

WATER POLLUTION AND EROSION CONTROL NOTES:

A. GENERAL:

1. The Contractor is reminded of the requirements of Section 209 – Water Pollution and Erosion Control, in the "Hawaii Standard Specifications for Road, Bridge and Public Works Construction". 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.
2. The Contractor shall follow the guidelines in the "Best Mangement Practices Manual for Construction Sites in Honolulu", dated May 1999 in developing, installing and maintaining the Best Management Practices (BMP) for the project.
3. The Engineer may assess liquidated damages of up to \$25,000 for non-compliance of each BMP requirement and each requirement stated in Section 209, for every day of non-compliance. There is no maximum limit on the amount assessed per day.
4. 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.

B. WASTE DISPOSAL:

1. Waste Materials  
All waste materials shall be collected and stored in a securely lidded metal dumpster. The dumpster shall meet all local and State solid waste management regulations. All trash and construction debris from the site shall be deposited in the dumpster. The dumpster shall be emptied a minimum of twice per week or as often as is deemed necessary. No construction waste materials shall be buried onsite. The Contractor's supervisory personnel shall be instructed regarding the correct procedure for waste disposal. Notices stating these practices shall be posted in the office trailer and the Contractor shall be responsible for seeing that these procedures are followed.
2. Hazardous Waste  
All hazardous waste materials shall be disposed of in the manner specified by local or State regulations or 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.
3. Sanitary Waste  
All sanitary waste shall be collected from the portable units a minimum of once per week, or as required.

C. EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

1. All control measures shall be inspected at least once each week and following any rainfall event of 0.5 inches or greater.
2. All measures shall be maintained in good working order. If repair is necessary, it shall be initiated within 24 hours after the inspection.
3. Built-up sediment shall be removed from silt fence when it has reached one-third the height of the fence.
4. Silt screen or fence shall be inspected 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.
5. Temporary and permanent seeding and planting shall be inspected for bare spots, washouts and healthy growth.
6. A maintenance inspection report shall be made promptly after each inspection by the Contractor.
7. The Contractor shall select a minimum of three personnel who shall be responsible for inspections, maintenance and repair activities and filling out the inspection and maintenance report.
8. 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.

D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:

1. Materials Pollution Prevention Plan  
a. 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
Epoxy-based bonding agent	Cleaning Solvents
Metal Studs	Wood
Tar	Masonry Stone

- b. Material Management Practices shall be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. An effort shall be made to store only enough product as is required to do the job.
- c. All materials stored onsite shall be stored in a neat, orderly manner in their appropriate containers and if possible under a roof or other enclosure.
- d. Products shall be kept in their original containers with the original manufacturer's label.
- e. Substances shall not be mixed with one another unless recommended by the manufacturer.
- f. Whenever possible, a product shall be used up completely before disposing of the container.
- g. Manufacturer's recommendations for proper use and disposal shall be followed.
- h. The Contractor shall conduct a daily inspection to ensure proper use and disposal of materials onsite.

2. Hazardous Material Pollution Prevention Plan

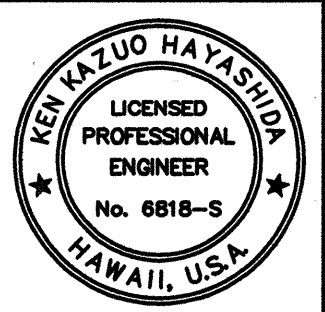

- a. Products shall be kept in original containers unless they are not resealable.
- b. Original labels and material safety data sheets (MSDS) shall be retained.
- c. Surplus products shall be disposed of according to manufacturers' instructions or local and State recommended methods.

3. Onsite and Offsite Product Specific Plan

- a. The following product specific practices shall be followed onsite:
  - 1) Petroleum Based Products:  
All onsite vehicles shall be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products shall be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used onsite shall be applied according to the manufacturer's recommendation.
  - 2) Fertilizers:  
Fertilizers used shall be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer shall be worked into the soil to limit exposure to storm water. Storage shall be in a covered shed. The contents of any partially used bags of fertilizer shall be transferred to a sealable plastic bin to avoid spills.
  - 3) Concrete Trucks:  
Concrete trucks shall be allowed to wash out or drum wash water only at a designated site. Water shall not be discharged in the highway drainage system or waters of the United States. The Contractor shall contact Drinking Water Branch, Department of Health at 933-0901 to receive permission to designate a disposal site. The Contractor shall clean disposal site as required or as requested by the Owner's representative.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-02-01M	2001	5	24

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
NO.	

   THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION  WATER POLLUTION & EROSION CONTROL NOTES  HAWAII BELT ROAD CULVERT REPAIRS AND RENOVATIONS VARIOUS LOCATIONS, HAWAII PROJECT NO. HWY-H-02-01M  SCALE: AS NOTED DATE: APRIL 27, 2001 SHEET No. 1 OF 2 SHEETS
--	---



# WATER POLLUTION AND EROSION CONTROL NOTES: -Cont.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-02-01M	2001	6	24

## D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES: -Cont.

### b. Offsite Vehicle Tracking:

A stabilized construction entrance shall be provided to help reduce vehicle tracking of sediments. The paved street adjacent to the site entrance shall be cleaned daily or as required to remove any excess mud, cold planed materials, dirt or rock tracked from the site. Dump trucks hauling material from the construction site shall be covered with a tarpaulin.

## 4. Spill Control Plan

a. A spill prevention plan shall be posted to include measures to prevent and clean up each spill.

b. The Contractor shall be the spill prevention and cleanup coordinator. The Contractor shall 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. The names of responsible spill personnel shall be posted in the material storage area and in the office trailer onsite.

c. Manufacturers' recommended methods for spill cleanup shall be clearly posted and site personnel shall be made aware of the procedures and the location of the information and cleanup supplies.

d. Materials and equipment necessary for spill cleanup shall be kept in the material storage area onsite.

e. All spills shall be cleaned up immediately after discovery.

f. The spill area shall be kept well ventilated and personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.

g. Spills of toxic hazardous material shall be reported to the appropriate State or local government agency, regardless of the size.

## E. PERMIT REQUIREMENTS: For four culverts along Route 19, Big Island, Hawaii:

1. If a National Pollutant Discharge Elimination System (NPDES) Permit is required for Construction Activities, the Contractor shall submit to the Engineer four sets of the Water Pollution and Erosion Control Submittals as detailed in Subsection 209.04 of the specifications.

2. If an NPDES Permit for Construction Dewatering is required, the Contractor shall be responsible to obtain the Permit from the Department of Health, Clean Water Branch.

3. The Contractor shall comply with all applicable State and Federal Permit conditions. Permits may include but are not limited to the following:

- NPDES Permit for Construction Activities
- NPDES Permit for Construction Dewatering
- NPDES Permit for Hydrotesting Waters
- Water Quality Certification
- Stream Channel Alteration Permit
- Section 404 Army Corps of Engineer Permit

## F. BMP GENERAL NOTES:

1. Excavated material shall be hauled offsite for disposal. Rock crushing is not allowed onsite.

2. Sandbags shall be installed to contain the work area. Sandbags shall be stacked in alternating directions.

3. Sandbags with a 3 feet min. height shall be installed downslope of all contained work area to allow sedimentation of runoff.

4. Always keep min. 80 L.F. of stream channel open and clear from debris in stream channel.

5. Work above the ordinary highwater mark shall resume when stream flows subside to levels that can be diverted by sandbags and do not significantly affect water quality as approved by engineer.

6. Upstream sample location shall be 30 feet from the nearest point of the project site.

7. Impact water sample stations shall be 3 feet downstream from the nearest point of the silt fencing and sandbags.

8. Downstream water sample station shall be 50 feet downstream of the silt fencing/sandbags.

9. Fill material for sandbags and temporary construction access road shall be cleaned granular material.

10. Runoff collected contained areas shall be disposed outside of stream channel and out of any state waters.

11. Treated wood material is not permitted for forms and shoring within the stream channel.

12. The hoe ram shall demolish embankment slope armored with Class D concrete. Particles shall be as large as practical to avoid creating excess dust.

13. A backhoe shall load the embankment rock onto a truck.

14. Rock lodged in crevices (10%-20% of the embankment material) shall be removed manually.

15. Cleanup contained work area then open min. 80 L.F. wide channel.

16. Erosion control for road work and exposed embankments outside of stream channel shall conform to Water Pollution and Erosion Control notes on sheet 5 and 6.

