Special Provision to Item 506

Temporary Erosion, Sedimentation, and Environmental Controls

# For this project, item 506, “Temporary Erosion, Sedimentation, and Environmental Controls,” of the standard specifications, is hereby voided and replaced with the following.

# Description

Install, maintain, and remove erosion, sedimentation, and environmental control measures to prevent or reduce the discharge of pollutants in accordance with the Storm Water Pollution Prevention Plan (SWP3) in the plans and the Texas Pollutant Discharge Elimination System (TPDES) General Permit TXR150000.

# Materials

Furnish materials in accordance with the following:

* Item 161, “Compost”
* Item 432, “Riprap”
* Item 556, “Pipe Underdrains”

## **Rock Filter Dams**.

### **Aggregate**. Furnish aggregate with hardness, durability, cleanliness, and resistance to crumbling, flaking, and eroding acceptable to the Owner. Provide the following:

* Types 1, 2, and 4 Rock Filter Dams. Use 3 to 6 in. aggregate.
* Type 3 Rock Filter Dams. Use 4 to 8 in. aggregate.

### **Wire**. Provide minimum 20 gauge galvanized wire for the steel wire mesh and tie wires for Types 2 and 3 rock filter dams. Type 4 dams require:

* a double-twisted, hexagonal weave with a nominal mesh opening of 2‑1/2 in. × 3‑1/4 in.;
* minimum 0.0866 in. steel wire for netting;
* minimum 0.1063 in. steel wire for selvages and corners; and
* minimum 0.0866 in. for binding or tie wire.

### **Sandbag Material**. Furnish sandbags meeting Section 506.2.8., “Sandbags,” except that any gradation of aggregate may be used to fill the sandbags.

## **Temporary Pipe Slope Drains**. Provide corrugated metal pipe, polyvinyl chloride (PVC) pipe, flexible tubing, watertight connection bands, grommet materials, prefabricated fittings, and flared entrance sections that conform to the plans. Recycled and other materials meeting these requirements are allowed if approved.

Furnish concrete in accordance with Item 432, “Riprap.”

## **Temporary Paved Flumes**. Furnish asphalt concrete, hydraulic cement concrete, or other comparable non‑erodible material that conforms to the plans. Provide rock or rubble with a minimum diameter of 6 in. and a maximum volume of 1/2 cu. ft. for the construction of energy dissipaters.

## **Construction Exits**. Provide materials that meet the details shown on the plans and this Section.

### **Rock Construction Exit**. Provide crushed aggregate for long- and short-term construction exits. Furnish aggregates that are clean, hard, durable, and free from adherent coatings such as salt, alkali, dirt, clay, loam, shale, soft or flaky materials, and organic and injurious matter. Use 4‑ to 8‑in. aggregate for Type 1. Use 2- to 4-in. aggregate for Type 3.

### **Timber Construction Exit**. Furnish No. 2 quality or better railroad ties and timbers for long-term construction exits, free of large and loose knots and treated to control rot. Fasten timbers with nuts and bolts or lag bolts, of at least 1/2 in. diameter, unless otherwise shown on the plans or allowed. Provide plywood or pressed wafer board at least 1/2 in. thick for short-term exits.

### **Foundation Course**. Provide a foundation course consisting of flexible base, bituminous concrete, hydraulic cement concrete, or other materials as shown on the plans or directed.

## **Embankment for Erosion Control**. Provide rock, loam, clay, topsoil, or other earth materials that will form a stable embankment to meet the intended use.

## **Pipe**. Provide pipe outlet material in accordance with Item 556, “Pipe Underdrains,” and details shown on the plans.

## **Construction Perimeter Fence**.

### **Posts**. Provide essentially straight wood or steel posts that are at least 60 in. long. Furnish soft wood posts with a minimum diameter of 3 in., or use nominal 2 × 4 in. boards. Furnish hardwood posts with a minimum cross‑section of 1‑1/2 × 1‑1/5 in. Furnish T‑ or L‑shaped steel posts with a minimum weight of 0.5 lb. per foot.

