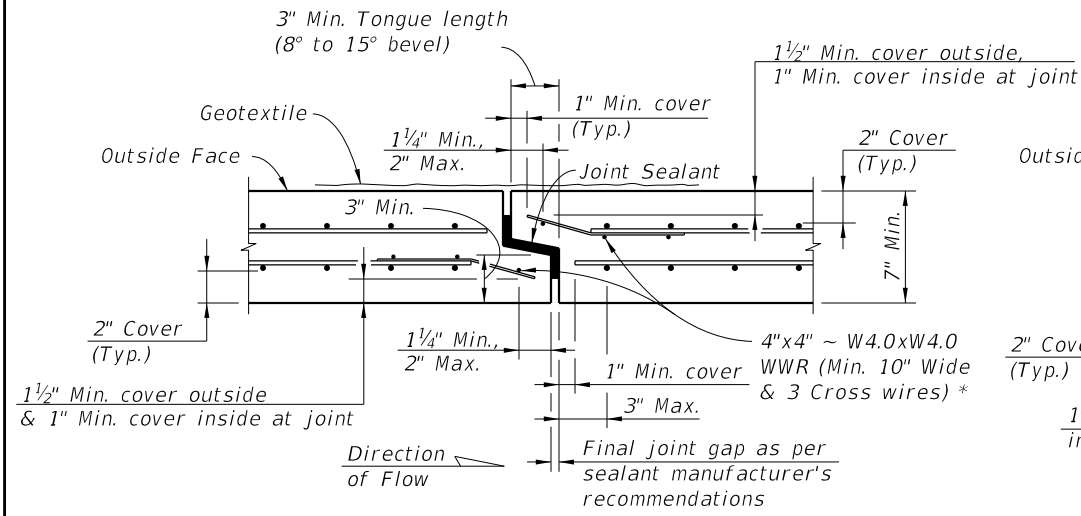
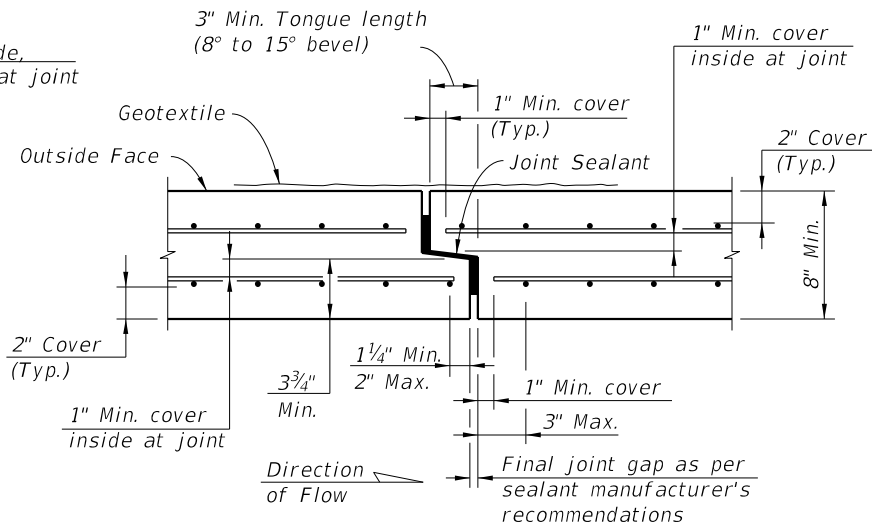
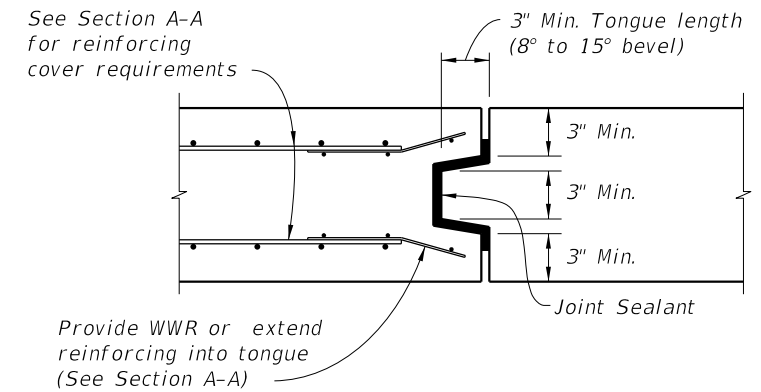




SECTION A-A
(2" Cover - Thin Wall Detail)

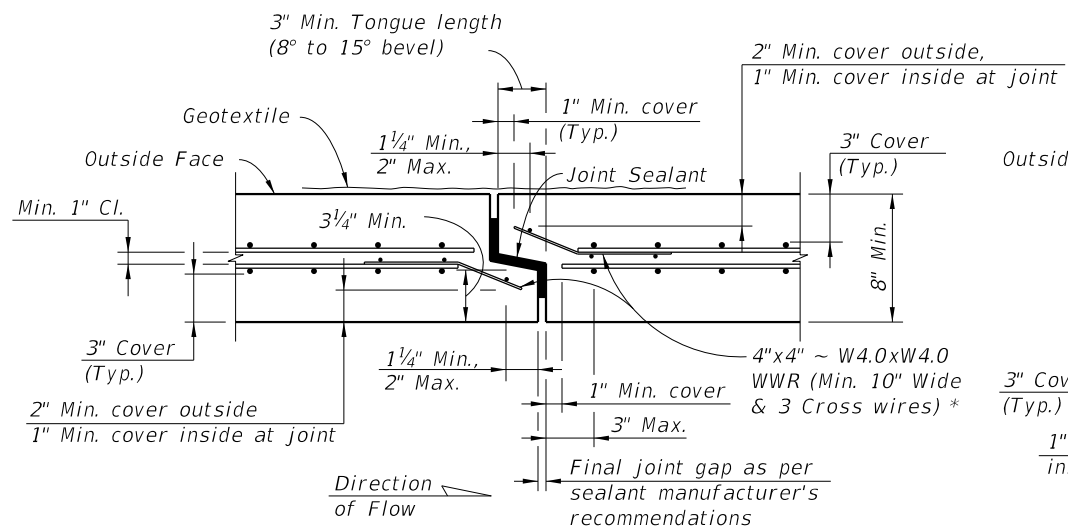


SECTION A-A
(2" Cover - Thick Wall Detail)



