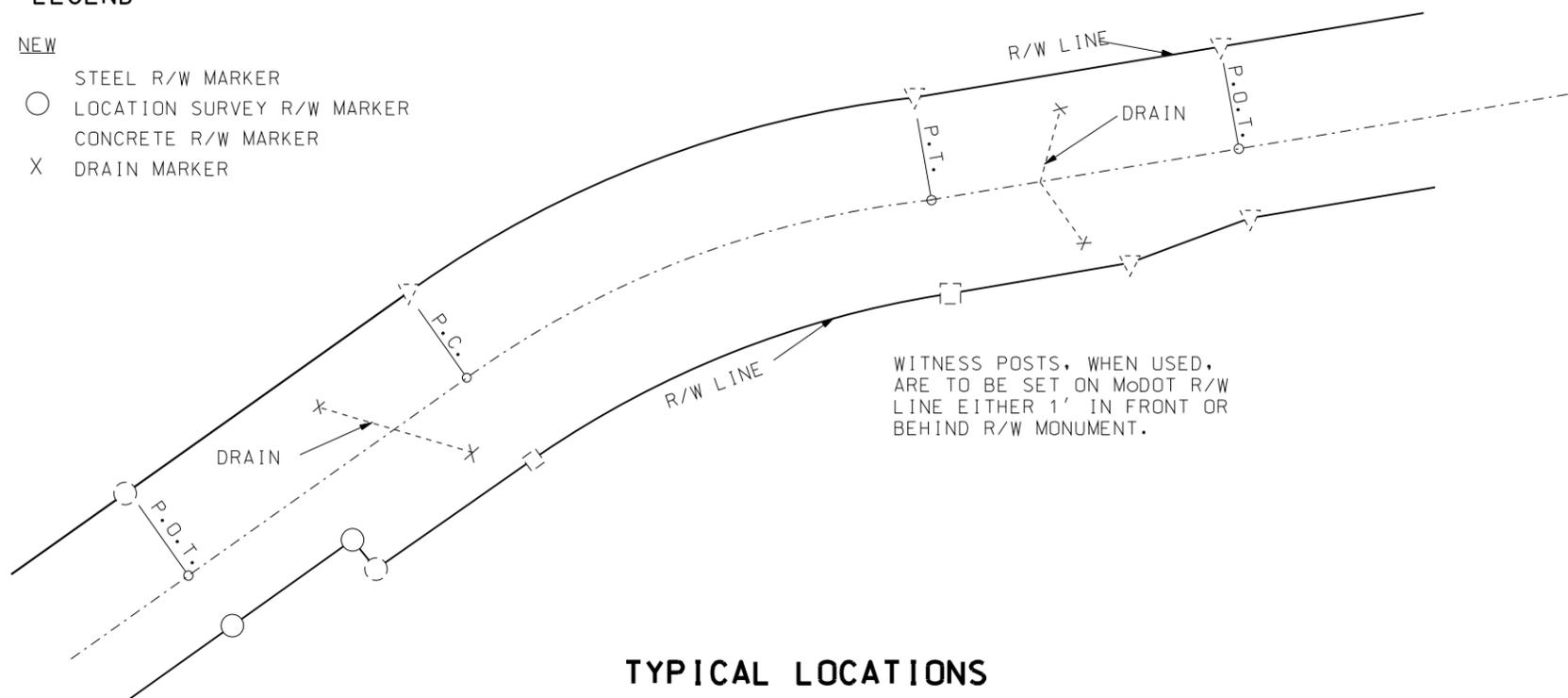
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



