

Supersedes Spec. Prov. dated 8/18/98, 2/9/2000

**BEDFORD  
13527**

January 27, 2011

## **SPECIAL PROVISION**

### **SECTION 224 -- HORIZONTAL DRAINS IN ROCK**

#### **Item 224.1 - Horizontal Drains In Rock**

##### **Description**

**1.1** This work shall consist of drilling horizontal drain holes into the rock face to drain subsurface water as shown on the plans or as ordered.

##### **Construction Requirements**

###### **3.1 Drilling.**

**3.1.1** Rotary impact equipment shall be used to drill the drain holes. The drill hole diameter shall be a minimum of 3 inches. Care should be taken to insure an accurate and straight hole. Drill holes shall be cleaned of all drill cuttings, sludge and debris.

**3.1.2** The horizontal drain holes shall be drilled on an upward 10 degree angle from horizontal. The drain holes shall be drilled in a single row or multiple rows parallel to the grade of the rock slope toe as indicated on the Plans or as directed. The drain holes shall be spaced approximately 10 feet apart or as directed. Each drain hole shall be drilled to a minimum of 50 feet in length.

**3.1.3** The Engineer may require replacement holes to be drilled for drain holes that cave in.

**3.2 Safety Berm.** When the plans call for horizontal drains to outlet into a safety berm along to toe of the rock slope, the berm shall be constructed of stone fill, Class D in the area of the drain outlet or as directed.