STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ADDENDUM NO. 2

FOR

INTERSTATE H-1, SEISMIC RETROFIT
KAPIOLANI INTERCHANGE, PHASE 2
FEDERAL-AID PROJECT NO. BR-H1-1(226)
DISTRICT OF HONOLULU, ISLAND OF HAWAII

2003

Amend the Bid Documents as follows:

1. SPECIAL PROVISIONS

a. Subsection 104.04 (B) shall be amended by revising Exception 2 on pages 107-7a and 107-8a to read as follows:

"Exception 2: The Engineer will permit the Contractor to close not more than one lane of traffic at any given time to perform the work to change the lane widths on H-1 inbound, including eradication of existing striping, installation of new striping, and installation and removal of traffic control signs, portable traffic barriers, and other devices. Both the work to decrease the lane widths before commencing with the Pier 19 footing retrofit work and the work to restore the lane widths after completing the Pier 19 footing retrofit shall each be done within a period of seven (7) consecutive permissible working nights and during the following hours:

Monday thru Friday	12:01 A.M. to 5:00 A.M.
Monday thru Thursday	9:00 P.M. to 12:00 Midnight
Sunday	7:00 P.M. to 12:00 Midnight
Friday night and Saturday	Not allowed"

b. Subsection 107.08 (A) Water Quality Permits shall be amended by adding the following paragraphs after the last paragraph:

"Copies of the permit applications made by the State are available for review at the office of the State Department of Transportation, Design Project Manager, listed in page P-1 of the project proposal and at the office of Sato & Associates, Inc., 2046 South King Street, Honolulu, Hawaii 96826, phone no. (808) 955-4441, fax no. (808) 942-2027.

The Site Specific Best Management Practices and Water Quality Monitoring Plan for Section 401 Water Quality Certification has been submitted and accepted by the Department of Health (DOH) and herewith incorporated as part of the bid documents. The Contractor shall comply with the plan submitted to DOH.

The NPDES Discharge of Storm Water and NPDES Dewatering permits that the State applied for are only conditional. Actual permits can be obtained only after acceptable Site Specific Best Management Practices plans are submitted by the Contractor."

c. Subsection 206.03 (B) Cofferdams.

(1) Revise the first paragraph to read:

"**(B) Cofferdams.** Carry sheetpile cofferdams for the Pier 21 footing retrofit construction well below the bottom of the footing. Since rocks and boulders may be encountered during the course of driving sheetpiles, pre-drilling may be required to drive the sheetpiles to the desired depth without damaging the sheetpiles. A structural engineer shall design the cofferdam to be well braced. Sheetpile surfaces shall be plumb and as watertight as practicable to act as forms. The inside to inside clear dimensions of cofferdams shall match the outside dimensions of the retrofitted footing shown in the contract."

(2) Add this new paragraph following the first paragraph:

"In addition to the use of sheetpile cofferdams, the methods used to control and remove water at the excavation for the Pier 21 footing retrofit construction shall include, but not be limited to, concrete seal courses and pumping sumps. The successful performance of the concrete seal course shall be solely the responsibility of the Contractor. Tremie concrete seal is permissible. Cost of this work shall be included in the cost of excavation."

(3) Revise the seventh paragraph to read:

"Submit drawings and design calculations, prepared and stamped by a civil or structural engineer licensed in the State of Hawaii, showing the proposed method of cofferdam construction around the Pier 21 footing retrofit work area, including the details of the concrete seal course (tremie seal permitted) and pumping sump used for controlling and removing water from the excavation, and other details left open to the Contractor's choice or not fully shown on the contract for substructure work. The type and clearance of cofferdams and method of placing the concrete seal course shall be subject to acceptance by the Engineer."

2. FEDERAL WAGE RATES

a. Replace the Federal Wage Rates dated 1/10/2003 with the attached Federal Wage Rates dated 01/24/2003.

3. PROPOSAL SCHEDULE

a. Replace page P-1 dated 4/15/02 and page P-8 dated r1/14/03 with the attached pages P-1 and P-8 dated r2/18/03.

4. MANDATORY PRE-BID MEETING MINUTES

a. Item III. D. Suggested Construction Sequence (Not listed in sequence.)

"The items "Pier 21 Footing Repair, Pier 19 Footing Repair, Pier 18 Footing Repair, Repairs within box girders above Pier 21, Repairs on deck above Pier 21" are not listed in time sequence. A more detailed Meeting Agenda was intended to be distributed during the meeting. The steps listed in that Agenda under each of the above items were listed in approximate sequence, but were not discussed."

5. PLANS

a. Replace Plan Sheet Nos. 2, 4, 5, 6, 9, ADD. 12 with revision dated 1/14/03, 13, 24, and 32 with the attached Plan Sheet Nos. ADD. 2, ADD. 4, ADD. 5, ADD. 6, ADD. 9, ADD. 12 with revision dated 2/18/03, ADD. 13, ADD. 24 and ADD. 32.

b. On Plan Sheet No. 7., add the following note:

"River wash material shown in the borings may be very permeable and difficult to drive sheetpiles thru. Generally, it consists of boulders, cobbles, gravel and sand, with little or no fine grain materials."

c. Add the following notes to the Plans:

(1) If the Contractor elects to access through private property, the Contractor shall obtain permission from property owners.

(2) Excavated material shall not be placed in the stream or on the streambed.

(3) The Contractor shall assume that State furnished pipe piles meet the requirements, except that when 1/8-inch or more of the thickness is lost by corrosion, the Contractor shall inform the Engineer. The Contractor shall remove loose rust.

(4) Hydraulic impact hammer may be used.

(5) Minimum hammer energy requirements are given in Table 505-II. A wave equation analysis is required for the hammer used to drive the 24-inch O.D. pipe pile with ultimate bearing capacity of 351 tons.

(6) Determine outlines of existing footings before predrilling and driving sheetpiles and piles.

(7) Make Pier 21 cofferdam watertight. Pour concrete in dry excavation.

(8) Temporary casings shall be used to make certain that the annular space between over-reamed hole and pile is filled with grout. The casing shall be removed as grout is placed. Casing shall not be left in place.

6. SECTION 401 WATER QUALITY CERTIFICATION

Attached are the following for your information:

a. Section 401 Water Quality Certification dated February 14, 2003.

b. CWB-WQC Application.

c. The Site Specific Best Management Practices and Water Quality Monitoring Plan for Section 401 Water Quality Certification.

Please acknowledge receipt of the Addendum No. 2, and previous Addendum No. 1, by recording the date of its receipt in the space provided on page P-4 of the Proposal.

for RODNEY K. HARAGA
Director of Transportation

General Decision Number HI020001

Superseded General Decision No. HI010001

State: Hawaii

Construction Type:
BUILDING
DREDGING
HEAVY
HIGHWAY
RESIDENTIAL

County(ies):
STATEWIDE

BUILDING CONSTRUCTION PROJECTS; RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family homes and apartments up to and including 4 stories); HEAVY AND HIGHWAY CONSTRUCTION PROJECTS AND DREDGING

Modification Number	Publication Date
0	03/01/2002
1	03/08/2002
2	04/19/2002
3	05/03/2002
4	07/05/2002
5	08/02/2002
6	08/16/2002
7	09/06/2002
8	09/27/2002
9	10/04/2002
10	11/08/2002
11	11/15/2002
12	11/22/2002
13	01/03/2003
14	01/10/2003
15	01/24/2003

COUNTY(ies):
STATEWIDE

ASBE0132A 08/30/1998

	Rates	Fringes
ASBESTOS WORKERS/INSULATORS Includes application of all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems. Also the application of firestopping material for wall openings and penetrations in walls, floors, ceilings and curtain walls.	26.50	14.89

BOIL0204A 10/01/1998

	Rates	Fringes
BOILERMAKERS	26.25	13.76

BRHI0001A 09/02/2002

	Rates	Fringes
BRICKLAYERS; Caulkers; Cement Block Layers; Cleaners; Pointers; and Stonemasons	25.92	16.72

BRHI0001B 09/02/2002

	Rates	Fringes
TERRAZZO WORKERS:		
Terrazzo Workers	26.17	16.72
Terrazzo Base Grinders	24.36	16.72
Terrazzo Floor Grinders and Tenders	22.81	16.72

BRHI0001C 09/03/2001

	Rates	Fringes
MARBLE MASONS	25.77	15.76

BRHI0001D 09/03/2001

	Rates	Fringes
TILE LAYERS (CERAMIC)	25.77	15.76
TILE LAYER FINISHERS (CERAMIC)	22.41	15.76

CARP0745A 03/04/2002

	Rates	Fringes
CARPENTERS:		

Carpenters; Hardwood Floor Layers; Patent Scaffold Erectors (14 ft. and over); Piledrivers; Pneumatic Nailers; Wood Shinglers; and Transit and/or Layout Man	30.90	15.45
Millwrights and Machine Erectors	31.15	15.45
Power Saw Operators (2 H.P. and over)	31.05	15.45

CARP0745B 03/04/2002

	Rates	Fringes
DRYWALL HANGERS	31.15	15.42
LATHERS	31.15	15.42

ELEC1186A 08/18/2002

	Rates	Fringes
ELECTRICIANS:		
Electricians	31.70	6.54+30.6%
Technicians	32.65	6.54+30.6%
Cable Splicers	34.87	6.54+30.6%

ELEC1186B 08/18/2002

	Rates	Fringes
LINE CONSTRUCTION:		
Linemen	31.70	6.54+30.6%
Technicians	32.65	6.54+30.6%
Heavy Equipment Operators	28.53	6.54+30.6%
Cable Splicers	34.87	6.54+30.6%
Groundmen; Truck Drivers	23.78	6.54+30.6%

ELEV0126A 10/04/1999

	Rates	Fringes
ELEVATOR MECHANICS	34.65	6.935+a+b

a. VACATION: Employer contributes 8% of basic hourly rate for 5 years service and 6% of basic hourly rate for 6 months to 5 years service as vacation pay credit.

b. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Day after Thanksgiving Day and Christmas Day.

ENGI0003I 09/01/2002

	Rates	Fringes
POWER EQUIPMENT OPERATORS (Includes All Types of Paving):		
GROUP 1	28.59	16.53
GROUP 2	28.70	16.53
GROUP 3	28.87	16.53

GROUP 4	29.14	16.53
GROUP 5	29.45	16.53
GROUP 6	30.10	16.53
GROUP 7	30.42	16.53
GROUP 8	30.53	16.53
GROUP 9	30.64	16.53
GROUP 9A	30.87	16.53
GROUP 10	30.93	16.53
GROUP 10A	31.08	16.53
GROUP 11	31.25	16.53
GROUP 12	31.58	16.53
GROUP 12A	31.95	16.53

WAGE RATES FOR TUNNEL WORK:

GROUP 1	28.89	16.53
GROUP 2	29.00	16.53
GROUP 3	29.17	16.53
GROUP 4	29.44	16.53
GROUP 5	29.75	16.53
GROUP 6	30.40	16.53
GROUP 7	30.72	16.53
GROUP 8	30.83	16.53
GROUP 9	30.94	16.53
GROUP 9A	31.17	16.53
GROUP 10	31.23	16.53
GROUP 10A	31.38	16.53
GROUP 11	31.53	16.53
GROUP 12	31.89	16.53
GROUP 12A	32.25	16.53

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Fork Lift (up to and including 10 tons); Partsman (heavy duty repair shop parts room when needed).

GROUP 2: Conveyor Operator (Handling building material); Hydraulic Monitor; Mixer Box Operator (Concrete Plant).

GROUP 3: Brakeman; Deckhand; Fireman; Oiler; Oiler/Gradechecker; Signalman; Switchman; Highline Cableway Signalman; Bargeman; Bunkerman; Concrete Curing Machine (self-propelled, automatically applied unit on streets, highways, airports and canals); Leveeman; Roller (5 tons and under); Tugger Hoist.

GROUP 4: Boom Truck or dual purpose "A" Frame Truck (5 tons or less); Concrete Placing Boom (Building Construction); Dinky Operator; Elevator Operator; Hoist and/or Winch (one drum); Straddle Truck (Ross Carrier, Hyster and similar).

GROUP 5: Asphalt Plant Fireman; Compressors, Pumps, Generators and Welding Machines ("Bank" of 9 or more, individually or collectively); Concrete Pumps or Pumpcrete Guns; Lubrication and

Service Engineer (Grease Rack); Screedman.

GROUP 6: Boom Truck or Dual Purpose "A"Frame Truck (over 5 tons); Combination Loader/Backhoe (up to and including 3/4 cu. yd.); Concrete Batch Plants (wet or dry); Concrete Cutter, Groover and/or Grinder (self-propelled unit on streets, highways, airports, and canals); Conveyor or Concrete Pump (Truck or Equipment Mounted); Drilling Machinery (not to apply to waterliners, wagon drills or jack hammers); Fork Lift (over 10 tons); Loader (up to and including 3 and 1/2 cu. yds); Lull High Lift (under 40 feet); Lubrication and Service Engineer (Mobile); Maginnis Internal Full Slab Vibrator (on airports, highways, canals and warehouses); Man or Material Hoist; Mechanical Concrete Finisher (Large Clary, Johnson Bidwell, Bridge Deck and similar); Mobile Truck Crane Driver; Portable Shotblast Concrete Cleaning Machine; Portable Boring Machine (under streets, highways, etc.); Portable Crusher; Power Jumbo Operator (setting slip forms, etc., in tunnels); Rollers (over 5 tons); Self-propelled Compactor (single engine); Self-propelled Pavement Breaker; Skidsteer Loader with attachments; Slip Form Pumps (Power driven by hydraulic, electric, air, gas, etc., lifting device for concrete forms); Small Rubber Tired Tractors; Trencher (up to and including 6 feet); Underbridge Personnel Aerial Platform (50 feet of platform or less).

GROUP 7: Crusher Plant Engineer, Dozer (D-4, Case 450, John Deere 450, and similar); Dual Drum Mixer, Extend Lift; Hoist and/or Winch (2 drums); Loader (over 3 and 1/2 cu. yds. up to and including 6 yards.); Mechanical Finisher or Spreader Machine (asphalt), (Barber Greene and similar) (Screedman required); Mine or Shaft Hoist; Mobile Concrete Mixer (over 5 tons); Pipe Bending Machine (pipelines only); Pipe Cleaning Machine (tractor propelled and supported); Pipe Wrapping Machine (tractor propelled and supported); Roller Operator (Asphalt); Self-Propelled Elevating Grade Plane; Slusher Operator; Tractor (with boom) (D-6, or similar); Trencher (over 6 feet and less than 200 h.p.); Water Tanker (pulled by Euclids, T-Pulls, DW-10, 20 or 21, or similar); Winchman (Stern Winch on Dredge).

GROUP 8: Asphalt Plant Operator; Barge Mate (Seagoing); Cast-in-Place Pipe Laying Machine; Concrete Batch Plant (multiple units); Conveyor Operator (tunnel); Deckmate; Dozer (D-6 and similar); Finishing Machine Operator (airports and highways); Gradesetter; Kolman Loader (and similar); Mucking Machine (Crawler-type); Mucking Machine (Conveyor-type); No-Joint Pipe Laying Machine; Portable Crushing and Screening Plant; Power Blade Operator (under 12); Saurman Type Dragline (up to and including 5 yds.); Stationary Pipe Wrapping, Cleaning and Bending Machine; Surface Heater and Planer Operator, Tractor (D-6 and similar); Tri-Batch Paver; Tunnel Badger; Tunnel Mole and/or Boring Machine Operator Underbridge Personnel Aerial Platform (over 50 feet of platform).

GROUP 9: Combination Mixer and Compressor (gunite); Do-Mor Loader and Adams Elegrader; Dozer (D-7 or equal); Wheel and/or Ladder Trencher (over 6 feet and 200 to 749 h.p.).

GROUP 9A: Dozer (D-8 and similar); Gradesetter (when required by the Contractor to work from drawings, plans or specifications without the direct supervision of a foreman or superintendent); Push Cat; Scrapers (up to and including 20 cu. yds); Self-propelled Compactor with Dozer; Self-Propelled, Rubber-Tired Earthmoving Equipment (up to and including 20 cu. yds) (621 Band and similar); Sheep's Foot; Tractor (D-8 and similar); Tractors with boom (larger than D-6, and similar).

GROUP 10: Chicago Boom; Cold Planers; Heavy Duty Repairman or Welder; Hoist and/or Winch (3 drums); Hydraulic Skooper (Koehring and similar); Loader (over 6 cu. yds. up to and including 12 cu. yds.); Saurman type Dragline (over 5 cu. yds.); Self-propelled, rubber-tired Earthmoving Equipment (over 20 cu. yds. up to and including 31 cu. yds.) (637D and similar); Soil Stabilizer (P & H or equal); Sub-Grader (Gurries or other automatic type); Tractors (D-9 or equivalent, all attachments); Tractor (Tandem Scraper); Watch Engineer.

GROUP 10A: Boat Operator; Cable-operated Crawler Crane (up to and including 25 tons); Cable-operated Power Shovel, Clamshell, Dragline and Backhoe (up to and including 1 cu. yd.); Dozer D9-L; Dozer (D-10, HD41 and similar) (all attachments); Gradall (up to and including 1 cu. yd.); Hydraulic Backhoe (over 3/4 cu. yds. up to and including 2 cu. yds.); Mobile Truck Crane Operator (up to and including 25 tons) (Mobile Truck Crane Driver Required); Self-propelled Boom Type Lifting Device (Center Mount) (up to and including 25 tons) (Grove, Drott, P&H, Pettibone and similar; Trencher (over 6 feet and 750 h.p. or more); Watch Engineer (steam or electric).

GROUP 11: Automatic Slip Form Paver (concrete or asphalt); Band Wagon (in conjunction with Wheel Excavator); Cable-operated Crawler Cranes (over 25 tons but less than 50 tons); Cable-operated Power Shovel, Clamshell, Dragline and Backhoe (over 1 cu. yd. up to 7 cu. yds.); Gradall (over 1 cu. yds. up to 7 cu. yds.); DW-10, 20, etc. (Tandem); Earthmoving Machines (multiple propulsion power units and 2 or more Scrapers) (up to and including 35 cu. yds.," struck" m.r.c.); Highline Cableway; Hydraulic Backhoe (over 2 cu. yds. up to and including 4 cu. yds.); Leverman; Lift Slab Machine; Loader (over 12 cu. yds); Master Boat Operator; Mobile Truck Crane Operator (over 25 tons but less than 50 tons); (Mobile Truck Crane Driver required); Pre-stress Wire Wrapping Machine; Self-propelled Boom-type Lifting Device (Center Mount) (over 25 tons m.r.c); Self-propelled Compactor (with multiple-propulsion power units); Single Engine Rubber Tired Earthmoving Machine (with Tandem Scraper); Tandem Cats; Trencher (pulling attached shield).

GROUP 12: Clamshell or Dipper Operator; Derricks; Drill Rigs; Multi-Propulsion Earthmoving Machines (2 or more Scrapers) (over 35 cu. yds "struck"m.r.c.); Operators (Derricks, Piledrivers and Cranes); Power Shovels and Draglines (7 cu. yds. m.r.c. and over); Self-propelled rubber-tired Earthmoving equipment (over 31 cu. yds.) (657B and similar); Wheel Excavator (up to and including 750 cu. yds. per hour); Wheel Excavator (over 750 cu.

yds. per hour).

GROUP 12A: Dozer (D-11 or similar or larger); Hydraulic Excavators (over 4 cu. yds.); Lifting cranes (50 tons and over); Pioneering Dozer/Backhoe (initial clearing and excavation for the purpose of providing access for other equipment where the terrain worked involves 1-to-1 slopes that are 50 feet in height or depth, the scope of this work does not include normal clearing and grubbing on usual hilly terrain nor the excavation work once the access is provided); Power Blade Operator (Cat 12 or equivalent or over); Straddle Lifts (over 50 tons); Tower Crane, Mobile; Traveling Truss Cranes; Universal, Liebher, Linden, and similar types of Tower Cranes (in the erection, dismantling, and moving of equipment there shall be an additional Operating Engineer or Heavy Duty Repairman); Yo-Yo Cat or Dozer.

HELICOPTER WORK:		
Pilot of Helicopter	32.76	16.53
Co-Pilot of Helicopter	32.59	16.53
Airborne Hoist Operator for Helicopter	32.45	16.53
DIVERS (AQUA LUNG) (SCUBA):		
Diver (Aqua Lung) (Scuba) (up to a depth of 30 feet)	43.28	16.53
Diver (Aqua Lung) (Scuba) (over a depth of 30 feet)	52.65	16.53
Stand-by Diver (Aqua Lung) (Scuba)	33.90	16.53
DIVERS (OTHER THAN AQUA LUNG):		
Diver (Other than Aqua Lung)	52.65	16.53
Stand-By Diver (Other than Aqua Lung)	33.90	16.53
Diver Tender (Other than Aqua Lung)	30.87	16.53

BOOMS AND/OR LEADS (HOURLY PREMIUMS):
The Operator of a crane (under 50 tons) with a boom of 80 feet or more (including jib), or of a crane (under 50 tons) with leads of 100 feet or more, shall receive a per hour premium for each hour worked on said crane (under 50 tons) in accordance with the following schedule:

Booms of 80 feet up to but not including 130 feet or Leads of 100 feet up to but not including 130 feet	0.50
Booms and/or Leads of 130 feet up to but not including 180 feet	0.75
Booms and/or Leads of 180 feet up to and including 250 feet	1.15
Booms and/or Leads over 250 feet	1.50

The Operator of a crane (50 tons and over) with a boom of 180 feet or more (including jib) shall receive a per hour premium for each hour worked on said crane (50 tons and over) in accordance with the following schedule:

Booms of 180 feet up to and including 250 feet	1.25
Booms over 250 feet	1.75

ENGI0003K 09/01/2002

	Rates	Fringes
TRUCK DRIVERS:		
GROUP 1	28.87	16.53+a
GROUP 2	29.14	16.53+a
GROUP 3	29.45	16.53+a
GROUP 4	30.10	16.53+a
GROUP 5	30.42	16.53+a
GROUP 6	30.53	16.53+a

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Utility, flatbed, or similar.
GROUP 2: Dump, 8 yards, and under (water level); water truck, up to and including 2,000 gallons.
GROUP 3: Tandem Dump, over 8 yards (water level); water truck (over 2,000 gallons).
GROUP 4: Semi-trailer, rock cans, or semi-dump.
GROUP 5: Slip-in or pup.
GROUP 6: End dumps (unlicensed); tractor trailer (hauling equipment).

a. An employee who has completed 1 but less than 2 years service- 1 week's paid vacation; 2 but less than 10 years service - 2 weeks paid vacation; 10 but less than 15 years service - 3 weeks paid vacation; and 15 or more years service - 4 weeks paid vacation.

ENGI0003L 09/01/2002

	Rates	Fringes
DREDGING:		
CLAMSHELL OR DIPPER DREDGES:		
GROUP 1	31.59	16.53
GROUP 2	30.93	16.53
GROUP 3	30.53	16.53
GROUP 4	28.87	16.53

DREDGING CLASSIFICATIONS

GROUP 1: Clamshell or Dipper Operator.
GROUP 2: Mechanic or Welder; Watch Engineer.

GROUP 3: Barge Mate; Deckmate.
GROUP 4: Bargeman; Deckhand; Fireman; Oiler.

HYDRAULIC SUCTION DREDGES:

GROUP 1	31.23	16.53
GROUP 2	31.08	16.53
GROUP 3	30.93	16.53
GROUP 4	30.87	16.53
GROUP 5	30.53	16.53
GROUP 6	30.42	16.53
GROUP 7	28.87	16.53

DREDGING CLASSIFICATIONS

GROUP 1: Leverman.
GROUP 2: Watch Engineer (steam or electric).
GROUP 3: Mechanic or Welder.
GROUP 4: Dozer Operator.
GROUP 5: Deckmate.
GROUP 6: Winchman (Stern Winch on Dredge).
GROUP 7: Deckhand (can operate anchor scow under direction of Deckmate); Fireman; Leveeman; Oiler.

DERRICKS:

GROUP 1	31.59	16.53
GROUP 2	30.93	16.53
GROUP 3	30.53	16.53
GROUP 4	28.87	16.53

DERRICK CLASSIFICATIONS

GROUP 1: Operators (Derricks, Piledrivers and Cranes).
GROUP 2: Saurman Type Dragline (over 5 cubic yards).
GROUP 3: Deckmate; Saurman Type Dragline (up to and including 5 yards).
GROUP 4: Deckhand, Fireman, Oiler.

BOAT OPERATORS:

Master Boat Operator	31.23	16.53
Boat Operator	31.08	16.53
Boat Deckhand	28.87	16.53

IRON0625A 09/02/2002

	Rates	Fringes
IRONWORKERS	27.00+a	20.81

a. Employees will be paid $.50 per hour more while working in tunnels and coffer dams; $1.00 per hour more when required to work under or are covered with water (submerged) and when they are required to work on the summit of Mauna Kea, Mauna Loa or Haleakala.

LABO0368A 09/03/2001

	Rates	Fringes
LABORERS:		
GROUP 1	22.85	11.20
GROUP 2	21.25	11.20
GROUP 3	23.85	11.20
GROUP 4	23.35	11.20
GROUP 5	22.35	11.20
GROUP 6	15.25	6.95
MASON TENDERS	23.10	11.20

LABORERS CLASSIFICATIONS

GROUP 1: Asbestos Removal Worker (EPA certified workers); Asphalt Ironer, Raker, Luteman, and Handroller, and all types of Asphalt Spreader Boxes; Asphalt Shoveler; Assembly and Installation of Multiplates, Liner Plates, Rings, Mesh, Mats; Batching Plant (portable and temporary); Boring Machine Operator (under streets and sidewalks); Buggymobile; Burning, Welding, Signalling, Choke Setting, and Rigging in connection with Laborers' work (except demolition); Chainsaw, Faller, Logloader, and Bucker; Compactors (Jackson and similar); Concrete Bucket Dumpman; Concrete Chipping; Concrete Chuteman/Hoseman (pouring concrete) (the handling of the chute from ready-mix trucks for such jobs as walls, slabs, decks, floors, foundations, footings, curbs, gutters, and sidewalks); Concrete Core Cutter (Walls, Floors, and Ceiling); Concrete Curer (impervious membrane and form oiler); Concrete Grinding or Sanding; Concrete: Hooking on, signaling, dumping of concrete for treme work over water on caissons, pilings, abutments, etc.; Concrete: Mixing, handling, conveying, pouring, vibrating, otherwise placing of concrete or aggregates or by any other process; Concrete: Operation of motorized wheelbarrows or buggies or machines of similar character, whether run by gas, diesel, or electric power; Concrete Pump Machine (laying, coupling, uncoupling of all connections and cleaning of equipment); Concrete and/or Asphalt Saw (Walking or Handtype) (cutting walls or flatwork) (scoring old or new concrete and/or asphalt) (cutting for expansion joints) (streets and ways for laying of pipe, cable or conduit for all purposes); Concrete Shovelers/Laborers (Wet or Dry); Concrete Screeding for Rough Strike-Off; Rodding or striking-off, by hand or mechanical means prior to finishing; Concrete Vibrator Operator; Coring Holes: Walls, footings, piers or other obstructions for passage of pipes or conduits for any purpose and the pouring of concrete to secure the hole; Curbing, Concreting, and Asphalt; Curing of Concrete, mortar, and other materials by any mode or method; Cut Granite Curb Setter (setting, leveling and grouting of all precast concrete or stone curbs); Cutting and Burning Torch (demolition); Dri Pak-It Machine; Driller (Track, Diamond Core, and Wagon); Driller (Joydrill Model TWM-2A, Gardner Denver DH-143 and similar type drills); Driller (Mechanical) (not

covered elsewhere) (including multiple unit); (Ingersoll-Rand DM45E/DM50E/LM-100/LM-600C, Gardner-Denver SCH2500/SCH3500BV, Furukawa HCR-C300, Tamrock Drilltech CHA800/DHH 850 Tamrock Commando) (similar and replacement equipment thereof); Drilling for blasting; Operation of all rock and concrete drills and Jack Hammers, including handling, carrying, laying out of hose; (Ingersoll-Rand DM45E/DM50E/LM-100/LM-600C), Gardner-Denver SCH2500/SCH3500 BV, Furukawa HCR-C300, Tamrock Drilltech CHA 800/DHH 850/Tamrock Commando) (similar and replacement equipment thereof); Drilling (Mechanical) on the site or along the right-of-way as well as access roads, reservoirs, including areas adjacent or pertinent to construction sites); Falling, bucking, yarding, loading or burning of all trees or timber on construction site; Fence and/or Guardrail Erector; Forklift (9 ft. and under); Grating and Grill work for drains or other purposes; Green Cutter of concrete or aggregate in any form, by hand, mechanical means, grindstone or air and/or water; Grout: Spreading for any purpose; Guinea Chaser (Grade Checker) for general utility trenches, sitework, and excavation; Headerboard Man (Asphalt or Concrete); Heat Welder of Plastic (Laborers' AGC certified workers) (when work involves waterproofing for waterponds, artificial lakes and reservoir, or heat welding for sewer pipes); Heavy Highway Laborer (Rigging, signaling, handling, and installation of pre-cast catch basins, manholes, curbs and gutters); High Pressure Nozzleman - Hydraulic Monitor (over 100# pressure); Installation of Gilsulate 500XR; Jackhammer Operator; Jacking of slip forms; All semi and unskilled work connected therewithin; Laying of all multi-cell conduit or multi-purpose pipe; Magnesite and Mastic Workers (Wet or Dry) (including mixer operator); Mortar Man; Mortar Mixer (Block, Brick, Masonry, and Plastering); Nozzleman (Sandblasting and/or Water Blasting); Operation, Manual or Hydraulic jacking of shields and the use of such other mechanical equipment as may be necessary; Pavement Breakers; Paving, curbing and surfacing of streets, ways, courts, under and overpasses, bridges, approaches, slope walls, and all other labor connected therewith; Pilecutters; Pipe Accessment in place, bolting and lining up of sectional metal or other pipe including corrugated pipe; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit, and any other stationary-type of tubular device used for conveying of any substance or element, whether water, sewage, solid, gas, air, or other product whatsoever and without regard to the nature of material from which tubular material is fabricated; No-joint pipe and stripping of same, Pipewrapper, Caulker, Bander, Kettlemen, and men applying asphalt, Laykold, treating Creosote and similar-type materials (6-inch) pipe and over); Piping: resurfacing and paving of all ditches in preparation for laying of all pipes; Pipe laying of lateral sewer pipe from main or side sewer to buildings or structure (except Contactor may direct work be done under proper supervision); Pipe laying, leveling and marking of the joint used for main or side sewers and storm sewers; Laying of all clay, terra cotta, ironstone, vitrified concrete or other pipe for drainage; Placing and setting of water mains, gas mains

and all pipe including removal of skids; Plaster Mortar Mixer/ Pump; Pneumatic Impact Wrench; Portable Sawmill Operation: Choker setters, off bearers, and lumber handlers connected with clearing; Posthole Digger (Hand Held, Gas, Air and Electric); Power Broom Sweepers (Small); Preparation and Compaction of roadbeds for railroad track laying, highway construction, and the preparation of trenches, footings, etc., for cross-country transmission by pipelines, electrical transmission or underground lines or cables (by mechanical means); Raising of structure by manual or hydraulic jacks or other methods and resetting of structure in new locations, including all concrete work; Ramming or compaction; Riprap, Stonepaver, and Rock Slinger (includes placement of stacked concrete, wet or dry and loading, unloading, signaling, slinging and setting of other similar materials); Rotary Scarifier (including multiple head concrete chipping Scarifier); Salamander Heater, Drying of plaster, concrete mortar or other aggregate; Sandblaster (Nozzleman) handling, placing and operation of nozzle; Scaffold Erector; Scaffolds: (Swing and hanging) including maintenance thereof; Scaler; Septic Tank/Cesspool and Drain Fields Digger and Installer; Shredder/Chipper (tree branches, brush, etc.); Stripping and Setting Forms; Stripping of Forms: Other than panel forms which are to be re-used in their original form, and stripping of forms on all flat arch work; Tampers (Barko, Wacker, and similar type); Tank Scaler and Cleaners; Tarman; Tree Climbers and Trimmers; Trencher (includes hand-held, Davis T-66 and similar type); Trucks (flatbed up to and including 2 1/2 tons when used in connection with on-site Laborers'work; Trucks (Refuse and Garbage Disposal) (from job site to dump); Vibra-Screed (Bull Float in connection with Laborers' work); Well Points, Installation of or any other dewatering system.

GROUP 2: Air Blasting; Appliance Handling (job site) (after delivery and unloading in storage area); Asphalt Laborer; Asphalt Plant Laborer; Backfill work connected with the installation of Gilsulate 500XR; Backfilling, Grading and all other labor connected therewith; Boring Machine; Bridge Laborer; Burning of all debris (crates, boxes, packaging waste materials); Cemetary Laborers; Chainman, Rodmen, and Grade Markers; Cleaning and Clearing of all debris; Cleaning, clearing, grading and/or removal for streets, highways, roadways, aprons, runways, sidewalks, parking areas, airports, approaches, and other similar installations; Cleaning or reconditioning of streets, ways, sewers and waterlines, all maintenance work and work of an unskilled and semi-skilled nature; Cleanup of Grounds and Buildings (other than "Light Clean-Up") (Janitorial Laborer); Clean-up of right-of-way; Clearing and slashing of brush or trees by hand or mechanical cutting; Concrete Bucket Tender (Groundman) hooking and unhooking of bucket; Concrete Forms; moving, cleaning, oiling and carrying to the next point of erection of all forms; Concrete Products Plant Laborers; Conveyor Tender (conveying of building materials); Cribbers, Shorer, Lagging, Sheeting, and Trench Jacking and Bracing, Hand-Guided Lagging Hammer Whaling Bracing; Crushed Stone Yards and Gravel and Sand Pit Laborers and all other similar plants; Demolition, Wrecking and Salvage Laborers: Wrecking and dismantling of buildings and

all structures, with use of cutting or wrecking tools, burning or cutting, breaking away, cleaning and removal of all masonry, wood or metal fixtures for salvage or scrap, All hooking, unhooking, signaling of materials for salvage or scrap removed by crane or derrick; Digging under streets, roadways, aprons or other paved surfaces; Driller, Chuck Tender, Outside Nipper; Dry-packing of concrete (plugging and filling of she-bolt holes); Excavation, Preparation of street ways and bridges; Fence and/or Guardrail Erector; Dismantling and/or re-installation of all fence; Finegrader; Firewatcher; Flagman (Coning, preparing, establishing and removing portable roadway barricade devices); Signal Men on all construction work defined herein, including Traffic Control Signal Men at construction site; Garbage and Debris Handlers and Cleaners; Gas, Pneumatic, and Electric Tools, not listed Group 1 (except Rototiller); General Clean-up: sweeeping, cleaning, washdown, wiping of construction facility, and equipment (other than "Light Clean-up" [Janitorial] Laborer); General Excavation and Grading (all labor connected therewith); Digging of trenches, ditches and manholes and the leveling, grading and other preparation prior to laying pipe or conduit for any purpose; Excavations and foundations for buildings, piers, foundations and holes, and all other construction; General Laborer; Gunite Operator; Junk Yard Laborers (same as Salvage Yard); Landscape Nursery Laborers; Laser Beam "Target Man" in connection with Laborers' work; Layout Person for Plastic (when work involves waterproofing for waterponds, artificial lakes and reservoirs); Limbers, Brush Loaders, and Pilers; Loading, Unloading, carrying, distributing and handling of all rods and material for use in reinforcing concrete construction (except when a derrick or outrigger operated by other than hand power is used); Loading, unloading, sorting, stockpiling, handling and distribution of water mains, gas mains and all pipes; Loading and unloading of all materials, fixtures, furnishings and appliances from point of delivery to stockkpile to point of installation; hooking and signalling from truck, conveyance or stockpile; Material Yard Laborers; Parks and Sports arenas and all recreational center employees; Pipelayer Tender; Pipewrapper, Caulker, Bander, Kettlemen, and men applying asphalt, Laykold, Creosote, and similar-type materials (pipe under 6 inches); Plasterer Laborer (including Hod Carrier); Preparation, construction and maintenance of roadbeds and sub-grade for all paving, including excavation, dumping, and spreading of sub-grade material; Prestressed or prescast concrete slabs, walls, or sections: all loading, unloading, stockpiling, hooking on of such slabs, walls or sections; Quarry Laborers; Railroad, Streetcar, and Rail Transit Maintenance and Repair; Removal of surplus material; Roustabout; Rubbish Trucks in connection with Building Construction Projects (excluding clearing, grubbing, and excavating); Salvage Yard: All work connected with cutting, cleaning, storing, stockpiling or handling of materials, all cleanup, removal of debris, burning, back-filling and landscaping of the site; Scaffolds: Erection, planking and removal of all scaffolds used for support for lathers, plasters, brick layers, masons, and other construction trades crafts; Scaffolds: (Specially designed by carpenters) laborers shall tend said carpenter on erection and dismantling therof, preparation for

foundation or mudsills, maintenance; Scraping of floors; Screeds: Handling of all screeds to be reused; handling, dismantling and conveyance of screeds; Setting, leveling and securing or bracing of metal or other road forms and expansion joints; Sheeting Piling/trench shoring (handling and placing of skip sheet or wood plank trench shoring); Ship Scalers; Shipwright; Sign Erector (subdivision traffic, regulatory, and street-name signs); Sloper; Slurry Seal Crews (Mixer Operator, Applicator, Squeegee Man, Shuttle Man, Top Man); Snapping of wall ties and removal of tie rods; Soil Test operations of semi and unskilled labor such as filling sand bags; Striper (Asphalt, Concrete or other Paved Surfaces); Tagging and Signaling of all building materials into high-rise units; Tool Room Attendant (Job Site); Traffic Delineating Device Applicator; Underpinning, lagging, bracing, propping and shoring, loading, signaling, right-of-way clearance along the route of movement, The clearance of new site, excavation of foundation when moving a house or structure from old site to new site; Utilities employees; Water Man; Waterscape/Hardscape Laborers; Wire Mesh Pulling (all concrete pouring operations); Wrecking, stripping, dismantling and handling concrete forms an false work.

GROUP 3: Licensed Powdermen.

GROUP 4: Gunnite Operator; High Scaler (working suspended), Pipelaying.

GROUP 5: Window Washer (Outside) (Working from bosun's chair and/or cable-suspended scaffold or work platform).

GROUP 6: Light Clean-Up.