### **Fence**. Provide orange construction fencing as approved.

### **Fence Wire**. Provide 11 gauge or larger galvanized smooth or twisted wire. Provide 16 gauge or larger tie wire.

### **Flagging**. Provide brightly-colored flagging that is fade-resistant and at least 3/4 in. wide to provide maximum visibility both day and night.

### **Staples**. Provide staples with a crown at least 1/2 in. wide and legs at least 1/2 in. long.

### **Used Materials**. Previously used materials meeting the applicable requirements may be used if approved.

## **Sandbags**. Provide sandbag material of polypropylene, polyethylene, or polyamide woven fabric with a minimum unit weight of 4 oz. per square yard, a Mullen burst-strength exceeding 300 psi, and an ultraviolet stability exceeding 70%.

Use natural coarse sand or manufactured sand meeting the gradation given in Table 1 to fill sandbags. Filled sandbags must be 24 to 30 in. long, 16 to 18 in. wide, and 6 to 8 in. thick.

Table 1

Sand Gradation

|  |  |
| --- | --- |
| Sieve # | Retained (% by Weight) |
| 4 | Maximum 3% |
| 100 | Minimum 80% |
| 200 | Minimum 95% |

Aggregate may be used instead of sand for situations where sandbags are not adjacent to traffic. The aggregate size shall not exceed 3/8 in.

## **Temporary Sediment Control Fence**. Provide a net-reinforced fence using woven geo-textile fabric. Logos visible to the traveling public will not be allowed.

### **Fabric**. Provide fabric materials in accordance with DMS‑6230, “Temporary Sediment Control Fence Fabric.”

### **Posts**. Provide essentially straight wood or steel posts with a minimum length of 48 in., unless otherwise shown on the plans. Furnish soft wood posts at least 3 in. in diameter, or use nominal 2 × 4 in. boards. Furnish hardwood posts with a minimum cross-section of 1‑1/2 × 1‑1/2 in. Furnish T‑ or L‑shaped steel posts with a minimum weight of 1.3 lb. per foot.

### **Net Reinforcement**. Provide net reinforcement of at least 12‑1/2 gauge galvanized welded wire mesh, with a maximum opening size of 2 × 4 in., at least 24 in. wide, unless otherwise shown on the plans.

### **Staples**. Provide staples with a crown at least 3/4 in. wide and legs 1/2 in. long.

### **Used Materials**. Use recycled material meeting the applicable requirements if approved.

## **Biodegradable Erosion Control Logs**.

### **Core Material**. Furnish core material that is biodegradable or recyclable. Use compost, mulch, aspen excelsior wood fibers, chipped site vegetation, agricultural rice or wheat straw, coconut fiber, 100% recyclable fibers, or any other acceptable material unless specifically called out on the plans. Permit no more than 5% of the material to escape from the containment mesh. Furnish compost meeting the requirements of Item 161, “Compost.”

### **Containment Mesh**. Furnish containment mesh that is 100% biodegradable, photodegradable, or recyclable such as burlap, twine, UV photodegradable plastic, polyester, or any other acceptable material.

Furnish biodegradable or photodegradable containment mesh when log will remain in place as part of a vegetative system.

Furnish recyclable containment mesh for temporary installations.

### **Size**. Furnish biodegradable erosion control logs with diameters shown on the plans or as directed. Stuff containment mesh densely so logs do not deform.

# Construction

## **Contractor Responsibilities**. Implement the Owner’s Storm Water Pollution Prevention Plan (SWP3) for the project in accordance with the plans and specifications, TPDES General Permit TXR150000, and as directed by the Owner. Develop and implement an SWP3 for project-specific material supply plants within and outside of the Owner’s right of way in accordance with the specific or general storm water permit requirements. Prevent water pollution from storm water associated with construction activity from entering any surface water or private property on or adjacent to the project site.

## **General.**

### **Phasing**. Implement control measures in the area to be disturbed before beginning construction, or as directed. Limit the disturbance to the area shown on the plans or as directed. If, in the opinion of the Owner, the Contractor cannot control soil erosion and sedimentation resulting from construction operations, the Owner will limit the disturbed area to that which the Contractor is able to control. Minimize disturbance to vegetation.

