

Section 01566

SOURCE CONTROLS FOR EROSION AND SEDIMENTATION

1.0 GENERAL

1.01 SECTION INCLUDES

- A Descriptions of measures and practices, in response to TPDES General Permit TXR 150000, which shall be used on the Work to eliminate or significantly minimize pollutants in discharges into Surface Water in the State by controlling erosion and sediments at their source.
- B References to Technical Specifications:
 - 1. Section 01550 – Stabilized Construction Exit
 - 2. Section 01562 – Waste Material Disposal
 - 3. Section 01500 – Temporary Facilities and Controls
- C Definitions:
 - 1. Potential Water Pollutant - any substance that could potentially alter the physical, thermal, chemical, or biological quality of the Surface Water in the State, rendering the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property, or to public health, safety or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

1.02 MEASUREMENT AND PAYMENT

- A Unless indicated as a Bid Item, no separate payment will be made for Work performed under this Section. Include cost in Bid Items for which this Work is a component.

2.0 PRODUCTS - Not Used

3.0 EXECUTION

3.01 PREPARATION AND INSTALLATION

- A Contractor shall conduct all construction operations under this Contract in conformance with the erosion control practices described in the Plans and this Technical Specification.
- B Erosion and sediment control measures shall be in place prior to the start of any Work that exposes the soil, other than as specifically directed by the Engineer to allow soil testing and surveying.
- C The Contractor shall install, maintain, and inspect erosion and sediment control measures and practices that operate effectively and as specified in the Plans and in this or other Technical Specifications.

- D Equipment and vehicles shall be prohibited by the Contractor from maneuvering on areas outside of the limits of construction or dedicated rights-of-way and easements. Damage caused by construction traffic to erosion and sediment control systems shall be repaired immediately by the Contractor.
- E The Contractor shall be responsible for collecting, storing, hauling, and disposing of spoil, silt, waste materials, and contaminated material resulting from erosion and sediment control measures as specified in this or other Technical Specifications and in compliance with applicable federal, state, and local rules and regulations.

3.02 EXPOSED SOIL

- A When soil is exposed as a result of clearing, grading, excavating, stockpiling, or other soil disturbing activities, the Contractor shall implement measures to effectively control erosion and prevent the escape of sediments from the Project Site.
- B Control measures may include the following practices:
 1. Preserve existing vegetation to the extent possible.
 2. Construct drainage swales, berms, or sediment basins.
 3. Maintain grades to minimize the velocity of sheet flow over disturbed areas and promote evaporation and infiltration of storm water directly into the ground.
 4. Install filter fabric fences or barriers, sediment traps, seepage basins, gabions, or storm drain inlet protection devices.
 5. Utilize vegetative buffer strips, mulching, or riprap
- C When the placement of topsoil, bank sand, or other soil material is specified, after an area has been brought to grade and immediately prior to placement, loosen the subgrade discing or by scarifying to a depth of at least 2 inches to permit bonding to the subsoil.
- D When all soil disturbing activities have been completed, establish a perennial vegetative cover on all areas that are not paved, covered by permanent structures, or otherwise permanently stabilized.

3.03 DUST CONTROL

- A Implement control measures to minimize dust creation and movement on construction sites and roads and to prevent airborne sediment from reaching receiving streams or storm water conveyance systems, to reduce on-site and off-site damage, to prevent health hazards, and to improve traffic safety.
- B Control blowing dust by using one or more of the following measures:
 1. Mulches bound with chemical binders.
 2. Temporary vegetative cover.
 3. Tillage to roughen surface and bring clods to the surface.
 4. Irrigation by water sprinkling.

5. Barriers using solid board fences, burlap fences, crate walls, bales of hay, or similar materials.
- C Implement dust control measures immediately whenever dust can be observed blowing on the Project Site.

3.04 DEMOLITION AREAS

- A Demolition activities which create large amounts of dust with significant concentrations of heavy metals or other potential water pollutants shall use methods described in this Section, 3.03 "Dust Control", to limit transport of airborne pollutants. However, water or slurry used to control dust contaminated with heavy metals or potential water pollutants shall be retained on the Project Site and shall not be allowed to run directly into watercourses or storm water conveyance systems by the appropriate use of control measures described in this Section. Methods of ultimate disposal of these materials shall be carried out in accordance with applicable local, state, and federal health and safety regulations.