LABO0368B 09/30/2002

	Rates	Fringes
LANDSCAPE AND IRRIGATION LABORERS:		
Group 1	17.66	5.47
Group 2	18.16	5.47
Group 3	14.51	5.47

LABORERS CLASSIFICATIONS

GROUP 1: Installation of non-potable permanent or temporary irrigation water systems performed for the purposes of Landscaping and Irrigation architectural horticultural work; the installation of drinking fountains and permanent or temporary irrigation systems using potable water for Landscaping and Irrigation architectural horticultural purposes only. This work includes (a) the installation of all heads, risers, valves, valve boxes, vacuum breakers (pressure and non-pressure), low voltage electrical lines and, provided such work involves electrical wiring that will carry 24 volts or less, the installation of sensors, master control panels, display boards, junction boxes, conductors, including all other components for controllers, (b) and metallic (copper, brass, galvanized, or similar) pipe, as

well as PVC or other plastic pipe including all work incidental thereto, i.e., unloading, handling and distribution of all pipes fittings, tools, materials and equipment, (c) all soldering work in connection with the above whether done by torch, soldering iron, or other means; (d) tie-in to main lines, thrust blocks (both precast and poured in place), pipe hangers and supports incidental to installation of the entire irrigation system, (e) making of pressure tests, start-up testing, flushing, purging, water balancing, placing into operation all irrigation equipment, fixtures and appurtenances installed under this agreement, and (f) the fabrication, replacement, repair and servicing oflandscaping and irrigation systems. Operation of hand-held gas, air, electric, or self-powered tools and equipment used in the performance of Landscape and Irrigation work in connection with architectural horticulture; Choke-setting, signaling, and rigging for equipment operators on job-site in the performance of such Landscaping and Irrigation work; Concrete work (wet or dry) performed in connection with such Landscaping and Irrigation work. This work shall also include the setting of rock, stone, or riprap in connection with such Landscape, Waterscape, Rockscape, and Irrigation work; Grubbing, pick and shovel excavation, and hand rolling or tamping in connection with the performance of such Landscaping and Irrigation work; Sprigging, handseeding, and planting of trees, shrubs, ground covers, and other plantings and the performance of all types of gardening and horticultural work relating to said planting; Operation of flat bed trucks (up to and including 2 1/2 tons).

GROUP 2: Layout of irrigation and other non-potable irrigation water systems and the layout of drinking fountains and other potable irrigation water systems in connection with such Landscaping and Irrigation work. This includes the layout of all heads, risers, valves, valve boxes, vacuum breakers, low voltage electrical lines, hydraulic and electrical controllers, and metallic (coppers, brass, galvanized, or similar) pipe, as well as PVC or other plastic pipe. This work also includes the reading and interpretation of plans and specifications in connection with the layout of Landscaping, Rockscape, Waterscape, and Irrigation work; Operation of Hydro-Mulching machines (sprayman and driver), Drillers, Trenchers (riding type, Davis T-66, and similar) and fork lifts used in connection with the performance of such Landscaping and Irrigation work; Tree climbers and chain saw tree trimmers, Sporadic operation (when used in connection with Landscaping, Rockscape, Waterscape, and Irrigation work) of Skid-Steer Loaders (Bobcat and similar), Cranes (Bantam, Grove, and similar), Hoptos, Backhoes, Loaders, Rollers, and Dozers (Case, John Deere, and similar), Water Trucks, Trucks requiring a State of Hawaii Public Utilities Commission Type 5 and/or type 7 license, sit-down type and "gang" mowers, and other self-propelled, sit-down operated machines not listed under Landscape & Irrigation Maintenance Laborer; Chemical spraying using self-propelled power spraying equipment (200 gallon capacity or more).

GROUP 3: Maintenance of trees, shrubs, ground covers, lawns and

other planted areas, including the replanting of trees, shrubs, ground covers, and other plantings that did not "take" or which are damaged; provided, however, that re-planting that requires the use of equipment, machinery, or power tools shall be paid for at the rate of pay specified under Landscape and Irrigation Laborer, Group 1; Raking, mowing, trimming, and pruning, including the use of "weed eaters", hedge trimmers, vacuums, blowers, and other hand-held gas, air, electric, or self-powered tools, and the operation of lawn mowers (Note: The operation of sit-down type and "gang" mowers shall be paid for at the rate of pay specified under Landscape & Irrigation Laborer, Group 2); Guywiring, staking, propping, and supporting trees; Fertilizing, Chemical spraying using spray equipment with less than 200 gallon capacity, Maintaining irrigation and sprinkler systems, including the staking, clamping, and adjustment of risers, and the adjustment and/or replacement of sprinkler heads, (Note: the cleaning and gluing of pipe and fittings shall be paid for at the rate of pay specified under Landscape & Irrigation Laborer(Group 1); Watering by hand or sprinkler system and the peformance of other types of gardening, yardman, and horticultural-related work.

LABO0368C 09/04/2000

UNDERGROUND LABORERS:	Rates	Fringes
GROUP 1	21.45	10.74
GROUP 2	22.95	10.74
GROUP 3	23.45	10.74
GROUP 4	24.45	10.74
GROUP 5	24.80	10.74
GROUP 6	25.05	10.74
GROUP 7	25.50	10.74

GROUP 1: Watchmen; Change House Attendant
GROUP 2: Swamper; Brakeman; Bull Gang-Muckers, Trackmen; Dumpmen (any method); Concrete Crew (includes rodding and spreading); Grout Crew; Reboundmen
GROUP 3: Chucktenders and Cabletenders; Powderman (Prime House); Vibratorman, Pavement Breakers
GROUP 4: Miners - Tunnel (including top and bottom man on shaft and raise work); Timberman, Retimberman (wood or steel or substitute materials thereof); Blasters, Drillers, Powderman (in heading); Headman; Cherry Pickerman (where car is lifted); Nipper; Grout Gunmen; Grout Pumpman & Potman; Gunite, Shotcrete Gunmen & Potmen; Concrete Finisher (in tunnel); Concrete Screed Man; Bit Grinder; Steel Form Raisers & Setters; High Pressure Nozzleman; Nozzleman (on slick line); Sandblater-Potman (combination work assignment interchangeable); Tugger
GROUP 5: Shaft Work & Raise (below actual or excavated ground level); Diamond Driller; Gunite or Shotcrete Nozzleman

GROUP 6: Shifter
GROUP 7: Shifter (Shaft Work & Raiser)

PAIN1791A 07/01/2002

	Rates	Fringes
PAINTERS:		
Brush	26.55	19.35
Sandblaster; Spray	27.05	19.35

PAIN1889A 01/01/2001

	Rates	Fringes
GLAZIERS	23.07	17.30

PAIN1926B 02/25/2001

	Rates	Fringes
SOFT FLOOR LAYERS	22.90	15.50

PAIN1944A 01/01/2003

	Rates	Fringes
TAPERS	32.75	13.05

PLAS0630A 09/02/2002

	Rates	Fringes
PLASTERERS	26.71	16.72

PLAS0630B 09/02/2002

	Rates	Fringes
CEMENT MASONS:		
Cement Masons	25.87	16.72
Trowel Machine Operators	26.02	16.72

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* PLUM0675A 01/05/2003

	Rates	Fringes
PLUMBERS, PIPEFITTERS, STEAMFITTERS & SPRINKLER FITTERS	30.30	16.70

ROOF0221A 04/28/2002

	Rates	Fringes
ROOFERS	28.10	12.83

SHEE0293A 09/01/2002

	Rates	Fringes
SHEET METAL WORKERS	33.47	14.12

SUHI1001A 09/15/1997

	Rates	Fringes
DRAPERY INSTALLERS	13.60	1.20

SUHI2001A 09/15/1997

	Rates	Fringes
FENCE ERECTORS (Chain Link)	9.33	1.65

RIGGERS; WELDERS - Receive rate prescribed for craft performing operation to which rigging or welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

In the listing above, the "SU" designation means that rates listed under that identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations

Wage and Hour Division
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

PROPOSAL TO THE
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

PROJECT: INTERSTATE ROUTE H-1, SEISMIC RETROFIT
KAPIOLANI INTERCHANGE, PHASE 2
DISTRICT OF HONOLULU
ISLAND OF OAHU

PROJECT NO.: BR-H1-1(226)

COMPLETION TIME FOR PERMITS:

60 Working days from the date indicated in the Notice to Proceed from the Department for Contractor to:

a) Submit to the State an acceptable Site Specific Best Management Practices (SSBMP) Plans (for NPDES General Permit Coverage Authorizing Discharges Associated with Construction Activity Dewatering and NPDES General Permit Coverage Authorizing Discharges of Storm Water Associated with Construction Activities) and

b) Get letter of approval of SSBMP Plans from the State.

COMPLETION TIME FOR CONSTRUCTION:

150 Working days from the date indicated in the Notice to Proceed from the Department after approval of SSBMP Plans.
Note: Completion time does not include plant establishment period or 60 working days for SSBMP Plans preparation, submittal and approval.

DBE PROJECT GOAL: None Specified

DESIGN PROJECT MANAGER:

NAME: Emilio Barroga, Jr.
ADDRESS: 601 Kamokila Boulevard, Room 688
Kapolei, Hawaii 96707
PHONE NO.: (808) 692-7546
FAX NO.: (808) 692-7555

PROPOSAL SCHEDULE

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
202.0100	Removal of Guard Rails (50 L.F.)	L.S.	L.S.	L.S.	$ _____
203.0100	Roadway Excavation	40	C.Y.	$ _____	$ _____
206.0100	Structure Excavation @ Pier 18 (590 C.Y.)	L.S.	L.S.	L.S.	$ _____
206.0110	Structure Excavation @ Pier 19 (590 C.Y.)	L.S.	L.S.	L.S.	$ _____
206.0120	Structure Excavation @ Pier 21 (185 C.Y.)	L.S.	L.S.	L.S.	$ _____
206.0200	Structure Backfill @ Pier 18 (390 C.Y.)	L.S.	L.S.	L.S.	$ _____
206.0210	Structure Backfill @ Pier 19 (360 C.Y.)	L.S.	L.S.	L.S.	$ _____
206.0220	Structure Backfill @ Pier 21 (75 C.Y.)	L.S.	L.S.	L.S.	$ _____
209.0100	Water Pollution and Erosion Control @ Piers 18 and 19	F.A.	F.A.	F.A.	$15,000.00
209.0200	Water Pollution and Erosion Control @ Pier 21	F.A.	F.A.	F.A.	$50,000.00
304.0100	Aggregate Base	10	C.Y.	$ _____	$ _____
305.0100	Aggregate Subbase	20	C.Y.	$ _____	$ _____
401.0100	Asphalt Concrete Pavement, Mix IV	6	TON	$ _____	$ _____
503.1091	Concrete in Footing Retrofits @ Pier 18 (200 C.Y.) and Pier 19 (135 C.Y.)	L.S.	L.S.	L.S.	$ _____
503.1092	Concrete in Footing Retrofits @ Pier 21 (115 C.Y.)	L.S.	L.S.	L.S.	$ _____
505.0001	Furnishing Drilling and Pile Driving Equipment (1 set)	L.S.	L.S.	L.S.	$ _____

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
EMD / CWB

WQC593.FNL

February 14, 2003

Mr. Glenn M. Yasui, Administrator
Highways Division
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr.Yasui:

Subject: Section 401 Water Quality Certification (WQC) for the Proposed Phase 2, Seismic Retrofit of H-1 Highway at Pier 21, Kapiolani Interchange, at Manoa Stream, Honolulu, Island of Oahu
File No. WQC 0000593 (formerly WQC 0000390)
Army File No. 200200552 (formerly 970000270)

The Department of Health (DOH), Clean Water Branch (CWB) acknowledges receipt a site-specific best management practices (BMPs) and water quality monitoring (WQM) Plan (not dated) submitted with a letter of transmittal (dated February 11, 2003) from Ms. Elain Tamaye of the Edward K. Noda and Associates, Inc., your duly authorized representative.

The Honolulu Engineer District (HED) of the U.S. Army Corps of Engineers (COE) indicated in a letter (dated October 18, 2002) that it plans to authorize the proposed activity under the Department of the Army (DA) Nationwide permit (NWP) authority at 33 CFR and the January 15, 2002 Notice of Issuance of Nationwide Permits (67 FR2020), Paragraph B.3 (Maintenance) and B. 33 (Temporary Construction, Access and Dewatering).

The Highways Division (HD) of the Department of Transportation (DOT) proposes to place new piles and to enlarge the existing Pier 21 footing in the Manoa Stream. The existing Manoa Stream flow will temporarily be diverted with cofferdam.

The receiving State water, Manoa Stream, is classified by the Department as "Class 2, Inland Waters" for "Stream." Manoa Stream feeds into Ala Wai Canal which is classified by the Department as "Class 2, Inland Waters" for "Estuary." The Ala Wai Canal stream channel system (including the Manoa Stream) is listed by the Department as "Water Quality-Limited Waters" in accordance with Subsection 303(d) of the Federal Clean Water Act (CWA). Manoa Stream is listed for nutrients and turbidity. Manoa Stream is also listed by the Department as "Medium" priority for implementing the Total Maximum Daily Load (TMDL) mitigative measures in accordance with CWA, Subsection 303(e).

Based on the DA NWP No. 3 and No. 33 determination rendered by the HED/COE on October 18, 2002, information contained in your section 401 WQC application (dated November 19, 2002), site specific BMPs and WQM Plan submitted with Ms. Tamaye's letter of transmittal dated February 11, 2003, and in accordance with Paragraph 11-54-09.1.04 of the Hawaii Administrative Rules (HAR), the Department waives the requirements for the processing of a Section 401WQC application for the subject project with the following conditions:

1. The determination of waiving the requirements for the processing of a Section 401 WQC application:

   a. Shall become effective the date of this letter and expires on midnight, **February 14, 2005**, or until the applicable State Water Quality Standards (WQS) is revised or modified, or the applicable DA NWP (No. 3 and/or No. 33) expires or is revised or modified, or the mandatory requirement in implementing the TMDL Report and/or Implementation Plan is established by the Department and the U.S. Environmental Protection Agency (EPA) for the Manoa Stream and/or Ala Wai Canal channel system, or the project construction is completed, whichever is earliest. If the applicable WQS is revised, modified, or the mandatory requirements in implementing the TMDL Report and/or Implementation Plan is established for Manoa Stream and/or Ala Wai Canal channel system is established by the Department and EPA before **February 14, 2005** and such that the activity complies with the revisions or modifications to the WQS or the TMDL Report and/or Implementation Plan, the determination of waiving the WQC processing requirements shall continue to be valid until **February 14, 2005**.

      The Director of Health (Director) may, upon the written request from the HD/DOT administratively extend the expiration date of this letter if the written request can demonstrate to the Director that there are no significant changes to the project scope and the changes will not, either individually or cumulatively, cause adverse impact to the receiving water quality.

   b. Shall become invalid if the project construction activity fond to be controversial after the effective date of this letter.

   c. May be revoked when:

      (1) New State WQS or the mandatory requirement in implementing the TMDL Report and/or the Implementation Plan for Manoa Stream and/or Ala Wai Canal channel system is subsequently established by the Department before the activity is completed and the Director determines that the activity is violating new State WQS or the TMDL Report and/or the Implementation Plan. The

Director will notify the HD/DOT of the violation. The HD/DOT shall cease the violation within 180 days of the date of the notice. If the HD/DOT failed within 180 days of the date of the notice to cease the violation, the Director may revoke this waiver determination, at the Director's discretion; or

(2) The Director determines that the discharge(s) from the activity is violating the existing State WQS or any condition specified in this letter. The Director will notify the HD/DOT of the violation. The HD/DOT shall cease the violation within seven (7) days of the date of the notice. If the HD/DOT failed within seven (7) days of the date of the notice to cease the violation, the Director may revoke this determination, at the Director's discretion.

These actions shall not preclude the Department from taking other enforcement action authorized by law.

Written notification by the Director under this section is complete upon mailing or sending a facsimile transmission of the document or actual receipt of the document by HD/DOT.

2. The HD/DOT shall:

a. Invite the Department's representative(s) to attend the partnering, pre-construction or any other similar type of meeting that is established for the proposed construction project.

b. Notify the Department [via telephone number (808) 586-4309] at least three (3) working days before any work is to begin.

c. Notify the Department within 14 days after the completion of the proposed construction activities (including the disturbed sites restoration activities).

d. Comply, and shall also require the contractor(s) to comply, with applicable specifications, schedules, procedures, site-specific BMPs and WQM Plan, and any other project construction related requirements or information contained in the Section 401 WQC application (dated November 19, 2002) and the subsequent letter of transmittal (dated February 11, 2003) from Ms. Tamaye of the Edward K. Noda and Associates, Inc.

e. Properly conduct or contract with a qualified laboratory/environmental consultant to conduct the receiving water quality monitoring as specified in the Section 401 WQC application (dated November 19, 2002), and the site-specific BMPs and WQM Plan submitted in a letter of transmittal (dated February 11, 2003) from Ms. Tamae of the Edward K. Noda and Associates, Inc.

Test methods promulgated in 40 CFR Part 136 effective on July 1, 1998, and, when applicable, the chemical methodology for sea water analyses (see HAR, Section 11-54-10) shall be used. The detection limits of the test methods used shall be equal to or lower than the applicable WQS as specified in HAR, Chapter 11-54. For situations where the applicable water quality standard is below the detection limits of the available test methods, the test method which has the detection limit closest to the applicable WQS shall be used. If a test method has not been promulgated for a particular parameter, the applicant may submit an application through the Director for approval of an alternate test procedure by following 40 CFR §136.4.

The Director may, at the Director's own discretion or upon written request from the HD/DOT and on a case-by-case basis, require the HD/DOT to modify the monitoring frequency(ies) or change the sampling locations, as appropriate. If a written request is submitted for the reduction of monitoring frequency(ies), it shall be accompanied by an assessment of monitoring results which shall clearly demonstrate that the project construction activity related discharge has fully complied with the applicable WQS.

f. Ensure that all "discharges" associated with the proposed construction activities are conducted in a manner that will not cause any violations to the "Basic Water Quality Criteria Applicable to All Waters" as specified in HAR, Section 11-54-04.

g. Ensure that all material(s) placed or to be placed in State waters are free of waste metal products, organic materials, debris, and any pollutants at toxic or potentially hazardous concentrations to aquatic life as identified in HAR, Subsection 11-54-04(b).

h. Ensure that stream flow diversion dam, silt fence(s), coffer dam, and/or other appropriate and effective silt containment or treatment device(s) and soil erosion control measures will be properly deployed prior to the commencement of the construction work; be properly maintained throughout the entire period of the construction work; and not be removed until the construction work is completed and the condition in the affected area has returned to its pre-construction condition or better, as demonstrated by the monitoring results.

i. Ensure that construction debris, including but not limited to those resulting from the dredging activity, is contained on land and prevented from entering or reentering State waters.

j. Ensure that all temporarily constructed structures, including the stream flow diversion

dam, silt containment device(s), silt fence, and all other similar soil erosion control structures, are removed immediately after the completion of the construction work and when the affected water body has returned to it pre-construction condition or better, as demonstrated by the monitoring results.

k. Ensure that no explosives are used in State waters.

l. Immediately cease the portion of the construction work which is causing or may cause noncompliance with HAR, Subsection 11-54-04(a), Subsection 11-54-04(b), or the portion of the construction is damaging or will cause damage to the aquatic environment as is indicated through water quality monitoring results or during the daily inspection or observations. The construction activity shall not resume until adequate mitigative measures are implemented and appropriate corrective actions are taken and approved by the Director. The HD/DOT shall not hold the Department responsible for any damages or costs incurred due to the cessation of the construction works.

m. Immediately report any spill(s) or other contamination(s) that occurs at the project to the CWB.

n. Ensure that:

(1) Erosion and sediment control measures are in place and functional before earth moving operations begin;

(2) Temporary soil stabilization shall be applied on areas that will remain unfinished for more than 30 calendar days; and

(3) Permanent soil stabilization shall be applied as soon as practicable after final grading.

The HD/DOT, shall ensure that the contractor(s) maintains, at the construction site or in the nearby field office, a record that these requirements have been fully complied with.

o. Not commence any construction work (including other portion of the entire fuel pipeline project) until HD/DOT has obtained a National Pollutant Discharge Elimination System (NPDES) permit issued by the Department that authorizes storm water discharges associated with construction activities.

p. Not discharge treated construction site dewatering effluent or hydrotesting effluent without first obtaining the required NPDES permits from the Department.

q. Maintain, or require the contractor to maintain, a copy of this WQC and the required NPDES permits at the construction site or in the nearby field office.

3. Work shall be discontinued during storm events or during flood condition.

4. Clearing and grubbing shall be held to the minimum.

5. The HD/DOT, shall review and update the effectiveness and adequacy of the water quality monitoring plan, implemented site-specific BMPs and WQM Plan, and/or other environmental protection measures as often as needed. The HD/DOT shall modify the site-specific BMPs and WQM Plan, and/or environmental protection measures upon request or when instructed by the Director.

   Any change(s) to the implemented site-specific BMPs and WQM Plan, or correction(s) or modification(s) to information already on file with the Department shall be submitted to the CWB for review and comment, as such change(s), correction(s) or modification(s) arises. The HD/DOT shall properly address all comment(s) and/or concern(s) to the Director's satisfaction before such change(s), correction(s) or modification(s) become effective.

6. By applying for and accepting this Section 401 WQC determination, the HD/DOT agrees that the Department may conduct routine inspection of the construction site in accordance with Section 342D-8 of the Hawaii Revised Statutes.

7. Construction debris, vegetation and/or dredged material removed from the Manoa Stream shall be disposed of at the upland State or County approved sites. A Solid Waste Disclosure Form for Construction Sites (enclosed) shall be completed and returned to the Department's Office of Solid Waste Management. No construction material or construction-related materials shall be stock piled, stored or placed in Manoa Stream or in ways that will disturb or adversely impact the aquatic environment.

8. There shall be no discharge of any type of washing waters, including concrete truck, rocks, or drum washing water, into State waters.

9. Runoff or return flow, if any, from the excavated/dredged material dewatering process or from the stockpiling site shall be contained on land and not be allowed to enter State waters.

   Should the discharge of the return flow or runoff from the excavated/dredged material dewatering or stockpiling site be unavoidable, it shall be properly handled in such a manner that the effluent discharges will not violate the applicable WQS. A detailed dewatering design and discharge plan, including applicable effluent monitoring program, shall be submitted to the CWB for review and comment before any discharges into State waters, including Manoa Stream and adjacent streams, shall be allowed.

10. The HD/DOT shall comply with all new State WQS adopted by the Department and/or TMDLs report or implementation plan, established by the Department and/or approved by the EPA, after the effective date of this letter.

Please include WQC File No. **WQC 0000593** and the following certification in all future correspondence with the Department for the subject project:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Should you have any questions, please contact Mr. Edward Chen of the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

THOMAS E. ARIZUMI, P.E., CHIEF
Environmental Management Division

EC:cu

Enclosure: Solid Waste Disclosure Form for Construction Sites

c: Ms. Wendy Wiltse, Pacific Island Contact Office, Region 9/EPA (w/o encl.)
Regulatory Branch, HED/COE (w/o encl.)
CZM Program, Office of Planning/DBEDT (w/o encl.)
CWRM/DLNR (w/o encl.)
Solid and Hazardous Waste Branch/DOH (w/o encl.)
Environmental Planning Office (w/o encl.)
Ms. Elane Tamaye, Edward K. Noda and Associates, Inc. (w/encl.)

96025-00

LETTER OF TRANSMITTAL

DATE	JOB NO.
Feb 11, 2003	2248-02

ATTENTION: Edward Chen

RE: Interstate Route H-1, Seismic Retrofit
Kapiolani Interchange

Edward K. Noda and Associates, Inc.
615 Piikoi Street Suite 300 / Honolulu, Hawaii 96814-3139
Telephone: (808) 591-8553 / Facsimile: (808) 593-8551

TO: Dept. of Health, Clean Water Br.
919 Ala Moana Blvd., Rm. 301
Honolulu, HI, 96814

COPY

GENTLEMEN:

WE ARE SENDING YOU: ☒ Attached ☐ Under separate cover via _____ the following items:

COPIES	DATE	NO.	DESCRIPTION
1	---	1	SSBMPs to accompany Water Quality Certification application

THESE ARE TRANSMITTED as checked below:

☐ For your information/use ☐ For approval ☐ Revise and resubmit
☐ As requested ☐ No exceptions taken ☐ Comments attached
☒ For review and approval ☐ Note markings or corrections ☐ _____

REMARKS:

The attached Site-Specific Best Management Practices have been prepared to accompany Water Quality Certification application File No. WQC 0000593, and in response to CWB letter 12067CEC.02 dated 12/27/03.

Identity of contractor, point of contact information and contractor's schedule will be submitted after bid opening February 27, 2003.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Edward K. Tamaye 2/11/03

President
Edward K. Noda and Associates, Inc.

Date

RECEIVED
FEB 13 2003
NODA & ASSOC., INC.

cc: Sato and Associates, attn. Dave Yamamoto
Highways Division, Design Branch, attn. Emilio Barroga

SITE SPECIFIC BEST MANAGEMENT PRACTICES AND WATER QUALITY MONITORING PLAN FOR SECTION 401 WATER QUALITY CERTIFICATION

Interstate Route H-1, Seismic Retrofit, Kapiolani Interchange, F.A.P. No. BR-HI-1(226)

1. Background

This Best Management Practices (BMP) Plan has been prepared to accompany a Section 401 Water Quality Certification application presented to the Department of Health, Clean Water Branch to properly isolate and confine the discharge activity(ies) and to contain and prevent any potential pollutant(s) discharges from adversely impacting the State waters. The WQC application has been assigned File Number WQC 0000593.

The work contemplated by this project was previously part of another contract, however NPDES documentation was not completed in a timely fashion and the work is being re-bid as a separate contract, with bid opening scheduled for February 27, 2003. The identity of the contractor and his schedule of work will be submitted to the Clean Water Branch as soon as they are known. It is anticipated the work will commence in the second quarter of 2003.

2. Project Site Description and Description of Work

The project generally consists of upgrading the existing H-1 Freeway Kapiolani Interchange Pier 21 footing. Pier 21 supports the elevated H-1 Freeway Kapiolani Boulevard inbound offramp and will be strengthened by incorporating new concrete filled tubular steel piles into the pier footing. The Pier 21 footing is located in the Manoa-Palolo Drainage Canal, immediately mauka of South King Street and makai of the Old Waialae Road crossing over the Canal.

A location map showing the project area is shown in Figure 1, and half size copies of selected construction plans which show the scope of the planned work, are attached. For reference, photographs of Pier 21, the anticipated contractor staging area on the east bank, and temporary storage area of the tubular steel pilings to be used in the retrofit work, are attached.

3. Construction Sequence and Method

Pier 21 footing retrofit construction within the Manoa-Palolo Stream will last for approximately 3 months (see typical schedule, Attachment 1, from prior project). The start date will be set after approval of the NPDES permit and Notice to Proceed is given by the Department of Transportation. It is intended to construct the improvements during the summer low-flow condition in the Drainage Canal. Unless there have been substantial rains in the days preceding, the typical low-flow condition, with flow depths less than one foot in a cobble stream bed, is shown in the attached photograph.

The contractor will start the project by constructing protection for the west stream bank, and diverting stream flow to the west side of Pier 21 by installing a temporary dam and silt fences as shown in Attachments 2, 3 and 4. The temporary dam and silt fences will be installed using engine-powered hydraulic equipment (crane and loader) operating from the staging area on the east bank and within the Drainage Canal.

An access path to the pier footing will be created from the contractor staging area on the east bank of the stream and within the stream diversion, temporary dam and silt fences, using a hydraulic backhoe. The backhoe will next excavate streambed material (silt to boulder sized material, predominantly cobbles) to expose the top of the Pier 21 pile cap. Excavated material will be incorporated into the access ramp, and entirely contained within the silt fences. Drainage from the excavated material stockpiled onsite and controlled by the silt fence and/or berm at the stockpile perimeter. When drained sufficiently to permit disposal, excess excavated material not required for the access ramp will be loaded and trucked offsite to an upland disposal site approved by the State of Hawaii.

Sheet piles will be driven around the Pier 21 footing using pile-driving equipment, to create a cofferdam around the pile cap. The cofferdam will protect the excavation, and the sheet piling will serve as forms for the enlarged pile cap. The excavator will then advance the excavation to the bottom of the pile cap. An estimated total 175 cubic yards of structural excavation will be performed.

A dewatering system will be installed to allow work in the cofferdam to proceed in the dry when necessary. The dewatering system will consist of a electrically or motor driven pump with the inlet in a sump pit (perforated corrugated steel pipe wrapped with filter fabric and filter rock around the outside of the pipe) and piping leading to a bermed settling basin. A flexible hose and/or PVC pipe will be installed across the stream bed to convey dewater fluids to a clarification basin. After sufficient residence time to remove suspended silt and turbidity, clarified dewater will be returned to the drainage canal. The clarification basin will be located in the contractor staging area on the east stream bank, or in the vacant area beneath the elevated freeway offramp, makai of South King Street. A dewatering schematic, for a clarification basin located makai of South King Street, is shown in Attachment 5. Flowing water leaks through the cofferdam sheet piles will be plugged, and dewatering will be conducted on an as-needed basis. After settling to clarify dewater effluent and reduce the suspended solids content, dewater fluids will be returned to the stream flow. A dewatering NPDES NOI-G (File number HI 01GB350 has been prepared and submitted for this project.

Crushed rock bedding placed at the bottom of the excavation. To minimize potential damage to the hollow steel piles from boulders which may underlie the existing footing, the pile locations will be predrilled to approximately 12 foot depth. Each drilling will be over-reamed, and a total of sixteen, 16" diameter hollow steel pilings driven around the existing pile cap. After driving to an estimated depth of 35 feet, excess piling length will be cut off and the piles filled with concrete. Reinforcing steel will be placed within the cofferdam and around the tops of the new pilings and approximately 102 cubic yards of concrete poured to incorporate the new pilings into the existing

pile cap. After curing, the remaining excavation above the pile cap will be backfilled with lean concrete to match the pre-existing stream invert and sheet piles will be cut off flush with, or below, the stream invert.

4. Characteristics of the Discharge and Potential Pollutants Associated with the Proposed Construction Activity

Materials which will temporarily be placed within the canal banks will include bank protection materials at the west bank, temporary dams (coarse gravel) and a silt fence around the work area (structural steel with filter fabric), coarse gravel to construct the access ramp, plastic piping for the dewater system, and sand bags as necessary for incidental stream flow control. All temporary materials will be removed upon completion of construction.

Materials permanently placed will include sheet piles (estimated 10 feet deep in a rectangle 21 ft. by 30 ft. around the existing footing), sixteen, 16-inch tubular steel piles, reinforcing steel, concrete and crushed rock bedding.

Materials that may enter State waters due to the proposed construction activity include soil from erosion in adjacent areas, silt disturbed by initial access to the canal invert, construction debris and removed vegetation. Additionally, clarified dewater fluids will be returned to stream flow. Except for initial access, all work is planned to be conducted within the silt fence enclosing the work site.

Discharges associated with the operation of equipment may include petroleum compounds resulting from oil leaks and spills from equipment fueling or service. Equipment maintenance, service and fuel storage will be conducted off-site, away from the stream area to the extent possible.

Storm runoff from the contractor staging area on the east bank will be minimal as this area lies partially under the elevated freeway structure. Existing grading directs surface runoff toward the South King Street right-of-way, where silt potentially entrained will be controlled by a silt fence at the street boundary. The silt fence along the canal bank will also serve to control runoff from a small fraction of the staging area.

5. Proposed Control Measures or Treatment

Stream flow will be diverted to the west side of Pier 21 prior to construction by installing a temporary dam and silt fences as shown in Attachment 2. As noted above, the west stream bank will be protected from erosion which may result from increased flow in that portion of the canal.

Silt fences (Attachment 4) will be installed along the temporary dam, within the work area, and along the stream bank (Attachment 2), and maintained throughout the construction period. A section of the silt fence may be temporarily removed at the beginning of the workday to facilitate

construction access, but it shall be replaced as soon as possible and not later than the end of each day.

A stabilized construction entrance (gravel pad) shall be installed and maintained at the staging area entrance on the mauka side of King Street, to prevent transport of sediment on construction vehicles onto the paved roads.

Pier 21 retrofit work in the immediate area of the existing footing (excavation, predrilling for tubular piles, pile driving, crushed rock bedding, reinforcing steel placement and concrete pouring) will occur within a steel sheet piling cofferdam. The cofferdam will be located within the silt fence which will be constructed around the work area. The cofferdam will be calked to minimize stream inflow and the quantity of dewatering required for the work to proceed in the dry.

Steel tubular piles are presently stored under the freeway offramp on the makai side of South King Street as shown in the attached photos. The storage location is on high ground and under the elevated offramp structure; thus no rainfall runoff enters or leaves the storage area.

Storm drain inlet protective measures shall be constructed in accordance with Attachment 5, will be installed around the existing and new drain inlets to prevent sediment from entering the storm drain system. See Attachment 2 for location of storm drain inlets.

A designated upland area, away from the stream area, will be used to store construction-related material and equipment. An effort will be made to store only enough products onsite that are required to for current and immediate future operations. Silt fences will be installed at the bottom slopes of stockpiles to filter sediment from runoff. See Attachment 2 for location.

All dredged and excavated material will be loaded directly from the excavated area into semi-trucks (lined with filter fabric or plastic) to be hauled off-site and disposed of at authorized disposal sites.

All loose material, small tools and equipment will be removed from the work site at the end of each workday.

All powered equipment will be inspected daily for leaks and will receive regular preventative maintenance to reduce the chance of leakage. Leaking equipment will be immediately removed or repaired to correct the leak. Equipment will be stored upland, away from the stream area. Daily fueling and lubricating of equipment will be conducted away from the stream area. Lubricants and excess oil will be disposed of in accordance with applicable Federal, State and City and County regulations.

Concrete trucks and pumps will only be allowed to "wash out" or discharge drum wash water outside the stream and construction area into steel drums lined with filter fabric. Wash down water will be contained in the steel drums and allowed to evaporate, or will be used for dust control

onsite. Solid material recovered from washout water drums will be taken to back to the concrete plant to be recycled or disposed in an approved upland site.

The contractor shall check all control measures daily and maintain them in good working order. If repair is necessary, it will be made within 24 hours of report. Temporary dams and silt fences will be inspected for depth of sediment, tears, and to see if the fabric and liners are adequately secured and that the fence and steel posts remain firmly in the ground. Sediment retained at silt fences will be removed when reaches one-third the height of the fence.

Additional control measures (sediment basins, temporary dikes, sandbags etc.) may be installed as needed to control erosion, redirect runoff and collect sediments from the construction area. Materials to construct such additional control measures will be staged at the jobsite for immediate deployment.

6. Water Quality Monitoring Plan

Water quality monitoring will be conducted prior to construction and throughout the duration of work within the drainage canal. The Contractor's project engineer assigned to the project will be responsible to monitor control measures. Water quality sampling and analyses will be conducted by a contractor-selected independent testing laboratory.

Grab sampling using laboratory-supplied containers for stream water quality monitoring will be conducted at three control stations and one impact station, at the locations shown on Attachment 2, and as approved by the Department of Health. Water samples will be analyzed for Total Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite, Total Phosphorous, Turbidity, Total Suspended Solids, pH, Dissolved Oxygen, Temperature, Conductivity, Oil and Grease and Total Lead, and the results in the units used in H.A.R. 11-54 (see below) reported to the Clean Water Branch. The mailing address to which all water quality reports shall be sent is:

State of Hawaii, Department of Health
Environmental Management Division, Clean Water Branch
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Preconstruction samples will be collected and analyzed daily for ten days prior to construction, from the control and impact stations. During construction, samples will be taken three times a week, one to two hours after construction work has started for the day, or on days that concrete is placed, one to two hours after the concrete pour has started. Additionally, one sample shall be acquired from the impact station and analyzed after construction is complete Should the results exceed the geometric mean (established by preconstruction water quality monitoring or applicable water quality standards) due to the contractor's activities, modifications will be made to the water pollution controls. Modifications may include such measures as those described in Section 5 above.

Allowable dry season geometric mean concentrations for the parameters of interest, excerpted from H.A.R. 11-54, are as follows:

Parameter	Geometric mean	10% exceedance limit	2% exceedance limit
Total Nitrogen (ug N/L)	180.0	380.0	600.0
Nitrate + Nitrite Nitrogen (ug (NO_3 + NO_4) -N/L)	30.0	90.0	170.0
Total Phosphorus (ug P/L)	30.0	60.0	80.0
Total Suspended Solids (mg/L)	10.0	30.0	55.0
Turbidity (NTU)	2.0	5.5	10.0

Typical water quality sampling procedures shall be as outlined in the Water Sampling Guidelines (sample from the previous project, Attachment 7), or as provided by the contractor's selected analytical laboratory. Samples will be transmitted under strict Chain of Custody procedures (a typical Sample Chain of Custody form provided in Attachment 7). Sample results will be summarized and submitted weekly to the Department of Health, Clean Water Branch, with identification of project and contractor, contractor's designated point of contact, and a description of the activities occurring on the date of sampling. If the results exceed the applicable water quality standards, the Clean Water Branch will be notified within 24 hours after the availability of the analytical results; notification will include mitigation measures to be employed and may include modifications as noted above.

Typical laboratory Quality Control procedures for water sampling and analysis are described in the attached Water Sampling Guidelines (sample from previous project, Attachment 7). Proper sampling and Quality Control procedures specific to the contractor's selected analytical laboratory will be followed and adhered to at all times.

Should either the project engineer or the testing laboratory change, the State will be notified in writing.

7. Mitigation and Restoration Plan

The project site does not lie a special aquatic site.

At the beginning of construction, eight existing trees will be removed from the otherwise barren contractor staging area on the east bank. Upon completion of construction, six trees will be planted in the staging area and watered with a new automatic irrigation system as shown on sheets L-1 and L-2 attached.

In the event of heavy rainfall and resulting high water levels in the stream, contractor crews will be on-call 24-hours a day to remove or open up the temporary dam to let storm waters flow through the canal. The diversion and access construction sequence stated in the paragraphs above will be repeated to recreate access to the pier footing if required to be remove due to heavy rains.

All debris and excavated material during construction will be removed from the stream area and disposed of at approved upland sites.

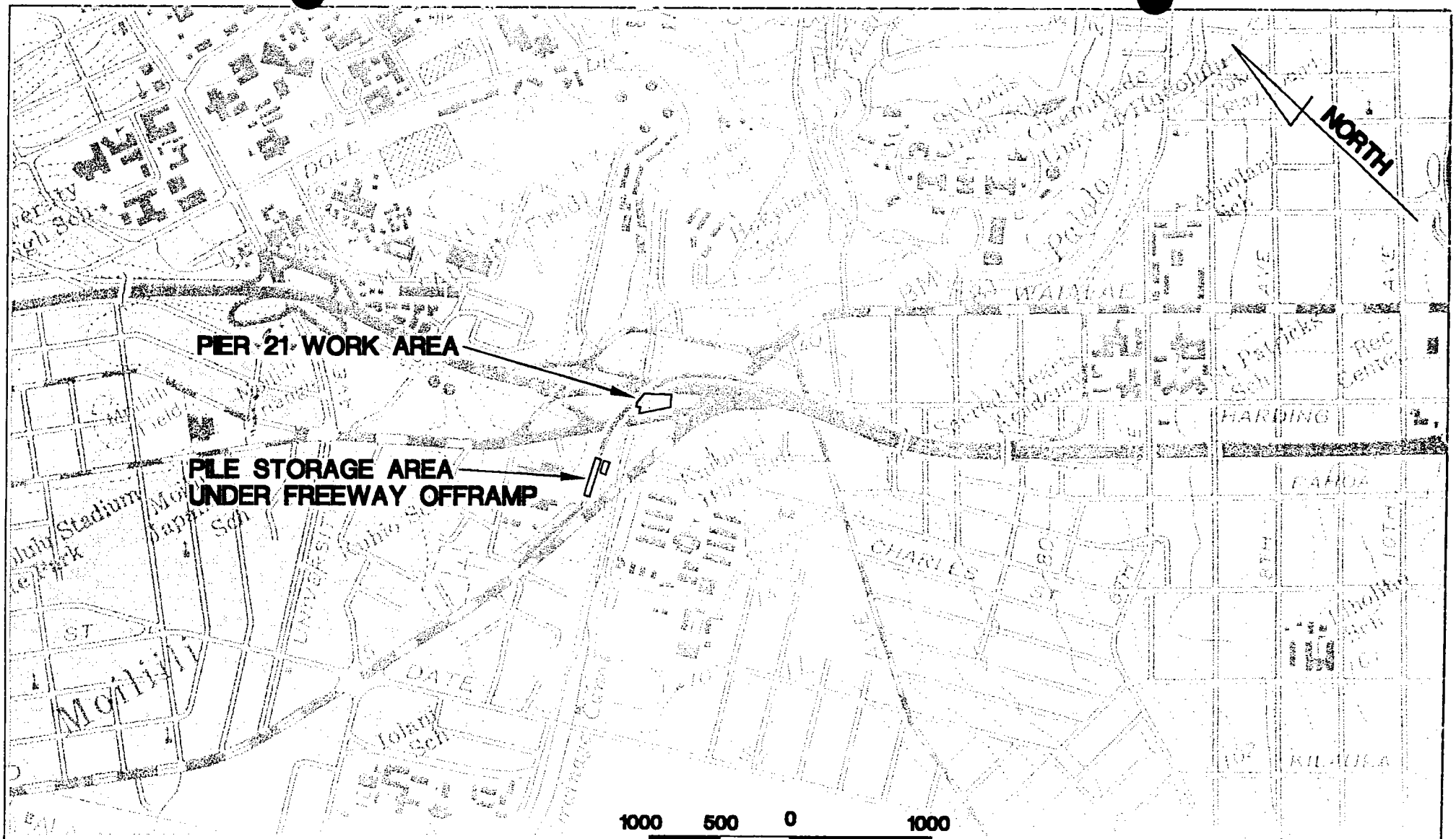
No construction or construction-related material will be stockpiled, stored or placed in the stream area or in ways that will disturb the stream area.

