

STANDARD PLANS SUMMARY

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H1H-01-00M	2003	70	234

STANDARD PLAN NO.	TITLE	DATE
B-01 ●	Notes and Miscellaneous Details	07/01/86
B-02		
B-03 ●	Typical Structure Excavation and Backfill Pay Limits	07/01/86
B-04		
B-05		
B-06	Concrete Box Girder	07/01/86
B-07	Concrete Box Girder	07/01/86
B-08	Concrete Box Girder	07/01/86
B-09		
B-10		
B-11		
B-12	Prestressed Concrete Piles	r07/16/90
B-13	Prestressed Concrete Piles	r07/16/90

D-01 ●	Chain Link Fence With Toprail	r03/06/87
D-02	Chain Link Fence Without Toprail	r07/26/90
D-03	Wire Fence With Metal Posts	07/01/86
D-04	Typical Details of Curbs and/or Gutters	07/01/86
D-05	Typical Details of Reinforced Concrete Drop Driveway	07/01/86
D-06	Centerline and Reference Survey Monument	07/01/86
D-07	Street Survey Monument	07/01/86
D-08	Landscaping Shrub and Tree Planting	07/01/86
D-09	Field Office	07/01/86
D-10	Field Office	07/01/86
D-11	Project Site Laboratory	07/01/86
D-12	Project Site Laboratory	07/01/86
D-13	Field Office & Project Site Laboratory	07/01/86

H-01	Type A, B, C and D Catch Basin	07/01/86
H-02	Type A1, B1, C1 and D1 Catch Basin	07/01/86
H-03	Type A2, B2, C2 and D2 Catch Basin	07/01/86
H-04	Typical Reinforcing Details for Catch Basins	07/01/86
H-05	Type A, B and C Storm Drain Manhole	07/01/86
H-06	Type D and E Storm Drain Manhole	07/01/86
H-07	Type F Storm Drain Manhole	07/01/86
H-08	Catch Basin and Manhole Casting	07/01/86
H-09	Type A-9 and A-9P Frames and Grates	07/01/86
H-10	Type A-9B Frames and Grates	07/01/86
H-11	Type 61614 and 61214 Grated Drop Inlet	07/01/86
H-12	Type 61616 Grated Drop Inlet	07/01/86
H-13	61214, 61614 & 61616 Steel Frames and Grates	07/01/86
H-14	61214B Steel Frame and Grates	07/01/86
H-15	61614B Steel Frame and Grates	07/01/86
H-16	Concrete and Cement Rubble Masonry Structures	r10/16/90
H-17	Inlet Structures	r10/16/90
H-18	Flared End Section for Culverts	07/01/86
H-19	Outlet Structures	r02/15/91
H-20	Concrete Spillway Inlet	07/01/86
H-21	18" Slotted C.M.P. Drain	07/01/86
H-22	C.M.P. Coupling Details Standard Joint	r10/16/90
H-23	Hat Shaped Coupling Band	r10/16/90