### **Maintenance**. Immediately correct ineffective control measures. Implement additional controls as directed. Remove excavated material within the time requirements specified in the applicable storm water permit.

### **Stabilization**. Stabilize disturbed areas where construction activities will be temporarily stopped in accordance with the applicable storm water permit. Establish a uniform vegetative cover. The project will not be accepted until a 70% density of existing adjacent undisturbed areas is obtained, unless otherwise shown on the plans. When shown on the plans, the Owner may accept the project when adequate controls are in place that will control erosion, sedimentation, and water pollution until sufficient vegetative cover can be established.

### **Finished Work**. Upon acceptance of vegetative cover, remove and dispose of all temporary control measures, temporary embankments, bridges, matting, falsework, piling, debris, or other obstructions placed during construction that are not a part of the finished work, or as directed.

### **Restricted Activities and Required Precautions**. Do not discharge onto the ground or surface waters any pollutants such as chemicals, raw sewage, fuels, lubricants, coolants, hydraulic fluids, bitumens, or any other petroleum product. Operate and maintain equipment on-site to prevent actual or potential water pollution. Manage, control, and dispose of litter on-site such that no adverse impacts to water quality occur. Prevent dust from creating a potential or actual unsafe condition, public nuisance, or condition endangering the value, utility, or appearance of any property. Wash out concrete trucks only as described in the TPDES General Permit TXR150000. Utilize appropriate controls to minimize the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water (i.e. dewatering). Prevent discharges that would contribute to a violation of Edwards Aquifer Rules, water quality standards, the impairment of a listed water body, or other state or federal law.

## **Installation, Maintenance, and Removal Work**. Perform work in accordance with the SWP3, according to manufacturers’ guidelines, and in accordance with the TPDES General Permit TXR150000. Install and maintain the integrity of temporary erosion and sedimentation control devices to accumulate silt and debris until soil disturbing activities are completed and permanent erosion control features are in place or the disturbed area has been adequately stabilized as determined by the Owner. . If a device ceases to function as intended, repair or replace the device or portions thereof as necessary. Remove sediment, debris, and litter. When approved, sediments may be disposed of within embankments, or in the right of way in areas where the material will not contribute to further siltation. Dispose of removed material in accordance with federal, state, and local regulations.

Remove devices upon approval or as directed. Finish-grade and dress the area upon removal. Stabilize disturbed areas in accordance with the permit, and as shown on the plans or directed. Materials removed are considered consumed by the project. Retain ownership of stockpiled material and remove it from the project when new installations or replacements are no longer required.

### **Rock Filter Dams for Erosion Control.** Remove trees, brush, stumps, and other objectionable material that may interfere with the construction of rock filter dams. Place sandbags as a foundation when required or at the Contractor’s option.

Place the aggregate to the lines, height, and slopes specified, without undue voids for Types 1, 2, 3, and 5. Place the aggregate on the mesh and then fold the mesh at the upstream side over the aggregate and secure it to itself on the downstream side with wire ties, or hog rings for Types 2 and 3, or as directed. Place rock filter dams perpendicular to the flow of the stream or channel unless otherwise directed. Construct filter dams according to the following criteria unless otherwise shown on the plans:

#### **Type 1 (Non-reinforced)**.

##### **Height**. At least 18 in. measured vertically from existing ground to top of filter dam.

##### **Top Width**. At least 2 ft.

##### **Slopes**. No steeper than 2:1.

#### **Type 2 (Reinforced)**.

##### **Height**.At least 18 in. measured vertically from existing ground to top of filter dam.

##### **Top Width**.At least 2 ft.

##### **Slopes**. No steeper than 2:1.

#### **Type 3 (Reinforced)**.

##### **Height**.At least 36 in. measured vertically from existing ground to top of filter dam.

##### **Top Width**.At least 2 ft.

##### **Slopes**. No steeper than 2:1.

#### **Type 4 (Sack Gabions)**. Unfold sack gabions and smooth out kinks and bends. Connect the sides by lacing in a single loop–double loop pattern on 4- to 5‑in. spacing for vertical filling. Pull the end lacing rod at one end until tight, wrap around the end, and twist 4 times. Fill with stone at the filling end, pull the rod tight, cut the wire with approximately 6 in. remaining, and twist wires 4 times.