Drainage from excavated material will be controlled so as not to re-enter the stream without treatment. Material excavated to expose the existing pile cap will be incorporated into the access path.

Upon completion of the Pier 21 improvements, all evidence of the contractor's presence within the stream channel (removal of west side stream bank protection, Pier 21 access ramp) will be removed and the east bank reconstructed if necessary.

ATTACHMENTS

Site Photos
1 Typical Construction Schedule (sample from previous project)
2 Site Plan
2 Location Map of Temporary Dam, Silt Fences, Cofferdam & Access Path and Stockpile Areas
3 Temporary Dam and Cofferdam Schematic
4 Silt Fence Detail
5 Storm Drain Inlet Protection Details
6 Typical Analytical Laboratory Water Sampling Guidelines and Sample Chain of Custody Form
8 Construction Plans (Title sheet, C2, C3, C8, S1, S6, L-1, L-2)



BASE MAP SOURCE: USGS "HONOLULU" QUADRANGLE, 1983

PREPARED BY: CS
EKNA 2248-03F

Edward K. Noda and Associates, Inc.

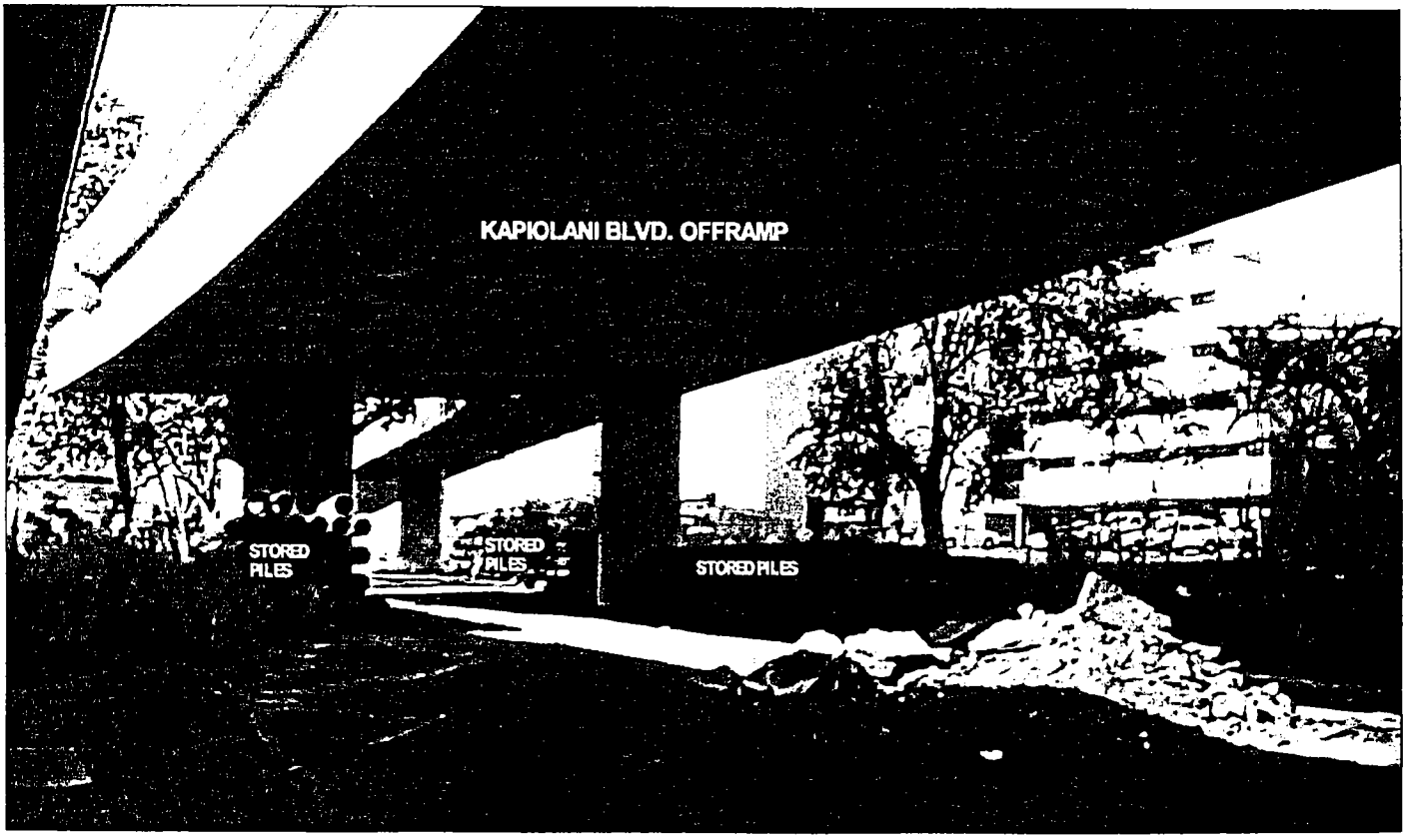
SECTION 401 WATER QUALITY CERTIFICATION APPLICATION
INTERSTATE ROUTE H-1, SEISMIC RETROFIT
KAPIOLANI INTERCHANGE, PHASE 2

LOCATION MAP

FIGURE 1

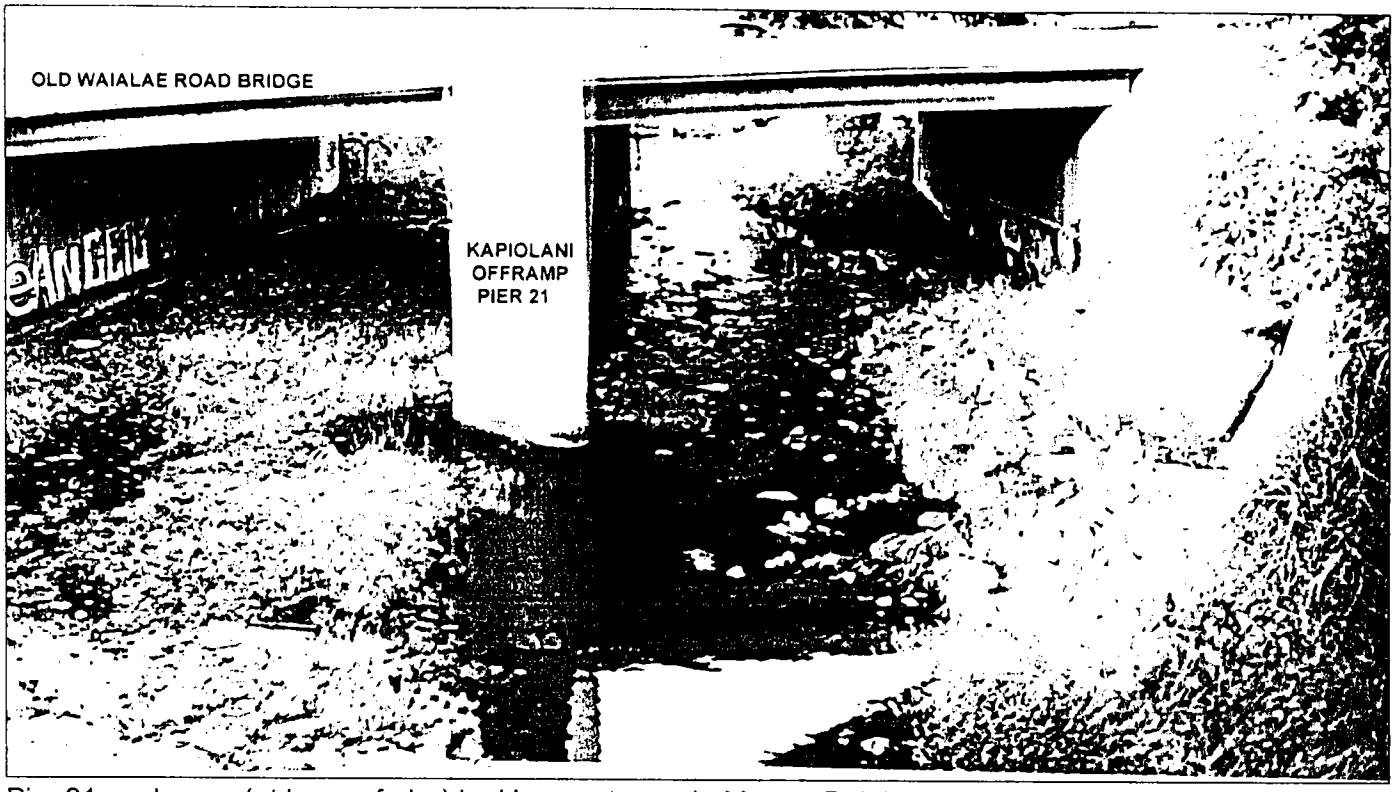
Pile Storage Area Photos

View to mauka, two stacks of stored tubular steel piles beneath elevated offramp.

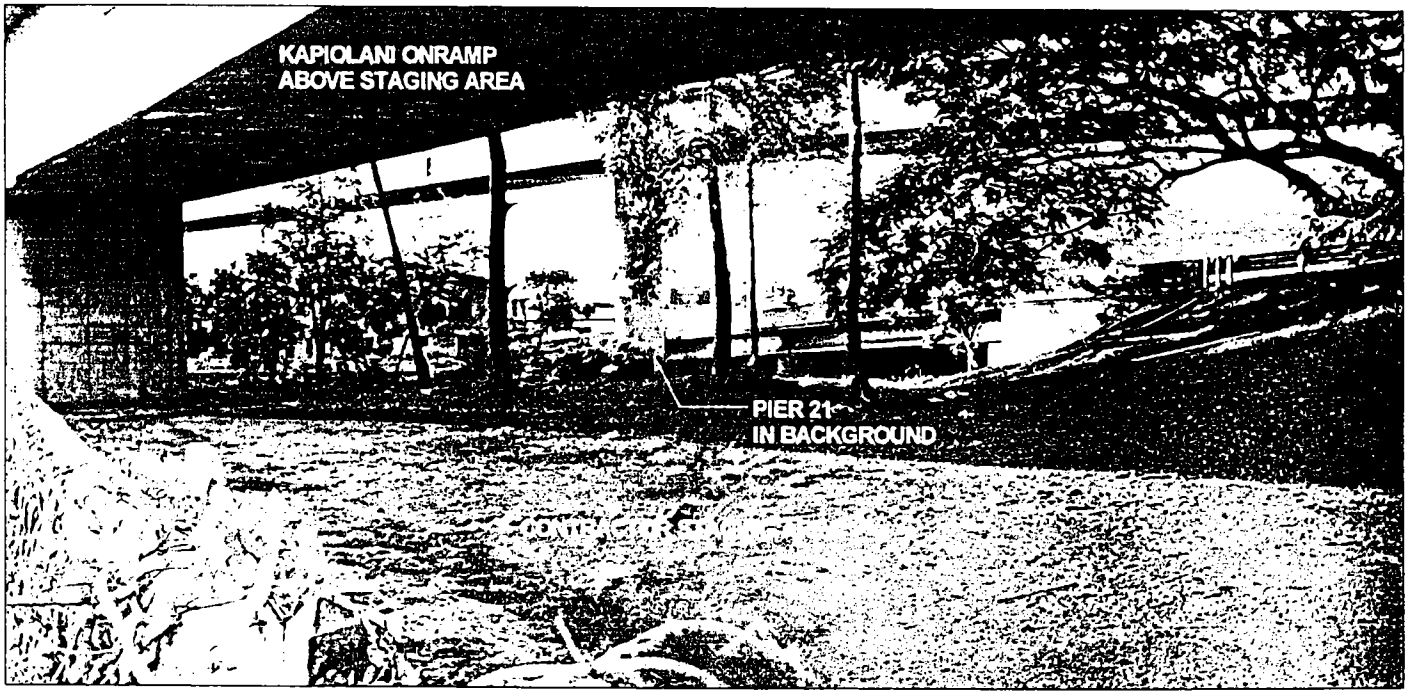


View to makai, four stacks of stored tubular steel piles beneath elevated offramp.

Pier 21 Work Area Photos



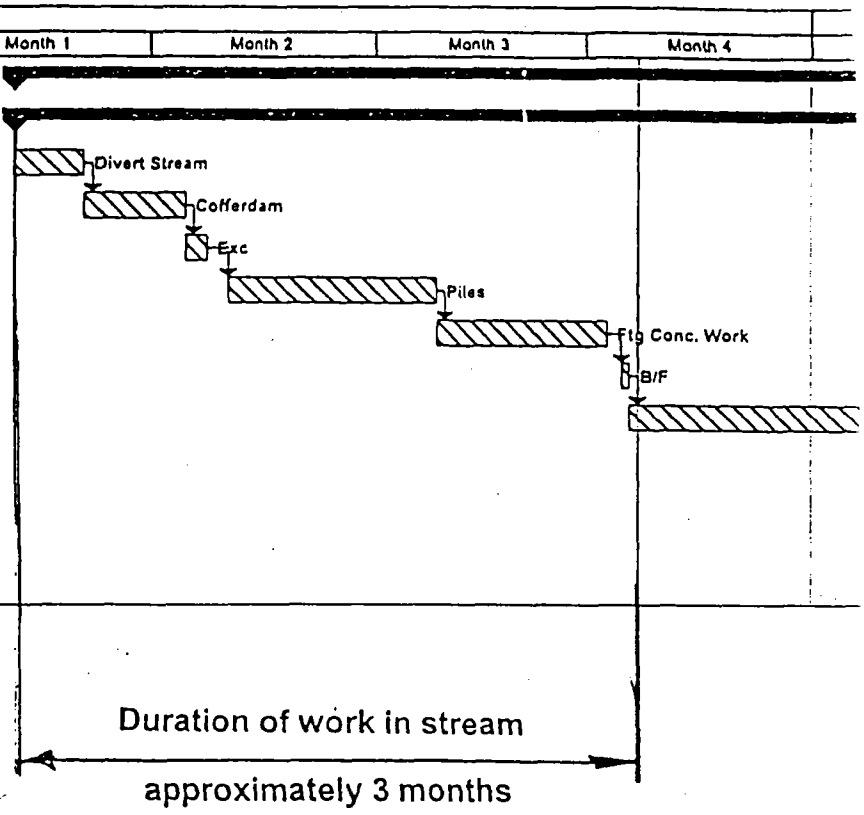
Pier 21 work area (at base of pier) looking upstream in Manoa-Palolo Drainage Canal, contractor staging area at right



Contractor staging area on east bank of Manoa-Palolo Drainage Canal, Pier 21 at center background, Kapiolani onramp at upper left over site

INTERSTATE H-1 SEISMIC RETROFIT
KAPIOLANI INTERCHANGE
F.A.P. NO. BR-H1-1(226)

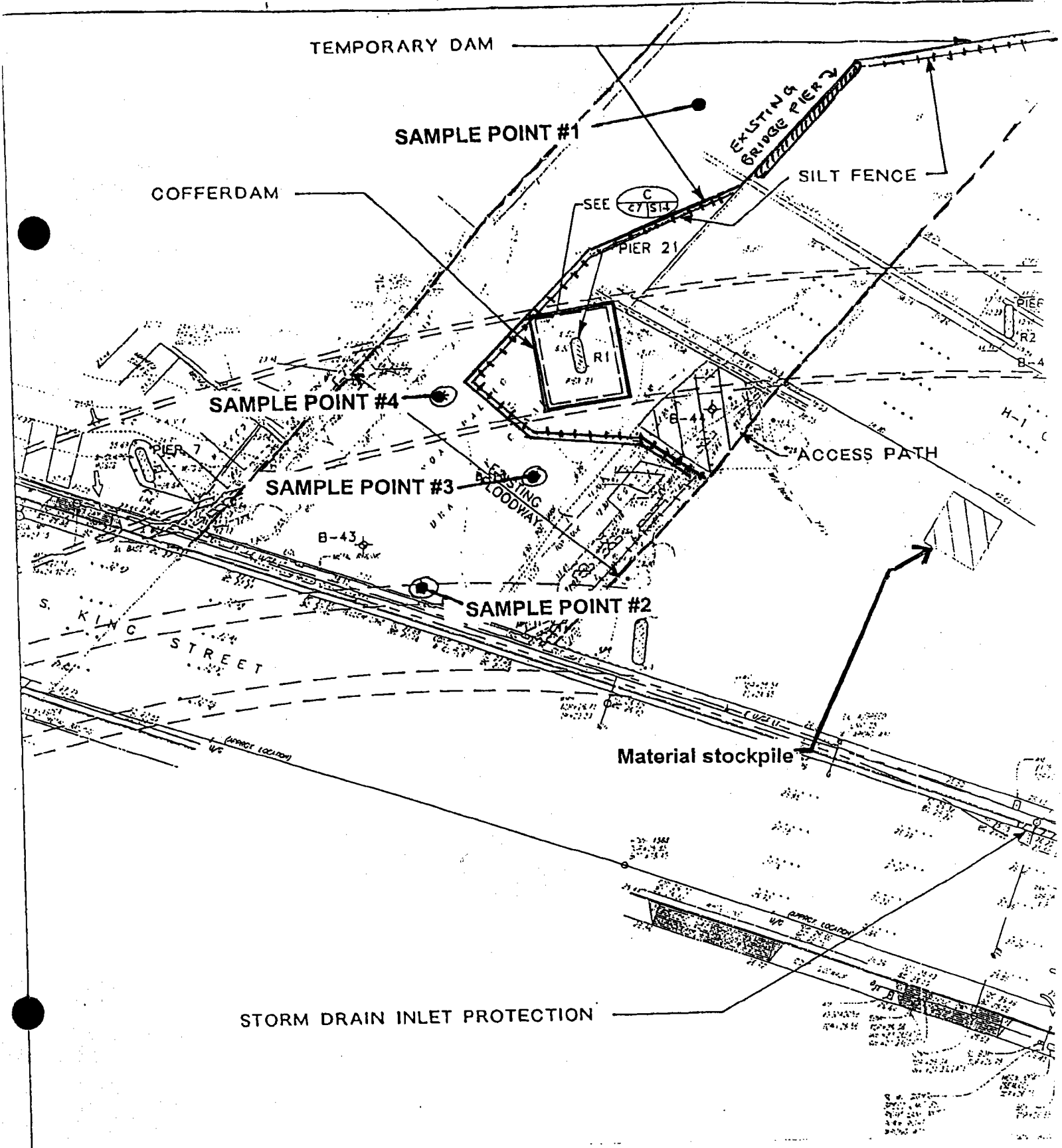
ID	O	Task Name	Duration
1		KAPIOLANI SEISMIC RETROFIT	130 days
2		PIER #21 WORK ONLY	130 days
3		Divert Stream/Install Silt Screen	7 days
4		Install Cofferdam	10 days
5		Excavation	3 days
6		Drive Test Piles & Production Piles	21 days
7		Footing Concrete Work	16 days
8		Backfill Footing	1 day
~~9~~		~~Pier 21 Deck Retrofit Work~~	~~55 days~~
~~10~~		~~Order Cable Restrainers~~	~~26 days~~
~~11~~		~~Install Cable Restrainers~~	~~5 days~~
12		Replace CRM Wall	3 days
13		Remove Berm/Cleanup	8 days



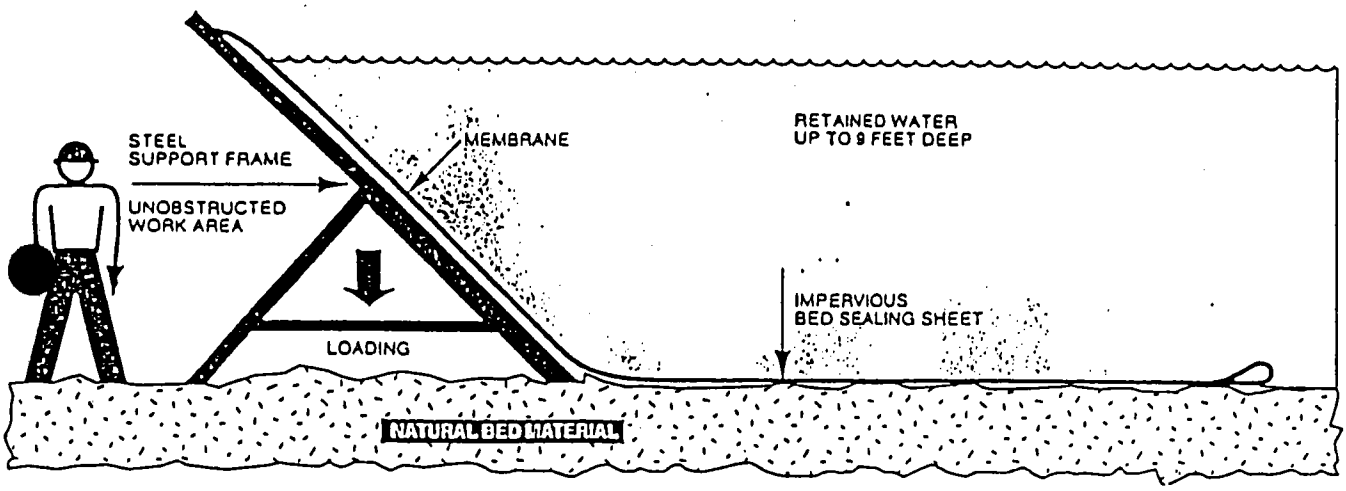
roject: BMP ate: 9/15/99	Task		Milestone		Rolled Up Critical Task		Split
	Critical Task		Summary		Rolled Up Milestone		External T
	Progress		Rolled Up Task		Rolled Up Progress		Project S

ATTACHMENT 1
TYPICAL CONSTRUCTION SCHEDULE
(SAMPLE FROM PREVIOUS PROJECT)

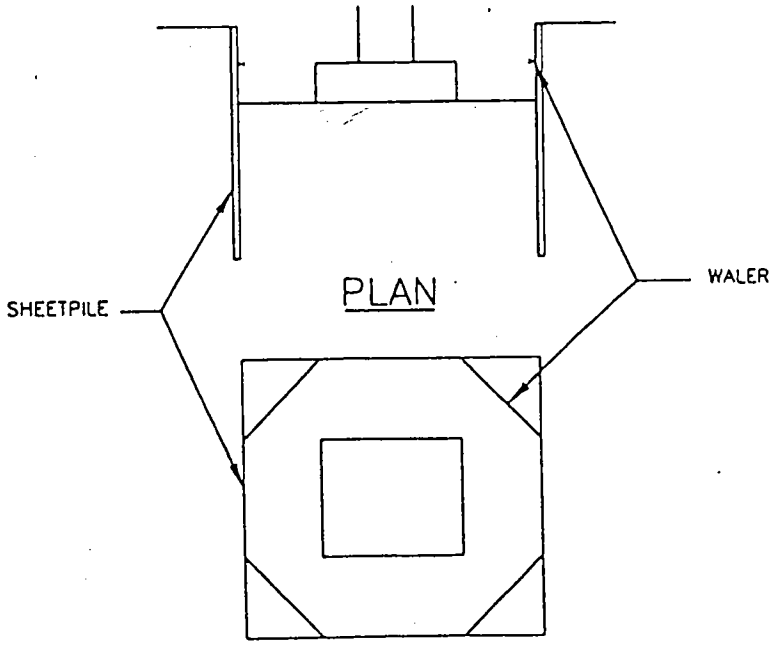
(*) CONTI



ATTACHMENT 2
SITE PLAN SHOWING TEMPORARY DAM, SILT FENCES, COFFERDAM & ACCESS PATH AND STOCKPILE AREAS



TEMPORARY DAM SCHEMATIC



SECTION

COFFER DAM SCHEMATIC

ATTACHMENT 3
TEMPORARY DAM AND
COFFERDAM SCHEMATIC

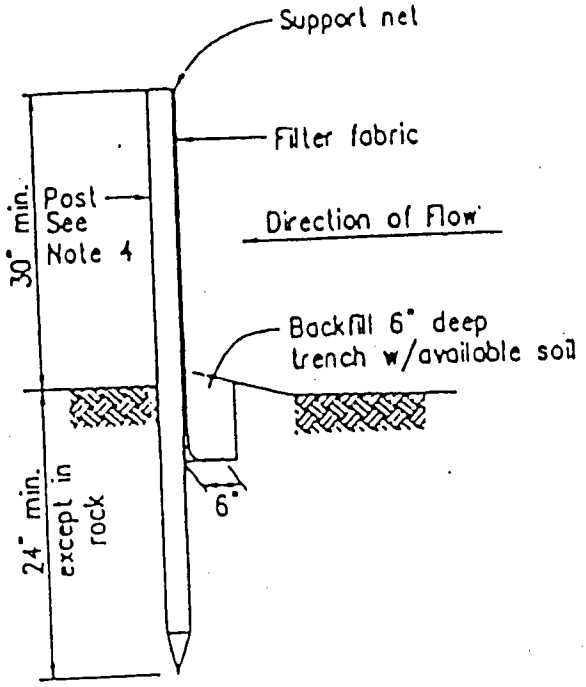
SILT FENCE NOTES

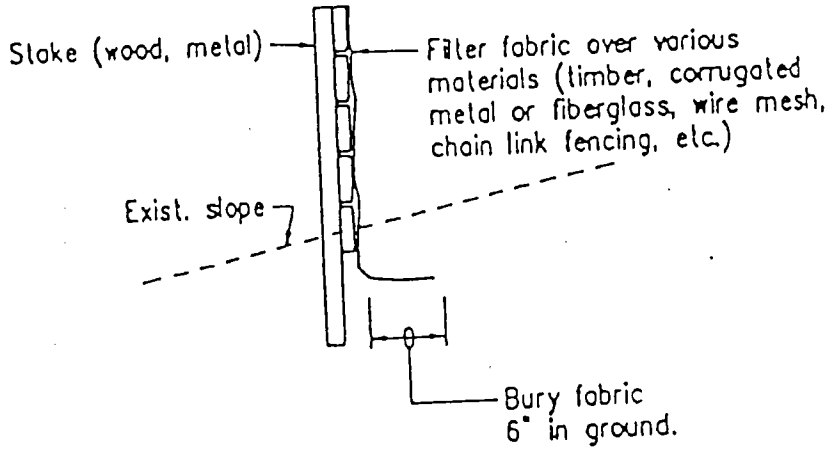
1. Filter fabric shall be of the type specified and installed in combination with a support net of polyester netting or approved equal. The filter fabric shall be a mininum of 36 inches wide and the support net a minimum of 30 inches.

2. If silt fence is obtained from manufacturer as a package (i.e. fabric attached to post) the manufacturers installation instructions shall be adhered to.

3. Posts shall be metal where possible, cross section of post will be substantial enough to support a loaded silt fence without bending. Post spacing shall be 4 feet to 8 feet, depending on post size.

4. Some manufacturers only supply silt fence with wooden post. During installation, measures should be taken to prevent damage to post.

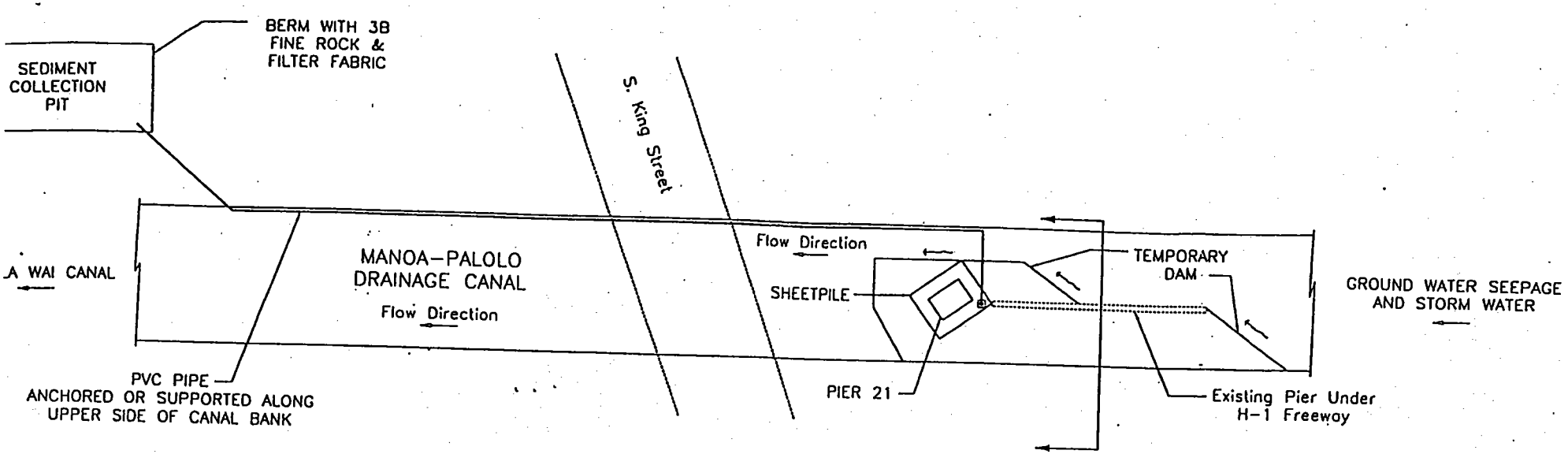




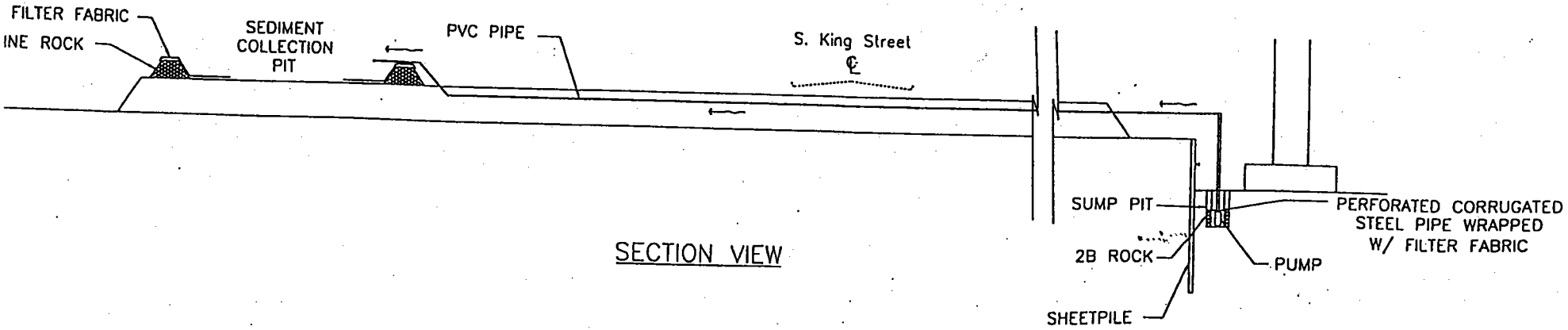
SILT FENCE DETAIL
Not to Scale

ATTACHMENT 4
SILT FENCE DETAIL

PIER 21 – DEWATERING SCHEMATIC



PLAN VIEW



SECTION VIEW

ATTACHMENT 5
DEWATERING SCHEMATIC

INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LIST OF ABBREVIATIONS & SYMBOLS & ESTIMATED QUANTITIES
3	STANDARD PLANS SUMMARY
4 (C1)	CONSTRUCTION NOTES
5 (C2)	ENVIRONMENTAL NOTES - 1
6 (C3)	ENVIRONMENTAL NOTES - 2
7 (C4)	BORING LOGS
8 (C5)	EXISTING PIER LAY-OUT & KEY PLAN
9 - 12	SITE PLANS
13 - 20 (C10-C17)	TEMPORARY STRIPING PLANS
21 - 23 (C18-C20)	RESTRIPING PLANS
24 (C21)	TRAFFIC CONTROL PLAN FOR KAPIOLANI BLVD OFFRAMP CLOSURE
25	GENERAL BRIDGE RETROFIT NOTES & LIMITS OF PAYMENT FOR STRUCTURAL EXCAVATION & BACKFILL
26	LONGITUDINAL SECTION - RAMP STRUCTURE PIERS 18, 19 & 21
27	TYPE 1 RESTRAINER DETAILS
28	CABLE YIELD INDICATOR & SEAT EXTENDER DETAILS
29	ACCESS HATCH DETAILS
30	PILED FOOTING RETROFIT PLANS & DETAILS - PIERS 18 & 21
31	PILED FOOTING RETROFIT PLAN & DETAILS - PIER 19
32	PILE DETAILS, PILE FOOTING RETROFIT SCHEDULE
33	TOP DECK SPALL REPAIR PLAN, DETAILS & NOTES
34	LANDSCAPE DEMOLITION PLAN, LANDSCAPE PLANTING PLAN, NOTES & DETAILS
35	LANDSCAPE IRRIGATION PLAN & EQUIPMENT LIST
36	LANDSCAPE IRRIGATION NOTES & DETAILS

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

HONOLULU, HAWAII

PLANS FOR

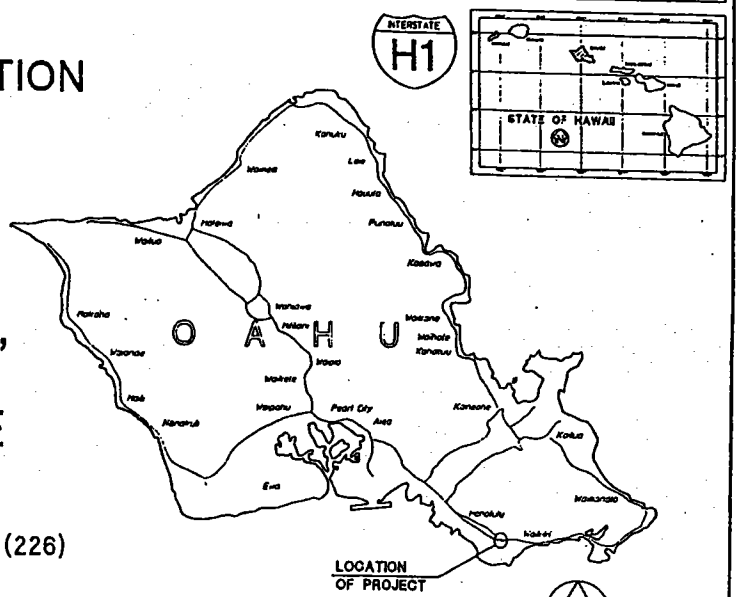
INTERSTATE ROUTE H-1, SEISMIC RETROFIT KAPIOLANI INTERCHANGE PHASE 2

FEDERAL AID INTERSTATE PROJECT NO. BR-H1-1 (226)

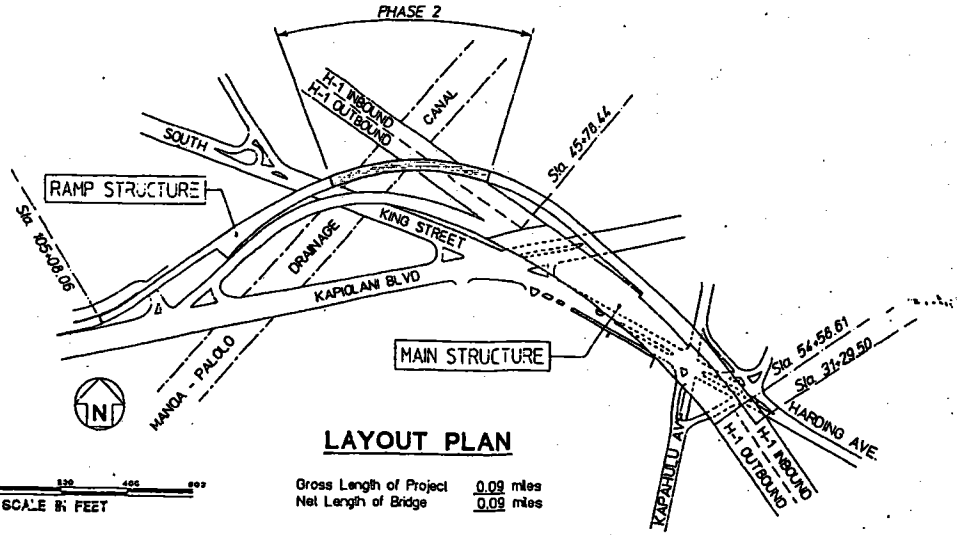
DISTRICT OF HONOLULU

ISLAND OF OAHU

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-H1-1 (226)	2003	1	36



MILE POST 25.26 TO MILE POST 25.40



LAYOUT PLAN

Gross Length of Project 0.09 miles
Net Length of Bridge 0.09 miles

REDUCED PLAN (HALF SIZE)
0 1 2 3
3 INCHES ON ORIGINAL PLAN

RECEIVED
DEC 10 2002
SATO & ASSOC. INC.

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII
APPROVED:
DIR OF TRANSPORTATION
10/15/02
DATE

Sato & Associates, Inc. — DESIGNED BY
Emilio Barroga, Jr. — P.S. & E. BY
692-7546 — PHONE
Sept 2002 — DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-H1-1(226)	2003	5	36

PROPOSED BEST MANAGEMENT PRACTICE (BMP) PLAN (PIER 21 IN MANOA-PALOLO STREAM)

THE CONTRACTOR SHALL PREPARE A SITE-SPECIFIC BMP FOR THE PROJECT AND SUBMIT TO THE DEPARTMENT OF HEALTH FOR APPROVAL NO LATER THAN 30 CALENDAR DAYS AFTER AWARD OF CONTRACT. THE BMP SHALL BE COMPLETE AND ACCEPTABLE TO THE DEPARTMENT OF HEALTH. CONTRACTOR SHALL NOT WAIT FOR THE NOTICE TO PROCEED TO BEGIN THIS WORK. THIS WORK SHALL BE INCIDENTAL TO THE CONSTRUCTION CONTRACT AND WILL NOT BE PAID FOR SEPARATELY.