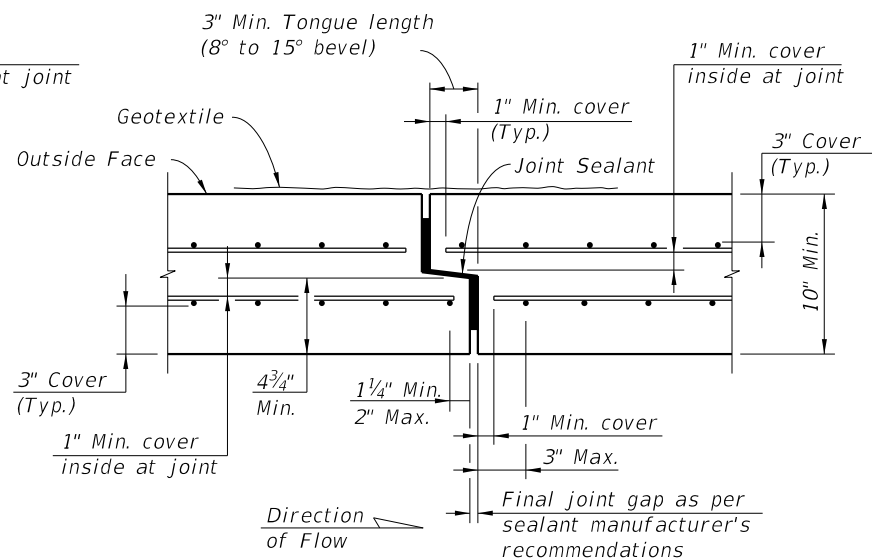
ALTERNATE BOTTOM SLAB TRANSVERSE JOINT
TYPICAL SECTION
(DOUBLE-SIDED TONGUE & GROOVE JOINT)
(All reinforcing not shown for clarity)

NOTE:
Bottom Slab Joints in Type B Boxes may be single tongue & groove joints as shown in Section A-A when the Top Slab Joints are oriented as shown in Schematic "A".

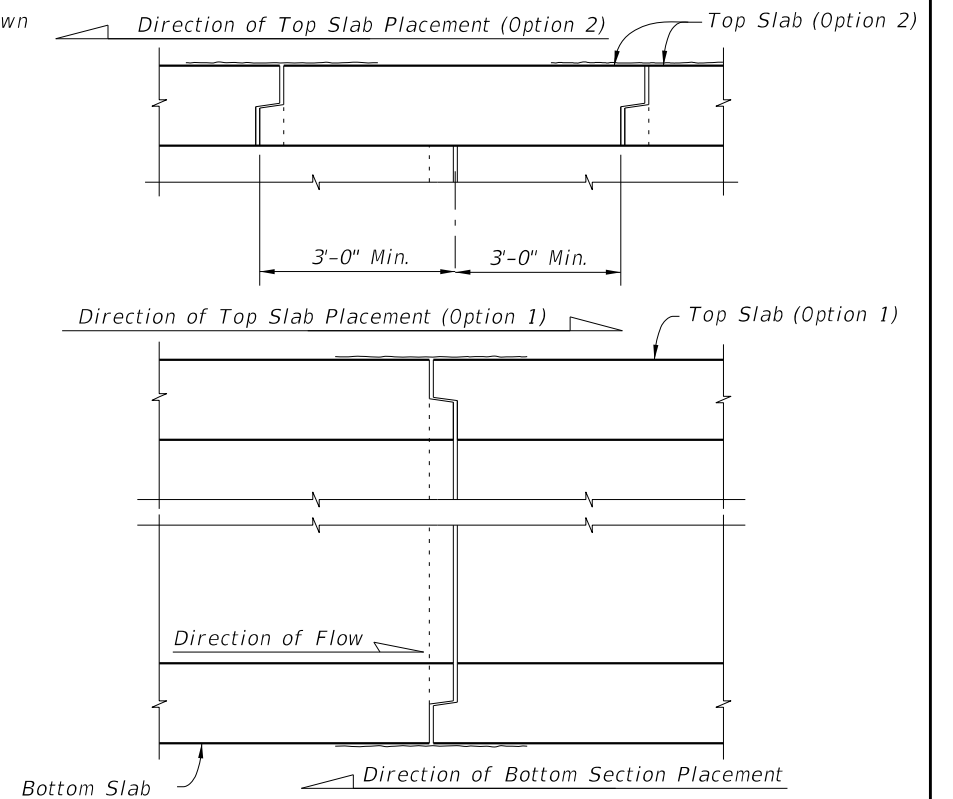


SECTION A-A
(3" Cover - Thin Wall Detail)

* At the Contractor's option when the box culvert reinforcing utilizes WWR, extend wall and slab reinforcing into the joint and bend to maintain cover in lieu of 4"x4" ~ W4.0xW4.0 WWR at joint. Transverse wire in tongue may be cut at corners of box to allow bending of the WWR.



