

EROSION CONTROL AND BEST MANAGEMENT PRACTICE NOTES

GENERAL NOTES:

- The contractor shall install devices and utilize Best Management Practices (BMPs) appropriate for the project. The contractor shall reference the HDOT's Construction Best Management Practices Field Manual. A copy of this document shall be kept on the project site at all times, and shall be produced upon request of the district engineer or his designated representative. These documents shall serve as guidelines only, and it shall be the contractor's responsibility to ensure that safety relative to traffic, ponding problems, etc. are considered and addressed. This work shall be considered part of the project, and will not be paid for by the State.
- The contractor shall consider and install BMP measures which take into account high intensity and prolonged rainfall, and to address the potential problems that may result.
- All areas used in support of construction activities disturbed or damaged by the contractor, including but not limited to, staging areas, construction entrance/exit, and travel routes, shall be temporarily stabilized during construction in accordance with section 209 of the 2005 "Standard Specifications for Road and Bridge Construction". These areas shall be restored to their original condition or better after completion of construction. Disturbed and exposed areas shall be permanently stabilized using vegetative cover, pavement, or equivalent to match pre-existing or better condition as approved by the State.
- Final stabilization and restoration of disturbed or damaged areas shall begin immediately as soon as construction is completed and the construction support areas are no longer used.
- The State reserves the right to determine the appropriateness and adequacy of proposed and/or implemented BMPs. Additional BMP measures required by the State shall not be paid for by the State.
- The contractor shall be responsible for all damages and/or injuries resulting from the BMPs.
- The contractor shall designate at least one (1) person who will be responsible for inspection, maintenance, and repair activities. Personnel selected for the inspection and maintenance responsibilities shall receive training from the contractor, at the contractor's expense. Training shall include inspection and maintenance practices necessary for minimizing erosion and sediment and for retaining sediment on-site.
- Discharges into State waters due to dewatering and/or hydrotesting activities require separate NPDES permit(s) from the State Department of Health (DOH). If the contractor chooses to discharge dewatering and/or hydrotesting effluent into state waters, he shall obtain the necessary permit(s) from the DOH, and shall submit a complete set of the permit to the department of transportation, highways division, Maui district (HWY-M) prior to commencing the permitted activity. No dewatering any/or hydrotesting activities will be authorized until the receipt of the NPDES permit(s) from the DOH.
- The contractor shall be responsible for any citations or fines that may be levied as related to the NPDES program on this permit, whether directly levied against the contractor or the department of transportation.
- The contractor may discuss proposed and implemented BMP measures and the adequacy of them, with the district engineer.

EROSION CONTROL AND BEST MANAGEMENT PRACTICE NOTES (CONT.)

STRUCTURAL BEST MANAGEMENT PRACTICES

Examples of structural BMPs include, but are not limited to:

- Silt Fences
- Stabilized Construction Entrance/exit
- Inlet Protection
- Coverings
- Vegetative Stabilization
- Hydro Mulching
- Filter Berms
- Sediment Traps
- Sediment Basins

- The contractor shall inspect erosion and sediment control measures twice daily and after 0.25 inches of rainfall.
- If repairs to or maintenance of the contractor's erosion control measures are necessary, the contractor shall initiate the repairs or maintenance within 24 hours after inspection and noting of the deficiency.

Repairs and maintenance may include the following:

- Replacing silt fence fabric when tears are found, and ensuring that the fabric is securely attached to the fence posts and firmly in the ground.
 - Removing and disposing of sediment material when sediment build-up reaches one-third (1/3) the height of the sediment control measure.
 - Removing and disposing of sediment material when the depth in a sediment basin reaches ten percent (10%) of the design capacity.
 - Restoring bare spots and washouts, and ensuring healthy plant growth in both temporary and permanent seeded and planted areas.
- The contractor shall make every effort to install structural BMPs as near the pollutant source as practicable. inlet protection shall serve as the last measure to prevent pollutants from entering the storm drain system.