1. CONSTRUCTION SEQUENCE

A. THE CONSTRUCTION WITHIN THE MANOA-PALOLO STREAM WILL BE DONE DURING THE DRY SEASON WHEN THERE IS LOW STREAM FLOW.

B. INITIALLY, THE CONTRACTOR SHALL INSTALL AN EFFECTIVE SILT CONTAINMENT DEVICE(S) TO ISOLATE THE CONSTRUCTION ACTIVITIES FROM THE RECEIVING STATE WATERS. CONSTRUCTION EQUIPMENT WILL NOT BE ALLOWED WITHIN THE STREAM BED UNTIL THE EFFECTIVE SILT CONTAINMENT DEVICE(S) IS INSTALLED.

C. AN ACCESS PATH TO THE CONSTRUCTION SITE WILL BE CREATED BY DIVERTING THE STREAM FLOW AWAY FROM THE PATH. THE STREAM FLOW SHALL ALSO BE DIVERTED AROUND THE CONSTRUCTION SITE VIA BERMS, SAND BAGS, PIPES OR OTHER METHODS.

D. ALL DEBRIS AND/OR EXCAVATED MATERIALS SHALL BE PROPERLY REMOVED FROM THE AQUATIC ENVIRONMENT AND DISPOSED OF AT THE UPLAND STATE OR COUNTY APPROVED SITES. NO CONSTRUCTION MATERIAL OR CONSTRUCTION-RELATED MATERIALS SHALL BE STOCKPILED, STORED, OR PLACED IN THE AQUATIC ENVIRONMENT OR STORED OR PLACED IN WAYS THAT WILL DISTURB THE AQUATIC ENVIRONMENT. IF STOCKPILING OF EXCAVATED MATERIALS IS REQUIRED PRIOR TO TRANSPORTING TO THE STATE OR COUNTY APPROVED SITE, TRANSPORTING THE EXCAVATED MATERIALS FROM THE SITE TO AN APPROVED STOCKPILE AREA SHALL BE DONE WITH A WATERTIGHT EQUIPMENT.

2. CONSTRUCTION METHOD

A. PROTECT/SUPPORT CRM WALL ON WESTBANK (EWA-SIDE) BEFORE DIVERTING FLOW.

B. FOR PIER 21 FOOTING RETROFIT, CONTRACTOR SHALL MINIMIZE CONSTRUCTING TEMPORARY BARRIERS TO STORM WATER FLOWS. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING THOSE BARRIERS BEFORE THE OCCURRENCE OF FLOW THAT MAY DAMAGE THE CHANNEL AND SURROUNDING PROPERTY.

C. AFTER THE STREAM FLOW HAS BEEN DIVERTED, A BACKHOE WILL BE USED TO EXCAVATE THE STREAM BED TO EXPOSE THE EXISTING PILE CAP.

D. A PILE DRIVING EQUIPMENT WILL BE USED TO INSTALL THE PERIMETER SHEET PILES TO PROTECT THE EXCAVATION AND REDUCE POLLUTION OF THE STREAM.

E. THE BACKHOE AND/OR OTHER EXCAVATION EQUIPMENT WILL BE USED TO EXCAVATE AND EXPOSE THE BOTTOM OF THE EXISTING PILE CAP.

F. THE PILE DRIVING EQUIPMENT WILL INSTALL THE 16-INCH DIAMETER STEEL PILES TO UPGRADE THE FOUNDATION.

G. TOP OF PILES WILL BE CUT AND REMOVED PRIOR TO PLACING REBARS AND CONCRETE.

H. TO FACILITATE DRY BEDDING, THE BOTTOM MAY BE OVER EXCAVATED AND BACKFILLED WITH CRUSHED ROCK.

I. REINFORCEMENT WILL BE PLACED AND THE CONCRETE WILL BE PUMPED INTO PLACE.

J. BACKFILL WITH LOW STRENGTH CONCRETE AND REMOVE PROTRUDING TOPS OF SHEET PILES.

K. CLEAN UP WORK AREA TO RESTORE TO ITS PRE-CONSTRUCTION CONDITION. THIS INCLUDES RESTORATION OF BOTH EAST AND WEST SIDES CRM WALL BANKS.

L. 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 DISTRICT ENGINEER. NO STOCKPILING OR STORAGE IS ALLOWED OVER EXISTING BRIDGE FOOTINGS AND ROOT BASES AROUND EXISTING TREES THAT WILL REMAIN IN PLACE.

3. CHARACTERISTICS OF THE DISCHARGE AND POTENTIAL POLLUTANTS ASSOCIATED WITH THE PROPOSED CONSTRUCTION ACTIVITY

A. MATERIAL TEMPORARILY PLACED MAY INCLUDE SILT SCREEN, PLASTIC OR STEEL PIPES, COARSE GRAVEL, PLASTIC LINING, FORM MATERIAL, BERMS, DIKES, COFFERDAMS, AND SAND BAGS.

B. MATERIAL PERMANENTLY PLACED INCLUDE SHEET PILES, IF NECESSARY, CONCRETE FILLED STEEL PILES, REINFORCEMENT AND CONCRETE.

C. MATERIAL THAT MAY ENTER STATE WATERS DUE TO THE PROPOSED CONSTRUCTION ACTIVITY INCLUDES SOIL EROSION, CONSTRUCTION DEBRIS, CONCRETE, AND REMOVED VEGETATION.

D. DISCHARGES ASSOCIATED WITH THE OPERATION OF THE EQUIPMENT INCLUDE OIL LEAK, AND SPILLS FROM THE FUELING OPERATION. MAINTENANCE OF EQUIPMENT AND FUEL STORAGE WILL NOT BE ALLOWED WITHIN THE AQUATIC ENVIRONMENT.

4. PROPOSED CONTROL MEASURES OR TREATMENT

A. EFFECTIVE SILT CONTAINMENT DEVICES SHALL BE INSTALLED AROUND THE WORK SITE PRIOR TO ANY CONSTRUCTION ACTIVITY. THEY SHALL BE MAINTAINED UNTIL THE FOOTING RETROFIT CONSTRUCTION ACTIVITY IS COMPLETED. DETAILS WILL BE SUBMITTED AFTER CONTRACTOR IS SELECTED.

B. STREAM FLOW SHALL BE DIVERTED AWAY FROM OR AROUND THE CONSTRUCTION SITE PRIOR TO SHEET PILE INSTALLATION.

C. A DESIGNATED UPLAND AREA AWAY FROM THE AQUATIC ENVIRONMENT FOR THE SELECTED CONTRACTOR TO STORE OR STOCKPILE CONSTRUCTION RELATED MATERIALS AND EQUIPMENT WILL BE ASSIGNED PRIOR TO START OF CONSTRUCTION ACTIVITY.

D. ALL LOOSE MATERIAL AND SMALL TOOLS AND EQUIPMENT WILL BE REMOVED FROM THE CONSTRUCTION SITE AFTER EVERY WORK DAY IS COMPLETED.

E. EQUIPMENT SHALL BE INSPECTED DAILY TO MAKE SURE OIL LEAKS DO NOT OCCUR. EQUIPMENT SHALL BE STORED UPLAND AWAY FROM THE AQUATIC ENVIRONMENT. FUELING AND LUBRICATING OF EQUIPMENT AND MOTOR VEHICLES WILL BE CONDUCTED AWAY FROM THE AQUATIC ENVIRONMENT AND IN A MANNER TO PROTECT AGAINST SPILLS AND EVAPORATION. LUBRICANTS AND EXCESS OILS WILL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

F. SKILLED MASONRY WORKERS WILL BE USED TO FINISH THE CONCRETE FOOTING.

5. WATER QUALITY MONITORING PLAN

A. THE MONITORING PLAN WILL CONSIST OF A CONTROL STATION AND MONITORING STATION AT A LOCATION FROM THE CONSTRUCTION SITE APPROVED BY THE DEPARTMENT OF HEALTH. TURBIDITY, PH, AND TOTAL SUSPENDED SOILS (TSS) SHALL BE MONITORED.

B. THE MONITORING SCHEDULE SHALL INVOLVE COLLECTING SAMPLES EVERY DAY FOR 5 DAYS PRIOR TO START OF CONSTRUCTION AT THE CONTROL STATION AND MONITORING STATION. DURING THE CONSTRUCTION PERIOD, REPRESENTATIVE SAMPLES SHALL BE TAKEN TWICE A WEEK AT THE CONTROL STATION AND MONITORING STATION. SAMPLES SHALL BE TAKEN AFTER CONSTRUCTION WORK HAS STARTED FOR THE DAY, AT LEAST 1 OR 2 HOURS AFTER THE WORKDAY BEGINS. IF THE RESULTS EXCEED THE GEOMETRIC MEAN ESTABLISHED FROM THE BASELINE PRE-CONSTRUCTION WATER QUALITY MONITORING OR APPLICABLE WATER QUALITY STANDARDS, MODIFICATIONS SHALL BE MADE TO THE WATER POLLUTION CONTROLS.

C. SAMPLES SHALL BE TAKEN AT MID-DEPTH OF WATER OR AS RECOMMENDED BY THE DEPARTMENT OF HEALTH. SAMPLE RESULTS SHALL BE SUBMITTED TO THE DEPARTMENT OF HEALTH, CLEAN WATER BRANCH. IF THE RESULTS EXCEED THE APPLICABLE WATER STANDARDS, THE CLEAN WATER BRANCH WILL BE NOTIFIED WITHIN 24 HOURS AFTER THE AVAILABILITY OF THE ANALYTICAL RESULTS. NOTIFICATION WILL INCLUDE MITIGATION MEASURES. THE PRE-CONSTRUCTION, AND DURING CONSTRUCTION MONITORING RESULTS SHALL BE SUBMITTED TO THE DEPARTMENT OF HEALTH AS SOON AS THEY BECOME AVAILABLE OR NO LATER THAN ONE WEEK AFTER THE AVAILABILITY OF THE ANALYTICAL RESULTS.

D. THE STATE OF HAWAII, DEPARTMENT OF HEALTH, CLEAN WATER BRANCH (PHONE: 586-4309) SHALL BE NOTIFIED THREE DAYS PRIOR TO START OF CONSTRUCTION AND AT THE END OF CONSTRUCTION.

6. DEWATERING PLAN

A. AN ANALYSIS OF THE SOURCE WATER QUALITY AS SPECIFIED IN DOH-NOI FORM G SHALL BE PROVIDED BY THE CONTRACTOR PRIOR TO START OF DEWATERING. THE ANALYSIS SHALL INCLUDE AN EVALUATION OF THE SOURCE WATER QUALITY DATA COLLECTED WITH RESPECT TO THE APPLICABLE NUMERIC CRITERIA AND NUMERIC STANDARDS FOR THE TOXIC POLLUTANTS SPECIFIED UNDER HAR, CHAPTER 11-54.

B. CONTRACTOR SHALL DESIGN THE TREATMENT OF DEWATERING ACTIVITY AND OBTAIN DOH'S APPROVAL PRIOR TO DEWATERING.

C. TREATMENT MAY INCLUDE SILTATION TANKS, FILTERS AND PUMPS.

D. TREATMENT DESIGN CALCULATIONS AND PROPOSED MITIGATIVE MEASURES SHALL BE SUBMITTED TO DOH BY THE CONTRACTOR.

E. AN APPROVED SITE-SPECIFIC DEWATERING PLAN IS REQUIRED BEFORE START OF CONSTRUCTION DEWATERING ACTIVITIES.

F. PROHIBITED PRACTICES:

(1) DEWATERING EFFLUENT WILL NOT BE DIRECTLY DISCHARGED INTO ANY STORM DRAIN OR RECEIVING WATERS WITHOUT PRIOR TREATMENT TO REMOVE POLLUTANTS.

(2) IF EFFLUENT WATER QUALITY DEGRADES BELOW THE TREATABLE LEVEL OF THE FILTER SYSTEM, DISCHARGES SHALL BE HALTED UNTIL PROPER MEASURES ARE INCORPORATED.

G. OPERATION AND MAINTENANCE PROCEDURES SHALL INCLUDE:

(1) RESPONSIBLE FIELD PERSON OF THE SYSTEM, BY TITLE OR NAME;

(2) OPERATION PLAN;

(3) MAINTENANCE SCHEDULING OR ACTION CRITERIA;

(4) MAINTENANCE PROGRAM;

(5) SEDIMENT HANDLING AND DISPOSAL PLAN;

(6) MONITORING AND VISUAL INSPECTION PROGRAM;

(7) CESSATION OF DISCHARGE PLAN;

(8) EFFLUENT CONTROL PLAN;

(9) EMERGENCY FLOOD CONTROL PLAN; AND

(10) WEST BANK CRM WALL MAINTENANCE PLAN IN THE DIVERTED FLOW REGION.

H. A NOTICE OF INTENT FOR NPDES GENERAL PERMIT COVERAGE AUTHORIZING DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY DEWATERING APPLICATION HAS BEEN FILED WITH THE HAWAII STATE DEPARTMENT OF HEALTH. THE CONTRACTOR SHALL PREPARE AND SUBMIT A SITE-SPECIFIC DEWATERING PLAN, AND A SITE-SPECIFIC DEWATERING BEST MANAGEMENT PRACTICES PLAN, A MINIMUM OF THIRTY DAYS PRIOR TO THE START OF CONSTRUCTION DEWATERING ACTIVITIES. CONTRACTOR SHALL MAKE REVISIONS AS REQUIRED. DEWATERING ACTIVITIES WILL NOT BE ALLOWED UNTIL THE SITE-SPECIFIC DEWATERING BEST MANAGEMENT PRACTICES PLAN IS ACCEPTED BY DOH.

7. WATER QUALITY CERTIFICATION APPLICATION HAS BEEN FILED WITH THE HAWAII STATE DEPARTMENT OF HEALTH.

8. STREAM CHANNEL ALTERATION PERMIT (SCAP) APPLICATION HAS BEEN FILED WITH THE DEPARTMENT OF LAND AND NATURAL RESOURCES, STATE OF HAWAII.

9. COMPLY WITH THE CONDITIONS STIPULATED IN THE WATER QUALITY CERTIFICATION, NPDES GENERAL PERMIT COVERAGE FOR CONSTRUCTION DEWATERING, ARMY CORPS OF ENGINEERS PERMIT, STREAM CHANNEL ALTERATION PERMIT, AND SECTION 209-WATER POLLUTION AND EROSION CONTROL OF THE SPECIAL PROVISIONS.

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES ON ORIGINAL PLAN

DANIEL S. MIYASATO
LICENSED PROFESSIONAL ENGINEER
No. 3443-C
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ENVIRONMENTAL
NOTES-1

INTERSTATE ROUTE H-1, SEISMIC RETROFIT
KAPIOLANI INTERCHANGE, PHASE 2
FAP NO. BR-H1-1(226)

SCALE: NONE DATE: SEPT 2002

SHEET NO. C2 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-HI-1(226)	2003	6	36

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 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 $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 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.

4. 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 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.

9. ALL SLOPES AND EXPOSED AREAS SHALL BE GRASSED AS SOON AS FINAL GRADES HAVE BEEN ESTABLISHED. GRADING TO FINAL GRADE SHALL BE CONTINUOUS, AND ANY AREA, WHERE WORK HAS BEEN INTERRUPTED OR DELAYED FOR MORE THAN 15 DAYS SHALL BE GRASSED IN ORDER TO PREVENT DUST EROSION AND SILT RUNOFF. AREAS WITH IMPORTED SOILS SHALL BE GRASSED NOT MORE THAN 5 WORKING DAYS AFTER FINAL GRADES HAVE BEEN ESTABLISHED.

10. TEMPORARY EROSION CONTROLS SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN-PLACE AND ESTABLISHED.

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 BLOCKS

(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 MATERIAL SPECIFIC PLAN

(A) THE FOLLOWING MATERIAL 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) 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 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

1. IF AN 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. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL PERMIT CONDITIONS. PERMITS MAY INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

(A) NPDES PERMIT FOR CONSTRUCTION ACTIVITIES

F. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH THE APPLICABLE PROVISIONS OF CHAPTER 54, WATER QUALITY STANDARDS, AND CHAPTER 55, WATER POLLUTION CONTROL OF TITLE 11, ADMINISTRATIVE RULES OF THE STATE DEPARTMENT OF HEALTH.

G. THE CONTRACTOR AT HIS OWN EXPENSE SHALL KEEP THE PROJECT AREA AND SURROUNDING AREAS FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR AND WATER POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.

H. APPLICATION FOR THE FOLLOWING PERMITS HAVE BEEN FILED WITH THE VARIOUS AGENCIES FOR WORK AT PIER 21.

1. NPDES CWB-NOI FORM G, HAWAII STATE DEPARTMENT OF HEALTH, FILE NO. HI 01G8200.

2. SECTION 401 WATER QUALITY CERTIFICATION, HAWAII STATE DEPARTMENT OF HEALTH.

3. DEPARTMENT OF ARMY PERMIT, CORPS OF ENGINEERS.

4. STREAM CHANNEL ALTERATION PERMIT (SCAP), HAWAII STATE DEPARTMENT OF LAND AND NATURAL RESOURCES, PERMIT NO. SCAP-OA-240E. THIS PERMIT IS EFFECTIVE UNTIL MAY 2003, AND THE HAWAII STATE DOT WILL FILE FOR THE NECESSARY EXTENSION.

5. COMMUNITY NOISE VARIANCE PERMIT, HAWAII STATE DEPARTMENT OF HEALTH, FOR WORK ON IN-BOUND LANES AND REPAIR OF DAMAGE ON DECK SLAB ABOVE PIER 21.

I. NO WORK SHALL BE ALLOWED IN THE STREAM UNTIL ALL APPLICABLE PERMITS HAVE BEEN APPROVED BY THE VARIOUS AGENCIES.

J. COMPLY WITH THE REQUIREMENTS OF THE COMMUNITY NOISE VARIANCE PERMIT FOR NIGHT WORK FOR REMOVING H-1 STRIPING, RESTRIPING, AND REPAIR OF OFF RAMP DECK SLAB.

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES ON ORIGINAL PLAN

DANIEL S. MIYASATO
LICENSED PROFESSIONAL ENGINEER
No. 3443-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

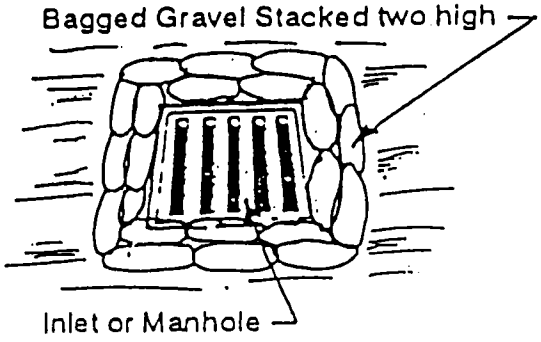
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ENVIRONMENTAL
NOTES-2

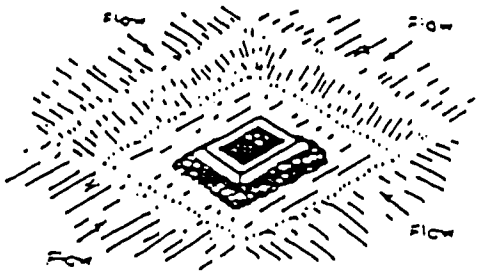
INTERSTATE ROUTE H-1, SEISMIC RETROFIT
KAPIOLANI INTERCHANGE, PHASE 2
FAIP NO. BR-HI-1(226)

SCALE: NONE DATE: SEPT 2002

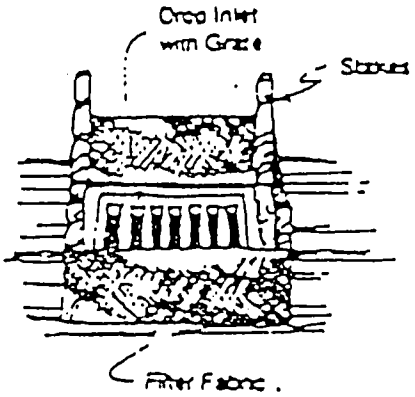
SHEET NO. C3 OF 21 SHEETS



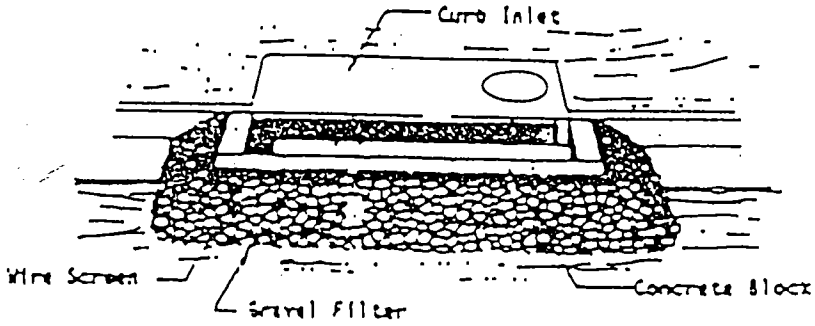
Bagged Gravel Inlet Protection



Excavated Gravel Inlet Protection



Filter Fabric Inlet Protection



Block and Gravel End Wall Silt Trap

ATTACHMENT 6
STORM DRAIN INLET
PROTECTION DETAILS

ALAB, Inc.

INALAB, Inc.

3615 Harding Avenue, Suite 308 Honolulu, Hawaii, 96816
(808)-735-0422 / Fax (808)-735-0047
Experts in Environmental, Forensic, Occupational and Laboratory Services
SERVING HAWAII SINCE 1978

Water Sampling Guidelines for H-1 Seismic Retrofit, Kapiolani I.C. F.A.P. Project No. BR-H1-1 (226)

19 November 1999

Objective:

The objective of this project is to gather samples for analysis to verify the water quality of the water in the drainage canal during de-watering and construction. The results of the analysis of the samples will provide information for the NPDES de-watering permit and Section 401 Water Quality Certification.

There are four water-sampling points in conjunction with this project:

1. An upstream control which evaluates the water entering the project site,
2. A down stream sample beyond the construction zone,
3. One point near the storm drain out-fall, and
4. One sample just beyond the cofferdam on the ewa side of the stream.

The upstream control sampling point occurs after the convergence of the drainage from Manoa and Palolo valleys. This segment of the canal system ultimately joins the Ali Wai canal at the ewa end of the Ali Wai golf course. The Ali Wai canal empties into the ocean near Ala Moana Park and the Ali Wai boat harbor.

In order to avoid disturbance of the water by entry we will attempt to establish stepping stone pathways (or similar access) after the erection of the cofferdam. Generally, the downstream locations will be sampled first. Sampling locations will be marked to assure consistency of site location.

Sampling:

In order to avoid disturbance of the water by entry we will attempt to establish stepping stone pathways (or similar access) after the erection of the cofferdam. Generally, the downstream locations will be sampled first. Sampling locations will be marked to assure consistency of site location.

We will photo-document the locations.

Samples will be collected as manual, grab samples. Since the water level is low (less than 12–24 inches in most areas) in this canal, the container will be immersed to a level which will allow for the free entry of water, and collection without headspace (DO samples).

Samples will be transported immediately to the laboratory for appropriate processing and analysis. INALAB, Inc. will provide laboratory services.

ATTACHMENT 7
TYPICAL ANALYTICAL LABORATORY WATER SAMPLING GUIDELINES AND CHAIN OF CUSTODY FORM (9 pgs.)

Samples will be collected for the analysis of the following parameters:

Analyte	Container
Total Nitrogen	Plastic
Ammonia Nitrogen	Plastic
Nitrate + Nitrite	Plastic
Total Phosphorus	Glass
Turbidity	Plastic
Total Suspended Solids	Plastic
pH	Plastic
Dissolved Oxygen	Glass, BOD bottle
Oxygen saturation	
Temperature	Field Measurement
Conductivity	Plastic
Oil and Grease	Glass, 1 liter
Dissolved Lead	Plastic

Chain of Custody

The time, date of sampling, and identity of the sampler will be indicated on the chain of custody (see attachment 1). Any unusual field conditions will also be noted.

Analytical Quality Control Program for the Analysis of Water Samples

The outlined procedures below are to be performed for all analyses. Specific instructions relevant to particular analyses are given in the pertinent standard operating procedures.

1. ANALYTICAL QUALITY CONTROL

The laboratory shall retain all quality control data and records for three (3) years. The described procedures are intended to be applied to chemical analytical procedures.

1.1 Blanks

A laboratory blank shall accompany each analytical batch. This blank shall be carried through the entire analytical procedure.

1.2 Duplicates

Duplicate analyses (replicate samples) shall be performed on one sample per batch or one per 10 samples, whichever is greater. The results are used to evaluate analytical precision.

1.3 Spikes

A field sample (once each batch or once per 10 samples) and a two quality control samples labeled as QC-1 and QC-2 which are made up in a similar matrix as the sample(s) are spiked with the analyte/s of interest. Spike amount should fall within the calibration range. Ideally, the field sample to be spiked should be an intermediate between the cleanest and the most contaminated samples based on the best information available. Percent accuracy is determined from QC-1 as a function of the spike recovery. Precision is determined by taking the relative percent difference (RPD) between QC-1 and QC-2 and should be within +/- 25% RPD. Both accuracy & precision results are graphed with the control limits outlined for interpretation. When result(s) are out of control limits the operation is ceased until problem is resolved. This incident will be included in the Quality Assurance report & the cause(s) of the failure is explained.

1.4 Quality control reference sample

A quality control reference sample is prepared from an independent standard at a concentration other than used for calibration, but within the calibration range. An independent standard is composed of the analyte/s of interest from a different source than that used in the preparation of the calibration standards. This is intended as an independent check of technique, methodology, and standards.

1.5 Clean-ups

Quality control procedures described here are intended for adsorbent chromatography and back extractions applied to organic extracts. All batches of adsorbents (florisil, alumina, silica gel, etc) prepared for use shall be checked for analyte recovery by running the elution pattern with standards as a column check. The elution pattern shall be optimized for maximum recovery of analytes and maximum rejection of contaminants.

1.5.1 Column check sample

The elution pattern shall be reconfirmed with a column check of standard compounds after activating or deactivating a batch of adsorbent. These compounds shall be representative of each elution fraction. Recovery as specified in the methods is considered as acceptable column check. A result lower than specified indicates that the procedure is not acceptable or has been misapplied.

1.5.2 Column check blank

The column check blank shall be run after activating or deactivating a batch of adsorbent.

1.6 Measurements

1.6.1 Instrument Adjustment, Tuning, and Alignment

Requirements and procedures are instrument and method specific. Analytical instrumentation shall be tuned and aligned in accordance with the specific instrumentation procedures employed.

1.6.2 Calibration

A three (3) point calibration is used. Standards are prepared and analyzed under the same instrument parameters and during the same time period as the unknown samples. The instrument shall be calibrated in accordance with the requirements which are specific to the instrument and procedures employed.

1.6.3 Calculations

Corrections for blank must be made for each sample. The calculations of analytes are discussed in the specific standard operating procedures.

2. METHOD DETECTION LIMIT

The method detection limit is determined for each sample by applying the formula below:

MDL = 2 (signal to noise ratio) (final wt/initial wt) (dilution factor)

3. TEST REPORT

A final report to the client comprised the following information:

1. Name, address, telephone, fax, and e-mail of the laboratory
2. Date report issued
3. Job number
4. Name, address, telephone, fax, and contact person of the client
5. INALAB number and description of samples
6. Identification of the method, with modifications, if any, noted
7. Sample results, date sample received & analyzed
8. Detection Limits
9. Name, title, and signature of staff person accepting responsible for the report data
10. Page number and total page number
11. AIHA laboratory number

APPENDIX I
Glossary of Terms

Accuracy:	The degree to which a given answer agrees with the true value. Percent accuracy is determined as a function of the spike recovery.
Analytical batch:	Samples which are analyzed together with the same method sequence and the lots of reagents and with the manipulations common to each sample within the same time period or in continuous sequential time periods. Samples in each batch should be of similar composition (e.g. ground water, sludge, ash, etc.).
BLANKS:	
Field blank:	A clean sample of matrix carried to the sampling site, exposed to the sampling conditions, submitted to laboratory and treated as a sample. Field blank evaluates possible site contamination sources such as airborne contaminants.
Laboratory blank:	A clean matrix similar to the sample carried through all the steps of the analysis. This evaluates the process for contamination from the laboratory.
Calibrate:	To determine, check, rectify the graduation of any instrument giving quantitative measurements using a standard. The concentrations of the calibration standards should bracket the range of planned measurements.
Calibration curve:	A graphical relationship between the known values for a series of standards and instrument responses.
Calibration standard:	A reference material used to calibrate an instrument.
Chain of custody:	A record trail of accountability of the samples. This ensures the physical security of the sample.
Control chart:	A graph of some measurement plotted over time or sequence of sampling, with control limits, central line, and warning limits. These will indicate any sudden or even gradual trend for the analytical results to deviate.
Control limits:	Established data quality limits for analytical method performance.
Corrective action:	Action taken to correct a deficiency.
Deficiency:	A failure to comply with the requirements.

Duplicate analyses:	The analyses of the variable of interest performed identically on two subsamples of the same sample. The results are used to evaluate analytical precision.
Duplicate sample:	Two samples taken from and representative of the same population and carried through all steps of the sampling and analytical procedures in an identical manner. Duplicate samples are used to assess variance of the total method; sampling, preservation, and analytical precision.
Field sample:	A representative sample of any material (aqueous, nonaqueous, or multimedia) collected from any source for which determination of composition or contamination is requested.
Internal Quality Control:	Routine activities and checks, such as periodic calibrations, duplicate analyses, and spiked samples that are included in normal internal procedures to control the accuracy and precision measurements.
Internal Standard:	A known amount of standard added to a sample and calibration standards carried through the entire procedure as a reference for calibration to control the precision and bias of the applied analytical method.
Matrix spike:	Addition of a predetermined quantity of stock solutions of certain analytes to a sample matrix prior to sample extraction/digestion and analysis. The concentration of the spike should be within the calibration range. This is employed to measures the accuracy of the method used in a given matrix.
Method Detection Limit (MDL):	The minimum concentration of an analyte that, in a given matrix and with a specific method, had a 99% probability of being identified, qualitatively or quantitatively measured, and reported to be greater than zero.
Precision:	Indicates the reproducibility of an analytical procedure. Precision is usually expressed as standard deviation, variance or range, in either absolute or relative terms.
Quality Assurance Coordinator:	The person responsible for implementing the quality control program. The QA coordinator reports directly to management.

Quality Assurance Program:	An integrated system of activities involving planning, quality control, quality assessment, reporting and quality improvement to ensure a product or service meets defined standards of quality within a stated level of confidence.
Quality Control:	The overall system of technical activities whose purpose is to measure and control the quality of a product or service so that it meets the needs of users. The aim is to provide quality that is satisfactory, adequate, dependable, and economical.
Relative percent Difference (RPD):	A term defined as RPD which is equal to the absolute difference in two (2) values divide by the average of the two (2) values multiplied by 100 .
Replicate samples:	Two aliquots taken from the same sample container and analyzed independently.
Reproducibility:	The extent to which a method, test or experiment yields the same similar results when performed on subsamples of the same sample.
Run:	A set of consecutive sample measurements.
Sample log:	A document where sample identification, condition, etc., are noted when samples receive in the laboratory. A unique number is assigned to each sample as part of the tracking system.
Sample spike:	A sample matrix spiked with known amounts of the analytes. This determines the effect of the matrix on the method's recovery efficiency.
Secondary Standard:	A standard whose value is based on comparison with the primary standard.
Standard Operating Procedure (SOP):	A written document that details the method of operation, which are accepted as the method for performing certain routine tasks.
System Audit:	A thorough, systematic, on site, qualitative review of facilities, equipment, personnel, training, procedures, record keeping, data validation, data management, and reporting aspect of a total measurement system.
Technical Expert:	Individuals recognize by the management to possess the education, skill, and training necessary to serve as a technical expert in their respective profession.

WATER QUALITY SAMPLE CHAIN OF CUSTODY RECORD

INTERSTATE ROUTE H-1, SEISMIC RETROFIT
KAPIOLANI INTERCHANGE, OAHU
BR-H1-1 (226)

Facility Point of Contact:

Samples Collected by:

Sample Turnaround Time
☐ Standard ☐ Rush ☐ Other

Number of Samples

Total Nitrogen	Ammonia Nitrogen	Nitrate +Nitrite Nitrogen	Total Phosphorous	Turbidity	Total Suspended	pH	Dissolved Oxygen	Temperature	Conductivity	Oil and Grease	Dissolved Lead

NPDES ☐

NOI ☐

QC LEVEL
☐ A ☐ B

Page

Laboratory I.D. Number

Sample Number	Grab or Composite	Date Collected	Time Collected	Sample Matrix	No. of Containers	Analyses Requested (check applicable, each sample)	Laboratory Sample Number ☐ C ☐ D	Container Type
						✖ ✖ ✖ ✖ ✖ ✖ ✖ ✖ ✖ ✖ ✖ ✖		

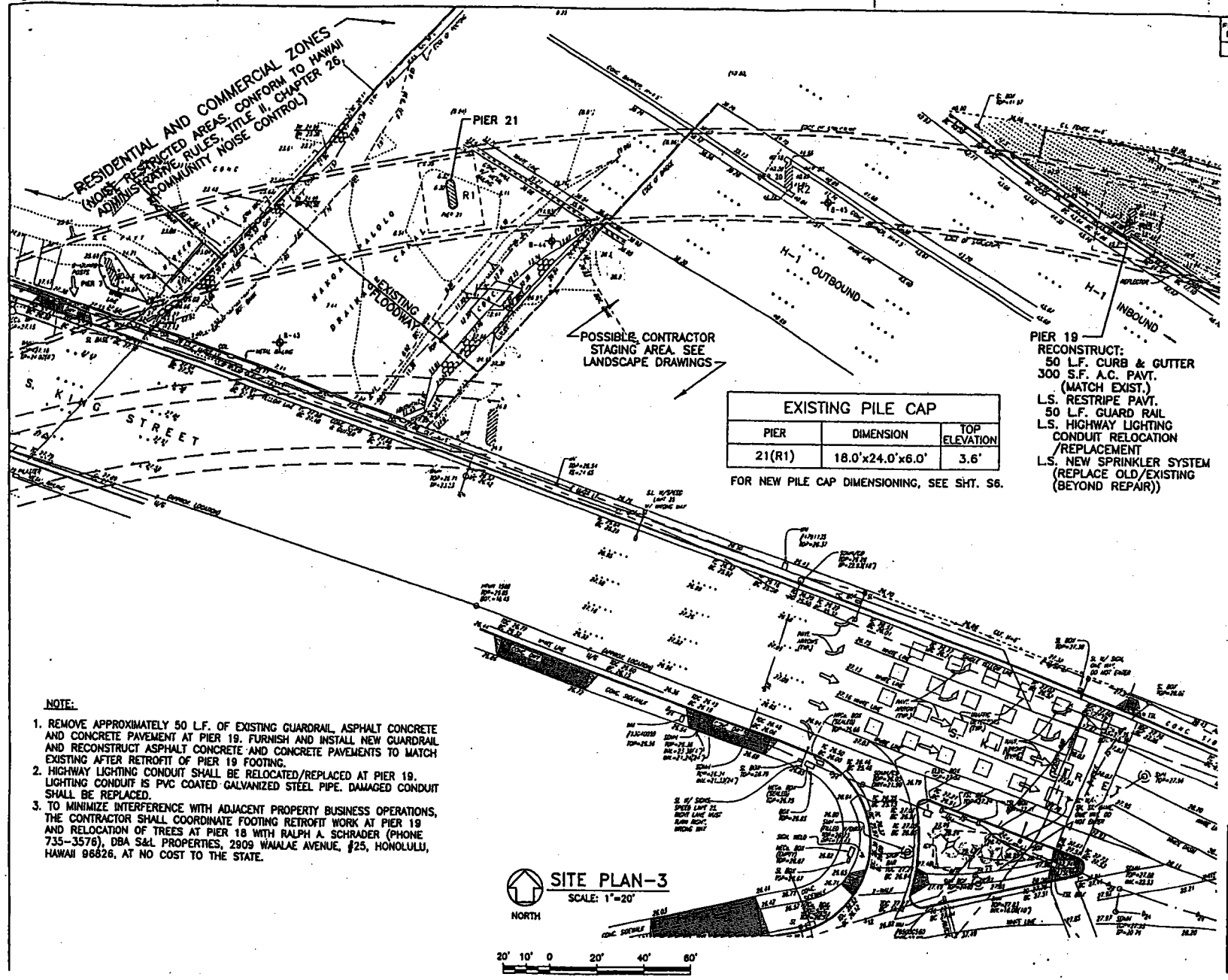
Relinquished by (Name & Signature)	Company	Date	Time	Received by (Name & Signature)	Company	Date	Time
1.				2.			
3.				4.			

Comments: Provide QA/QC documentation with analytical results.

Dispose Samples ☐

Return Samples ☐

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-HI-1(226)	2003	11	36



EXISTING PILE CAP		
PIER	DIMENSION	TOP ELEVATION
21(R1)	18.0'x24.0'x6.0'	3.6'

FOR NEW PILE CAP DIMENSIONING, SEE SHT. S6.

NOTE:

1. REMOVE APPROXIMATELY 50 L.F. OF EXISTING GUARDRAIL, ASPHALT CONCRETE AND CONCRETE PAVEMENT AT PIER 19. FURNISH AND INSTALL NEW GUARDRAIL AND RECONSTRUCT ASPHALT CONCRETE AND CONCRETE PAVEMENTS TO MATCH EXISTING AFTER RETROFIT OF PIER 19 FOOTING.
2. HIGHWAY LIGHTING CONDUIT SHALL BE RELOCATED/REPLACED AT PIER 19. LIGHTING CONDUIT IS PVC COATED GALVANIZED STEEL PIPE. DAMAGED CONDUIT SHALL BE REPLACED.
3. TO MINIMIZE INTERFERENCE WITH ADJACENT PROPERTY BUSINESS OPERATIONS, THE CONTRACTOR SHALL COORDINATE FOOTING RETROFIT WORK AT PIER 19 AND RELOCATION OF TREES AT PIER 18 WITH RALPH A. SCHRADER (PHONE 735-3576), DBA S&L PROPERTIES, 2909 WAIALAE AVENUE, #25, HONOLULU, HAWAII 96826, AT NO COST TO THE STATE.

SITE PLAN-3
SCALE: 1"=20'

NORTH

20' 10' 0 20' 40' 60'

DANIEL S. MIYASATO
LICENSED PROFESSIONAL ENGINEER
No. 3443-C
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES ON ORIGINAL PLAN

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SITE PLAN 3

INTERSTATE ROUTE H-1, SEISMIC RETROFIT
KAPIOLANI INTERCHANGE, PHASE 2
FAIP NO. BR-HI-1(226)

SCALE: 1"=20' DATE: SEPT 2002

SHEET NO. C8 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-HI-1 (226)	2003	26	36

GENERAL:

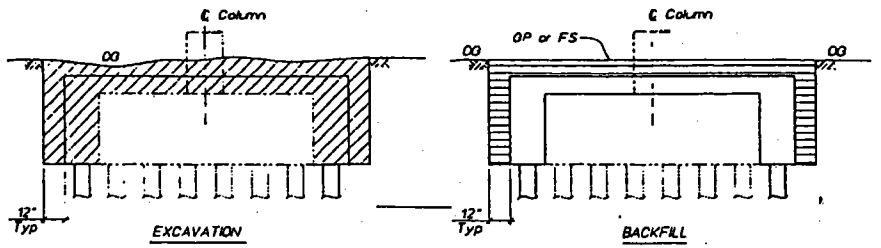
1. The existing bridge information shown in these drawings was obtained from the original bridge drawings and is presented for reference purposes only. No responsibility is assumed for the accuracy of the existing information presented. It is the contractor's responsibility to verify independently all of the as-built information.
2. The Contractor shall visit the construction site and shall verify all dimensions and conditions prior to starting any work and shall be responsible for coordination of all work and materials including those furnished by Sub-Contractors. The Hawaii Department of Transportation (D.O.T.) Representative shall be notified immediately of any discrepancies found.
3. The Contract Structural Drawings and Specifications represent the finished structure. They do not indicate the method of construction. The Contractor shall provide all measures necessary to protect the structure during construction.
4. The Contractor shall provide adequate Bracing for Excavations and Shoring for all existing adjacent structures and roadways. Bracing for Excavations and Shoring for construction loads shall be designed by a Hawaii licensed Civil or Structural Engineer experienced in this kind of work.

