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PLANS

TECHNICAL SPECIFICATIONS

Department of Hawaiian Home Lands - Land Development Division

SIGN-IN SHEET

IFB-16-HHL-005	Project Description: This project is for a 2-bedroom house renovation at 82 Andrews Avenue and a 3-bedroom house renovation at 372 Desha Avenue.
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INSTRUCTIONS

Read this packet carefully. If you have any questions, please call Isaac Takahashi, LDD Project Manager, at 808-620-9235 or email to isaac.m.takahashi@hawaii.gov.

Note: Please fax this sheet to 620-9299, mail or email to kehaulani.a.quartero@hawaii.gov after downloading this document from the Department of Hawaiian Home Lands website. **NOTE: This sign-in sheet cannot be used as the Notice of Intent to Bid.**

Pre-Bid Conference/Site Inspection:	Date: November 12, 2015 Time: 9:30 am Location: East Hawaii District Office, 160 Baker Ave., Hilo, Hawaii 96720
Notice of Intention to Bid must be received by:	Date: November 24, 2015 Time: 2:00 pm Location: Hale Kalanianaʻole, 91-5420 Kapolei Parkway, Kapolei, HI Submittal of a Notice of Intention to Bid, via facsimile at (808)620-9299 or email to kehaulani.a.quartero@hawaii.gov , is acceptable.
Bid Offer Form due:	Date: December 4, 2015 Time: 10:00 am Location: DHHL East Hawaii District Office
Bid Opening:	Date: December 4, 2015 Time: 10:00 am Location: East Hawaii District Office 160 Baker Avenue Hilo, Hawaii 96720
Date: _____	
Company:	_____
Address:	_____ _____ _____
Phone No.	_____ Cell No. _____
Fax No.	_____
Email Address:	_____
Contact Person:	_____

Signature of Person Downloading Packet (Print Name & Title after signature)

**NOTICE TO BIDDERS
INVITATION FOR BID
Department of Hawaiian Home Lands
Land Development Division
IFB NO.: IFB-16-HHL-005**

SEALED BIDS for IFB No.: IFB-16-HHL-005, 2-BEDROOM HOUSE RENOVATION (LOT 58-B-1) AND 3-BEDROOM HOUSE RENOVATION (LOT 131-A-3), HILO, County of Hawaii, State of Hawaii, will be received by the Department of Hawaiian Home Lands (DHHL), at East Hawaii District Office, 180 Baker Avenue, Hilo, Hawaii 96720, until **10:00 a.m., Hawaii Standard Time (H.S.T.) December 4, 2015**, at which time all bids will be publicly opened and read aloud. Bids received after the time fixed for opening or delivered anywhere other than as specified above will not be considered.

This project consists of the renovation of a 2-bedroom house located at 82 Andrews Avenue and the renovation of a 3-bedroom house located at 372 Desha Avenue.

To be eligible to submit a bid, the Bidder and/or his subcontractors shall possess all required valid State of Hawaii licenses and specialty licenses needed to perform the work for this project. A surety bid bond will be required for this Invitation for Bids (IFB).

This project is subject to Section 103D, Hawaii Revised Statutes, and to the payment of not less than the prevailing salaries and wages promulgated by the State of Hawaii, Department of Labor and Industrial Relations. Contractor shall also comply with U.S. Department of Housing and Urban Development (HUD) Federal Labor Standards Provisions.

Bid documents may be examined at or obtained from DHHL at the Department of Hawaiian Home Lands website:

<http://www.dhhl.hawaii.gov/procurement/>

There is no fee assessment to download the IFB documents from the DHHL website.

It is the responsibility of Interested Bidders to check the DHHL website for any addenda issued by DHHL.

All prospective bidders/offerors are invited to attend a PRE-BID CONFERENCE to be held **9:30 a.m., H.S.T., on November 12, 2015**, at the East Hawaii District Office located at 180 Baker Avenue, Hilo, Hawaii 96720. Subcontractors and union representatives are also invited to attend. The conference is to provide bidders/offerors with an opportunity to ask questions about the contractual requirements and technical aspects of the project. A site visit of the project site will follow the pre-bid conference. Attendance of the pre-bid conference and/or site visit is not a condition for submitting a bid, but strongly recommended. Persons needing special accommodations due to a disability may submit such requests to Isaac Takahashi, Land Development Division, via facsimile at (808) 620-9299, or e-mail to isaac.m.takahashi@hawaii.gov.

A written NOTICE OF INTENTION TO BID is required and shall be received by the DHHL, Land Development Division, at 91-5420 Kapolei Parkway, Kapolei, Hawaii 96707, no later than November 24, 2015. Submittal of a NOTICE OF INTENTION TO BID via facsimile at (808) 620-9299, or e-mail to kehaulani.a.quartero@hawaii.gov is acceptable.

A properly executed and notarized STANDARD QUALIFICATION QUESTIONNAIRE FOR OFFERORS, SPO Form-21 ("Questionnaire") is required and shall be submitted by mail or hand-delivery to the DHHL Land Development Division, at 91-5420 Kapolei Parkway, Kapolei, Hawaii 96707 for evaluation no later than ten calendar days prior to the day designated for opening bids. The Questionnaire is included with the bid documents, and can be downloaded at the State Forms Central website:

<http://spo.hawaii.gov/all-forms/>

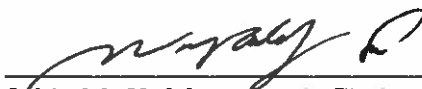
Bids shall comply with the requirements of the IFB. Bids that do not comply with the IFB may be subject to disqualification. DHHL reserves the right to amend the IFB by written addenda, to reject any and all bids, or to waive any defects in said bids where DHHL deems it is in the best interest of the State.

CAMPAIGN CONTRIBUTIONS BY STATE AND COUNTY CONTRACTORS PROHIBITED. If awarded a contract in response to this solicitation, offeror agrees to comply with HRS §11-355, which states that campaign contributions are prohibited from a State and county government contractor during the term of the contract if the contractor is paid with funds appropriated by the legislative body between the execution of the contract through the completion of the contract.

Questions regarding this project may be directed in writing to Isaac Takahashi, Land Development Division, DHHL, 91-5420 Kapolei Parkway, Kapolei, Hawaii 96707, via facsimile at (808) 620-9299, or e-mail to isaac.m.takahashi@hawaii.gov.

Dated at Honolulu, Hawaii, this 5th day of November, 2015.

DEPARTMENT OF HAWAIIAN HOME LANDS



Jobie M. K. Masagatani, Chairman
Hawaiian Homes Commission

Posted on the internet at: <http://spo3.hawaii.gov/notices/notices>

State of Hawai'i
DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS
Princess Ruth Ke'elikolani Building
830 Punchbowl Street
Honolulu, Hawai'i 96813

September 21, 2015
WAGE RATE SCHEDULE BULLETIN NO. 486

This schedule of wage rates contained herein is recognized by the Director of Labor and Industrial Relations to be prevailing on public construction work for the purposes of Chapter 104, Hawai'i Revised Statutes. The schedule of wage rates determines the applicable wage determination for each classification and does not impose any staffing requirements for any classification. The schedule of wage rates is applicable only to those laborers and mechanics employed at the site of work.

As required by law, future wage rates for laborers and mechanics are incorporated into this bulletin based on available information and are subject to change. Whenever the Director determines that the prevailing wage has increased as shown in the wage rate schedule, the contractor must increase the wages accordingly during the performance of the contract. For addenda or additional wage rate schedules, please consult the Internet at <http://labor.hawaii.gov/rs>.

The Apprentice Schedule is available on the Internet or upon request from the Research and Statistics Office. Pursuant to Section 12-22-6 (1), Hawai'i Administrative Rules, the Apprentice Schedule is applicable only to apprentices who are parties to apprenticeship agreements registered with or recognized by the Department of Labor and Industrial Relations.

Questions on the schedule should be referred to the Research and Statistics Office at (808) 586-9019.

The next regular schedule will be issued on or about February 15, 2016.

LINDA CHU TAKAYAMA
Director



STATE OF HAWAII
DAVID Y. IGE, Governor

DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS
LINDA CHU TAKAYAMA, Director

RESEARCH AND STATISTICS OFFICE
PHYLLIS DAYAO, Research & Statistics Officer

OPERATIONS MANAGEMENT INFORMATION STAFF
Janet Kaya, Supervisor

In cooperation with:
WAGE STANDARDS DIVISION
PAMELA MARTIN, Administrator

WAGE RATE SCHEDULE BULLETIN NO. 486

Classification	Current			2016			2017			2018			Remarks See Pg 6-8
	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	
* ASPHALT PAVING GROUP:	9/21/15												
Asphalt Concrete Material Transfer	\$69.34	\$39.42	\$29.92	-	-	-	-	-	-	-	-	-	13
Asphalt Raker	\$68.38	\$38.46	\$29.92	-	-	-	-	-	-	-	-	-	13
Asphalt Spreader Operator	\$69.86	\$39.94	\$29.92	-	-	-	-	-	-	-	-	-	13
Laborer, Hand Roller	\$65.61	\$35.69	\$29.92	-	-	-	-	-	-	-	-	-	13
Roller Operator (5 tons and under)	\$68.11	\$38.19	\$29.92	-	-	-	-	-	-	-	-	-	13
Roller Operator (over 5 tons)	\$69.54	\$39.62	\$29.92	-	-	-	-	-	-	-	-	-	13
Screed Person	\$69.34	\$39.42	\$29.92	-	-	-	-	-	-	-	-	-	13
EQUIPMENT OPERATOR:													
Combination Loader/Backhoe (over 3/4 cu. yd.)	\$68.38	\$38.46	\$29.92	-	-	-	-	-	-	-	-	-	13
Combination Loader/Backhoe (up to 3/4 cu. yd.)	\$67.40	\$37.48	\$29.92	-	-	-	-	-	-	-	-	-	13
Concrete saws and/or Grinder (self-propelled unit on streets, highways, airports and canals)	\$69.34	\$39.42	\$29.92	-	-	-	-	-	-	-	-	-	13
Grader, Soil Stabilizer, Cold Planer	\$70.17	\$40.25	\$29.92	-	-	-	-	-	-	-	-	-	13
Loader (2-1/2 cu. yds. and under)	\$69.34	\$39.42	\$29.92	-	-	-	-	-	-	-	-	-	13
Loader (over 2-1/2 cu. yds. to and including 5 cu. yds.)	\$69.66	\$39.74	\$29.92	-	-	-	-	-	-	-	-	-	13
TRUCK DRIVER:													
Assistant to Engineer	\$68.11	\$38.19	\$29.92	-	-	-	-	-	-	-	-	-	13
Oil Tanker (double), Hot Liquid Asphalt Tanker	\$69.66	\$39.74	\$29.92	-	-	-	-	-	-	-	-	-	13
Semi-Trailer, Semi-Dump, Asphalt Distributor	\$69.34	\$39.42	\$29.92	-	-	-	-	-	-	-	-	-	13
Slip-in or Pup	\$69.66	\$39.74	\$29.92	-	-	-	-	-	-	-	-	-	13
Single or Rock Cans Tandem Dump Truck (8 cu. yds. & under, water level)	\$68.38	\$38.46	\$29.92	-	-	-	-	-	-	-	-	-	13
Single or Rock Cans Tandem Dump Truck (over 8 cu. yds., water level)	\$68.69	\$38.77	\$29.92	-	-	-	-	-	-	-	-	-	13
Tractor Trailer (hauling equipment)	\$69.77	\$39.85	\$29.92	-	-	-	-	-	-	-	-	-	13
Utility, Flatbed	\$68.11	\$38.19	\$29.92	-	-	-	-	-	-	-	-	-	13
* BOILERMAKER	2/16/15												
	\$63.63	\$34.18	\$29.45	-	-	-	-	-	-	-	-	-	13
* CARPENTER:	9/21/15			8/29/16			9/4/17			9/3/18			
Carpenter; Patent Scaffold Erector (Over 14 feet);													
Piledriver; Pneumatic Nailer	\$64.86	\$43.90	\$20.96	\$66.86	\$45.65	\$21.21	\$68.91	\$47.45	\$21.46	\$71.16	\$49.45	\$21.71	1,12,13
Millwright	\$65.11	\$44.15	\$20.96	\$67.11	\$45.90	\$21.21	\$69.16	\$47.70	\$21.46	\$71.41	\$49.70	\$21.71	1,12,13
Power Saw Operator (2 h.p. & above)	\$65.01	\$44.05	\$20.96	\$67.01	\$45.80	\$21.21	\$69.06	\$47.60	\$21.46	\$71.31	\$49.60	\$21.71	1,12,13
* CEMENT FINISHER:	9/21/15			8/29/16			9/4/17			9/3/18			
Cement Finisher; Curb Setter; Precast Panel Setter;													
Manhole Builder	\$63.73	\$37.90	\$25.83	\$65.34	\$38.50	\$26.84	\$66.98	\$39.10	\$27.88	\$68.53	\$39.80	\$28.73	2,12,13
Trowel Machine Operator	\$63.88	\$38.05	\$25.83	\$65.49	\$38.65	\$26.84	\$67.13	\$39.25	\$27.88	\$68.68	\$39.95	\$28.73	2,12,13
* CHAIN-LINK FENCE ERECTOR (Note: increase on 10/5/15)	10/1/14			10/3/16			10/2/17			10/1/18			
	\$30.55	\$19.00	\$11.55	\$34.45	\$21.30	\$13.15	\$36.55	\$22.60	\$13.95	\$38.75	\$24.00	\$14.75	10,13
	10/5/15												
	\$32.40	\$20.10	\$12.30										10,13
* CHLORINATOR	9/21/15												
	\$23.00	\$23.00	\$0.00	-	-	-	-	-	-	-	-	-	

WAGE RATE SCHEDULE BULLETIN NO. 486

Classification	Current			2016			2017			2018			Remarks See Pg 6-8
	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	
* DIVER:	9/21/15												
Diver (Aqua Lung) (Scuba) - Up to a depth of 30 feet	\$82.49	\$53.13	\$29.36	-	-	-	-	-	-	-	-	-	13
Diver (Aqua Lung) (Scuba) - Over a depth of 30 feet	\$91.86	\$62.50	\$29.36	-	-	-	-	-	-	-	-	-	13
Stand-By Diver (Aqua Lung) (Scuba)	\$73.11	\$43.75	\$29.36	-	-	-	-	-	-	-	-	-	13
Diver (Other than Aqua Lung)	\$91.86	\$62.50	\$29.36	-	-	-	-	-	-	-	-	-	3,13
Stand-By Diver (Other than Aqua Lung)	\$73.11	\$43.75	\$29.36	-	-	-	-	-	-	-	-	-	3,13
Tender (Other than Aqua Lung)	\$70.08	\$40.72	\$29.36	-	-	-	-	-	-	-	-	-	13
* DRAPERY INSTALLER	9/21/15												
	\$19.68	\$16.82	\$2.86	-	-	-	-	-	-	-	-	-	
* DRYWALL INSTALLER	9/21/15			8/29/16			9/4/17			9/3/18			
	\$65.11	\$44.15	\$20.96	\$67.11	\$45.90	\$21.21	\$69.16	\$47.70	\$21.46	\$71.41	\$49.70	\$21.71	12,13
* ELECTRICIAN	8/23/15			2/21/16									
Cable Splicer (inside/outside)	\$75.89	\$47.36	\$28.53	\$76.65	\$47.74	\$28.91	-	-	-	-	-	-	4,13
Ground Worker (outside)	\$66.22	\$32.29	\$23.93	\$66.82	\$32.55	\$24.27	-	-	-	-	-	-	4,13
Heavy Equipment Operator (outside)	\$64.66	\$38.75	\$25.91	\$65.31	\$39.06	\$26.25	-	-	-	-	-	-	4,13
Line Installer (outside); Wire Installer (inside)	\$70.27	\$43.05	\$27.22	\$70.98	\$43.40	\$27.58	-	-	-	-	-	-	4,13
Technician (inside/outside)	\$71.95	\$44.34	\$27.61	\$72.68	\$44.70	\$27.98	-	-	-	-	-	-	4,13
Telecommunication Worker	9/21/15			8/28/16			9/3/17						
Licensed Technician	\$39.49	\$27.68	\$11.81	\$40.78	\$28.79	\$11.99	\$42.13	\$29.94	\$12.19	-	-	-	13
Technician I / Splicer	\$37.87	\$26.30	\$11.57	\$39.09	\$27.35	\$11.74	\$40.38	\$28.44	\$11.94	-	-	-	13
* ELEVATOR CONSTRUCTOR MECHANIC	2/16/15												
	\$81.455	\$53.07	\$28.385	-	-	-	-	-	-	-	-	-	13
* EQUIPMENT OPERATOR:	9/21/15												
Group 1	\$67.80	\$38.44	\$29.36	-	-	-	-	-	-	-	-	-	5,13
Group 2	\$67.91	\$38.55	\$29.36	-	-	-	-	-	-	-	-	-	5,13
Group 3	\$68.08	\$38.72	\$29.36	-	-	-	-	-	-	-	-	-	5,13
Group 4	\$68.35	\$38.99	\$29.36	-	-	-	-	-	-	-	-	-	5,13
Group 5	\$68.66	\$39.30	\$29.36	-	-	-	-	-	-	-	-	-	5,13
Group 6	\$69.31	\$39.95	\$29.36	-	-	-	-	-	-	-	-	-	5,13
Group 7	\$69.63	\$40.27	\$29.36	-	-	-	-	-	-	-	-	-	5,13
Group 8	\$69.74	\$40.38	\$29.36	-	-	-	-	-	-	-	-	-	5,13
Group 9	\$69.85	\$40.49	\$29.36	-	-	-	-	-	-	-	-	-	5,13
Group 9A	\$70.08	\$40.72	\$29.36	-	-	-	-	-	-	-	-	-	5,13
Group 10	\$70.14	\$40.78	\$29.36	-	-	-	-	-	-	-	-	-	5,13
Group 10A	\$70.29	\$40.93	\$29.36	-	-	-	-	-	-	-	-	-	5,13
Group 11	\$70.44	\$41.08	\$29.36	-	-	-	-	-	-	-	-	-	5,13
Group 12	\$70.80	\$41.44	\$29.36	-	-	-	-	-	-	-	-	-	5,13
Group 12A	\$71.16	\$41.80	\$29.36	-	-	-	-	-	-	-	-	-	5,13
FENCE ERECTOR (CHAIN-LINK TYPE)													
See Chain-Link Fence Erector	-	-	-	-	-	-	-	-	-	-	-	-	
* FLOOR LAYER (CARPET, LINOLEUM & SOFT TILE)	3/1/15												
	\$56.90	\$31.15	\$25.75	-	-	-	-	-	-	-	-	-	13

