

WATER POLLUTION AND EROSION CONTROL NOTES:

A. GENERAL:

- See Special Provisions Section 209 - Water Pollution and Erosion Control. Section 209 describes but is not limited to: submittal requirements; scheduling of a water pollution and erosion control conference with the Engineer; construction requirements; method of measurement; and basis of payment. In addition, Appendix A lists potential pollutant sources and corresponding BMPs used to mitigate the pollutants.
- Follow the guidelines in the current HDOT Construction Best Management Practices Field Manual in developing, installing and maintaining the Best Management Practices (BMP) for the project. For any conflicting requirements between the Manual and applicable bid documents, the applicable bid documents will govern. Should a requirement not be clearly described within the applicable bid documents, the Contractor shall notify the Engineer immediately for interpretation. For the purposes of clarification under Note A.2, "applicable bid documents" include the construction plans, standard specifications, Special Provisions, Permits, and the Storm Water Pollution Prevention Plan (SWPPP) when applicable.
- Follow the guidelines in the Honolulu's City & County "Rules Relating to Soil Erosion Standards and Guidelines" along with applicable Soil Erosion Guidelines for projects on Maui, Molokai, Kauai, and Hawaii.
- The Engineer may assess liquidated damages of up to \$27,500 for non-compliance of each BMP requirement and each requirement stated in Section 209 and special provisions, for every day of non-compliance. There is no maximum limit on the amount assessed per day.
- The Engineer will deduct the cost from the progress payment for all citations received by the Department for non-compliance, or the Contractor shall reimburse the State for the full amount of the outstanding cost incurred by the State.
- If necessary, install a rain gage prior to any field work including the installation of any site-specific best management practices. The rain gage shall have a tolerance of at least 0.05 inches of rainfall. Install the rain gage on the project site in an area that will not deter rainfall from entering the gage opening. Do not install in a location where rain water may splash into rain gage. The rain gage installation shall be stable and plumbed. Do not begin field work until the rain gage is installed and site-specific best management practices are in-place.
- Submit Site-Specific BMP Plan to the Engineer along with a completed Site-Specific BMP Review Checklist within 30 calendar days of contract execution. The Site-Specific BMP Review Checklist may be obtained from <http://www.stormwaterhawaii.com>.

B. WASTE DISPOSAL:

- Waste Materials: Collect and store all waste materials in a securely lidded metal dumpster or roll off container with cover to keep rain out or loss of waste during windy conditions. The dumpster shall meet all local, State, and Federal solid waste management regulations. Deposit all trash and construction debris from the site in the dumpster. Empty the dumpster weekly or when the container is two-thirds full, whichever is sooner. Do not bury construction waste materials onsite. The Contractor's supervisory personnel shall be instructed regarding the correct procedure for waste disposal. Post notices stating these practices in the office trailer, on a weatherproof bulletin board, or other accessible location acceptable to the Engineer. The Contractor shall be responsible for seeing that these procedures are followed. Submit the Solid Waste Disclosure Form for Construction Sites to the Engineer within 30 calendar days of contract execution. Provide a copy of all the disposal receipts from the facility permitted by the Department of Health (DOH) to receive solid waste to the Engineer monthly. Also provide documentation from any intermediary facility where solid waste is handled or processed, haul tags, or any documentation as requested by the Engineer. Solid waste shall not be processed or stored outside of the project limits unless it is taken directly to a DOH permitted facility. Do not transport, store, or process solid waste generated on the project site to any unpermitted facility (that includes but is not limited to the contractor's or subcontractor's base yard). All material generated by the project which is intended to be taken off-site shall be considered solid waste. Solid waste shall be handled in accordance with the contract and all applicable local, State, and Federal laws and regulations.

The Contractor shall not independently reclassify solid waste as inert material. If the Contractor elects to reclassify material as inert fill, the requirements in Section 219 - Determination and Characterization of Fill Material shall be followed. No material generated from this project shall be classified as inert fill material without testing and obtaining prior written approval from the Engineer. The Contractor is solely responsible for costs and time associated with (but not limited to) any sampling, testing, and analysis of material in consideration for reclassification. No additional compensation for time, labor, material, or other costs shall be considered by HDOT. Violations may result in enforcement action by HDOT or referral to the appropriate State Agency.

- Dispose all hazardous waste materials in the manner specified by local or State regulations and by the manufacturer. The Contractor's site personnel shall be instructed in these practices and shall be responsible for seeing that these practices are followed.
- Sanitary Waste: Collect all sanitary waste from the portable units a minimum of once per week, or as required. Position sanitary facilities where they are secure and will not be tipped over or knocked down.

C. EROSION & SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

- For projects without an NPDES Permit for Construction Activities, inspect all control measures weekly.

