

## SECTION 639 - WATER POLLUTION CONTROL

**639.01 Description.** This work includes temporary control measures according to the contract or as ordered by the Engineer during the life of the contract to control water pollution, through use of berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

The Contractor shall apply temporary erosion and siltation control measures to erodible material of this project, including local material sources and work areas and haul roads.

The Contractor shall coordinate the temporary pollution control provisions with the permanent erosion control features specified in the contract throughout the construction and post construction period.

The Contractor shall install the drainage facilities according to the contract or ordered by the Engineer.

**639.02 Materials.**

**(A) Mulches.** Mulches may be bagasse, hay, straw, fiber mats, netting, wood cellulose, bark, wood chips, or other suitable material acceptable to the Engineer. Mulches shall be clean and free of noxious weeds and deleterious materials.

**(B) Slope Drains.** The Contractor may construct slope drains of pipe, fiber, mats, rubble, portland cement concrete, bituminous concrete, plastic sheets, or other materials acceptable to the Engineer that will adequately control erosion.

**(C) Grass.** Grass shall be a quick growing species such as rye grass, Italian rye grass, or cereal grasses. The grass shall be suitable to the area and provide a temporary cover that will not later compete with the permanent cover.

**(D) Fertilizer and Soil Conditioners.** Fertilizer and soil conditioners shall be a standard commercial grade acceptable to the Engineer. Fertilizer shall conform to Subsection 712.18(A) - Commercial Fertilizer.

**639.03 Erosion Control Conference.** The Contractor shall hold an erosion control conference with the Engineer before the start of the applicable construction to discuss the sequence of work, plans and proposals for accomplishment of water pollution control.

The Contractor shall plan, design and submit to the Engineer, at least ten (10) days before the conference:

(1) diagrams that show the installation of each erosion control feature in exact relation to the sequence of each construction operation, and

639.03

(2) plans (drawings) that show approximate locations and typical details \*  
of each erosion control feature and drainage patterns. If the Contractor \*  
alters drainage patterns critically by the progress of the construction, \*  
the Contractor shall submit a separate drawing for each phase. \*

No work shall start until the Contractor submits water pollution control \*  
plans, sequence of operations and methods of operations for acceptance by \*  
the Engineer.

639.04 Construction Requirements. The Engineer has the authority to: \*

(1) limit the surface area of erodible earth material exposed by \*  
clearing and grubbing, \*

(2) limit the surface area of erodible earth material exposed by \*  
excavation, borrow and fill operations and \*

(3) direct the Contractor to provide immediate pollution control \*  
measures to prevent contamination of adjacent streams or other \*  
watercourses, lakes, ponds, or other areas of water impoundment. \*

Such work may involve the construction of temporary berms, dikes, dams, \*  
sediment basins, slope drains and use of temporary mulches, mats, seeding or \*  
other control devices or methods as necessary to control erosion. The \*  
Contractor shall seed and mulch the cut slopes as the excavation continues. \*

The Engineer will require the Contractor to use erosion control features \*  
into the project shown on the accepted plans and schedule. The Contractor \*  
shall modify the accepted plans and schedules to correct conditions that \*  
develop during construction that were not foreseen during the design or \*  
preconstruction stage.

The Contractor shall limit the surface area of earth material exposed: \*

(1) to do the next operation within a given area and \*

(2) its capability and progress in keeping the finish grading, mulching, \*  
seeding, and other pollution control measures current according to the \*  
accepted plans and schedule. \*

The Contractor shall confine the grubbing of vegetative root mat and \*  
stumps, and the stripping of topsoil within the limits of excavation that the \*  
Contractor can continuously prosecute within fifteen (15) days. \*

The Contractor shall confine excavation, borrow and embankment \*  
construction to the minimum area necessary to ease its equipment and work \*  
force engaged in the earth moving work. \*

The surface area of earth material exposed shall not exceed seven hundred \*  
fifty thousand (750,000) square feet. The Contractor shall hydro-mulch seed \*  
or remedy within three (3) days the areas remaining bared or cleared for more \*  
than fifteen (15) days as ordered by the Engineer at no cost to the State. \*

The Contractor shall shape the earthwork at the end of each work day to control and direct the runoff of rainwater. The Contractor shall construct earth berms along the top edges of embankments or critical areas within the project such as along the right-of-way or streams, water channels or bodies of water to intercept runoff water. The Contractor shall provide temporary slope drains to carry runoff from cuts and embankments. The slope drains may be of flexible or rigid construction. The Contractor shall shorten or extend the slope drains as the cut or fill advances. The Contractor shall provide a portable flume at the entrance to the temporary slope drains. The Contractor shall provide controlled discharges for waters impounded, directed or controlled by project activities or erosion control measures.