WAGE RATE SCHEDULE BULLETIN NO. 486

Classification	Current			2016			2017			2018			Remarks See Pg 6-8
	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	
* GLAZIER	9/21/15												
	\$63.15	\$34.78	\$28.37	-	-	-	-	-	-	-	-	-	6,13
* HELICOPTER WORK:	9/21/15												
Airborne Hoist Operator	\$71.66	\$42.30	\$29.36	-	-	-	-	-	-	-	-	-	13
Co-Pilot	\$71.80	\$42.44	\$29.36	-	-	-	-	-	-	-	-	-	13
Pilot	\$71.97	\$42.61	\$29.36	-	-	-	-	-	-	-	-	-	13
* INSULATOR	9/21/15						9/3/17			9/2/18			
	\$63.15	\$39.65	\$23.50	-	-	-	\$64.40	\$40.50	\$23.90	\$65.10	\$41.00	\$24.10	7,13
* IRONWORKER:	9/21/15			9/1/16									
Reinforcing, Structural	\$66.66	\$36.75	\$29.91	\$67.66	\$37.75	\$29.91	-	-	-	-	-	-	8,12,13
* LABORER:	8/31/15			8/29/16			9/4/17			9/3/18			
Driller	\$52.86	\$35.35	\$17.51	\$54.76	\$36.35	\$18.41	\$56.66	\$37.40	\$19.26	\$58.66	\$38.40	\$20.26	1,13
Guniting Operator or Shotcrete Operator	\$52.36	\$34.85	\$17.51	\$54.26	\$35.85	\$18.41	\$56.16	\$36.90	\$19.26	\$58.16	\$37.90	\$20.26	1,13
High Scaler (Working Suspended)	\$52.36	\$34.85	\$17.51	\$54.26	\$35.85	\$18.41	\$56.16	\$36.90	\$19.26	\$58.16	\$37.90	\$20.26	13
Laborer I	\$51.86	\$34.35	\$17.51	\$53.76	\$35.35	\$18.41	\$55.66	\$36.40	\$19.26	\$57.66	\$37.40	\$20.26	1,13
Laborer II	\$49.26	\$31.75	\$17.51	\$51.16	\$32.75	\$18.41	\$53.06	\$33.80	\$19.26	\$55.06	\$34.80	\$20.26	1,13
Light/Final Clean-up (Janitorial) Laborer	\$39.09	\$25.75	\$13.34	\$41.04	\$26.75	\$14.29	\$42.94	\$27.80	\$15.14	\$44.92	\$28.80	\$16.12	1,13
Mason Tender/Hod Carrier	\$52.36	\$34.85	\$17.51	\$54.26	\$35.85	\$18.41	\$56.16	\$36.90	\$19.26	\$58.16	\$37.90	\$20.26	1,13
Powder Blaster	\$52.86	\$35.35	\$17.51	\$54.76	\$36.35	\$18.41	\$56.66	\$37.40	\$19.26	\$58.66	\$38.40	\$20.26	1,13
Window Washer (Outside) (On bosun's chair, cable-suspended scaffold or work platform)	\$51.36	\$33.85	\$17.51	\$53.26	\$34.85	\$18.41	\$55.16	\$35.90	\$19.26	\$57.16	\$36.90	\$20.26	13
* LANDSCAPER:	9/1/14												
Landscape & Irrigation Laborer A	\$33.31	\$23.20	\$10.11	-	-	-	-	-	-	-	-	-	
Landscape & Irrigation Laborer B	\$33.81	\$23.70	\$10.11	-	-	-	-	-	-	-	-	-	
Landscape & Irrigation Maintenance Laborer	\$29.81	\$19.70	\$10.11	-	-	-	-	-	-	-	-	-	
* LATHER	9/21/15			8/29/16			9/4/17			9/3/18			
	\$65.11	\$44.15	\$20.96	\$67.11	\$45.90	\$21.21	\$69.16	\$47.70	\$21.46	\$71.41	\$49.70	\$21.71	12,13
* MASON; Bricklayer;	9/16/13												
Cement Blocklayer; Stone Mason; Precast Sill Setter	\$60.32	\$36.85	\$23.47	-	-	-	-	-	-	-	-	-	2,13
Pointer-Caulker-Weatherproofer	\$60.57	\$37.10	\$23.47	-	-	-	-	-	-	-	-	-	2,13
* PAINTER:	9/21/15			1/1/16									
Painter; Spray Painter; Sandblaster or Waterblaster	\$62.02	\$34.85	\$27.17	\$62.42	\$34.85	\$27.57	-	-	-	-	-	-	12
* PLASTERER:	9/21/15			8/29/16			9/4/17			9/3/18			
	\$64.87	\$39.04	\$25.83	\$66.63	\$39.79	\$26.84	\$68.42	\$40.54	\$27.88	\$70.07	\$41.34	\$28.73	2,12,13
* PLUMBER: (Note: 2 increases per year starting in 2016)	7/5/15			1/3/16			1/1/17			1/7/18			
Plumber; Pipefitter; Refrigeration Fitter; Heating & Air Conditioning Fitter; Sprinkler Fitter; Steamfitter	\$64.31	\$39.85	\$24.46	\$65.08	\$40.35	\$24.73	\$66.60	\$41.35	\$25.25	\$68.12	\$42.35	\$25.77	9,13
				7/3/16			7/2/17			7/1/18			
Plumber; Pipefitter; Refrigeration Fitter; Heating & Air Conditioning Fitter; Sprinkler Fitter; Steamfitter	-	-	-	\$65.83	\$40.85	\$24.98	\$67.35	\$41.85	\$25.50	\$68.87	\$42.85	\$26.02	9,13

WAGE RATE SCHEDULE BULLETIN NO. 486

Classification	Current			2016			2017			2018			Remarks See Pg 6-8
	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	
* ROOFER:	9/21/15			9/4/16									
Shingle, Tile, Built-up Roofing	\$56.38	\$38.85	\$17.53	\$57.38	\$39.85	\$17.53	-	-	-	-	-	-	12
Coal Tar Pitch	\$95.23	\$77.70	\$17.53	\$97.23	\$79.70	\$17.53	-	-	-	-	-	-	12
SANDBLASTER OR WATERBLASTER:													
Use wages of craft to which sand or water blasting is incidental.													
* SHEETMETAL WORKER (Note: 2 increases per year)	9/21/15			2/28/16			2/26/17			3/4/18			
	\$63.54	\$39.40	\$24.14	\$64.68	\$39.99	\$24.69	\$67.20	\$41.29	\$25.91	\$69.23	\$42.20	\$27.03	13
				8/28/16			9/3/17			9/2/18			
				\$65.91	\$40.59	\$25.32	\$68.33	\$41.80	\$26.53	\$69.99	\$42.55	\$27.44	13
* TAPER	9/21/15			1/1/16			1/1/17						
	\$62.00	\$41.00	\$21.00	\$63.80	\$41.50	\$22.30	\$65.90	\$42.00	\$23.90	-	-	-	
* TERMITE TREATER	9/21/15												
	\$18.99	\$14.74	\$4.25	-	-	-	-	-	-	-	-	-	
* TERRAZZO:	9/16/13												
Terrazzo Setter	\$60.57	\$37.10	\$23.47	-	-	-	-	-	-	-	-	-	2,13
Terrazzo Base Grinder	\$58.76	\$35.29	\$23.47	-	-	-	-	-	-	-	-	-	2,13
Certified Terrazzo Floor Grinder and Tender	\$57.21	\$33.74	\$23.47	-	-	-	-	-	-	-	-	-	2,13
Terrazzo Floor Grinder	\$55.71	\$32.24	\$23.47	-	-	-	-	-	-	-	-	-	2,13
* TILE SETTER:	9/16/13												
Ceramic Hard Tile; Marble Setter	\$60.57	\$37.10	\$23.47	-	-	-	-	-	-	-	-	-	2,13
Certified Ceramic Tile & Marble Helper	\$57.21	\$33.74	\$23.47	-	-	-	-	-	-	-	-	-	2,13
* TRUCK DRIVER:	9/21/15												
Concrete Mixer	\$36.12	\$32.50	\$3.62	-	-	-	-	-	-	-	-	-	
Concrete Mixer/Booster	\$45.76	\$31.93	\$13.83	-	-	-	-	-	-	-	-	-	
Dump Truck, 8 cu. yds. & under (water level); Water Truck (up to & including 2,000 gallons)	\$68.35	\$38.99	\$29.36	-	-	-	-	-	-	-	-	-	13
Flatbed, Utility, etc.	\$68.08	\$38.72	\$29.36	-	-	-	-	-	-	-	-	-	13
End Dump, Unlicensed (Euclid, Mack, Caterpillar, or similar); Tractor Trailer (hauling equipment)	\$69.74	\$40.38	\$29.36	-	-	-	-	-	-	-	-	-	13
Semi-Trailer, Rock Cans, or Semi-Dump	\$69.31	\$39.95	\$29.36	-	-	-	-	-	-	-	-	-	13
Slip-in or Pup	\$69.63	\$40.27	\$29.36	-	-	-	-	-	-	-	-	-	13
Tandem Dump Truck, over 8 cu. yds. (water level); Water Truck (over 2,000 gallons)	\$68.66	\$39.30	\$29.36	-	-	-	-	-	-	-	-	-	13

WAGE RATE SCHEDULE BULLETIN NO. 486

Classification	Current			2016			2017			2018			Remarks See Pg 6-8
	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	Prevailing Wage Total	Basic Hourly Rate	Fringe Hourly Rate	
* UNDERGROUND LABORER:	8/31/15			8/29/16			9/4/17			9/3/18			
Worker in a raise, shaft, or tunnel.													
Group 1	\$52.46	\$34.95	\$17.51	\$54.36	\$35.95	\$18.41	\$56.26	\$37.00	\$19.26	\$58.26	\$38.00	\$20.26	13
Group 2	\$53.96	\$36.45	\$17.51	\$55.86	\$37.45	\$18.41	\$57.76	\$38.50	\$19.26	\$59.76	\$39.50	\$20.26	13
Group 3	\$54.46	\$36.95	\$17.51	\$56.36	\$37.95	\$18.41	\$58.26	\$39.00	\$19.26	\$60.26	\$40.00	\$20.26	13
Group 4	\$55.46	\$37.95	\$17.51	\$57.36	\$38.95	\$18.41	\$59.26	\$40.00	\$19.26	\$61.26	\$41.00	\$20.26	13
Group 5	\$55.71	\$38.20	\$17.51	\$57.61	\$39.20	\$18.41	\$59.51	\$40.25	\$19.26	\$61.51	\$41.25	\$20.26	13
Group 6	\$55.81	\$38.30	\$17.51	\$57.71	\$39.30	\$18.41	\$59.61	\$40.35	\$19.26	\$61.61	\$41.35	\$20.26	13
Group 7	\$56.06	\$38.55	\$17.51	\$57.96	\$39.55	\$18.41	\$59.86	\$40.60	\$19.26	\$61.86	\$41.60	\$20.26	13
Group 8	\$56.51	\$39.00	\$17.51	\$58.41	\$40.00	\$18.41	\$60.31	\$41.05	\$19.26	\$62.31	\$42.05	\$20.26	13
* WATER FRONT CONSTRUCTION (DREDGING):	9/21/15												
CLAMSHELL OR DIPPER DREDGES:													
Clamshell or Dipper Operator	\$70.80	\$41.44	\$29.36	-	-	-	-	-	-	-	-	-	11,13
Mechanic; Welder; Watch Engineer	\$70.14	\$40.78	\$29.36	-	-	-	-	-	-	-	-	-	13
Deckmate; Bargemate	\$69.74	\$40.38	\$29.36	-	-	-	-	-	-	-	-	-	13
Fire Person; Oiler; Deckhand; Barge Worker	\$68.08	\$38.72	\$29.36	-	-	-	-	-	-	-	-	-	13
HYDRAULIC SUCTION DREDGES:													
Lever Operator	\$70.44	\$41.08	\$29.36	-	-	-	-	-	-	-	-	-	13
Mechanic; Welder	\$70.14	\$40.78	\$29.36	-	-	-	-	-	-	-	-	-	13
Watch Engineer (steam or electric)	\$70.29	\$40.93	\$29.36	-	-	-	-	-	-	-	-	-	13
Dozer Operator	\$70.08	\$40.72	\$29.36	-	-	-	-	-	-	-	-	-	13
Deckmate	\$69.74	\$40.38	\$29.36	-	-	-	-	-	-	-	-	-	13
Winch Operator (stern winch on dredge)	\$69.63	\$40.27	\$29.36	-	-	-	-	-	-	-	-	-	13
Fire Person; Oiler; Deckhand (can operate anchor scow under direction of deckmate); Levee Operator	\$68.08	\$38.72	\$29.36	-	-	-	-	-	-	-	-	-	13
DERRICKS:													
Operator: Derrick, Piledriver, Crane	\$70.80	\$41.44	\$29.36	-	-	-	-	-	-	-	-	-	13
Deckmate; Saurman Type Dragline (up to & including 5 yds.)	\$69.74	\$40.38	\$29.36	-	-	-	-	-	-	-	-	-	13
Saurman Type Dragline (over 5 cu. yds.)	\$70.14	\$40.78	\$29.36	-	-	-	-	-	-	-	-	-	13
Fire Person; Oiler; Deckhand	\$68.08	\$38.72	\$29.36	-	-	-	-	-	-	-	-	-	13
BOAT OPERATORS:													
Master Boat Operator	\$70.44	\$41.08	\$29.36	-	-	-	-	-	-	-	-	-	13
Boat Operator	\$70.29	\$40.93	\$29.36	-	-	-	-	-	-	-	-	-	13
Boat Deckhand	\$68.08	\$38.72	\$29.36	-	-	-	-	-	-	-	-	-	13
* WATER WELL DRILLER:	9/21/15												
Water Well Driller	\$38.47	\$31.00	\$7.47	-	-	-	-	-	-	-	-	-	
Water Well Driller Helper	\$24.37	\$18.00	\$6.37	-	-	-	-	-	-	-	-	-	
WELDER:													
Use wages of craft to which welding is incidental, except for Chain-Link Fence Erector. See remark.													10

Comments: Overtime must be paid at one and one-half times the basic hourly rate plus the hourly cost of required fringe benefits.

*** Indicates a wage, fringe benefit, remark, or title change from the previous bulletin.**

REMARKS

1. Carpenter, Laborer (excluding High Scaler, Window Washer): \$.50 per hour shall be added to the regular straight-time rate for height pay for each hour while working from a bosun's chair and/or from a cable-suspended scaffold or work platform which is free swinging (not attached to building) for each hour worked on said rig.
2. Cement Finisher, Mason, Plasterer, Terrazzo, Tile Setter: \$1.00 per hour shall be added to the regular straight-time rate for height pay for each hour while working from a bosun's chair and/or from a cable-suspended scaffold or work platform which is free swinging (not attached to building) for each hour worked on said rig.
3. Diver (Other than Aqua Lung), Stand-By Diver (Other than Aqua Lung):
 - A. On any dive exceeding 50 feet, the diver shall, in addition, be paid the following amount of "depth money":

50 feet to 100 feet	\$1.50 per foot in excess of 50 feet
100 feet to 150 feet	\$100.00 plus \$2.00 per foot in excess of 100 feet
150 feet to 200 feet	\$200.00 plus \$3.00 per foot in excess of 150 feet
 - B. When it is necessary for a Diver to enter any pipe, tunnel or other enclosure, the said Diver shall, in addition to the hourly rate, receive a premium in accordance with the following schedule for distance traveled from the entrance of the pipe, tunnel or other enclosure:
 - 1) When able to stand erect, but in which there is no vertical ascent:

5 feet to 50 feet	\$5.00 per day
50 feet to 100 feet	\$7.50 per day
100 feet to 150 feet	\$12.50 per day
Greater than 150 feet	The premium shall be increased an additional \$7.50 for each succeeding 50 feet.
 - 2) When unable to stand erect and in which there is no vertical ascent:

5 feet to 50 feet	\$5.00 per day
50 feet to 100 feet	\$7.50 per day
100 feet to 150 feet	\$12.50 per day
150 feet to 200 feet	\$36.75 per day
200 feet to 300 feet	\$1.00 per foot
300 feet to 450 feet	\$1.50 per foot
450 feet to 600 feet	\$2.50 per foot
4. Electrician:
 - A. One and one-half times the straight-time rate while working in a tunnel under construction; under water with aqualung equipment; in a completed tunnel which has only one entrance or exit providing access to safety and where no other personnel are working; or in an underground structure having no access to safety or where no other personnel are working.
 - B. Double the straight-time rate shall be paid for the following types of hazardous work regardless if fall prevention devices are used:
 - 1) While working from poles, trusses, stacks, towers, tanks, bosun's chairs, swinging or rolling scaffolds, supporting structures, and open platforms, over 70 feet from the ground where the employee is subject to a free fall; provided, however, that when work is performed on stacks, towers or permanent platforms where the employees are on a firm footing within an enclosure, a hazardous condition does not exist regardless of height;
 - 2) While working outside of a railing or enclosure, or temporary platforms extending outside of a building, or from scaffolding or ladder within an enclosure where an employee's footing is within one foot of the top of such railing, and the employee is subject to a free fall of over 70 feet;
 - 3) Working on buildings while leaning over the railing or edge of the building, and is subject to a free fall of 70 feet; or
 - 4) Two hours minimum hazardous pay per day shall be paid while climbing to a stack, tower or permanent platform which exceeds 70 feet from the ground but where the employee is on a firm footing within an enclosure.
 - C. Five percent per hour shall be added to the hourly wage for height pay while working above 9,000 feet elevation.

REMARKS

5. Equipment Operator:

- A. Operators and Assistants to Engineer (climbing a boom) of cranes (under 50 tons) with booms of eighty feet or more (including jib) or of cranes (under 50 tons) with leads of one hundred feet or more, shall receive additional premium according to the following schedule:

	Per Hour
Booms of 80 feet up to, 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

Operators and Assistants to Engineer (climbing a boom) of cranes (50 tons and over) with booms of 180 feet or more (including jib) shall receive additional premium according to the following schedule:

	Per Hour
Booms of 180 feet up to and including 250 feet	\$1.25
Booms over 250 feet	\$1.75

Note: The boom shall be measured from the center of the heel pin to the center of the boom or jib point sheave.

- B. \$1.25 per hour shall be added to the hourly wage while operating a rig suspended by ropes or cables or to perform work on a Yo-Yo Cat.
- C. In a raise or shaft, a premium of \$.40 per hour will be paid in addition to the regular straight time wage.
A raise is defined to be an underground excavation (lined or unlined) whose length exceeds its width and the inclination of the grade from the excavation is greater than 20 degrees from the horizontal.
A shaft is defined to be an excavation (lined or unlined) made from the surface of the earth, generally vertical in nature, but may decline up to 75 degrees from the vertical, and whose depth is greater than 15 feet and its largest horizontal dimension. Includes an underground silo.
- D. In a tunnel, a premium of \$.30 per hour will be paid in addition to the regular straight time wages.
A tunnel is defined to be an underground excavation (lined or unlined) whose length exceeds its width and the inclination of the grade from the excavation is no greater than 20 degrees from the horizontal.
6. Glazier: Effective 9/16/13 - \$1.00 per hour shall be added to the hourly wage for height pay for exterior glazing work performed in a walking/working surface with an unprotected side or edge 10 feet or more above a lower level which requires protection from fall hazards by guardrail systems, safety net systems, personal fall arrest systems, position devise systems, fall restraint systems, perimeter safety cables or controlled decking zones.
7. Insulator: Six percent per hour shall be added to the hourly wage for hazardous pay while working from a boatswain chair, staging or free standing scaffolding erected from the ground up or mezzanine floor subject to a free fall and skyclimber suspended from a permanent structure and when working above 40 feet.
8. Ironworker: \$.50 per hour shall be added to the hourly wage while working in tunnels or coffer dams. \$1.00 per hour shall be added to the hourly wage while working under or covered with water (submerged), or on the summits of Mauna Kea, Mauna Loa or Haleakala.
9. Plumber: One and one-half times the straight-time rate for height pay while working from OSHA approved trusses, stacks, towers, tanks, bosun's chair, swinging or rolling scaffolding, supporting structures or on open platforms where the employee is subject to a direct fall of 40 feet or more. Provided, however, that when said work is performed where the employee is on a firm footing within an enclosure, a hazardous condition does not exist regardless of height. \$1.00 per hour shall be added to the straight-time rate while working with flame cutting or any type of welding equipment on any galvanized material or product for at least an hour.
10. Chain-Link Fence Erector: \$1.00 per hour shall be added to the hourly wage while performing welding services.
11. Water Front Construction: Clamshell or Dipper Operator: \$.50 per hour shall be added to the straight-time rate while working with boom (including jib) over 130 feet.
12. Possible wage/fringe option increases:
Carpenter, Drywall and Lather: Effective 9/4/17 - \$.20; 9/3/18 - \$.25
Cement Finisher, Plasterer: 8/29/16 - \$.30; 9/4/17 - \$.30; 9/3/18 - \$.30
Ironworker: Effective 9/1/16 - \$1.00
Painter: Effective WRS 487 - \$.25
Roofer: Effective 9/4/16 - \$.40

REMARKS

13. Overtime/Holiday must be paid at one and one-half times the basic hourly rate plus the hourly cost of required fringe, with the following exceptions:

A. **Two times the basic hourly rate plus the hourly cost of required fringe.**

Asphalt Paving: Sunday, New Year's Day, Martin Luther King Day, President's Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Boilermaker: Sunday, New Year's Day, President's Day, Memorial Day, Kamehameha Day, July 4th, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

Diver: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Electrician: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

Elevator Constructor: Saturday, Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Equipment Operator: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Floor Layer: Labor Day.

Glaziers: Sunday.

Helicopter Work: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Ironworker: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veteran's Day, Thanksgiving Day, Christmas Day.

Plumber: Sunday, New Year's Day, President's Day, Memorial Day, Kamehameha Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

Sheetmetal Worker: Sunday, New Year's Day, Martin Luther King Day, President's Day, Memorial Day, Kamehameha Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

Telecommunication: Sunday, New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

Truck Driver, except Concrete Mixer & Concrete Mixer/Booster: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Water Front Construction (Dredging): Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

B. **Three times the basic hourly wage plus the hourly cost of required fringe on Labor Day.**

Carpenter

Cement Finisher

Chain Link Fence Erector

Drywall

Insulator

Laborer

Lather

Mason

Plasterer

Terrazzo

Tile Setter

Underground Laborer

APPRENTICE SCHEDULE BULLETIN NO. 486 September 21, 2015

Rates are applicable only to apprentices who are parties to agreements registered with the Department of Labor
and where the journeyworker to apprentice ratio is met.