Place the sack flat in a filling trough, fill with stone, connect sides, and secure ends as described above for horizontal filling.

Lift and place without damaging the gabion. Shape sack gabions to existing contours.

#### **Type 5**. Provide rock filter dams as shown on the plans.

### **Temporary Pipe Slope Drains**. Install pipe with a slope as shown on the plans or as directed. Construct embankment for the drainage system in 8‑in. lifts to the required elevations. Hand-tamp the soil around and under the entrance section to the top of the embankment as shown on the plans or as directed. Form the top of the embankment or earth dike over the pipe slope drain at least 1 ft. higher than the top of the inlet pipe at all points. Secure the pipe with hold-downs or hold-down grommets spaced a maximum of 10 ft. on center. Construct the energy dissipaters or sediment traps as shown on the plans or as directed. Construct the sediment trap using concrete or rubble riprap in accordance with Item 432, “Riprap,” when designated on the plans.

### **Temporary Paved Flumes**. Construct paved flumes as shown on the plans or as directed. Provide excavation and embankment (including compaction of the subgrade) of material to the dimensions shown on the plans unless otherwise indicated. Install a rock or rubble riprap energy dissipater, constructed from the materials specified above, to a minimum depth of 9 in. at the flume outlet to the limits shown on the plans or as directed.

### **Construction Exits**. Prevent traffic from crossing or exiting the construction site or moving directly onto a public roadway, alley, sidewalk, parking area, or other right of way areas other than at the location of construction exits when tracking conditions exist. Construct exits for either long- or short-term use.

#### **Long-Term**. Place the exit over a foundation course as required. Grade the foundation course or compacted subgrade to direct runoff from the construction exits to a sediment trap as shown on the plans or as directed. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed.

##### **Type 1**. Construct to a depth of at least 8 in. using crushed aggregate as shown on the plans or as directed.

##### **Type 2**. Construct using railroad ties and timbers as shown on the plans or as directed.

#### **Short-Term**.

##### **Type 3**. Construct using crushed aggregate, plywood, or wafer board. This type of exit may be used for daily operations where long-term exits are not practical.

##### **Type 4**. Construct as shown on the plans or as directed.

### **Earthwork for Erosion Control**. Perform excavation and embankment operations to minimize erosion and to remove collected sediments from other erosion control devices.

#### **Excavation and Embankment for Erosion Control Features**. Place earth dikes, swales, or combinations of both along the low crown of daily lift placement, or as directed, to prevent runoff spillover. Place swales and dikes at other locations as shown on the plans or as directed to prevent runoff spillover or to divert runoff. Construct cuts with the low end blocked with undisturbed earth to prevent erosion of hillsides. Construct sediment traps at drainage structures in conjunction with other erosion control measures as shown on the plans or as directed.

Create a sediment basin, where required, providing 3,600 cu. ft. of storage per acre drained, or equivalent control measures for drainage locations that serve an area with 10 or more disturbed acres at one time, not including offsite areas.

#### **Excavation of Sediment and Debris**. Remove sediment and debris when accumulation affects the performance of the devices, after a rain, and when directed.

### **Construction Perimeter Fence**. Construct, align, and locate fencing as shown on the plans or as directed.

#### **Installation of Posts**. Embed posts 18 in. deep or adequately anchor in rock, with a spacing of 8 to 10 ft.

#### **Wire Attachment**. Attach the top wire to the posts at least 3 ft. from the ground. Attach the lower wire midway between the ground and the top wire.

#### **Flag Attachment**. Attach flagging to both wire strands midway between each post. Use flagging at least 18 in. long. Tie flagging to the wire using a square knot.

### **Sandbags for Erosion Control**. Construct a berm or dam of sandbags that will intercept sediment-laden storm water runoff from disturbed areas, create a retention pond, detain sediment, and release water in sheet flow. Fill each bag with sand so that at least the top 6 in. of the bag is unfilled to allow for proper tying of the open end. Place the sandbags with their tied ends in the same direction. Offset subsequent rows of sandbags 1/2 the length of the preceding row. Place a single layer of sandbags downstream as a secondary debris trap. Place additional sandbags as necessary or as directed for supplementary support to berms or dams of sandbags or earth.