NON-STRUCTURAL BEST MANAGEMENT PRACTICES

- Waste disposal
 - Waste materials
All waste materials shall be collected and stored in a securely lidded, leakproof metal dumpster. All dumpsters at the project site shall be emptied a minimum of once per week, and more often, if necessary. No construction materials shall be buried on-site. The contractor, at his expense, shall train supervisory personnel in the correct procedures for waste disposal.
 - Hazardous waste
All hazardous waste material shall be disposed of in a manner permitted by Local, State or Federal Regulations.
 - Sanitary waste
All sanitary waste shall be collected from portable restroom facilities a minimum of once per week, and more often, if necessary.
- Erosion and sediment control inspection and maintenance practices
 - All erosion and sediment control measures shall be inspected daily prior to and after each day's construction, especially during heavy rainfall. Contractor shall also ensure drainage through filter material is maintained.
 - All control measures shall be maintained in good working order. If a repair is necessary, it shall be initiated within 24 hours of the problem being discovered.

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MAUI	HAW.	3400A-01-20	2024	7	35

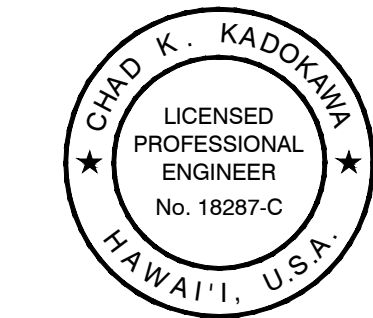
EROSION CONTROL AND BEST MANAGEMENT PRACTICE NOTES (CONT.)

- The final lift of each day's work shall be compacted to prevent erosion of fill material.
- Ensure protection of roadways from mud, dirt, and debris.
- Ensure that all tires of construction vehicles are sufficiently cleaned off so that dirt or debris is not tracked off the construction site. Washing off tires with water will not be acceptable unless the runoff is completely contained and does not enter the storm drain system or onto the State's Right-of-Way.
- At the end of grading operations and at the completion of project, the contractor shall inspect all drainage structures surrounding the project site. Any accumulated sediment and debris found in the drainage structures shall be removed.
- Any dirt or grassed area disturbed shall be restored by re-grassing the area or by seeding hydromulch. The grass shall be fully established at completion of project.

3. SPILL PREVENTION

- The following material management practices shall be followed to reduce the risk of spills or other accidental exposure of material and substances to stormwater runoff and discharge.
 - Good housekeeping
 - Store only enough products and material required to perform the job.
 - Materials that may become potential pollutants that are stored outside shall be stored in a neat and orderly manner in their original containers, and if possible, covered or enclosed.
 - Products shall be kept in their original containers, with the original manufacturer's labeling.
 - Products shall not be mixed, except as recommended or allowed by the manufacturers.
 - Appropriate products shall have secondary containment.
 - Whenever possible, use all of a product prior to disposing of the container.
 - Manufacturer's directions for proper use and disposal shall be followed.
 - Material shall be disposed of in a manner permitted by Local, State or Federal regulations.
 - Contractor shall conduct daily inspections to ensure proper use and disposal of material.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EROSION CONTROL NOTES

Kahului Beach Road Intersection
Improvements at Kanaloa Avenue
Project No. 3400A-01-20

Scale: As Shown Date: July 2024

SHEET No. G-6 OF 8 SHEETS

EROSION CONTROL AND BEST MANAGEMENT
PRACTICE NOTES (CONT.)