SECTION A-A
(3" Cover - Thick Wall Detail)

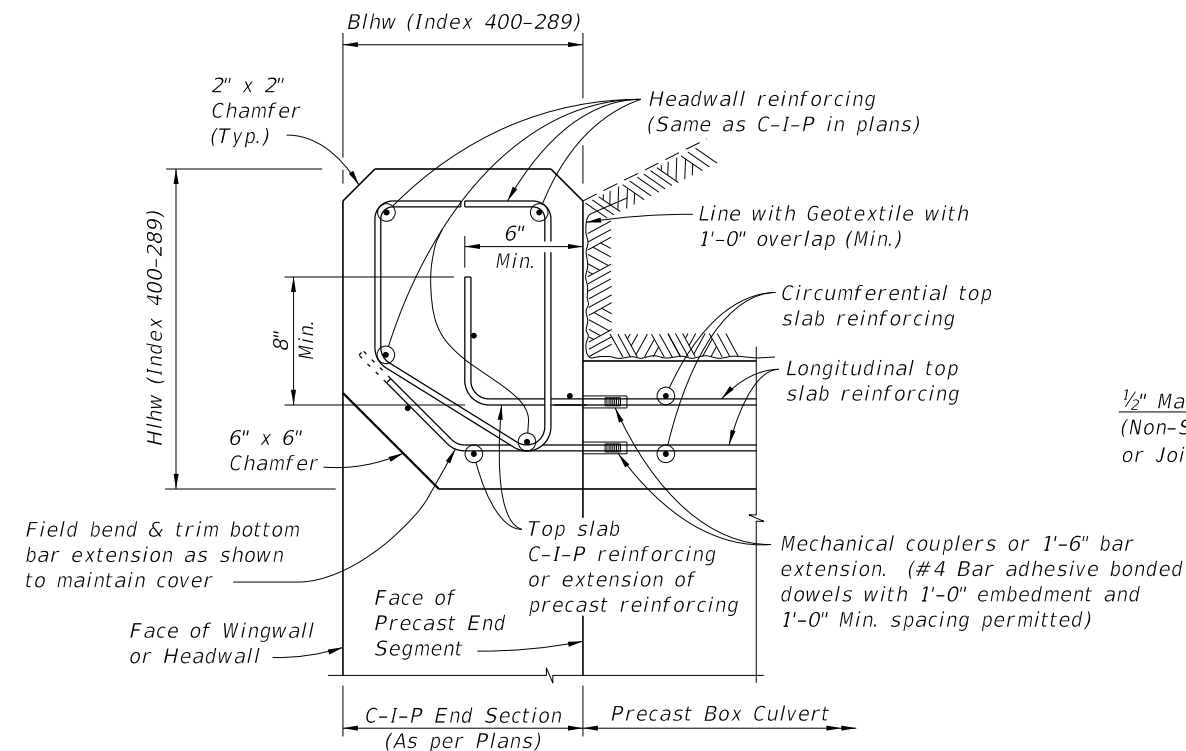


SCHEMATIC "A"
TYPE B BOX SECTION PLACEMENT
FOR SINGLE TONGUE & GROOVE JOINTS

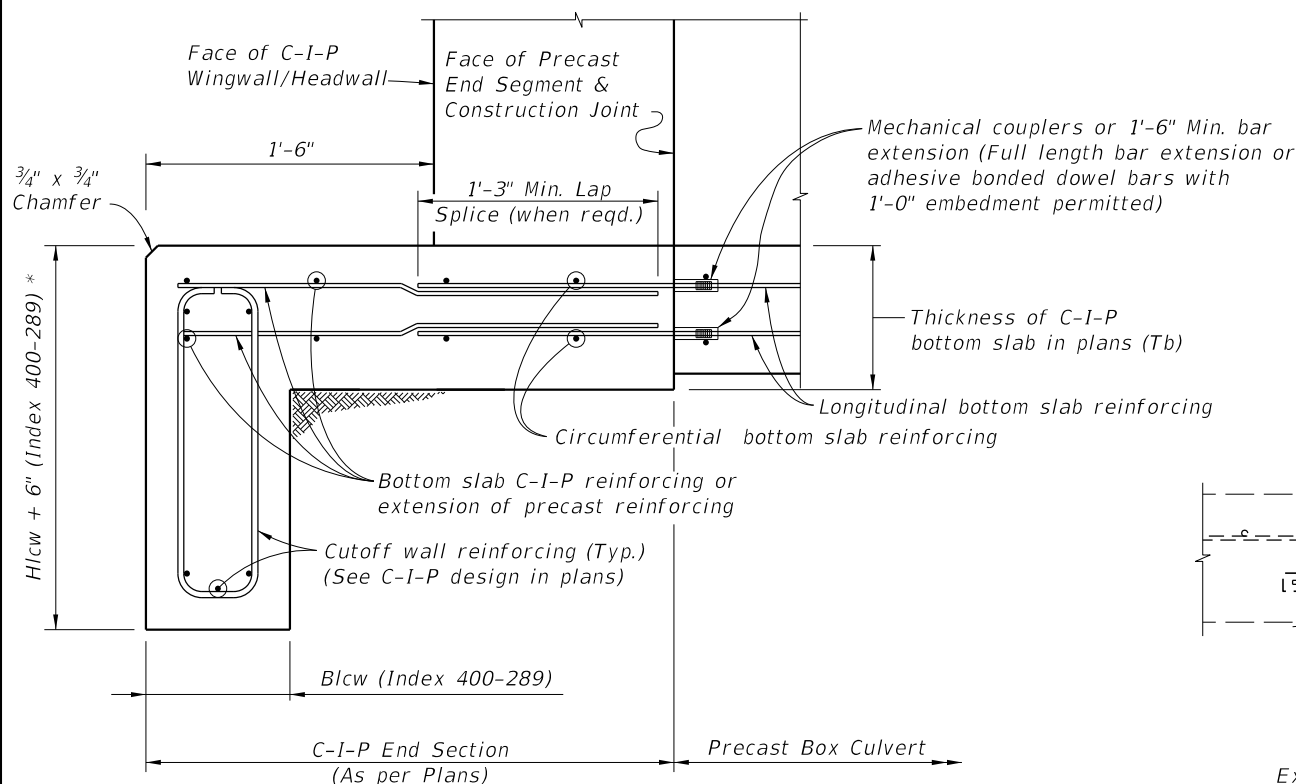
PRECAST SEGMENT TO SEGMENT TONGUE & GROOVE TRANSVERSE JOINTS

TWO-PIECE PRECAST SEGMENT
ADDITIONAL JOINT DETAILS
(TYPE B BOX)

