

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	11M-01-00	2002	3	65

GENERAL NOTES (DOT)

- The scope of work for this project consists of realigning a portion of Huina Road, installing acceleration/ deceleration lanes and left turn bays along Volcano Road, relocating utilities and driveways, and installing new drainage system, pavement markings, striping and signing, retaining walls, and highway lighting.
- The Contractor is reminded of the requirements of Subsection 108.01 – Subletting of Contract, which requires him to perform work amounting to not less than 50 percent of the total contract cost less deductible items. Non-compliance with this Subsection may be grounds for rejection of bid.
- The Contractor's attention is directed to the following Sections of the Special Provisions: Subsection 107.13 – Public Convenience and Safety. Subsection 107.21 – Contractor's Responsibility for Utility Property and Services. Section 645 – Traffic Control.
- At the end of each day's work, the Contractor shall remove all equipment and other obstructions to permit free and safe passage of public traffic.
- Locations of existing underground structures and utilities such as pipelines, conduits, cables, etc., manholes, monuments, and structures shown on plans are approximate only. It is not the intent of these plans to show the exact location of all underground utilities and structures. It is the responsibility of the Contractor to verify the locations of all existing utilities with the respective owners. Existing utilities damaged by the Contractor shall be repaired by the Contractor at his own cost.
- Contractor shall provide for access to and from all existing side streets and driveways at all times.
- Maintenance of traffic through the construction area shall be in accordance with Part VI, "Standards and Guidelines for Traffic Controls for Street and Highway Construction, Maintenance, Utility and Incident Management Operations", of the "Manual On Uniform Traffic Control Devices for Streets and Highways", Federal Highway Administration (1988 Edition), to include all Revisions and Errata Sheets to Part VI and as specified in the special provisions. The Contractor shall furnish and maintain adequate barricades, blinkers, construction signs, etc., for the safety of the motoring public.
- All saw cutting work shall be considered incidental to Roadway Excavation.
- Existing drainage system will be functional at all times during construction. Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to accomplish maintenance of flow, the cost of which shall be considered incidental to the various contract items.
- Earth swale shall be graded to drain. Earth swale shall not be paid for separately, but shall be considered incidental to the various contract items.

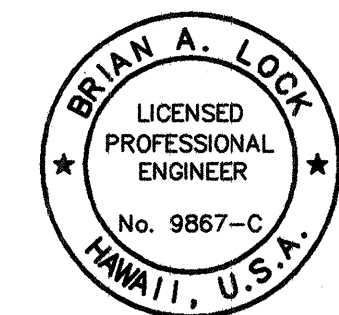
- The Contractor shall adjust flush to finish grade all manhole, valve, pullbox, and handhole frames & covers, including those not shown on the plans, if there is a change in grade due to construction of the project. If the proposal does not show a contract item, the Engineer will consider them incidental to the various contract item.
- All necessary permits for work within the jurisdiction of the County of Hawaii shall be obtained by the Contractor at his own cost.
- Dressing of shoulder, sidewalk and bus turnout shall consist of clearing, grubbing, grading, reshaping and compacting the unpaved shoulders with suitable material as shown on the plans and/or as directed by the Engineer. This work shall be considered incidental to the various contract items.
- Pavement restoration for drainage improvements shall be incidental to the various contract items.

