

EXPECTED IMPLEMENTATION JULY 2016

407 THREE-SIDED PRECAST CONCRETE CULVERT. (REV 11-6-15) (FA 2-21-16) (7-16)

ARTICLE 407-2 is deleted and the following substituted:

407-2 Materials.

Ensure that the materials used for the construction of precast culverts have certification statements from each source, showing that they meet the applicable requirements of the following:

Portland Cement Concrete	Section 346
Reinforcing for Concrete	Section 415
Precast Concrete Drainage Products.....	Section 449
Riprap.....	Section 530
Coarse Aggregate*	Section 901
Fine Aggregate*	Section 902
Curing Materials	Section 925
Materials for Concrete Repair.....	Section 930
Non-Shrink Grout	Section 934
Geotextile Fabrics	Section 985

*The gradation requirements of aggregates are not applicable when using dry-cast concrete.

ARTICLE 407-6 is deleted and the following substituted:

407-6 Other Elements of a Precast Culvert System.

Extend reinforcing from precast sections to provide adequate splice lengths or utilize a mechanical rebar splicing system (steel reinforcing only) listed on the Department's Approved Product List (APL) for securing reinforcing dowels for cast-in-place headwalls and wingwalls. Precast headwalls, wingwalls and culvert footings are permitted. Precast culvert footings must span a minimum of three culvert units and provide shear connections between adjacent units with keyed joints or cast-in-place closure sections. Precast footings under wingwalls are not permitted.

Submit all connection details for precast elements to the Engineer for approval. All mechanical connections must be galvanized in accordance with 962-7 or Type 316 (UNS S31600) stainless steel, except in extremely aggressive environments only Type 316L (UNS 31603) stainless steel is permitted for welded connections and Type 316 stainless steel for non-welded shapes and fasteners.

Unless otherwise addressed in the Plans, bedding material and compaction requirements for wingwalls and toe walls shall be the same as required for the footing in 407-12, except that the granular material may be placed to the inside edge of the toe wall.

All requirements of Section 400 and Section 415 apply to the fabrication of cast-in-place elements.

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SUBARTICLE 407-7.4.7 is deleted and the following substituted:

407-7.4.7 Area of Reinforcement: Provide the area of reinforcement as indicated in the Plans or approved shop drawings as a minimum. If welded wire reinforcement is utilized in lieu of mild steel reinforcement, the provisions of 415-6 shall apply. Reinforcing steel areas greater than specified in the shop drawings will be acceptable when the reinforcing spacing is equal or less than specified in the shop drawings. Substitution of mild steel or welded wire reinforcement for fiber reinforced polymer (FRP) reinforcing, or vice versa, is not permitted.