### **Temporary Sediment-Control Fence**. Provide temporary sediment-control fence near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the fence into erosion-control measures used to control sediment in areas of higher flow. Install the fence as shown on the plans, as specified in this Section, or as directed.

#### **Installation of Posts**. Embed posts at least 18 in. deep, or adequately anchor, if in rock, with a spacing of 6 to 8 ft. and install on a slight angle toward the runoff source.

#### **Fabric Anchoring**. Dig trenches along the uphill side of the fence to anchor 6 to 8 in. of fabric. Provide a minimum trench cross-section of 6 × 6 in. Place the fabric against the side of the trench and align approximately 2 in. of fabric along the bottom in the upstream direction. Backfill the trench, then hand-tamp.

#### **Fabric and Net Reinforcement Attachment**. Attach the reinforcement to wooden posts with staples, or to steel posts with T-clips, in at least 4 places equally spaced unless otherwise shown on the plans. Sewn vertical pockets may be used to attach reinforcement to end posts. Fasten the fabric to the top strand of reinforcement by hog rings or cord every 15 in. or less.

#### **Fabric and Net Splices**. Locate splices at a fence post with a minimum lap of 6 in. attached in at least 6 places equally spaced unless otherwise shown on the plans. Do not locate splices in concentrated flow areas.

Requirements for installation of used temporary sediment-control fence include the following:

* fabric with minimal or no visible signs of biodegradation (weak fibers),
* fabric without excessive patching (more than 1 patch every 15 to 20 ft.),
* posts without bends, and
* backing without holes.

### **Biodegradable Erosion Control Logs**. Install biodegradable erosion control logs near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the biodegradable erosion control logs into the erosion measures used to control sediment in areas of higher flow. Install, align, and locate the biodegradable erosion control logs as specified below, as shown in plans or as directed.

Secure biodegradable erosion control logs in a method adequate to prevent displacement as a result of normal rain events, prevent damage to the logs, and to the satisfaction of the Owner such that flow is not allowed under the logs. Temporarily removing and replacing biodegradable erosion logs as to facilitate daily work is allowed at the Contractor’s expense.

### **Vertical Tracking**. Perform vertical tracking on slopes to temporarily stabilize soil. Provide equipment with a track undercarriage capable of producing a linear soil impression measuring a minimum of 12 in. long × 2 to 4 in. wide × 1/2 to 2 in. deep. Do not exceed 12 in. between track impressions. Install continuous linear track impressions where the 12 in. length impressions are perpendicular to the slope. Vertical tracking is required on projects where soil disturbing activities have occurred unless otherwise approved.

# Measurement

## **Rock Filter Dams**. Installation or removal of rock filter dams will be measured by the foot or by the cubic yard. The measured volume will include sandbags, when used.

### **Linear Measurement**. When rock filter dams are measured by the foot, measurement will be along the centerline of the top of the dam.

### **Volume Measurement**. When rock filter dams are measured by the cubic yard, measurement will be based on the volume of rock computed by the method of average end areas.

#### **Installation**. Measurement will be made in final position.

#### **Removal**. Measurement will be made at the point of removal.

## **Temporary Pipe Slope Drains**. Temporary pipe slope drains will be measured by the foot.

## **Temporary Paved Flumes**. Temporary paved flumes will be measured by the square yard of surface area. The measured area will include the energy dissipater at the flume outlet.

## **Construction Exits**. Construction exits will be measured by the square yard of surface area.

## **Earthwork for Erosion and Sediment Control**.

### **Equipment and Labor Measurement**. Equipment and labor used will be measured by the actual number of hours the equipment is operated and the labor is engaged in the work.

### **Volume Measurement**.

#### **In Place**.

##### **Excavation**. Excavation will be measured by the cubic yard in its original position and the volume computed by the method of average end areas.

