

## 5.15 SLOPE DRAIN

**1. DESCRIPTION** - A temporary pipe or conduit (flexible or rigid) extending from the top to the bottom of an unstabilized cut or fill slope.

**2. PURPOSE** - To convey concentrated stormwater runoff down an unstabilized cut or fill slope without causing erosion.

**3. APPLICATIONS** - The practice applies to construction areas where stormwater runoff flowing to the top of a cut or fill slope will cause erosion if allowed to flow over the slope. Generally used with diversions to convey stormwater down a slope until the permanent stormwater conveyance system is put into operation. The installation protects the slope from excessive erosion, but does not reduce the sediment load already being conveyed in the runoff. Therefore, the practice must be used in conjunction with other sediment control devices downstream of the installation.

**4. LIMITATIONS** - Improper sizing of the inlet or the pipe itself can lead to serious erosion of the slope that the device is protecting. Drains and diversions can be easily damaged by construction equipment. Securing the pipe to the slope can be difficult and require significant maintenance during the life of a project.

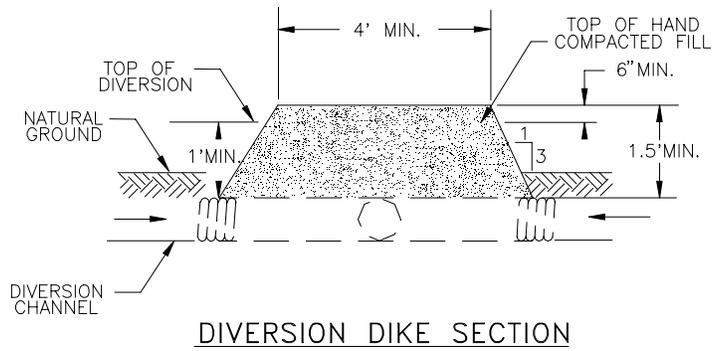
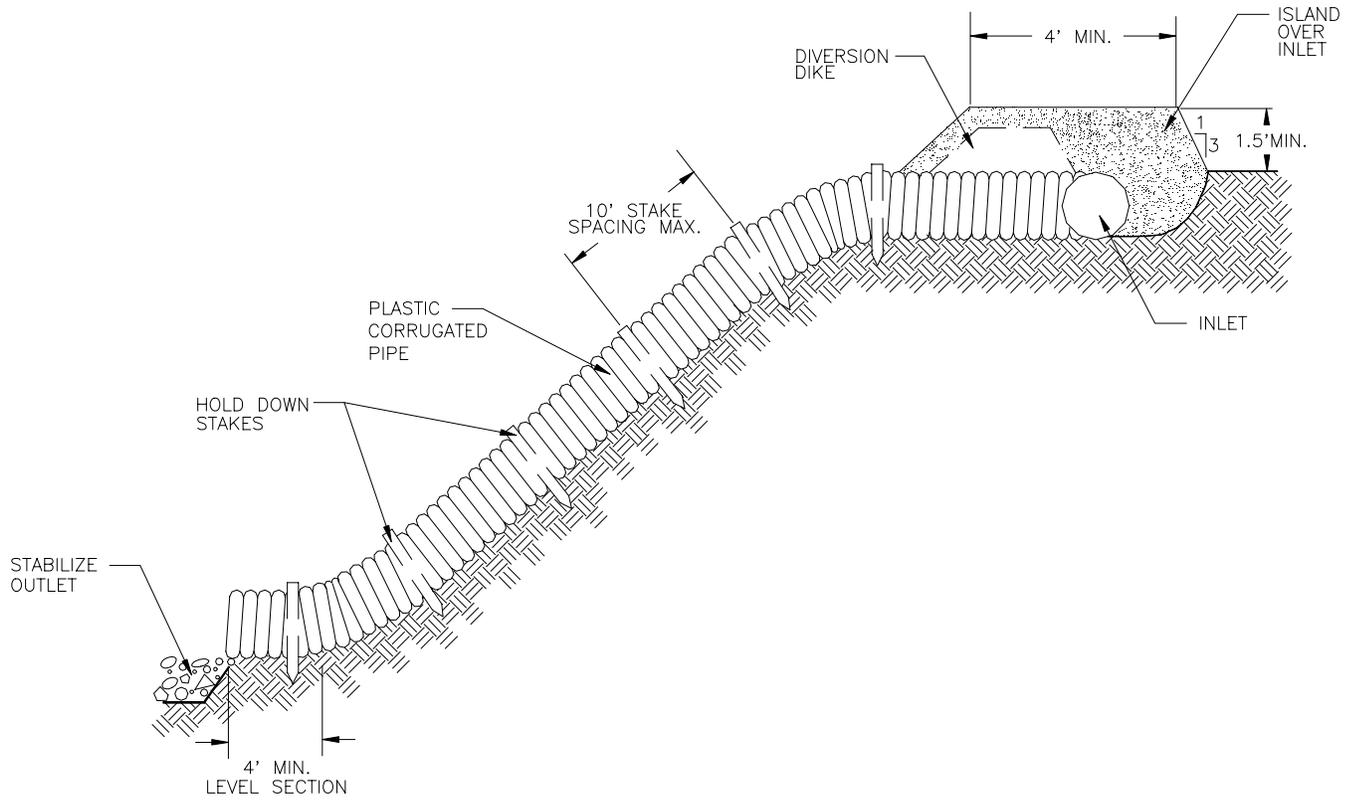
### **5. DESIGN CRITERIA -**

- A. Capacity - Peak runoff from a 10-year storm event.
- B. Pipe Anchor Spacing - 10 feet (Max.)
- C. Outlet Stabilization - Outlet Velocity Control Structure (See Section 5.7)
- D. Drainage Area - 1.0 acre (Max.)

### **6. MATERIAL SPECIFICATIONS -**

- A. Pipe - Flexible or rigid with watertight joints.
- B. Rip-Rap - See Outlet Velocity Control Structure, Section 5.7.

**7. MAINTENANCE REQUIREMENTS** - Inspect the slope drain installations after all rainfall events to ensure that the facilities are functioning properly. Particular attention must be paid to the diversion inlet channels, the berm at the pipe inlet, the pipe anchoring system, and the pipe outlet.



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