STANDARD PLAN NO.	TITLE	DATE
TE-01	Miscellaneous Sign Details	07/01/86
TE-02	Galvanized Flanged Channel Sign Post Mounting	07/01/86
TE-03	Galvanized Square Tube Sign Post Mounting	07/01/86
TE-04	Regulatory Signs	r09/01/87
TE-05	Warning Signs	07/01/86
TE-06	Miscellaneous Signs	r11/03/89
TE-07	Reserved	07/01/86
TE-08 ●	Construction Signs	r09/01/87
TE-09	Miscellaneous Intersection Signs	r03/06/87
TE-10	Reserved	07/01/86
TE-11	Bike Route Sign and Supplementary Plates	07/01/86
TE-12 ●	State Route Marker and Auxiliary Markers	07/01/86
TE-13 ●	Interstate Route Marker	07/01/86
TE-14 ●	State Route Marker and Border Detail for Guide Signs	07/01/86
TE-15 ●	Route Marker Assemblies	07/01/86
TE-16	Miscellaneous Reflector Markers	07/01/86
TE-17 ●	Type II Object Markers	07/01/86
TE-18	Mileposts	07/01/86
TE-19	Reserved	07/01/86
TE-20 ●	Overhead Sign Supports	07/01/86
TE-21 ●	Overhead Sign Support, Box Truss Type, Aluminum	07/01/86
TE-22	Foundation Details and Schedules	07/01/86
TE-23	Supports for Ground Mounted Guide Sign	r11/03/89
TE-24	Breakaway Sign Supports for Ground Mounted Guide Signs	07/01/86
TE-25 ●	Laminated Aluminum Sign Panels (Overhead)	07/01/86
TE-26	Laminated Aluminum Sign Panels (Ground Mounted)	07/01/86
TE-27 ●	Solid Aluminum Extruded Sign Panel and Accessory Details	07/01/86
TE-28 ●	Guide Signs Luminaire Mountings	07/01/86
TE-29	Reserved	07/01/86
TE-30 ●	Raised Pavement Markers and Striping	r05/09/90
TE-31 ●	Miscellaneous Pavement Markings	r05/09/90
TE-32 ●	Miscellaneous Pavement Markings	r05/09/90
TE-33 ●	Miscellaneous Pavement Markings	r11/03/89
TE-34	Reserved	07/01/86
TE-35	Pavement Alphabets, Numbers & Symbols	07/01/86
TE-36	Pavement Alphabets, Numbers & Symbols	07/01/86
TE-37	Reserved	07/01/86
TE-38	Traffic Signal System, Miscellaneous Details	r11/03/89
TE-39	Traffic Signal System, Miscellaneous Details	07/01/86
TE-40	Loop Detectors	r11/03/89
TE-41	Pullboxes	07/01/86
TE-42	Type III Traffic Signal Standard	07/01/86
TE-43	Concrete Pullbox (2' x 3')	07/01/86
TE-44	Reserved	07/01/86

STANDARD PLAN NO.	TITLE	DATE
TE-45	Reserved	07/01/86
TE-46	Reserved	07/01/86
TE-47	Reserved	07/01/86
TE-48	Reserved	07/01/86
TE-49	Reserved	07/01/86
TE-50	Metal Guardrail	r03/06/87
TE-51	Metal Guardrail	r09/01/87
TE-52	Metal Guardrail with Rubrail	r11/03/89
TE-53	Metal Guardrail with Rubrail at Obstruction	r09/01/87
TE-54	Beam Type Guardrail with Rubrail at Obstruction (Shoulder Installation)	r11/03/89
TE-55	Metal Guardrail Connection to Concrete Barrier	r11/03/89
TE-56	Concrete Barrier Transition	07/01/86
TE-57	Guardrail Type 3, Thrie Beam	r11/03/89
TE-57A	Guardrail Type 3, Modified Thrie Beam	11/03/89
TE-58	Approach End Flare, One & Two Way Roadway	07/01/86
TE-59	Trailing End Flare, One & Two Way Roadway	r11/03/89
TE-60	Anchor Block Details	07/01/86
TE-61	Breakaway Cable Terminal (BCT)	r11/03/89
TE-62	Breakaway Cable Terminal (BCT)	r09/01/87
TE-63	Guardrail Type 4 (Rigid Barrier)	r09/01/87
TE-64	Portable Concrete Barrier	r11/03/89
TE-65	Guardrail Type 4, Miscellaneous	r09/01/87
TE-66 ●	Barricades	07/01/86
TE-67 ●	Delineation & Pavement Markings at Bridges	07/01/86
TE-68	Wheelchair Ramps	r11/03/89
TE-69	Wheelchair Ramps	r11/03/89

NOTE:  
STANDARD PLANS APPLICABLE TO THIS PROJECT ARE INDICATED BY A " ● " NEXT TO THE STANDARD PLAN NO. (FOR EXAMPLE: D-07 ● )

ORIGINAL PLAN

DESIGNED BY

NOTED BY

NO.