Apprentice Classifications	Interval Hrs	BASIC HOURLY RATE										FRINGE BENEFIT HOURLY RATE	Remarks See Pg 8-9
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	Total	
* BOILERMAKER	1000	\$23.93	\$25.64	\$27.34	\$29.05	\$30.76	\$32.47					\$29.45	10
* CARPENTER													
Indentured Prior to 9/1/02	1000	\$17.56										\$12.27	1,10
"	1000		\$19.76	\$21.95	\$26.34	\$30.73	\$35.12	\$39.51	\$41.71			\$20.96	1,10
Indentured After 9/1/02	1000	\$17.56										\$8.27	1,10
"	1000		\$19.76									\$12.26	1,10
"	1000			\$21.95	\$26.34							\$14.76	1,10
"	1000					\$30.73	\$35.12					\$16.76	1,10
"	1000							\$39.51	\$41.71			\$18.76	1,10
* CEMENT FINISHER													
Indentured Prior to 9/1/03	1000	\$18.95										\$8.37	2,10
"	1000		\$20.85	\$22.74	\$26.53	\$28.43	\$30.32	\$32.22	\$34.11			\$25.83	2,10
Indentured On or After 9/1/03	1000	\$18.95	\$20.85	\$22.74	\$26.53	\$28.43	\$30.32	\$32.22	\$34.11			\$13.02	2,10
* CONSTRUCTION CRAFT LABORER (LABORER I)													
Indentured On or After 9/3/02	1000	\$17.18										\$6.55	1,10
"	1000		\$20.61	\$24.05	\$27.48							\$12.95	1,10
* CONSTRUCTION EQUIPMENT OPERATOR													
Indentured On or After 9/1/02	1000	\$20.36										\$7.05	3,10
"	1000		\$22.40									\$17.37	3,10
"	1000			\$24.43								\$18.31	3,10
"	1000				\$28.50							\$20.19	3,10
"	1000					\$32.58						\$22.06	3,10
"	1000						\$36.65					\$23.94	3,10
* DRYWALL INSTALLER													
Indentured Prior to 9/1/02	1000	\$17.66										\$12.27	10
"	1000		\$19.87	\$22.08	\$26.49	\$30.91	\$35.32	\$39.74	\$41.94			\$20.96	10
Indentured After 9/1/02	1000	\$17.66										\$8.27	10
"	1000		\$19.87									\$12.26	10
"	1000			\$22.08	\$26.49							\$14.76	10
"	1000					\$30.91	\$35.32					\$16.76	10
"	1000							\$39.74	\$41.94			\$18.76	10

APPRENTICE SCHEDULE BULLETIN NO. 486 September 21, 2015

Rates are applicable only to apprentices who are parties to agreements registered with the Department of Labor
and where the journeyworker to apprentice ratio is met.

Apprentice Classifications	Interval Hrs	BASIC HOURLY RATE										FRINGE BENEFIT HOURLY RATE	Remarks See Pg 8-9
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	Total	
* ELECTRICIAN (WIRE & LINE INSTALLER)	1000	\$15.07										\$10.10	10
" "	1000		\$17.22									\$10.42	10
" "	1000			\$19.37								\$16.59	4,10
" "	1000				\$21.53							\$17.57	4,10
" "	1000					\$23.68						\$18.53	4,10
" "	1000						\$25.83					\$19.49	4,10
" "	1000							\$27.98				\$20.47	4,10
" "	1000								\$30.14			\$21.46	4,10
" "	1000									\$34.44		\$23.36	4,10
" "	1000										\$38.75	\$25.30	4,10
(Effective 2/21/16)													
* ELECTRICIAN (WIRE & LINE INSTALLER)	1000	\$15.19										\$10.37	10
" "	1000		\$17.36									\$10.68	10
" "	1000			\$19.53								\$16.90	4,10
" "	1000				\$21.70							\$17.87	4,10
" "	1000					\$23.87						\$18.83	4,10
" "	1000						\$26.04					\$19.80	4,10
" "	1000							\$28.21				\$20.79	4,10
" "	1000								\$30.38			\$21.76	4,10
" "	1000									\$34.72		\$23.70	4,10
" "	1000										\$39.06	\$25.64	4,10
* ELEVATOR CONSTRUCTOR	850	\$26.54										-	10
" "	850		\$29.19									\$28.385	10
" "	1700			\$34.50	\$37.15	\$42.46						\$28.385	10
* FLOOR LAYER													
Indentured After 2/27/94	1000	\$12.46	\$14.02									\$16.75	10
" "	1000			\$15.58	\$17.13							\$21.75	10
" "	1000					\$18.69	\$20.25	\$23.36	\$26.48			\$25.75	10

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and where the journeyworker to apprentice ratio is met.

Apprentice Classifications	Interval Hrs	BASIC HOURLY RATE										FRINGE BENEFIT HOURLY RATE	Remarks See Pg 8-9
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	Total	
* GLAZIER													
Indentured On or After 7/1/99	1000	\$15.65										\$25.73	5,10
"	1000		\$17.39									\$25.97	5,10
"	1000			\$19.13								\$26.21	5,10
"	1000				\$20.87							\$26.45	5,10
"	1000					\$24.35						\$26.93	5,10
"	1000						\$26.09					\$27.17	5,10
"	1000							\$27.82				\$27.41	5,10
"	1000								\$29.56			\$27.65	5,10
"	1000									\$31.30		\$27.89	5,10
"	1000										\$33.04	\$28.13	5,10
* HEAVY DUTY REPAIRER & WELDER (EQUIP. OPR 9A)													
Indentured On or After 9/1/02	1000	\$20.36										\$7.05	3,10
"	1000		\$22.40									\$17.37	3,10
"	1000			\$24.43								\$18.31	3,10
"	1000				\$28.50							\$20.19	3,10
"	1000					\$32.58						\$22.06	3,10
"	1000						\$34.61					\$23.01	3,10
"	1000							\$36.65				\$23.94	3,10
"	1000								\$38.68			\$24.89	3,10
* INSULATOR													
Hired After 5/3/95	2000	\$19.83										\$7.70	6,10
"	2000		\$19.83									\$17.31	6,10
"	2000			\$23.79								\$17.59	6,10
"	2000				\$27.76							\$17.88	6,10
"	2000					\$31.72						\$18.16	6,10
* IRONWORKER (REINFORCING & STRUCTURAL)													
Indentured After 10/31/93	1000	\$18.38										\$24.67	7,10
"	1000		\$20.21									\$25.19	7,10
"	1000			\$22.05								\$25.71	7,10
"	1000				\$25.73							\$26.76	7,10
"	1000					\$29.40						\$27.81	7,10
"	1000						\$33.08					\$28.86	7,10

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		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	Total	
* MASON													
BRICKLAYER													
Indentured On or After 9/1/03	1000	\$18.43	\$20.27	\$22.11	\$25.80	\$27.64	\$29.48	\$31.32	\$33.17			\$10.87	2,10
STONE MASON													
Indentured On or After 9/1/03	1000	\$20.27	\$22.11	\$23.95	\$25.80	\$27.64	\$29.48	\$31.32	\$33.17			\$10.87	2,10
POINTER-CAULKER-WEATHERPROOFER													
Indentured On or After 9/1/03	1000	\$18.55	\$20.41	\$22.26	\$25.97	\$29.68	\$33.39					\$10.87	2,10
* PAINTER	1000	\$15.68										\$8.22	
"	1000		\$17.43	\$19.17	\$20.91	\$22.65						\$11.72	
"	1000						\$24.40					\$12.72	
"	1000							\$27.88	\$31.37			\$13.47	
* PAVING EQUIPMENT OPERATOR	1000	\$21.68										\$7.05	10
"	1000		\$27.59									\$20.77	10
"	1000			\$31.54								\$22.72	10
"	1000				\$35.48							\$24.69	10
* PLASTERER													
Indentured On or After 9/1/03	1000	\$15.62	\$17.57	\$19.52	\$21.47	\$23.42	\$27.33	\$31.23	\$35.14			\$13.02	2,10
* PLUMBER:													
PLUMBER; FIRE SPRINKLER FITTER; REFRIGERATION													
AIR CONDITIONING; STEAMFITTER-WELDER													
Indentured Prior to 9/2/85	1000	\$13.95										\$18.45	8,10
"	1000		\$15.94									\$18.90	8,10
"	1000			\$17.93								\$19.37	8,10
"	1000				\$19.93							\$19.83	8,10
"	1000					\$21.92						\$20.30	8,10
"	1000						\$23.91					\$20.76	8,10
"	1000							\$25.90				\$21.22	8,10
"	1000								\$27.90			\$21.68	8,10
"	1000									\$29.89		\$22.15	8,10
"	1000										\$31.88	\$22.61	8,10

PLUMBER: Continued on Next Page

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Apprentice Classifications	Interval Hrs	BASIC HOURLY RATE										FRINGE BENEFIT HOURLY RATE	Remarks See Pg 8-9
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	Total	
PLUMBER: PLUMBER; FIRE SPRINKLER FITTER; REFRIGERATION AIR CONDITIONING; STEAMFITTER-WELDER Indentured On or After 9/2/85	1000	\$16.02										\$4.06	8,10
"	1000		\$16.02									\$4.11	8,10
"	1000			\$18.93								\$5.67	8,10
"	1000				\$18.93							\$5.67	8,10
"	1000					\$21.92						\$6.36	8,10
"	1000						\$21.92					\$6.36	8,10
"	1000							\$25.90				\$7.19	8,10
"	1000								\$25.90			\$7.19	8,10
"	1000									\$29.89		\$7.82	8,10
"	1000										\$29.89	\$7.82	8,10
(Effective 1/3/16)													
* PLUMBER: PLUMBER; FIRE SPRINKLER FITTER; REFRIGERATION AIR CONDITIONING; STEAMFITTER-WELDER Indentured Prior to 9/2/85	1000	\$14.12										\$18.63	8,10
"	1000		\$16.14									\$19.10	8,10
"	1000			\$18.16								\$19.57	8,10
"	1000				\$20.18							\$20.04	8,10
"	1000					\$22.19						\$20.51	8,10
"	1000						\$24.21					\$20.98	8,10
"	1000							\$26.23				\$21.45	8,10
"	1000								\$28.25			\$21.92	8,10
"	1000									\$30.26		\$22.39	8,10
"	1000										\$32.28	\$22.85	8,10
Indentured On or After 9/2/85	1000	\$16.22										\$5.00	8,10
"	1000		\$16.22									\$5.05	8,10
"	1000			\$19.17								\$6.61	8,10
"	1000				\$19.17							\$6.61	8,10
"	1000					\$22.19						\$7.30	8,10
"	1000						\$22.19					\$7.30	8,10
"	1000							\$26.23				\$8.13	8,10
"	1000								\$26.23			\$8.13	8,10
"	1000									\$30.26		\$8.76	8,10
"	1000										\$30.26	\$8.76	8,10

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		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	Total	
* ROOFER													
Indentured Prior to 11/1/98	1000	\$17.48	\$19.43	\$23.31								\$13.28	9
"	1000				\$27.20	\$31.08	\$34.97	\$36.91				\$17.53	
Indentured On or After 11/1/98 and Prior to 11/4/12	1000	\$17.48	\$19.43	\$23.31								\$13.28	9
"	1000				\$27.20	\$31.08	\$33.02	\$34.97	\$36.91			\$17.53	
Indentured On or After 11/4/12	2000	\$17.48	\$23.31									\$13.28	9
"	2000			\$31.08	\$34.97							\$17.53	9
* SHEETMETAL WORKER													
"	1000	\$15.76										\$11.40	10
"	1000		\$17.73									\$11.58	10
"	1000			\$19.70								\$19.29	10
"	1000				\$21.67							\$19.78	10
"	1000					\$23.64						\$20.26	10
"	1000						\$25.61					\$20.75	10
"	1000							\$27.58				\$21.23	10
"	1000								\$29.55			\$21.72	10
"	1000									\$31.52		\$22.20	10
"	1000										\$33.49	\$22.69	10
* TAPER													
	1000	\$16.40	\$18.45	\$20.50	\$22.55	\$24.60						\$7.75	
	1000						\$26.65					\$8.25	
	1000							\$30.75	\$34.85			\$10.60	
(Effective 1/1/16)													
* TAPER													
	1000	\$16.60	\$18.68	\$20.75	\$22.83	\$24.90						\$8.25	
	1000						\$26.98					\$8.75	
	1000							\$31.13	\$35.28			\$11.80	
* TELECOMMUNICATION WORKER (TECHNICIAN I / SPLICER)													
"	1000	\$15.78										\$9.78	10
"	1000		\$17.10									\$10.00	10
"	1000			\$18.41								\$10.24	10
"	1000				\$19.73							\$10.46	10
"	1000					\$21.04						\$10.67	10
"	1000						\$23.67					\$11.13	10

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Apprentice Classifications	Interval Hrs	BASIC HOURLY RATE										FRINGE BENEFIT HOURLY RATE	Remarks See Pg 8-9
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	Total	
* TILE SETTER													
CERAMIC & HARD TILE													
Indentured Prior to 9/1/03	1000	\$18.55										\$7.12	2,10
"	1000		\$20.41	\$22.26	\$25.97	\$27.83	\$29.68	\$31.54	\$33.39			\$23.47	2,10
Indentured On or After 9/1/03	1000	\$18.55	\$20.41	\$22.26	\$25.97	\$27.83	\$29.68	\$31.54	\$33.39			\$10.87	2,10

* Indicates a wage, fringe benefit, remark, or title change from the previous bulletin.

REMARKS:

1. Carpenter, Construction Craft Laborer: \$.50 per hour shall be added to the regular straight-time rate for height pay for each hour while working from a bosun's chair and/or from a cable-suspended scaffold or work platform which is free swinging (not attached to building) for each hour worked on said rig.
2. Cement Finisher, Mason, Plasterer, Tile Setter: \$1.00 per hour shall be added to the regular straight-time rate for height pay for each hour while working from a bosun's chair and/or from a cable-suspended scaffold or work platform which is free swinging (not attached to building) for each hour worked on said rig.
3. Construction Equipment Operator, Heavy Duty Repairer & Welder: \$1.25 per hour shall be added to the hourly wage while operating a rig suspended by ropes or cables or to perform work on a Yo-Yo Cat.
4. Electrician:
 - A. One and one-half times the straight-time rate while working in a tunnel under construction; under water with aqualung equipment; in a completed tunnel which has only one entrance or exit providing access to safety and where no other personnel are working; or in an underground structure having no access to safety or where no other personnel are working.
 - B. Double the straight-time rate shall be paid for the following types of hazardous work regardless if fall prevention devices are used:
 - 1) While working from poles, trusses, stacks, towers, tanks, bosun's chairs, swinging or rolling scaffolds, supporting structures, and open platforms, over 70 feet from the ground where the employee is subject to a free fall; provided, however, that when work is performed on stacks, towers or permanent platforms where the employees are on a firm footing within an enclosure, a hazardous condition does not exist regardless of height;
 - 2) While working outside of a railing or enclosure, or temporary platforms extending outside of a building, or from scaffolding or ladder within an enclosure where an employee's footing is within one foot of the top of such railing, and the employee is subject to a free fall of over 70 feet;
 - 3) Working on buildings while leaning over the railing or edge of the building, and is subject to a free fall of 70 feet; or
 - 4) Two hours minimum hazardous pay per day shall be paid while climbing to a stack, tower or permanent platform which exceeds 70 feet from the ground but where the employee is on a firm footing within an enclosure.
 - C. Five percent per hour shall be added to the hourly wage for height pay while working above 9,000 feet elevation.
5. Glazier: Effective 9/16/13 - \$1.00 per hour shall be added to the hourly wage for height pay for exterior glazing work performed in a walking/working surface with an unprotected side or edge 10 feet or more above a lower level which requires protection from fall hazards by guardrail systems, safety net systems, personal fall arrest systems, position device systems, fall restraint systems, perimeter safety cables or controlled decking zones.
6. Insulator: Six percent per hour shall be added to the hourly wage for hazardous pay while working from a boatswain chair, staging or free standing scaffolding erected from ground up or mezzanine floor subject to a free fall and skylimber suspended from a permanent structure and when working above 40 feet.
7. Ironworker: \$.50 per hour shall be added to the hourly wage while working in tunnels or coffer dams. \$1.00 per hour shall be added to the hourly wage while working under or covered with water (submerged), or on the summits of Mauna Kea, Mauna Loa or Haleakala.
8. Plumber: One and one-half times the straight-time rate for height pay while working from OSHA approved trusses, stacks, towers, tanks, bosun's chair, swinging or rolling scaffolding, supporting structures or on open platforms where the employee is subject to a direct fall of 40 feet or more. Provided, however, that when said work is performed where the employee is on a firm footing within an enclosure, a hazardous condition does not exist regardless of height. \$1.00 per hour shall be added to the straight-time rate while working with flame cutting or any type of welding equipment on any galvanized material or product for at least an hour.
9. Roofer: When an apprentice has accumulated 2500 hours, \$4.25 will be added to his/her pension/annuity plan.
The apprenticeship program for apprentices indentured on or after November 4, 2012, consists of four steps with 2,000 hours for each step.

REMARKS:

10. Overtime/Holiday must be paid at one and one-half times the basic hourly rate plus the hourly cost of required fringe, with the following exceptions:

A. **Two times the basic hourly rate plus the hourly cost of required fringe.**

Boilermaker: Sunday, New Year's Day, President's Day, Memorial Day, Kamehameha Day, July 4th, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

Construction Equipment Operator: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Electrician: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

Elevator Constructor: Saturday, Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Floor Layer: Labor Day.

Glaziers: Sunday.

Heavy Duty Repairer & Welder: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Ironworker: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veteran's Day, Thanksgiving Day, Christmas Day.

Paving Equipment Operator: Sunday, New Year's Day, Martin Luther King Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Plumber: Sunday, New Year's Day, President's Day, Memorial Day, Kamehameha Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

Sheetmetal Worker: Sunday, New Year's Day, Martin Luther King Day, President's Day, Memorial Day, Kamehameha Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

Telecommunication Worker: Sunday, New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

B. **Three times the basic hourly wage plus the hourly cost of required fringe on Labor Day.**

Carpenter

Cement Finisher

Drywall Installer

Insulator

Construction Craft Laborer

Mason

Plasterer

Tile Setter

Equipment Operators Classifications

- GROUP 1: Fork Lift (up to and including 10 tons)
Parts Worker (heavy-duty repair shop parts room when needed)
Repairer Helper
- GROUP 2: Conveyor Operator (handling building materials)
Hydraulic Monitor
Mixer Box Operator (concrete plant)
- GROUP 3: Assistant to Engineer (Oiler, Gradechecker) (Hy-Ram (refer to Group 2 wage rate))
Concrete Curing Machine (self-propelled, automatically-applied unit on streets, highways, airports and canals)
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)
Elevator Operator
Hoist and/or Winch (one drum)
Rod Worker or Chain Worker (upgraded from Group 3)
Straddle Truck (Ross Carrier, Hyster, and similar)
- GROUP 5: Asphalt Plant Fire Worker
Compressors, Pumps, Generators, and Welding Machines ("Bank" of 9 or more, individually or collectively)
Concrete Trailer Pump or Pumpcrete Guns
Lubrication and Service Engineer (grease rack)
Screed Worker
- GROUP 6: Combination Loader/Backhoe (up to and including 3/4 cu. yd.)
Concrete Batch Plant (wet or dry)
Concrete Cutter, Groover, and/or Grinder (self-propelled unit on streets, highways, airports, and canals)
Concrete Truck Pump Boom or equipment mounted
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)
Hydraulic Backhoe under 1/2 cubic yard
Hydraulic Backhoe Tractor Mounted under 1/2 cubic yard
Loader (up to and including 3-1/2 cu. yds.)
Lubrication and Service Engineer (mobile)
Lull High Lift (under 40 feet)
Magginnis Internal Full Slab Vibrator (on airports, highways, canals, and warehouses)
Worker or Material Hoist
Mechanical Concrete Finisher (large Clary Johnson, Bidwell, Bridge Deck, and similar)
Mobile Truck Crane Driver
Portable Boring Machine (under streets, highways, etc.)
Portable Crusher
Portable Shot blast Concrete Cleaning Machine
Power Jumbo Operator (setting slip forms, etc., in tunnels)
Power Sweeper
Roller (over 5 tons)

Equipment Operators Classifications

GROUP 6 (continued):

- Self-Propelled Compactor (single engine)
- Self-Propelled Pavement Breaker
- Skidsteer Loader with attachments
- Slip Forms Pump (power-driven by hydraulic, electric, air, gas, etc., lifting device for concrete forms)
- Small Rubber-Tired Tractor
- Spider Excavator
- Trencher (up to and including 6 feet)
- Underbridge Personnel Aerial Platform (50 feet of platform or less)

GROUP 7:

- Boom Truck or Dual Purpose "A" Frame Truck (over 5 tons up to and including 17 tons)
- 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 3-1/2 cu. yds. up to and including 6 cu. yds.)
- Mechanical Finisher or Spreader Machine (asphalt) (Barber Greene and similar)
- 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
- Speed Swing
- 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, 21, or similar)

GROUP 8:

- Asphalt Plant Operator
- Cast-in-Place Pipe Laying Machine
- Concrete Batch Plant (multiple units)
- Conveyor Operator (tunnel)
- Dozer (D-6 and similar)
- Finishing Machine Operator (airports and highways)
- Gradesetter
- Horizontal Directional Drill (HDD) Locator
- Hydraulic Backhoe (over 1/2 cu. yd. up to and including 3/4 cu. yd.)
- Kolman Loader (and similar)
- No-Joint Pipe Laying Machine
- Portable Crushing and Screening Plant
- Power Blade Operator (under 12)
- Saurman Type Dragline (up to 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)

Equipment Operators Classifications

- 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 or similar)
Instrument Worker (upgraded from Group 7)
Push Cat
Scraper (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.)
(621B and similar)
Sheep's Foot
Tractor with Boom (larger than D-6, and similar)
- GROUP 10: Chicago Boom
Cold Planers
Heavy Duty Repairer/Welder
Hoist and/or Winch (3 drums)
Hydraulic Scooper (Koehring and similar)
Loader (over 6 cu. yds. up to and including 12 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 similar) (all attachments)
Tractor (Tandem Scraper)
Watch Engineer
- GROUP 10A: Boat Operator
Boom Truck or Dual Purpose "A" Frame Truck (over 17 tons)
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.)
Gradall (up to and including 1 cu. yd.)
Gradesetter (When working from drawings, plans or specifications without the direct supervision of a Foreman or Superintendent.)
Hydraulic Backhoe (over 3/4 cu. yd. up to and including 2 cu. yds.)
Mobile Truck Crane Operator (up to and including 25 tons)
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 Crane (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.)
Chief of Party (upgraded from Group 10)
Directional Drill Operator

Equipment Operators Classifications

GROUP 11 (continued):

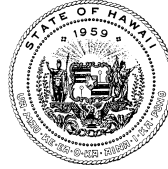
Dozer D-10 (or similar) (upgraded from Group 10)
 DW-10, 20, etc. (Tandem)
 Earthmoving Machine (multiple propulsion power unit and 2 or more scrapers)
 (up to and including 35 cu. yds. "struck" m.r.c.)
 Gradall (over 1 cu. yd. up to 7 cu. yds.)
 Hydraulic Backhoe (over 2 cu. yds. up to and including 4 cu. yds.)
 Lift Slab Machine
 Loader (over 12 cu. yds.)
 Mobile Truck Crane Operator (over 25 tons but less than 50 tons)
 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 Cat
 Trencher (pulling attached shield)

GROUP 12:

Clamshell or Dipper Operator
 Derrick
 Drill Rig
 Heading Shield Operator
 Mucking Machine (rubber tired, rail or track type)
 Multi-Propulsion Earthmoving Machine (2 or more scrapers) (over 35 cu. yds. "struck"
 m.r.c.)
 Operators (Derricks, Piledrivers and Cranes)
 Power Shovel and Dragline (7 cu. yds. m.r.c. and over)
 Raised Bore Operator
 Road Header Operator
 Self-Propelled, Rubber-Tired Earthmoving Equipment (over 31 cu. yds.) (657B and
 similar)
 Tunnel Mole Bore Operator
 Wheel Excavator (up to and including 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)
 Mounted Truck Crane Operator (over 50 tons)
 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 usually 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
 Tunnel Boring Machine Operator – 10 feet and above
 Universal, Liebherr, Linden, and similar types of Tower Cranes
 Yo-Yo Cat or Dozer



STATE OF HAWAII
DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

List of Construction Trades in Registered Apprenticeship Programs

Apprenticeship programs for the following construction trades were approved and registered by the State Department of Labor and Industrial Relations in accordance with Chapter 372, Hawaii Revised Statutes, and Title 12, Chapter 30, Hawaii Administrative Rules. Union and non-union programs are listed separately. The minimum requirements are not exclusive as a program sponsor may add other requirements in their selection procedures.

