

NOTES: (for use with details on Dwg. No. 11.3.1)

1. All culverts shall be:
 - designed and detailed in accordance with the provisions noted in Paragraph 3.3.4 of Part I of this LRFD Bridge Manual.
 - assigned a Bridge Number (BDEPT#) and a Bridge Identification Number (BIN) when the square span is 4 feet or greater.
 - submitted for approval in accordance with the Sketch Plan requirements of Paragraph 2.7 of Part I of this Bridge Manual when the square span is 10 feet or greater.
2. The reinforcement shown is conceptual. Standard dimensions, reinforcing, and detailing for single-cell Precast Concrete Box Culverts shall be as per design tables of the Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers Designed According to the AASHTO LRFD (ASTM C1577-08). If special design for sizes and/or loads other than those specified in the referenced design tables is necessary, it shall be based on the criteria as specified in Paragraph 3.3.4 of Part I of this LRFD Bridge Manual.
3. Membrane waterproofing with a waterproofing protective course shall be used where roadway pavement is directly on the structure and on all structures where the clear span is over 20'-0". Use bituminous damp-proofing where roadway is not directly on the structure and the clear span is less than 20'-0".
4. The horizontal and vertical haunch dimensions shall be equal to the sidewall thickness in inches. If haunches with other dimensions are used, a special reinforcement design for the actual dimensions shall be completed.
5. For cases involving a cover in excess of 40' an alternate design such as a reinforced concrete arch should be considered.



LRFD BRIDGE
MANUAL, PART II

DESIGNER NOTES

CONCRETE BOX CULVERT DETAILS

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