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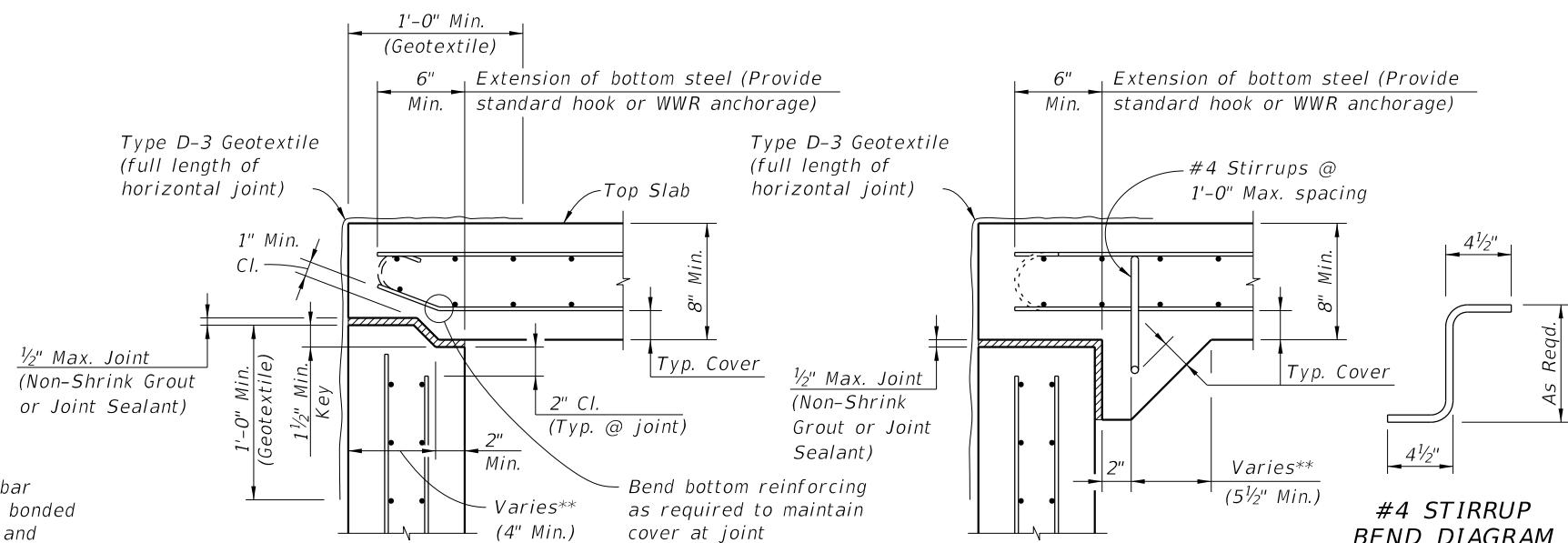


SECTION C-C
C-I-P HEADWALL DETAILS AND CONNECTION TO PRECAST BOX



SECTION D-D
C-I-P TOE SLAB & CUTOFF WALL DETAILS
AND CONNECTION TO PRECAST BOX

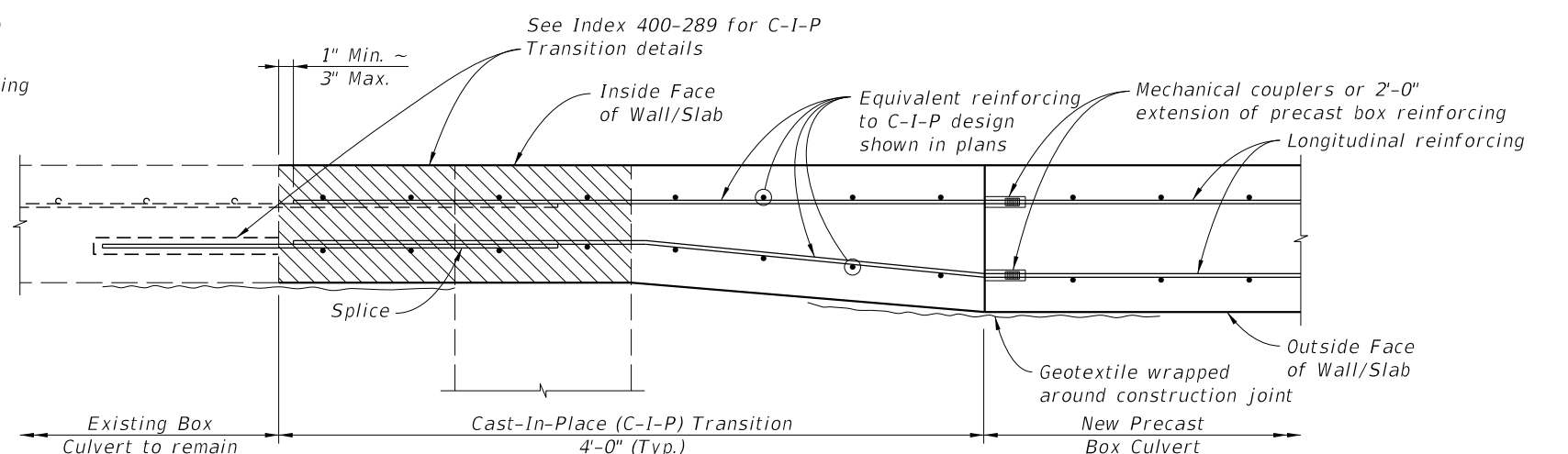
* Provide additional 6" depth of cutoff wall at no additional cost.