- Maintain all erosion and sediment control measures in good working order. If repair is necessary, initiate repair immediately and complete by the close of the next work day if the problem does not require significant repair or replacement, or if the problem can be corrected through routine maintenance. When installation of a new erosion or sediment control or a significant repair is needed, install the new or modified control or complete the repair no later than 7 calendar days from the time of discovery. "Immediately" means the Contractor shall take all reasonable measures to minimize or prevent discharge of pollutants until a permanent solution is installed and made operational. If a problem is identified at a time in the day in which it is too late to initiate repair, initiation of repair shall begin on the following work day.
- Remove built-up sediment from silt fence when it has reached one-third the height of the fence. Remove sediment from other perimeter sediment control devices when it has reached one-half the height of the device.
- Inspect silt screen or fence for depth of sediment, tears, to verify that the fabric is securely attached to the fence posts or concrete slab and to verify that the fence posts are firmly in the ground. Inspect and verify the bottom of the silt screen is buried a minimum of 6 inches below the existing ground.
- Inspect temporary and permanent seeding and planting for bare spots, washouts and healthy growth.
- Complete and submit to the Engineer a maintenance inspection report within 24 hours after each inspection.
- Provide a stabilized construction entrance at all points of exit onto paved roads to reduce vehicle tracking of sediments. Include stabilized construction entrance in the Water Pollution, Dust, and Erosion Control submittals. Minimum length should be 50 feet. Minimum width should be 30 feet. Minimum depth should be 12 inches or as recommended by the soils engineer and underlain with geo-textile fabric. If minimum dimensions cannot be met, provide other stabilization techniques that remove sediment prior to exit. Clean the paved street adjacent to the site entrance daily or as required to remove any excess mud, cold-planned materials, dirt or rock tracked from the site. Do not hose down the street without containing or vacuuming wash water. Cover dump trucks hauling material from the construction site with a tarpaulin. Remove sediment tracked onto the street, sidewalk, or other paved area by the end of the day in which the track-out occurs.
- Include designated Concrete Washout Area(s) in the Water Pollution, Dust, and Erosion Control submittals.
- Submit the name of a specific individual designated responsible for inspections, maintenance and repair activities and filling out the inspection and maintenance report.
- Personnel selected for the inspection and maintenance responsibilities shall receive training from the Contractor. They shall be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.
- Contain, remove, and dispose slurry generated from saw cutting of pavement in accordance with approved BMP practices. Do not allow discharge into the drainage system or State waters.

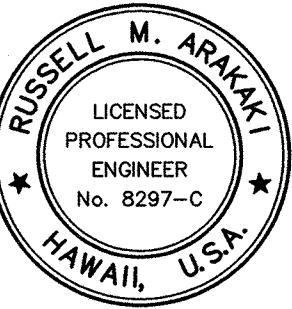
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| HAWAII              | HAW.  | 99D-01-17 | 2022        | 6         | 35           |

- For projects without an NPDES Permit for Construction Activities, complete initial stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities.

D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:

- Materials Pollution Prevention Plan
  - Applicable materials or substances listed below are expected to be present onsite during construction. Other materials and substances not listed below shall be added to the inventory.

|                           |                          |
|---------------------------|--------------------------|
| Concrete                  | Fertilizers              |
| Detergents                | Petroleum Based Products |
| Paints (enamel and latex) | Cleaning Solvents        |
| Metal Studs               | Wood                     |
| Tar                       | Masonry Block            |
| Herbicides and Pesticides | Curing Compounds         |
| Adhesives                 |                          |
  - Use Material Management Practices to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. Make an effort to store only enough product as is required to do the job.
  - Store all materials stored onsite in a neat, orderly manner in their appropriate containers and if possible under a roof or other enclosure.
  - Keep products in their original containers with the original manufacturer's label.
  - Do not mix substances with one another unless recommended by the manufacturer.
  - Whenever possible, use a product up completely before disposing of the container.
  - Follow manufacturer's recommendations for proper use and disposal.
  - Conduct a daily inspection to ensure proper use and disposal of materials onsite.
- Hazardous Material Pollution Prevention Plan
  - Keep products in original containers unless they are not resealable.
  - Retain original labels and Safety Data Sheets (SDS), formerly Material Safety Data Sheets (MSDS).
  - Dispose of surplus products according to manufacturers' instructions and local and State regulations.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Russell M. Araki  
ParEn, Inc.  
dba PARK ENGINEERING  
APRIL 30, 2022  
LIC. EXP. DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**WATER POLLUTION AND EROSION CONTROL NOTES**

**FARRINGTON HIGHWAY  
Drainage Improvements  
Vicinity of Leeward Community College  
PROJECT NO. 99D-01-17**

Scale: None Date: June 2021

SHEET No. EC1 OF EC4 SHEETS



WATER POLLUTION AND EROSION CONTROL NOTES (CONT.):

3. Onsite and Offsite Product Specific Plan

The following product specific practices shall be followed onsite:

- a. Petroleum Based Products: Monitor all onsite vehicles for leaks and perform regular preventive maintenance to reduce the chance of leakage. Store petroleum products in tightly sealed containers which are clearly labeled. Apply asphalt substances used onsite according to the manufacturer's recommendation.
- b. Fertilizers: Apply fertilizers used only in the minimum amounts recommended by the manufacturer and federal, state, and local requirements. Avoid applying just before a heavy rain event. Apply at the appropriate time of year for the location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth. Once applied, work fertilizer into the soil to limit exposure to storm water. Do not apply to storm conveyance channels with flowing water. Storage shall be in a covered shed or in an area where fertilizer will not come into contact with precipitation or stormwater. Transfer the contents of any partially used bags of fertilizer to a sealable plastic bin to avoid spills.
- c. Paints: Seal and store all containers when not required for use. Do not discharge excess paint to the drainage system, sanitary sewer system, or State waters. Dispose properly according to manufacturers' instructions and State and local regulations.
- d. Concrete Trucks: Washout or discharge concrete truck drum wash water only at a designated site as far as practicable from storm drain inlets or State waters. Do not discharge water in the drainage system or State waters. Disposal by percolation is prohibited. Clean disposal site as required or as requested by the Engineer.