##### **Embankment**. Embankment will be measured by the cubic yard in its final position by the method of average end areas. The volume of embankment will be determined between:

* the original ground surfaces or the surface upon that the embankment is to be constructed for the feature and
* the lines, grades and slopes of the accepted embankment for the feature.

#### **In Vehicles**. Excavation and embankment quantities will be combined and paid for under “Earthwork (Erosion and Sediment Control, In Vehicle).” Excavation will be measured by the cubic yard in vehicles at the point of removal. Embankment will be measured by the cubic yard in vehicles measured at the point of delivery. Shrinkage or swelling factors will not be considered in determining the calculated quantities.

## **Construction Perimeter Fence**. Construction perimeter fence will be measured by the foot.

## **Sandbags for Erosion Control**. Sandbags will be measured as each sandbag or by the foot along the top of sandbag berms or dams.

## **Temporary Sediment-Control Fence**. Installation or removal of temporary sediment-control fence will be measured by the foot.

## **Biodegradable Erosion Control Logs**. Installation or removal of biodegradable erosion control logs will be measured by the foot along the centerline of the top of the control logs.

## **Vertical Tracking**. Vertical tracking will not be measured or paid for directly but is considered subsidiary to this Item.

# Payment

The following will not be paid for directly but are subsidiary to pertinent Items:

* erosion-control measures for Contractor project-specific locations (PSLs) inside and outside the right of way (such as construction and haul roads, field offices, equipment and supply areas, plants, and material sources);
* removal of litter, unless a separate pay item is shown on the plans;
* repair to devices and features damaged by Contractor operations;
* added measures and maintenance needed due to negligence, carelessness, lack of maintenance, and failure to install permanent controls;
* removal and reinstallation of devices and features needed for the convenience of the Contractor;
* finish grading and dressing upon removal of the device; and
* minor adjustments including but not limited to plumbing posts, reattaching fabric, minor grading to maintain slopes on an erosion embankment feature, or moving small numbers of sandbags.

Stabilization of disturbed areas will be paid for under pertinent Items.

Furnishing and installing pipe for outfalls associated with sediment traps and ponds will not be paid for directly but is subsidiary to the excavation and embankment under this Item.

## **Rock Filter Dams**. The work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price bid as follows:

### **Installation**. Installation will be paid for as “Rock Filter Dams (Install)” of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

### **Removal**. Removal will be paid for as “Rock Filter Dams (Remove).” This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

When the Owner directs that the rock filter dam installation or portions thereof be replaced, payment will be made at the unit price bid for “Rock Filter Dams (Remove)” and for “Rock Filter Dams (Install)” of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

## **Temporary Pipe Slope Drains**.The work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price bid for “Temporary Pipe Slope Drains” of the size specified. This price is full compensation for furnishing materials, removal and disposal, furnishing and operating equipment, labor, tools, and incidentals.

Removal of temporary pipe slope drains will not be paid for directly but is subsidiary to the installation Item. When the Owner directs that the pipe slope drain installation or portions thereof be replaced, payment will be made at the unit price bid for “Temporary Pipe Slope Drains” of the size specified, which is full compensation for the removal and reinstallation of the pipe drain.

Earthwork required for the pipe slope drain installation, including construction of the sediment trap, will be measured and paid for under “Earthwork for Erosion and Sediment Control.”

Riprap concrete or stone, when used as an energy dissipater or as a stabilized sediment trap, will be measured and paid for in accordance with Item 432, “Riprap.”

## **Temporary Paved Flumes**. The work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price bid for “Temporary Paved Flume (Install)” or “Temporary Paved Flume (Remove).” This price is full compensation for furnishing and placing materials, removal and disposal, equipment, labor, tools, and incidentals.

When the Owner directs that the paved flume installation or portions thereof be replaced, payment will be made at the unit prices bid for “Temporary Paved Flume (Remove)” and “Temporary Paved Flume (Install).” These prices are full compensation for the removal and replacement of the paved flume and for equipment, labor, tools, and incidentals.

Earthwork required for the paved flume installation, including construction of a sediment trap, will be measured and paid for under “Earthwork for Erosion and Sediment Control.”