SECTION B-B
TOP SLAB TO WALL JOINT
(KEYED JOINT)

SECTION B-B
TOP SLAB TO WALL JOINT
(HAUNCHED JOINT)

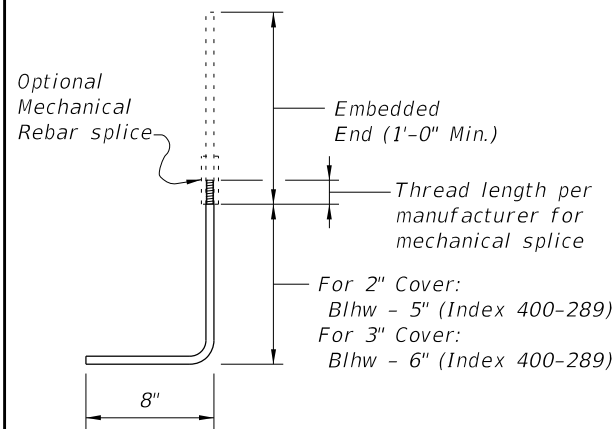
TYPE B BOX LONGITUDINAL JOINTS



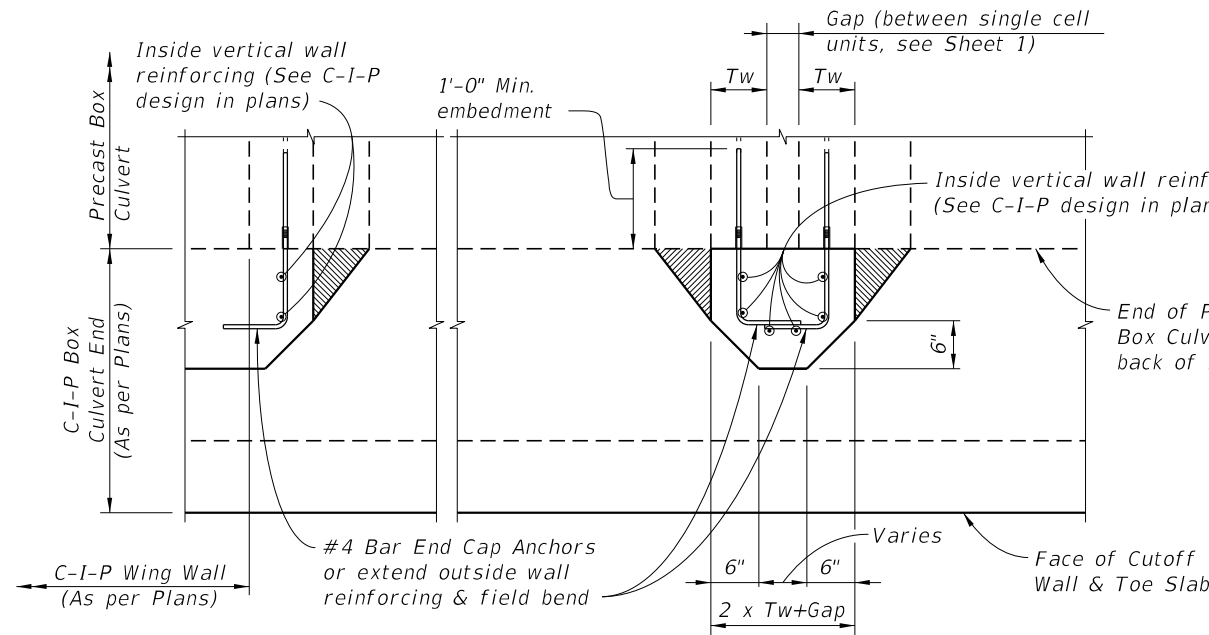
SECTION E-E
EXTERIOR WALL/SLAB TRANSITION DETAIL FOR PRECAST EXTENSION
(Type I Connection shown, Type II Connection similar)