**STEEL RIGHT-OF-WAY MARKER**

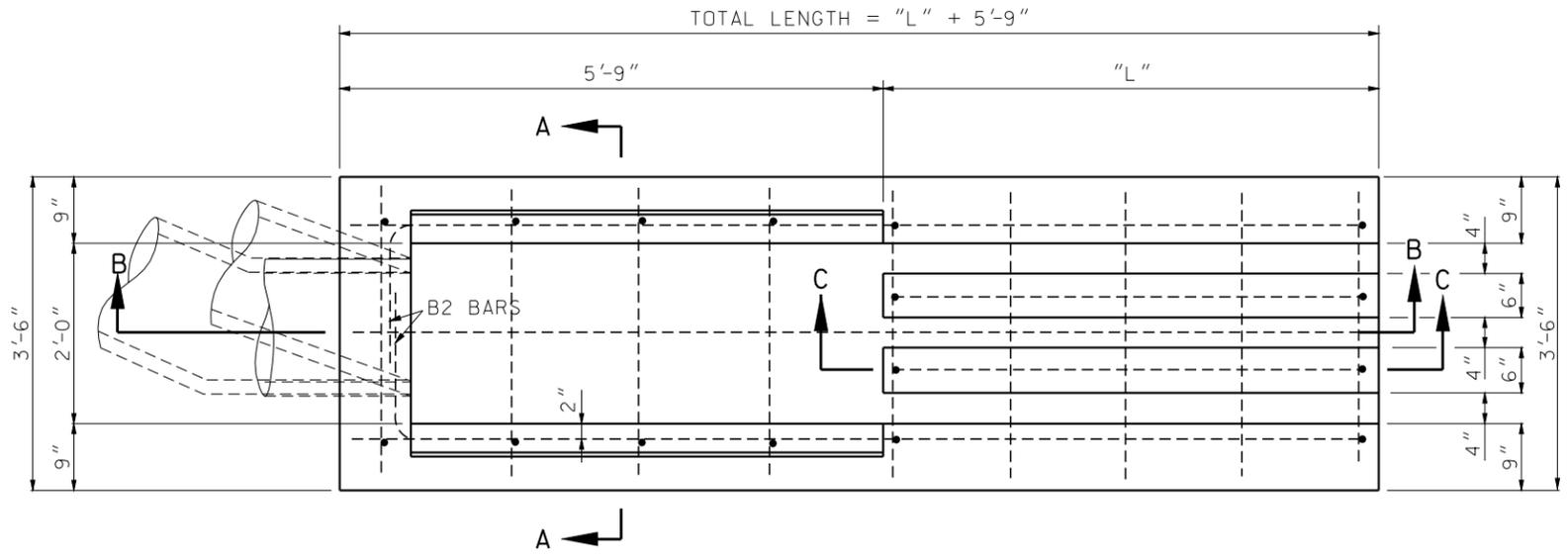
**LEGEND**

- |                 |            |                            |
|-----------------|------------|----------------------------|
| <b>EXISTING</b> | <b>NEW</b> |                            |
|                 |            | STEEL R/W MARKER           |
|                 |            | LOCATION SURVEY R/W MARKER |
|                 |            | CONCRETE R/W MARKER        |
|                 |            | DRAIN MARKER               |

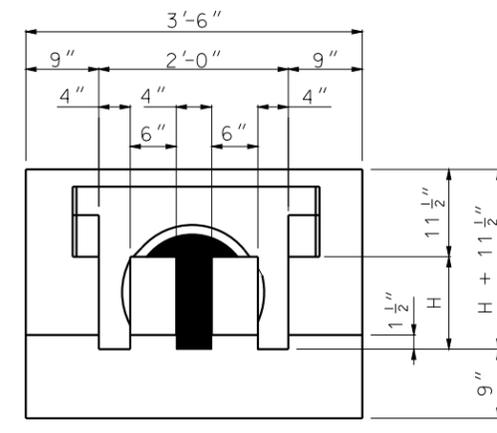


	<b>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION</b> 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
		<b>RIGHT-OF-WAY AND DRAIN MARKERS</b>
DATE EFFECTIVE: 01/01/2003 DATE PREPARED: 8/21/2009	<b>602.00D</b>	SHEET NO. <b>2 OF 2</b>

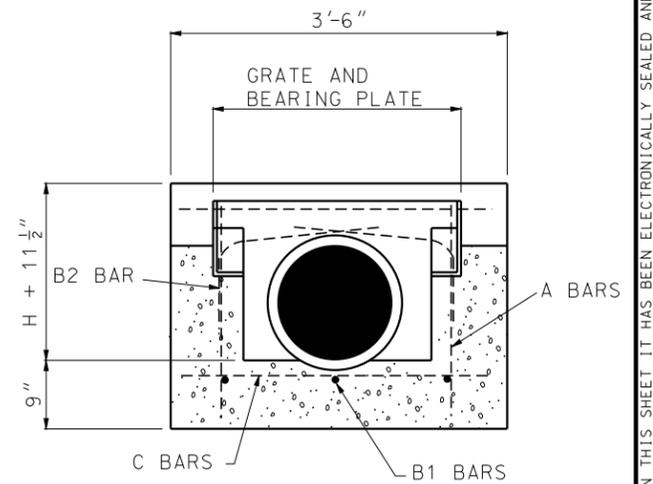
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