The Contractor shall shape, install topsoil, and plant or finish the cut slopes according to the contract as the work progresses. Exposed surfaces shall not be greater than fifteen (15) feet in height. If the Contractor or the Engineer suspends or halts major excavation and the Contractor bares the slope for more than fifteen (15) consecutive days, the Contractor shall hydro-mulch seed or protect the exposed surfaces ordered by the Engineer at no cost to the State. As an alternative, the Contractor may spread a two (2) inch layer of woodchips conforming to Subsection 712.45(A) - Wood Chips over the entire area and fill the woodchips into the soil as soil amendment just before planting.

The Contractor shall finish the fill slopes according to the contract. Also, the Contractor shall protect and preserve the finished and previously seeded areas from damages and spillover materials placed in the upper lifts of embankment.

Construction of berms, cofferdams or diversions in or near the streams, ponds, waterways or bodies of water shall be of accepted materials.

Failure to conform with the above will be cause for suspension of the operations.

--The Contractor shall use brushes, limbs and root mat, except stumps cleared on the project, to construct silt barriers according to the contract or ordered by the Engineer. If rock excavation is available on the project, the Contractor shall dump spread an eight (8) to fifteen (15) inch layer of such materials over the lower region of embankments in the immediate area of stream crossings and use the rock to cover ditches, channels and other drainage ways leading away from cuts and fills. The Contractor shall prepare drainage ways to receive the rock excavation to avoid reducing their cross section. If rock excavation is not available on the project, the Contractor shall use materials according to Subsection 639.02(A) - Mulches and ordered by the Engineer.

If there are conflicts between these requirements and pollution control laws, rules, or regulations of other Federal or State or local agencies, the more restrictive laws, rules, or regulations shall apply.

639.04

If the Contractor requires water pollution control measures due to its convenience, negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled, the Contractor shall do such work at no cost to the State. Such work includes:

- (1) shaping the earthwork to control or to direct the runoff at the end of each work day,
- (2) constructing and maintaining earth berms, swales, temporary slope drains, and cofferdams or diversions in or near the area of streams, ponds, waterways or bodies of water or within the limits of the project and other erosion work according to the contract and,
- (3) ordered by the Engineer.

If the Contractor fails repeatedly to control erosion, pollution, and/or siltation, the Engineer reserves the right to:

- (1) employ outside assistance or
- (2) use the Engineer's own forces

to provide the necessary corrective measures. The Engineer will charge the Contractor such incurred direct costs plus project engineering costs. The Engineer will make appropriate deductions from the Contractor's monthly progress estimate.

Temporary pollution control may include construction work outside the right-of-way where such work is necessary due to roadway construction such as borrow pit operations, haul roads and equipment storage sites.

The Contractor shall maintain the erosion control features.

**639.05 Method of Measurement.** The Engineer will measure water pollution control work required on a force account basis according to Subsection 109.04 - Extra and Force Account Work.

The Engineer will not measure water pollution control work required that is due to the Contractor's convenience, negligence, carelessness or failure to install permanent controls.

The Engineer will measure the work involved in dump spreading rock excavation material, when available on the jobsite, or other materials when rock excavation is not available on the project as described above on a force account basis according to Subsection 109.04 - Extra and Force Account Work.

**639.06 Basis of Payment.** The Engineer will pay for the water pollution control work required on a force account basis according to Subsection 109.04 -Extra and Force Account Work.

The Engineer will not pay for water pollution control work required that \*|  
 is due to the Contractor's convenience, negligence, carelessness or failure \*|  
 to install permanent controls. \*|

The Engineer will pay for the work involved in dump spreading rock \*|  
 excavation material, when available on the jobsite, or other materials when \*|  
 rock excavation is not available on the project as described above on a force \*|  
 account basis according to Subsection 109.04 - Extra and Force Account Work. |

The Engineer will make payment under: |

Pay Item	Pay Unit
Water Pollution Control	Force Account