- Litter shall be picked-up on a daily basis and disposed of properly.
- Dust shall be controlled by wetting or by the application of a soil binder.
- Hazardous products
 - Products shall be kept in their original containers, with the original manufacturer's labeling.
 - Safety Data Sheets (SDS) shall be retained and available for review by users.
 - Manufacturer's directions for proper use and disposal shall be followed.
 - All hazardous waste material shall be disposed of in a manner permitted by Local, State or Federal regulations.

b. Product specific practices

The following practices shall be followed on-site:

- Vehicles
 - All on-site vehicles shall be monitored for leaks and shall be subject to regular preventative maintenance to reduce the chance of leaks occurring. Leaks that cannot be repaired immediately shall be contained in spill pans or other appropriate containers.
- Petroleum products
 - Petroleum products shall be stored in tightly sealed containers that shall be clearly labeled. Asphalt-containing materials (such as tack and prime coats) used on-site shall be applied according to manufacturer's directions.
- Concrete trucks
 - Concrete trucks shall discharge drum wash water only at designated sites. Wash water shall not be discharged to the storm drain system. The contractor shall contain the discharged drum wash water at the designated site, and shall remove concrete and other residue as required by the engineer.

c. Spill control practices

In addition to good housekeeping and material management practices, the following spill prevention and cleanup practices shall be observed:

- Manufacturers' recommendations for spill cleanup shall be clearly posted, and site personnel shall be made aware of the procedures and location of cleanup supplies.
- Materials and equipment necessary for spill cleanup shall be kept in the material storage area on-site.
- All spills shall be cleaned up immediately after discovery.
- All spill areas shall be kept well ventilated, and cleanup personnel shall wear appropriate clothing and equipment.
- Hazardous materials spills, regardless of size, shall be immediately reported to the engineer. A report shall be prepared to include measures to prevent this type of spill in the future, and how to cleanup such a spill. A description of the spill, the cause, and the cleanup measure undertaken shall also be included in the report.
- The contractor shall be responsible for spill prevention and cleanup. He shall designate at least one on-site personnel to receive spill prevention and cleanup training. The contractor, at his expense shall do training. The name of this person shall be posted in the material storage area and in the on-site office trailer.

EROSION CONTROL AND BEST MANAGEMENT
PRACTICE NOTES (CONT.)

- 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, the contractor shall notify the engineer as soon as the contractor has knowledge of the discharge. Note that the reportable quantity for oil and fuel products is a spill of 25 gallons or more, a spill not cleaned within 72 hours, or a spill that threatens ground or surface waters. The engineer will notify the National Response Center (NRC) at (800) 424-8802, the DOH Clean Water Branch at (808) 586-4309, the DOH Clean Water Branch via email at cleanwaterbranch@doh.hawaii.gov (during non-business hours), the DOH Hazard Evaluation and Emergency Response Office at (808) 586-4249, the U.S. coast guard Maui station office at (808) 986-0023, and the local emergency planning committee at (808) 720-7285. The contractor shall also provide to the engineer within 1 calendar day of knowledge of the release, the circumstances leading to the release, and the date of the release. The engineer will provide information to the NRC as required.

BEFORE GRADING AND CONSTRUCTION

The following practices will be observed:

- Potential and actual pollution sources within the existing project area are not believed to be present. If there should be discovery of harmful concentrations of contaminants, the operator will immediately notify the Department Of Health (DOH) so that the contaminant can be curtailed.
- Drain inlets, catch basin sediment control filters, and/or filter socks shall be installed prior to the start of construction.
- Soil conditions adjacent to the work site will be inspected for stability prior to construction. The contractor will be instructed to avoid unstable or highly erodible areas for staging of construction equipment and materials. Crushed rock material and plastic will be used to add stability to staging areas.

DURING GRADING AND CONSTRUCTION

Should excessive runoff of sediments create high turbidity conditions in the downstream areas, the following measures will be undertaken:

- Additional hydromulching may be used to stabilize new and existing ground areas subject to erosion and siltation.
- Erosion control measures, as outlined in the erosion control plan, may be augmented with the additional construction of berms and sediment traps to increase the system capacity. Improvements to be in accordance with standard engineering practice and applicable County of Maui standards. Additional berms will be constructed of crushed rock wrapped in geotech fabric.
- Removed vegetation will be properly disposed at an approved disposal site or landfill.
- Discharges associated with the operation and maintenance of equipment will be field monitored by the contractor and construction inspector. Any mechanical and hydraulic fluid leakage will be repaired as soon as it is identified and located. Large leakage of mechanical fluids will be contained, properly disposed, and not allowed to impact state waters.
- Any non-storm water discharges such as hydrotesting effluent, washwater from construction equipment and concrete trucks will be diverted and deposited into process water basins that will be underlayed with an impermeable liner. Any leftover concrete debris will be disposed of at an appropriate facility.