WORK WITHIN THE COUNTY RIGHT-OF-WAY NOTES

- All work shall be done in accordance with the County of Hawaii, Department of Public Works (DPW), "Standard Specifications for Public Works Construction", dated September 1986 and "Standard Details for Public Works Construction", dated September 1984.
- The Contractor shall verify the location of all existing utilities, whether shown on the plan or not, and shall be responsible for the repair or replacement of same in the event of damages due to his construction practices. The Contractor shall coordinate his work with the respective utility companies.
- The Contractor shall provide and install all traffic control devices in conformance with the current edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways", and as directed by the Department of Public Works.
- The Contractor shall notify the Department of Public Works 48 hours before the commencement of any utility line work to schedule a field review and secure approval of the proposed utility line location within the County right-of-way.
- The proposed utility line location shall be laid out in the field prior to the conducting of the field review by the Department of Public Works.
- Field adjustments shall be made as directed by the Department of Public Works prior to the commencement of any utility line work.
- The required permit, under Chapter 22, Article 3, Section 22-44 of the Hawaii County Code, shall be obtained from the Department of Public Works by the Contractor for work within the County right-of-way.
- The Contractor shall provide at least one (1) lane for traffic movement at all times. Two (2) lanes for traffic movement shall be provided between the hours of 3:30 p.m. to 8:00 a.m.
- The existing pavement shall be saw-cut before commencement of trenching work.
- Any pavement outside the contract zone limits damaged as a result of construction operations shall be restored to its original condition, or better, as directed by the DPW.
- A temporary cold mix patch shall be applied immediately upon completion of the backfilling operation and shall be maintained by the Contractor until a permanent patch is authorized by the Department of Public Works.
- No material, except the trench excavated material, shall be stockpiled closer than six (6) feet from the existing edge of pavement.
- No construction equipment shall be parked within the road right-of-way in such a manner that the equipment will obstruct the normal movement and sight distance of the driving motorist, except during actual working hours.

- Except during actual working hours, all signs that do not pertain to the construction activity, such as "men working" and "flagman ahead" shall be covered or laid down. However, all signs necessary for the safety of the public shall be maintained.
- Any pavement markings, structures, and appurtenances damaged by the utility line installation shall be repainted or reconstructed as directed by the Department of Public Works.
- No trenching shall be left open for more than five (5) working days.
- Should trenching occur through an existing sidewalk, or should damages occur to the sidewalk as a result of any construction work, the following procedure shall be utilized to repair the sidewalk.
  - All Portland cement concrete to be removed shall first be cut with a concrete saw that has a diamond or carborundum abrasive wheel. Those cuts shall be made to a depth equal to at least one-fourth of the depth of the slab, or enough as is deemed necessary by the Department of Public Works, to permit breaking out the balance of the concrete without spalling of the exposed edges of the slab left in place.
  - If any concrete block is touched, the whole block shall be removed and later replaced, unless a minor variation is authorized by the DPW or its representative.
  - Any damages to adjacent areas due to settlement or to any other effects whatsoever caused by the construction work shall be properly repaired and corrected.
  - All other incidental work shall be satisfactorily performed to effect the proper restoration of the sidewalk area.
- The Permittee shall maintain, to the satisfaction of the Department of Public Works, the area worked within the government right-of-way including any repairs to pavement and shoulder damaged as a result of the installation work, for a period of one (1) year from the date of final inspection. The Permittee shall undertake repairs expeditiously, whenever directed by the Department of Public Works during the maintenance period.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
Hempco04	DESIGNED BY	
No.	CHECKED BY	



THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION.  
*[Signature]*  
ENGINEERS-SURVEYORS HAWAII, INC.

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
NOTES
VOLCANO ROAD INTERSECTION IMPROVEMENTS AT HUINA ROAD State Project No. 11M-01-00
Scale: No Scale Date: November 2001
SHEET No. 1 OF 4 SHEETS



FED.ROAD DIST.NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	11M-01-00	2002	4	65

GENERAL NOTES--(HAWAII COUNTY)