BASIS FOR SEISMIC RETROFIT:

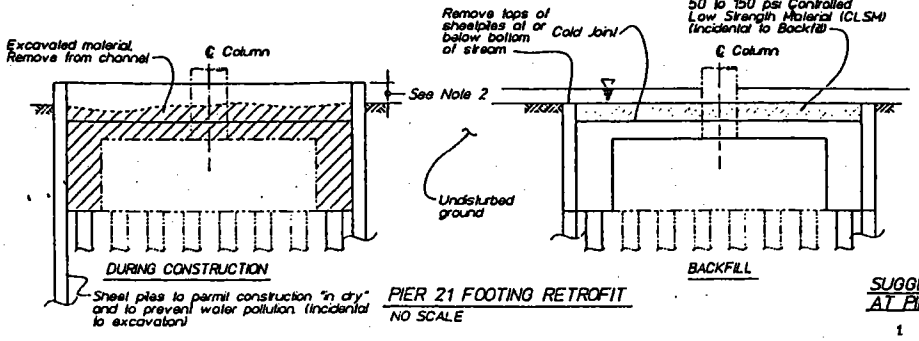
1. The intent of the project is to retrofit the structures to prevent collapse due to a seismic event with a maximum acceleration coefficient of 0.18g.
2. Abutment concrete blocking are provided to use the soil behind the back wall to resist longitudinal movement of the bridge during a seismic event. A small gap is provided to permit normal minor movements (completed in phase 1).
3. Abutment creep blocks are provided to prevent large transverse movements of the bridge at the abutments (completed in phase 1).
4. Pipe seat extenders are provided at hinges to permit separation of bridge sections (up to the length of extension) without loss of support (completed in phase 1).
5. Cable restrainers are provided at hinges to limit the separation of bridge sections during a seismic event.
6. Outrigger pier cap retrofits are provided to prevent torsional failure that could lead to collapse (completed in phase 1).
7. Footing enlargement and new peripheral piles are provided to increase the footing overturning moment capacity such that it equals or exceeds the footing overturning moment demand.
8. Footing thickening without lateral enlargement is provided to strengthen footings to prevent footing structural failure due to seismic movements. (completed in phase 1)

GENERAL NOTES:

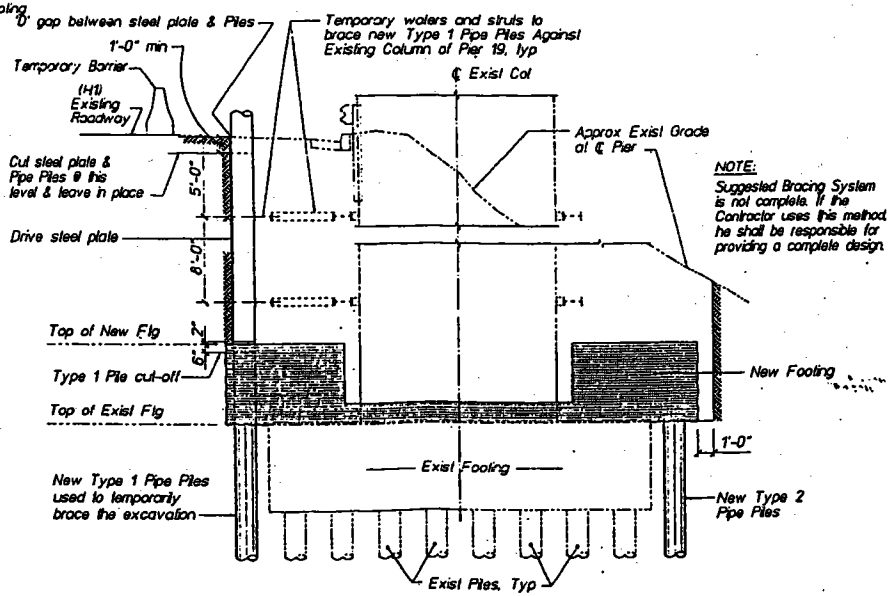
1. General Specifications: Hawaii Department of Transportation, Standard Specification for Road, Bridge and Public Works Construction, 1994 together with Special Provisions prepared for this contract.
2. Design Specifications: AASHTO, Standard Specifications for Highway Bridges, 16th Edition (1996)
3. Caltrans Memo To Designers 20-4.
4. Seismic Loading:
   - A. Seismic Performance Category ..... B
   - B. Accelaration Coefficient 0.18g
5. Concrete Classes:
   - A. Existing:
     - Columns, Bent Cap Beams (Assumed) ..... f'c = 5,850 PSI
     - Footings (Assumed) ..... f'c = 3,900 PSI
   - B. New:
     - Concrete fill for piles ..... f'c = 4,500 PSI
     - Footings, bolsters ..... f'c = 4,000 PSI
6. Reinforcing Steel:
   - A. Existing:
     - Column Main Reinf. & Dowels (Assumed) ..... fy = 66,000 PSI
     - All others (Assumed) ..... fy = 44,000 PSI
   - B. New:
     - All Bars, Dowels & Stirrups ..... fy = 60,000 PSI
     - Welded Bars (ASTM A706) ..... fy = 60,000 PSI
7. Structural Steel:
   - A. Plates & Shapes - A36 ..... fy = 36,000 PSI
   - B. 6" xx Strong Pipe - ASTM A53, Grade B ..... fy = 35,000 PSI
   - C. Steel Pipe Pile - ASTM A252, Grade 3 ..... fy = 45,000 PSI



PIER 18 FOOTING RETROFIT
NO SCALE



PIER 21 FOOTING RETROFIT
NO SCALE



SUGGESTED EXCAVATION BRACING METHOD @ PIER 19 FOOTING RETROFIT

LEGEND:

- Indicates exist structure
- Indicates new construction
- Indicates structure excavation
- Indicates structure backfill

ABBREVIATIONS

OG	Original Ground
FS	Planned Finish Surface
GP	Planned Graded Plane

REDUCED PLAN (HALF SIZE) — 3 INCHES ON ORIGINAL PLAN

NOTE: (for Pier 21 Flg Retrofit)

1. Contractor shall protect existing channel sides and bottom from damage by floods and other causes during the construction period.
2. Contractor shall minimize constructing temporary barriers to Stormwater Flows. Contractor shall be responsible for removing those barriers before the occurence of Flow that may damage the Channel and Surrounding Property.

SUGGESTED BRACING/CONSTRUCTION SEQUENCE AT PIER 19 FOOTING RETROFIT

1. Install New pipe piles.
2. Perform Dynamic Load Tests.
3. Drive steel plates down to top of new footing.
4. Excavate to 7' below existing grade.
5. Install top of bracing system (waters & struts)
6. Excavate to 15' below existing grade.
7. Install bottom bracing system.
8. Excavate to top of existing footing.
9. Cut & remove pipe piles 2 inches above & 6 inches below top of new footing.
10. Weld stud shear connectors to pipe piles.
11. Fill piles with concrete.
12. Construct new footing on top of existing footing.
13. Backfill to bottom brace.
14. Remove bottom brace.
15. Backfill top brace.
16. Remove top brace.
17. Backfill to 1' below finish grade.
18. Cut steel plate & Type 1 pipe piles at least 1' below finish grade.
19. Backfill to finish grade.

DAVID H. YAMAMOTO — LICENSED PROFESSIONAL ENGINEER — No. 7895-S — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

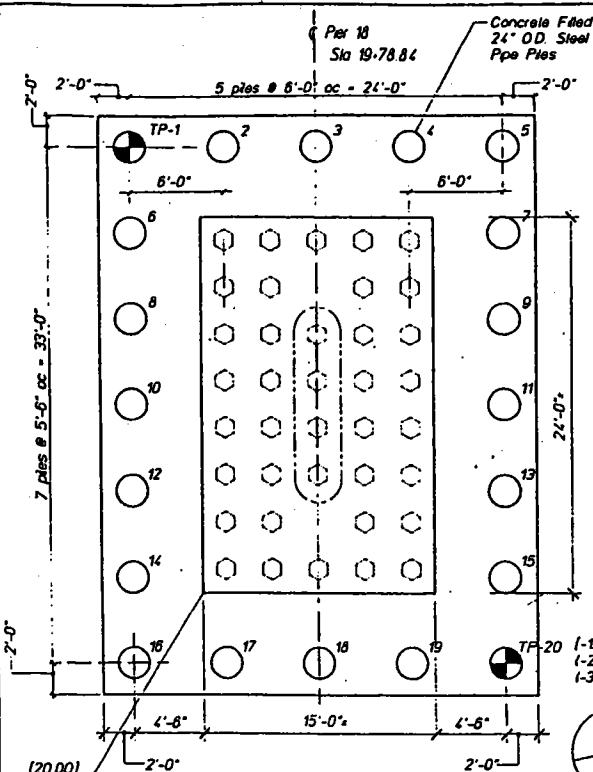
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL BRIDGE RETROFIT NOTES & & LIMITS OF PAYMENT FOR STRUCTURAL EXCAVATION & BACKFILL

INTERSTATE ROUTE H-1 SEISMIC RETROFIT
KAPIOLANI INTERCHANGE, PHASE 2
FEDERAL AID PROJECT NO. BR-HI-1(226)

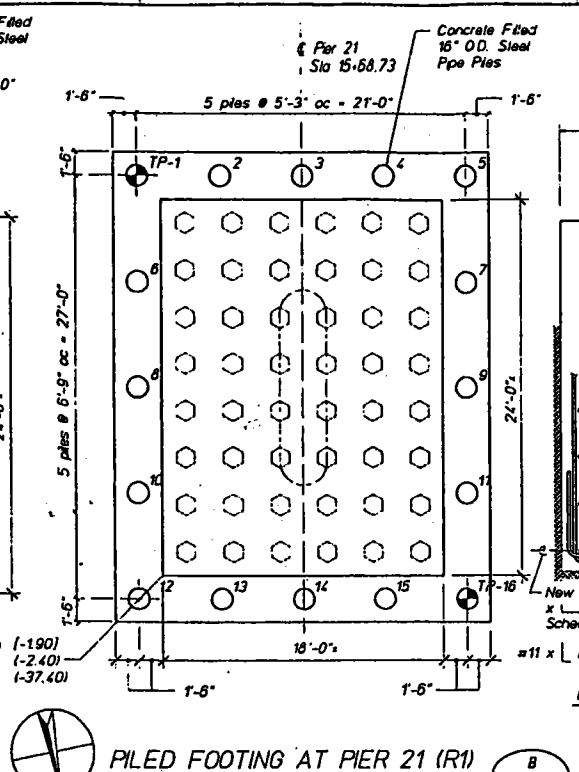
SCALE: AS NOTED DATE: SEPT 2002

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-HI-1 (216)	2003	30	34



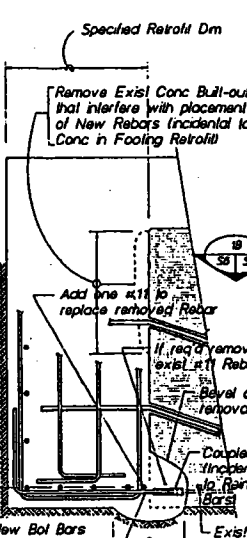
PILED FOOTING AT PIER 18 (R4) A S2 | S6

1/4" = 1'-0"



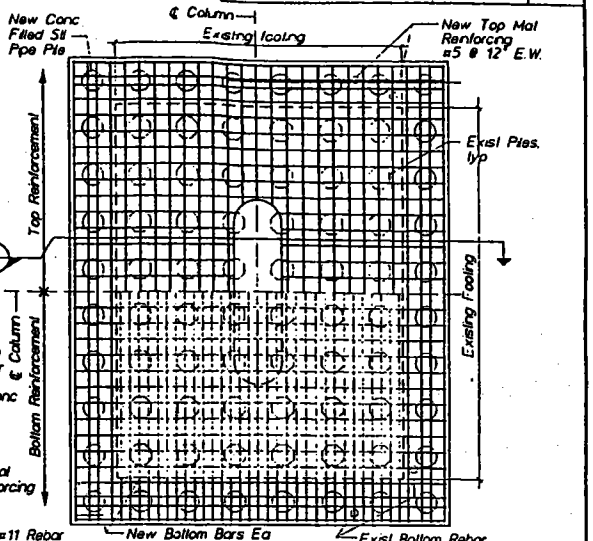
PILED FOOTING AT PIER 21 (R1) B S2 | S6

1/4" = 1'-0"

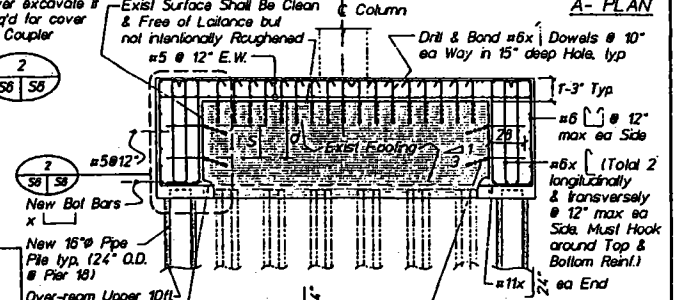


DETAIL 2 S6 | S6

3/4" = 1'-0"



A- PLAN



B- SECTION

PILED FOOTING @ PIERS 18 (R4) & 21 (R1) REINFORCEMENT DETAILS

1 S6 | S6

Not to Scale (See Piled Ftg Retrofit Schedule Sht S8) S2, S8

LEGEND:

- [12.50] - Denotes New Pile Cutoff Elevation
- (12.0) - Denotes Bottom of Footing Elevation
- (-18.0) - Denotes Estimated Pile Tip Elevation
- ⬡ - Denotes Existing 16 1/2" Octagonal Concrete Pile
- ⊠ - Denotes Type 1 Pipe Pile. See Detail 1/S8
- ○ - Denotes Type 2 Pipe Pile. See Detail 2/S8
- TP- - Denotes Dynamic Test Pile (TP-) Dynamic Load tests shall be performed in accordance with Section 505.03 (G)(4) of the Special Provisions.

NOTES:

Longer dimension of footing, pedestal and pier column shall be placed in the direction along ℄ pier.

Ultimate Pile Bearing Capacities:
- 16"ø Pipe Pile = 158 Tons
- 24"ø Pipe Pile = 351 Tons

Pre-Drilling Requirements for Piers 18 & 21 Footings Retrofits.

1. Pre-Drilling shall be required for all the Piles due to the possible presence of Boulders and other Subsurface Obstructions, which would hinder Pile driving and/or damage the steel Pipe Piles, and to reduce pile driving noise.
2. Pre-Drill 18 inches Diameter Holes for the 16" O.D. Steel Pipe Piles. Pre-Drill 24 inches Diameter Holes for the 24" O.D. Steel Pipe Piles. Pre-Drill down to Elevation -5.0ft (at Pier 18) and -14.0ft (at Pier 21) unless directed otherwise by the Engineer.
3. Over-ream the upper 10 ft of the Holes (below the Pile Cap Bottom) for the 16" and 24" O.D. steel pipe Piles to 24 inches and 30 inches in diameter respectively. Remove Boulder cuttings resulting from drilling holes.
4. After driving the piles fill the space around the piles in over-reamed (upper 10 feet) holes with 2,500 psi pea Gravel grout.

GRAPHIC SCALES:

1/4"=1'-0" 4' 0 4' 8' 12' SCALE IN FEET

3/4"=1'-0" 1' 0 1' 2' 3' 4' 5'

DAVID M. YAMAMOTO LICENSED PROFESSIONAL ENGINEER No. 10096-E HAWAII, U.S.A.

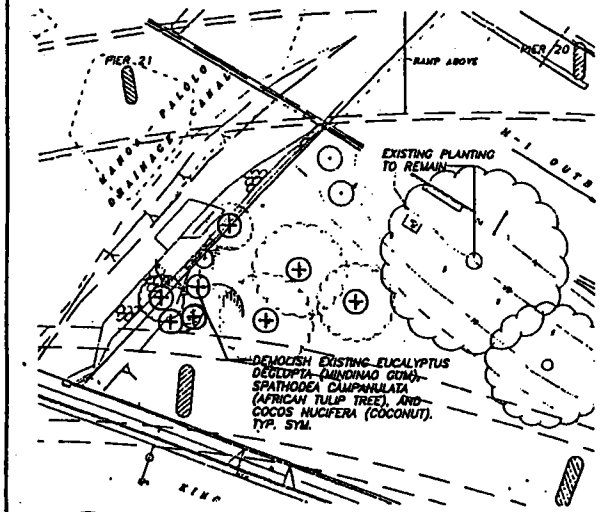
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

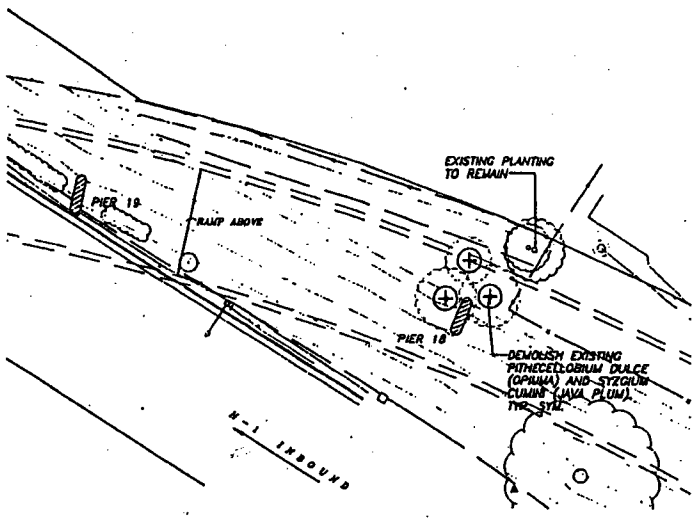
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PILED FOOTING RETROFIT PLANS & DETAILS
PIERS 18 & 21

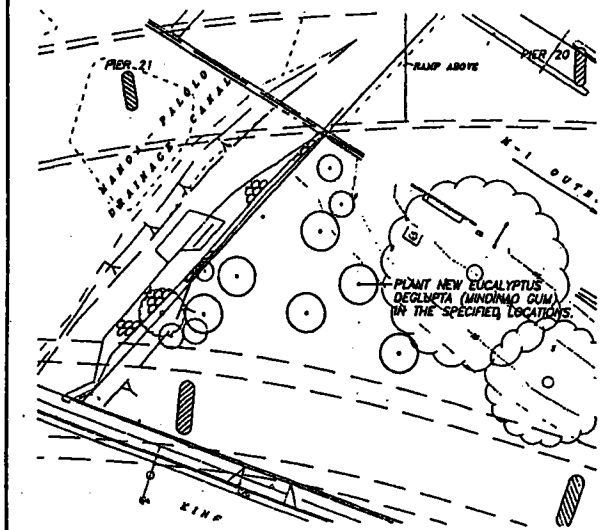
INTERSTATE ROUTE H-1 SEISMIC RETROFIT
KAPIOLANI INTERCHANGE PHASE 2
FEDERAL AID PROJECT NO. BR-HI-0216

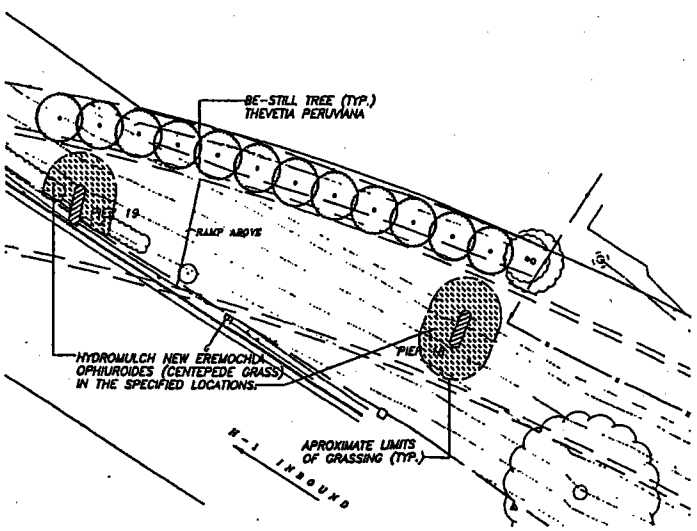
SCALE: 1/4" = 1'-0" DATE: JUNE 2002





LANDSCAPE DEMOLITION PLAN





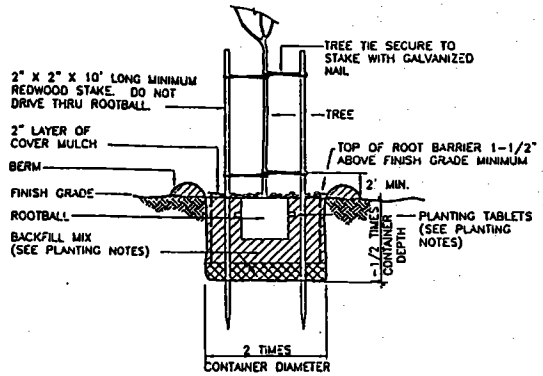
LANDSCAPE PLANTING PLAN

FED ROAD DIS NO	STATE	PROJ NO	FISCAL YEAR	SH
HAWAII	HAW.	BR-HI-1(226)	2003	

PLANT LIST

QUANTITY	COMMON NAME	BOTANICAL NAME	SIZE	REMAR
8 EA	MINDANAO GUM	EUCALYPTUS DEGULPTA	25 GAL.	7'-8' HT.,
12 EA	BE-STILL TREE	TOURNEFORTIA PERUVIANA	15 GAL.	4'-6' HT.,
1200 SF	CENTIPEDE GRASS	EREMOCHLA OPHIUROIDES	SEED	SEE SPECI
7 CU. YDS.	IMPORTED PLANTING SOIL			SEE NOTE
1200 SF	ORGANIC SOIL AMENDMENTS			SEE NOTE
2 CY.	COVER MULCH			

QUANTITIES SHOWN ON PLANT LIST ARE FOR REFERENCE ONLY. VERIFY ACTUAL QUANTITIES AS SHOWN ON PLAN.



TREE PLANTING AND STAKING WITH ROOT BARRIER DETAIL

1 / L-1 NOT TO SCALE

REDUCED PLAN (HALF SIZE)
0 1 2 3
3 INCHES ON ORIGINAL PLAN

PLANTING NOTES

1. PROVIDE A 4" LAYER OF IMPORTED SCREENED SOIL OVER ALL PLANTING AREAS.
2. BACKFILL MIX SHALL CONSIST OF THREE (3) PARTS OF IMPORTED SCREENED SOIL TO ONE (1) PART ORGANIC SOIL AMENDMENTS (SEE SPECIFICATIONS). ADD ONE (1) POUND OF 10-30-10 FERTILIZER TO ONE (1) CUBIC YARD OF BACKFILL MIX. MIX THOROUGHLY ON PROJECT SITE PRIOR TO ANY PLANTING OPERATIONS.
3. PLANTING TABLETS FOR TREES SHALL BE AS FOLLOWS:
   A) 25 GALLON — 8 TABLETS
   B) 15 GALLON — 5 TABLETS
   USE AGRIFORM TABLETS 20-10-5, 21 GRAM SIZE.
4. A 2" LAYER OF MULCH SHALL BE INSTALLED UNDER ALL TREES. (UNLESS OTHERWISE NOTED ON PLANS).

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATIC
HIGHWAYS DIVISION

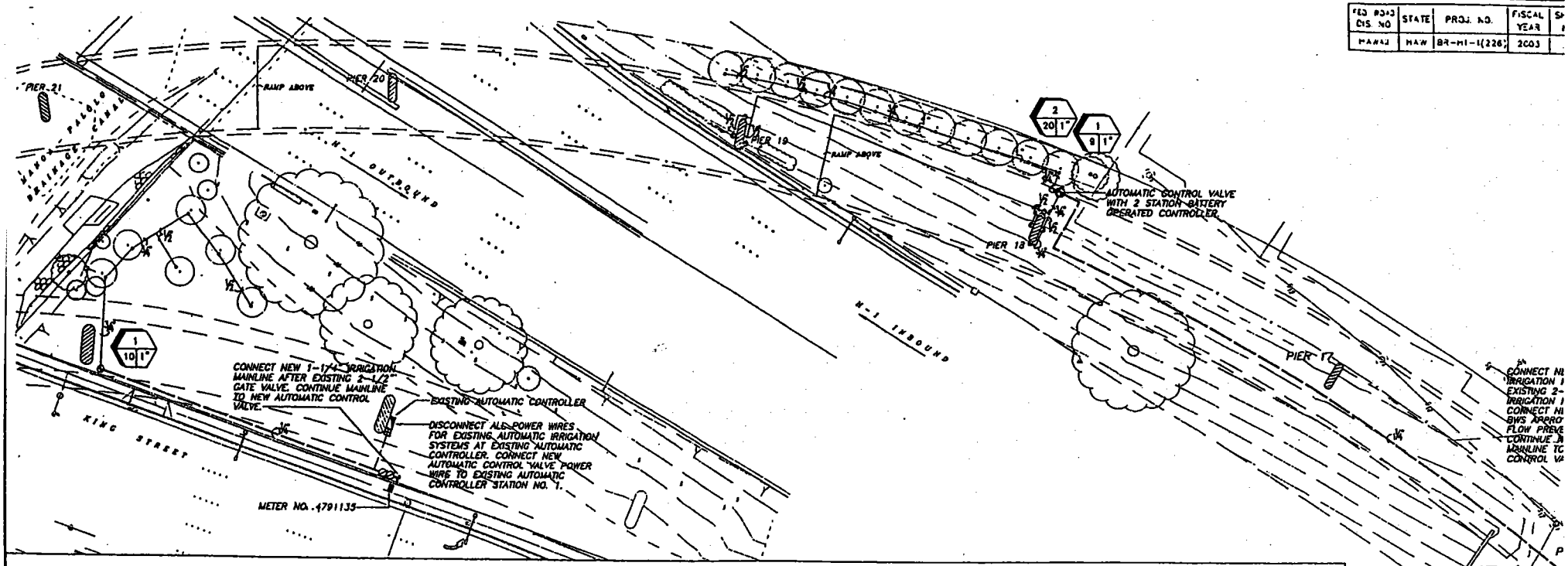
LANDSCAPE DEMOLITION PLA
LANDSCAPE PLANTING PLAN
NOTES AND DETAILS

INTERSTATE ROUTE H-1, SEISMIC RETRO
KAPIOLANI INTERCHANGE
FAIP NO.BR-H1-1(226)

SCALE: AS NOTED DATE:

SHEET No. L-1 OF 3

FED ROAD DIS. NO	STATE	PROJ. NO.	FISCAL YEAR	SH
HAWAII	HAW	BR-HI-1(226)	2003	



IRRIGATION EQUIPMENT LIST

SYMBOL	MANUFACTURER AND CATALOG NUMBER	DESCRIPTION	GPM	RADIUS	PSI
	RAIN BIRD 1800-SAM-PRS-15H	SPRAY NOZEL ON RISER, STD. GAL., HALF CIRCLE	1.85	15'	30
	RAIN BIRD 1800-SAM-PRS-15Q	SPRAY NOZEL ON RISER, STD. GAL., QTR. CIRCLE	.93	15'	30
	RAIN BIRD 1300A-F	ADJUSTABLE FULL CIRCLE FLOOD BUBBLER ON RISER	1.7	–	30
	RAINBIRD EFB-CP SERIES WITH RAINBIRD TBOS (OR EQUAL)	REMOTE CONTROL VALVE WITH BATTERY OPERATED REMOTE CONTROLLER			
	RAINBIRD EFB-CP SERIES (OR EQUAL)	REMOTE CONTROL VALVE			
	BUCKNER QB44BLAR07 (OR EQUAL)	QUICK COUPLER VALVE, KEY, HOSE SWIVEL ELLS			
	EXISTING AUTOMATIC CONTROLLER				
	PULL BOX				
ØØ	FEBCO 880	BACKFLOW PREVENTER			
	PVC SCHEDULE 40 PIPE	IRRIGATION MAIN			
	PVC CLASS 200 PIPE	IRRIGATION LATERAL			
	PVC SCHEDULE 80 PIPE	IRRIGATION CONDUIT			

STATION NUMBER
GPM OF SYSTEM / SIZE OF RCV

SIZE OF SLEEVE

SIZE OF CONDUIT

NOTE:
CONTRACTOR TO FIELD VERIFY LOCATIONS OF EXISTING IRRIGATION LINES AND EQUIPMENT. SEE DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION DRAWINGS F.A.I. PROJECT NO. I-HI-I(5):24 UNIT 2.

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES ON ORIGINAL PLAN

MELVIN S. KUKAHIKO
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
No. LPA-0
Hawaii, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE IRRIGATION PLA
AND
IRRGATION EQUIPMENT LIST

INTERSTATE ROUTE H-1, SEISMIC RETRO
KAPIOLANI INTERCHANGE
FAIP NO.BR-HI-1(226)

SCALE: AS NOTED DATE:

SHEET No. L-2 OF 3

LETTER OF TRANSMITTAL

Edward K. Noda and Associates, Inc.
615 Piikoi Street Suite 300 / Honolulu, Hawaii 96814-3139
Telephone: (808) 591-8553 / Facsimile: (808) 593-8551

DATE Dec 2, 2002	JOB NO. 2248-02
ATTENTION: Dennis Lau	
RE: Interstate Route H-1, Seismic Retrofit Kapiolani Interchange	

TO: Dept. of Health, Clean Water Br.
919 Ala Moana Blvd., Rm. 301
Honolulu, HI, 96814

COPY
FOR CONTRACTORS TO LOOK AT.
1/9/03

GENTLEMEN:

WE ARE SENDING YOU: ☒ Attached ☐ Under separate cover via _____ the following items:

COPIES	DATE	NO.	DESCRIPTION
1	11/27/02	1	Resubmittal of revised CWB-NOI Form G, file number HI 01GB200
1	11/27/02	2	Submittal of CWB-WQC individual application with $1,000 application fee check

THESE ARE TRANSMITTED as checked below:

☐ For your information/use
☐ As requested
☒ For review and approval
☐ For approval
☐ No exceptions taken
☐ Note markings or corrections
☐ Revise and resubmit
☐ Comments attached
☐ _____

REMARKS:

Comments made in CWB letter 11041PSS.02 dated 20 Nov. 2002 have been addressed, however an additional water sample for turbidity and Total Suspended Solids analysis (comment item 1) could not be obtained as the sampling well has been obliterated. Dewater fluids returned to stream flow are required to meet water quality standards of HAR 11-54, regardless of receiving water condition (comment no. 4) and the Site Specific Dewatering Plan so states.

Comment 5 inquires whether the use of sheet piling is still in question. Although the plans, including this application and the Site Specific Dewatering Plan, address use of sheet piling, the contractor is not required to do so. If the contractor has other ideas, he is directed to inform CWB of his intent and revise the Site Specific Dewatering Plan as may be required.

Signed *Charles G. Schuster, P.E.*

xc: Sato and Associates, attn. Dave Yamashita

RECEIVED
DEC - 2 2002
SATO & ASSOC. INC.

State of Hawaii Department of Health Clean Water Branch	CWB USE ONLY WQC No.: _____ Engineer: ___ Date Received: _____
CWB-WQC Application	
Information Required for the Section 401 Water Quality Certification (WQC)	

Before completing this form, read the Guidelines for CWB-WQC Application.
❀ If mail is not received at the street address, provide the mailing address(es) in Item 14, Additional Information.

1. Owner Information (see Guidelines for CWB-WQC Application - Note 1)

   Legal Name: Hawaii State Dept. of Transportation, Highways Division

   Street Address ❀: 869 Punchbowl St.

   City, State and Zip+4 Code: Honolulu, HI 96813

   Contact Person & Title: Glen M. Yasui, Highways Division Administrator

   Phone No.: (808) 587-2220 Fax No.: (808) 587-2340

2. General Contractor Information (see Guidelines for CWB-WQC Application - Note 2)

   Name: (N/A, project not yet bid)

   Street Address ❀: _____

   City, State and Zip+4 Code: _____

   Contact Person & Position Title: _____

   Phone No.: ( )_____ Fax No.: ( )_____

3. Emergency Contact Information (see Guidelines for CWB-WQC Application - Note 3)

   a. Company/Organization Name: Dept. of Transportation Highways Division

      Contact Person & Title: Martin Okabe, District Engineer

      Phone No.: (808) 831-6700 Fax No.: (808) 831-6725

   b. Company/Organization Name: Name of Contractor's Contact Person will be determined after the project is awarded.

      Contact Person & Title: Glen M. Yasui, Highways Division Administrator

      Phone No.: (808) 587-2220 Fax No.: (808) 587-2219

4. Project Site Information (see Guidelines for CWB-WQC Application - Note 4)

   Project Name: Interstate Route H-1 Seismic Retrofit, Kapiolani Interchange Phase 2

Government Project/Job No. (as applicable): BR-H1-1 (226)

Street Address: Kapiolani Boulevard offramp (westbound) at Manoa-Palolo Stream

City, State and Zip+4 Code: Honolulu, Hawaii 96814

Contact Person & Title: Emilio Barroga, Project Manager

Phone No.: (808)692-7546 Fax No.: (808)692-7555

Island: Oahu

Tax Map Key Number(s)			
Zone	**Section**	**Plat**	**Parcel(s)**
2	7	28	

5. Associated Permits or Licenses (see Guidelines for CWB-WQC Application - Note 5)

Provide the type(s), status, corresponding file number(s), and legal authorization(s) of any existing or pending permits or licenses:

a. Department of the Army (DA) Permit or License: A Department of the Army Permit has been applied for, see Corps of Engineers acknowledgement and request for comments, dated October 18, 2002, attached.

b. Section 402 NPDES Permit: N/A

c. RCRA Permit (Hazardous Wastes): N/A

d. Facility on SARA 313 List (identify SARA 313 chemicals on site): N/A

e. Other (Specify): Stream Channel Alteration Permit OA-240E, NPDES NOI G submitted

6. Receiving State Water Information (see Guidelines for CWB-WQC Application - Note 6)

a. Name: Manoa-Palolo Stream
Classification: (check the appropriate space(s))
Inland: Class 1 _____ Class 2 xx Estuary _____
Marine: Class AA _____ Class A _____ Embayment _____

Describe the associated existing uses at the "discharge" location(s):

Manoa-Palolo Stream at the project site is a stabilized urban storm drainage channel whose banks are reinforced with CRM. There are no constructed improvements within the stream channel (other than the pier structure), and no other recreational uses.

b. Name: N/A
Classification: (check the appropriate space(s))
Inland: Class 1 _____ Class 2 _____ Estuary _____
Marine: Class AA _____ Class A _____ Embayment _____

Describe the associated existing uses at the "discharge" location(s): _____

7. Project Description (see Guidelines for CWB-WQC Application - Note 7)

a. Project Site Coordinates

Latitude: 21° 17' 30" N Longitude: 157° 49' 05" W

b. Describe the overall project scope and activities

The proposed project will strengthen the existing Pier 21 footing by installing additional pilings around the existing pier footing, and enlarging the existing pile cap. The stream will be temporarily diverted around the Pier 21 footing by two temporary dam sections and a crushed rock access ramp placed to allow direct access to the pier foundation from a staging area above the east bank.. A temporary sheet pile cofferdam will be installed around the existing pile cap and stream bed material within the cofferdam will be excavated and incorporated into the access ramp or disposed offsite. Dewatering will be conducted from within the cofferdam to a clarification basin to be located on the east bank. After clarification, dewater fluid will be returned to stream flow. Hollow steel tubular piles will be driven within the cofferdam and filled with concrete. The new piles will be incorporated into the existing pier foundation by expanding the reinforced concrete pile cap. Following placement and curing of the concrete, sheet piling will be cut off flush with the stream invert and the space between the new pile cap and pre-existing stream invert filled with lean concrete. Temporary dams and the crushed rock access ramp will be removed and the stream bed restored to pre-construction condition.

b. Describe the "discharge" activity and the purpose of the proposed discharge activity

Discharge will include temporary placement of temporary dams to divert stream flow around the work area, and a crushed rock access ramp from the east bank staging area. A sheet pile cofferdam will be driven around the work area to allow work proceed in the dry when necessary and to protect the work. The cofferdam interior will be dewatered as necessary during construction to a clarification basin on the east bank and clarified dewater fluids returned to stream flow. New tubular steel concrete filled pilings will be driven and filled with concrete. Concrete be incorporate the new piles into the existing pile cap. Lean concrete will be used to backfill above the new pile cap to the pre-existing stream bed grade.

c. List all "discharge" activities that the owner is seeking coverage for under this WQC application

Temporary stream flow diversion dam, temporary placement of crushed rock access ramp and sheet pile cofferdam, return of clarified dewater fluids during construction, placement of clean crushed rock base under new concrete pile cap, concrete in tubular steel piles and above pile cap.

d. Specify physical, chemical, biological, thermal, and any other pertinent characteristic of the "discharge" activity

The stream flow diversion dams and access ramp are temporary measures. Concrete to fill the foundation piles, enlarge the pile cap and backfill above the pile cap to stream invert grade will be placed and cured. The sheet pile cofferdam will be sealed to prevent water leakage and concrete release to stream flow. Upon completion of the work, lean concrete will be placed above the new pilel cap to restore the stream bed to the original elevation. Dewater fluids will be returned to the stream flow after clarification in the desilting basin. The physical quality differences of dewater fluids returned to stream flow may include a variance of a few degrees from stream flow ambient temperature. Chemical, biological quality is anticipated to be nearly identical with stream flow with the exception of less suspended sediment. Runoff from construction support activities will be controlled by erection of a silt fences along the access ramp and east stream bank.

8. Description of the Existing Environment and Potential Environmental Effects from the Construction Activities (see Guidelines for CWB-WQC Application - Note 8)

a. Describe the Existing Physical Environment and Potential Physical Environmental Effects

The existing stream channel is approximately .eighty-five feet wide at the stream bed elevation with steep concrete rubble masonry side slopes, approximately thirteen feet from top bank to stream invert. Normal low flow water depth is less than one foot and may not cover the full width of the bed. Stream flow and turbidity levels vary widely.

See attached Figure 1 Topographic Map, Figure 2 Tax Map, and site photographs attached.

