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TEMPORARY EROSION CONTROL
(OAKDALE 2573)

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Temporary measures to control soil erosion and sedimentation.
   2. Furnishing, installing and maintaining erosion or sediment control devices.
   3. Preparation and filling of erosion control plan (SWPPP).

B. Related Sections;
   1. Section 2105 – Excavation and Embankment
   2. Section 2451 – Trench Excavation and Backfill
   3. Section 2575 – Turf Establishment

C. Measurement Procedures:
   1. Bale Checks: Measure by number of bales furnished and acceptably installed.
   2. Silt Fence: Measure by length in linear feet along base of fence from outside to outside of end posts.
   3. Bio-roll: Measure by length in linear feet.
   4. Storm Drain Inlet Protection: Measure as a lump sum for entire project. Includes furnishing and installing reusable inlet devices for all storm drain inlets within the project area.
      a. Provide drainage rock and a Bio-roll (Sediment Log) perimeter around Storm structures where the casting has been temporarily removed for structure or curb work. Reinstall Inlet Protection device when curb and casting are re-established.

D. Payment Procedures:
   1. Payment for acceptable quantities of erosion control items shall be at the Contract Unit Price as listed on the Bid Form. All associated Work items shall be considered incidental.

1.02 REFERENCES

A. MnDOT 2573 – Storm Water Management

B. Protecting Water Quality in Urban Areas – Best Management Practices for Minnesota published by the Minnesota Pollution Control Agency

1.03 DEFINITIONS

A. BMPs: Best Management Practices

B. For the NPDES permit process, the operator is defined as the Contractor.

C. SWPPP: Storm Water Pollution Prevention Plan

1.04 SUBMITTALS

A. NPDES Permit MN R100001.

B. Proposed schedule for accomplishment of Work within, adjacent to, or affecting surface water.

C. Erosion control schedule.

1.05 REGULATORY REQUIREMENTS

A. For operations that disturb 1 acre or more of land area, submit NPDES Application for General Storm Water Permit for Construction Activity (MN R100001).
   1. Construction may begin 7 days after application is postmarked or 1 day after online submittal.
   2. Complete and attach SWPPP form to NPDES permit.
      a. SWPPP to be kept at Site.
      b. SWPPP must be made available to federal, state, and local officials within 72 hours upon request for the duration of the permit and for 3 years following NOT (Notice of Termination).
      c. Submit NOT within 30 days of final stabilization.

B. Exposed Soil Areas Adjacent to Surface Water:
   1. Provide year-round temporary erosion protection for all exposed soil areas with a continuous positive slop within 200 lineal feet of a surface water.
   2. The maximum time these areas can remain open when not actively being worked is as follows:
      a. 7 days on slopes steeper than 3:1.
      b. 14 days on slopes between 3:1 and 10:1.
      c. 21 days on slopes flatter than 10:1.

1.06 QUALITY ASSURANCE

A. Refer to “Protecting Water Quality in Urban Areas – Best Management Practices for Minnesota.”

B. Obtain all necessary permits from responsible regulatory agencies.

C. Ensure minimum interference with roads, streets, walks, and adjacent occupied or used facilities. Do not close or obstruct without permission from authorities having jurisdiction.

PART 2 PRODUCTS

2.01 MATERIALS

A. Bale Checks Type 1: MnDOT 3882.

B. Silt Fence: MnDOT 3886.

C. Inlet Protection: MnDOT 3891. WIMCO Road Drain Curb and Gutter inlet device, or approved equal.

D. Bio-Roll Blanket System: MnDOT 3889, Type 3.

E. Erosion Control Blanket: MnDOT 3885.
   1. Category 0; 1S: Wood fiber, rapidly degradable, one side netting.
   2. Category 3; 2S: Straw or wood fiber, netting two sides.
   3. Category 4; 2S: Straw/coconut or wood fiber, netting two sides.
   4. Category 6; 3S: Straw/coconut or wood fiber, netting 2 sides, high velocity.

F. Erosion Stabilization Mat; MnDOT 3888.

G. Temporary seed, fertilizer, mulch, and disc anchoring: See Section 2575.

H. Staples: MnDOT 3888 U-shaped, 11 gage, 8 inches in length.

PART 3 EXECUTION

3.01 PREPARATION

A. Coordinate erosion control measures with earthwork and turf establishment operations.

B. Complete grading, finishing, erosion control and turf establishment on a drainage area basis to prevent excessive soil erosion.
   1. Shape exposed soil areas to permit runoff with minimal erosion.