4. Spill Control Plan

- a. Post a spill prevention plan to include measures to prevent and clean up each spill.
- b. The Contractor shall be the spill prevention and cleanup coordinator. Designate at least three site personnel who shall receive spill prevention and cleanup training. These individuals shall each become responsible for a particular phase of prevention and cleanup. Post the names of responsible spill personnel in the material storage area on a weatherproof bulletin board or other accessible location acceptable to the Engineer and in the office trailer onsite.
- c. Clearly post manufacturers' recommended methods for spill cleanup. Make site personnel aware of the procedures and the location of the information and cleanup supplies.
- d. Keep ample materials and equipment necessary for spill cleanup in the material storage area onsite.
- e. Clean up all spills immediately after discovery.
- f. Keep the spill area well ventilated. Personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.

- g. Report spills of toxic hazardous material to the appropriate State or local government agency, regardless of the size. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs during a 24-hour period, the Contractor shall notify the Engineer as soon as the Contractor has knowledge of the discharge. The Engineer will notify the National Response Center (NRC) at (800) 424-8802, the Clean Water Branch during regular business hours at 586-4309, and the Hawaii State Hospital Operator at 247-2191 and the Clean Water Branch (DOH-CWB) via email at [cleanwaterbranch@doh.hawaii.gov](mailto:cleanwaterbranch@doh.hawaii.gov) during non-business hours immediately. The Contractor shall also provide to the Engineer, within 7 calendar days of knowledge of the release, a description of the release, the circumstances leading to the release, and the date of the release. The Engineer will provide this information to the DOH-CWB. The Engineer will provide information to the NRC if requested.

E. PERMIT REQUIREMENTS:

- 1. The calculated land disturbance area for this project based on the construction plans is 0.42 acres, including Contractor Staging and Storage areas. See Sheet No. EC4 of the construction plans for limits of area to be disturbed. If the total of the disturbed area and the Contractor Staging and Storage area is one acre or greater, the Contractor shall obtain the NPDES Construction Activities Permit using HDOT's latest SWPPP template. See Hawaii Administrative Rules Chapter 11-55, Appendix C for the definition of land disturbance. The Contractor shall be responsible for obtaining the required NPDES Construction Activities Permit and complying with the requirements of HAR 11-55 including, but not limited to:
  - a. Deadlines for initiating and completing initial stabilization
  - b. Increased inspection frequency and installation of rain gage if applicable
  - c. Deadlines to initiate and complete repairs to BMPs
  - d. Reporting requirements and corrective action reports
- 2. Comply with all applicable State and Federal Permit conditions. Permits may include, but not limited to the following:
  - a. NPDES Permit for Construction Activities
  - b. NPDES Permit for Construction Dewatering
  - c. NPDES Permit for Hydrotesting Waters
  - d. Water Quality Certification
  - e. Stream Channel Alteration Permit
  - f. Section 404 Army Corps of Engineer Permit

F. SITE-SPECIFIC BMP REQUIREMENTS:

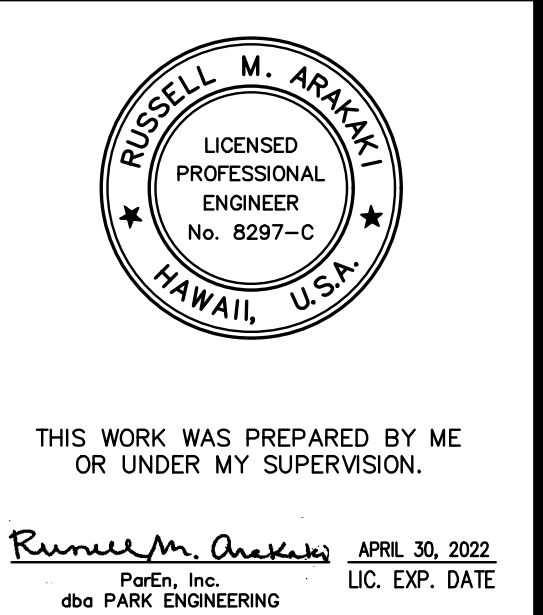
Each BMP below is referenced to the corresponding section of the current HDOT Construction Best Management Practices Field Manual and appropriate Supplemental Sheets. The Manual may be obtained from the HDOT Statewide Stormwater Management Program Website at <http://www.stormwaterhawaii.com/resources/contractors-and-consultants/> under Construction Best Management Practices Field Manual. Supplemental BMP sheets are located at <http://www.stormwaterhawaii.com/resources/contractors-and-consultants/storm-water-pollution-prevention-plan-swppp/> under Concrete Curing and Irrigation Water. The requirements for Water Pollution, Dust, and Erosion Control submittals are included in Section 209 of the Hawaii Standard Specifications for Road and Bridge Construction dated 2005 and applicable Special Provisions. A list of pollutant sources and corresponding BMP used to mitigate the pollutants are included in Section 209 of the Special Provisions under Appendix A. Follow the requirements below:

- 1. Protect all Drainage Inlets receiving runoff from disturbed areas (SC-2).
- 2. Contain on-site runoff using Perimeter Sediment Controls
  - a. SC-1 Silt Fence
  - b. SC-5 Vegetated Filter Strips and Buffers
  - c. SC-8 Compost Filter Berm
  - d. SC-13 Sandbag Barrier
  - e. SC-14 Brush or Rock
- 3. Control offsite runoff from entering construction area
  - a. EC-8 Run-On Diversion
  - b. SC-6 Earth Dike
  - c. SC-7 Temporary Drains and Swales
- 4. Incorporate applicable Site Management BMP
  - a. SM-1 Employee Training
  - b. SM-2 Material Delivery and Storage
  - c. SM-3 Material Use
  - d. SM-4 Protection of Stockpiles
  - e. SM-6 Solid Waste Management
  - f. SM-7 Sanitary/Septic Waste Management
  - g. SM-9 Hazardous Waste Management
  - h. SM-10 Spill Prevention and Control
  - i. SM-11 Vehicle and Equipment Cleaning
  - j. SM-12 Vehicle and Equipment Maintenance
  - k. SM-13 Vehicle and Equipment Refueling
  - l. SM-14 Scheduling

- 4. Incorporate applicable Site Management BMP (Continued)
  - m. SM-15 Location of Potential Sources of Sediment
  - n. SM-16 Preservation of Existing Vegetation
  - a. SM-18 Dust Control
- 5. Contain pollutants within the Construction Staging/Storage Area BMP with applicable Perimeter Sediment Controls and Site Management BMP. Include a Stabilized Construction Entrance/Exit (EC-2) for all areas which exit onto a paved street. Restrict vehicle access to these points.
- 6. Manage Concrete Waste including installing a Concrete Washout Area (SM-5) and properly disposing of Concrete Curing Water (California Stormwater BMP Handbook NS-12 Concrete Curing).
- 7. Remove saw cut slurry and hydrodemolition water from the site by vacuuming. Provide storm drain protection and/or perimeter sediment controls during saw cutting and hydrodemolition work.
- 8. Please note Exhibit A in the bid documents include the Project-Specific Construction Environmental Hazard Management Plan (C-EHMP).
- 9. Alternate areas may be considered within HDOT property to sample, test and characterize excavated material subject to Engineer's acceptance.

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| ORIGINAL PLAN | DATE |
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| QUANTITIES BY |      |
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| No.           |      |



|      |          |                          |
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| 2    | 03/07/22 | Revised Note E.1.        |
| 1    | 12/21/21 | Added Notes F.8 and F.9. |
| DATE | REVISION |                          |

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| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>HIGHWAYS DIVISION |                 |  |
| <u><b>WATER POLLUTION AND</b></u>                                    |                 |  |
| <u><b>EROSION CONTROL NOTES</b></u>                                  |                 |  |
| <u>FARRINGTON HIGHWAY</u>  |                 |  |
| <u>Drainage Improvements</u>   |                 |  |
| <u>Vicinity of Leeward Community College</u>                         |                 |  |
| <u>PROJECT NO. 99D-01-17</u>   |                 |  |
| Scale: None  | Date: June 2021 |  |
| SHEET No. EC2 OF EC4 SHEETS  |                 |  |