SURVEY PLOTTED BY

DATE

TRACED BY

DESIGNED BY

CHECKED BY

02/15/91	REVISED H-19
10/16/90	REVISED H-16,H-17, H-22 & H-23
07/26/90	REVISED D-02
07/16/90	REVISED B-12,B-13
05/09/90	REVISED TE-30,TE-31 & TE-32
11/03/89	REVISED TE-06,TE-23, TE-30, TE-31, TE-32, TE-33, TE-38, TE-40, TE-52, TE-54, TE-55, TE-57, TE-59, TE-61, TE-64, TE-68 & TE-69, ADDED TE-57A
09/01/87	REVISED TE-04,TE-06, TE-08, TE-32, TE-51, TE-53, TE-54, TE-55, TE-57, TE-59, TE-62, TE-63, TE-65 & TE-69
03/06/87	REVISED D-01, TE-09, TE-40, TE-50, TE-51, TE-57, TE-59, TE-61, TE-63 & TE-64
DATE	REVISION

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

STANDARD PLAN SUMMARY

INTERSTATE ROUTE H-1 REHABILITATION

OLA LANE TO KALIHI STREET

PROJECT NO. H1H-01-00M

Scale: None

Date: October 31, 2002

SHEET No. C-1 OF C-59SHEETS



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H1H-01-00M	2003	ADD, 71	234

GENERAL NOTES

- The scope of work consists of resurfacing pavement areas; reconstructing weakened pavement areas; upgrade concrete barrier & traffic barrier; adjusting manhole/valve frames & covers; installing loop detectors & pavement markings; constructing & modifying drainage structures; installing irrigation sprinklers, median barrier upgrades, replacing highway lighting, fencing, and guard rails; & maintaining the project area/cutting grass & cleaning rubbish.
- 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 30 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; and 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.
- The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data but the accuracy is not guaranteed. The encountering of other obstacles during the course of work is possible. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.
- The exact locations and limits or areas to be reconstructed and cold planed shall be determined in the field by the Engineer.
- The Contractor shall notify in writing, the Oahu Transit Services, Inc. Roads Supervision Office, 811 Middle St., Hon., HI 96819 (ph. #848-4571) seven (7) days prior to any paving operations.
- The Contractor shall notify the Engineer in writing, two (2) weeks prior to starting paving operations.
- The Contractor shall remove and dispose of all existing raised pavement markers and traffic tapes prior to resurfacing of pavement area. This work shall be considered incidental to Asphalt Concrete Pavement, Mix No. IV and will not be paid for separately.
- Smooth riding connections shall be constructed at all limits of resurfacing, including the beginning and end of project, connecting approaches, side streets and driveways as shown on the plans and/or as directed by the Engineer.
- Existing drainage system will be functional at all times during construction. The Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to various contract items.
- The contractor shall provide for access to and from all existing side streets at all times.
- The Contractor shall clean and remove any accumulation of aggregates and debris along the roadside within 10 feet of the edge of pavement This work shall be considered incidental to the various contract items.
- The Contractor shall lower manholes prior to Cold Planing, backfill with hot mix and re-adjust after final paving. Covering of lowered manholes shall be considered to be incidental to Manhole Adjustments.

GENERAL NOTES (CONT.)

- Base Course shall be either Plant Mix Asphalt Concrete Base Course, Recycled Plant Mix Asphalt Concrete Base Course, or Plant Mix Glassphalt Concrete Base Course. Selection will be based on the least expensive base course alternative.
- All existing joints and all cracks 1/8" or greater in P.C.C. Pavement shall be cleaned and sealed with an A.C. crack sealer. This work shall be considered incidental to Asphalt Pavement, Mix No. IV and will not be paid for separately.
- No material and/or equipment shall be stockpiled or otherwise stored within the highway right-of-way except at locations designated in writing and approved by the Engineer. If use of location is approved by the Engineer, the Contractor shall obtain a permit to use the property within the State right-of-way from the State Right-of-Way Branch at telephone no. 692-7332.
- DESIGN SPECIFICATIONS  
AASHTO 1998 LRFD Bridge Design Specifications with Subsequent Interim Specifications.
- GENERAL SPECIFICATIONS  
Hawaii Standard Specifications for Road, Bridge, and Public Works Construction 1994 and Special Provisions prepared for this project.