Potential effects of the project include physical disturbance of a stream bed to place the temporary diversion dams and crushed rock access ramp, and disturbance of an area approx. 24' x 30' during installation of the sheet pile cofferdam, foundation pilings and enlarged pile cap, and disturbance of an unimproved portion of the freeway right-of-way above the stream bank to support construction activities. Noise attendant with operation of heavy construction equipment (pile driving, excavator, pumping, carpentry for form construction) is anticipated to occur. There will be a minor temporary impact on local air quality as a result of operation of construction equipment powered by internal combustion engines. Effects on ambient stream flow are anticipated to be limited to generation of turbidity during installation and removal of the access ramp.

b. Describe the Existing Chemical Environment and Potential Chemical Environmental Effects

See Attachments for physical water quality, nutrient and organic parameter water quality data downloaded from the USGS web site, and analysis of a groundwater sample obtained from a borehole at the stream bank.

c. Describe the Existing Biological Environment and Potential Biological Environmental Effects

Manoa-Palolo Stream flows within an improved channel (banks partially or fully stabilized with CRM) through this reach. Due to the bank stabilization, the physical parameters (width, banks, invert) are fairly constant, though the stream flow can vary by an order of magnitude within 24 hours time. The in-stream habitat consists of silt to mossy cobble substrate with highly variable fresh water flow which varies from nearly clear to very turbid. Plants within the stream banks are primarily introduced nuisance weed species. Native life forms in the stream include goby (o'opu) and shrimp (opae). Various species of introduced fish are anticipated to inhabit the stream. Mammals include rats, mice, mongoose and feral cats; introduced bird species including spotted and barred dove, sparrows and mynah birds.

Biological effects are limited to temporary loss of habitat in the area within the sheet pile cofferdam and access ramp which materials will be removed upon completion of construction.

d. Describe the Existing Uses and Its Potential Effects

The stream channel is necessary for drainage of urban and conservation district storm runoff from Manoa and Palolo Valleys. Due to urban uses and resultant pollutants, there are no recreational uses or fishery which will be affected by the proposed construction. Human consumption of potentially edible fish or shellfish in Manoa-Palolo Stream is inadvisable.

9. Project Schedule (see Guidelines for CWB-WQC Application - Note 9)

a. Provide the estimated date or dates on which the activity will begin and end:

The project construction schedule is not certain and the project has not been bid at this time. Construction is anticipated to occur in approximately June through September 2003. An updated project schedule will be provided at least thirty days in advance of the start of construction.

b. Provide the date or dates that the discharge(s) will take place:

Discharge is estimated to occur sporadically during June through September 2003 and will depend on the contractor's day to day schedule of work. The contractor will notify the Department of Health of his proposed discharge schedule at least three days in advance of any planned discharge.

10. Site-Specific Best Management Practices (BMP) Plan (see Guidelines for CWB-WQC Application - Note 10)

The BMPs Plan shall, at a minimum, include the following:

a. Maps are attached xx Yes No

b. Site Characterization

(See attached Dewatering BMP Plan) Manoa and Palolo Streams are natural streams with improved channel walls and silt to boulder inverts in the vicinity of the proposed project. Both are perennial streams which provide storm and base flow conveyance from urban and conservation lands. They join at a confluence several hundred feet upstream from the project site. Stream flow and turbidity levels are highly variable.

b. Construction Sequence and Duration

(See attached Dewatering BMP Plan) Following Notice to Proceed, Contractor will mobilize and place the stream flow diversion dams and crushed rock access ramp. He will set the sheet pile cofferdam, excavate, drive new pilings and pour new concrete pile cap. After the new pile cap concrete has cured, the space between the top of the new pile cap and stream invert will be backfilled with lean concrete to match invert of stream channel. Sheet piling will be cut off flush with channel invert. It is intended that work within the stream channel be performed during the summer dry season. Duration of the work is estimated to be four months. If work in the stream channel becomes unsafe (such as may occur during high stream flows) work will be temporarily discontinued; a workforce will be on call to remove the stream flow diversion dams and restore stream capacity by removing the crushed rock access ramp if heavy rainfall is anticipated.

c. Construction Method

(See attached Dewatering BMP Plan) Diversion dams and crushed rock access ramp will be placed, followed by driving a sheet pile cofferdam, excavation and dewatering, driving new tubular steel support pilings. Pilings will be driven by diesel powered hammer. Excavation for new pile cap will proceed with diesel powered excavator and by hand if/as necessary. Cofferdam interior will be dewatered as needed for forming using electric or motor driven sump pump, to a clarification basin above the stream bank. Construction of forms for new pile cap will be done using hand and power tools. Placement of new concrete for pile cap will be by concrete pump or bucket using crane as for pile driving. Clarified dewater fluid will be returned to stream flow by pump or siphon. Lean concrete backfill will be placed above the enlarged pile cap to match the stream invert. Diversion dams and access ramp will be removed by an excavator and disposed of to an approved location offsite. Sheet piling will either be cut off flush with channel invert using oxy-acetylene torch.

d. Characteristics of the discharge and potential pollutants associated with the proposed construction activity

Source	Composition	Quantity	Duration
Offsite quarry, stream bed for rock material to construct access ramp	crushed rock (offsite source) and stream bed materials (native)	200 C.Y.	To approx. 4 months

Source	Composition	Quantity	Duration
Sheet piling for cofferdam	steel	140 Lin. Ft.	to approx. 4 months
Clarified dewater fluids from pile cap excavation	Stream water, after clarification/desilting in basin on stream bank	Up to 8,000 gallons/day	Intermittent, variable, conduct as required, up to four months duration
Tubular steel pilings	structural steel	20, 24-inch diameter, length as required	Permanent
Commercial batch plant	concrete	approx. 60 CY	Permanent
Quarry/crusher	crushed rock	approx. 16 CY	Permanent

e. Characteristics of the dredged/excavated material

Source	Composition	Quantity	Duration
Stream bed materials	silt to cobbles	80 C.Y.	Permanent

f. Proposed control measures and/or treatment

Dewater fluids will be pumped to a clarification basin on the adjacent stream bank and after clarification will be returned to stream flow. Excavated material from within the cofferdam will be trucked offsite to landfill disposal. No return flow from excavated material is anticipated to occur. Runoff from construction support activities on the east stream bank will be controlled by a silt fence to minimize turbid runoff.

11. Applicable Monitoring and Assessment Plan (see Guidelines for CWB-WQC Application - Note 11)

The Applicable Monitoring and Assessment Plan shall, at a minimum, include the following:

a. Description of the methods and means being used or proposed to monitor the quality and characteristics of the discharge

Clarified dewater will be field analyzed and reported for pH (in standard units), Dissolved Oxygen (DO, reported in milligrams per liter), Specific Conductance (reported in microsiemens/cm at 25 Deg. C) and temperature (reported in degrees Centigrade). Field analytical equipment will be calibrated against laboratory prepared standards on a weekly basis. A representative 1-liter grab sample of dewater returned to stream flow will be acquired each day and laboratory analyzed for Turbidity (reported in NTU), Total Suspended Solids (TSS, reported in milligrams per liter), Total Nitrogen (reported as micrograms per liter), Nitrate plus Nitrite Nitrogen (reported in micrograms each minus total nitrogen, per liter), and Total Phosphorous (reported in milligrams per liter . The dewater discharge will be documented with photos of typical operation. The Contractor shall maintain a narrative description of dewatering which shall record the dates, flow quantity and a general description of each day's operation of the dewater operation, note the field water quality analytical results and append lab analyses of clarified dewater.

b. Description of the methods and means being used to monitor/maintain all pollutant control measures

Daily visual observation will be used to monitor the integrity and effectiveness of the sheet pile cofferdam and silt fence filter fabric.

c. Reporting requirements

For each week that dewater fluids are returned to stream flow, a summary of the daily field and laboratory analytical results will be mailed to the Department of Health at Department of Health, Environmental Management Division, Clean Water Branch, P.O. Box 3378, Honolulu, Hawaii 96801-3378

d. A narrative of how the monitoring results will be used to demonstrate whether or not the project construction activity was in compliance with the applicable State water quality standards

Adequate and effective operation of the clarification basin will be demonstrated when the analytical quality of dewater fluids returned to the stream flow does not exceed the water column quality criteria for streams listed in HAR 11-54-05.2 (Total Nitrogen, Nitrate plus Nitrite Nitrogen, Total Phosphorous, Total Suspended Solids, Turbidity), or actual USGS analytical data included at the end of this application. There is no anticipated impact on a "special aquatic site".

12. Mitigation/Compensation Plan (see Guidelines for CWB-WQC Application - Note 12)

The project will not affect a "special aquatic site" as specified in 40 CFR Sections 230.40 - 230.45 and no mitigation/compensation plan is offered.

13. Supporting Documents (see Guidelines for CWB-WQC Application - Note 13)

List and submit applicable maps, plans, specifications, copies of associated permits or licenses, federal applications, Environmental Assessments or Environmental Impact Statements, as applicable, etc.

	Document Title	Document Date
a.	Plan, Title Sheet	12/98
b.	Plan Sheet C5, Existing Piers Layout and Key Plan	11/01
c.	Plan Sheet C8, Site Plan 3	11/01
d.	Plan Sheet 61, General Bridge Retrofit Notes & Limits of Payment for Structural Excavation and Backfill	2/02
e.	Plan Sheet S8, Piled Footing Retrofit Plans & Details, Piers 18 & 21	2/02
f.	WQC item 7e, USGS groundwater sampling analyses	8/9/02, 9/7/02, 9/13/02
g.	WQC item 8, Figure 1 Topographic Map	10/02
h.	WQC item 8, Tax Map	10/02
i.	WQC item 8, Site photos	10/02
j.	WQC item 8b, Water Quality Sample Data - Physical Parameters	8/9/02, 9/13/02
k.	WQC item 8b, Water Quality Sample Data - Nutrients	8/9/02, 9/13/02
l.	WQC item 8b, Water Quality Sample Data - Organics	8/9/02, 9/7/02
m.	Item 10, Best Management Practices (BMP) Plan	10/02

14. Additional Information (see Guidelines for CWB-WQC Application - Note 14)

a. Owner's mailing address: Hawaii State Dept. of Transportation, Highways Division, 869 Punchbowl St., Honolulu, HI 96813

The construction of the improvements described is anticipated to be straightforward and no irregularities are anticipated.

Project has not been bid thus there is no selected contractor.

b(iv) Restoration plan of reasonable measures to avoid and minimize adverse effects to aquatic resources.

Construction within the stream channel will occur within a sheet pile cofferdam. Heavy equipment support (crane for sheet pile and bearing pile driving, pile removal, and excavator) will be based on the east stream bank and constructed access ramp. The cofferdam will be dewatered only when necessary to enable work in the dry. This is anticipated to occur when pile driving, concrete pouring and placement of concrete backfill to restore the area above the new pile cap to the pre-work elevation.

Dewater fluid will be pumped to a clarification basin on the stream bank. Following settling to remove turbidity, dewater fluid will be returned to the stream flow. Settled silt will be removed and disposed offsite by the contractor, and the clarification basin backfilled or original grade at the completion of construction. Work areas including the clarification basin will be surrounded by a silt fence to preclude runoff of turbid water to the stream. The cofferdam will be cut off flush with the stream bed invert after the new pile cap concrete has cured and after placement of lean concrete to restore the stream invert above the new pile cap.

Monitoring as described above will be performed during each day dewater fluids are returned to stream flow. A log of dewater operations, illustrated with photographs, will be maintained and submitted with together with analytical data from dewater fluid sampling.

c(iv) Dewatering is described in the Dewatering Best Management Practices Plan attached.

Additional attachments:

Item No.	Description
5	Letter dated 10/18/02 from Corps of Engineers
8.a.	Topographic Map, Tax Map, Site Photos
8.b.	Water Quality Sample Data - Physical Parameters
8.b.	Water Quality Sample Data - Nutrients
8.b.	Water Quality Sample Data - Organics
10.b	Site Specific Best Management Practice and Monitoring Plan for Section 401 Water Quality Certification
13	Project Plans: Title Sheet Existing Piers Layout and Key Plan Site Plan 3 General Bridge Retrofit Notes & Limits of Payment for Structural Excavation and Backfill Piled Footing Retrofit Plans & Details, Piers 18 & 21

15. Statement of Choice of Publication (see Guidelines for CWB-WQC Application - Note 15)

Check One:

XX Public Notice of Proposed Action

___ Public Notice of Public Hearing

___ Not Applicable. The applicant is seeking WQC coverage under authorization of WQC File No. _____ for a DA permit authorization under the following (provide applicable information):

DA NWP No. _____

DA GP No. _____

DA PGP No. _____

16. Authorization of Representative (see Guidelines for CWB-WQC Application - Note 16)

Check one and complete the appropriate space(s). Alteration of this item will result in the invalidation of the authorization statement(s).

a. This statement authorizes the named individual or any individual occupying the named position of the company/organization listed below to act as our representative to process the required Section 401 WQC Application to discharge to navigable waters from the subject project. The Owner hereby agrees to comply with and be responsible for all Section 401 WQC conditions.

Company/Organization Name: Edward K. Noda and Associates, Inc.

Street Address : 615 Piikoi St., #300

City, State and Zip Code+4: Honolulu, HI 96814-3139

Authorized Person & Title: Charles G. Schuster, P.E.

Phone No.: (808) 591-8553 x207 Fax No.: (808) 593-8551

b. This statement authorizes the named individual or any individual occupying the named position of the company/organization listed below to act as our representative to process the required Section 401 WQC Application to discharge to navigable waters from the subject project. Our representative is further authorized to fulfill all conditions of the Section 401 WQC. The Owner hereby agrees to comply with and be responsible for all Section 401 WQC conditions.

Company/Organization Name: _____

Street Address ❀: _____

City, State and Zip Code+4: _____

Authorized Person & Title: _____

Phone No.: ( ) _____ Fax No.: ( ) _____

c. This statement authorizes the named individual or any individual occupying the named position of the company/organization listed below to act as our representative to fulfill all conditions of the Section 401 WQC for the subject project. The Owner hereby agrees to comply with and be responsible for all Section 401 WQC Conditions.

Company/Organization Name: _____

Street Address ❀: _____

City, State and Zip Code+4: _____

Authorized Person & Title: _____

Phone No.: ( ) _____ Fax No.: ( ) _____

d. A separate statement is attached. Yes _____ No _____

17. Certification (see Guidelines for CWB-WQC Application - Note 17)

Alteration of this item will result in the invalidation of this application. **The person certifying this CWB-WQC Application must meet one of the following descriptions and be employed by the owner listed in Item 1.**

_____ I certify that for a municipal agency, I am a principal executive officer or ranking elected official.

__XX__ I certify that for a state agency, I am a principal executive officer or ranking elected official.

_____ I certify that for a federal or other non-federal public agency, I am a principal executive officer or ranking elected official.

_____ I certify that for a federal agency, I am the chief executive officer of the agency, or I am the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

_____ I certify that I am a general partner for a partnership.

_____ I certify that I am the proprietor for a sole proprietorship.

_____ I certify that for a corporation or association, I am the President, Vice President, Secretary, or Treasurer of the corporation or association and in charge of a principal business function, or I perform similar policy or decision making functions for the corporation or association:

_____ I certify that for a corporation, I am the Manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), and authority to sign documents has been assigned or delegated to me in accordance with corporate procedures.

_____ I certify that for a trust, I am a trustee.

In accordance with the State of Hawaii, Department of Health, Water Quality Standards, there is reasonable assurance that the proposed activity will be conducted in such a manner which will not violate the basic water quality criteria applicable to all waters and the specific water quality criteria applicable to the class of navigable waters where the proposed "discharge" would take place.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: for Brian M. Minaai Date: 11·19·02

Printed Name & Title: BRIAN K. MINAAI, DIRECTOR

Company/Organization Name: State of Hawaii, Department of Transportation

Phone No.: (808) 587-2150 Fax No.: (808) 587-2167

CWB-WQC Application Checklist		
If any item is listed as "no," attach a sheet with the reason for its exclusion from the Section 401 WQC Application submittal.		
Item Number	**Description**	**Is item addressed? (yes/no)**
1.	Owner Information	Yes
2.	General Contractor Information	No
3.	Emergency Contact Information	Yes
4.	Project Site Information	Yes
5.	Associated Permits or Licenses	Yes
6.	Receiving State Water Information	Yes
7.	Project Description	Yes
8.	Description of the Existing Environment and Potential Environmental Effects from the Construction Activities	Yes
9.	Project Schedule	Yes
10.	Site-Specific BMPs Plan	Yes
11.	Applicable Monitoring and Assessment Plan	Yes
12.	Mitigation/Compensation Plan	No
13.	Supporting Documents	Yes
14.	Additional Information	Yes
15.	Statement of Choice of Publication	Yes
16.	Authorization of Representative	Yes
17.	Certification	Yes
18.	Filing Fee ($1000.00) is attached	Yes
19.	Number of copies with supporting documents submitted	
	A. One (1) copy for projects on Oahu with owner's original signature	Yes
	B. Two (2) copies for projects on islands other than Oahu (one with owner's original signature)	No

Application items for which information was not provided

Item No.	Description
2	General Contractor Information: project has not been bid, no contractor has been selected.
9	Project Schedule is estimated at this point.
9.b	The discharge(s) are estimated to occur sporadically during June through September 2003 and will depend on the contractor's day to day schedule of work. The contractor will notify the Department of Health of his proposed discharge schedule at least three days in advance of any planned discharge.
12	No Mitigation/Compensation Plan is offered. The project will not affect a "special aquatic site" as specified in 40 CFR Sections 230.40 - 230.45 and no mitigation/compensation plan is offered.

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF

October 18, 2002

Regulatory Branch

Field Supervisor, Ecological Services, U.S. Fish and Wildlife Service, Pacific Islands Region, P.O. Box 50088, Honolulu, HI 96850
Mr. John Naughton, Pacific Islands Environmental Coordinator, National Marine Fisheries Service, Pacific Area Office, 1601 Kapiolani Blvd., Suite 1110, Honolulu, HI 96814-4700
Protected Species Coordinator, National Marine Fisheries Service, Pacific Area Office, 1601 Kapiolani Blvd., Suite 1110, Honolulu, HI 96814-4700
Dr. Wendy Wiltse, U.S. Environmental Protection Agency, Region IX, Honolulu Branch, P.O. Box 50003, Honolulu, HI 96850
Office of Planning, Hawaii Coastal Zone Management Program, P.O. Box 2359, Honolulu, HI 96804
Mr. Denis R. Lau, Chief, Clean Water Branch, State of Hawaii, Department of Health, P.O. Box 3378, Honolulu, HI 96801-3386
Director, Department of Land and Natural Resources, State of Hawaii, P.O. Box 621, Honolulu, HI 96809
Commission on Water Resources Management, Department of Land and Natural Resources, P.O. Box 621, Honolulu, HI 96809
Mr. Don Hibbard, Deputy State Historic Preservation Officer, 601 Kamokila Blvd., Room 555, Kapolei, HI 96707
Office of Hawaiian Affairs, 711 Kapiolani Blvd. Suite 500, Honolulu, HI 96813-3249
Hui Malama I Na Kupuna O Hawaii Nei, P.O. Box 190, Haleiwa, HI 96712-0190

Dear Reviewers:

The Highways Division of the State of Hawaii Department of Transportation has applied for a Department of the Army (DA) permit to upgrade the existing Pier 21 in the Manoa-Palolo Stream channel as part of the proposed Interstate Route H-1 Seismic Retrofit project, Kapiolani Interchange, Phase 2, Honolulu, Hawaii.

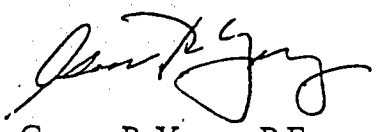
The applicant indicates that the purpose of the project is to upgrade Pier 21 to current applicable codes. The project will involve the discharge of temporary fill (consisting of sheet piles, sand bags, berms, pipes and other materials) to create a temporary cofferdam within the Manoa-Palolo Stream channel for the purpose of diverting stream flow around the worksite during construction. Work will include excavation within the area of the cofferdam, with discharge of material to a settling basin on the adjacent east bank and return of water to the stream. Following pier construction, the cofferdam interior will be backfilled with approximately 16 cubic yards of clean crushed rock to restore the stream bed to its pre-existing contour and leave the stream flow regime unchanged. Enclosed for your review are portions of the applicant's project description and plans, including the best management practices plan.

Based on the nature and location of the proposed work, I have determined that authorization of the project is not likely to adversely affect any species protected under the Endangered Species Act; that it will not affect any Essential Fish Habitat (EFH) identified pursuant to the Magnuson-Stevens Fishery and Management Act; and that there are no historic properties which would be affected by the proposed undertaking. Project construction is not expected to have more than minimal effects on the aquatic environment and will not result in any loss of waters of the U.S. The project area does not include any special aquatic sites.

I plan to authorize the proposed activity under the Corps' Nationwide permit authority at 33 CFR 330 and the January 15, 2002 Notice of Issuance of Nationwide Permits (67 FR 2020), Paragraph B. 3 (Maintenance) and B.33 (Temporary Construction, Access and Dewatering).

Please submit your comments within 30 days of the date of this notice. If no response is received within the 30-day period, I will conclude that you have no objection to authorization of the project under the cited Nationwide permits. Mailed correspondence should cite File No. 200200552 and should be addressed to: Regulatory Branch (CEPOH-EC-R/P. Galloway); U.S. Army Engineer District, Honolulu; Building 230; Fort Shafter, Hawaii 96858-5440. If needed, further information may be obtained from Mr. Peter Galloway via telephone at (808) 438-8416 or via fax at (808) 438-4060). Thank you for participating in this regulatory review process.

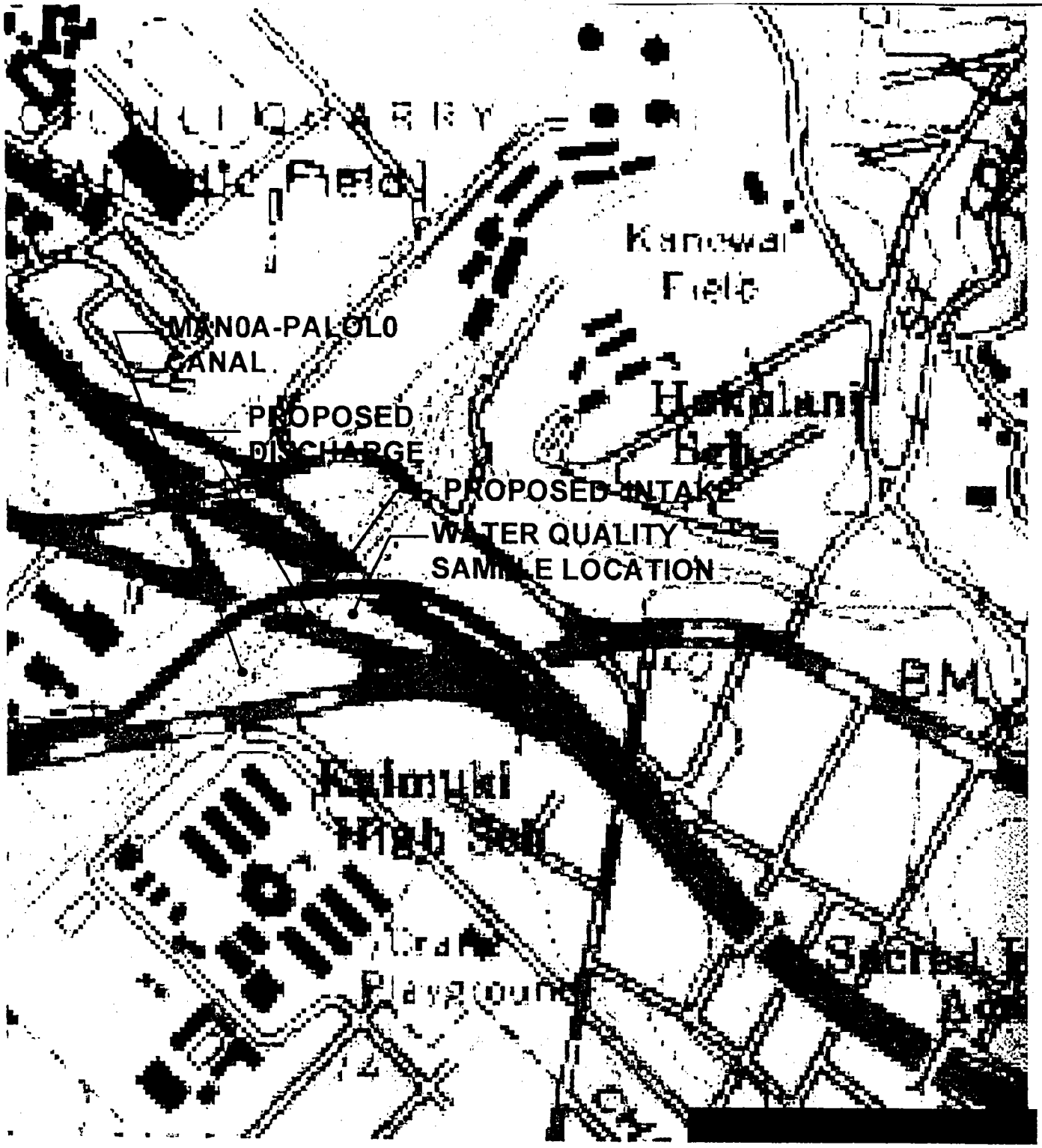
Sincerely,



George P. Young, P.E.
Chief, Regulatory Branch

Enclosure

Copy Furnished:
Mr. Brian Minaai, Director, Highways Division, Department of Transportation, 869 Punchbowl Street, Honolulu, HI 96813
Mr. Charles G. Schuster, P.E., Edward K. Noda & Associates, Inc., 615 Piikoi Street, Suite 300, Honolulu, HI 96814



PREPARED BY: CA

EKNA PROJECT NUMBER: 2248-01F

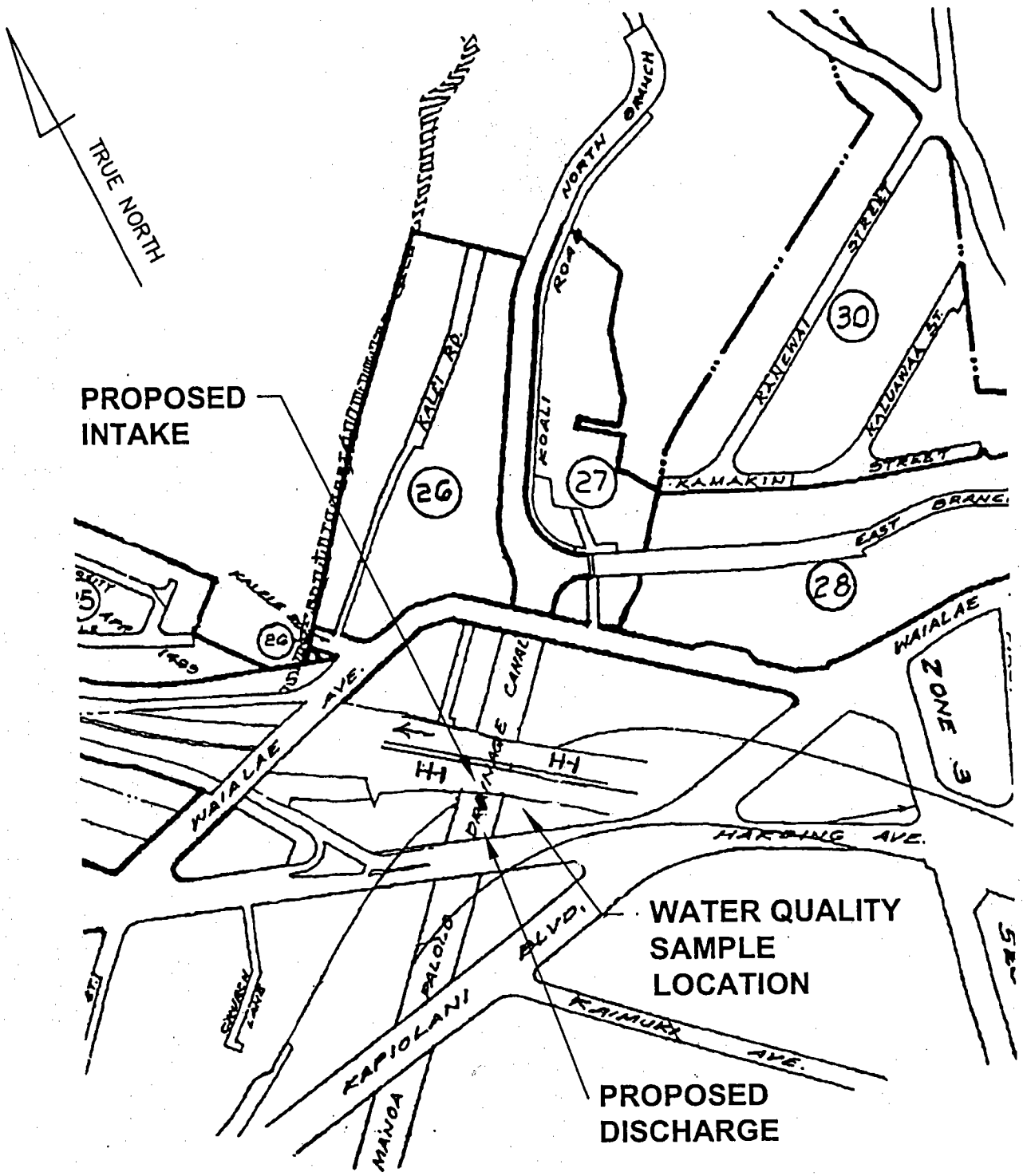
Edward K. Noda and Associates, Inc.

INTERSTATE ROUTE H-1 SEISMIC RETROFIT
KAPIOLANI INTERCHANGE

TOPOGRAPHIC MAP

FIGURE

1



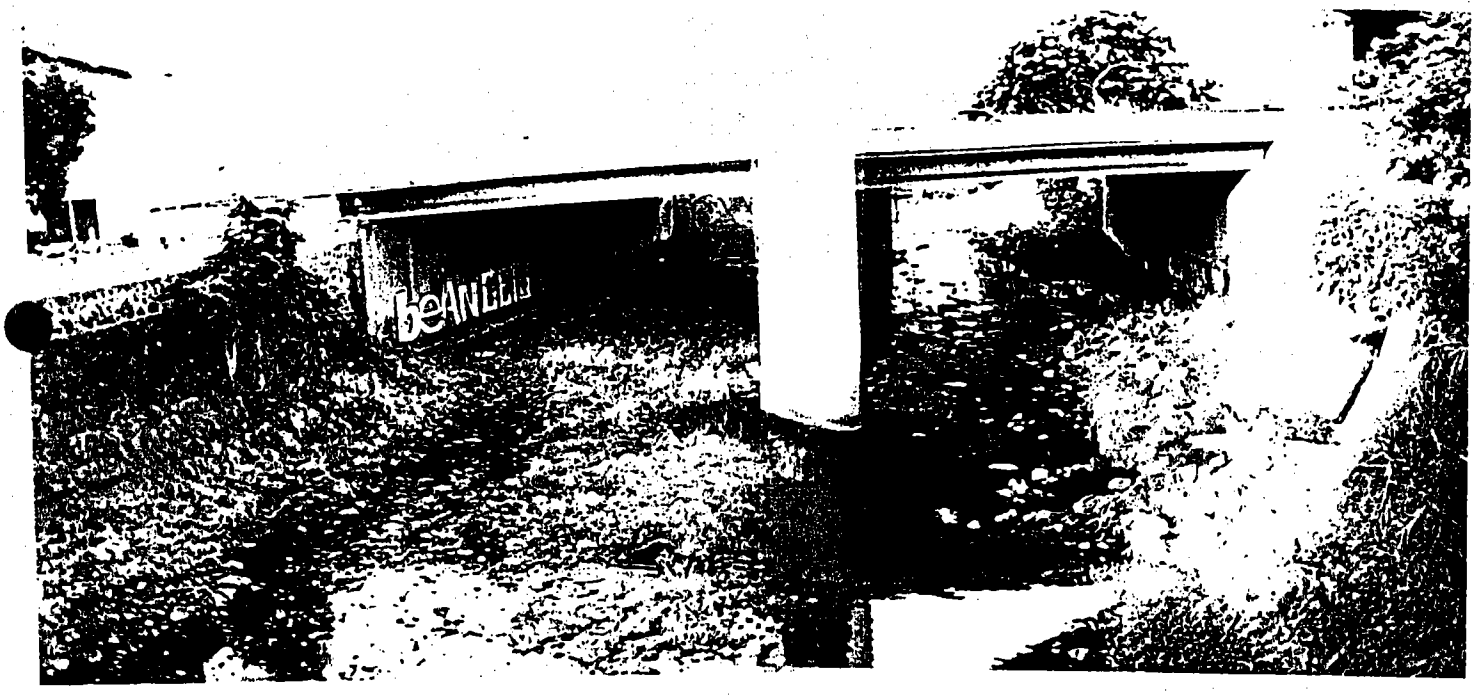
EKNA 2248-01F
PREPARED BY: CA

2-7-28

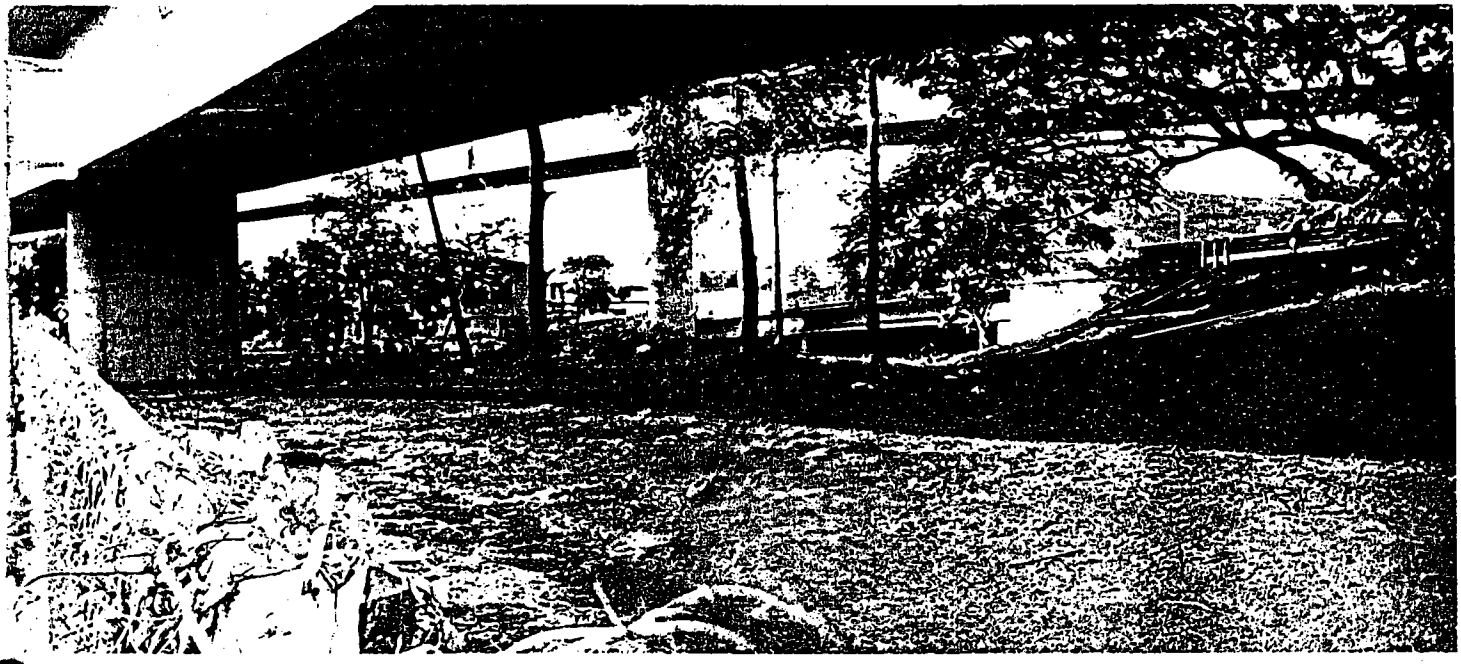
Edward K. Noda and Associates, Inc.

INTERSTATE ROUTE H-1 SEISMIC RETROFIT
PIER 21 FOOTING - KAPIOLANI INTERCHANGE
TMK MAP

FIGURE 2



View of Pier 21 looking upstream, typical low flow condition, note stabilized banks.



Contractor staging/construction support area on east bank

Water Quality Sample Data - Physical Parameters

The following data are provided for two recent sampling events at USGS Station 16242500, Manoa Stream at Kanewai Field, Honolulu, Oahu, HI., approximately a quarter mile upstream from the project site.

Parameter	Description
10	Temperature, Water (Deg. C)
20	Temperature, Air, (Deg. C)
25	Barometric Pressure (mm of Hg)
61	Discharge, Instantaneous, Cubic Feet per Second
65	Gage Height, Feet
95	Specific Conductance (Microsiemens/cm at 25 Deg. C)
300	Oxygen Dissolved (mg/l)
400	pH, Water, Whole, Field, Standard Units
403	pH, Water, Whole, Laboratory, Standard Units
29801	Alkalinity, Water, Dissolved, Fixed Endpoint Titration, Lab, as CaCO3, mg/l
39086	Alkalinity, Water, Dissolved, Total, Incremental Titration, Field, mg/l as CaCO3
70300	Solids, Residue on Evaporation at 180 Deg C, Dissolved (mg/l)
90095	Specific Conductance Microsiemens/cm at 25 Deg C

Sample Date	Parameter	Result
2000-08-09	10	22.5
2000-08-09	20	27.5
2000-08-09	25	764
2000-08-09	61	3.9
2000-08-09	65	8.97
2000-08-09	95	193
2000-08-09	300	8.3
2000-08-09	400	8
2000-08-09	403	7.9
2000-08-09	29801	63
2000-08-09	39086	60
2000-08-09	70300	126
2000-08-09	90095	201
2000-09-13	10	22.5
2000-09-13	20	28
2000-09-13	25	762
2000-09-13	61	7.2
2000-09-13	65	9.22
2000-09-13	95	176
2000-09-13	300	8.3
2000-09-13	400	8
2000-09-13	403	7.9
2000-09-13	29801	84
2000-09-13	39086	53
2000-09-13	70300	114
2000-09-13	90095	187

Water Quality Sample Data - Nutrients

The following parameters are included for two recent sampling events at Station USGS 16242500, Manoa Stream at Kanewai Field, Honolulu, Oahu, HI., approximately a quarter mile upstream from the project site.

Parameter	Description
00608	Nitrogen Ammonia Dissolved (mg/l as N)
00613	Nitrogen, Nitrite, Dissolved, mg/l as N
00623	Nitrogen Ammonia plus Organic Dissolved (mg/l as N)
00625	Nitrogen Ammonia plus Organic Total (mg/l as N)
00631	Nitrogen Nitrite plus Nitrate Dissolved (mg/l as N)
00665	Phosphorus Total (mg/l as P)
00666	Phosphorus Dissolved (mg/l as P)
00671	Phosphorus Orthophosphate Dissolved (mg/l as P)
34935	Phosphorus, Sediment, Bottom Material, actual value is known to be greater than the value shown.

Remarks:
E - Estimated value
< - Actual value is known to be less than the value shown

Sample Date	Parameter	Result	Remark
2000-08-09	608	0.02	<
2000-08-09	613	0.01	<
2000-08-09	623	0.12	
2000-08-09	625	0.28	
2000-08-09	631	0.131	
2000-08-09	665	0.051	
2000-08-09	666	0.019	
2000-08-09	671	0.015	
2000-09-13	608	0.02	<
2000-09-13	613	0.01	<
2000-09-13	623	0.08	E
2000-09-13	625	0.21	
2000-09-13	631	0.14	
2000-09-13	665	0.043	
2000-09-13	666	0.013	
2000-09-13	671	0.01	<

Water Quality Sample Data - Organics

The following parameters are included for three recent sampling events at Station USGS 16242500, Manoa Stream at Kanewai Field, Honolulu, Oahu, HI., approximately a quarter mile upstream from the project site.