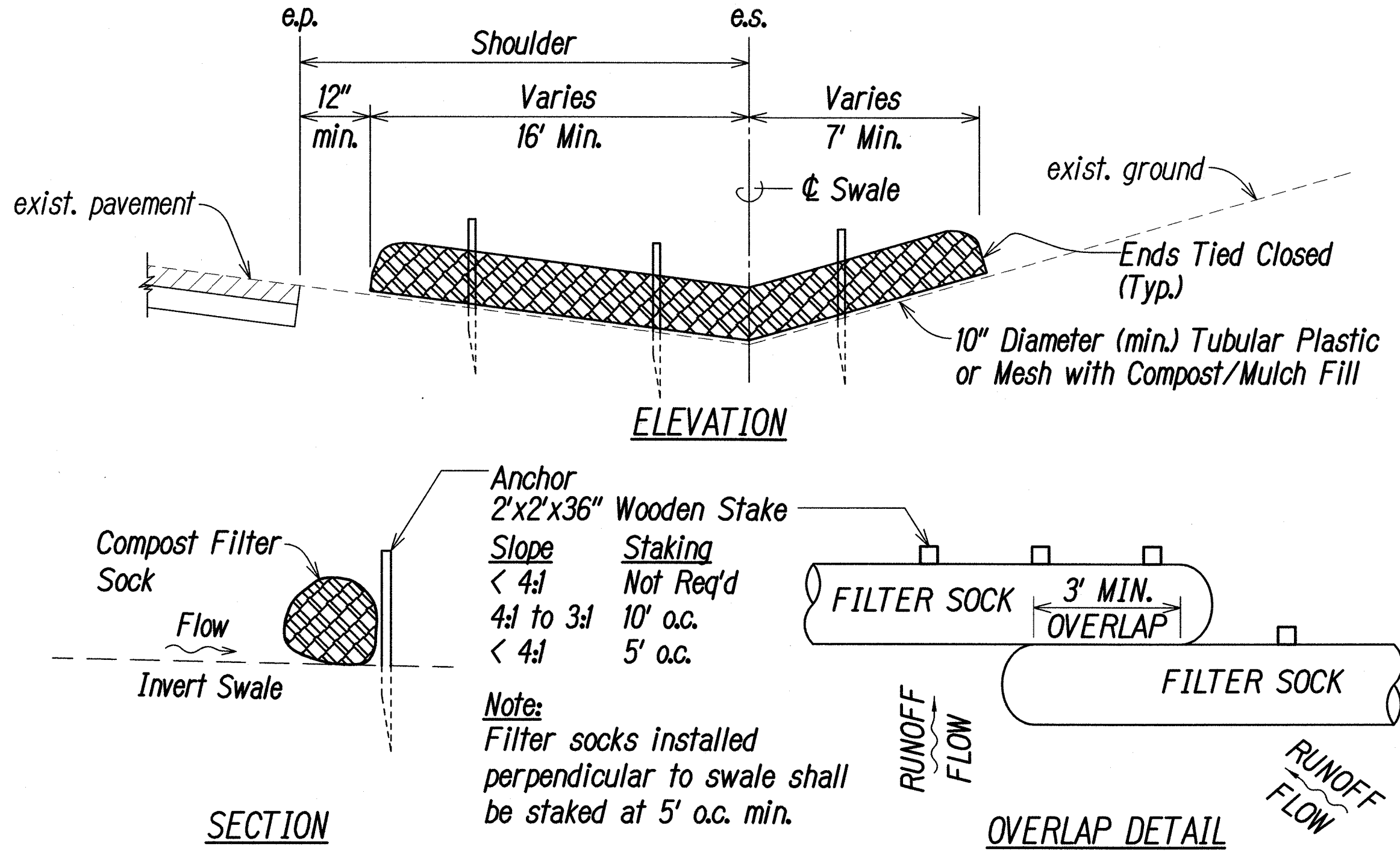


**BEST MANAGEMENT PRACTICES (BMP's) NOTES:**

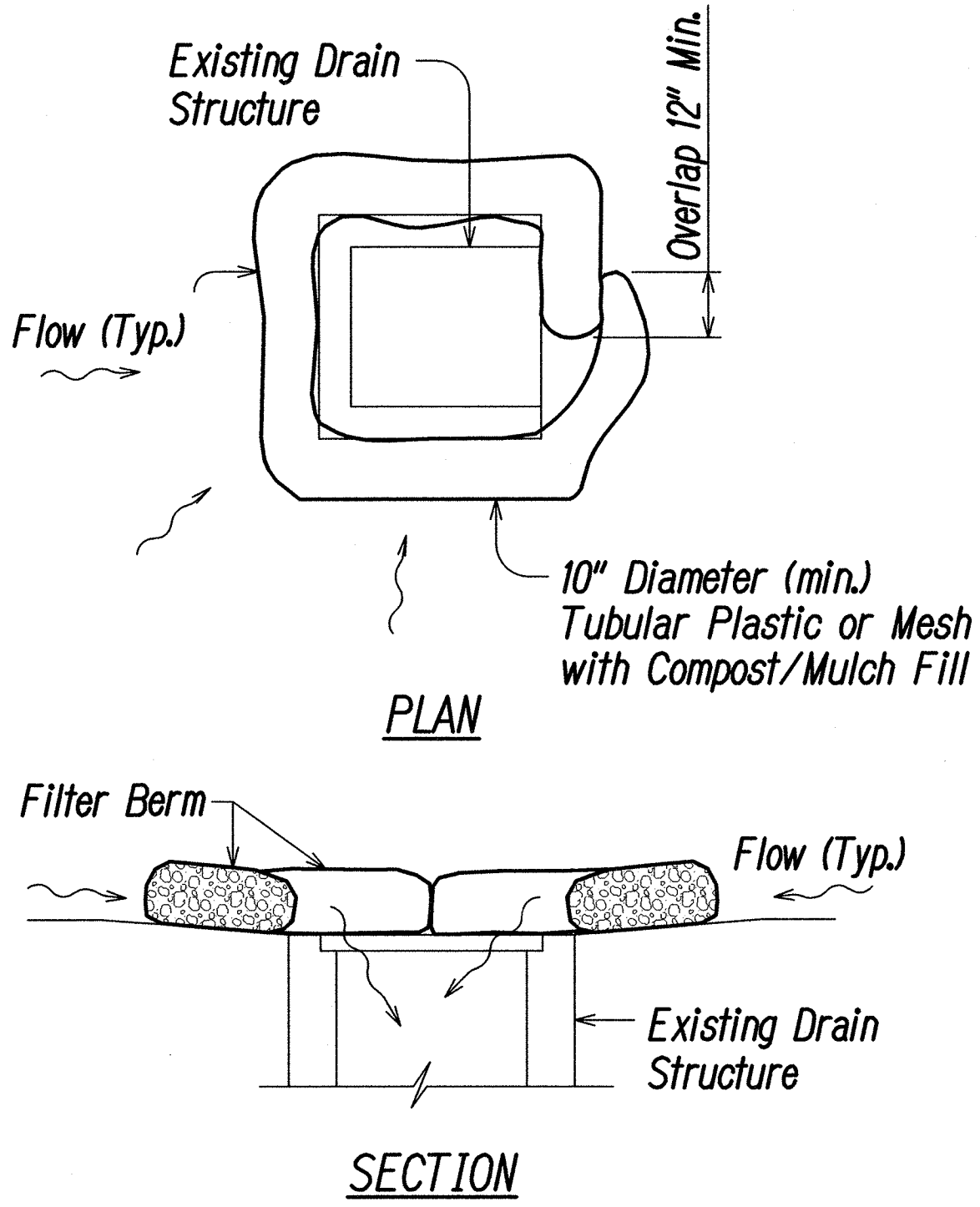
1. The Contractor shall install the erosion control measures at the locations shown, or as directed by the Engineer, as soon as practicable.
2. Slopes and exposed areas shall be sodded or planted as soon as final grades have been established. Planting shall not be delayed until all grading has been completed. Grading to final grade shall be continuous and any area within which work has been interrupted or delayed shall be planted.
3. All Best Management Practices (BMP's) shall not be removed until all permanent erosion control controls are in place and established.
4. The Contractor shall cover the openings to all existing and proposed storm drain inlets with a filter system until permanent ground cover is established. Maintenance of inlet filters by the Contractor shall be included for the duration of the project.
5. At the ending of grading operations, existing storm drain inlets and manholes surrounding the project site shall be inspected and any accumulated sediment and debris found in the drain structures shall be removed. Flushing into the inlets and manholes is prohibited.