9/29/2026 7:47:03 AM

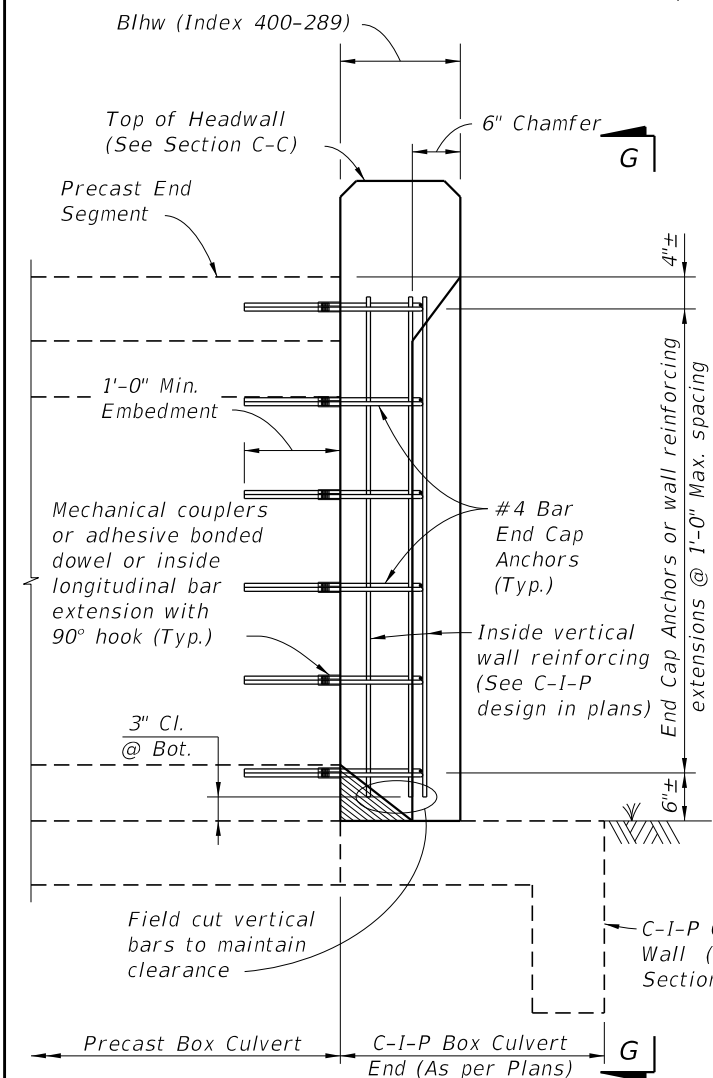
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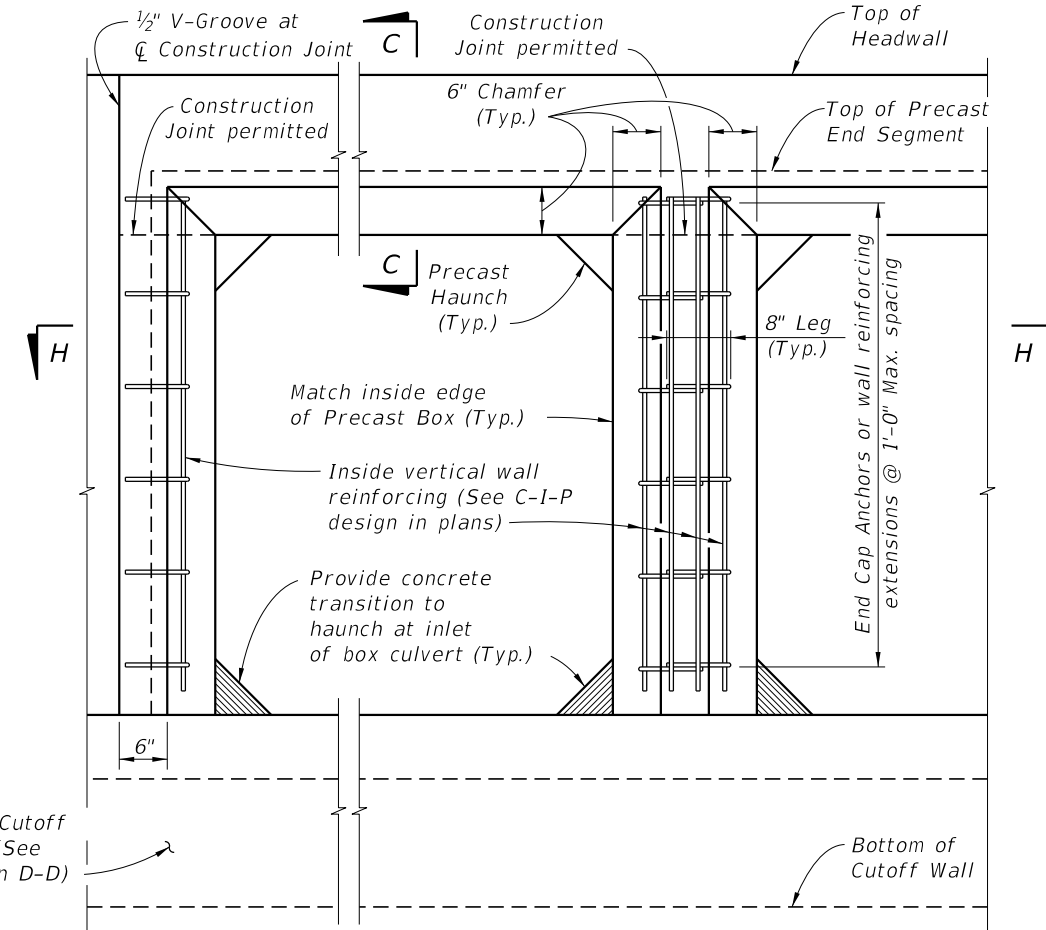
**#4 BAR END CAP ANCHOR
BAR BEND DIAGRAM**