3.05 SEDIMENT TRACKING

- A Minimize off-site tracking of sediments and the generation of dust by construction vehicles, keeping the streets clean of construction debris and mud, by implementing one or more of the following control measures:
1. Restrict all ingress and egress to stabilized construction exits.
 2. Stabilize areas used for staging, parking, storage or disposal.
 3. Stabilize on-site vehicle transportation routes.
 4. Remove mud and other debris, washing if necessary, from vehicles prior to entrance onto public roadways from the Project Site.
 5. Maintain grade to minimize the occurrence of mud on the Project Site.
- B Construct stabilized construction areas under the provisions of Section 01550 – Stabilized Construction Exists.
- C In addition to Stabilized Construction Exits shovel or sweep the pavement to the extent necessary to keep the street clean. Water-hosing or sweeping of debris and mud off of the street into adjacent areas is not allowed.

3.06 EQUIPMENT MAINTENANCE AND REPAIR

- A Control equipment maintenance and repair so that oils, gasoline, grease, solvents, and other potential water pollutants cannot be washed directly into receiving streams or storm water conveyance systems.
- B Control measures may include the following practices:
1. Confine maintenance and repair of construction machinery and equipment to areas specifically designated for that purpose.
 2. Provide these areas with adequate waste disposal receptacles for liquid as well as solid waste.

3. Clean and inspect maintenance and repair areas daily.
4. Stabilize the area with coarse aggregate.
5. Maintain grade to prevent surface water from flowing over the area.
6. Place plastic matting, packed clay, tar paper, or other impervious material to prevent contamination of soil in the area.
7. Isolate areas of contaminated soil or other materials to facilitate proper removal and disposal.

- C Where effective control measures are not feasible, equipment shall be taken off-site for maintenance and repair.

3.07 WASTE COLLECTION AND DISPOSAL

- A Conduct operations in conformance with the plan provided in Section 01562 – Waste Material Disposal and utilize such control measures, described in this Section, as may be necessary to eliminate or significantly reduce the discharge of possible water pollutants from the Project Site as a result of waste collection and disposal.
- B Keep receptacles and waste collection areas neat and orderly to the extent possible. Waste shall not be allowed to overflow its container or accumulate from day-to-day. Locate trash collection points where they will least likely be affected by concentrated storm water runoff.

3.08 WASHING AREAS

- A Vehicles such as concrete delivery trucks or dump trucks and other construction equipment shall not be washed at locations where the runoff will flow directly into a watercourse or storm water conveyance system. Preventative measures may include the following practices:
1. Designate special areas for washing vehicles.
 2. Locate these areas where the wash water will spread out and evaporate or infiltrate directly into the ground, or where the runoff can be collected in a temporary holding or seepage basin.
 3. Beneath wash areas construct a gravel or rock base to minimize mud production.
- B Construct washing areas under the provisions of Section 01550 – Stabilized Construction Exists.

3.09 STORAGE AND USAGE OF POTENTIAL WATER POLLUTANTS

- A Store and use potential water pollutants such as pesticides, fertilizers, distillate fuels, lubricants, solvents, cements, paints, acids, caustics, and other toxic substances in accordance with manufacturers' guidelines, Material Safety Data Sheets, and with local, state, and federal regulations.

- B Isolate these substances in areas where they are to be stored, opened or used such that they will not cause pollution of runoff from the Project Site. Preventative measures may include the following practices:
1. Stabilize the area with coarse aggregate.
 2. Store containers on raised platforms.
 3. Place plastic matting, packed clay, tar paper, or other impervious material to prevent contamination of soil in the area.
 4. Provide protective cover or weather proof enclosure.
 5. Minimize accidental spillage.
 6. Keep containers tightly closed.
 7. Periodically inspect containers for leakage.
 8. Maintain grade to prevent surface water from flowing over the area.
 9. Provide berms, filter fabric fences or barriers, or sediment basins.
 10. Designate washing areas for containers and other items that have come in contact with potential water pollutants.
- C Avoid overuse of substances such as pesticides and fertilizers which could produce contaminated runoff.

3.10 SANITARY FACILITIES

- A Provide the Project Site with adequate portable toilets for workers in accordance with Section 01500 – Temporary Facilities and Controls, and applicable health regulations.
- B Control areas where sanitary facilities are located so that sewage or chemicals will not be washed directly into receiving streams or storm water conveyance systems by using one or more of the following measures.
1. Inspect the facilities daily.
 2. Service the facilities as often as necessary to maintain cleanliness and prevent overflows.
 3. Stabilize the area with coarse aggregate
 4. Maintain grade to prevent surface water from flowing over the area

END OF SECTION