**EROSION CONTROL MATTING NOTES:**

1. Remove existing vegetation, install topsoil as required, fine grade, hydromulch, seed and install Erosion Control Matting.
2. The contractor shall obtain acceptance of the prepared surface from the Engineer after fine grading is completed and prior to hydromulching.
3. The Erosion Control Matting shall be installed in accordance with the manufacturer's recommendations unless otherwise indicated in the plans or authorized by the Engineer.
4. All stakes shall be made of wood or plastic to the length and shape as recommended by the manufacturer of the Erosion Control Matting and accepted by the of Engineer. Use anchoring pattern as recommended by the manufacturer of the Erosion Control Matting.
5. When directed by the Engineer, wood or plastic stakes with lengths 12-inches or greater shall be used in loose soil conditions to properly secure the Erosion Control Matting. Contractor shall pound stakes flush with finished grade. The Engineer may also change the anchoring pattern. Changes to the anchoring of Erosion Control Matting shall be at no additional cost to the State.



**FILTER BERM AT EXIST. SWALE**



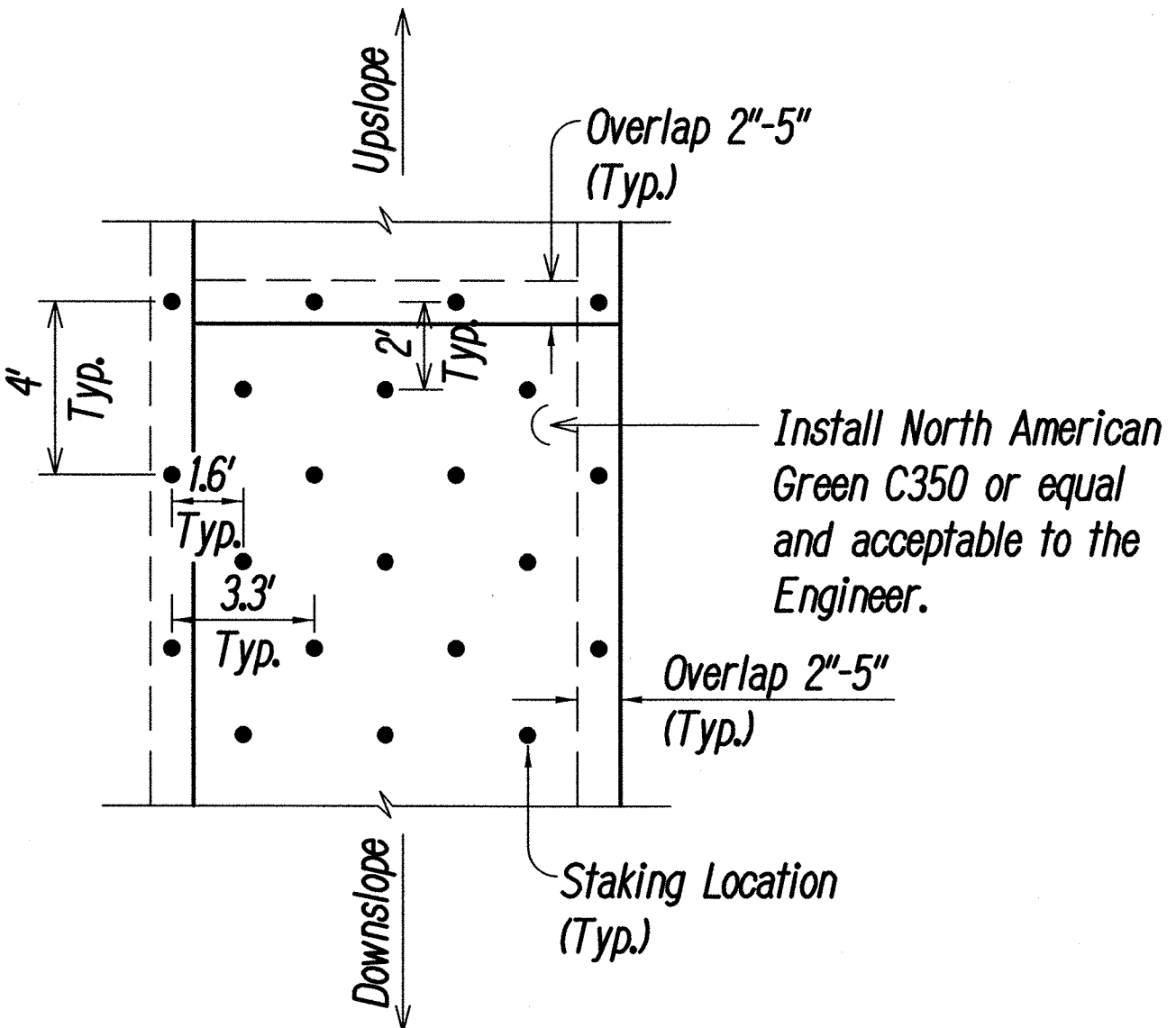
**FILTER BERM AT EXIST. DRAIN STRUCTURE**