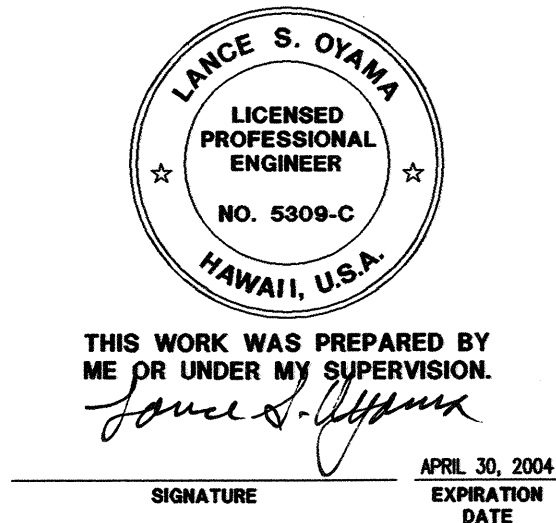
COLD PLANING NOTES

- All saw cutting work shall be considered incidental to Cold Planing and will not be paid for separately.
- The exact locations and limits or areas to be cold planed will be determined in the field by the Engineer.
- Prior to cold planing over an existing structure, the Contractor shall determine the actual depth of the existing asphalt concrete pavement. The Contractor shall take several cross section measurements throughout the structure. If the thickness of the existing pavement is less than the proposed resurfacing thickness, the Contractor shall remove the existing pavement to the level of the structure and resurface to the original thickness. This work shall be considered incidental to cold planing and will not be paid for separately.
- In cold planing the pavement over an existing structure, the Contractor shall exercise care not to damage any portion of the structure, especially the slab, joints, drain pipes or reinforcement. Any damage to the structure during the cold planing operations shall be repaired by the Contractor at no cost to the State. Repair work shall be as directed by the Engineer, The Contractor shall verify the existing pavement thickness by hand digging at various locations. This work shall be considered incidental to cold planing and will not be paid for separately.
- The vertical pavement drop-off shall not exceed 3-inches. If a vertical pavement drop-off exists at the end of each day's cold planing and paving, the Contractor shall provide a wedge with a 48:1 minimum transition taper for tranverse drop- off, and no steeper than 6:1 along the lane line for longitudinal drop-off, as accepted by the Engineer. This work shall be considered incidental to Cold Planing. All transition tapers shall be removed prior to resuming the paving operations.
- Cold Planing equipment shall not be used in removing existing A.C. Pavement over concrete gutter unless otherwise indicated. This work shall be incidental to Cold Planing.

COLD PLANING NOTES (CONT.)

- Special Requirements at Existing Freeway Overpasses – Prior to cold planing, the Contractor shall take several measurements of the vertical clearances with any existing freeway overpass structure, including measurements at the freeway shoulder, and determine the location where the vertical clearance is at minimum. All vertical clearance measurements and determinations shall be submitted to the Engineer for future reference. Upon completion of the cold planing and resurfacing operations, the new freeway finished grades shall be checked by the Contractor for vertical clearances with the overpass structure at the same locations, as previously measured. The new vertical clearance measurements shall not be less than the existing vertical clearance measurements. No exceptions will be allowed. If in case of any violation to the above requirement, the Contractor shall remedy the situation to the satisfaction and approval of the Engineer. This work, as described, shall be considered incidental to cold planing, and will not be paid for separately.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
	DESIGNED BY	
	QUANTITIES BY	
NOTEBOOK	CHECKED BY	
	No.	



6-18-03	Added General Notes 18. and 19.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <b>GENERAL NOTES AND COLD PLANING NOTES</b> INTERSTATE ROUTE H-1 REHABILITATION OLA LANE TO KALIHI STREET PROJECT NO. H1H-01-00M	
Scale: None	Date: October 31, 2002

SHEET No. C-2 OF C-59 SHEETS



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 and 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 Management 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 \$27,500 for noncompliance 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 noncompliance, 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 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 it deemed necessary. No construction material 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 & SEDIMENT CONTROL INSPECTION & MAINTENANCE PRACTICES:

1. All control measures shall be inspected at least once a 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 and submit to the R.E.