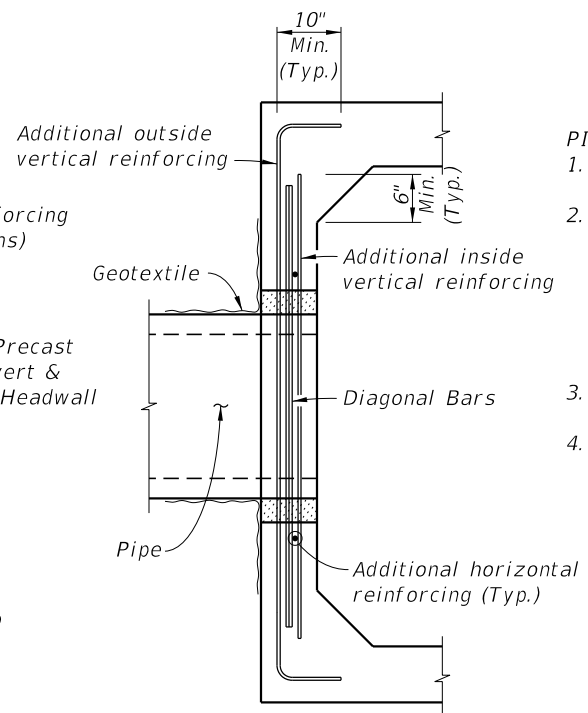
SECTION H-H



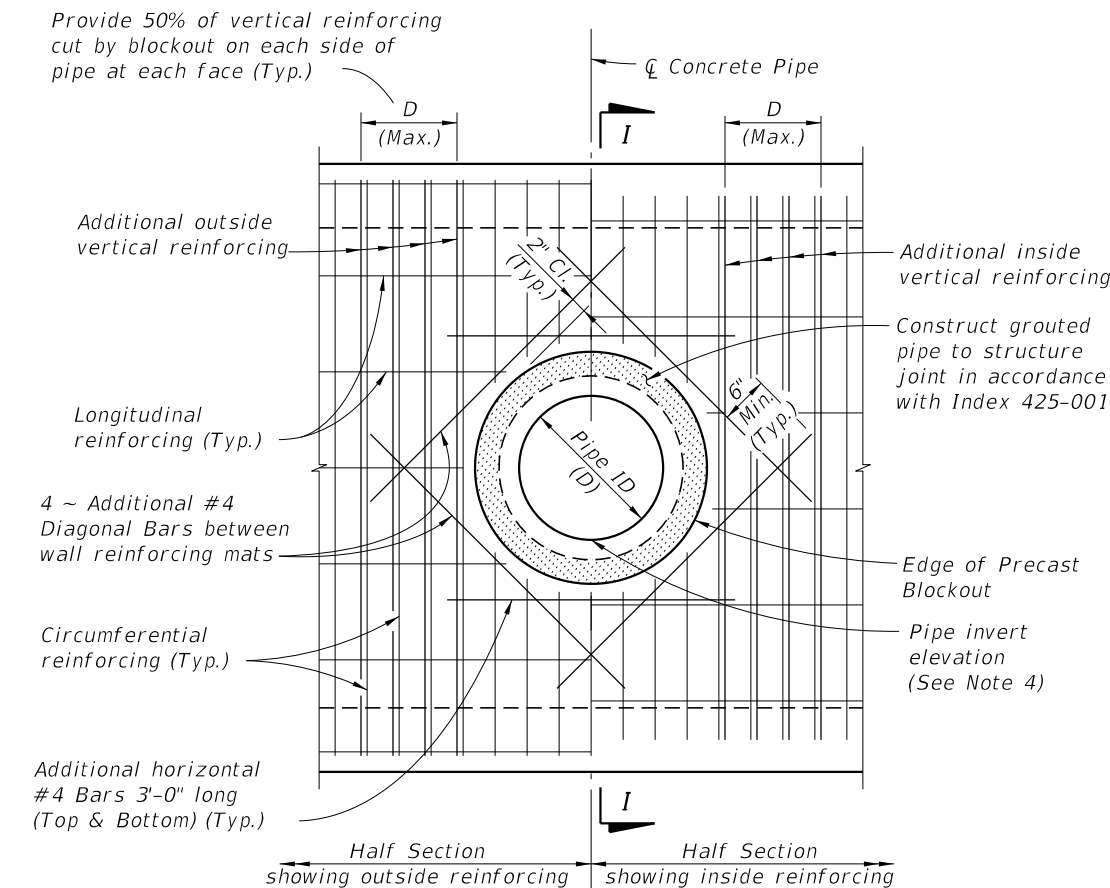
SECTION F-F



**VIEW G-G
(Headwall, Toe Slab and Cutoff Wall Reinforcing not shown for clarity)**



**SECTION I-I
(Showing additional blockout reinforcing only)**

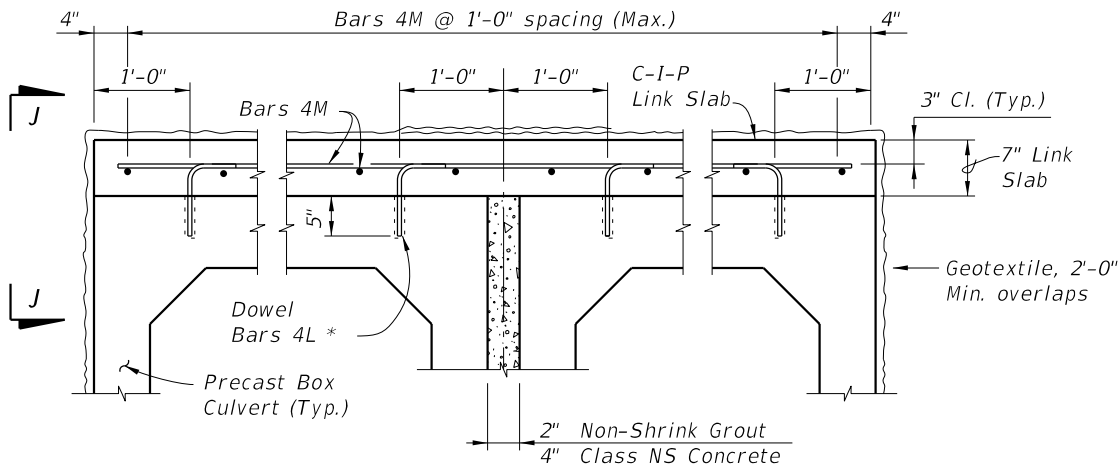


**ELEVATION VIEW
PIPE BLOCKOUT DETAILS**

- PIPE BLOCKOUT NOTES:**
1. Cut box culvert reinforcement as required to maintain 2" cover.
 2. For Precast Sections construct opening a minimum of 1'-6" away from any box to box joint, except opening may be a minimum of 1'-0" away from joint when at least 2'-0" of clearance to the box to box joint is provided on the opposite side of the pipe opening.
 3. Pipe blockout diameter to be 6" greater than pipe outside diameter.
 4. See Drainage Plans for size, placement, and invert elevation.

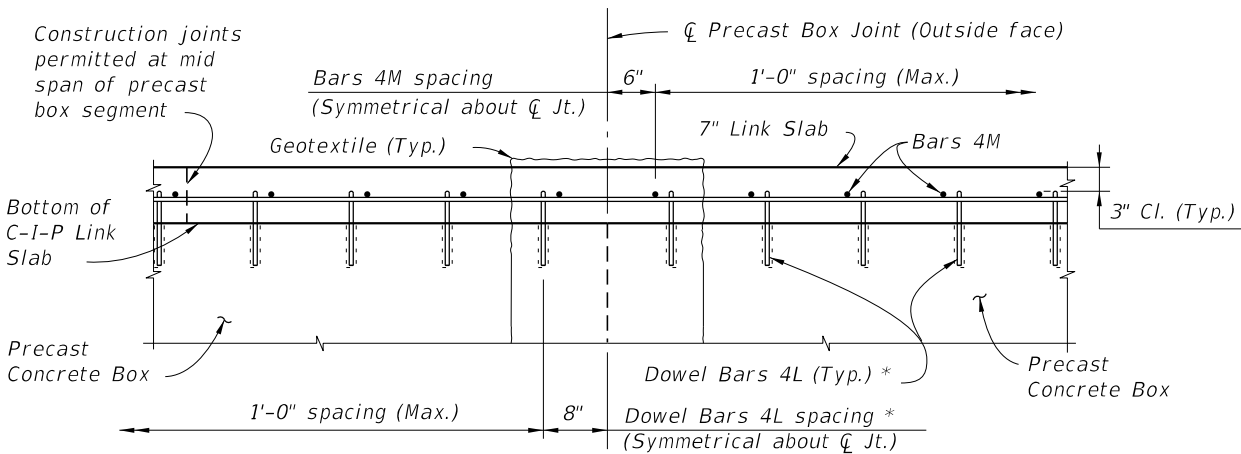
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LINK SLAB TYPICAL SECTION
(Multiple Barrel Culvert shown, Single Barrel Culvert similar)

* Install dowels with an Adhesive Bonding Material System in accordance with Specification Section 416. The Contractor may substitute mechanical couplers in lieu of adhesive bonded dowels. Shift dowels to clear box culvert reinforcing.



