

### **Section 69 Overside Drains**

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### Section 69 Overside Drains

#### 4-6901 General

This section provides guidelines for inspecting overside drain work specified under Section 69, "Overside Drains," of the *Standard Specifications*. Overside drains consist of various pipes, flumes, and lined ditches installed to remove surface water from highways or from benches in cut or fill slopes.

#### 4-6902 Before Work Begins

During this preliminary inspection, take the following steps:

- Review the project with the maintenance superintendent to assess any problem drainage areas.
- Review sheets D87A, D87B, D87C, and D87D in the *Standard Plans* for information on downdrains and overside drains.
- Verify that Form CEM-3101, "Notice of Materials to Be Used," includes all fabricated materials. Refer to Section 6-2, "Acceptance of Manufactured or Fabricated Materials and Products," of this manual for additional information.
- Ensure the contractor has provided a certificate of compliance for steel, aluminum, and plastic materials used in overside drains. Generally, there will be no Form TL-0624, "Inspection Release Tag," for these materials with the exception of coatings used with overside drains.
- Check the condition of the materials for damage that may have occurred during shipping and handling. Require the repair of minor damage to coatings or galvanizing. Refer to Sections 66-1.02C, "Protective Coatings, Linings, and Paving," and 75-1.02B, "Galvanizing," of the *Standard Specifications*. If satisfactory repair cannot be achieved, require unacceptable materials to be removed from the project.
- Inspectors from Materials Engineering and Testing Services (METS) will inspect and test any coating materials.
- Review any planned installations of metal beam guardrail. If overside drains are in a metal beam guardrail area, consider using long span nested guard rail. Refer to the *Traffic Manual*, Chapter 7-03.6, "Guardrail Design Considerations" and Figure 7.9, "Long Span Nested Guardrail."
- Review plans and planned overside drain locations by verifying design with field surveys. Make any necessary changes and give the contractor a revised list of lengths.
- A suggested method to determine the location of overside drains in an area where the grade is flat, is to have a water truck dump part of its load in the gutter and cut the dike where the water ponds.



#### **4-6903      During the Course of Work**

During work, take the following steps:

- Where alternative pipe downdrains are allowed, ensure that the contractor places only one type of alternative pipe downdrain.
- Where plastic pipe downdrain is allowed, ensure that the pipe is from the same manufacturer.
- To avoid galvanic corrosion, do not allow the combination of steel and aluminum in any installation.
- Determine that pipe sections have watertight joints and are properly installed.
- As specified in Section 19, "Earthwork," of the *Standard Specifications*, ensure the contractor disposes of the surplus material resulting from excavation and performs the backfill.
- Ensure entrance areas are watertight.
- Require fog sealing of all asphalt concrete spillways and downdrain entrance areas.

#### **4-6904      Level of Inspection**

Suggested level of inspection for overside drain work activities is intermittent inspection.

#### **4-6905      Quality Control**

While specific levels of quality control sampling and testing for overside drains are not included in Section 69, "Overside Drains," of the *Standard Specifications*, the contractor is responsible for providing quality control under Sections 5-1.01, "General," and 6-2.02, "Quality Control," of the *Standard Specifications*. Ensure the contractor is actively performing quality control on overside drain materials throughout production operations by reviewing copies of quality control records, including quality control test results.

#### **4-6906      Payment**

Count entrance tapers, tapered inlets, reducers, slip joints, and anchor assemblies. The length of downdrain pipe and flume to be paid for is the length ordered by the engineer with an adjustment when downdrain pipe is cut to fit a structure or slope. The length ordered by the engineer is the length shown on the plans or any revised lengths the resident engineer deems necessary to meet field conditions. In the lengths of pipe and flume downdrains to be paid for, do not include lengths of tapered inlets and entrance tapers (including tail pipe and slip joints).

For additional information, refer to the discussion on measuring pipe in Section 4-65, "Concrete Pipe," of this manual.