**NOTES:**

1. See Detail SC-8 of the "Construction Best Management Practices Field Manual" dated January 2008
2. Stake/Secure Filter Sock per Manufacturer's Requirements.

**COMPOST FILTER BERM (FILTER SOCK)**  
NOT TO SCALE

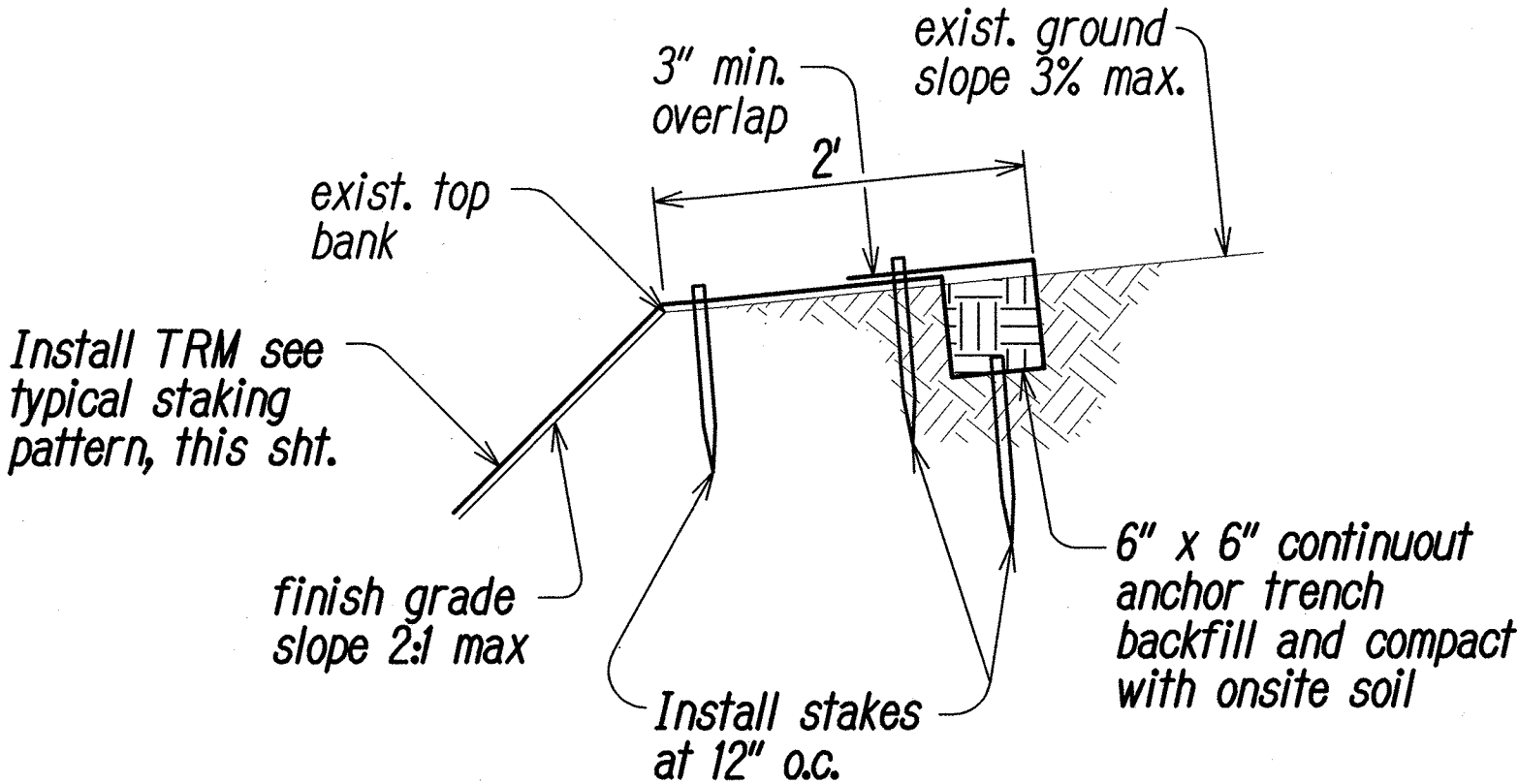
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**Notes:**