## **Construction Exits**. Contractor-required construction exits from off right of way locations or on-right of way PSLs will not be paid for directly but are subsidiary to pertinent Items.

The work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” for construction exits needed on right of way access to work areas required by the Owner will be paid for at the unit price bid for “Construction Exits (Install)” of the type specified or “Construction Exits (Remove).” This price is full compensation for furnishing and placing materials, excavating, removal and disposal, cleaning vehicles, labor, tools, and incidentals.

When the Owner directs that a construction exit or portion thereof be removed and replaced, payment will be made at the unit prices bid for “Construction Exit (Remove)” and “Construction Exit (Install)” of the type specified. These prices are full compensation for the removal and replacement of the construction exit and for equipment, labor, tools, and incidentals.

Construction of sediment traps used in conjunction with the construction exit will be measured and paid for under “Earthwork for Erosion and Sediment Control.”

## **Earthwork for Erosion and Sediment Control**.

### **Initial Earthwork for Erosion and Sediment Control**. The work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price bid for “Excavation (Erosion and Sediment Control, In Place),” “Embankment (Erosion and Sediment Control, In Place),” “Excavation (Erosion and Sediment Control, In Vehicle),” “Embankment (Erosion and Sediment Control, (In Vehicle),” or “Earthwork (Erosion and Sediment Control, In Vehicle).”

This price is full compensation for excavation and embankment including hauling, disposal of material not used elsewhere on the project; embankments including furnishing material from approved sources and construction of erosion-control features; and equipment, labor, tools, and incidentals.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

### **Maintenance Earthwork for Erosion and Sediment Control for Cleaning and Restoring Control Measures**. The work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid under a Contractor Force Account Item from invoice provided to the Owner.

This price is full compensation for excavation, embankment, and re-grading including removal of accumulated sediment in various erosion control installations as directed, hauling, and disposal of material not used elsewhere on the project; excavation for construction of erosion-control features; embankments including furnishing material from approved sources and construction of erosion-control features; and equipment, labor, tools, and incidentals.

Earthwork needed to remove and obliterate erosion-control features will not be paid for directly but is subsidiary to pertinent Items unless otherwise shown on the plans.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

## **Construction Perimeter Fence**. The work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price bid for “Construction Perimeter Fence.” This price is full compensation for furnishing and placing the fence; digging, fence posts, wire, and flagging; removal and disposal; and materials, equipment, labor, tools, and incidentals.

Removal of construction perimeter fence will be not be paid for directly but is subsidiary to the installation Item. When the Owner directs that the perimeter fence installation or portions thereof be removed and replaced, payment will be made at the unit price bid for “Construction Perimeter Fence,” which is full compensation for the removal and reinstallation of the construction perimeter fence.

## **Sandbags for Erosion Control**. Sandbags will be paid for at the unit price bid for “Sandbags for Erosion Control” (of the height specified when measurement is by the foot). This price is full compensation for materials, placing sandbags, removal and disposal, equipment, labor, tools, and incidentals.

Removal of sandbags will not be paid for directly but is subsidiary to the installation Item. When the Owner directs that the sandbag installation or portions thereof be replaced, payment will be made at the unit price bid for “Sandbags for Erosion Control,” which is full compensation for the reinstallation of the sandbags.

## **Temporary Sediment-Control Fence**. The work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price bid as follows:

### **Installation**. Installation will be paid for as “Temporary Sediment-Control Fence (Install).” This price is full compensation for furnishing and operating equipment finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

### **Removal**. Removal will be paid for as “Temporary Sediment-Control Fence (Remove).” This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

## **Biodegradable Erosion Control Logs**. The work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price bid as follows:

### **Installation**. Installation will be paid for as “Biodegradable Erosion Control Logs (Install)” of the size specified. This price is full compensation for furnishing and operating equipment finish backfill and grading, staking, proper disposal, labor, materials, tools, and incidentals.

### **Removal**. Removal will be paid for as “Biodegradable Erosion Control Logs (Remove).” This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

## **Vertical Tracking**. Vertical tracking will not be measured or paid for directly but is considered subsidiary to this Item.