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EROSION CONTROL AND BEST MANAGEMENT
PRACTICE NOTES (CONT.)

- Dust created by construction activity will be controlled by watering with water wagon and area free from dust nuisance. The work shall be in conformance with the air pollution control standards and regulations of the State Department Of Health, and County Grading Ordinance.

MISCELLANEOUS GRADING NOTES

At a minimum, disturbed areas of construction site that will not be redisturbed for fourteen days or more will be stabilized (grassed or graveled) by no later than the fourteenth day after last disturbance.

AFTER CONSTRUCTION ACTIVITIES

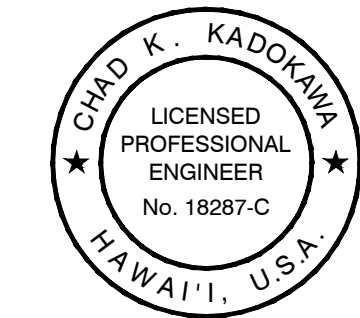
Regular maintenance designed to ensure the long-term efficiency of the system will include:

- The removal and reclamation of sediments that accumulate in the drainage system and vegetated swale, approximately every 6 months or sooner following heavy storm conditions. The reclaimed sediments will be used for fill, as a supplement to topsoil, and for other uses over various portions of the project.
- Drainage swales and other storm control structures which are lined with grass shall be periodically inspected and maintained. Miscellaneous grading notes at a minimum, disturbed areas of construction site that will not be redisturbed for fourteen days or more will be stabilized (grassed or graveled) by no later than the fourteenth day after last disturbance.

DUST NUISANCE

- The contractor at his own expense, shall keep the project area and surrounding area free from dust nuisance. The work shall conform with the air pollution control standards and regulations of the State Department Of Health, and the County of Maui.
- The contractor shall provide dust control sprinklers, and/or water-wagons as necessary, weekends, and holidays included. All graded areas shall be thoroughly watered after construction activity has ceased for the day.
- The contractor shall be responsible for responding to dust complaints from neighboring properties and will provide additional mitigation measures as necessary.

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EROSION CONTROL NOTES

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Project No. 3400A-01-20

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NOTES:

Special conditions for land disturbances

The following special conditions apply to all land disturbance work conducted under this general permit:

A. CONSTRUCTION MANAGEMENT TECHNIQUES

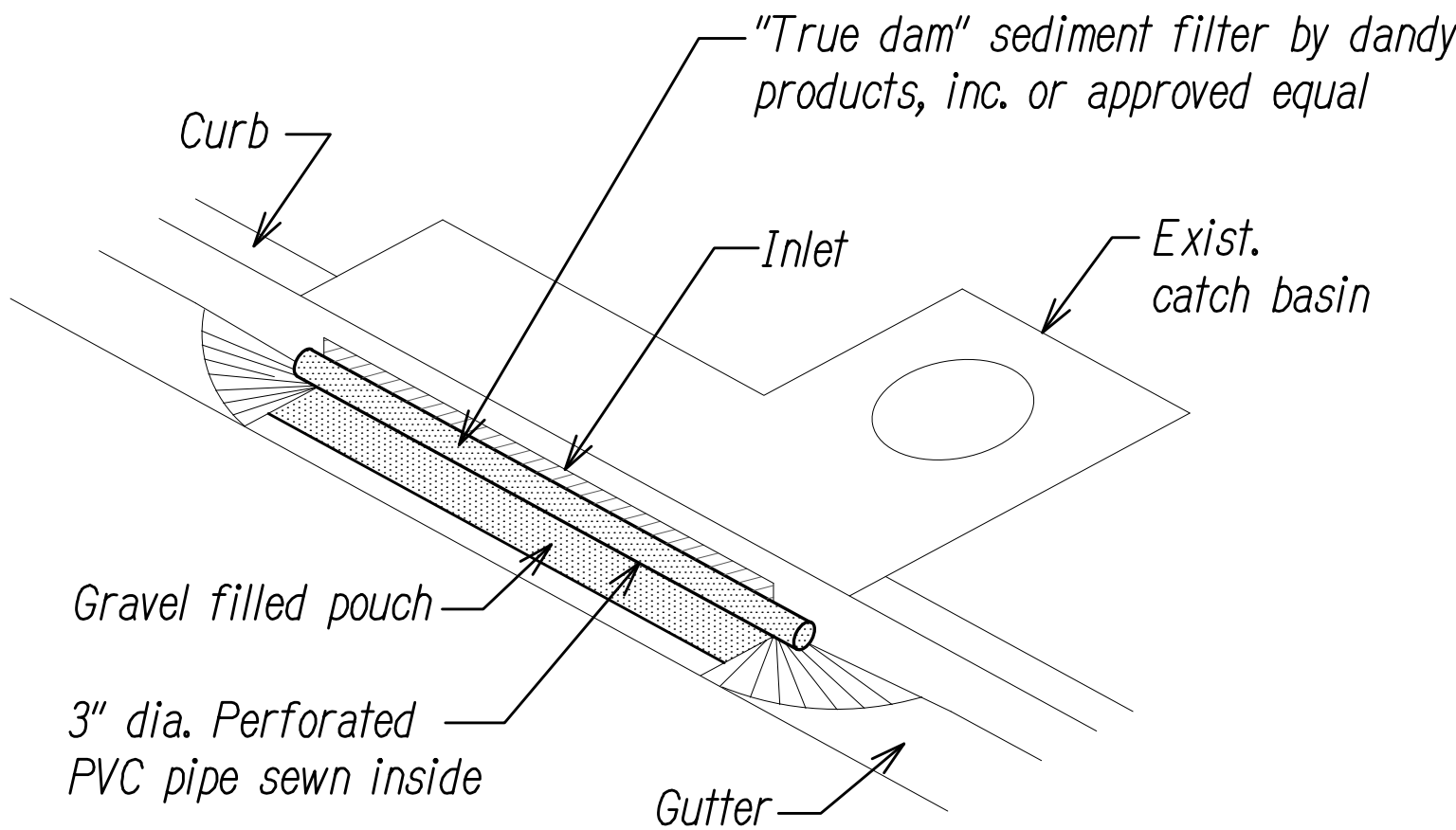
- Clearing and grubbing shall be held to the minimum necessary for grading and equipment operation.
- Construction shall be sequenced to minimize the exposure time of the cleared surface area.
- Construction shall be staged or phased for large projects. Areas of one phase shall be stabilized before another phase is initiated. Stabilization shall be accomplished by temporarily or permanently protecting the disturbed soil surface from rainfall impacts and runoff.
- Erosion and sediment control measures shall be in place and functional before earth moving operations begin. Theses measures shall be properly constructed and maintained throughout the construction period.
- All control measures shall be checked and repaired as necessary, for example, weekly in dry periods and within twenty-four hours after any rainfall of 0.25 inches or greater within a 24-hour period. During prolonged rainfall, daily checking is necessary. The permittee shall maintain records of checks and repairs.
- The permittee shall maintain records of the duration and estimated volume of storm water discharge(s).
- A specific individual shall be designated to be responsible for erosion and sediment controls on the project site.