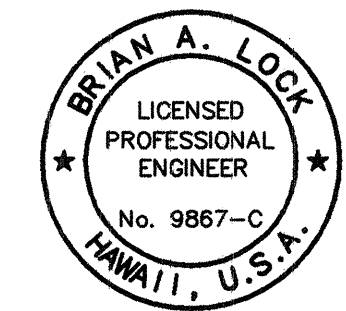
1. The project consists of realigning a portion of Huina Road, installing acceleration/deceleration lanes and left turn bays along Volcano Road, relocating utilities and driveways, and installing new drainage system, pavement marking, striping and signing.
2. The Contractor shall verify the locations of all existing valve boxes, utility manholes, drainage gratings, centerline monuments, etc. and shall have them raised to meet new pavement grade.
3. All construction shall be performed in accordance with Standard Details and Standard Specifications of the Department of Public Works, County of Hawaii and the Hawaii Standard Specifications for Road, Bridge and Public Works Construction, 1994 Edition, unless otherwise specified on the plans or specifications.
4. Existing pavement shall be cleaned and shall receive a tack coat of 0.15 gallon per square yard of emulsified asphalt (ss-1) before placing a.c. pavement. The cost of tack coat shall be incidental to the a.c. pavement (item no. 401.0100).
5. The Contractor shall pave the total width of roadway each day so as not to leave a longitudinal pavement drop between lane passes of the paver. However, at the discretion of the Engineer, the Contractor may construct a transition taper (1'-wide) so as not to leave a vertical face.
6. The Contractor shall provide smooth-riding connection to existing streets and driveways and at beginning and ending of project limits as directed by the Engineer. Payment shall be incidental to the a.c. pavement (item no. 401.0100).
7. Pavement striping, including centerline, crosswalks, stoplines, arrows, edge of pavement, etc. and raised pavement markers, in place complete, shall conform to the County Standard Traffic Notes or as modified by the details on these plans.
8. The Contractor shall keep at least one lane open to traffic at all times between 8:30 a.m. and 3:30 p.m. Both lanes shall be kept open to traffic during other hours.
9. The Contractor shall be responsible for any damage done to the D.W.S. existing water system.
10. Any pavement, pavement markings, structures, signs and other appurtenances damaged by the Contractor as a result of construction operations shall be restored to its original, or better condition.
11. Restripe all existing pavement marking where necessary, unless otherwise noted on plans.
12. Contractor shall provide access to all properties at all times unless the owner waives this requirement in writing.

TRAFFIC NOTES - (HAWAII COUNTY)

1. All traffic signs and pavement markings shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices", as amended, and applicable sections of Part V of the "Standard Details for Public Works Construction," dated September, 1984, and the "Hawaii Standard Specifications for Road and Bridge Construction," 1994 Edition, unless otherwise specified on the plans, specifications, or the standard traffic notes.
2. The Contractor shall install permanent or temporary pavement markers, striping and markings as required by Section 629 of the "Hawaii Standards Specifications for Road and Bridge Construction," 1994 Edition. The temporary striping must be installed as close as possible to the final location to ensure proper lane widths and safe flow of traffic.
3. The Contractor shall inform the traffic division at least six (6) working days prior to any work on pavement markings operations and/or sign installations to schedule a review and approval of the striping and/or signing plans.
4. The approved striping plan shall be layed out using thinned-out paint or other approved device. Field adjustments shall be made as directed by the Engineer before the final markings are applied.
5. All pavement markings that become inapplicable shall be removed by the Contractor at his own expense. Removal shall be by "sand-blasting" or by other methods approved by the Engineer before the new pavement markings are applied.
6. Pavement striping shall be with pre-mixed reflectorized oil-based lead-free traffic paints, which have been tested and pre-approved by the County of Hawai'i. Only the following traffic paints have been tested and pre-approved by the County of Hawai'i and are acceptable for use on this project.  
  
Yellow Paint: Centerline V51L002  
White Paint: Centerline V51W002 Pervo 5870RR  
  
Reflective Thermoplastic Compound Pavement Marking as specified in Section 629 and 712.55 of the Hawai'i Standard Specifications for Road, Bridge and Public Works Construction (1994 Edition) may be used in lieu of paint for all pavement striping. The Contractor shall submit Certificate of Compliance certifying that the thermoplastic material to be used meets the current State of Hawai'i Department of Transportation specifications. Type III Preformed Pavement Marking Tape, A240 or an equal pavement marking tape that is approved by the Traffic Division may be used for crosswalks, stoplines, pavement arrows, alphabets, and symbols.
7. All painted pavement striping shall be applied in coats of 0.015 inch nominal thickness each. For striping on fresh a.c. (resurfaced or new pavements), two coats of paint must be applied. Second coat shall be applied only after complete drying of first coat. Wait at least 2 hours between coats. For striping on old existing pavements, one coat shall be sufficient.

8. Reflectorized raised pavement markers shall be the regular sized markers with approximate dimensions of 4" x 4" x 0.7". All raised pavement markers must have been tested and pre-approved by the County of Hawai'i or approved by the State of Hawai'i Department of Transportation. The following pavement markers have been tested and pre-approved by the County of Hawai'i and are acceptable for use on this project.  
  