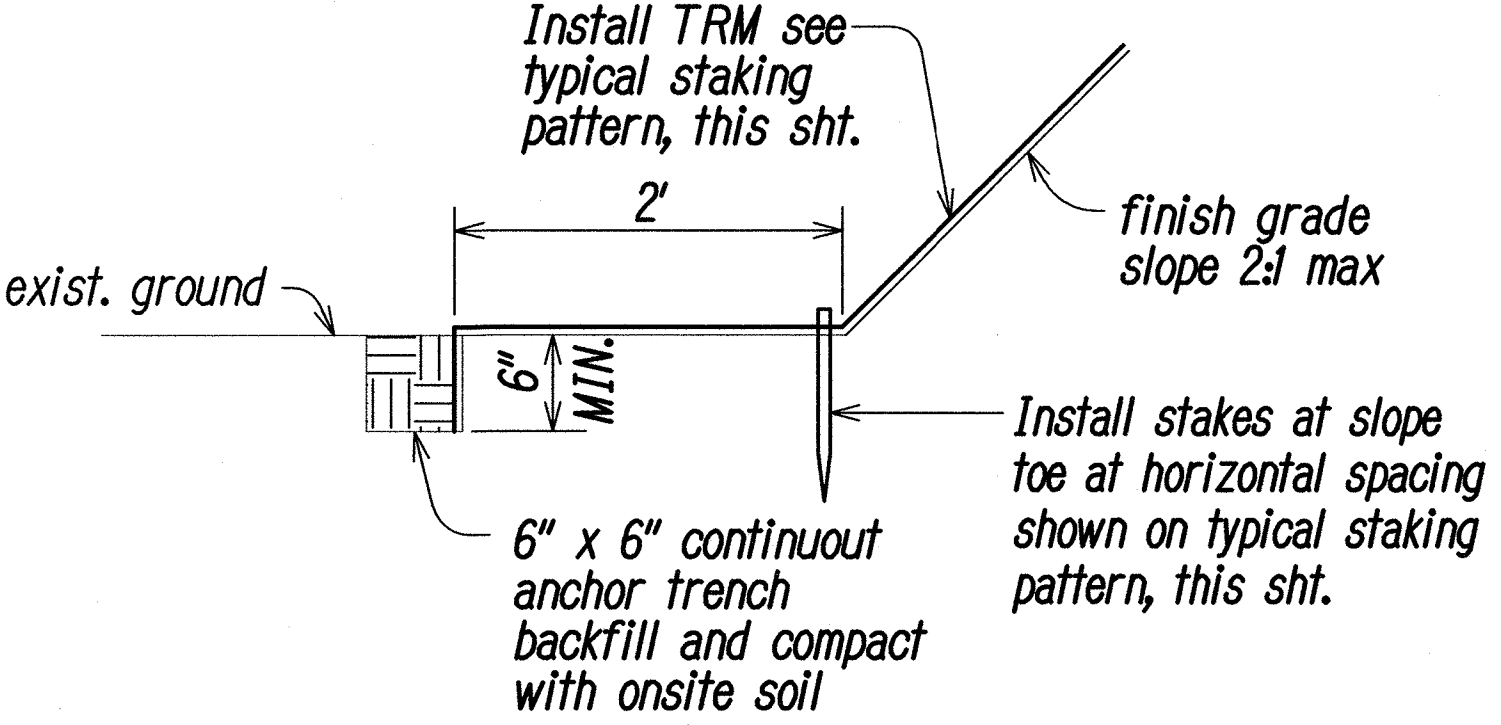
1. Install 1.7 stakes (min.) per square yard
2. See Typical Section (At Top of Bank) for anchor trench at top of matting and sides.
3. See Typical Section (At Terminal End on Slope) for anchor trench at bottom of matting.

**TYPICAL EROSION CONTROL MATTING STAKING PATTERN**



Note: Edges of Erosion Control Matting shall be buried and anchored similar to top bank.

**TYPICAL SECTION (AT TOP OF BANK)**



**TYPICAL SECTION (AT TERMINAL END ON SLOPE)**

**EROSION CONTROL MATTING DETAILS**  
NOT TO SCALE

2  
EC4/EC3



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.  
Russell M. Araki  
Parks, Inc.  
LIC. EXP. DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**BMP NOTES AND DETAILS**

FARRINGTON HIGHWAY  
Drainage Improvements  
Vicinity of Leeward Community College  
PROJECT NO. 99D-01-17

Scale: As Shown Date: June 2021

SHEET No. EC3 OF EC4 SHEETS