

## **Section 70 Miscellaneous Drainage Facilities**

- 4-7001 General**
- 4-7002 Before Work Begins**
- 4-7003 During the Course of Work**
- 4-7004 Level of Inspection**
- 4-7005 Quality Control**
- 4-7006 Payment**



### **Section 70 Miscellaneous Drainage Facilities**

#### **4-7001 General**

This section provides guidelines for inspecting items in miscellaneous drainage facilities for work specified under Section 70, "Miscellaneous Drainage Facilities," of the *Standard Specifications*. Items covered under this section are related to water drainage facilities and water transmission pipelines.

For information about casings for bridges, refer to Structure Construction's *Bridge Construction Records and Procedures Manuals, Vol. 1 and 2*:

<https://dot.ca.gov/programs/engineering-services/manuals>

#### **4-7002 Before Work Begins**

Before work begins, take the following steps:

- When the bid item list includes items for alternative drainage components, the contractor can choose from components shown in the contract documents. Do not mix different types of the same component. Alternative flared end sections must be the same material as the drainage facility to which it is attached.
- Verify that Form CEM-3101, "Notice of Materials to Be Used," includes drainage facilities and appurtenances. Refer to Section 6-202, "Responsibilities for Acceptance of Manufactured or Fabricated Materials and Products," of this manual for additional information.
- Before the contractor places orders, notify the contractor of any changes affecting quantities of miscellaneous drainage facilities.
- For welded steel pipe drainage facilities, determine the finish color from the color options provided by the contractor.
- Allow use of metal flared end sections as an alternative to precast concrete or plastic flared end sections.

#### **4-7003 During the Course of Work**

Once work begins, take the following steps:

- Check all items as they are delivered to the job site to verify that Materials Engineering and Testing Services has released the materials for shipment. Also, inspect the materials in accordance with Section 6-2, "Acceptance of Manufactured or Fabricated Materials and Products," of this manual. Pay particular attention to precast concrete facilities and linings and coatings.
- Require the repair of minor damage to coatings. If breaks in the coating exceed the allowable area for repair, reject the pipe section. Make sure repairs are made under Section 66-1.02C, "Protective Coatings, Linings, and Paving," of the *Standard Specifications*.

- Verify that electrically insulated connections are provided if welded steel pipe is connected to public utility lines or other metal pipe.
- Make sure sand shield is installed if backfill material for welded steel pipe contains rock or highly expansive clay soils.
- Determine that the various components at each installation are properly matched. Prohibit the combined use of aluminum and steel in the same installation except as the specifications permit.
- Before allowing the construction of pipe utility access or inlets to the final grade, require that new pavement or surfacing be completed immediately adjacent to the structure.
- For concrete inlet depressions near concrete pavement, oversee placement of concrete pavement before constructing concrete inlet depressions.
- Verify that installation of grated line drains and joints comply with the manufacturer's instructions.

#### **4-7004      Level of Inspection**

Suggested levels of inspection for typical work activities are:

- Intermediate inspection of excavation and backfill for installation of welded steel pipe
- Benchmark inspection of installed precast concrete pipe drainage facilities
- Benchmark inspection of installed drainage appurtenances except inlet depressions
- Benchmark inspection and testing of underlying base for inlet depressions
- Intermediate inspection of inlet depression construction including broom finish and curing of concrete inlet depressions
- Intermediate inspection of excavation and backfill for installation of grated line drains

#### **4-7005      Quality Control**

Make sure the contractor performs pressure testing of welded steel pipe. Observe and record the results.

#### **4-7006      Payment**

No adjustment in length is made when pipe is cut to fit a structure.

To properly measure and pay for the various items covered in this section, carefully read the payment clauses in the *Standard Specifications*. Payment for excavation and backfill is included in the payment for the type of miscellaneous drainage facility work involved.