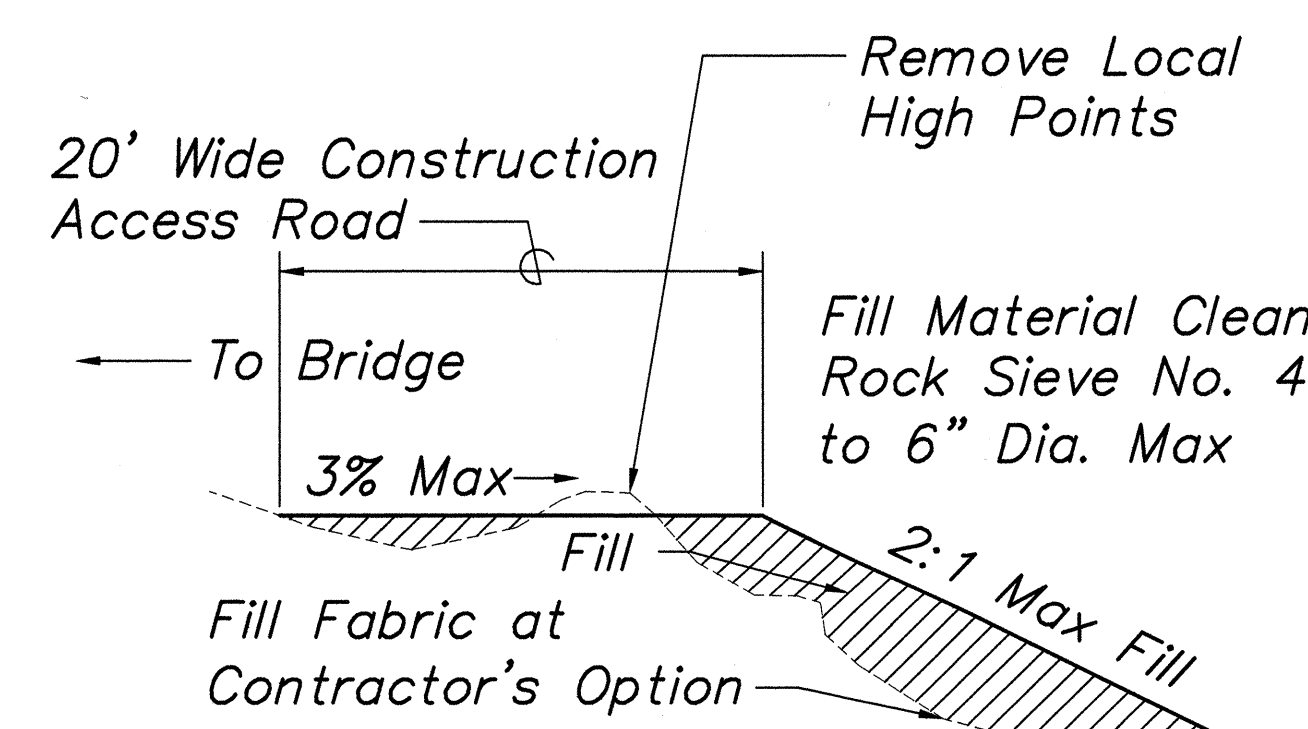
17. Shoring can remain in place within the open channels as required by the Engineer.