Trade	Sponsor	Union	Non-Union	Date of Approval/Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Boilermaker	Western State Area Joint Apprenticeship Committee (International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmith, Forgers, and Helpers and Subordinate, Lodge No. 627, AFL-CIO, and the Western States Joint Apprenticeship Committee, and Association of Boilermaker Employers)	x		03/18/1991	6,000	<ul style="list-style-type: none">At least 18 years oldHigh school graduate or GED equivalent	Business Manager Address: 1414 Dillingham Blvd, Room 205 Honolulu, HI 96817 Phone: (808) 848-7744 Fax: (808) 848-0311
Bricklayer-Mason	Joint Apprenticeship Committee for Bricklayer-Mason (Masonry Contractors Association of Hawaii and Other Signatory Employers and Local 1 of Hawaii of the Bricklayers and Allied Craftsmen International Union, AFL-CIO)	x		02/10/64	8,000	<ul style="list-style-type: none">At least 16 years oldPhysically able to perform duties of the trade	Director of Training or Training Coordinator Address: 2251 N. School Street Honolulu, HI 96819 Phone: (808) 845-5949 Fax: (808) 847-7068 Website: http://www.opcmia.org/

Trade	Sponsor	Union	Non-Union	Date of Approval/Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Carpenter	<p>Carpenters Joint Apprenticeship Committee aka Hawaii Carpenters Apprenticeship and Training Program</p> <p>(General Contractors Association of Hawaii and Building Industry Labor Association and Other Signatory Contractors and the United Brotherhood of Carpenters and Joiners of America, Local 745 AFL-CIO)</p>	x		04/01/64	8,000	<ul style="list-style-type: none"> At least 17 years old High school diploma or equivalent education, or equivalent work experience Pass basic math test Complete questionnaire Able to lift 75 lbs. 	<p>Director of Training</p> <p>Address: 1311 Houghtailing Street Room 201 Honolulu, HI 96817</p> <p>Phone: (808) 848-0794 Ext. 5 Fax: (808) 841-5961 (808) 841-0300 Website: http://www.carpenters.org/</p>
Carpenter	Associated Builders and Contractors Apprenticeship Committee		x	02/08/90	8,000	<ul style="list-style-type: none"> At least 18 years old High school diploma or GED Full-time employee of a member company for a period of not less than six continuous weeks Legally able to work Physically able to perform duties of the trade 	<p>Director of Training</p> <p>Address: 1375 Dillingham Blvd. Suite 200 Honolulu, HI 96817</p> <p>Phone: (808) 845-4887 Fax: (808) 847-7876 Website: http://www.abchawaii.org/</p>
Cement Finisher	<p>Joint Apprenticeship Committee for Cement Finishers</p> <p>(Operative Plasterers and Cement Finishers International Association, Local 630, AFL-CIO, and Local 1 of the International Union of Bricklayers and Allied Craftsmen, AFL-CIO)</p>	x		04/01/61	8,000	<ul style="list-style-type: none"> At least 16 years old Physically able to perform duties of the trade 	<p>Director of Training or Training Coordinator</p> <p>Address: 2251 N. School Street Honolulu, HI 96819</p> <p>Phone: (808) 845-5949 Fax: (808) 847-7068 Website: http://www.opcmia.org/</p>
Construction Craft Laborer	<p>Hawaii Laborers' Joint Apprenticeship Committee</p> <p>(International Union of North America, Local 368, and Signatory Contractors Association)</p>	x		02/11/00	4,000	<ul style="list-style-type: none"> At least 18 years old High school diploma or GED Driver's license Successfully complete Pre-Construction Apprentice Evaluation Course 	<p>Apprenticeship Coordinator</p> <p>Address: 96-138 Farrington Hwy. Pearl City, HI 96782</p> <p>Phone: (808) 455-7979 Fax: (808) 456-8689 Website: http://www.liuna.org/</p>

Trade	Sponsor	Union	Non-Union	Date of Approval/Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Construction Equipment Operator	Hawaii Joint Apprenticeship Committee for Operating Engineers (General Contractors Labor Association and the Building Industry Labor Association and International Union of Operating Engineers, Local Union #3, AFL-CIO)	x		11/14/67	6,000	<ul style="list-style-type: none"> At least 18 years old High school diploma or GED or C-based test Physically able to perform duties of the trade School transcripts Driver's license Current State DOT PUC physical Pass industry or general knowledge test Have reliable transportation 	<p>State Administrator</p> <p>Address: P.O. Box 428 Kahuku, HI 96731-0428</p> <p>Phone: (808) 232-2001 Fax: (808) 232-2217 Website: http://oe3.org/training/</p>
Drywall	Carpenters Joint Apprenticeship Committee aka Hawaii Carpenters Apprenticeship and Training Program (General Contractors Association of Hawaii and Building Industry Labor Association and Other Signatory Contractors and the United Brotherhood of Carpenters and Joiners of America, Local 745, AFL-CIO)	x		04/06/88	8,000	<ul style="list-style-type: none"> At least 17 years old High school diploma or GED Complete questionnaire Pass industry test (8th grade math) Able to lift 100 lbs. 	<p>Director of Training</p> <p>Address: 1311 Houghtailing Street Room 201 Honolulu, HI 96817</p> <p>Phone: (808) 848-0794 Ext. 5 Fax: (808) 848-5961 (808) 841-0300 Website: http://www.carpenters.org/</p>
Electrical Wireperson	PECA-HEW Joint Apprenticeship Committee (Pacific Electrical Contractors Association and the Hawaii Electrical Workers Division of Laborers International, Local 368)	x		11/20/91	10,000	<ul style="list-style-type: none"> At least 16 years old High school diploma or GED Pass color code test Transcript of high school or post high school courses Pass one-year high school Algebra 1 (not pre-Algebra) or higher 	<p>Training Coordinator</p> <p>Address: 1130 Nimitz Highway Suite 204 Honolulu, HI 96817</p> <p>Phone: (808) 845-1986 Fax: (808) 847-7829 Website: N/A</p>

Trade	Sponsor	Union	Non-Union	Date of Approval/Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Electrician	Associated Builders and Contractors Apprenticeship Committee		x	02/08/90	10,000	<ul style="list-style-type: none"> At least 18 years old High school diploma or GED Full-time employee of a member company for a period of not less than six continuous weeks Legally able to work Physically able to perform duties of the trade Pass eye examination for color blindness Completed one-year high school algebra (not pre-algebra) 	<p>Director of Training</p> <p>Address: 1375 Dillingham Blvd. Suite 200 Honolulu, HI 96817</p> <p>Phone: (808) 845-4887 Fax: (808) 847-7876 Website: http://www.abchawaii.org/</p>
(Electrician) Wireperson	<p>Hawaii Electricians Joint Apprenticeship Committee</p> <p>(International Brotherhood of Electrical Workers (IBEW) Local 1186, AFL-CIO, and Signatory Employers)</p>	x		04/08/47	10,000	<ul style="list-style-type: none"> At least 18 years old High school diploma or GED Complete the National Joint Apprenticeship and Training Committee Math Course or one-year high school Algebra 1 Transcript of high school or post high school courses Pass industry aptitude test to qualify for oral interview Application fee (non-refundable) 	<p>Apprenticeship or Training Coordinator</p> <p>Address: 1935 Hau Street Room 301 Honolulu, HI 96819</p> <p>Phone: (808) 847-0629 Fax: (808) 843-8818 Website: http://www.njatc.org/</p>
Elevator Constructor	<p>International Union of Elevator Constructors Local 126 Joint Apprenticeship Committee</p> <p>(International Union of Elevator Constructors, Local 126 and Signatory Employers)</p>	x		03/27/03	6,800	<ul style="list-style-type: none"> At least 18 years old High school diploma or GED School transcripts Pass aptitude test (math, reading) Pass medical exam Physically able to perform duties of the trade 	<p>Business Representative</p> <p>Address: 707 Alakea Street Room 314 Honolulu, HI 96813</p> <p>Phone: (808) 536-8653 Fax: (808) 537-3779 Website: http://iuec.org/</p>

Trade	Sponsor	Union	Non-Union	Date of Approval/Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Fire Sprinkler Fitter	Honolulu Joint Apprenticeship and Training Committee for the Plumbing and Pipefitting Industry <i>aka</i> JATC of UA Plumbers and Fitters, Local 675, AFL-CIO, and PAMCAH (Plumbing and Mechanical Contractors Association of Hawaii and United Association of Plumbers and Pipefitters Local 675, AFL-CIO)	x		10/19/92	10,000	<ul style="list-style-type: none"> At least 17 years old High school diploma or GED School transcripts Pass placement evaluation with minimum score of 70% Driver's license 	Training Coordinator Address: 97-731 B Kamehameha Hwy. Pearl City, HI 96782 Phone: (808) 456-0585 Fax: (808) 456-7131 Website: http://www.ua.org/
Floor Layer	Joint Apprenticeship and Training Committee for Floor Layers (Hawaii Floor Covering Association and Carpet, Linoleum, and Soft Tile Union Local 1926, AFL-CIO)	x		02/17/66	8,000	<ul style="list-style-type: none"> At least 17 years old Driver's license Pass color vision test 	Training Coordinator Address: 2240 Young Street Honolulu, HI 96826 Phone: (808) 942-3988 Fax: (808) 946-6667 Website: http://www.iupat.org/
Glazier	Joint Apprenticeship Committee for Glaziers, Architectural Metal and Glassworkers Industry <i>aka</i> Glaziers, Architectural Metal and Glassworkers JATC (Glass/Metal Contractors Association of Hawaii and Other Signatory Contractors and the Glaziers, Architectural Metal and Glassworkers Union Local 1889, AFL-CIO)	x		04/01/01	10,000	<ul style="list-style-type: none"> At least 16 years old High school diploma or GED Driver's license Physically able to perform duties of the trade 	Training Coordinator Address: 2240 Young Street Honolulu, HI 96826 Phone: (808) 946-3329 (808) 943-0757 Fax: (808) 946-8736 Website: http://www.iupat.org/
Heat and Frost Asbestos Insulator	Honolulu Joint Apprenticeship Committee for the Heat and Frost Asbestos Insulator Trade (Heat and Frost Insulators and Asbestos Workers, Local 132, and Signatory Participating Employers)	x		07/23/71	10,000	<ul style="list-style-type: none"> At least 16 years old High school diploma or GED Physically able to perform duties of the trade 	Training Coordinator Address: 1019 Lauia Street Bay #4 Kapolei, HI 96707 Phone: (808) 521-6405 Fax: (808) 523-9861 Website: http://www.insulators.org/

Trade	Sponsor	Union	Non-Union	Date of Approval/Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Heavy Duty Repairman and Welder	Hawaii Joint Apprenticeship Committee for Operating Engineers (General Contractors Labor Association and the Building Industry Labor Association and International Union of Operating Engineers, Local Union #3, AFL-CIO)	x		11/14/67	8,000	<ul style="list-style-type: none"> At least 18 years old High school diploma or GED or C-based test Physically able to perform duties of the trade School transcripts Driver's license Current State DOT PUC physical Pass industry or general knowledge test Have reliable transportation 	<p>State Administrator</p> <p>Address: P.O. Box 428 Kahuku, HI 96731-0428</p> <p>Phone: (808) 232-2001 Fax: (808) 232-2217 Website: http://oe3.org/training/</p>
Ironworker Shop Fabricator / Welder	Hawaii Shopmen's Local 803 Joint Apprenticeship and Training Committee (International Association of Bridge, Structural and Ornamental Ironworkers, Local 803, AFL-CIO, and Participating Employers)	x		12/31/63	8,000	<ul style="list-style-type: none"> At least 18 years old High school diploma or GED Physically able to perform duties of the trade Must be sponsored by employer who is signatory to the Shopmen's Local 803 collective bargaining agreement 	<p>Training Coordinator</p> <p>Address: 94-497 Ukee Street Waipahu, HI 96797</p> <p>Phone: (808) 671-4344 Fax: (808) 676-1144 Website: http://www.ironworkers.org/</p>
Ironworker (Reinforcing)	Joint Apprenticeship Committee for Ironworker (Reinforcing) aka Ironworkers Joint Apprenticeship Committee (Reinforcing) (International Association of Bridge, Structural and Ornamental Ironworkers, Local 625, AFL-CIO and Participating Employers)	x		06/26/53	6,000	<ul style="list-style-type: none"> At least 16 years old Physically able to perform duties of the trade 	<p>Training Coordinator</p> <p>Address: 94-497 Ukee Street Waipahu, HI 96797</p> <p>Phone: (808) 671-8225 Fax: (808) 676-1144 Website: http://www.ironworkers.org/</p>

Trade	Sponsor	Union	Non-Union	Date of Approval/Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Ironworker (Structural)	Joint Apprenticeship Committee for Ironworker (Structural) aka Ironworkers Joint Apprenticeship Committee (Structural) (International Association of Bridge, Structural and Ornamental Ironworkers, Local 625, AFL-CIO and Participating Employers)	x		03/01/61	6,000	<ul style="list-style-type: none"> At least 16 years old Physically able to perform duties of the trade 	Training Coordinator Address: 94-497 Ukee Street Waipahu, HI 96797 Phone: (808) 671-8225 Fax: (808) 676-1144 Website: http://www.ironworkers.org/
Painter	Joint Apprenticeship and Training Committee for Painters (Painting and Decorating Contractors of Hawaii (PDCA) and the International Union of Painters and Allied Trades (IUPAT) Local 1791, AFL-CIO)	x		09/01/61	8,000	<ul style="list-style-type: none"> At least 16 years old High school diploma or GED Driver's license Physically able to perform the duties of the trade Pass color code vision test 	Training Coordinator Address: 2240 Young Street Honolulu, HI 96826 Phone: (808) 947-6606 Fax: (808) 942-0195 Websites: http://www.dc50.org/ http://www.iupat.org/
Painter	Associated Builders and Contractors Apprenticeship Committee		x	05/02/90	8,000	<ul style="list-style-type: none"> At least 18 years old Full-time employee of a member company for a period of not less than six continuous weeks Legally able to work Physically able to perform duties of the trade Pass physical examination if required by Committee 	Director of Training Address: 1375 Dillingham Blvd. Suite 200 Honolulu, HI 96817 Phone: (808) 845-4887 Fax: (808) 847-7876 Website: http://www.abchawaii.org/
Painter	Color Dynamics, Inc.		x	12/01/89	8,000	<ul style="list-style-type: none"> At least 16 years old Physically fit to perform duties of the trade Must not be color blind 	President Address: 816 Gulick Avenue Honolulu, HI 96819 Phone: (808) 848-7000 Fax: (808) 842-0800 Website: http://www.colordynamics.com

Trade	Sponsor	Union	Non-Union	Date of Approval/Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Painter	Kawika's Painting		x	10/01/84	8,000	<ul style="list-style-type: none"> At least 16 years old Physically fit to perform duties of the trade Must not be color blind 	<p>President</p> <p>Address: 2147 Eluwene Street Honolulu, HI 96819</p> <p>Phone: (808) 848-0003 Fax: (808) 842-1908 Website: http://www.kawikaspainting.com</p>
Paving Equipment Operator	<p>Hawaii Joint Apprenticeship Committee for Operating Engineers</p> <p>(General Contractors Labor Association and the Building Industry Labor Association and International Union of Operating Engineers, Local Union #3, AFL-CIO)</p>	x		04/29/10	4,000	<ul style="list-style-type: none"> At least 18 years old High school diploma or GED or C-based test Physically able to perform duties of the trade School transcripts Driver's license Current State DOT PUC physical Pass industry or general knowledge test Have reliable transportation 	<p>State Administrator</p> <p>Address: P.O. Box 428 Kahuku, HI 96731-0428</p> <p>Phone: (808) 232-2001 Fax: (808) 232-2217 Website: http://oe3.org/training/</p>
Plasterer	<p>Joint Apprenticeship Committee for Plasterers</p> <p>(Pacific Bureau for Lathing and Plastering and the Operative Plasterers and Cement Finishers Association of the U.S. and Canada, Local 630, AFL-CIO)</p>	x		06/30/59	8,000	<ul style="list-style-type: none"> At least 16 years old Physically able to perform duties of the trade 	<p>Director of Training</p> <p>Address: 2251 N. School Street Honolulu, HI 96819</p> <p>Phone: (808) 845-5949 Fax: (808) 847-7068 Website: http://www.opcmia.org/</p>
Plumber	<p>Honolulu Joint Apprenticeship and Training Committee for the Plumbing and Pipefitting Industry <i>aka</i> JATC of UA Plumbers and Fitters, Local 675, AFL-CIO, and PAMCAH</p> <p>(Plumbing and Mechanical Contractors Association of Hawaii and United Association of Plumbers and Pipefitters Local 675, AFL-CIO)</p>	x		11/14/52	10,000	<ul style="list-style-type: none"> At least 17 years old High school diploma or GED School transcripts Pass placement evaluation with a minimum score of 70% Driver's license 	<p>Training Coordinator</p> <p>Address: 97-731 B Kamehameha Hwy. Pearl City, HI 96782</p> <p>Phone: (808) 456-0585 Fax: (808) 456-7131 Website: http://www.ua.org/</p>

Trade	Sponsor	Union	Non-Union	Date of Approval/Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Plumber	Associated Builders and Contractors Apprenticeship Committee		x	02/02/99	10,000	<ul style="list-style-type: none"> At least 18 years old Full-time employee of a member company for a period of not less than six continuous weeks Legally able to work Physically able to perform duties of the trade Pass physical examination if required by Committee 	Director of Training Address: 1375 Dillingham Blvd. Suite 200 Honolulu, HI 96817 Phone: (808) 845-4887 Fax: (808) 847-7876 Website: http://www.abchawaii.org/
Pointer-Caulker-Weatherproofer	Joint Apprenticeship Committee for Pointer-Caulker-Weatherproofer (Pointing, Caulking and Weatherproofing Contractors and the International Union of Bricklayers and Allied Crafts, Local 1, AFL-CIO)	x		08/23/95	6,000	<ul style="list-style-type: none"> At least 16 years old Physically able to perform duties of the trade 	Director of Training or Training Coordinator Address: 2251 N. School Street Honolulu, HI 96819 Phone: (808) 845-5949 Fax: (808) 847-7068 Website: http://www.opcmia.org/
Refrigeration Air-Conditioning	Honolulu Joint Apprenticeship and Training Committee for the Plumbing and Pipefitting Industry <i>aka</i> JATC of UA Plumbers and Fitters, Local 675, AFL-CIO, and PAMCAH (Plumbing and Mechanical Contractors Association of Hawaii and United Association of Plumbers and Pipefitters Local 675, AFL-CIO)	x		09/04/62	10,000	<ul style="list-style-type: none"> At least 17 years old High school diploma or GED School transcripts Pass placement evaluation with a minimum score of 70% Driver's license 	Training Coordinator Address: 97-731 B Kamehameha Hwy. Pearl City, HI 96782 Phone: (808) 456-0585 Fax: (808) 456-7131 Website: http://www.ua.org/
Roofer	Joint Apprenticeship and Training Committee for Roofers (United Union of Roofers, Waterproofers and Allied Workers, AFL-CIO, Local 221, and All Participating Employers)	x		01/13/68	8,000	<ul style="list-style-type: none"> At least 16 years old High school diploma or GED Driver's license Physically able to perform duties of the trade Able to lift 100 lbs. 	Training Director Address: 2045 Kamehameha IV Rd. Room 203 Honolulu, HI 96819 Phone: (808) 847-5757 Fax: (808) 848-8707 Website: http://www.unionroofers.com

