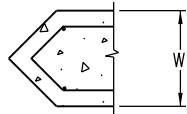


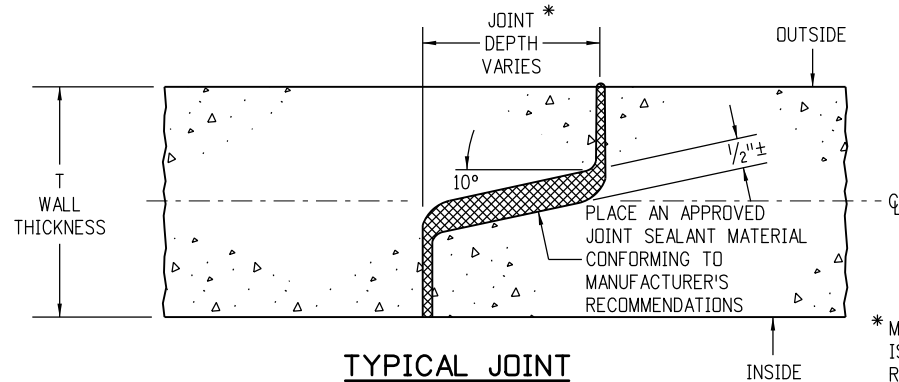
EXCAVATION & BACKFILL WILL BE MEASURED AND PAID FOR TO THIS LINE IN ACCORDANCE WITH SECTION 206.

■ GROUT OR FOAM SEALANT SHALL BE USED WHEN SPECIFIED ON THE PLANS.

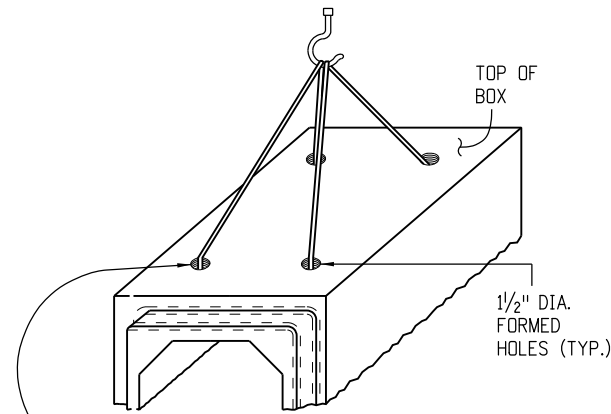
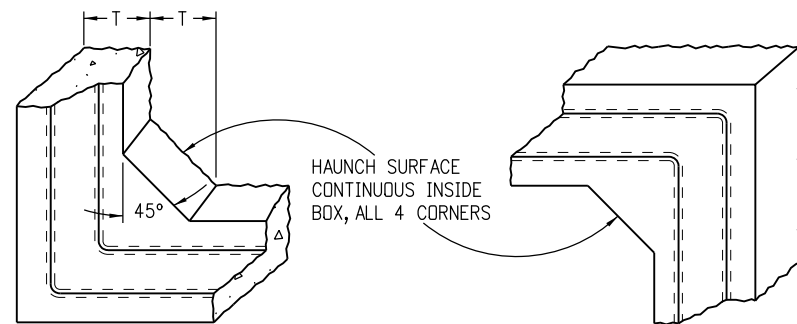
EXCAVATION & BACKFILL
(PARALLEL PRECAST BOX CULVERT INSTALLATION)



NOSE ANGLE DETAIL
SEE STANDARD PLANS M-601-2, AND 3 TYPICAL AT ADJACENT BOXES DRILL AND GROUT REINFORCING BARS (TYP.)

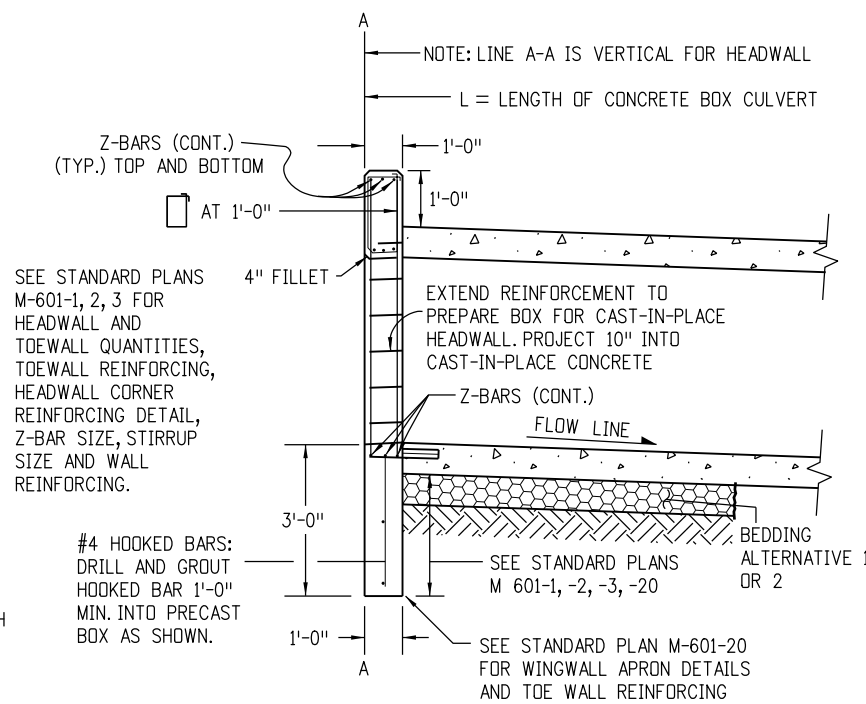


* MINIMUM JOINT DEPTH IS 4 1/2" BUT 75% T IS RECOMMENDED.