B. VEGETATION CONTROLS

- Pre-construction vegetative ground cover shall not be destroyed, removed, or disturbed more than fourteen calendar days prior to land disturbance.
- Temporary soil stabilization with appropriate vegetation shall be applied on areas that will remain unfinished for more than fourteen calendar days.
- Permanent soil stabilization with perennial vegetation or pavement shall be applied as soon as practical after final grading. Irrigation and maintenance of the perennial vegetation shall be provided for thirty calendar days or until the vegetation takes root, whichever is shorter.

C. STRUCTURAL CONTROLS

- Storm water flowing toward the construction area shall be diverted by using appropriate control measures, as practical.
- Erosion control measures shall be designed according to the size of disturbed or drainage areas to detain runoff and trap sediment.
- Water must be discharged in a manner that the discharge shall not cause or contribute to a violation of the basic water quality criteria as specified in section 11-54-04.

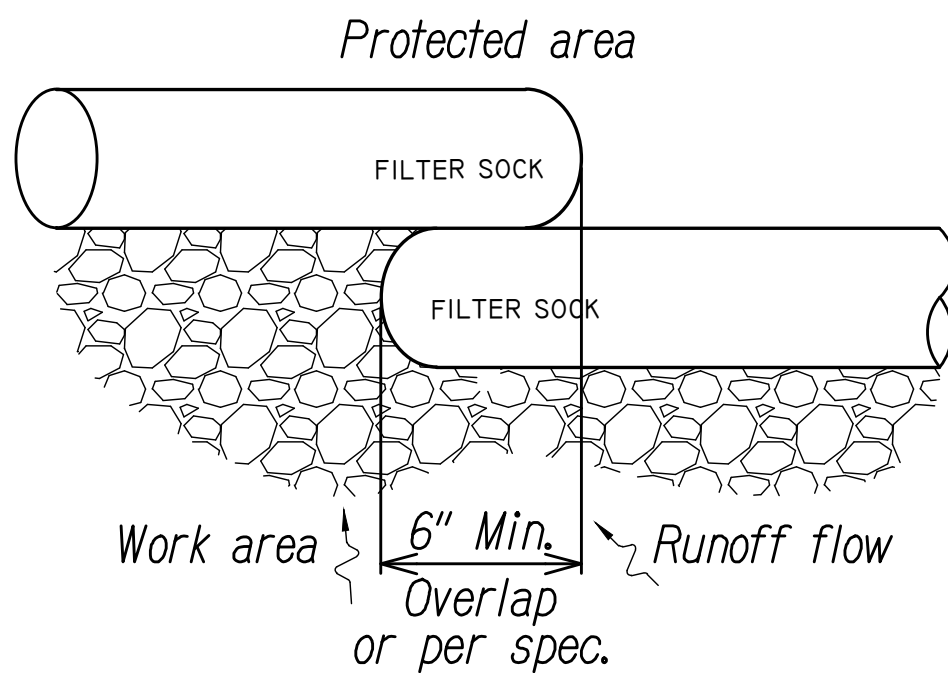


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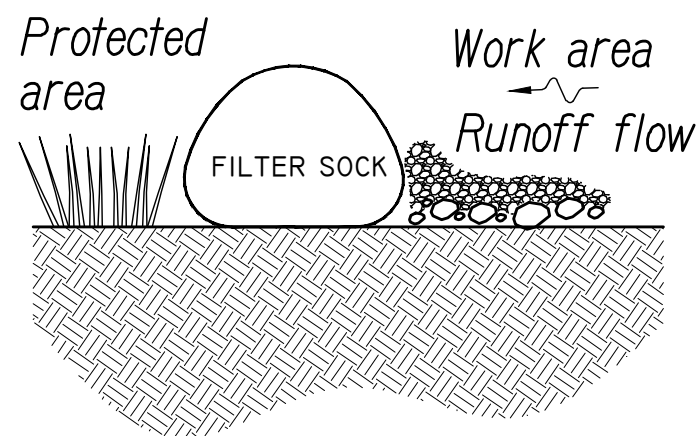
- To The Contractor sahl use best professional judgement (BPJ) to establish when inlet filters should be removed during times of above normal rainfall events to avoid threats to public health and/or safety. The contractor shall use BPJ to establish when inlet filters should be replaced once the event has passed.
- To be installed at all existing catch basins adjacent and downstream of work areas.