Trade	Sponsor	Union	Non-Union	Date of Approval/Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Roofer	Associated Builders and Contractors Apprenticeship Committee		x	01/09/96	7,000	<ul style="list-style-type: none"> At least 18 years old Full-time employee of a member company for a period of not less than six continuous weeks Legally able to work Physically able to perform duties of the trade Pass physical examination if required by Committee 	<p>Director of Training</p> <p>Address: 1375 Dillingham Blvd. Suite 200 Honolulu, HI 96817</p> <p>Phone: (808) 845-4887</p> <p>Fax: (808) 847-7876</p> <p>Website: http://www.abchawaii.org/</p>
Sheet Metal Worker	Hawaii Joint Apprenticeship Committee for the Sheet Metal Industry (Sheet Metal Contractor's Association and Sheet Metal Workers' International Association, Local 293)	x		01/02/58	10,000	<ul style="list-style-type: none"> At least 18 years old High school diploma or GED Driver's license 	<p>Apprenticeship Coordinator</p> <p>Address: 1405 North King Street Room 403 Honolulu, HI 96817</p> <p>Phone: (808) 841-6106</p> <p>Fax: (808) 841-1842</p> <p>Website: http://www.smwia.org/</p>
Steamfitter/Welder	Honolulu Joint Apprenticeship and Training Committee for the Plumbing and Pipefitting Industry <i>aka</i> JATC of UA Plumbers and Fitters, Local 675, AFL-CIO, and PAMCAH (Plumbing and Mechanical Contractors Association of Hawaii and United Association of Plumbers and Pipefitters Local 675, AFL-CIO)	x		02/05/02	10,000	<ul style="list-style-type: none"> At least 17 years old High school diploma or GED School transcripts Pass placement evaluation with a minimum score of 70% Driver's license 	<p>Training Coordinator</p> <p>Address: 97-731 B Kamehameha Hwy. Pearl City, HI 96782</p> <p>Phone: (808) 456-0585</p> <p>Fax: (808) 456-7131</p> <p>Website: http://www.ua.org/</p>
Stone Mason	Joint Apprenticeship Committee for Stone Mason Industry (Masonry Contractors Association of Hawaii and Local 1 of Hawaii of the Bricklayers and Allied Craftsmen International Union, AFL-CIO, and Other Signatory Employers)	x		02/10/64	8,000	<ul style="list-style-type: none"> At least 16 years old Physically able to perform duties of the trade 	<p>Director of Training or Training Coordinator</p> <p>Address: 2251 N. School Street Honolulu, HI 96819</p> <p>Phone: (808) 845-5949</p> <p>Fax: (808) 847-7068</p> <p>Website: http://www.opcmia.org/</p>

Trade	Sponsor	Union	Non-Union	Date of Approval/Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Taper	Joint Apprenticeship Committee for Tapers (Gypsum Drywall Contractors Association of Hawaii and the International Brotherhood of Painters and Allied Trades Tapers Local Union 1944, AFL-CIO)	x		09/01/67	8,000	<ul style="list-style-type: none"> At least 16 years old Physically able to perform duties of the trade 	Chairman Address: 2240 Young Street Honolulu, HI 96826 Phone: (808) 946-6621 Fax: (808) 946-6623 Website: http://www.dc50.org/
Telecommunication / CATV Installer Technician	Hawaii Electricians Joint Apprenticeship Committee aka Joint Apprenticeship Committee for Telecommunications (International Brotherhood of Electrical Workers Local Union 1186, AFL-CIO, and Signatory Employers)	x		09/16/98	6,000	<ul style="list-style-type: none"> At least 16 years old High school diploma or equivalent or GED High school transcript Pass color code test Physically fit to perform duties of the trade One-year satisfactory completion of high school algebra (not Pre-Algebra) 	Apprenticeship or Training Coordinator Address: 1935 Hau Street Room 301 Honolulu, HI 96819 Phone: (808) 847-0629 Fax: (808) 843-8818 Website: http://www.njatc.org/
Tile Setter	Joint Apprenticeship Committee for Tile Setters (Tile, Marble and Terrazo Contractors Association of Hawaii and Local 1 of Hawaii of the Bricklayers, and Allied Craftsmen International Union of America, AFL-CIO)	x		06/24/58	8,000	<ul style="list-style-type: none"> At least 16 years old Physically able to perform duties of the trade 	Director of Training or Training Coordinator Address: 2251 N. School Street Honolulu, HI 96819 Phone: (808) 845-5949 Fax: (808) 847-7068 Website: http://www.opcmia.org/

Trade	Sponsor	Union	Non-Union	Date of Approval/Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Truck Operator and Driver	Hawaii Joint Apprenticeship Committee for Operating Engineers (General Contractors Labor Association and the Building Industry Labor Association and International Union of Operating Engineers, Local Union #3, AFL-CIO)	x		03/01/91	2,000	<ul style="list-style-type: none"> • At least 18 years old • High school diploma or GED or C-based test • Physically able to perform duties of the trade • School transcripts • Driver's license • Current State DOT PUC physical • Pass industry or general knowledge test • Have reliable transportation 	<p>State Administrator</p> <p>Address: P.O. Box 428 Kahuku, HI 96731-0428</p> <p>Phone: (808) 232-2001 Fax: (808) 232-2217 Website: http://oe3.org/training/</p>

Instructions for Bid Submittal

General Instructions for Bid Submittal

The bid offer form must be completed and submitted to the DHHL by the required due date and time, and in the form prescribed by the DHHL. Electronic mail and facsimile transmissions shall not be accepted.

For your convenience, an “IFB Checklist for Bidders” is included in this section for your use.

No supplemental literature, brochures or other unsolicited information should be included in the bid packet.

A written response is required for each item unless indicated otherwise.

Bid documents and all certifications should be written legibly or typed and completed with black ink.

I. PROPOSAL REQUIREMENTS AND CONDITIONS

A. QUALIFICATION OF BIDDERS.

Prospective Bidders must be capable of performing the work for which bids are invited, and must be capable of entering into a public contract of \$25,000 (twenty five thousand dollars) or more.

B. NOTICE OF INTENTION TO BID

1. In accordance with Section 103D-310, Hawaii Revised Statutes, and Section 3-122-108, Hawaii Administrative Rules, a written notice of intention to bid must be submitted to the Chairman, who is the officer charged with letting the contract. The notice may be faxed, hand carried, mailed, or e-mailed to the office indicated in the Notice to Contractors.
2. The written notice must be received by the office indicated in the Notice to Contractors no later than 2:00 p.m. on the 10th calendar day prior to the day designated for opening bids. If the 10th calendar day prior to the day designated for opening bids is a Saturday, Sunday, or legal State holiday, then the written notice must be received by the Department no later than 2:00 p.m. on the last working day immediately prior to said Saturday, Sunday, or legal State holiday. The written notice will be time stamped when received by said office. The time designated by the time stamping device in said office shall be official. If the written notice is hand carried, then the bearer is responsible to ensure that the notice is time stamped by said office. If the notice is faxed, the time of receipt by the Department fax machine shall be official. If the notice is sent by email, the time indicated in the date and time field of the email as received by the Department shall be official.

3. It is the responsibility of the prospective Bidder to ensure that the written notice of intention to bid is received in time and the Department assumes no responsibility for failure of timely delivery caused by the prospective Bidder or by any method of conveyance chosen by the prospective Bidder.
4. If two (2) or more prospective Bidders desire to bid jointly as a joint venture on a single project, they must file an affidavit of joint venture with their notice of intention to bid. Such affidavit of joint venture will be valid only for the specific project for which it is filed. No further license is required when all parties to the joint venture possess current and appropriate contractor's licenses. Joint ventures are required to be licensed in accordance with Chapter 444 of the Hawaii Revised Statutes, as amended, and the rules and regulations of the Contractor's License Board when any party to the joint venture agreement does not hold a current or appropriate contractor's license. The joint venture must be registered with the office of the Director of Commerce and Consumer Affairs in accordance with Chapter 425 of the Hawaii Revised Statutes, as amended.
5. No persons, firm or corporation may bid where (1) the person, firm, or corporation, or (2) a corporation owned substantially by the person, firm, or corporation, or (3) a substantial stockholder or an officer of the corporation, or (4) a partner or substantial investor in the firm is in arrears in any payment owed to the State of Hawaii or any of its political subdivisions or is in default of any obligation to the State of Hawaii or to all or to any of its political subdivisions, including default as a surety or failure to perform faithfully and diligently any previous contract with the Department.

C. STANDARD QUALIFICATION QUESTIONNAIRE FOR OFFERORS

1. Prospective Bidders shall submit answers to questions contained in the STANDARD QUALIFICATION QUESTIONNAIRE FOR OFFERORS (SPO Form-21), properly executed and notarized, setting forth a complete statement of the experience of such prospective Bidder and its organization in performing similar work and a statement of the equipment proposed to be used, together with adequate proof of the availability of such equipment, no later than 2:00 p.m. on the tenth calendar day prior to the day designated for opening bids. If the tenth calendar day prior to the day designated for opening bids is a Saturday, Sunday, or legal State holiday, then the questionnaire must be received by the Department no later than 2:00 p.m. on the last working day immediately prior to said Saturday, Sunday, or legal State holiday. The questionnaire will be time stamped when received by said office. The time designated by the time stamping device in said office shall be official. If the questionnaire is hand carried, then the bearer is responsible to ensure that the notice is time stamped by said office. E-mail and facsimile (FAX) transmissions are not acceptable in whole or in part, under any circumstances. If the information in the questionnaire proves satisfactory, the Bidder's proposal will be received. All information contained in the answers to the questionnaire shall be kept confidential. The questionnaire will be returned to the Bidder after it has served its purpose.

2. If upon review of the Questionnaire, or otherwise, the Bidder appears not fully qualified or able to perform the intended work, the Chairman shall, after affording the Bidder an opportunity to be heard and if still of the opinion that the Bidder is not fully qualified to perform the work, refuse to receive or to consider any bid offered by the prospective Bidder.
3. Failure to complete and submit the prequalification questionnaire by the designated deadline will be sufficient cause for the Department to disqualify a prospective Bidder.

D. PROPOSAL FORM

1. Prospective Bidders are being furnished with the proposal form giving the location, description, and the contract time of the work contemplated for which a lump sum bid price is asked or containing a schedule of items, together with estimated quantities of work to be performed and materials to be furnished, for which unit bid prices and/or lump sum bid prices are asked.
2. All papers bound with or attached to the proposal form shall be considered a part thereof and shall not be detached or altered when the proposal is submitted.
3. The drawings, specifications and other documents designated in the proposal form will also be considered a part thereof whether attached or not.
4. When quantities for individual items of work are listed in the proposal form for which respective unit prices are asked, said quantities are estimated or approximate and are to be used by the Department only for the purpose of comparing on a uniform basis bids offered for the work. The Department does not, expressly or by implication agree that the actual quantity of work will correspond therewith.
5. On unit price bids, payment will be made only for the actual number of units incorporated into the finished project at the unit price bid, subject to DHHL Construction General Conditions (CGC), Section 4.7, VARIATIONS IN ESTIMATED QUANTITIES.
6. The Bidder's proposal must be submitted on the proposal form furnished by the Department. The proposal must be prepared in full accordance with the instructions herein. The Bidder must state, both in words and numerals, the lump sum price or total sum bid at which the work contemplated is proposed to be done. These prices must be written in ink or typed. In case of a discrepancy between the prices written in words and those written in figures, the words shall govern over the figures. The Bidder shall sign the proposal in the spaces provided with ink.
7. If the proposal is made by an individual, the person's name and post office address must be shown in the space provided. If made by a partnership, the name and post office address of each member of the partnership must be shown and the proposal signed by all partners or evidence in the form of a partnership agreement must be submitted showing the authority of the partner to enter, on behalf of said

partnership, into contract with the Department. If made by a corporation the proposal must show the name, title and business address of the president, secretary and treasurer and also evidence in the form of a corporate resolution must be submitted showing the authority of the particular corporate representative to enter on behalf of said corporation into contract with the Department. If made by a joint-venture the name and post office address of each member of the individual firm, partnership or corporation comprising the joint-venture must be shown with other pertinent information required of individuals, partnerships or corporations as the case may be. The proposal must be signed by all parties to the joint-venture or evidence in the form of a Joint-Venture Agreement must be submitted showing the authority of the joint-venture's representative to enter on behalf of said joint-venture into contract with the Department.

8. Pursuant to the requirements of Section 103D-302, HRS, each Bidder shall include in its bid the name of each person or firm to be engaged by the Bidder on the project as joint contractor or subcontractor indicating also the nature and scope of work to be performed by such joint contractor and/or subcontractor and their respective contractor's license number. A joint contractor or subcontractor performing less than or equal to one percent of the total bid amount is not required to be listed in the proposal. The Bidder shall be solely responsible for verifying that their joint contractor or subcontractor has the proper license at the time of the submitted bid.
9. It is understood and agreed that the Contractor shall make no claim for anticipated profit, loss of profit or unabsorbed field, branch or home office overhead and impact losses due to the exercise of the Departments right to eliminate entire portions of the work or to increase or decrease any or all the quantities shown in the proposal form.
10. By submitting a bid on the proposal form, a Bidder accepts the language therein as its own.

E BID SECURITY

1. Subject to the exceptions in Section 3-122-223(d) HAR, all lump sum bids of \$50,000 (fifty thousand dollars) and higher, or lump sum base bids including alternates of \$50,000 (fifty thousand dollars) and higher, that are not accompanied by bid security are non-responsive. Bid security shall be one of the following: §3-122-222(a) HAR
 - a. Surety bid bond underwritten by a company licensed to issue bonds in this State which shall be substantially in the form of the Surety Bid Bond form in Procurement Circular No. 2007-05; or
 - b. Legal Tender; or
 - c. Certificate of Deposit; credit union share certificate; or cashier's, treasurer's, teller's or official check drawn by, or a certified check accepted

by, and payable on demand to the State by a bank, a savings institution, or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration.

- (a) These instruments may be utilized only to a maximum of \$100,000 (one hundred thousand dollars).
 - (b) If the required security or bond amount totals over \$100,000 (one hundred thousand dollars), more than one instrument not exceeding \$100,000 (one hundred thousand dollars) each and issued by different financial institutions shall be accepted.
 - (c) CAUTION - Bidders are cautioned that certificates of deposit or share certificates with an early withdrawal penalty must have a face value sufficient to cover the maximum penalty amount in addition to the proposal guaranty requirement. If the certificate is made out to two names, the certificate must be assigned unconditionally to the Chairman.
- 2. Unless otherwise stated, the bid security shall be in an amount equal to at least five percent (5%) of the lump sum bid or lump sum base bid including all additive alternates or in an amount required by the terms of the federal funding, where applicable.
 - 3. If the Bidder is a corporation, evidence in the form of a corporate resolution, authorizing the corporate representative to execute the bond must be submitted with the proposal. (See sample in Appendix.) If the Bidder is a partnership, all partners must sign the bond or evidence in the form of a partnership agreement must be submitted showing the authority of the partner.
 - 4. If the Bidder is a joint-venture, all parties to the joint-venture must sign the bond; provided, that one party to the joint-venture may sign on behalf of the joint-venture if evidence in the form of a joint-venture agreement or power of attorney, is submitted showing the authority of the signatory to sign the bond on behalf of the joint-venture.
 - 5. In the case where the award will be made on a group or item basis, the amount of bid security shall be based on the total bid for all groups or items submitted.
 - 6. Bidders are cautioned that surety bid bonds which place a limit in value to the difference between the bid amount and the next acceptable bid, such value not to exceed the purported amount of the bond, are not acceptable. Also, surety bid bonds which place a time limit on the right of the State to make claim other than allowed by statutes or the GENERAL CONDITIONS are not acceptable. Bidders are hereby notified that a surety bid bond containing such limitation(s) is not acceptable and a bid accompanied by such surety bid bond will be automatically rejected.

F. BIDDER'S RESPONSIBILITY FOR EXAMINATION OF CONTRACT DOCUMENTS, SITE OF WORK, ETC.

The Bidder shall carefully examine the project site and study all Contract Documents (as defined in the DHHL Construction General Conditions) and any documents or items referenced therein and contract and bond forms therefore. The submission of a bid shall be considered as a warranty that the Bidder has made such examination and is informed of the conditions to be encountered in performing the Work and of the requirements of the Contract Documents and any documents and items referenced therein, and contract and bonds.

G. ADDENDA AND BID CLARIFICATIONS

1. The terms and requirements of the bid documents (i.e. drawings, specifications and other bid and contract documents) cannot be changed prior to the bid opening except by a duly issued addendum.
2. The Department may alter, increase or decrease the scope of the work or the contract time, provisions and conditions by issuing a written addendum which sets forth such alterations, increase or decrease.
3. If a Bidder discovers what it considers to be a discrepancy, ambiguity, omission or doubt as to the meaning of drawings, specifications and any other bid or contract documents, the Bidder shall request in writing an interpretation from the Chairman.
4. If the Department agrees that a discrepancy, ambiguity, omission or doubt exists, it shall issue a written addendum to the bid documents to all prospective Bidders known to have received a solicitation eight (8) days before the bids are opened. The Department may extend the bid opening to allow at least eight (8) days from the notification date of the addendum. Upon notification by the Department, all Bidders/addressees shall be deemed to be on notice of the information therein whether or not the addendum is actually received. All addenda so issued shall become part of the contract documents.
5. No claim for additional compensation and/or time for performance will be allowed if the Contractor discovered, or in the exercise of reasonable care, should have discovered a discrepancy, ambiguity, omission or doubt for which an interpretation was not requested.

H. SUBSTITUTION OF MATERIALS AND EQUIPMENT BEFORE BID OPENING

1. Brand names of materials or equipment are specified or shown on the drawings to indicate a quality, style, appearance or performance and not to limit competition. The Bidder shall base its bid on one of the specified brand names unless alternate brands are qualified as equal or better in an addendum. Qualifications of such proposed alternate brands shall be submitted in writing and addressed to the Project Manager. The face of the envelope containing the request must be clearly marked "SUBSTITUTION REQUEST". The request may be hand carried or mailed to DHHL, 91-5420 Kapolei Parkway, Kapolei, Hawaii, 96707. In either case, the
Instructions for Bid Submittal

written request must be received by DHHL no later than fourteen (14) days before the bid opening date and time specified in the Notice to Bidders. The written request will be time stamped by DHHL. For the purpose of this section, the time designated by the time stamping device in DHHL shall be official. If the written request is hand carried, the bearer is responsible to ensure that the request is time stamped by DHHL.

2. Submit three (3) sets of the written request, technical brochures, and a statement of variances.
3. A statement of variances must list all features of the proposed substitution which differ from the drawings, specifications and/or product(s) specified and must further certify that the substitution has no other variant features. The brochure and information submitted shall be clearly marked showing make, model, size, options, etc., and must include sufficient evidence to evaluate each feature listed as a variance. A request will be denied if submitted without sufficient evidence. If after installing the substituted product, an unlisted variance is discovered, Contractor shall immediately replace the product with a specified product at no cost to the Department.
4. Any substitution request not complying with the above requirements will be denied. Substitution requests sent to other agencies and received by Project Manager after the deadline above will be denied.
5. An addendum shall be issued to inform all prospective Bidders of any accepted substitution.

I. DELIVERY OF PROPOSALS.

The entire proposal shall be placed together with the bid security, in a sealed envelope and delivered as indicated in the Notice to Bidders. Bids which do not comply with this requirement may not be considered. Proposals will be received up to the time fixed in the public notice for opening of bids and must be in the hands of the official by the time indicated. The time designated by the time stamping device in DHHL shall be official.

J. WITHDRAWAL OR REVISION OF PROPOSAL. Proposal may be modified prior to the deadline to submit the proposal by any of the following documents:

- 1 Withdrawal of Proposals:
 - (a) A signed, written notice received in the office designated in the solicitation;
or
 - (b) A signed written notice faxed or e-mailed to the office designated in the solicitation.
- 2 Modification of Proposals:
 - (a) A signed written notice received in the office designated in the solicitation, accompanied by a duly executed certificate of resolution for corporations,

partnerships and joint-ventures, stating that a modification to the proposal is submitted; and

- (b) The actual modification sealed securely in a separate envelope or container, accompanying the written notice.
- (c) The modification may be sent by fax or email, provided that the originals must be submitted within two working days of the fax or email.