Parameter	Description
681	Carbon Organic Dissolved (mg/l as C)
49261	Alpha-BHC, D6-, Surrogate, Biota, Whole Organism, Wet Weight, Recoverable, Percent
49289	Lipids, Biota, Whole Organism, Wet Weight, Recoverable, Percent
49353	Aldrin, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49354	PCB, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49355	Toxaphene, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49356	Pentachloroanisole, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49357	Oxychlordane, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49358	Trans-Nonachlor, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49359	Cis-Nonachlor, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49360	Mirex, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49361	Methoxychlor, P,P'-, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49362	Methoxychlor, O,P'-, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49363	Lindane, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49364	Delta-BHC, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49365	Beta-BHC Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49366	Alpha-BHC, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49367	Benzene, Hexachloro-, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49368	Heptachlor Epoxide, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49369	Heptachlor, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49370	Endrin, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49371	Dieldrin, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49372	P,P'-DDE, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49373	O,P'-DDE, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49374	O,P'-DDD, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49375	P,P'-DDD, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49376	P,P'-DDT, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49377	O,P'-DDT, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49378	DCPA, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49379	Trans-Chlordane, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg
49380	Cis-Chlordane, Biota, Whole Organism, Wet Weight, Recoverable, ug/kg

Remarks:
E - Estimated value
< - Actual value is known to be less than the value shown

Sample Date	Parameter	Result	Remark
2000-08-09	681	1.3	
2000-09-07	49261	102	
2000-09-07	49289	9.8	
2000-09-07	49353	5	<

Sample Date	Parameter	Result	Remark
2000-09-07	49354	50	<
2000-09-07	49355	200	<
2000-09-07	49356	5	<
2000-09-07	49357	180	
2000-09-07	49358	420	
2000-09-07	49359	170	E
2000-09-07	49360	5	<
2000-09-07	49361	5	<
2000-09-07	49362	5	<
2000-09-07	49363	5	<
2000-09-07	49364	5	<
2000-09-07	49365	5	<
2000-09-07	49366	5	<
2000-09-07	49367	20	
2000-09-07	49368	300	
2000-09-07	49369	5	<
2000-09-07	49370	5	<
2000-09-07	49371	1700	
2000-09-07	49372	26	
2000-09-07	49373	5	<
2000-09-07	49374	5	<
2000-09-07	49375	5	<
2000-09-07	49376	14	
2000-09-07	49377	5	<
2000-09-07	49378	5	<
2000-09-07	49379	120	
2000-09-07	49380	270	
2000-09-13	681	1.3	

SITE SPECIFIC BEST MANAGEMENT PRACTICE AND MONITORING PLAN FOR SECTION 401 WATER QUALITY CERTIFICATION

Interstate Route H-1, Seismic Retrofit, Kapiolani Interchange, F.A.P. No. BR-HI-1(226)

1. Background and Description of Work

The work contemplated by this project was previously part of another contract, however NPDES documentation was not completed in a timely fashion and the work will be re-bid as a separate contract. It is anticipated the work will commence in the second quarter of 2003.

The project generally consists of upgrading an existing pier footing supporting an elevated highway structure. The pier footing lies in a stream bed, and stream flow will be temporarily diverted around the existing pier and pile cap while the work is in progress. To accomplish the diversion a combination of a crushed rock diversion dam and sheet pile cofferdam will be used. The cofferdam will be dewatered as needed by pumping to a clarification basin on the adjacent stream bank. After settling to clarify dewater effluent and reduce the suspended solids content, effluent will be returned to the stream flow. After completion of the work, cofferdam sheet piles will be cut flush with the stream bed invert, and the space above the pile cap backfilled to the pre-existing invert by placement of lean concrete.

This Best Management Practices (BMP) Plan has been prepared to accompany a Section 401 Water Quality Certification application presented to the Department of Health, Clean Water Branch. It is based on a previous BMP Plan prepared for this work by Hawaiian Dredging Construction Company. At the time of this preparation, the project has not been bid and the identity of the contractor and actual project work schedule cannot be known.

If the selected contractor intends to perform the work in a manner or sequence other than as described herein, the contractor shall be responsible to change and/or amend this Plan to accurately describe the intended sequence of work.

2. Construction Sequence and Method

Pier 21 footing retrofit construction within the Manoa-Palolo Stream will last for approximately 3 months (see typical schedule, Attachment 1, from prior project). The start date will be set after approval of the NPDES permit and Notice to Proceed is given by the Department of Transportation.

The stream will be diverted to the West side of Pier 21 prior to construction by installing a temporary dam and silt fences as shown in Attachments 2 and 3. Silt fences, per the attached detail shown in Attachment 4, will be installed along the temporary dam, within the work area, and along the southwest stream bank prior to construction.

An access path to the pier footing will be created from the East bank of the stream. A hydraulic backhoe will be used to place the crushed rock for the access path. The backhoe will excavate the streambed to expose the top of the pile cap.

The cofferdam interior will be excavated by hydraulic excavator to expose the existing pile cap. A dewatering system will be installed to allow subsequent work to proceed in the dry. The dewatering system will consist of a sump pit (perforated corrugated steel pipe wrapped with filter fabric and filter rock around the outside of the pipe), a trash pump and piping leading to a bermed settling basin. The settling basin will be located above the adjacent stream bank in vacant highway right-of-way makai of South King Street as shown in Attachment 5. Dewatering will be conducted on an as-needed basis, determined by the nature of the current work effort.

After the dewatering system has been constructed and operational, a hydraulic backhoe will be used to excavate and expose the bottom of the pile cap.

Crushed rock bedding placed at the bottom of the excavation. Tubular steel pilings will be driven within the cofferdam and filled with concrete. The new pilings will be incorporated into the existing footing by placement of new reinforced concrete. After curing, the space above the pile cap will be backfilled with lean concrete to match the pre-existing stream invert. Sheet piles will be cut off flush with the stream invert.

All debris and excavated material during construction will be removed from the stream area and disposed of at approved upland sites. No construction or construction-related material will be stockpiled, stored or placed in the stream area or in ways that will disturb the stream area.

In the event of heavy rainfall and resulting high water levels in the stream, contractor crews will be on-call 24-hours a day to remove or open up the temporary dam to let storm waters flow through the canal. The diversion and access construction sequence stated in the paragraphs above will be repeated to recreate access to the pier footing if required to be remove due to heavy rains.

If the selected contractor intends to use a dewatering scheme not in conformance with that shown, he shall provide an updated description of his scheme and obtain concurrence from the Department of Health, Clean Water Branch.

Water quality monitoring will be conducted throughout the duration of work within the stream as stated in Section 5 below. The Contractor's project engineer assigned to the project will be responsible to monitor control measures. Water quality monitoring will be by the contractor-selected independent testing laboratory.

Should either the project engineer or the testing laboratory change, the State will be notified in writing. Water quality monitoring procedures to be followed will be as stated in section 6 of this Plan.

3. Characteristics of the Discharge and Potential Pollutants Associated with the Proposed Construction Activity

Materials which will temporarily be placed within the stream banks will include temporary dams (steel structures with reinforced vinyl liners), sheet piles, steel plates, coarse gravel, steel or plastic pipes, silt fences and sand bags.

Materials permanently placed will include sheet piles, steel pipe piles, reinforcing steel, concrete and crushed rock.

Materials that may enter State waters due to the proposed construction activity include soil from erosion in adjacent areas, construction debris and removed vegetation.

Discharges associated with the operation of equipment may include petroleum compounds resulting from oil leaks and spills from equipment fueling or service. Equipment maintenance, service and fuel storage will be conducted off-site, away from the stream area to the extent possible.

Discharges associated with construction and the removal and restoration of the temporary stream diversion include storm water runoff, ground water and stream water that has been dewatered.

4. Proposed Control Measures or Treatment

Stream flow will be diverted to the west side of Pier 21 and around the construction site, prior to construction by installing a temporary dam and silt fences as shown in Attachment 2.

Silt fences, per the attached detail shown in Attachment 4, will be installed along the temporary dam, within the work area, and along the stream bank (see Attachment 2), and maintained throughout the construction period. Silt fences may be removed at the beginning of the workday to facilitate construction, but shall be replaced as soon as possible and not later than the end of each day.

Gravel pads shall be installed and maintained wherever vehicles are leaving the construction site and entering on public roads to prevent transporting sediment onto the paved roads.

Storm drain inlet protective measures shall be constructed in accordance with Attachment 6, will be installed around the existing and new drain inlets to prevent sediment from entering the storm drain system. See Attachment 2 for location of storm drain inlets.

A designated upland area, away from the stream area, will be used to store construction-related material and equipment. An effort will be made to store only enough products onsite that are required to for current and immediate future operations. Silt fences will be installed at the bottom slopes of stockpiles to filter sediment from runoff. See Attachment 2 for location.

All dredged and excavated material will be loaded directly from the excavated area into semi-trucks (lined with filter fabric or plastic) to be hauled off-site and disposed of at authorized disposal sites.

All loose material, small tools and equipment will be removed from the work site at the end of each workday.

All powered equipment will be inspected daily for leaks and will receive regular preventative maintenance to reduce the chance of leakage. Leaking equipment will be immediately

removed or repaired to correct the leak. Equipment will be stored upland, away from the stream area. Daily fueling and lubricating of equipment will be conducted away from the stream area. Lubricants and excess oil will be disposed of in accordance with applicable Federal, State and City and County regulations.

Concrete trucks and pumps will only be allowed to "wash out" or discharge drum wash water outside the stream and construction area into steel drums lined with filter fabric. Wash down water will be contained in the steel drums and allowed to evaporate, or will be used for dust control onsite. Solid material recovered from washout water drums will be taken to back to the concrete plant to be recycled or disposed in an approved upland site.

The contractor shall check all control measures daily and maintain them in good working order. If repair is necessary, it will be made within 24 hours of report. Temporary dams and silt fences will be inspected for depth of sediment, tears, and to see if the fabric and liners are adequately secured and that the fence and steel posts remain firmly in the ground. Sediment retained at silt fences will be removed when reaches one-third the height of the fence.

Additional control measures (sediment basins, temporary dikes, sandbags etc.) may be installed as needed to control erosion, redirect runoff and collect sediments from the construction area. Materials to construct such additional control measures will be staged at the jobsite for immediate deployment.

5. Water Quality Monitoring Plan

Sampling for stream water quality monitoring will be conducted at three control stations and one impact station, at the locations shown on Attachment 2, and as approved by the Department of Health. Total Nitrogen, Ammonia Nitrogen, Nitrante + Nitrite, Total Phosphorous, Turbidity, Total Suspended Solids, pH, Dissolved Oxygen, Temperature, Conductivity, Oil and Grease and Total Lead will be monitored.

Preconstruction samples will be collected daily for five days prior to the start of construction from the control and monitoring stations. During construction, samples will be taken three times a week, one to two hours after construction work has started for the day, or on days that concrete is being placed, one to two hours after the concrete pour has started. Should the results exceed the geometric mean (established by preconstruction water quality monitoring or applicable water quality standards) due to the contractor's activities, modifications will be made to the water pollution controls. Modifications may include such measures as those described in Section 5 above.

Typical water quality sampling procedures shall be as outlined in the Water Sampling Guidelines (sample from the previous project, Attachment 7), or as provided by the contractor's selected analytical laboratory. Samples will be transmitted under strict Chain of Custody procedures (a typical Sample Chain of Custody form is provided in Attachment 7). Sample results will be summarized and submitted weekly to the Department of Health, Clean Water Branch, with identification of project and contractor, contractor's designated point of contact, and a description of the activities occurring on the date of sampling. If the results exceed the applicable water quality standards, the Clean Water Branch will be notified within 24 hours

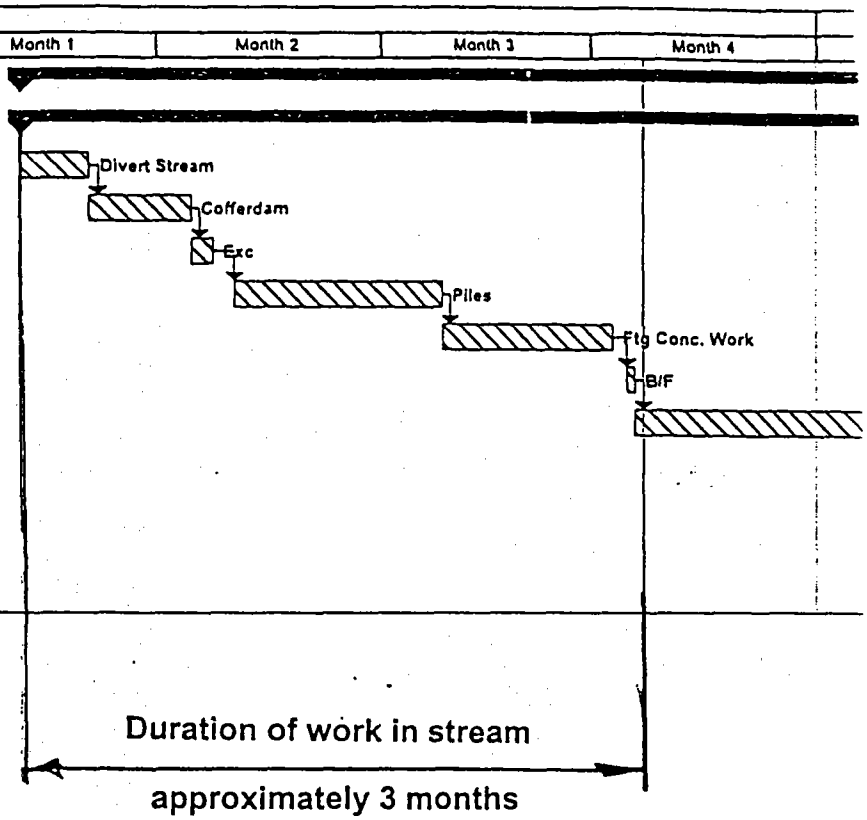
after the availability of the analytical results; notification will include mitigation measures to be employed and may include modifications as noted above.

Typical laboratory Quality Control procedures for water sampling and analysis are described in the attached Water Sampling Guidelines (sample from previous project, Attachment 7). Proper sampling and Quality Control procedures specific to the contractor's selected analytical laboratory will be followed and adhered to at all times.

ATTACHMENTS

1 Typical Construction Schedule (sample from previous project)
2 Location Map of Temporary Dam, Silt Fences, Cofferdam & Access Path and Stockpile Areas
3 Temporary Dam and Cofferdam Schematic
4 Silt Fence Detail
5 Dewatering Schematic
6 Storm Drain Inlet Protection Details
7 Typical Analytical Laboratory Water Sampling Guidelines and Sample Chain of Custody Form

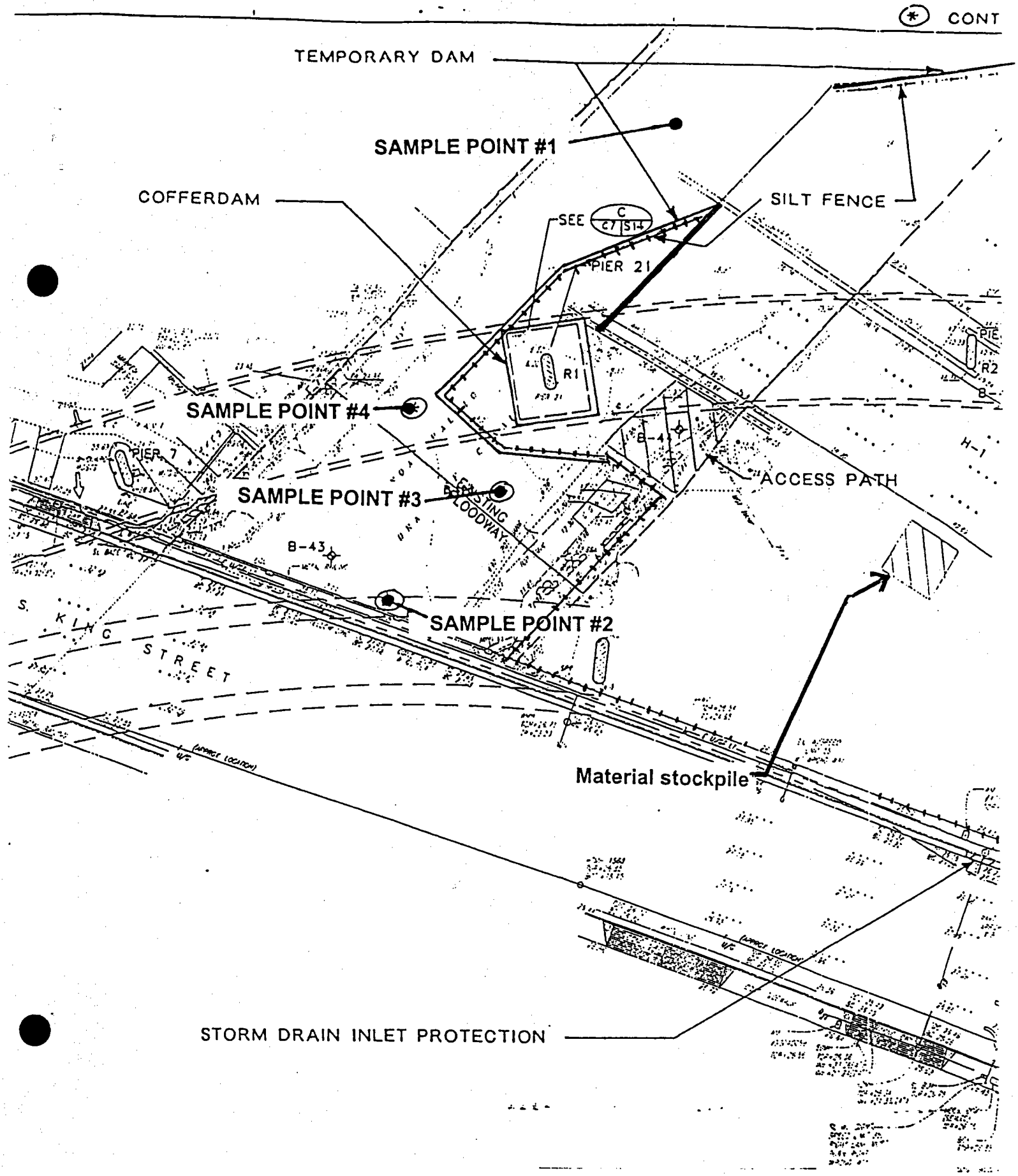
ID	O	Task Name	Duration
1		KAPIOLANI SEISMIC RETROFIT	130 days
2		PIER #21 WORK ONLY	130 days
3		Divert Stream/Install Silt Screen	7 days
4		Install Cofferdam	10 days
5		Excavation	3 days
6		Drive Test Piles & Production Piles	21 days
7		Footing Concrete Work	16 days
8		Backfill Footing	1 day
~~9~~		~~Pier 21 Dock Retrofit Work~~	~~30 days~~
~~10~~		~~Order Cable Restrainers~~	~~26 days~~
~~11~~		~~Install Cable Restrainers~~	~~3 days~~
12		Replace CRM Wall	3 days
13		Remove Berm/Cleanup	8 days



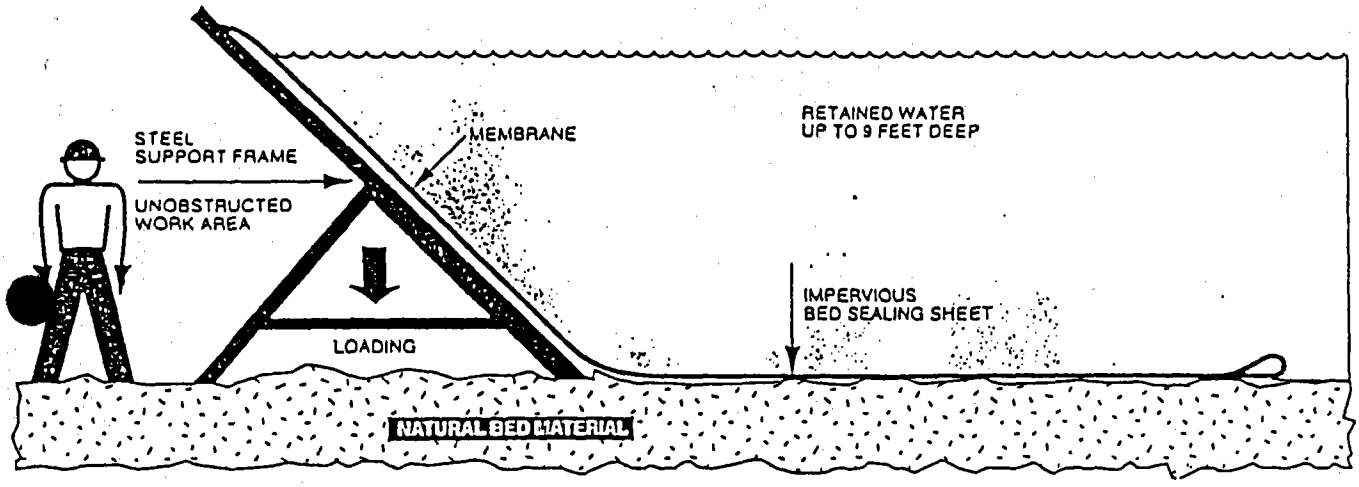
oject: BMP
ite: 9/15/99

Task	Milestone	Rolled Up Critical Task	Split		
Critical Task	Summary	Rolled Up Milestone	External T		
Progress	Rolled Up Task	Rolled Up Progress	Project S.		

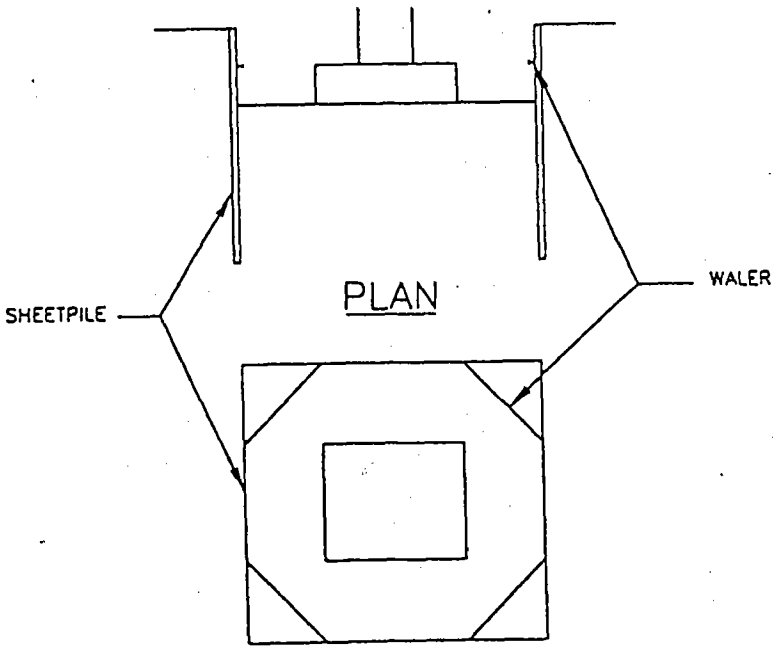
ATTACHMENT 1
TYPICAL CONSTRUCTION SCHEDULE
(SAMPLE FROM PREVIOUS PROJECT)



ATTACHMENT 2
SITE PLAN SHOWING TEMPORARY DAM, SILT FENCES, COFFERDAM & ACCESS PATH AND STOCKPILE AREAS



TEMPORARY DAM SCHEMATIC



PLAN

SECTION

COFFER DAM SCHEMATIC

ATTACHMENT 3
TEMPORARY DAM AND
COFFERDAM SCHEMATIC

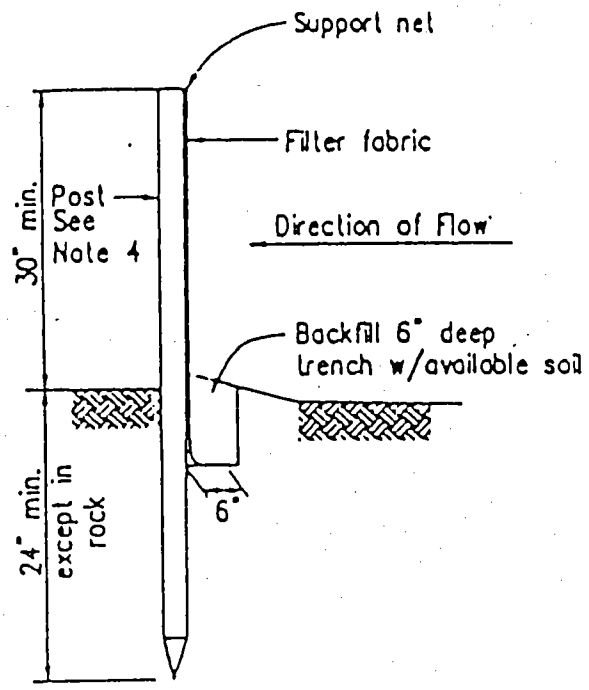
SILT FENCE NOTES

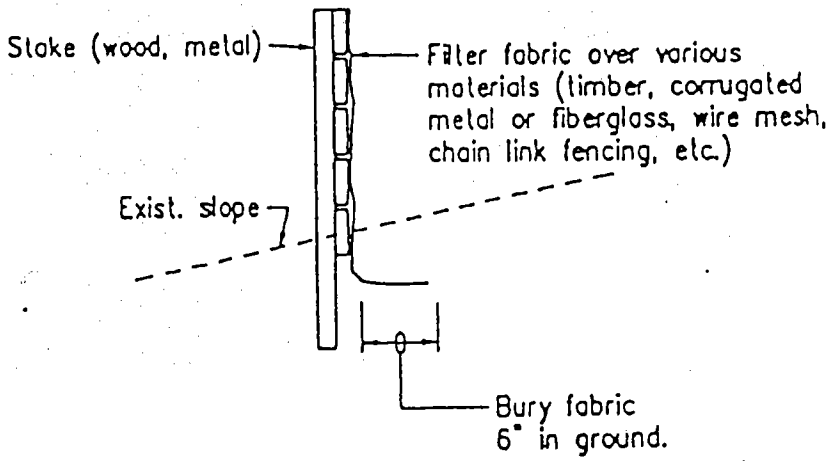
1. Filter fabric shall be of the type specified and installed in combination with a support net of polyester netting or approved equal. The filter fabric shall be a mininum of 36 inches wide and the support net a minimum of 30 inches.

2. If silt fence is obtained from manufacturer as a package (i.e. fabric attached to post) the manufacturers installation instructions shall be adhered to.

3. Posts shall be metal where possible, cross section of post will be substantial enough to support a loaded silt fence without bending. Post spacing shall be 4 feet to 8 feet, depending on post size.

4. Some manufacturers only supply silt fence with wooden post. During installation, measures should be taken to prevent damage to post.

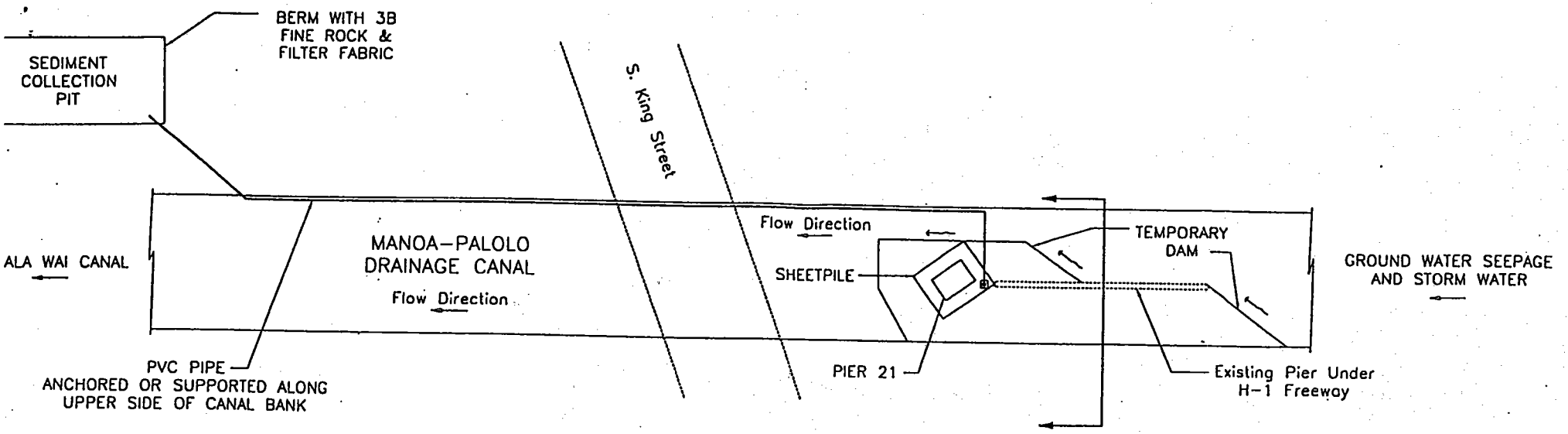




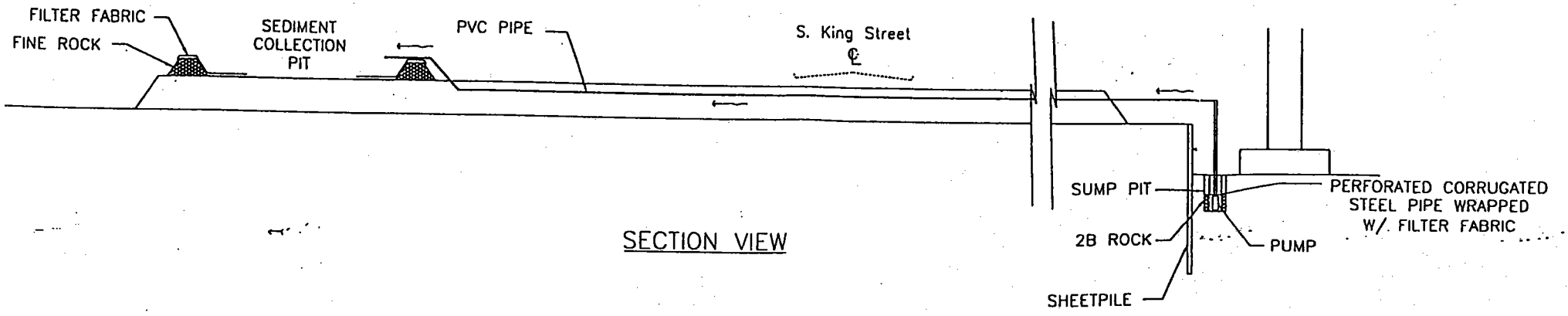
SILT FENCE DETAIL
Not to Scale

ATTACHMENT 4
SILT FENCE DETAIL

PIER 21 – DEWATERING SCHEMATIC

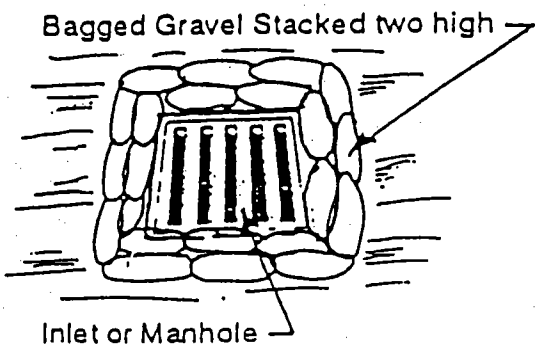


PLAN VIEW

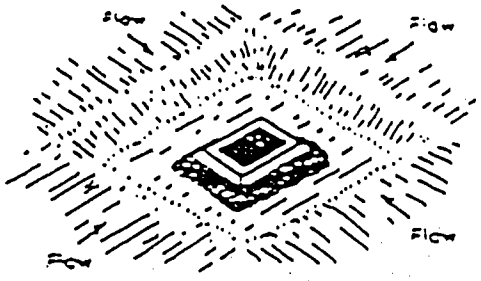


SECTION VIEW

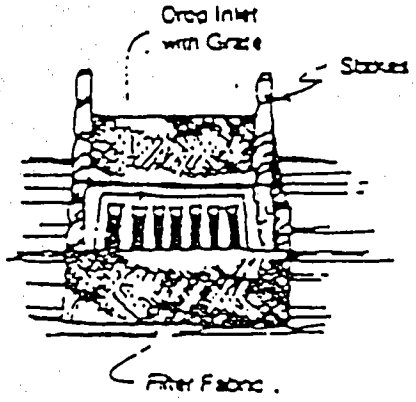
ATTACHMENT 5
DEWATERING SCHEMATIC



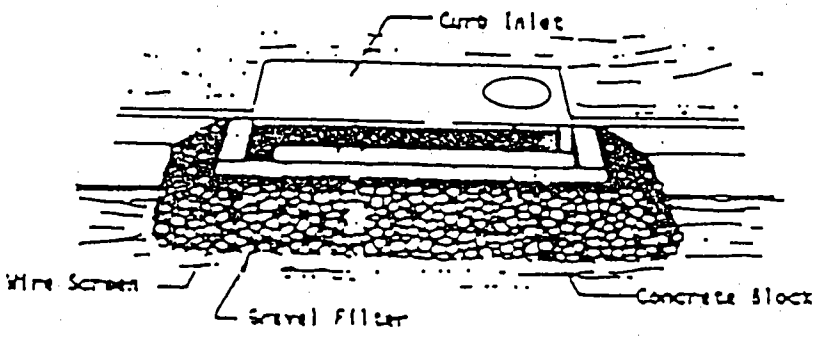
Bagged Gravel Inlet Protection



Excavated Gravel Inlet Protection



Filter Fabric Inlet Protection



Block and Gravel End Wall Silt Trap

ATTACHMENT 6
STORM DRAIN INLET
PROTECTION DETAILS

NALAB, Inc.

INALAB, Inc.

3615 Harding Avenue, Suite 306 Honolulu, Hawaii, 96816
(808)-735-0422 / Fax (808)-735-0047
Experts in Environmental, Forensic, Occupational and Laboratory Services
SERVING HAWAII SINCE 1978

Water Sampling Guidelines for H-1 Seismic Retrofit, Kapiolani I.C. F.A.P. Project No. BR-H1-1 (226)

19 November 1999

Objective:

The objective of this project is to gather samples for analysis to verify the water quality of the water in the drainage canal during de-watering and construction. The results of the analysis of the samples will provide information for the NPDES de-watering permit and Section 401 Water Quality Certification.

There are four water-sampling points in conjunction with this project:

1. An upstream control which evaluates the water entering the project site,
2. A down stream sample beyond the construction zone,
3. One point near the storm drain out-fall, and
4. One sample just beyond the cofferdam on the ewa side of the stream.

The upstream control sampling point occurs after the convergence of the drainage from Manoa and Palolo valleys. This segment of the canal system ultimately joins the Ali Wai canal at the ewa end of the Ali Wai golf course. The Ali Wai canal empties into the ocean near Ala Moana Park and the Ali Wai boat harbor.

In order to avoid disturbance of the water by entry we will attempt to establish stepping stone pathways (or similar access) after the erection of the cofferdam. Generally, the downstream locations will be sampled first. Sampling locations will be marked to assure consistency of site location.

Sampling:

In order to avoid disturbance of the water by entry we will attempt to establish stepping stone pathways (or similar access) after the erection of the cofferdam. Generally, the downstream locations will be sampled first. Sampling locations will be marked to assure consistency of site location.

We will photo-document the locations.

Samples will be collected as manual, grab samples. Since the water level is low (less than 12–24 inches in most areas) in this canal, the container will be immersed to a level which will allow for the free entry of water, and collection without headspace (DO samples).

Samples will be transported immediately to the laboratory for appropriate processing and analysis. INALAB, Inc. will provide laboratory services.

ATTACHMENT 7
TYPICAL ANALYTICAL LABORATORY WATER SAMPLING GUIDELINES AND CHAIN OF CUSTODY FORM (9 pgs.)

Samples will be collected for the analysis of the following parameters:

Analyte	Container
Total Nitrogen	Plastic
Ammonia Nitrogen	Plastic
Nitrate + Nitrite	Plastic
Total Phosphorus	Glass
Turbidity	Plastic
Total Suspended Solids	Plastic
pH	Plastic
Dissolved Oxygen	Glass, BOD bottle
Oxygen saturation	
Temperature	Field Measurement
Conductivity	Plastic
Oil and Grease	Glass, 1 liter
Dissolved Lead	Plastic

Chain of Custody

The time, date of sampling, and identity of the sampler will be indicated on the chain of custody (see attachment 1). Any unusual field conditions will also be noted.

Analytical Quality Control Program for the Analysis of Water Samples

The outlined procedures below are to be performed for all analyses. Specific instructions relevant to particular analyses are given in the pertinent standard operating procedures.

1. ANALYTICAL QUALITY CONTROL

The laboratory shall retain all quality control data and records for three (3) years. The described procedures are intended to be applied to chemical analytical procedures.

1.1 Blanks

A laboratory blank shall accompany each analytical batch. This blank shall be carried through the entire analytical procedure.

1.2 Duplicates

Duplicate analyses (replicate samples) shall be performed on one sample per batch or one per 10 samples, whichever is greater. The results are used to evaluate analytical precision.

1.3 Spikes

A field sample (once each batch or once per 10 samples) and a two quality control samples labeled as QC-1 and QC-2 which are made up in a similar matrix as the sample(s) are spiked with the analyte/s of interest. Spike amount should fall within the calibration range. Ideally, the field sample to be spiked should be an intermediate between the cleanest and the most contaminated samples based on the best information available. Percent accuracy is determined from QC-1 as a function of the spike recovery. Precision is determined by taking the relative percent difference (RPD) between QC-1 and QC-2 and should be within +/- 25% RPD. Both accuracy & precision results are graphed with the control limits outlined for interpretation. When result(s) are out of control limits the operation is ceased until problem is resolved. This incident will be included in the Quality Assurance report & the cause(s) of the failure is explained.

1.4 Quality control reference sample

A quality control reference sample is prepared from an independent standard at a concentration other than used for calibration, but within the calibration range. An independent standard is composed of the analyte/s of interest from a different source than that used in the preparation of the calibration standards. This is intended as an independent check of technique, methodology, and standards.

1.5 Clean-ups

Quality control procedures described here are intended for adsorbent chromatography and back extractions applied to organic extracts. All batches of adsorbents (florisil, alumina, silica gel, etc) prepared for use shall be checked for analyte recovery by running the elution pattern with standards as a column check. The elution pattern shall be optimized for maximum recovery of analytes and maximum rejection of contaminants.

1.5.1 Column check sample

The elution pattern shall be reconfirmed with a column check of standard compounds after activating or deactivating a batch of adsorbent. These compounds shall be representative of each elution fraction. Recovery as specified in the methods is considered as acceptable column check. A result lower than specified indicates that the procedure is not acceptable or has been misapplied.

1.5.2 Column check blank

The column check blank shall be run after activating or deactivating a batch of adsorbent.

1.6 Measurements

1.6.1 Instrument Adjustment, Tuning, and Alignment

Requirements and procedures are instrument and method specific. Analytical instrumentation shall be tuned and aligned in accordance with the specific instrumentation procedures employed.