SEDIMENT CONTROL FILTER AT CATCH BASIN

Not To Scale



PLAN



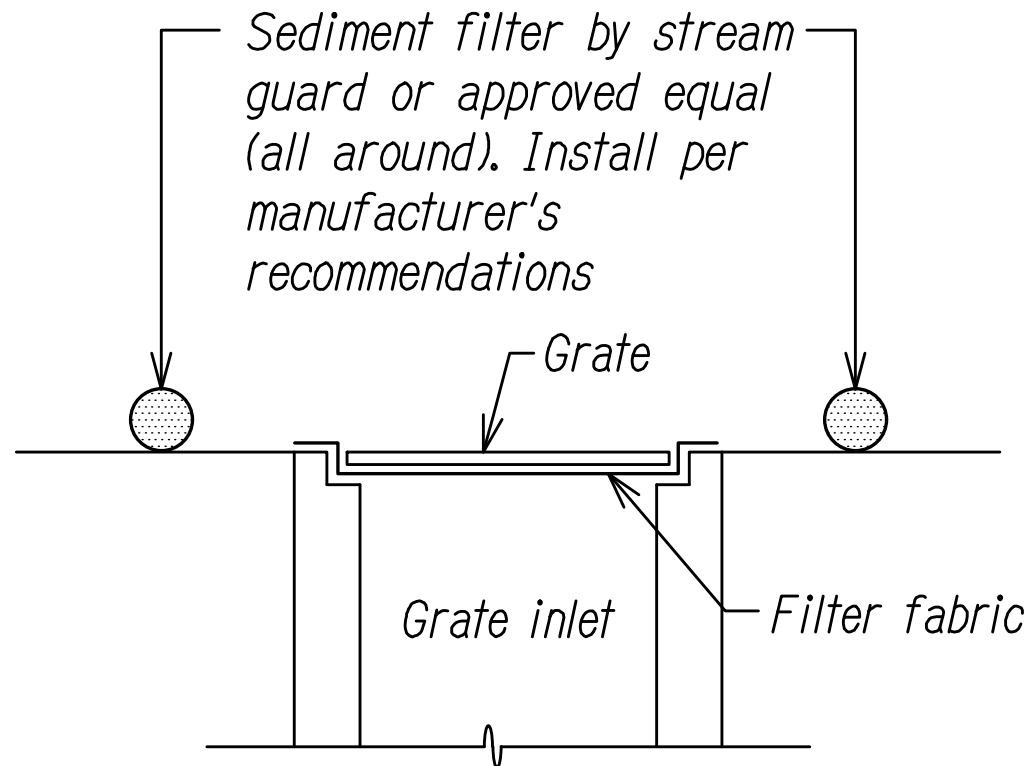
SECTION

NOTES:

- Stagger each row of filter socks so that connection points meet 6 inch minimum overlap with adjacent connection point.

12" FILTER SOCK DETAIL

Not To Scale



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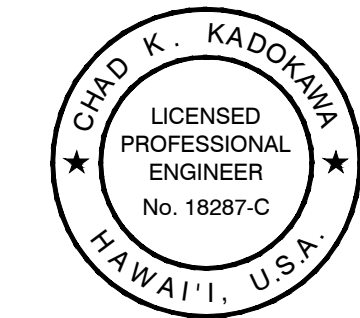
- Filter fabric shall be 15 mil (min.) "Envirofence #10800" by Nicolon Corp. or approved equal.
- Contractor shall check the condition of the filter at the beginning and ending of each work day and repair/ clean as necessary.

TEMPORARY SEDIMENT BARRIER

AT DRAIN INLET

Not To Scale

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**EROSION CONTROL NOTES
AND DETAILS**

*Kahului Beach Road Intersection
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