K. PUBLIC OPENING OF PROPOSALS.

Proposals will be opened and read publicly at the time and place indicated in the Notice to Bidders. Bidders, their authorized agents and other interested parties are invited to be present.

L. DISQUALIFICATION OF BIDDERS. Any one or more of the following causes will be considered as sufficient for the disqualification of a Bidder and the rejection of its proposal or proposals:

1. Non-compliance with Section I.A. QUALIFICATION OF BIDDERS;
2. Evidence of collusion among Bidders;
3. Lack of responsibility and cooperation as shown by past work such as failing to complete all of the requirements to close the project within a reasonable time or engaging in a pattern of unreasonable or frivolous claims for extra compensation;
4. Being in arrears on existing contracts with the State of Hawaii, or having defaulted on a previous contract with the State of Hawaii;
5. Lack of proper equipment and/or sufficient experience to perform the work contemplated, as revealed by the Standard Questionnaire and Financial Statement for Bidders;
6. No contractor's license or a contractor's license which does not cover type of work contemplated;
7. More than one proposal for the same work from an individual, firm, partnership, corporation or joint venture under the same or different name;
8. Delivery of bids after the deadline specified in the advertisement calling for bids;
9. Failure to pay, or satisfactorily settle, all bills overdue for labor and materials of former contracts in force at the time of issuance of proposal forms; and/or
10. Debarment or suspension pursuant to the provisions of Chapters 103D, 104 and 444, Hawaii Revised Statutes, as amended.

M. PROTESTS

1. Protests shall be governed by Section 103D-701, Hawaii Revised Statutes, and amended hereafter, and its implementing rules set forth in Title 3, Chapter 126, Subchapter 1, of the Hawaii Administrative Rules, and as amended hereafter.
2. The Chairman is the Department's chief procurement officer to whom protests shall be addressed unless specified otherwise in the solicitation.

N. WRONGFUL REFUSAL TO ACCEPT A BID.

In the event the Chairman, for any reason, wrongfully refuses to accept what would otherwise be a responsive and responsible lowest bid, the exclusive remedy for such lowest Bidder shall be the recovery of the reasonable actual costs of preparing the bid. No other Bidder shall have any claim for damages.

II AWARD AND EXECUTION OF CONTRACT

A. CONSIDERATION OF PROPOSALS; CANCELLATION.

After the proposals are opened and read, the figures will be extended and/or totaled in accordance with the bid prices of the acceptable proposals and the totals will be compared and the results of such comparison shall be made public. In the event of a tie bid, the low Bidder shall be determined in accordance with HAR 3-122-34. In the comparison of bids, words written in the proposals will govern over figures and unit prices will govern over totals. Until the award of the contract, the Department may cancel the solicitation, reject any and all proposals in whole or part and may waive any defects or technicalities whenever such action is deemed to be in the best interest of the Department.

B. IRREGULAR PROPOSALS.

Proposals will be considered irregular and may be rejected for the following reasons:

1. If the proposal is unsigned.
2. If bid security is not in accordance with Section I.E. BID SECURITY.
3. If proposal is on a form other than that furnished by the Department; or if the form is altered or any part thereof detached.
4. If the proposal shows any non-compliance with applicable law, alteration of form, additions not called for, conditional bids, incomplete bids, non-initialed erasures, other defects, or if the prices are obviously unbalanced.
5. If the Bidder adds any provisions reserving the right to accept or reject an award.
6. If the Bidder adds any provisions reserving the right to enter into a contract pursuant to an award.

7. When a proposal is signed by an officer or officers of a corporation and a currently certified corporate resolution authorizing such signer(s) to submit such proposal is not submitted with the proposal or when the proposal is signed by an agent other than the officer or officers of a corporation or a member of a partnership and a power of attorney is not submitted with the proposal.
8. Where there is an incomplete or ambiguous listing of joint contractors and/or subcontractors the proposal may be rejected. All work which is not listed as being performed by joint contractors and/or subcontractors must be performed by the Bidder with its own employees. Additions to the list of joint contractors or subcontractors will not be allowed. Whenever there is a doubt as to the completeness of the list, the Bidder will be required to submit within five (5) working days, a written confirmation that the work in question will be performed with its own work force. Whenever there is more than one joint contractor and/or subcontractor listed for the same item of work, the Bidder will be required to either confirm in writing within five (5) working days that all joint contractors or subcontractors listed will actually be engaged on the project or obtain within five (5) working days written releases from those joint contractors and/or subcontractors who will not be engaged.
9. If in the opinion of the Chairman, the Bidder and/or its listed subcontractors do not have the contractor's licenses or combination of contractor's licenses necessary to complete all of the work.

C. CORRECTION OF BIDS AND WITHDRAWAL OF BIDS (§3-122-31 HAR)

1. Corrections to bids after bid openings but prior to award may be made under the following conditions:
 - (a) If the mistake is attributable to an arithmetical error, the Chairman shall so correct the mistake. In case of error in extension of bid price, the unit price shall govern.
 - (b) If the mistake is a minor informality which shall not affect price, quantity, quality, delivery, or contractual conditions, the Bidder shall request correction by submitting proof of evidentiary value which demonstrates that a mistake was made. The Chairman shall prepare a written approval or denial in response to this request. Examples of such mistakes include:
 - (1) Typographical errors;
 - (2) Transposition errors;
 - (3) Failure of a Bidder to sign the bid, but only if the unsigned bid is accompanied by other material indicating the Bidder's intent to be bound.
 - (c) For reasons not allowable under Subsections II.C.1.(a) and II.C.1.(b) when the Chairman determines that the correction or waiver of an obvious mistake

is in the best interest of the Department or is warranted for the fair treatment of other Bidders.

2. Withdrawal of bids after bid opening but prior to award may be made when the bid contains a mistake attributable to an obvious error which affects price, quantity, quality, delivery, or contractual conditions, and the Bidder requests withdrawal by submitting proof of evidentiary value which demonstrates that a mistake was made. The Chairman shall prepare a written approval or denial in response to this request.
3. Correction or withdrawal of bids after award is not permissible except in response to a written withdrawal or correction request by the Contractor, and the Chairman makes a written determination that the Department's procurement practices and policies would not be materially affected by such correction or withdrawal.

D. AWARD OF CONTRACT

1. The award of contract, if it be awarded, will be made within one hundred twenty (120) consecutive calendar days after the opening of the proposals to the lowest responsible and responsive Bidder (including the alternate or alternates which may be selected by the Chairman in the case of alternate bids) whose proposal complies with all the requirements prescribed, but in no case will an award be made until all necessary investigations are made. The successful Bidder will be notified, by letter mailed to the address shown on the proposal, that its bid has been accepted and that it has been awarded the contract.
2. If the contract is not awarded within the one hundred twenty (120) days noted in Subsection II.D.1 above, the Department may request the successful Bidder to extend the time for the acceptance of its bid. The Bidder may reject such a request without penalty; and in such case, the Department may at its sole discretion make a similar offer to the next lowest responsive and responsible Bidder and so on until a bid is duly accepted or until the Department elects to stop making such requests.
3. No contract will be awarded to any person or firm suspended or debarred under the provisions of Chapters 103D, 104 and Chapter 444, Hawaii Revised Statutes as amended.
4. The contract will be drawn on the forms furnished by the Chairman. The contract will not be binding on the Department until all required signatures have been affixed thereto and written certification that funds are available for the work has been made.
5. Prior to award of the contract, the Department shall verify compliance with Sections 103D-310 and 103D-328 HRS via Hawaii Compliance Express (HCE).

E. CANCELLATION OF AWARD.

The Department reserves the right to cancel the award of any contract at any time before the execution of said contract by all parties. The exclusive remedy to the awardee for such cancellation shall be payment of the reasonable bid preparation costs and the

reimbursement of any direct expenses incurred as directed in the Notice of Award. Such cancellation will not incur any liability by the Department to any other Bidder.

F. RETURN OF BID SECURITY.

All bid securities, except those of the four (4) lowest Bidders, will be returned following the opening and checking of the proposals. The retained bid securities of the four lowest Bidders will be returned within five (5) working days following the complete execution of the contract.

G. REQUIREMENT OF PERFORMANCE AND PAYMENT BONDS

1. Performance and Payment Bonds shall be required for contracts \$50,000 (fifty thousand dollars) and higher. At the time of the execution of the contract, the successful Bidder shall file good and sufficient performance and payment bonds on the form furnished by the Department, each in an amount equal to one hundred percent (100%) of the amount of the contract price unless otherwise stated in the solicitation of bids. Acceptable performance and payment bonds shall be limited to the following:
 2. Surety bonds underwritten by a company licensed to issue bonds in this State; or
 3. A certificate of deposit; credit union share certificate; or cashier's, treasurer's, teller's or official check drawn by, or a certified check accepted by, and payable on demand to the Department by a bank, a savings institution, or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration.
 - (a) These instruments may be utilized only a maximum of \$100,000 (one hundred thousand dollars).
 - (b) If the required security or bond amount totals over \$100,000 (one hundred thousand dollars), more than one instrument not exceeding \$100,000 (one hundred thousand dollars) each and issued by different financial institutions shall be acceptable.
4. If the Contractor fails to deliver the required performance and payment bonds, the Contractor's award shall be canceled, the Department shall have the remedies provided below under FAILURE TO EXECUTE THE CONTRACT and award of the contract shall be made to the next lowest responsible and responsive Bidder.

H. EXECUTION OF THE CONTRACT

1. The contract shall be signed by the successful Bidder and returned, together with satisfactory performance and payment bonds, within ten (10) calendar days after the Bidder is awarded the contract for execution or within such further time as the Chairman may allow. No proposal or contract shall be considered binding upon the Department until the contract has been fully and properly executed by all parties thereto. For projects funded with State Capital Improvement Project (CIP) funds, the Chairman shall also endorse thereon its certificate, as required by Section 103D-309, HRS, that there is an available unexpended appropriation or balance of an appropriation over and above all outstanding contracts sufficient to cover the Department's amount required by such contract.
2. On any individual award totaling less than \$25,000 (twenty five thousand dollars), the Department reserves the right to execute the contract by the issuance of a Purchase Order. Issuance of a Purchase Order shall result in a binding contract between the parties without further action by the Department. The issuance of a Purchase Order shall not be deemed a waiver of the General Conditions, and Contract Document requirements.

I. FAILURE TO EXECUTE THE CONTRACT

1. Before the Award. If a low Bidder without legal justification withdraws its bid after the opening of bids but before the award of the contract, the Department shall be entitled to retain as damages the amount established as bid security, and may take all appropriate actions to recover the damages sum from the property or third-party obligations deposited as bid security.
2. After the Award. If the Bidder to which a contract is awarded shall fail or neglect to enter into the contract and to furnish satisfactory security within ten (10) calendar days after such award or within such further time as the Chairman may allow, the Department shall be entitled to recover from such Bidder its actual damages, including but not limited to the difference between the bid and the next lowest responsive bid, as well as personnel and administrative costs, consulting and legal fees and other expenses incurred in arranging a contract with the next low responsible and responsive Bidder or calling for new bids. The Department may apply all or part of the amount of the bid security to reduce its damages. If upon determination by the Department that the bid security exceeds the amount of its damages, it shall release or return the excess to the person who provided same.
3. Chairman's Options. Upon a withdrawal of the lowest responsive bid, or upon a refusal or failure of the lowest Bidder to execute the contract, the Chairman may thereupon award the contract to the next lowest responsible and responsive Bidder or may call for new bids, whichever method the Chairman may deem to be in the best interests of the Department.

IFB Checklist for Bidders
IFB-16- HHL-005
2-Bedroom House Renovation (Lot 58-B-1)
& 3-Bedroom House Renovation (Lot 131-A-3)

Items required prior to Bid Opening:

- ☐ Notice of Intention to Bid, no later than 2:00 p.m., November 24, 2015 .
- ☐ SPO Form 21 (Standard Qualification Questionnaire), submitted to DHHL, Land Development Division by 2:00 p.m., November 24, 2015 .
- ☐ SPO-38 (Hawaii Product Preference Request, if any), by 4:00 p.m., November 13, 2015

Items required with Sealed Bid:

- ☐ Bid Package Envelope Cover (with the words “Sealed Bid”), included with this IFB.

The Envelope Cover Form shall be used for Sealed Bid Envelopes. The cover form should be glued or taped to the front of the bid envelope and the information type- written or printed clearly in ink.

- ☐ Bid Offer Form (included with this IFB)

The total sum bid amount must be typed or clearly written in both numbers and words in the appropriate space on page 3 of the Bid Offer Form. Illegible writing on any portion of the Bid Offer Form, except for the signee’s signature, may be grounds for considering a Bid “non-responsive”.

- ☐ Corporate Resolution (Indicating who is authorized to sign bid documents and contracts)
- ☐ Bid Security
- ☐ Form 1 – Certification of Bidder’s Participation in Approved Apprenticeship Program Under Act 17 (Apprenticeship Agreement Preference, if any).

DEPARTMENT OF HAWAIIAN HOME LANDS

**2-BEDROOM HOUSE RENOVATION (LOT 58-B-1)
&
3-BEDROOM HOUSE RENOVATION (LOT 131-A-3)**

HILO, ISLAND OF HAWAII, HAWAII

IFB -16-HHL-005

SEALED BID

Submitted by: _____

Address: _____

Date: _____

Bid Package Envelope Cover

**STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS**

BID OFFER FORM FOR

**2-BEDROOM HOUSE RENOVATION (LOT 58-B-1)
&
3-BEDROOM HOUSE RENOVATION (LOT 131-A-3)**

HILO, ISLAND OF HAWAII, HAWAII

**TAX MAP KEY
(3) 2-1-021:072 & (3) 2-1-021:010**

IFB No.: IFB-16-HHL-005

Chairman
Hawaiian Homes Commission
Department of Hawaiian Home Lands
91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

The undersigned has carefully examined, read, and understands the terms and conditions in the Plans and Specifications, Special Conditions attached hereto, DHHL Construction General Conditions, and General Conditions specified in the Invitation for Bids (IFB) No. IFB-16-HHL-005. The State of Hawaii's (State) Contract for Goods and Services Based on Competitive Sealed Bids AG-003 Rev. 6/22/2009, AG-008 103D General Conditions, are included by reference and made part hereof and available upon written request to the Procurement Officer. The undersigned hereby submits the following offer to perform the work for IFB No. IFB-16-HHL-005 as specified herein, all in accordance with the true intent and meaning thereof.

The undersigned understands and agrees that:

1. The State reserves the right to reject any and all offers and to waive any items that are defective when, in the State's opinion, such rejection or waiver will be in the best interest of the State. A solicitation may be rejected in whole or part when in the best interest of the State.
2. If awarded the contract, all services will be in accordance with Hawaii Revised Statutes (HRS) § 103-55.5.
3. In submitting this offer, the Offeror is not in violation of HRS Chapter 84, concerning prohibited State contracts.
4. By submitting this offer, the Offeror certifies that the offer was independently arrived at without collusion and the Offeror did not participate in any practices to restrict competition.
5. It is understood that the failure to receive any addendum shall not relieve the Offeror from any obligation under this IFB.

Date: _____

The undersigned represents that it is: **(Check ✓ one only)**

- ☐ A **Hawaii business** incorporated or organized under the laws of the State of Hawaii; **OR**
☐ A **Compliant Non-Hawaii business** not incorporated or organized under the laws of the State of Hawaii, is or shall be registered at the State of Hawaii Department of Commerce and Consumer Affairs Business Registration Division (DCCA-BREG) to do business in the State of Hawaii.

State of incorporation: _____

Offeror is:

☐ Sole Proprietor ☐ Partnership ☐ Corporation ☐ Joint Venture ☐ Other: _____

Federal ID No.: _____

Hawaii General Excise Tax ID No.: _____

Telephone No.: _____

Fax No.: _____

E-Mail Address.: _____

Payment address (other than street address below)

(Street Address, City, State, Zip Code)

Business address

(Street Address, City, State, Zip Code)

Respectfully submitted:

Authorized (Original) Signature

Name and Title (Please Type or Print)

* _____

Exact Legal Name of Company (Offeror)

*If Offeror shown above is a "dba" or a "division" of a corporation, furnish the exact legal name of the corporation under which the awarded contract will be executed:

The following bid is hereby submitted for 2-Bedroom House Renovation (Lot 58-B-1) and 3-Bedroom House Renovation (Lot 131-A-3) to the Department of Hawaiian Home Lands.

Item No.	SITE WORK	Price/Unit	Total Price
LOT 58-B-1			
1	General Requirements	L.S.	\$
2	Demolition	L.S.	\$
3	Landscape	L.S.	\$
4	Construction of Concrete	L.S.	\$
5	Finish Carpentry	L.S.	\$
6	Sealants	L.S.	\$
7	Doors	L.S.	\$
8	Windows	L.S.	\$
9	Gyp Board	L.S.	\$
10	Paint	L.S.	\$
11	Smoke Detectors	L.S.	\$
12	Hazmat	L.S.	\$
13	HVAC	L.S.	\$
14	Plumbing	L.S.	\$
15	Electric	L.S.	\$
16	Roofing	L.S.	\$

A	SUBTOTAL A (Items 1-16)		\$ _____
LOT 131-A-3			
17	General Requirements	L.S.	\$ _____
18	Demolition	L.S.	\$ _____
19	Landscape	L.S.	\$ _____
20	Construction of Concrete	L.S.	\$ _____
21	Finish Carpentry	L.S.	\$ _____
22	Sealants	L.S.	\$ _____
23	Doors	L.S.	\$ _____
24	Windows	L.S.	\$ _____
25	Gyp Board	L.S.	\$ _____
26	Paint	L.S.	\$ _____
27	Smoke Detectors	L.S.	\$ _____
28	Hazmat	L.S.	\$ _____
29	HVAC	L.S.	\$ _____
30	Plumbing	L.S.	\$ _____
31	Electric	L.S.	\$ _____
32	Roofing	L.S.	\$ _____
B	SUBTOTAL B (Items 17-32)		\$ _____

33	SUBTOTAL (A + B)		\$ _____
34	GET on (Line 33)		\$ _____
35	TOTAL (Line 33 + 34)		\$ _____

TOTAL SUM BID = _____ Dollars(\$ _____).

The prices herein for the above items shall include all materials, labor, tools, equipment, machinery and all incidentals necessary, inclusive of general excise tax to install or to construct these items in place complete and in accordance with the plans and specifications contained in this IFB.

HAWAII PRODUCTS PREFERENCE

In accordance with HRS §103D-1002, the Hawaii products preference is applicable to this solicitation. Hawaii Products [are / may be] available for those items noted on the offer form. The Hawaii products list is available on the SPO webpage at <http://hawaii.gov/spo>, under Toolbox/QuickLinks click on Goods, Services and Construction, then click on Goods, Services and Construction for Vendors, Contractors and Service Providers, under Preferences, click on Preferences pursuant to HRS 103D Part X including Hawaii Products, then click on Preference for Hawaii Products, and select *Hawaii Products List* to view.

Offeror submitting a Hawaii Product (HP) shall identify the HP on the solicitation offer page(s). Any person desiring a Hawaii product preference shall have the product(s) certified and qualified if not currently on the Hawaii products list, prior to the deadline for receipt of offer(s) specified in the procurement notice and solicitation. The responsibility for certification and qualification shall rest upon the person requesting the preference.

Persons desiring to qualify their product(s) not currently on the Hawaii product list shall complete form SPO-038, *Certification for Hawaii Product Preference* and submit to the Procurement Officer issuing the solicitation (IFB or RFP), and provide all additional information required by the Procurement Officer. For each product, one form shall be completed and submitted (i.e. 3 products should have 3 separate forms completed). Form SPO-038 is available on the SPO webpage at <http://spo.hawaii.gov/all-forms/>. The manufacturers and producers must complete and submit SPO-38 to DHHL. The form must be received by DHHL no later than **2:00 p.m., November 13, 2015**. Submittal by facsimile (808 620-9299) is acceptable. If DHHL receives and approves SPO-38s relating to this solicitation DHHL will issue an addendum listing the additional certified and qualified Hawaii products by **4:00 p.m., November 18, 2015**.

Bidders may claim a Hawaii product preference for products that it manufactures or produces with its own workforce and equipment. The SPO-38, *Certification for Hawaii Product Preference*, must be submitted in accordance with the procedures described above in order for Bidder to claim a Hawaii product preference for such Hawaii products Bidder intends to use in this work.

When a solicitation contains both HP and non-HP, then for the purpose of selecting the lowest bid or purchase price only, the price offered for a HP item shall be decreased by subtracting 10% for the class I or 15% for the class II HP items offered, respectively. The lowest total offer, taking the preference into consideration, shall be awarded the contract unless the offer provides for additional award criteria. The contract amount of any contract awarded, however, shall be the amount of the price offered, exclusive of the preferences.

Change in Availability of Hawaii product. In the event of any change that materially alters the offeror's ability to supply Hawaii products, the offeror shall notify the procurement officer in writing no later than five working days from when the offeror knows of the change and the parties shall enter into discussions for the purposes of revising the contract or terminating the contract for convenience.