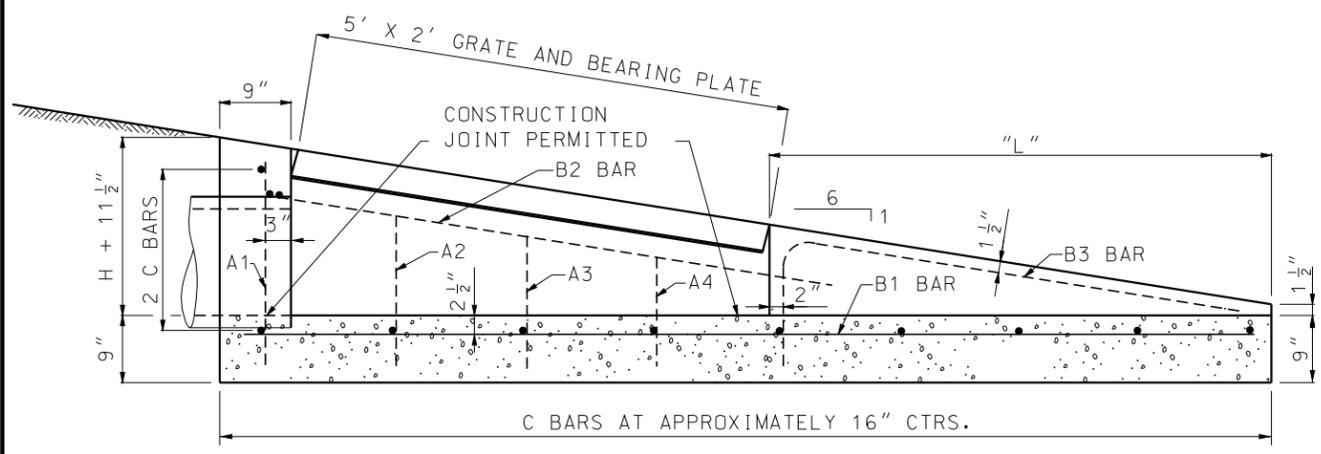
PLAN VIEW



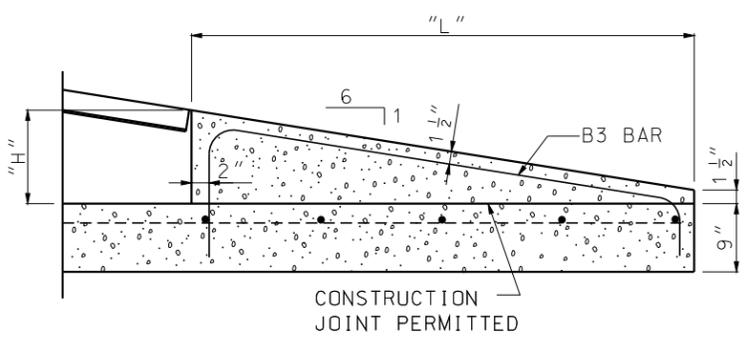
END SECTION



SECTION A-A



SECTION B-B



SECTION C-C

GENERAL NOTES:

USE RIGHT ANGLE HEADWALL FOR ALL INSTALLATIONS. SKEW PIPE BY USING A BEVELED END OR ELBOW ON PIPE. IN SPECIAL CASES, HEADWALL MAY BE TURNED TO FIT PIPE SKEW AND 1V TO 6H SLOPE WARPED TO FIT HEADWALL.

ALL CONCRETE SHALL BE CLASS "B".

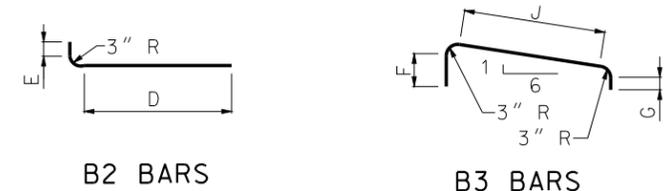
THIS DRAWING AND THE CONCRETE QUANTITIES SHOWN ARE BASED ON THE USE OF CONCRETE PIPE. QUANTITIES OF CONCRETE SHOWN WILL BE USED FOR PAYMENT REGARDLESS OF ANY QUANTITY CHANGES NECESSARY DUE TO THE USE OF ANY OTHER TYPE PIPE SPECIFIED OR PERMITTED.

FLOW LINE OF HEADWALL IS TO BE PLACED HORIZONTALLY.