VIEW J-J

LINK SLAB NOTES:

1. Provide a Cast-In-Place Link Slab to ensure uniform joint opening of precast box culverts when the differential settlement shown in the plans exceeds the following limits, except that a Link Slab is not required for differential settlements less than 1/2".

$$\Delta Y \leq \frac{(L)^2}{760 \times R \times W}$$

Where:
 ΔY = Maximum Long-Term Differential Settlement (ft.)
 R = Exterior height of Box Culvert (ft.)
 W = Length of Box Culvert Segments (ft.)
 L = Effective length for single curvature deflection (ft.)

2. Extend Link Slab to back face of headwalls and to limits of existing box culverts for extensions.

ESTIMATED LINK SLAB QUANTITIES

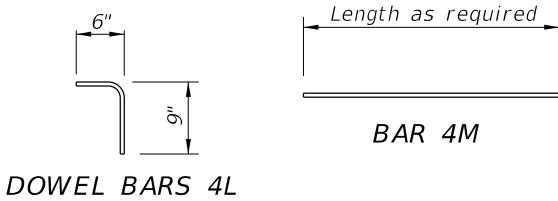
ITEM	UNIT	QUANTITY
Class II or IV Concrete (Culvert)	CY/SF	0.0216
Reinforcing Steel (Roadway)	Lb./SF	1.52

NOTE: Estimated quantities are based the plan area of precast box slabs, and are provided for information only. No additional payment will be made for Link Slabs where these are required for the precast box culverts.

BILL OF REINFORCING STEEL

MARK	SIZE	NO. REQ'D	LENGTH
L	4	2 per Barrel/Ft.	1'-3"
M	4	As Req'd.	As Req'd.

REINFORCING STEEL BENDING DIAGRAM

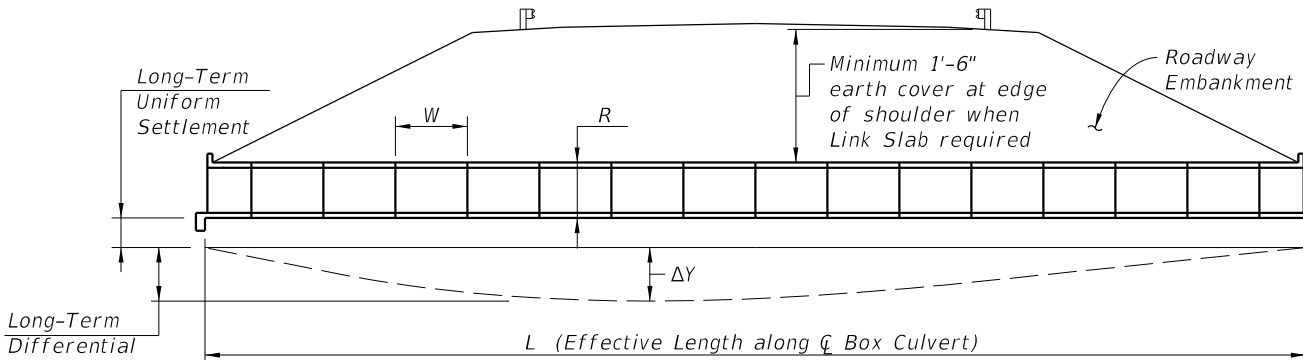


DOWEL BARS 4L

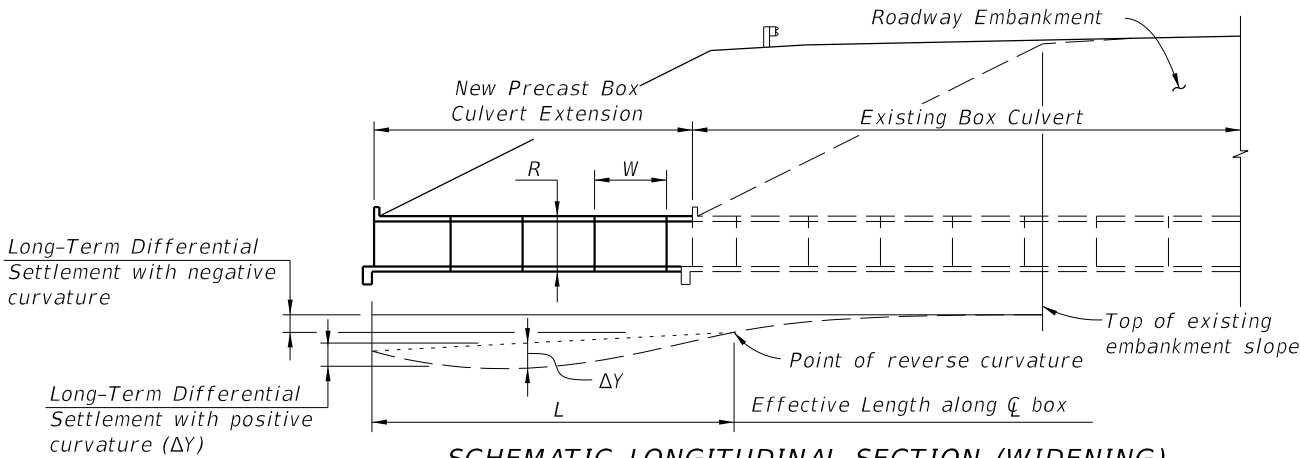
NOTES:
 1. All bar dimensions are out to out.
 2. Lap splice length for Bars 4M is 1'-4" minimum.

DESIGN NOTE:

1. Link Slab required when joint openings from differential settlement exceed 1/8" as determined in Link Slab Note 1.



SCHEMATIC LONGITUDINAL SECTION (NEW CONSTRUCTION)



SCHEMATIC LONGITUDINAL SECTION (WIDENING)

DIFFERENTIAL SETTLEMENT COUNTERMEASURES FOR PRECAST BOX CULVERTS

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