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
Paints (enamel and latex)	Cleaning Solvents
Metal Studs	Wood
Tar	Masonry Block

b. Material Management Practices shall be used to reduced 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 manufacturer's instructions or local and State 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.

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HAWAII	HAW.	H1H-01-00M	2003	72	234

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 manufacturer's instructions or State and local regulations.

4) Concrete Trucks:

Concrete trucks shall be allowed to wash out or drum wash water only at designate 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 586-4528 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 a cause of each spill, measures to prevent and cleanup 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 and 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. Manufacturer's 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.

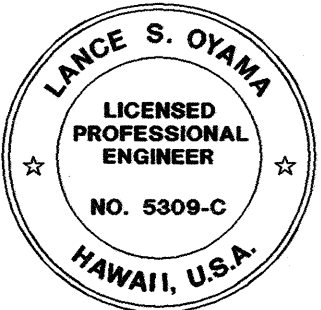
f. The spill area shall be kept well ventilated and personnel shall wear appropriate protective clothing to prevent injury from contact with hazardous substance.

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

E. PERMIT REQUIREMENTS

1. 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. The Contractor shall comply with all applicable State and Federal Permit conditions. NPDES Permit for Construction Activities will be required.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	
NOTEBOOK	NO.	



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: Lance S. Oyama  
EXPIRATION DATE: APRIL 30, 2004

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<b>WATER POLLUTION &amp; EROSION CONTROL NOTES</b>	
INTERSTATE ROUTE H-1 REHABILITATION OLA LANE TO KALIHI STREET PROJECT NO. H1H-01-00M	
Scale: None	Date: October 31, 2002
SHEET No. C-3 OF C-59 SHEETS	



HECO NOTES

1. Location of HECO Facilities

The location of HECO's overhead and underground facilities shown on the plans are from existing records with varying degrees of accuracy and are not guaranteed as shown. The Contractor shall verify in the field the locations of the facilities and shall exercise proper care in excavating and working in the area. The Contractor shall be responsible for any damages to HECO's facilities whether shown or not shown on the plans.

2. Compliance with Hawaii Occupational Safety and Health Laws

The Contractor shall comply with the State of Hawaii's Occupational Safety and Health laws and regulations, including without limitation, those related to working on or near exposed or energized electrical lines and equipment.

3. Excavation Permit

The Contractor shall obtain an excavation permit from HECO's Technical Division (543-5654) located at 820 Ward Avenue, 4th Floor, two weeks prior to starting construction. Please refer to our request number at that time.

4. Underground Lines

The Contractor shall exercise extreme caution whenever construction crosses or is in close proximity of underground lines. HECO's existing electrical cables in the area are energized and will remain energized during construction. Only HECO personnel are to handle these cables and erect temporary guards to protect these cables from damage. The cost of HECO's assistance in providing proper support and protection of its underground lines will be charged to the Contractor. The Contractor shall exercise due care and precautions to avoid disturbing any energized cables and temporary guards and shall work cautiously at all times to avoid accidents.

For verification of underground lines or for assistance in providing support and protection of these lines, the Contractor shall call HECO's Construction and Maintenance Dept., Customer & System Superintendent, at 543-4223, a minimum of two (2) weeks advance.

5. Excavations

When trench excavation is adjacent to or beneath HECO's existing structures or facilities, the Contractor is responsible for:

- a) Sheet piling and bracing the excavation to prevent slides, cave-ins, and settlements.
- b) Protecting existing structures or facilities with beams, struts, or under-pinnings.
- c) Backfilling with proper backfill material including special thermal backfill where existing (refer to Engineering Department for thermal backfill specifications).

6. Relocation of HECO Facilities

Any work required to relocate or modify HECO facilities shall be done by HECO, or by the Contractor under HECO's supervision. The Contractor shall be responsible for all coordination, and shall provide necessary support for HECO's work, which may include, but not limited to, excavation and backfill, permits and traffic control, and restoration of pavement, sidewalks, and other facilities.