SCHEDULE OF ACCEPTABLE HAWAII PRODUCTS AND DESIGNATION OF HAWAII PRODUCTS TO BE USED			
ACCEPTABLE HAWAII PRODUCTS		HAWAII PRODUCTS TO BE USED Cost FOB Jobsite, Unloaded Including Applicable General Excise and Use Taxes	
Description	Manufacturer	Base Bid	Additive Alternate
		\$ _____	\$ _____
		\$ _____	\$ _____
		\$ _____	\$ _____
		\$ _____	\$ _____
		\$ _____	\$ _____
		\$ _____	\$ _____
		\$ _____	\$ _____
		\$ _____	\$ _____
		\$ _____	\$ _____
		\$ _____	\$ _____

It is further understood by the Bidder that if upon being granted Hawaii Products, and being awarded the contract, if the Bidder fails to use such products or meet the requirements of such preference, the Bidder shall be subject to penalties, if applicable.

APPRENTICESHIP AGREEMENT PREFERENCE

Hawaii Revised Statutes §103-55.6 (ACT 17, SLH 2009) provides for a Hawai'i Apprenticeship Preference for public works contracts having an estimated value of \$250,000.00 or more. The preference shall be in the form of a 5% bid adjustment applied to the bidder's amount for bidders that are parties to apprenticeship agreements. The estimated value of this public works contract is \$250,000.00 or more and the apprenticeship agreement preference **shall** apply.

To be eligible for the preference, the bidder shall:

1. Be a party to an apprenticeship agreement registered with the DLIR at the time the bid is made for each apprenticeable trade the bidder will employ to construct the public works project for which the bid is being made.
 - a. The apprenticeship agreement shall be registered and conform to the requirements of HRS Chapter 372.
 - b. Subcontractors do not have to be a party to an apprenticeship agreement for the bidder to obtain the preference.
 - c. The bidder is not required to have apprentices in its employ at the time the bid is submitted to qualify for the preference.
 - d. If a bidder's employee is multi-skilled and able to perform work in more than one trade (for example, a project requires a carpenter and a laborer, and the employee is a carpenter, but is also able to perform the work of a laborer), the bidder need only be a party to the carpenter's apprenticeship agreement and does not need to be a party to the laborer's apprenticeship agreement in order to qualify for the preference. The bidder is not "employing" a laborer, only a carpenter, and so only needs to be a party to the carpenter's apprenticeship agreement.
 - e. Qualification for the preference is given on a project-by-project basis and depends upon the specific offer for a specific project. A bidder's employees may vary from project to project and may qualify for the preference on one project but may not qualify on another project. For example, on one project, if the bidder only employs carpenters to perform work in the carpentry and labor trades, then the bidder only needs to be a party to the carpenter's apprenticeship agreement in order to qualify for the preference. However, on another project if the same bidder employs both carpenters and laborers, then the bidder will not qualify for the preference if the bidder is only a party to the carpenter's apprenticeship agreement and not the laborer's apprenticeship agreement.
2. State the trades the bidder will employ to perform the work;
3. For each trade to be employed to perform the work, the bidder shall submit a completed signed original *CERTIFICATION OF BIDDER'S PARTICIPATION IN APPROVED*

APPRENTICESHIP PROGRAM UNDER ACT 17 (Certification Form 1) verifying the participation in an apprenticeship program registered with the State Department of Labor and Industrial Relations (DLIR);

4. The *Certification Form 1* shall be authorized by an apprenticeship sponsor of the DLIR list of registered apprenticeship programs. The authorization shall be an original signature by an authorized official of the apprenticeship sponsor; and
5. The completed *Certification Form 1* for each trade must be submitted by the bidder with the offer. A facsimile or copy is acceptable to be submitted with the offer; however, the completed **signed original** must be submitted within five (5) working days of the due date of the offer. If the signed original is not received within this timeframe, the preference may be denied. Previous certifications shall not apply.

Failure to comply with ALL of the conditions noted above, without exception, shall disqualify the Bidder from qualifying for, and thus receiving, benefit of the Hawai'i Apprenticeship Preference.

The *Certification Form 1* and the List of Construction Trades in Registered Apprenticeship Programs is available on the DLIR website at: <http://labor.hawaii.gov/wdd/>.

Upon receiving *Certification Form 1*, the DHHL will verify with DLIR that the apprenticeship program is on the list of apprenticeship programs registered with the DLIR. If the program(s) are not confirmed by the DLIR, the bidder will not qualify for the preference.

If the bidder is certified to participate in an apprenticeship program for each trade which will be employed by the bidder for the project, a preference will be applied to decrease the bidder's total bid amount by five per cent (5%) for evaluation purposes.

Should the bidder qualify for other preferences (for example, Hawaii Products Preference), all applicable preferences shall be applied to the bid amount.

While preference for Hawai'i Apprenticeship will be taken into consideration to determine the low bidder, the contract awarded shall be the original bid amount, exclusive of any preferences. The preference is only for evaluation purposes.

The bidder hereby certifies that it will employ the following apprenticeable trades to perform the work for this project:

<u>LIST OF APPRENTICEABLE TRADES TO BE EMPLOYED</u>	
<u>TRADE</u>	<u>APPRENTICESHIP PROGRAM SPONSOR</u>

(Add additional sheets if necessary)

ALL JOINT CONTRACTORS OR SUBCONTRACTORS TO BE ENGAGED ON THIS PROJECT

The Bidder certifies that the following is a complete listing of all joint Contractors or Subcontractors covered under Chapter 444, Hawaii Revised Statutes, who will be engaged by the Bidder on this project to perform the nature and scope of work indicated pursuant to Section 103D-302, Hawaii Revised Statutes, and understands that failure to comply with this requirement shall be just cause for rejection of the bid.

The Bidder further understands that only those joint Contractors or Subcontractors listed shall be allowed to perform work on this project and that all other work necessary shall be performed by the Bidder with his own employees. If no joint Contractor or Subcontractor is listed, it shall be construed that all of the work shall be performed by the Bidder with his own employees.

The Bidders must be sure that they possess and that the Subcontractors listed in the bid possess all the necessary licenses needed to perform the work for this project. The bidder shall be solely responsible for assuring that all the specialty licenses required to perform the work are covered in his bid.

The Bidder shall include the license number of the joint Contractors or Subcontractors listed below. Failure to provide the correct names and license numbers as registered with the Contractor's Licensing Board may cause rejection of the bid submitted.

Complete Firm Name of Joint Contractor or Subcontractor	License Number	Hawaii Tax ID Number	Nature and Scope of Work to be Performed

(Add additional sheets if necessary)

METHOD OF AWARD

Bidder is required to bid on the entire project. The low bidder shall be determined by the procedures outlined in items 1) through 4) below:

- 1) Prior to opening of bids, the State will determine the amount of funds available for the project. This amount will be designated the "control amount". The control amount shall be announced at, and prior to the opening of bids.
- 2) The Base Bid and Alternate, if any, of each Bidder will be adjusted to reflect the applicable preferences in accordance with Chapter 103D, HRS. The Alternate, if any, will then be added to the Base Bid and compared with the control amount.
- 3) The low bidder shall be the Bidder having the lowest aggregate amount, within the control amount (after application of the various preferences), for the Base Bid plus the Alternate, if any.
- 4) If adding the Alternate, if any, would make the aggregate amount exceed the control amount for all Bidders, the low bidder shall be the Bidder having the lowest Base Bid after application of the various preferences.

It is further understood and agreed that:

- 1) The Chairman reserves the right to reject any and/or all bids and waive any defects when, in his opinion, such rejection or waiver will be in the best interest of the State.
- 2) After determining the low bidder, an award may be made either on the amount of the Base Bid alone, or including the Alternate (exclusive of preferences), if:
 - a. It is in the best interest of the State;
 - b. Funds are available at time of the award; and
 - c. The combination of the Base Bid plus Alternate does not change the apparent low bidder.
- 3) In the event the Base Bid for all Bidders exceed the control amount, the Chairman reserves the right to negotiate with the lowest responsible and responsive bidder to award a contract within available funds.
- 4) In the event the award is made for the Base Bid alone, the Chairman reserves the right to amend the contract at a later date to include the Alternate should funds subsequently become available.

OTHER CONDITIONS

- 1) The liquidated damages per working day for failure to complete the work on time have been determined and are noted in the Special Conditions of the sample contract.
- 2) By submitting this bid, the undersigned is declaring that his firm has not been assisted or represented on this matter by an individual who has, in a State capacity, been involved in the subject matter of this contract in the past one (1) year.
- 3) By submitting this bid, the undersigned is declaring that Bidder's own organization will perform at least 20% of the contractor's work. For the purposes of this section, the Contractor's work is defined as: direct cost labor for contractor's forces; direct cost materials installed by the contractor's direct cost labor force; direct cost equipment, either owned or leased, used by the contractor's direct cost labor force; and field overhead cost to include: field supervision, field office trailer (if any), field office equipment and supplies, etc.
- 4) Upon the acceptance of the bid by the Chairman, the undersigned must enter into and execute a contract for the same and furnish a Performance and Payment Bond, as required by law. These bonds shall conform to the provisions of Sections 103D-324 and 325, Hawaii Revised Statutes, and any law applicable thereto.
- 5) The quantities given herewith are approximate only and are subject to increase or decrease.
- 6) The estimated quantities shown for items for which a UNIT PRICE is asked in this bid are only for the purpose of comparing on a uniform basis bids offered for the work under this contract. No claim shall be filed for anticipated profit or loss because of any difference between the quantities of the various classes of work done or the materials and equipment actually installed and the said estimated quantities. Payment on UNIT PRICE items will be made only for the actual number of units incorporated into the finished project at the contract UNIT PRICE.
- 7) If the product of the UNIT PRICE BID and the number of units does not equal the total amount stated by the undersigned in the Bid for any item, it will be assumed that the error was made in computing the total amount. For the purpose of determining the lowest Bidder, the stated UNIT PRICE alone will be considered as representing the Bidder's intention and the total amount bid on such items shall be considered to be the amount arrived at by multiplying the UNIT PRICE by the number of units.
- 8) Certification for Safety and Health Programs for Bids in Excess of \$100,000. In accordance with Sections 103D-327 and 396-18, Hawaii Revised Statutes, by submitting this bid, the undersigned certifies that his firm will have a written Safety and Health Plan for this project that will be available and implemented by the Notice to Proceed date of this project. Details of the requirements of this plan may be obtained from the Department of Labor and Industrial Relations, Occupational, Safety and Health Division.

- 9) Any contract arising out of this offer is subject to the approval of the Department of the Attorney General as to form, and to all further approvals, including the approval of the Governor, required by statute, regulation, rule, order, or other directive.

Receipt of the following addenda issued by the Department is acknowledged by the date(s) of receipt indicated below:

	Date		Date
Addendum No. 1	_____	Addendum No. 5	_____
Addendum No. 2	_____	Addendum No. 6	_____
Addendum No. 3	_____	Addendum No. 7	_____
Addendum No. 4	_____	Addendum No. 8	_____

It is understood that failure to receive any such addendum shall not relieve the Contractor from any obligation under this IFB as submitted.

Bid Security in the amount of:_____

_____ DOLLARS (\$_____)

as required by law, is enclosed herewith in the form of:

<input type="checkbox"/> Surety Bond (*1)	<input type="checkbox"/> Official Check (*3)
<input type="checkbox"/> Legal Tender (*2)	<input type="checkbox"/> Share Certificate (*3)
<input type="checkbox"/> Cashier's Check (*3)	<input type="checkbox"/> Teller's Check (*3)
<input type="checkbox"/> Certificate of Deposit (*3)	<input type="checkbox"/> Treasurer's Check (*3)
<input type="checkbox"/> Certified Check (*3)	

Respectfully submitted,

Name of Company, Joint Venture or Partnership

License No.

By _____
Signature (*4)

Title:_____

Date:_____

Address:_____

Telephone No.:_____

(IF A CORPORATION, AFFIX CORPORATE SEAL TO SIGNATURE, BE SURE TO FILL IN ATTACHED LIST OF SUBCONTRACTORS. THIS BID FORM MAY NOT BE ALTERED AND BIDDERS MAY NOT QUALIFY OR CONDITION THEIR BIDS IN ANY WAY.)

PLEASE FILL OUT THE ATTACHED CERTIFICATE OF RESOLUTION GIVING EVIDENCE OF THE AUTHORITY OF THIS OFFICER TO SUBMIT BIDS ON BEHALF OF THE COMPANY.

NOTES:

- *1. Surety bond underwritten by a company licensed to issue bonds in this State;
- *2. Legal tender; or
- *3. A certificate of deposit; share certificate; or cashier's, treasurer's, teller's, or official check accepted by, and payable on demand to the State by a bank, a savings institution, or credit union insured by the Federal Deposit Insurance Corporation of the National Credit Union Administration.
 - A. These instruments may be utilized only to a maximum of \$100,000.
 - B. If the required security or bond amount totals over \$100,000, more than one instrument not exceeding \$100,000 each and issued by different financial institutions shall be accepted.
- *4. Please attach to this page evidence of the authority of this officer to submit bids on behalf of the Company, and also the names and residence addresses of all officers of the Company.
- *5. Fill in all blank spaces with information asked for or bid may be invalidated. BID MUST BE INTACT; MISSING PAGES MAY INVALIDATE YOUR BID.

CERTIFICATE OF RESOLUTION

I, _____, Secretary of _____, a Hawaii Corporation, do hereby certify that the following is a full, true and correct copy of a resolution duly adopted by the Board of Directors of said Corporation, at its meeting duly called and held at the office of the Corporation _____, Hawaii, on _____ day of _____, 20____, at which a quorum was present and acting throughout; and that said resolution has not been modified, amended or rescinded and continues in full force and effect.

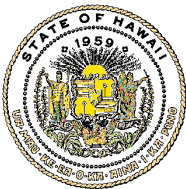
“RESOLVED that any individual at the time holding the position(s) of _____, be, and each of them hereby is, authorized to execute on behalf of the Corporation any bid, proposal or contract for the sale or rental of the products of the Corporation or for the services to be performed by the Corporation and to execute any bond required by any such bid, proposal or contract with the United States Government or the State of Hawaii or the City and County of Honolulu, or any County of Municipal Government of said State, or any department or subdivision of any of them.”

IN WITNESS THEREOF, I have hereunto set my hand and affixed the corporate seal of said

_____ this _____ day of _____, 20____.

Secretary

END OF BID



STATE OF HAWAII
CONTRACT FOR GOODS OR SERVICES
BASED UPON
COMPETITIVE SEALED BIDS

This Contract, executed on the respective dates indicated below, is effective as of _____, _____, between _____ Department of Hawaiian Home Lands _____,
(Insert name of state department, agency, board or commission)
State of Hawaii ("STATE"), by its _____ Chairman, Hawaiian Homes Commission _____,
(Insert title of person signing for State)
(hereafter also referred to as the HEAD OF THE PURCHASING AGENCY or designee ("HOPA")),
whose address is 91-5420 Kapolei Parkway, Kapolei, Hawaii 96707
_____ and _____
("CONTRACTOR"), a _____
(Insert corporation, partnership, joint venture, sole proprietorship, or other legal form of the Contractor)
under the laws of the State of _____, whose business address and federal
and state taxpayer identification numbers are as follows: _____

RECITALS

A. The STATE desires to retain and engage the CONTRACTOR to provide the goods or services, or both, described in this Contract and its attachments, and the CONTRACTOR is agreeable to providing said goods or services, or both.

B. The STATE has issued an invitation for competitive sealed bids, and has received and reviewed bids submitted in response to the invitation.

C. The solicitation for bids and the selection of the CONTRACTOR were made in accordance with section 103D-302, Hawaii Revised Statutes ("HRS"), Hawaii Administrative Rules, Title 3, Department of Accounting and General Services, Subtitle 11 ("HAR"), Chapter 122, Subchapter 5, and applicable procedures established by the appropriate Chief Procurement Officer ("CPO").

D. The CONTRACTOR has been identified as the lowest responsible and responsive bidder whose bid meets the requirements and criteria set forth in the invitation.

E. Pursuant to _____ HHCA of 1920, as amended _____, the STATE
(Legal authority to enter into this Contract)
is authorized to enter into this Contract.

F. Money is available to fund this Contract pursuant to:

(1) Hawaiian Homes Trust Fund

(Identify state sources)

or (2) _____

(Identify federal sources)

or both, in the following amounts: State \$ _____

Federal \$ _____

NOW, THEREFORE, in consideration of the promises contained in this Contract, the STATE and the CONTRACTOR agree as follows:

1. Scope of Services. The CONTRACTOR shall, in a proper and satisfactory manner as determined by the STATE, provide all the goods or services, or both, set forth in the Invitation for Bids number IFB-16-HHL- ("IFB") * and the CONTRACTOR'S accepted bid ("Bid"), both of which, even if not physically attached to this Contract, are made a part of this Contract.

2. Compensation. The CONTRACTOR shall be compensated for goods supplied or services performed, or both, under this Contract in a total amount not to exceed

* and summarized in Attachment S-1

TBD DOLLARS
(\$ TBD), including approved costs incurred and taxes, at the time and in the manner set forth in the IFB and CONTRACTOR'S Bid. And generally described in Attachment S-2.

3. Time of Performance. The services or goods required of the CONTRACTOR under this Contract shall be performed and completed in accordance with the Time of Performance set forth in Attachment-S3, which is made a part of this Contract.

4. Bonds. The CONTRACTOR ☒ is required to provide or ☐ is not required to provide: ☐ a performance bond, ☐ a payment bond, ☒ a performance and payment bond each in the amount of _____ DOLLARS (\$ _____).

5. Standards of Conduct Declaration. The Standards of Conduct Declaration of the CONTRACTOR is attached to and made a part of this Contract.

6. Other Terms and Conditions. The General Conditions, Construction General Conditions, and any Special Conditions are attached to and made a part of this Contract. In the event of a conflict between the General Conditions, Construction General Conditions, and the Special Conditions, the Special Conditions shall control. In the event of a conflict among the documents, the order of precedence shall be as follows: (1) this Contract, including all attachments and addenda; (2) the IFB, including all attachments and addenda; and (3) the CONTRACTOR'S Bid.

7. Liquidated Damages. Liquidated damages shall be assessed in the amount of THREE HUNDRED and 00/100 DOLLARS (\$ 300.00) per day, in accordance with the terms of paragraph 9 of the General Conditions.

8. Notices. Any written notice required to be given by a party to this Contract shall be (a) delivered personally, or (b) sent by United States first class mail, postage prepaid. Notice to the STATE shall be sent to the HOPA'S address indicated in the Contract. Notice to the CONTRACTOR shall be sent to the CONTRACTOR'S address indicated in the Contract. A notice shall be deemed to have been received three (3) days after mailing or at the time of actual receipt, whichever is earlier. The CONTRACTOR is responsible for notifying the STATE in writing of any change of address.

IN VIEW OF THE ABOVE, the parties execute this Contract by their signatures, on the dates below, to be effective as of the date first above written.

STATE

(Signature)

Jobie M. K. Masagatani

(Print Name)

Chairman, Hawaiian Homes Commission

(Print Title)

(Date)

CONTRACTOR

(Name of Contractor)

(Signature)

(Print Name)

(Print Title)

(Date)

CORPORATE SEAL

(If available)

APPROVED AS TO FORM:

Deputy Attorney General

*Evidence of authority of the CONTRACTOR'S representative to sign this Contract for the CONTRACTOR must be attached.



STATE OF HAWAII

CONTRACTOR'S ACKNOWLEDGMENT

STATE OF _____)
) SS.
_____ COUNTY OF _____)

On this _____ day of _____, _____ before me appeared
_____ and _____, to me
known, to be the person(s) described in and, who, being by me duly sworn, did say that he/she/they is/are
_____ and _____ of
_____, the
CONTRACTOR named in the foregoing instrument, and that he/she/they is/are authorized to sign said
instrument on behalf of the CONTRACTOR, and acknowledges that he/she/they executed said instrument
as the free act and deed of the CONTRACTOR.

(Notary Stamp or Seal)

(Signature)

(Print Name)

Notary Public, State of _____

My commission expires: _____

Doc. Date: _____ # Pages: _____

Notary Name: _____ Circuit

Doc. Description: Contract for Goods or Services Based Upon
Competitive Sealed Bids

(Notary Stamp or Seal)

Notary Signature Date

NOTARY CERTIFICATION



STATE OF HAWAII
CONTRACTOR'S
STANDARDS OF CONDUCT DECLARATION

For the purposes of this declaration:

"Agency" means and includes the State, the legislature and its committees, all executive departments, boards, commissions, committees, bureaus, offices; and all independent commissions and other establishments of the state government but excluding the courts.

"Controlling interest" means an interest in a business or other undertaking which is sufficient in fact to control, whether the interest is greater or less than fifty per cent (50%).

"Employee" means any nominated, appointed, or elected officer or employee of the State, including members of boards, commissions, and committees, and employees under contract to the State or of the constitutional convention, but excluding legislators, delegates to the constitutional convention, justices, and judges. (Section 84-3, HRS).