18. BMPs are required for concrete pour at footing. Confine pour area with sandbags one layer high.

19. BMPs are required for contractor's stockpile and staging area.

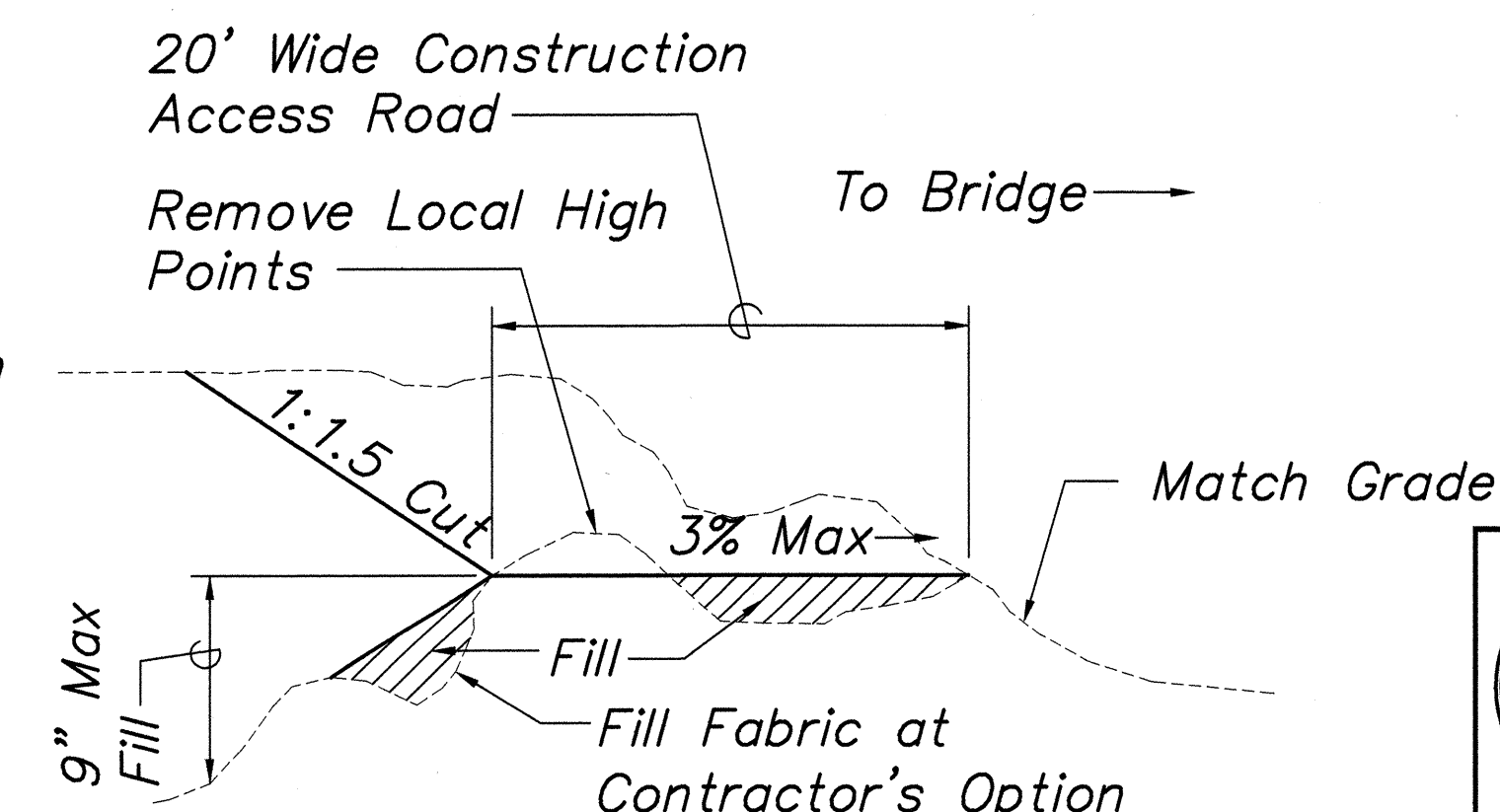
20. Any deviations from these BMPs shall be at Contractor's cost and no additional workdays shall be added.

21. Only erosion control and hazardous wastes, if encountered during excavation work, shall be paid for under Force Account. All other pollution control shall be Contractor's responsibility.