PRECAST NOTES:

THE CONTRACTOR MAY, SUBJECT TO APPROVAL OF THE ENGINEER, FURNISH PRECAST UNITS IN LIEU OF CAST-IN-PLACE. IF A PRECAST UNIT IS FURNISHED, IT SHALL CONFORM IN ALL RESPECTS TO THE THE REQUIREMENTS FOR CAST-IN-PLACE UNITS INCLUDING DIMENSIONS AND REINFORCEMENT, EXCEPT THAT THE FORMS MAY BE TAPERED TO FACILITATE REMOVAL OF THE UNIT FROM THE FORMS. SHOP DRAWINGS OF THE PRECAST UNIT SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FIRST USE OF THE PRECASTING FORMS.

PIPE SIZE	DIMENSIONS			QUANTITIES		REINFORCING																				
	"H"	"L"	TOTAL LENGTH	CONC. C. Y.	STEEL LBS.	#4 A1 BARS NO.	#4 A2 BARS NO.	#4 A3 BARS NO.	#4 A4 BARS NO.	#4 B1 BARS NO.	#4 B2 BARS			#4 B3 BARS				#4 C BARS NO.								
12"	9"	3'-9"	9'-6"	1.5	70	2	2'-0"	2	1'-6"	2	1'-3"	2	1'-0"	3	9'-3"	2	1'-5"	5'-8"	7'-6"	4	11"	5"	2'-11"	5'-0"	8	3'-3"
15"	1'-0"	5'-3"	11'-0"	1.8	80	2	2'-3"	2	1'-9"	2	1'-6"	2	1'-3"	3	10'-9"	2	1'-5"	5'-8"	7'-6"	4	1'-2"	5"	4'-5"	6'-9"	9	3'-3"
18"	1'-3"	6'-9"	12'-6"	2.2	90	2	2'-6"	2	2'-0"	2	1'-9"	2	1'-6"	3	12'-3"	2	1'-5"	5'-8"	7'-6"	4	1'-5"	5"	5'-11"	8'-6"	10	3'-3"
21"	1'-6"	8'-3"	14'-0"	2.6	100	2	2'-9"	2	2'-3"	2	2'-0"	2	1'-9"	3	13'-9"	2	1'-5"	5'-8"	7'-6"	4	1'-8"	5"	7'-5"	10'-3"	11	3'-3"
24"	1'-9"	9'-9"	15'-6"	3.0	110	2	3'-0"	2	2'-6"	2	2'-3"	2	2'-0"	3	15'-3"	2	1'-5"	5'-8"	7'-6"	4	1'-11"	5"	8'-11"	12'-0"	12	3'-3"



BENDING DETAILS

**MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION**

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

**STATE OF MISSOURI**

DENNIS W. HECKMAN  
NUMBER PE-27141  
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