Stimsonite Model 911 (4x4)  
Ray-O-Lite "AA" ARS (4x4)
9. All traffic signs and posts shall meet the requirements of the County of Hawai'i Standard Detail T-1 EXCEPT THAT FLANGED CHANNEL POSTS WILL NOT BE ACCEPTABLE. Signs shall be on aluminum sheeting of 0.080 inch minimum thickness. Sign post shall be 2 inch square telespar tubing No. 20 F 12 or equivalent with 2 1/4 inch square telespar post.
10. All traffic signs shall be completely reflectorized with Type III or Type IV High Intensity Retroreflective Sheeting except that PARKING/NO PARKING & STREET NAME signs may be engineer grade reflective sheeting.
11. The 2 1/4 inch square anchor post for signs shall be driven into the ground, a.c. pavement or concrete sidewalk in accordance with the plans. All damages to the surrounding area shall be repaired to its original condition or better. Before driving into concrete, a neat hole of approximately 3 inch diameter shall be drilled through the concrete prior to the installation of the anchor post. If driving into the concete or a.c. pavement is not possible without damage to the surrounding concrete or a.c. pavement, a 12" x 12" square shall be saw-cut and removed prior to the installation of the anchor post and then then patched with hot mix to match the existing a.c. pavement, and concrete to match the existing concrete pavement.
12. Upon completion of the construction work, the Contractor shall restripe all pavement marking within the construction work area and adjacent roadway pavements up to 300 feet beyond the construction area. All signs and markings within the construction area and adjacent areas that have been damaged, removed or adversely affected by the construction work shall be restored to its original condition or better by the Contractor.
13. All dedicated streets must have Street Names which have been approved by resolution or by the Planning Department before acceptance of the street by the County of Hawai'i.
14. Install PRIVATE ROAD sign on private roadway. Sign shall be on 18" wide x 12" high aluminum plate with 4" black lettering on white reflectorized sheeting.
15. All signs and markings for private roadways shall be maintained by the private owners.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
hmg/004	DESIGNED BY	
No.	CHECKED BY	



THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION.  
*[Signature]*  
ENGINEERS-SURVEYORS HAWAII, INC.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

NOTES

VOLCANO ROAD INTERSECTION  
IMPROVEMENTS AT HUINA ROAD  
~~State Project No. 11M-01-00~~

Scale: No Scale Date: November 2001

SHEET No. 2 OF 4 SHEETS



FED.ROAD DIST.NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	11M-01-00	2002	5	65

GRADING NOTES--(HAWAII COUNTY)

- All grading work shall conform to Chapter 10 of the Hawaii County Code. Should a grading permit be required, no work shall commence until the Department of Public Works (DPW) approves a grading permit.
- The Contractor shall remove all silt and debris deposited in drainage facilities, roadways and other areas resulting from his work. The costs incurred for any necessary remedial action by the DPW shall be payable by the Contractor.
- The Contractor, at his own expense, shall keep the project and surrounding areas free from dust nuisances. The work shall be in conformance with the Air Pollution Control Rules of the State Department of Health, HAR 11-60.1, Fugitive Dust.
- All grading operations shall be performed in conformance with the applicable provisions of the Hawaii Administrative Rules, Title 11, Chapter 55, Water Pollution Control and Chapter 54, Water Quality Standards, and to the Erosion and Sedimentation Control Standards and Guidelines of the Department of Public Works, County of Hawaii.
- The Contractor shall sod or plant all slopes and exposed areas immediately after the grading work has been completed. (This work shall be considered incidental to 618.0100).
- Fills on slopes steeper than 5:1 shall be keyed.
- The Contractor shall inform the DPW of the location of the disposal and/or borrow site(s) required for this project when an application for a grading permit is made. The disposal and/or borrow site(s) must also fulfill the requirements of the grading ordinance.
- No grading work shall be done on Saturdays, Sundays and Holidays anytime without prior approval from the Department of Public Works. Grading work on normal working days shall be between the hours of 7:00 a.m. to 3:30 p.m.
- Fills shall be compacted to 90 percent (90%) of the maximum density per ASTM D-1557 test.
- The Contractor shall remove all vegetation before placing fills on natural ground surface.