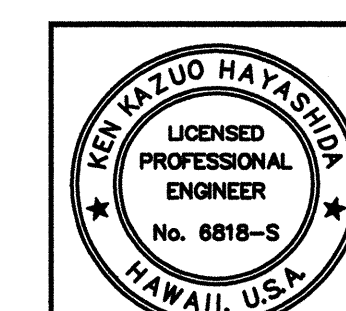
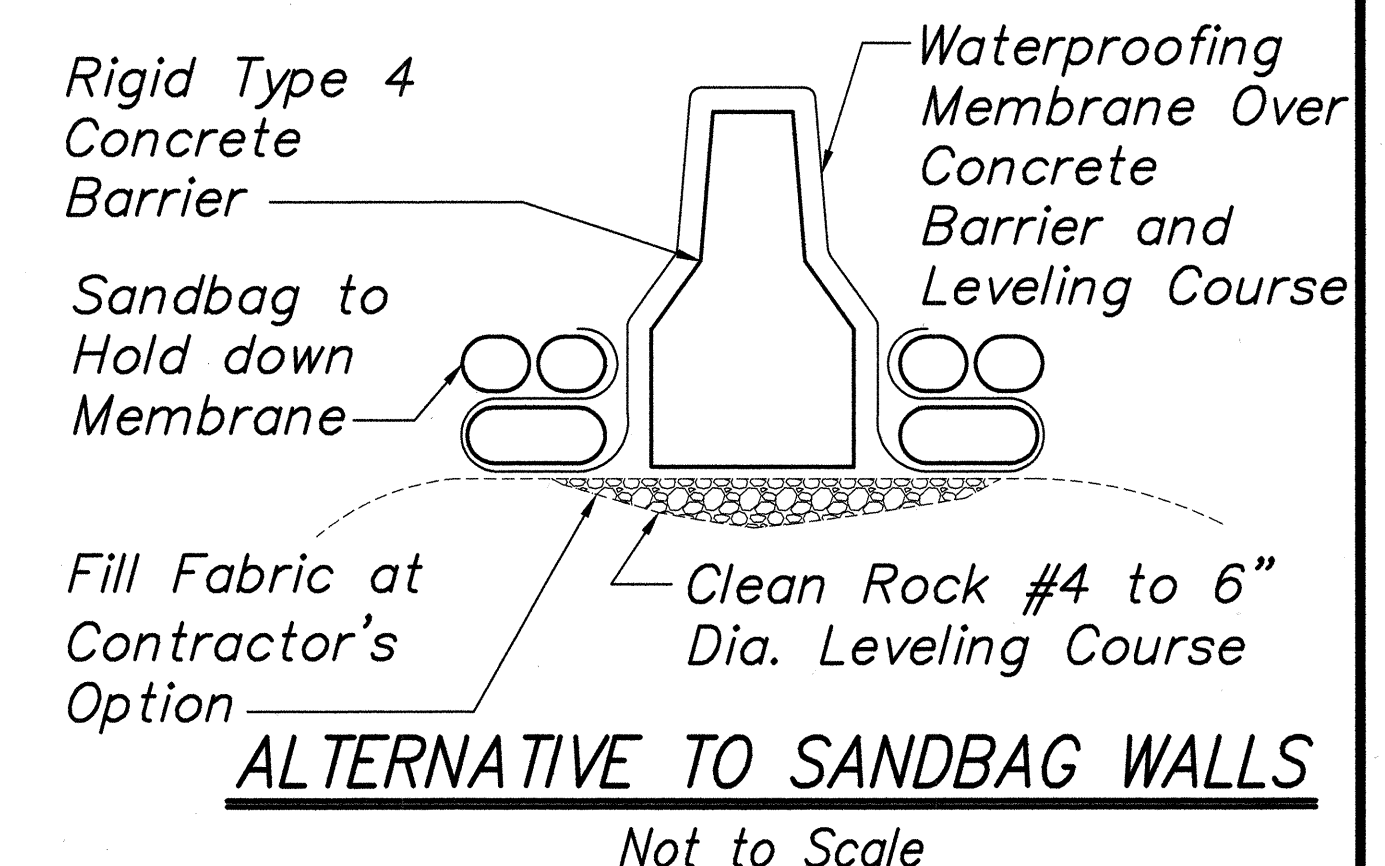
TYPICAL DOWNSTREAM SECTION

Not to Scale



TYPICAL UPSTREAM SECTION

Not to Scale



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
WATER POLLUTION & EROSION CONTROL NOTES	
HAWAII BELT ROAD CULVERT REPAIRS AND RENOVATIONS VARIOUS LOCATIONS, HAWAII PROJECT NO. HWY-H-02-01M	
SCALE: AS NOTED	DATE: APRIL 27, 2001
SHEET No. 2 OF 2 SHEETS	