**PIPE CULVERT HEADWALLS**

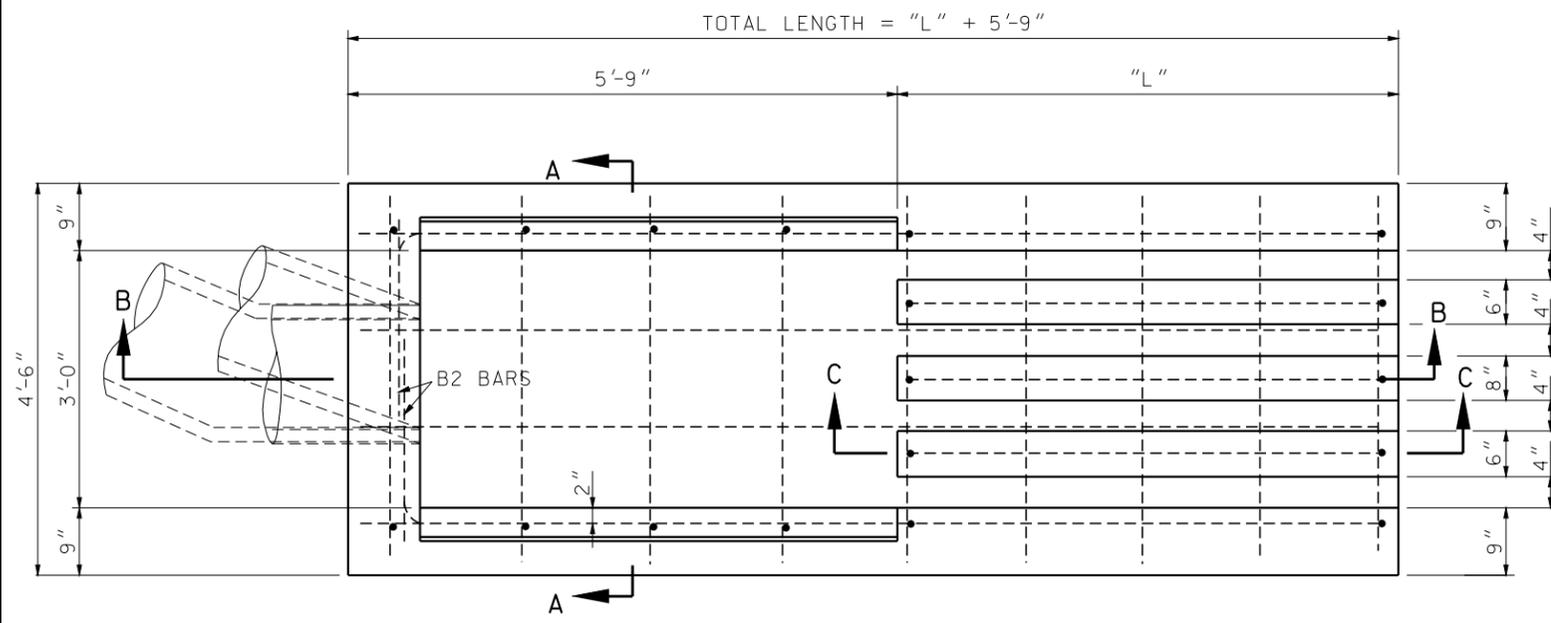
TYPE S

12" TO 24" DIAMETERS

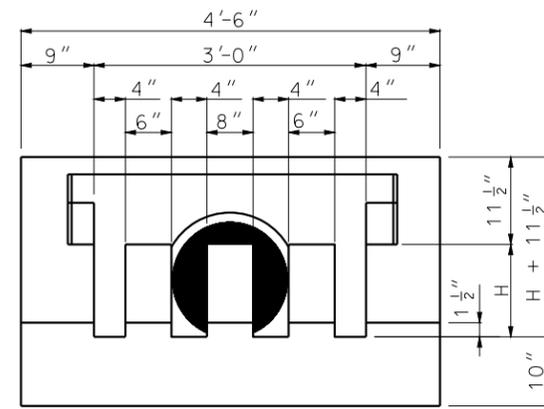
- 1V:6H SLOPES

DATE EFFECTIVE: 08/01/2006	<b>604.05D</b>	SHEET NO. 1 OF 2
DATE PREPARED: 9/3/2009		

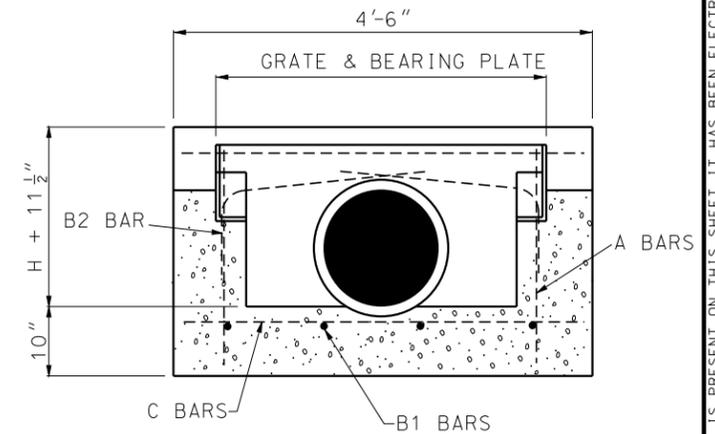
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