1.6.2 Calibration

A three (3) point calibration is used. Standards are prepared and analyzed under the same instrument parameters and during the same time period as the unknown samples. The instrument shall be calibrated in accordance with the requirements which are specific to the instrument and procedures employed.

1.6.3 Calculations

Corrections for blank must be made for each sample. The calculations of analytes are discussed in the specific standard operating procedures.

2. METHOD DETECTION LIMIT

The method detection limit is determined for each sample by applying the formula below:

MDL = 2 (signal to noise ratio) (final wt/initial wt) (dilution factor)

3. TEST REPORT

A final report to the client comprised the following information:

1. Name, address, telephone, fax, and e-mail of the laboratory
2. Date report issued
3. Job number
4. Name, address, telephone, fax, and contact person of the client
5. INALAB number and description of samples
6. Identification of the method, with modifications, if any, noted
7. Sample results, date sample received & analyzed
8. Detection Limits
9. Name, title, and signature of staff person accepting responsible for the report data
10. Page number and total page number
11. AIHA laboratory number

APPENDIX I
Glossary of Terms

Accuracy:	The degree to which a given answer agrees with the true value. Percent accuracy is determined as a function of the spike recovery.
Analytical batch:	Samples which are analyzed together with the same method sequence and the lots of reagents and with the manipulations common to each sample within the same time period or in continuous sequential time periods. Samples in each batch should be of similar composition (e.g. ground water, sludge, ash, etc.).
BLANKS:	
Field blank:	A clean sample of matrix carried to the sampling site, exposed to the sampling conditions, submitted to laboratory and treated as a sample. Field blank evaluates possible site contamination sources such as airborne contaminants.
Laboratory blank:	A clean matrix similar to the sample carried through all the steps of the analysis. This evaluates the process for contamination from the laboratory.
Calibrate:	To determine, check, rectify the graduation of any instrument giving quantitative measurements using a standard. The concentrations of the calibration standards should bracket the range of planned measurements.
Calibration curve:	A graphical relationship between the known values for a series of standards and instrument responses.
Calibration standard:	A reference material used to calibrate an instrument.
Chain of custody:	A record trail of accountability of the samples. This ensures the physical security of the sample.
Control chart:	A graph of some measurement plotted over time or sequence of sampling, with control limits, central line, and warning limits. These will indicate any sudden or even gradual trend for the analytical results to deviate.
Control limits:	Established data quality limits for analytical method performance.
Corrective action:	Action taken to correct a deficiency.
Deficiency:	A failure to comply with the requirements.

Duplicate analyses:	The analyses of the variable of interest performed identically on two subsamples of the same sample. The results are used to evaluate analytical precision.
Duplicate sample:	Two samples taken from and representative of the same population and carried through all steps of the sampling and analytical procedures in an identical manner. Duplicate samples are used to assess variance of the total method; sampling, preservation, and analytical precision.
Field sample:	A representative sample of any material (aqueous, nonaqueous, or multimedia) collected from any source for which determination of composition or contamination is requested.
Internal Quality Control:	Routine activities and checks, such as periodic calibrations, duplicate analyses, and spiked samples that are included in normal internal procedures to control the accuracy and precision measurements.
Internal Standard:	A known amount of standard added to a sample and calibration standards carried through the entire procedure as a reference for calibration to control the precision and bias of the applied analytical method.
Matrix spike:	Addition of a predetermined quantity of stock solutions of certain analytes to a sample matrix prior to sample extraction/digestion and analysis. The concentration of the spike should be within the calibration range. This is employed to measures the accuracy of the method used in a given matrix.
Method Detection Limit (MDL):	The minimum concentration of an analyte that, in a given matrix and with a specific method, had a 99% probability of being identified, qualitatively or quantitatively measured, and reported to be greater than zero.
Precision:	Indicates the reproducibility of an analytical procedure. Precision is usually expressed as standard deviation, variance or range, in either absolute or relative terms.
Quality Assurance Coordinator:	The person responsible for implementing the quality control program. The QA coordinator reports directly to management.

Quality Assurance Program:	An integrated system of activities involving planning, quality control, quality assessment, reporting and quality improvement to ensure a product or service meets defined standards of quality within a stated level of confidence.
Quality Control:	The overall system of technical activities whose purpose is to measure and control the quality of a product or service so that it meets the needs of users. The aim is to provide quality that is satisfactory, adequate, dependable, and economical.
Relative percent Difference (RPD):	A term defined as RPD which is equal to the absolute difference in two (2) values divide by the average of the two (2) values multiplied by 100 .
Replicate samples:	Two aliquots taken from the same sample container and analyzed independently.
Reproducibility:	The extent to which a method, test or experiment yields the same similar results when performed on subsamples of the same sample.
Run:	A set of consecutive sample measurements.
Sample log:	A document where sample identification, condition, etc., are noted when samples receive in the laboratory. A unique number is assigned to each sample as part of the tracking system.
Sample spike:	A sample matrix spiked with known amounts of the analytes. This determines the effect of the matrix on the method's recovery efficiency.
Secondary Standard:	A standard whose value is based on comparison with the primary standard.
Standard Operating Procedure (SOP):	A written document that details the method of operation, which are accepted as the method for performing certain routine tasks.
System Audit:	A thorough, systematic, on site, qualitative review of facilities, equipment, personnel, training, procedures, record keeping, data validation, data management, and reporting aspect of a total measurement system.
Technical Expert:	Individuals recognize by the management to possess the education, skill, and training necessary to serve as a technical expert in their respective profession.

WATER QUALITY SAMPLE CHAIN OF CUSTODY RECORD

INTERSTATE ROUTE H-1, SEISMIC RETROFIT
KAPIOLANI INTERCHANGE, OAHU
BR-H1-1 (226)

Page 1 of 1

Facility Point of Contact:

Samples Collected by:

Sample Turnaround Time
☐ Standard ☐ Rush ☐ Other

Number of Samples Shipped

NPDES ☐

NOI ☐

QC LEVEL
☐ A ☐ B

Laboratory I.D. Number

Sample Number	Grab or Composite	Date Collected	Time Collected	Sample Matrix	No. of Containers	Total Nitrogen	Ammonia Nitrogen	Nitrate +Nitrite Nitrogen	Total Phosphorous	Turbidity	Total Suspended	pH	Dissolved Oxygen	Temperature	Conductivity	Oil and Grease	Dissolved Lead	Laboratory Sample Number	Container Type
						✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖		

Relinquished by (Name & Signature)	Company	Date	Time	Received by (Name & Signature)	Company	Date	Time
1.				2.			
3.				4.			

Comments: Provide QA/QC documentation with analytical results.

Dispose Samples ☐

Return Samples ☐

INDEX TO DRAWINGS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LIST OF ABBREVIATIONS & SYMBOLS & ESTIMATED QUANTITIES
3	ENVIRONMENTAL NOTES
4	EXISTING PIERS LAYOUT & KEY PLAN
5-8	SITE PLANS
9-16	TRAFFIC CONTROL PLAN
17	GENERAL BRIDGE RETROFIT NOTES & LIMITS OF PAYMENT FOR STRUCTURAL EXCAVATION AND BACKFILL
18	LONGITUDINAL SECTION - RAMP STRUCTURE PIERS 18, 19 & 21
19	TYPE 1 RESTRAINER DETAILS
20	CABLE YIELD INDICATOR & SEAT EXTENDER DETAILS
21	ACCESS HATCH DETAILS
22	PILED FOOTING RETROFIT PLANS
23	PILED FOOTING RETROFIT DETAILS
24	PILE DETAILS, PILE FOOTING RETROFIT SCHEDULE
25	TOP DECK SPALL REPAIR
26	LANDSCAPE DEMOLITION PLAN, LANDSCAPE PLANTING PLAN
27	LANDSCAPE PLANTING DETAILS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-H1-1 (226)	2002	1	27

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

HONOLULU, HAWAII

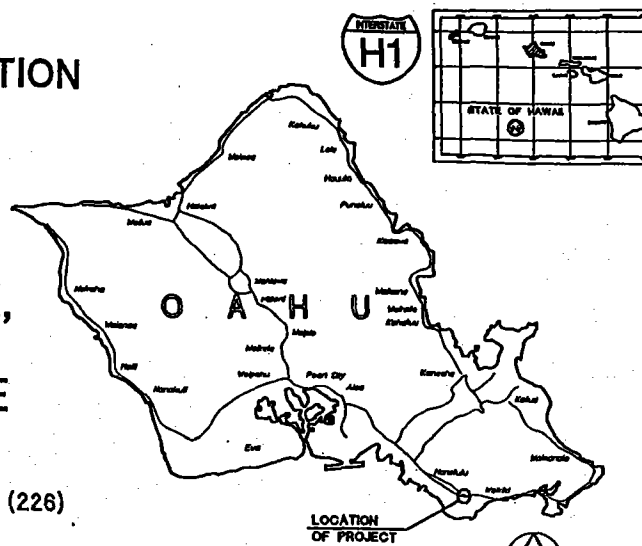
PLANS FOR

INTERSTATE ROUTE H-1, SEISMIC RETROFIT KAPIOLANI INTERCHANGE PHASE 2

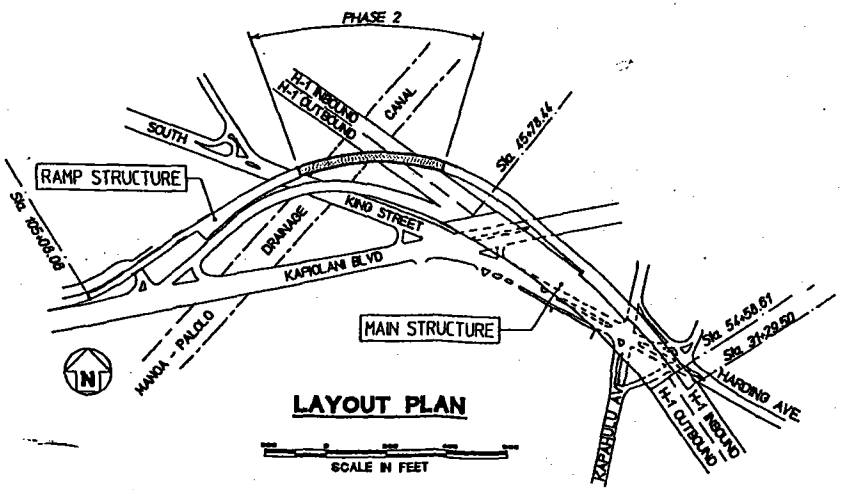
FEDERAL AID INTERSTATE PROJECT NO. BR-H1-1 (226)

DISTRICT OF HONOLULU

ISLAND OF OAHU



MILE POST 25.25 TO MILE POST 25.40

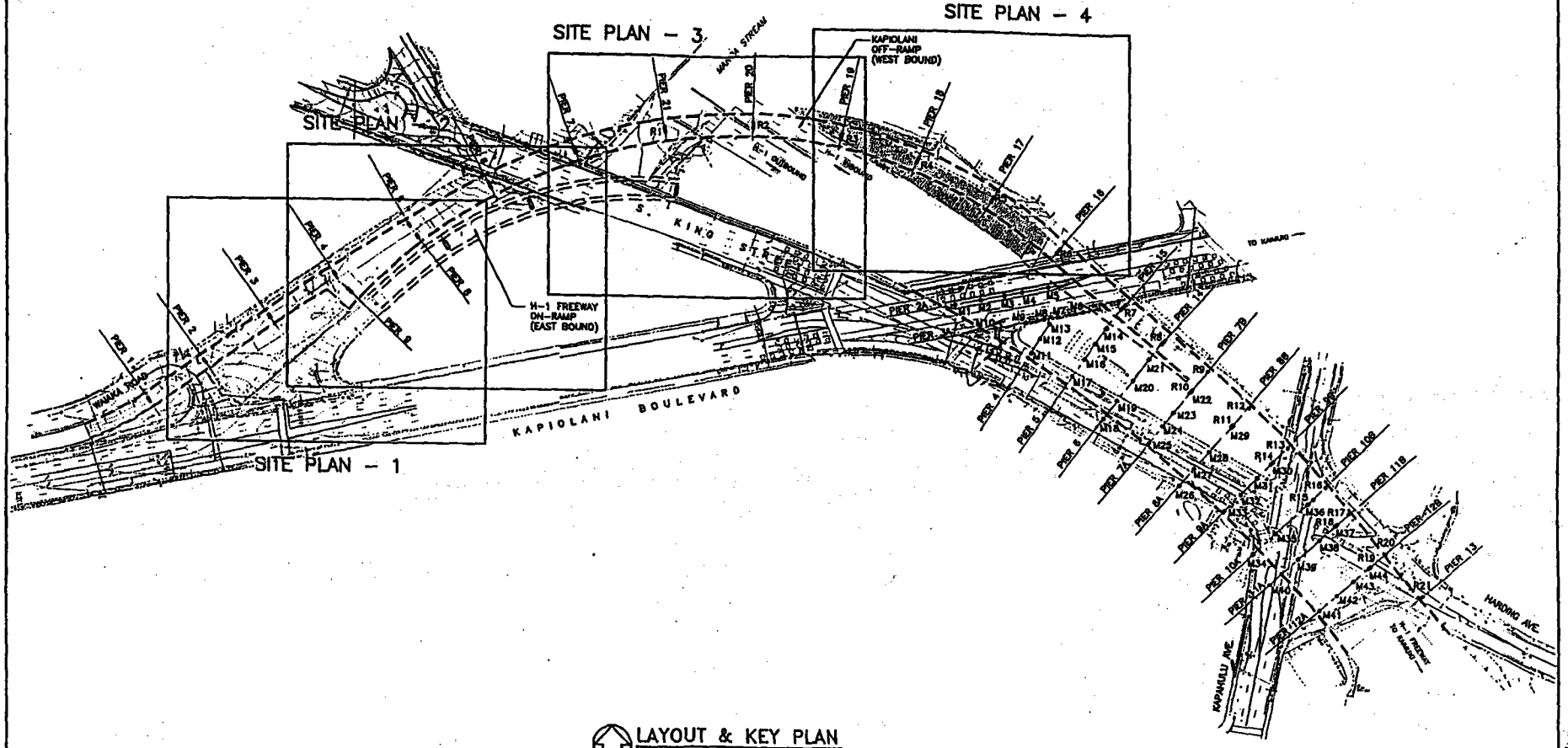


LAYOUT PLAN

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII
APPROVED
DIR OF TRANSPORTATION DATE

Soto & Associates, Inc. DESIGNED BY
Emilio Barroga, Jr. P.S. & E. BY
692-7546 PHONE
Dec 1998 DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-H1-1(226)	—	—	—



LAYOUT & KEY PLAN

SCALE: 1"=80'

NORTH

TMK: 2-7-27, 2-7-28, 2-7-29

80' 40' 0 80' 160' 320'

ORIGINAL PLANS — SURVEY PLOTTED BY ____ DATE ____ DRAWN BY ____ TRACED BY ____ DESIGNED BY ____ QUANTITIES BY ____ CHECKED BY ____ NOTE BOOK ____ No. ____

11/29/01

R:\master\LAYOUT.dwg

DANIEL S. MIYASATO LICENSED PROFESSIONAL ENGINEER No. 3443-S HAWAII U.S.A.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EXISTING PIERS' LAYOUT & KEY PLAN

INTERSTATE ROUTE H-1, SEISMIC RETROFIT

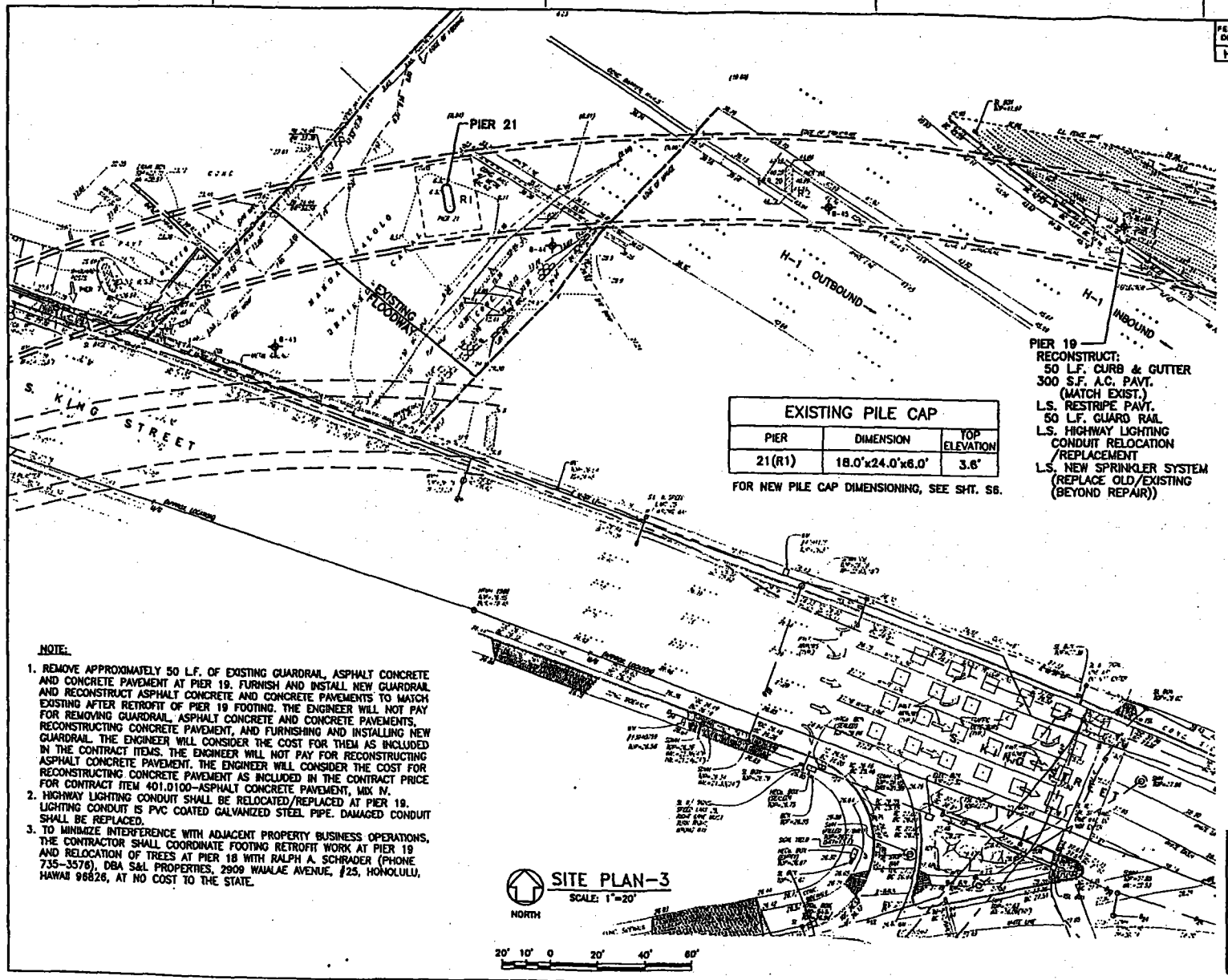
KAPIOLANI INTERCHANGE

FAP NO. BR-H1-1(226)

SCALE: 1"=80' DATE: JULY 2001

SHEET NO. C5 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-HI-1(226)	--	--	--



EXISTING PILE CAP		
PIER	DIMENSION	TOP ELEVATION
21(R1)	18.0'x24.0'x6.0'	3.6'

FOR NEW PILE CAP DIMENSIONING, SEE SHT. S6.

NOTE:

1. REMOVE APPROXIMATELY 50 L.F. OF EXISTING GUARDRAIL, ASPHALT CONCRETE AND CONCRETE PAVEMENT AT PIER 19. FURNISH AND INSTALL NEW GUARDRAIL AND RECONSTRUCT ASPHALT CONCRETE AND CONCRETE PAVEMENTS TO MATCH EXISTING AFTER RETROFIT OF PIER 19 FOOTING. THE ENGINEER WILL NOT PAY FOR REMOVING GUARDRAIL, ASPHALT CONCRETE AND CONCRETE PAVEMENTS, RECONSTRUCTING CONCRETE PAVEMENT, AND FURNISHING AND INSTALLING NEW GUARDRAIL. THE ENGINEER WILL CONSIDER THE COST FOR THEM AS INCLUDED IN THE CONTRACT ITEMS. THE ENGINEER WILL NOT PAY FOR RECONSTRUCTING ASPHALT CONCRETE PAVEMENT. THE ENGINEER WILL CONSIDER THE COST FOR RECONSTRUCTING CONCRETE PAVEMENT AS INCLUDED IN THE CONTRACT PRICE FOR CONTRACT ITEM 401.0100–ASPHALT CONCRETE PAVEMENT, MIX IV.
2. HIGHWAY LIGHTING CONDUIT SHALL BE RELOCATED/REPLACED AT PIER 19. LIGHTING CONDUIT IS PVC COATED GALVANIZED STEEL PIPE. DAMAGED CONDUIT SHALL BE REPLACED.
3. TO MINIMIZE INTERFERENCE WITH ADJACENT PROPERTY BUSINESS OPERATIONS, THE CONTRACTOR SHALL COORDINATE FOOTING RETROFIT WORK AT PIER 19 AND RELOCATION OF TREES AT PIER 18 WITH RALPH A. SCHRADER (PHONE 735-3576), DBA S&L PROPERTIES, 2909 WAIALAE AVENUE, #25, HONOLULU, HAWAII 96826, AT NO COST TO THE STATE.

SITE PLAN–3
SCALE: 1"=20'
NORTH

20' 10' 0 20' 40' 60'

DANIEL S. MIYASATO LICENSED PROFESSIONAL ENGINEER NO. 9443-C HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SITE PLAN 3

INTERSTATE ROUTE H-1, SEISMIC RETROFIT
KAPIOLANI INTERCHANGE
FAP NO. BR-HI-1(226)

SCALE: 1"=20' DATE: JULY 2001
SHEET NO. C8 OF 21 SHEETS

ORIGINAL PLAN
NOTE BOOK
SHEET ADDED BY
DRAWN BY
CHECKED BY
QUANTITIES BY
CHECKED BY
DATE

11/26/01

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-HI-1 (226)	2002	17	27

GENERAL:

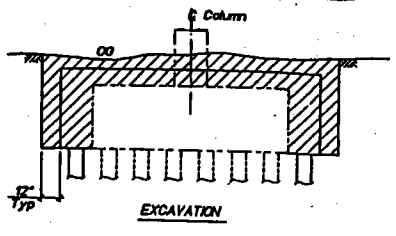
1. The existing bridge information shown in these drawings was obtained from the original bridge drawings and is presented for reference purposes only. No responsibility is assumed for the accuracy of the existing information presented. It is the contractor's responsibility to verify independently all of the as-built information.
2. The Contractor shall visit the construction site and shall verify all dimensions and conditions prior to starting any work and shall be responsible for coordination of all work and materials including those furnished by Sub-Contractors. The Hawaii Department of Transportation (D.O.T.) Representative shall be notified immediately of any discrepancies found.
3. The Contract Structural Drawings and Specifications represent the finished structure. They do not indicate the method of construction. The Contractor shall provide all measures necessary to protect the structure during construction.
4. The Contractor shall provide adequate Bracing for Excavations and Shoring for all existing adjacent structures and roadways. Bracing for Excavations and Shoring for construction loads shall be designed by a Hawaii licensed Civil or Structural Engineer experienced in this kind of work.

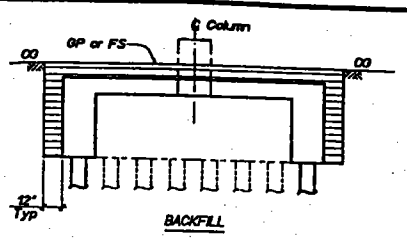
BASIS FOR SEISMIC RETROFIT:

1. The intent of the project is to retrofit the structures to prevent collapse due to a seismic event with a maximum acceleration coefficient of 0.18 g.
2. Abutment concrete blocking are provided to use the soil behind the back wall to resist longitudinal movement of the bridge during a seismic event. A small gap is provided to permit normal minor movements (completed in phase 1).
3. Abutment creep blocks are provided to prevent large transverse movements of the bridge at the abutments (completed in phase 1).
4. Pipe seat extenders are provided at hinges to permit separation of bridge sections (up to the length of extension) without loss of support (completed in phase 1).
5. Cable restrainers are provided at hinges to limit the separation of bridge sections during a seismic event.
6. Outrigger pier cap retrofits are provided to prevent torsional failure that could lead to collapse (completed in phase 1).
7. Footing enlargement and new peripheral piles are provided to increase the footing overturning capacity such that it equals or exceeds the column moment capacity.
8. Footing thickening without lateral enlargement is provided to strengthen footings to prevent footing structural failure due to seismic movements (completed in phase 1).

GENERAL NOTES:

1. General Specifications: Hawaii Department of Transportation, Standard Specification for Road, Bridge and Public Works Construction, 1994 together with Special Provisions prepared for this contract.
2. Design Specifications: AASHTO, Standard Specifications for Highway Bridges, 16th Edition (1996).
3. Caltrans Memo To Designers 20-4.
4. Seismic Loading:
   - A. Seismic Performance Category ..... B
   - B. Acceleration Coefficient ..... 0.18 g
5. Concrete Classes:
   - A. Existing:
     - Columns, Bent Cap Beams (Assumed) ..... f'c = 5,650 PSI
     - Footings (Assumed) ..... f'c = 3,900 PSI
   - B. New:
     - Concrete fill for piles ..... f'c = 4,500 PSI
     - Footings, bolsters ..... f'c = 3,000 PSI
6. Reinforcing Steel:
   - A. Existing:
     - Column Main Reinf. & Dowels (Assumed) ..... fy = 66,000 PSI
     - All others (Assumed) ..... fy = 44,000 PSI
   - B. New:
     - All Bars, Dowels & Stirrups ..... fy = 60,000 PSI
     - Welded Bars (ASTM A706) ..... fy = 60,000 PSI
7. Structural Steel:
   - A. Plates & Shapes - A36 ..... fy = 36,000 PSI
   - B. 6" xx Strong Pipe - ASTM A53, Grade B ..... fy = 35,000 PSI
   - C. Steel Pipe Pile - ASTM A252, Grade 3 ..... fy = 45,000 PSI
8. Cables - See Special Provisions.





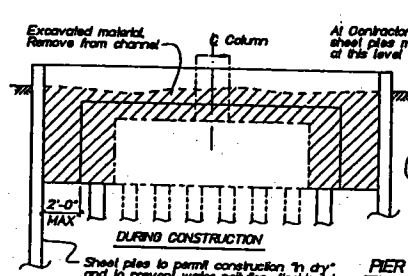
PIER 18 FOOTING RETROFIT
NO SCALE

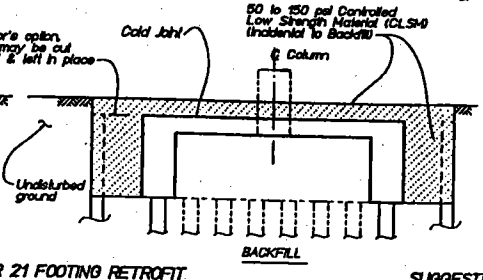
LEGEND:

- Indicates exist structure
- Indicates new construction
- Indicates structure excavation
- Indicates structure backfill

ABBREVIATIONS

OG	Original Ground
FS	Planned Finish Surface
GP	Planned Graded Plane

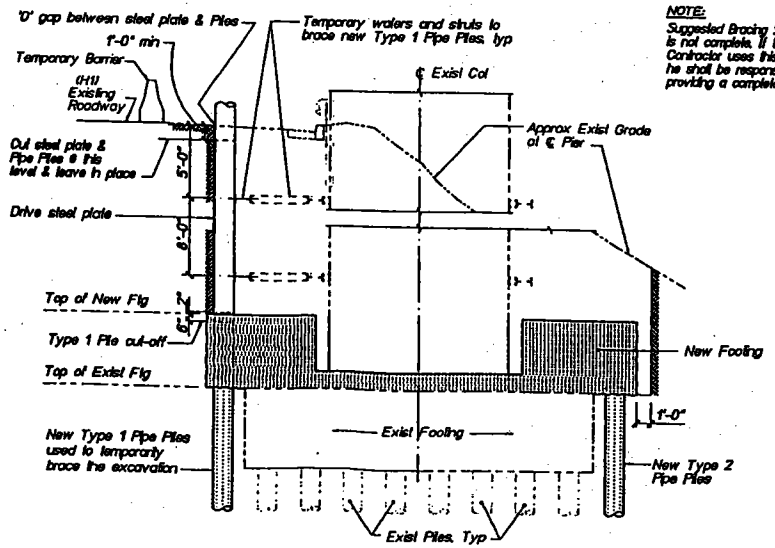




PIER 21 FOOTING RETROFIT
NO SCALE

NOTE: (for Pier 21 Fig Retrofit)

Contractor shall minimize constructing temporary barriers to Stormwater Flows. Contractor shall be responsible for removing these barriers before the occurence of Flow that may damage the Channel and Surrounding Property.



SUGGESTED EXCAVATION BRACING METHOD @ PIER 19 FOOTING RETROFIT
NO SCALE

NOTE:

Suggested Bracing System is not complete. If the Contractor uses this method, he shall be responsible for providing a complete dewsign.

SUGGESTED BRACING/CONSTRUCTION SEQUENCE

1. Install New pipe piles.
2. Perform Dynamic Load Tests.
3. Drive steel plates down to top of new footing.
4. Excavate to 7' below existing grade.
5. Install top of bracing system (waters & struts).
6. Excavate to 15' below existing grade.
7. Install bottom bracing system.
8. Excavate to top of existing footing.
9. Cut & remove pipe piles 2 inches above & 6 inches below top of exist footing.
10. Weld stud shear connectors to pipe piles.
11. Fill piles with concrete.
12. Construct new footing on top of existing footing.
13. Backfill to bottom brace.
14. Remove bottom brace.
15. Backfill top brace.
16. Remove top brace.
17. Backfill to 1' below finish grade.
18. Cut steel plate & pipe piles at least 1' below finish grade.
19. Backfill to finish grade.

DAVID M. YAMAMOTO
LICENSED PROFESSIONAL ENGINEER
No. 6865-E
HAWAII, U.S.A.

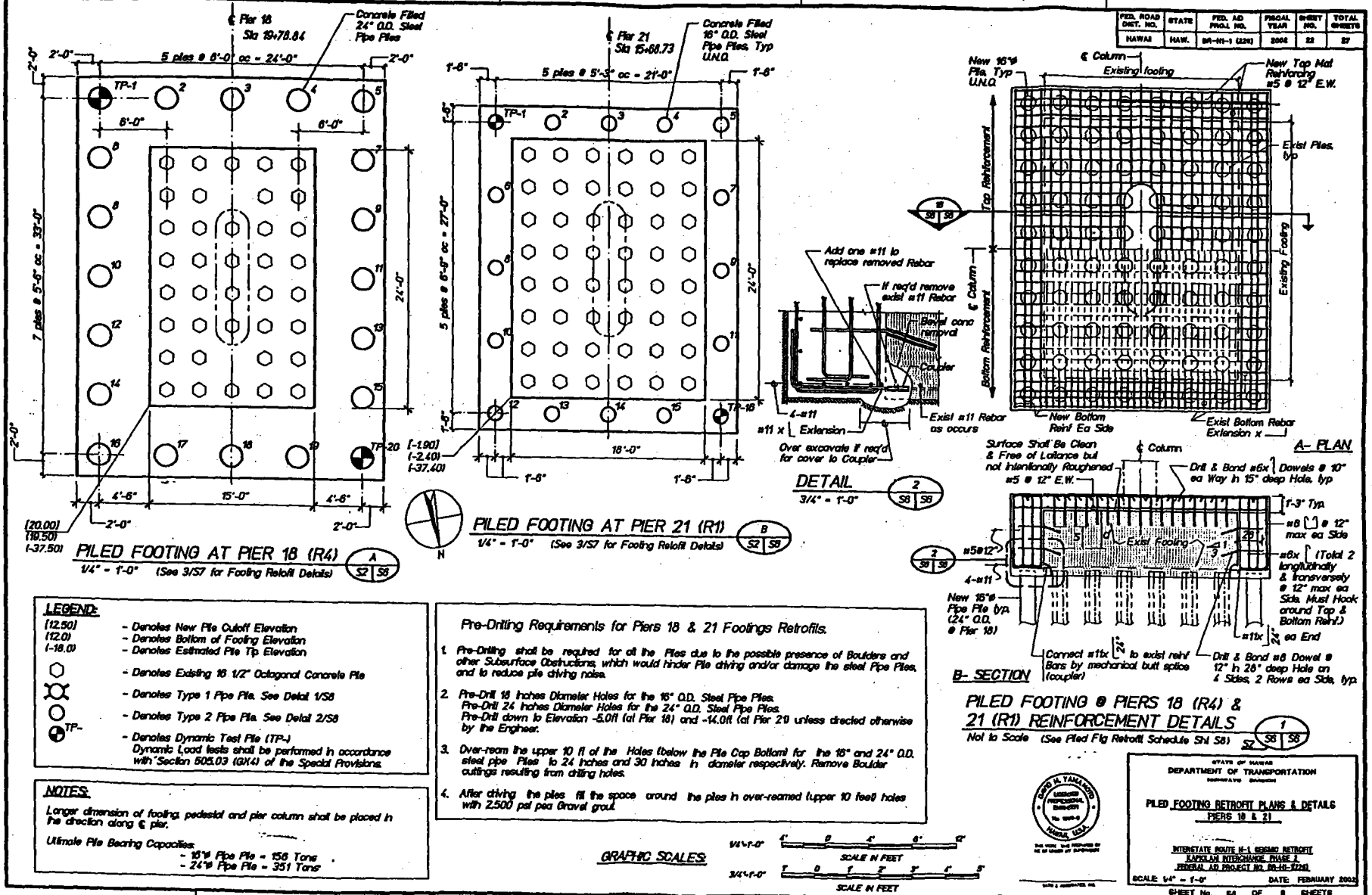
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL BRIDGE RETROFIT NOTES & & LIMITS OF PAYMENT FOR STRUCTURAL EXCAVATION & BACKFILL

INTERSTATE ROUTE H-1 BRIDGE RETROFIT
KAPOLEI INTERCHANGE, PHASE 2
FEDERAL AID PROJECT NO. BR-HI-1(226)

SCALE: AS NOTED DATE: FEBRUARY 2002

SHEET No. 51 OF 8 SHEETS


℄ Pier 18
Sta 19+78.84
Concrete Filled 24" O.D. Steel Pipe Piles
5 piles @ 6'-0" oc = 24'-0"
7 piles @ 5'-6" oc = 33'-0"
TP-1
TP-20
6'-0"
24'-0"
4'-6"
15'-0"
2'-0"
(20.00)
(19.50)
(-37.50)
PILED FOOTING AT PIER 18 (R4)
1/4" = 1'-0" (See 3/S7 for Footing Retrofit Details)
℄ Pier 21
Sta 15+68.73
Concrete Filled 16" O.D. Steel Pipe Piles, Typ U.N.O.
5 piles @ 5'-3" oc = 21'-0"
5 piles @ 5'-6" oc = 27'-0"
1'-6"
18'-0"
TP-16
(-1.90)
(-2.40)
(-37.40)
PILED FOOTING AT PIER 21 (R1)
1/4" = 1'-0" (See 3/S7 for Footing Retrofit Details)
N
New 16"ø Pile, Typ U.N.O.
℄ Column
Existing footing
New Top Mat Reinforcing #5 @ 12" E.W.
Exist Piles, typ
Top Reinforcement
Bottom Reinforcement
Existing Footing
Add one #11 to replace removed Rebar
If req'd remove exist #11 Rebar
Spiral cond removal
Coupler
4-#11
#11 x Extension
Exist #11 Rebar as occurs
Over excavate if req'd for cover to Coupler
New Bottom Reinf Ea Side
Exist Bottom Rebar Extension x
DETAIL
3/4" = 1'-0"
A- PLAN
Surface Shall Be Clean & Free of Laitance but not Intentionally Roughened
#5 @ 12" E.W.
Drill & Bond #6x Dowels @ 10" ea Way in 15" deep Hole, typ
1'-3" Typ.
#6 @ 12" max ea Side
#6x (Total 2 longitudinally & transversely @ 12" max ea Side. Must Hook around Top & Bottom Reinf.)
#11x 24" ea End
Exist Footing
#5@12"
4-#11
New 16"ø Pipe Pile typ. (24" O.D. @ Pier 18)
Connect #11x 24" to exist reinf Bars by mechanical butt splice (coupler)
Drill & Bond #6 Dowel @ 12" in 28" deep Hole on 4 Sides, 2 Rows ea Side, typ
B- SECTION
PILED FOOTING @ PIERS 18 (R4) & 21 (R1) REINFORCEMENT DETAILS
Not to Scale (See Pled Flg Retrofit Schedule Sht S8)
LEGEND:
(12.50) - Denotes New Pile Cutoff Elevation
(12.0) - Denotes Bottom of Footing Elevation
(-18.0) - Denotes Estimated Pile Tip Elevation
- Denotes Existing 16 1/2" Octagonal Concrete Pile
- Denotes Type 1 Pipe Pile. See Detail 1/S8
- Denotes Type 2 Pipe Pile. See Detail 2/S8
TP- - Denotes Dynamic Test Pile (TP-)
Dynamic Load tests shall be performed in accordance with Section 505.03 (G)(4) of the Special Provisions.
NOTES:
Longer dimension of footing, pedestal and pier column shall be placed in the direction along ℄ pier.
Ultimate Pile Bearing Capacities
- 16"ø Pipe Pile = 156 Tons
- 24"ø Pipe Pile = 351 Tons
Pre-Drilling Requirements for Piers 18 & 21 Footings Retrofits.
1. Pre-Drilling shall be required for all the Piles due to the possible presence of Boulders and other Subsurface Obstructions, which would hinder Pile driving and/or damage the steel Pipe Piles, and to reduce pile driving noise.
2. Pre-Drill 18 Inches Diameter Holes for the 16" O.D. Steel Pipe Piles. Pre-Drill 24 Inches Diameter Holes for the 24" O.D. Steel Pipe Piles. Pre-Drill down to Elevation -5.0ft (at Pier 18) and -14.0ft (at Pier 21) unless directed otherwise by the Engineer.
3. Over-ream the upper 10 ft of the Holes (below the Pile Cap Bottom) for the 16" and 24" O.D. steel pipe Piles to 24 Inches and 30 Inches in diameter respectively. Remove Boulder cuttings resulting from drilling holes.
4. After driving the piles fill the space around the piles in over-reamed (upper 10 feet) holes with 2,500 psi pea Gravel grout.
GRAPHIC SCALES:
1/4"=1'-0" 0 4' 8' 12' SCALE IN FEET
3/4"=1'-0" 0 1' 2' 3' 4' 5' SCALE IN FEET
DAVID M. YAMAMOTO LICENSED PROFESSIONAL ENGINEER No. 10816 HAWAII, U.S.A.
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
PILED FOOTING RETROFIT PLANS & DETAILS
PIERS 18 & 21
INTERSTATE ROUTE H-1 SEISMIC RETROFIT
KAPOLEI INTERCHANGE PHASE 2
FEDERAL AID PROJECT NO. BR-HI-1(226)
SCALE: 1/4" = 1'-0" DATE: FEBRUARY 2002
SHEET No. 58 OF 8 SHEETS
FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS
HAWAII | HAW. | BR-HI-1 (226) | 2002 | 22 | 27