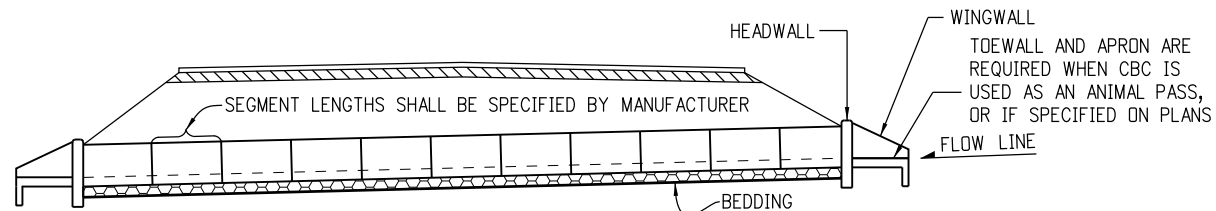


LIFTING HOLES (LOCATED BY MFR.) SHALL BE FILLED WITH GROUT BEFORE BACKFILLING IS STARTED. (2 HOLES PLACED DIAGONALLY MAY SUFFICE FOR SMALLER BOX SIZES)

LIFTING



CULVERT END
(WITH HEADWALL)



TYPICAL CULVERT INSTALLATION

GENERAL NOTES

1. PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO THE REQUIREMENTS OF THE FOLLOWING SPECIFICATIONS:

ITEM OR CONDITION	MIN. COVER	AASHTO	EQUIV. ASTM
2 FT. OR MORE COVER	2 FT.	M 259, TABLE 2	C 1433, TABLE 2
LESS THAN 2 FT. COVER	0 FT.	M 273, TABLE 2	C 1433, TABLE 2
PREFORMED JOINT MATERIAL	—	M 198, 6.1 OR 6.2	C 990, 6.1 OR 6.2

THE SPECIFICATIONS LISTED ABOVE SHOW REINFORCING PLACEMENT, EARTH COVER AND OTHER DETAILS NEEDED TO MANUFACTURE THE BOX CULVERTS.

THE DESIGN FOR A PRECAST CONCRETE BOX WITH A SPAN LARGER THEN 12 FT. SHALL BE PROVIDED BY THE MANUFACTURER.

2. THE CONTRACTOR SHALL SUBMIT TWO SETS OF WORKING DRAWINGS TO THE ENGINEER FOR INFORMATION ONLY, PRIOR TO FABRICATION.

3. BEDDING ALTERNATIVE 1 OR 2 IS REQUIRED:
BEDDING ALTERNATIVE IS AT THE CONTRACTOR'S OPTION. BEDDING AND EXCAVATION FOR BEDDING WILL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.

BEDDING ALTERNATIVE 1 CONSISTS OF 6 IN. OF AGGREGATE BASE COURSE (CLASS 6) COMPACTED TO NOT LESS THAN 95% MAXIMUM DENSITY DETERMINED IN CONFORMANCE WITH AASHTO T 180.

BEDDING ALTERNATIVE 2 CONSISTS OF AN 3 IN. THICK, MINIMUM, LEAN CONCRETE BASE. CEMENT CONTENT = 250 LBS./CU. YD.

AGGREGATE GRADATION FOR ALTERNATIVE 2 BEDDING:

PASSING 2 IN. SIEVE	—	100%
PASSING NO. 4 SIEVE	—	20% TO 70%
PASSING NO. 200 SIEVE	—	5% TO 15%

4. CBC JOINTS USING RUBBER GASKETS SHALL MEET ASTM C1677.

5. CLASS 1 DRAINAGE GEOTEXTILE SHALL BE COMPLETELY WRAPPED AROUND ALL CBC JOINTS WHICH DO NOT HAVE RUBBER GASKETS. THE GEOTEXTILE SHALL EXTEND A MINIMUM OF 1 FT. ON EACH SIDE OF JOINTS AND SHALL OVERLAP AND BE SECURELY ATTACHED FOR AT LEAST 1 FT. AT ITS ENDS. THE WRAP SHALL BE A SMOOTH FIT (NOT LOOSE OR STRETCHED) JUST PRIOR TO BACKFILL. THE GEOTEXTILE MATERIAL SHALL MEET THE APPLICABLE REQUIREMENTS OF SECTION 420. COST FOR GEOTEXTILE WILL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.

6. FOR ANY CULVERT SPAN 20 FT. OR GREATER, A FOUNDATION INVESTIGATION AND REPORT ARE REQUIRED.

LEGEND

	STRUCTURE EXCAVATION LIMITS
	STRUCTURE BACKFILL, (CLASS 1)
	EMBANKMENT MATERIAL
	EARTH
	BEDDING
	CONCRETE

Computer File Information

Creation Date: 07/04/06 Initials: DD
 Last Modification Date: 07/29/11 Initials: LTA
 Full Path: www.dot.state.co.us/DesignSupport/
 Drawing File Name: 603030101.dgn
 CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English

Sheet Revisions

Date:	Comments
(R-X) 07/09/09	Changed dims in Typical Joint.
(R-X) 07/09/09	Added design req. to GN. 1.
(R-X) 07/09/09	Added 2 sealant options and added GN. 5.
(R-X) 07/29/11	Allowed rubber gaskets.

Colorado Department of Transportation



4201 East Arkansas Avenue
 Denver, Colorado 80222
 Phone: (303) 757-9083
 Fax: (303) 757-9820

Project Development Branch DD/LTA

PRECAST CONCRETE BOX CULVERT

Issued By: Project Development Branch on July 04, 2006

STANDARD PLAN NO.

M-603-3

Sheet No. 1 of 1