

When the need for control measures can not be attributed to the Contractor's negligence, carelessness, lack of maintenance, or failure to install permanent water pollution control measures, and these measures are shown on the Plans and/or directed by the Engineer, these measures shall be calculated and paid for in accordance with applicable contract bid items. Removal of all control measures not incorporated as permanent control measures shall be performed subsidiary to the various bid items.

In case of failure on the part of the Contractor to prevent and control soil erosion, sedimentation, and water pollution which may degrade receiving water, the Engineer reserves the right to employ outside assistance or to use State forces to provide the necessary corrective measures.

NOTE: Such incurred direct costs plus project engineering costs will be deducted from any monies due or to become due to the Contractor.

Pollution control measures may be applicable to construction work outside the right of way where such work is necessary as a result of roadway-related construction such as material-source operations, haul roads, and equipment-storage sites. Pollution control measures outside the right-of-way will not be measured for payment but shall be performed at the Contractor's expense.

Temporary erosion, sedimentation and stormwater pollution prevention and control will not be measured for payment under Section 220 because they are included in other pay items.

SECTION 221 TEMPORARY SEDIMENT CONTROL SLOPE DRAINS

221.01. DESCRIPTION.

This work shall consist of the construction, maintenance, and removal of temporary slope drains and diversion dikes at locations shown on the Plans or determined by the Engineer.

221.02. MATERIALS.

For construction of slope drains, use flexible tubing, plastic sheeting, plastic screen, burlap, asphalt, pipe, or such materials as shown on the Plans. For inlets, use wood, pipe end sections, or other solid material. Construct outlets of loose rock, brush, straw, waste concrete, or pipe end sections.

221.04. CONSTRUCTION METHODS.

Construct diversion dikes in fill sections at the end of each day's operation. At points along the diversion dikes as specified on the Plans or by the Engineer, construct or extend slope drains at the end of each day's operations. Construct slope drains from the toe of the slope in order that they may be extended as additional fill is completed. Provide inlets with each slope drain. The type of outlet control will be determined by existing conditions, materials available, and in a manner approved by the Engineer.

Place slope drains on backslopes as the excavation of the cut area progresses, until the final grade is obtained and permanent controls are in place.

Maintain the slope drains and diversion dikes in such a manner as to be free from debris and open to the flow of water. Remove slope drains or leave them in place as determined by the Engineer and the permanent controls are completed and functioning.

221.05. METHOD OF MEASUREMENT.

Measure *temporary slope drains* by the linear foot (meter) in place. Measurements may be taken on each section of cut or fill slope when slope drains are installed.

NOTE: Inlets, outlets, and diversion dikes will be considered as an integral part of the drain.

221.06. BASIS OF PAYMENT

Accepted slope drains, measured as provided above, will be paid for at the contract unit price bid for as follows:

TEMPORARY SLOPE DRAINS.....LINEAR FOOT (METER)

Such payment shall be full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.

SECTION 222 TEMPORARY SEDIMENT CONTROL BALE BARRIERS

222.01. DESCRIPTION.

This work shall consist of the construction, maintenance, and removal of temporary bale barriers at locations shown on the Plans or determined by the Engineer. Use bale barriers to trap sediment at the toes of slopes, or across ditches and defined waterways.

222.02. MATERIAL.

For vegetative material, use standard-sized rectangular bales of straw or hay—approximately 18x20x36 inches (450 x 500 x 900 mm) in size; securely bind them with wire or plastic twine. Anchor the bales with stakes of hardwood lumber, timber, or metal approximately 3 feet (0.9 m) long, and of sufficient strength to be driven firmly in the ground.

222.04. CONSTRUCTION METHODS.

As slope barriers, place the bales end to end and stake them down—a maximum distance of 4 feet (1.2 m) out from the toe of the slope. At locations determined on the site, leave out a bale and place a pile of loose rock or other acceptable filtering material in the opening—approximately 2/3 of the height of the bale—to act as a spillway type outlet.

As ditch checks, the bales shall be placed in a staggered position across the defined waterways and staked in place. The bales shall be placed up the slope on either side of the flow line, higher than the elevation of the bale in the center of the waterway.

All bale barriers shall be trenched 6 inches (150mm) into the soil.

Keep the barrier in good condition by replacing broken or damaged bales immediately after damage occurs. Removal of silt when specified by the Engineer shall be measured and paid for in accordance with Section 226. If at the direction of the Engineer the barriers are placed prior to final grade, the