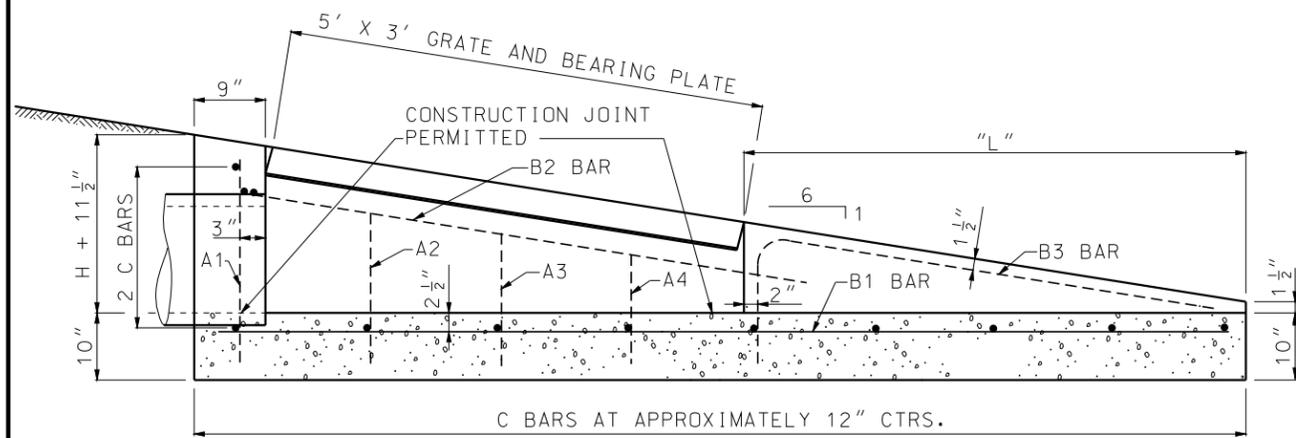
PLAN VIEW



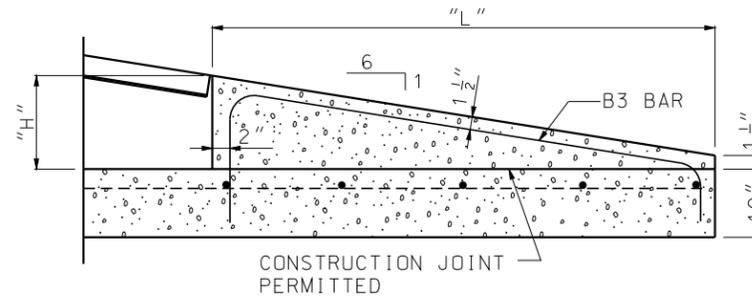
END SECTION



SECTION A-A



SECTION B-B



SECTION C-C

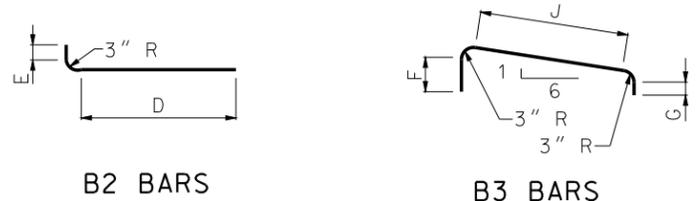
PIPE SIZE	DIMENSIONS			QUANTITIES		REINFORCING																				
	"H"	"L"	TOTAL LENGTH	CONC. C.	STEEL Y. LBS.	#4 A1 BARS NO.	#4 A1 BARS LENGTH	#4 A2 BARS NO.	#4 A2 BARS LENGTH	#4 A3 BARS NO.	#4 A3 BARS LENGTH	#4 A4 BARS NO.	#4 A4 BARS LENGTH	#4 B1 BARS NO.	#4 B1 BARS LENGTH	#4 B2 BARS			#4 B3 BARS			#4 C BARS NO.	#4 C BARS LENGTH			
27"	2'-0"	11'-3"	17'-0"	4.5	160	2	3'-3"	2	2'-9"	2	2'-6"	2	2'-3"	4	16'-9"	2	1'-11"	5'-8"	8'-0"	5	2'-2"	5"	10'-5"	13'-9"	18	4'-3"
30"	2'-3"	12'-9"	18'-6"	5.0	170	2	3'-6"	2	3'-0"	2	2'-9"	2	2'-6"	4	18'-3"	2	1'-11"	5'-8"	8'-0"	5	2'-5"	5"	11'-11"	15'-6"	19	4'-3"
36"	2'-9"	15'-9"	21'-6"	6.1	200	2	4'-0"	2	3'-6"	2	3'-3"	2	3'-0"	4	21'-3"	2	1'-11"	5'-8"	8'-0"	5	2'-11"	5"	14'-11"	19'-0"	21	4'-3"

GENERAL NOTES:  
SEE GENERAL NOTES ON SHEET 1.

**MoDOT** MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION  
105 WEST CAPITOL JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

STATE OF MISSOURI  
DENNIS W. HECKMAN  
NUMBER PE-27141  
PROFESSIONAL ENGINEER  
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

**PIPE CULVERT HEADWALLS**  
TYPE S  
27" TO 36" DIAMETERS  
- 1V:6H SLOPES



BENDING DETAILS

DATE EFFECTIVE: 08/01/2006	604.05D	SHEET NO. 2 OF 2
DATE PREPARED: 9/3/2009		

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.