HELCO AND VERIZON NOTES

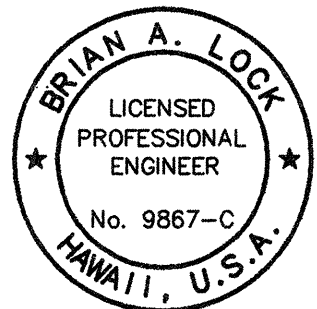
- The Contractor shall exercise caution when excavation and construction crosses or is in proximity of underground telephone and signal cable facilities and maintain adequate clearance for his equipment while working close to and/or under the overhead facilities. Any damage to the existing underground and overhead utilities shall be repaired and paid for by the Contractor.
- Should it become necessary, any work required to relocate HELCO facilities shall be done by HELCO and paid for by the Contractor. The Contractor shall be responsible for all coordination.
- For field location of Verizon's facilities, contact Verizon outside plant Engineering Section a minimum of 72 hours in advance of the start of construction.
- The Contractor is to exercise extreme caution when the excavation and construction crosses or is in close proximity of HELCO underground electrical facilities and maintain adequate clearance for his equipment while working close to and/or under HELCO's overhead facilities.
- Should field conditions and/or construction procedure require that poles be braced to facilitate construction, the Contractor is to contact HELCO District Construction Superintendent a minimum of 72 hours in advance for bracing instruction.
- The existence and location for HELCO overhead and under-ground facilities as shown on the plans are from existing records of varying degrees of accuracy and are not guaranteed as shown. Should relocation of HELCO facilities be required, HELCO is to be contacted four (4) weeks in advance. Any work required to relocate HELCO facilities shall be done by HELCO and paid for by the Contractor. The Contractor shall be responsible for all coordination.
- The Contractor is to comply with the directions of the State of Hawaii Occupational Safety and Health law (DOSH)
- The Contractor shall report any damages to HELCO's facilities to the HELCO trouble dispatcher.
- The Contractor shall excavate and backfill around telephone cables in the presence of Verizon Engineer or his representative. All excavation within two feet of telephone cables shall be done by hand.
- For relocation of any telephone cables and/or ductlines, the Contractor shall notify Verizon five (5) working days before starting work. The Contractor shall provide the necessary excavation and backfill, arrange for traffic permits and restore sidewalks, pavement of other facilities.
- The Contractor shall notify Verizon immediately after any damage has been caused to existing cables, ductlines, pullboxes, manholes, poles and guys. Repair work damaged cables shall be done by Verizon and other work involving existing underground facilities shall be done by the Contractors in the presence of Verizon Engineer or his representative with payments for work to be borne by the Contractor.

WATER NOTES

- All work shall be done according to the Water System Standards, State of Hawaii, Volumes 1 and 2, dated 1985, as amended.
- The Contractor shall inform the D.W.S. Engineer 72 hours prior to the beginning of any waterline work and one week prior to any connection, chlorination, shut-off or relocation.
- All work and material furnished by the D.W.S. shall be paid for by the Contractor.
- All existing waterlines, waterline appurtenances and other utility locations shown on the plans are obtained from latest reliable sources. The Contractor shall be responsible to verify the exact location of all utilities in the field and shall bear all costs for damages done unto them during the contract period.
- All hook-ups to existing waterlines shall be done by the Department of Water Supply. The Contractor shall provide all excavation, backfill, road repair, traffic control, etc.
- Where water shut-off of more than 3 hours becomes necessary, the Contractor, at his own cost, shall provide a temporary by-pass line, size of which shall be determined by the D.W.S. Engineer. The D.W.S. Engineer, also reserves the right to require by-pass lines, regardless of the water shut-off period, if it is deemed necessary.
- Minimum horizontal clearance between waterlines and other utilities shall be 8 feet for road right-of-ways of 50 feet or less, minimum vertical clearance between waterline and other utilities shall be 12-inches provided the other utility is concrete-jacketed and 18 inches if no concrete jackets are used. In all applicable instances the waterlines shall be at a grade higher than other utilities. Minimum horizontal clearance between waterline and other utilities shall be 10 feet for road right-of-ways of more than 50 feet.
- All fittings (class 250) and all gate valves (class 200) shall be ductile iron, with mechanical joints unless otherwise specified. Butterfly valves shall be class 250 with epoxy coated interior unless otherwise specified.
- The waterline shall be tested at a minimum of 225 p.s.i. or one and a half times the static pressure at the low point, under D.W.S. supervision just prior to paving the roadways.
- The Contractor shall be responsible for the chlorination of the water system and shall bear all cost. The persons engaged to do the chlorination work must have the appropriate license to perform the work in the State of Hawaii.
- All service laterals shall be soft copper, Type "K", with brass fittings.
- Pipe cushion for copper pipes shall be No. 4 Fine, manufactured sand.
- The D.W.S. will not assume ownership of nor grant any water service until the water system is dedicated to the D.W.S. along with all necessary easements and documents.