All costs associated with any relocation or modification (either temporary or permanent) for the convenience of the Contractor, or to enable the Contractor to perform his work in a safe and expeditious manner in fulfilling his contract obligations shall be borne by the Contractor.

7. Conflicts

The Contractor acknowledges that HECO is not responsible for any delay or damage that may arise as a result of any conflicts discovered or identified with respect to the location or construction of HECO's electrical facilities in the field, regardless of whether the Contractor has met the requested minimum advance notices. In order to minimize any delay or impact arising from such conflicts, the Contractor shall notify HECO immediately upon discovery or identification of such conflict.

8. Damage to HECO Facilities

The Contractor shall be responsible for the protection of all HECO surface and subsurface utilities and shall be responsible for any damages to HECO's facilities as a result of his operations. The Contractor shall immediately report such damages to HECO's trouble dispatcher at 548-7961. Repair work shall be done by HECO or by the Contractor under HECO's supervision. Costs for damages to HECO's facilities shall be borne by the Contractor.

9. HECO Stand-by Personnel

The Contractor may request HECO to provide an inspector to stand-by during construction near HECO's facilities. The cost of such inspection will be charged to the Contractor.

The Contractor shall call the HECO Construction and Maintenance Dept., Customer & System Superintendent at 543-4223 a minimum of 5 working days in advance to arrange for HECO stand-by personnel.

10. Indemnity

The Contractor shall indemnify, defend and hold harmless HECO from and against all losses, damages, claims, and actions, including but not limited to reasonable attorney's fees and costs based upon or arising out of damage to property or injuries to persons, or other tortious acts caused or contributed to by Contractor or anyone acting under its direction or control or on its behalf; provided Contractor's indemnity shall not be applicable to any liability based upon the sole negligence of HECO.

LEGEND

- Resurfacing Limits
- Reconstruction Areas
- Cold Planing and Resurfacing Areas, Type I
- Cold Planing and Resurfacing Areas, Type II
- Cold Planing and Resurfacing Areas, Type SO
- E.P. Edge of Pavement
- E.S. Edge of Sidewalk
- e Existing Electrical Line
- pp Existing Power Pole
- emh Existing Electrical Manhole
- EMH Adjusted Elec. MH Frame/Cover
- t Existing Telephone Line
- tmh Existing Telephone Manhole
- TMH Adjusted Tele. MH Frame/Cover
- w6 Existing Water Line & Size
- wmh Existing Water Manhole
- WMH Adjusted Water MH Frame/Cover
- wv Existing Water Valve Box
- fh Existing Fire Hydrant
- s8 Existing Sewer Line & Size
- smh Existing Sewer Manhole
- SMH Adjusted Sewer MH Frame/Cover
- g4 Existing Gas Line & Size
- gv Existing Gas Valve Box
- GV Adjusted Gas Valve Box
- mon. Existing Monument
- MON. Adjusted Monument
- d18 Existing Drain Line & Size
- sdmh Existing Storm Drain Manhole
- SDMH Adjusted Storm Drain Manhole
- gdi Existing Grated Drain Inlet
- cb Existing Catch Basin
- p Existing Traffic Sign
- ts Existing Highway Lighting Standard
- ts Existing Traffic Signal Post
- tspb Existing Traffic Signal Pullbox

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H1H-01-00M	2003	73	234

- ld Existing Loop Detector
- Existing Magnetic Detector
- cmh Existing Communication Cable Manhole (Army or Navy)
- i6 Existing Irrigation Line & Size (State)
- imh Existing Irrigation Manhole
- CLF Chain Link Fence
- R.O.W. Right-of-Way

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
	DESIGNED BY	
	NOTED BY	
No.	CHECKED BY	

LANCE S. OYAMA  
LICENSED PROFESSIONAL ENGINEER  
NO. 5309-C  
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.  
APRIL 30, 2004  
EXPIRATION DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

HECO NOTES AND LEGEND

INTERSTATE ROUTE H-1 REHABILITATION  
OLA LANE TO KALIHI STREET  
PROJECT NO. H1H-01-00M

Scale: None      Date: October 31, 2002

SHEET No. C-4 OF C-59 SHEETS