C. Install erosion control measures as directed by Engineer prior to disturbance of inplace ground cover in critical areas tributary to public waters.

D. Place erosion control materials to prevent siltation either to adjacent property or within boundaries of the Site.

E. Install safeguards to prevent water pollution from haul roads, work platforms, or other temporary construction facilities.

F. Minimize sediment from entering surface waters, curb and gutter systems, and storm sewer inlets.

G. Place erosion control for wetland protection prior to Work on any phase of the Project.

3.02 PLACING TEMPORARY EROSION CONTROL ITEMS

A. Construct items in conformance with typical sections and elevation controls shown on Drawings.

B. Hay Bales:
   1. Place lengthwise on contour, with ends of adjacent bales tightly abutting.
   2. Wrap ends of dike uphill to prevent flow around ends.

3. Bind with wire or nylon string around sides.
4. Securely anchor with minimum of 2 stakes.
5. Excavate trench the width of a bale and the length of proposed barrier to a minimum depth of 4 inches. Backfill excavated soil against barrier.

C. Silt Fence:
   1. Place parallel to contour of land, with ends wrapped uphill to prevent flow around them.
   2. Posts:
      a. 3-inch diameter wood.
      b. 2-inch by 2-inch square wood.
      c. 1.33 pounds per linear foot steel “U” or studded tee posts, or material of equivalent strength.
      d. Minimum length of 5 feet.
   3. Preassembled: MnDOT 3886.

D. Storm Drain Inlet Control:
   1. Install reusable inlet insert in all storm drains within project area unless adjacent to a paved or vegetated surface.

E. Sediment Traps:
   1. Earthen embankment with gravel outlet, across a drainage swale, for drainage area of less than 5 acres.
   2. Construct before rough grading.
   3. Requires 1,800 cubic feet of storage for every acre of drainage area.
   4. Embankment to discharge water through section of crushed stone having a median diameter of 3/4-inch and be 6 feet long per acre of drainage area. Crest of outlet must be 1 foot lower than embankment elevation.

F. Temporary Diversion:
   1. Maximum allowable drainage area is 5 acres.
   2. Supporting ridge must be at least 9 inches high.
   3. Release diverted runoff through stabilized outlet, slope drain, or sediment trapping measure.
   4. Construct at end of each workday as needed.
   5. Locate at least 2 feet inside top edge of fill.
   6. Construct supporting ridge along lower side a uniform height along entire length.

G. Remove sediment deposits when they reach 1/2 height of barrier. Dispose of sediment as directed by Engineer.

H. Dust Control: Prevent spread of dust during performance of Work.

I. Erosion Control Blanket: Install according to manufacturer’s recommendations.

J. Staples: Minimum number of staples to secure blanket:
   1. Single net, short term: 0.7 staples per square yard.
   2. Double net, short term: 1.2 staples per square yard.
   3. Double net, extended term: 1.75 staples per square yard.
   4. Turf reinforcement mats; 3.5 staples per square yard.

3.03 EMERGENCY EROSION CONTROL

A. Upon written order by Engineer, conduct temporary erosion control Work on an emergency basis.
   1. Mobilize with sufficient personnel, equipment, materials, and incidentals within 24 hours of receipt of order.
   2. Provide immediate corrective work followed by installation of erosion control measures.

3.04 REPAIR AND MAINTENANCE

A. Inspect, repair, and maintain all erosion control measures to provide proper function throughout Project.

B. Failure to maintain erosion control measures: Owner may hire another firm to maintain erosion control measures. Costs associated with hiring another firm will be deducted from the Contract.

C. Silt Fence:
   1. Inspect immediately after each runoff event and minimum once daily during prolonged rainfall.
   2. Make required repairs immediately.
   3. When sediment deposits reach approximately one-half the height of the silt fence, remove sediment or install a second silt fence.
   4. Dispose of sediment as directed by Engineer.

D. Erosion Control Blanket: Immediately repair if washed away or displaced.

3.05 FIELD QUALITY CONTROL

A. Inspections and maintenance prior to final acceptance;
   1. Every 7 days.
   2. Within 24 hours of 1/2-inch storm.
   3. Record and file with SWPPP.

3.06 CLEANUP AND RESTORATION

A. Remove temporary erosion control items when area is permanently stabilized and upon completion of Work.

B. Restore all plant, equipment, or other supplementary operation sites to prevent siltation and erosion.

C. Repair any off-site damage resulting from failure to install or maintain BMPs.

D. Restore and stabilize areas disturbed during removal of erosion controls.

END OF SECTION