- Solder and flux shall contain not more than 0.2 percent lead.
- 4' x 4' x 4" reinforced concrete slab for fire hydrant shall be reinforced with 6 x 6 x 10/10 welded wire fabric.
- Install D.W.S. approved reduced pressure principle type backflow prevention assembly (above ground) after meter per D.W.S. Standard Detail 126. No taps or connections are allowed between the meter and the approved backflow preventer assembly testing requirements once a year.
- Existing service laterals to be removed/relocated shall be cut and plugged at the main.
- Relocation of existing meters shall be done under D.W.S. Supervision. Relocation of customer service lines to relocated meters shall be done by the Contractor. Materials used to connect customer lines to relocated meters shall be new 3/4" copper Type "K". All work and materials required shall be provided by the Contractor and considered incidental to the various bid items. A Dielectric union shall be used to connect the copper pipe to the customer's G.I. pipe.
- It is the intent of the D.W.S. to utilize the existing corporation stop in locations where only the service laterals will be replaced. The Contractor shall perform all necessary work required to cut off existing and connecting new pipe to the existing corporation stop. In locations where new taps are required, the Contractor will make arrangements with D.W.S. 24 hours in advance for a new tap. On new pipeline, the Contractor will make their own taps.
- Contractor shall inform the customer 24 hours in advance of water shut-off to complete new service connection to customer's line.
- Where water meters (5/8") are either raised or relocated, the Contractor shall replace the existing meter boxes and replace with Type "B" boxes.
- The Contractor shall coordinate with the Department of Water Supply the final locations prior to relocating water meters.

ORIGINAL PLAN	DATE	DRAWN BY	CHECKED BY	DISCUSS BY	QUANTITIES BY	No.
NOTE BOOK						
hkmjg04						
No.						



THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION.  
*[Signature]*  
ENGINEERS SURVEYORS HAWAII, INC.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

NOTES

VOLCANO ROAD INTERSECTION  
IMPROVEMENTS AT HUINA ROAD  
~~State~~ Project No. 11M-01-00

Scale: No Scale Date: November 2001

SHEET No. 3 OF 4 SHEETS



FED.ROAD DIST.NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	11M-01-00	2002	6	65

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: conference with the Engineer; construction requirements; method of measurement; and basis of payment.
2. The Contractor shall follow the guidelines in the "Best Management Practices Manual for Construction Sites in Honolulu", dated May 1999 in developing, installing and maintaining the Best Management Practices (BMP) for the project. BMP to be submitted before the notice to proceed.
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 regulation 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 listed in the BMP 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
Paints (enamel and latex)	Cleaning Solvents
Metal Studs	Wood
Tar	Masonry Block

- 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 to 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) Paints:  
All containers shall be tightly sealed and stored when not required for use. Excess paint shall not be discharged to the highway drainage system but shall be properly disposed of according to manufacturers' instructions or State and local regulations.
  - 4) Concrete Trucks:  
Concrete trucks shall be allowed to wash out or drum wash water only at 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 586-4258 to receive permission to designate a disposal site. The Contractor shall clean disposal site as required or as requested by the Owner's representative.

- 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 and adjusted to include a description and cause of each spill, 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 clean-up. 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 materials shall be reported to the appropriate State or local government agency, regardless of the size.

E. Payment

1. Refer to the contract special provisions and/or the State of "Hawaii Standards Specifications for Road, Bridge, and Public Works Construction" for applicable sections.



THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION.  
*[Signature]*  
ENGINEERS SURVEYORS HAWAII, INC.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

NOTES

VOLCANO ROAD INTERSECTION  
IMPROVEMENTS AT HUINA ROAD  
~~State~~ Project No. 11M-01-00

Scale: No Scale Date: November 2001

SHEET No. 4 OF 4 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
NOTE BOOK HAWAII 004	DESIGNED BY _____	
No. 19	CHECKED BY _____	