On behalf of _____, CONTRACTOR, the undersigned does declare as follows:

1. CONTRACTOR ☐ is ☐ is not a legislator or an employee or a business in which a legislator or an employee has a controlling interest. (Section 84-15(a), HRS).
2. CONTRACTOR has not been represented or assisted personally in the matter by an individual who has been an employee of the agency awarding this Contract within the preceding two years and who participated while so employed in the matter with which the Contract is directly concerned. (Section 84-15(b), HRS).
3. CONTRACTOR has not been assisted or represented by a legislator or employee for a fee or other compensation to obtain this Contract and will not be assisted or represented by a legislator or employee for a fee or other compensation in the performance of this Contract, if the legislator or employee had been involved in the development or award of the Contract. (Section 84-14 (d), HRS).
4. CONTRACTOR has not been represented on matters related to this Contract, for a fee or other consideration by an individual who, within the past twelve (12) months, has been an agency employee, or in the case of the Legislature, a legislator, and participated while an employee or legislator on matters related to this Contract. (Sections 84-18(b) and (c), HRS).

CONTRACTOR understands that the Contract to which this document is attached is voidable on behalf of the STATE if this Contract was entered into in violation of any provision of chapter 84, Hawaii Revised Statutes, commonly referred to as the Code of Ethics, including the provisions which are the source of the declarations above. Additionally, any fee, compensation, gift, or profit received by any person as a result of a violation of the Code of Ethics may be recovered by the STATE.

*** Reminder to Agency:** If the "is" block is checked and if the Contract involves goods or services of a value in excess of \$10,000, the Contract must be awarded by competitive sealed bidding under section 103D-302, HRS, or a competitive sealed proposal under section 103D-303, HRS. Otherwise, the Agency may not award the Contract unless it posts a notice of its intent to award it and files a copy of the notice with the State Ethics Commission. (Section 84-15(a), HRS).

CONTRACTOR

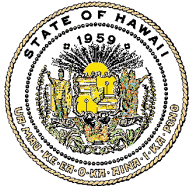
By _____
(Signature)

Print Name _____

Print Title _____

Name of Contractor _____

Date _____

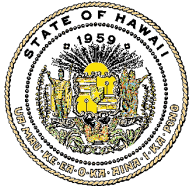


STATE OF HAWAII
SCOPE OF SERVICES

Project: 2-Bedroom House Renovation (Lot 58-B-1) &
3-Bedroom House Renovation (Lot 131-A-3)
Location: Hilo, Island of Hawaii, Hawaii
Contractor: tbd

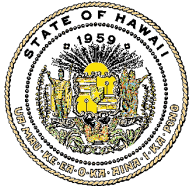
Pursuant to 103D, Hawaii Revised Statutes, the CONTRACTOR shall perform and provide the Scope of Services listed below and detailed in Invitation for Bids IFB-16-HHL-005 and in CONTRACTOR's proposal submitted December 4, 2015, in a proper and satisfactory manner as determined by the STATE and in accordance with all Federal, State and local laws, both of which are incorporated by reference.

Item No.	SITE WORK
	LOT 58-B-1
1	General Requirements
2	Demolition
3	Landscape
4	Construction of Concrete
5	Finish Carpentry
6	Sealants
7	Doors
8	Windows
9	Gyp Board
10	Paint
11	Smoke Detectors
12	Hazmat
13	HVAC



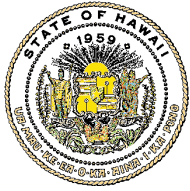
STATE OF HAWAII
SCOPE OF SERVICES

14	Plumbing
15	Electric
16	Roofing
	LOT 131-A-3
17	General Requirements
18	Demolition
19	Landscape
20	Construction of Concrete
21	Finish Carpentry
22	Sealants
23	Doors
24	Windows
25	Gyp Board
26	Paint
27	Smoke Detectors
28	Hazmat
29	HVAC
30	Plumbing
31	Electric
32	Roofing



STATE OF HAWAII

SCOPE OF SERVICES



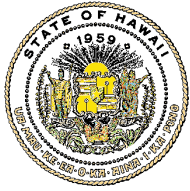
STATE OF HAWAII

COMPENSATION AND PAYMENT SCHEDULE

Project: 2-Bedroom House Renovation (Lot 58-B-1) &
3-Bedroom House Renovation (Lot 131-A-3)
Location: Hilo, Island of Hawaii, Hawaii
Contractor: tbd

The State shall pay the CONTRACTOR a sum not to exceed _____ AND __/100 DOLLARS (\$_____) for the satisfactory completion of the work under this contract.

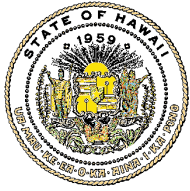
Item No.	SITE WORK	Price/Unit	Total Price
A.	LOT 58-B-1		
1	General Requirements	L.S.	\$
2	Demolition	L.S.	\$
3	Landscape	L.S.	\$
4	Construction of Concrete	L.S.	\$
5	Finish Carpentry	L.S.	\$
6	Sealants	L.S.	\$
7	Doors	L.S.	\$
8	Windows	L.S.	\$
9	Gyp Board	L.S.	\$
10	Paint	L.S.	\$
11	Smoke Detectors	L.S.	\$
12	Hazmat	L.S.	\$
13	HVAC	L.S.	\$



STATE OF HAWAII

COMPENSATION AND PAYMENT SCHEDULE

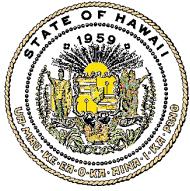
14	Plumbing	L.S.	\$
15	Electric	L.S.	\$
16	Roofing	L.S.	\$
	SUBTOTAL A (Items 1-16)		\$ _____
B	LOT 131-A-3		
17	General Requirements	L.S.	\$ _____
18	Demolition	L.S.	\$ _____
19	Landscape	L.S.	\$ _____
20	Construction of Concrete	L.S.	\$ _____
21	Finish Carpentry	L.S.	\$ _____
22	Sealants	L.S.	\$ _____
23	Doors	L.S.	\$ _____
24	Windows	L.S.	\$ _____
25	Gyp Board	L.S.	\$ _____
26	Paint	L.S.	\$ _____
27	Smoke Detectors	L.S.	\$ _____
28	Hazmat	L.S.	\$ _____
29	HVAC	L.S.	\$ _____
30	Plumbing	L.S.	\$ _____



STATE OF HAWAII

COMPENSATION AND PAYMENT SCHEDULE

31	Electric	L.S.	\$ _____
32	Roofing	L.S.	\$ _____
	SUBTOTAL B (Items 17-32)		
33	SUBTOTAL (A + B)		
34	GET on (Line 33)		\$ _____
35	TOTAL (Line 33 + 34)		\$ _____



STATE OF HAWAII

TIME OF PERFORMANCE

Project: 2-Bedroom House Renovation (Lot 58-B-1) &
3-Bedroom House Renovation (Lot 131-A-3)
Location: Hilo, Island of Hawaii, Hawaii
Contractor: tbd

1. The Time of Performance for this Contract shall be ONE HUNDRED EIGHT (180) Calendar Days from the effective date specified in the Notice to Proceed, unless extended by delays excused by the STATE as documented in writing. The Notice to Proceed shall be issued by the STATE separately to the CONTRACTOR.
2. This Contract shall expire on the date on which the later of the following occurs:
 - (a) the State makes final payment to the CONTRACTOR in accordance with (1) paragraph 17(d) of the General Conditions (AG-008 103D General Conditions) and (2) no dispute between the parties hereto as to the Work or other obligations of the CONTRACTOR hereunder is outstanding, or
 - (b) the STATE issues a Final Acceptance letter to the CONTRACTOR.
3. The Contract expiration date is for administrative purposes only and not to be confused with the Time of Performance which refers to the time in which the CONTRACTOR is required to complete the work, or with any continuing obligations on the part of the CONTRACTOR.



STATE OF HAWAII

**CERTIFICATE OF EXEMPTION
FROM CIVIL SERVICE****1. By Heads of Departments Delegated by the Director of the Department of Human Resources Development ("DHRD").***

Pursuant to a delegation of the authority by the Director of DHRD, I certify that the services to be provided under this Contract, and the person(s) providing the services under this Contract are exempt from the civil service, pursuant to § 76-16, Hawaii Revised Statutes (HRS).

(Signature)

Jobie M. K. Masagatani

(Print Name)

Chairman, Hawaiian Homes Commission

(Print Title)

(Date)

* This part of the form may be used by all department heads and the heads of attached agencies to whom the Director of DHRD expressly has delegated authority to certify § 76-16, HRS, civil service exemptions. The specific paragraph(s) of § 76-16, HRS, upon which an exemption is based should be noted in the contract file. If an exemption is based on § 76-16(b)(15), the contract must meet the following conditions:

- (1) It involves the delivery of completed work or product by or during a specific time;
- (2) There is no employee-employer relationship; and
- (3) The authorized funding for the service is from other than the "A" or personal services cost element.

NOTE: Not all attached agencies have received a delegation under § 76-16(b)(15). If in doubt, attached agencies should check with the Director of DHRD prior to certifying an exemption under § 76-16(b)(15). Authority to certify exemptions under §§ 76-16(b)(2), and 76-16(b)(12), HRS, has not been delegated; only the Director of DHRD may certify §§ 76-16(b)(2), and 76-16(b)(12) exemptions.

2. By the Director of DHRD, State of Hawaii.

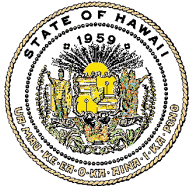
I certify that the services to be provided under this Contract, and the person(s) providing the services under this Contract are exempt from the civil service, pursuant to § 76-16, HRS.

(Signature)

(Date)

(Print Name)

(Print Title, if designee of the Director of DHRD)



STATE OF HAWAII
SPECIAL CONDITIONS

Project: 2-Bedroom House Renovation (Lot 58-B-1) &
3-Bedroom House Renovation (Lot 131-A-3)
Location: Hilo, Island of Hawaii, Hawaii
Contractor: tbd

SC-01 INTERCHANGEABLE TERMS

The following terms are one and the same:

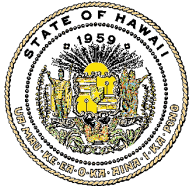
- a. “Contract” and “Agreement”.
- b. “Department of Hawaiian Home Lands” “Department” “DHHL” and “STATE”.

SC-02 INSURANCE COVERAGE

The CONTRACTOR shall obtain separate insurance coverage for this project that complies with the requirements set forth in the DHHL Construction General Conditions, Article 7, Section 7.3, as amended. Payment for all work required to comply with this item will not be paid for separately but shall be considered incidental to the various contract items.

CONTRACTOR shall maintain insurance acceptable to the STATE in full force and effect throughout the term of this Contract. The policies of insurance maintained by CONTRACTOR shall provide the following minimum coverage:

<u>Coverage</u>	<u>Limit</u>
General Liability Insurance (occurrence form)	Bodily Injury and Property Damage (combined single limit): <u>\$1,000,000</u> per occurrence and <u>\$2,000,000</u> aggregate Personal Injury: <u>\$1,000,000</u> per occurrence and <u>\$2,000,000</u> aggregate
Automobile Insurance (covering all owned, non-owned and hired automobiles)	Bodily Injury: <u>\$1,000,000</u> per person and <u>\$1,000,000</u> per occurrence. Property Damage: <u>\$1,000,000</u> per accident or combined single limit of <u>\$2,000,000</u> .
Workers Compensation (statutory limit is required by laws of the State of Hawaii)	Insurance to include Employer’s Liability. Both such coverages shall apply to all employees of the CONTRACTOR and, in case any sub-contractor fails to provide adequate similar protection for all his employees, to all employees of subcontractors.
Builder’s Risk covering the CONTRACTOR and all subcontractors	100% Replacement Value
Fire and extended coverage	100% Replacement Value



STATE OF HAWAII

SPECIAL CONDITIONS

Malicious Mischief

100% Replacement Value

Flood Insurance, if applicable

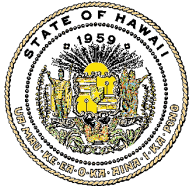
Maximum Coverage available

- a. The State of Hawaii, Department of Hawaiian Home Lands, its elected and appointed officials, officers, employees, and agents shall be named as additional insured with respect to operations, services or products provided to the State of Hawaii. CONTRACTOR agrees to provide to the DHHL, before the effective date of the Contract, certificate(s) of insurance necessary to evidence compliance with insurance provisions of this Contract. CONTRACTOR shall keep such insurance in effect and the certificate(s) on deposit with DHHL during the entire term of this Contract. Upon request by the STATE, CONTRACTOR shall furnish a copy of the policy or policies.
- b. Failure of CONTRACTOR to provide and keep in force such insurance shall be regarded as a material default under this Contract. The STATE shall be entitled to exercise any or all of the remedies provided in this Contract for default of CONTRACTOR.
- c. The procuring of such required policy or policies of insurance shall not be construed to limit CONTRACTOR's liability under this Contract or to fulfill the indemnification provisions and requirements of this Contract. Notwithstanding said policy or policies of insurance, CONTRACTOR shall be obliged for the full and total amount of any damage, injury, or loss caused by negligence or neglect connected with this Contract.
- d. CONTRACTOR shall immediately provide written notice to the contracting department or agency should any of the insurance policies evidenced on its Certificate of Insurance form be cancelled, limited in scope, or not renewed upon expiration.
- e. DHHL is a self insured State agency. CONTRACTOR's insurance shall be primary. Any insurance maintained by the State of Hawaii shall apply in excess of, and shall not contribute with, insurance provided by CONTRACTOR.
- f. The CONTRACTOR shall require all subcontractors to have in full force and effect the same insurance coverage as required of the CONTRACTOR. Such insurance shall name the State of Hawaii, Department of Hawaiian Home Lands, its elected and appointed officials, officers, employees, and agents as additional insured with respect to operations, services or products provided to the State of Hawaii. The CONTRACTOR shall be responsible to enforce its subcontractors' compliance with these insurance requirements and CONTRACTOR shall, upon request, provide the STATE a copy of the policy or policies of insurance for any subcontractor.

SC-03

COMPLETION SCHEDULE AND LIQUIDATED DAMAGES

The CONTRACTOR shall complete all work as specified or indicated in the Contract Documents on or before one hundred eighty (180) calendar days after receiving written Notice to Proceed, subject to extensions, as may be granted.



STATE OF HAWAII

SPECIAL CONDITIONS

In case of failure on the part of the CONTRACTOR to complete the work within the time specified, the CONTRACTOR shall pay to DHHL as liquidated damages, and not as a penalty, \$300.00 per calendar day for each day that the project, in its entirety, remains incomplete.

SC-04 PROCESS THROUGH DHHL

Any and all submittals, reports, requests, claims and notices under the contract shall be processed through Land Development Division Project Manager, at Hale Kalanianaʻole, 91-5420 Kapolei Parkway, Kapolei, Hawaii 96707.

SC-05 SURVEYING SERVICES

Any surveying services required shall be the responsibility of the contractor and considered incidental to the scope of work under this contract and therefore covered under the terms of this contract. No separate payment shall be made.

Upon completion, the Contractor shall prepare an as-built plan for the project site in which the finished grades are certified by a Registered Land Surveyor. Six (6) copies of the as-built plan shall be submitted to the Construction Manager and Engineer. The cost of the as-built plan shall be incidental to the contract. No separate payment shall be made.

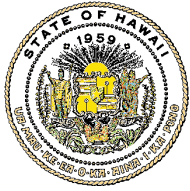
SC-06 ALLOWANCES

The proposal may contain payment items designated as allowances. Funds listed in allowance items are to be spent at the direction of DHHL. The allowance is an estimate only and is subject to increase or decrease depending on the actual cost of the item. The funds are for the direct costs of an item and all pricing, submittal and review, overhead, installation, profit, insurance, surety, processing of the issuance of checks for payment to other parties, and all other costs will be included. No payment will be made for incidental costs.

Allowances specifically set aside for construction work and materials will be negotiated when the scope of work is determined. Any unspent allowance costs will be deducted from the contract by change order prior to final payment.

SC-07 PERMITS AND FEES

Contractor shall apply and pay for all permits and inspection fees as required by all governmental agencies having jurisdiction over this project.



STATE OF HAWAII

SPECIAL CONDITIONS

SC-08 COORDINATION WITH OTHER PARTIES

The CONTRACTOR shall coordinate all the necessary work for temporary utility services, permanent service and appurtenances with the appropriate agencies, including but not limited to the Hawaii Electric Light Company, and Department of Water Supply.

SC-09 CONTRACTOR'S LICENSING

It is the CONTRACTOR's sole responsibility to review the requirements of this project and determine the appropriate contractor's licenses that are required to complete the project. If the CONTRACTOR does not hold all of the licenses required to perform a particular item of work on this project with its own workers, when bidding, he must list subcontractors that hold the appropriate licenses in its proposal.

SC-10 WATER CHARGES AND REQUIREMENTS

The CONTRACTOR shall be solely responsible for obtaining water to meet any requirements of the contract. Unless otherwise indicated or provided for, any work, costs, charges and fees necessary to obtain water for this contract shall not be paid for separately but shall be considered incidental to the various contract items; no separate or additional payment will be made therefore.

SC-11 SOIL AND DUST CONTROL

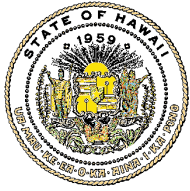
To control the dust during construction, the CONTRACTOR shall have an adequate supply of water for dust control and if necessary, moisture conditioning of fill material at all times. The CONTRACTOR shall institute an erosion control program and dust control program to minimize soil erosion and wind erosion and airborne fugitive dust nuisance, respectively for the entire duration of this project.

SC-12 FINAL INSPECTION

Throughout the construction period, the work may be subject to periodic inspection by the Department, designated Construction Inspector, the County of Hawaii, and other applicable government agencies. Once work has been satisfactorily completed, the County, accompanied by the Department and Construction Inspector, will make the final inspection of the work to determine whether all work has been done in complete compliance with the requirements of the plans and these specifications.

The CONTRACTOR shall therefore schedule the final inspection with the County of Hawaii and notify the Department's Project Manager one week prior to said inspection.

Neither the scheduling nor the conduct of the aforementioned final inspection shall be deemed a waiver of the Department's right to subsequently require CONTRACTOR to complete all unfinished or defective work to the satisfaction of the Department.



STATE OF HAWAII
SPECIAL CONDITIONS

SC-13 GENERAL CONDITIONS

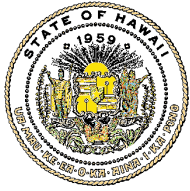
In the event of conflicts and/or discrepancies, the DHHL Construction General Conditions shall govern over Form AG-008, 103D General Conditions (eff. 10/17/13)

SC-14 CAMPAIGN CONTRIBUTIONS BY STATE AND COUNTY CONTRACTORS

Contractors are hereby notified of the applicability of Section 11-355, HRS, which states that campaign contributions from specified State or County government contractors during the term of the contract if the contractors are paid with funds appropriated by a legislative body.

SC-15 APPRENTICESHIP AGREEMENT PREFERENCE – CONTRACTOR'S RESPONSIBILITY

1. For the duration of the contract awarded utilizing the Hawai'i Apprenticeship Preference, the CONTRACTOR shall certify each month that work is being conducted on the project, that it continues to be a participant in the relevant apprenticeship program for each trade it employs.
2. Monthly certification shall be made on *MONTHLY REPORT OF CONTRACTOR'S PARTICIPATION IN APPROVED APPRENTICESHIP PROGRAM UNDER ACT 17 (Monthly Certification Form 2)* prepared and made available by the DLIR. *Monthly Certification Form 2* shall be a signed original by the respective apprenticeship program sponsor's authorized official, and submitted by the Contractor with its monthly payment requests. *Monthly Certification Form 2* is available on the DLIR website at: <http://hawaii.gov/labor/wdd>
3. Should the Contractor fail or refuse to submit its monthly certification forms, or at any time during the construction of the project, cease to be a party to a registered apprenticeship agreement for each apprenticeable trade the Contractor employs, the Contractor will be subject to the following sanctions:
 - a. Withholding of the requested payment until the required form(s) are submitted;
 - b. Temporary or permanent cessation of work on the project, without recourse to breach of contract claims by the Contractor; provided the DHHL shall be entitled to restitution for nonperformance or liquidated damages claims; or
 - c. Proceed to debar pursuant to HRS §103D-702.
4. If events such as "acts of God," acts of a public enemy, acts of the State or any other governmental body in its sovereign or contractual capacity, fires, floods, epidemics, freight embargoes, unusually severe weather, or strikes or other labor disputes prevent the Contractor from submitting the certification forms, the Contractor shall not be penalized as provided herein, provided the Contractor completely and expeditiously complies with the certification process when the event is over.



STATE OF HAWAII
SPECIAL CONDITIONS

SC-16 FEDERAL LABOR STANDARDS

The CONTRACTOR shall comply with U.S. Department of Housing and Urban Development (HUD) Federal Labor Standards Provisions (form HUD -4010) attached as Exhibit A.

SC-17 ENERGY EFFICIENCY

The Contractor shall comply with the Energy Policy and Conservation Act (P.L. 94-163). Mandatory standards and policies relating to energy efficiency, contained in any applicable State Energy Conservation Plan, shall be utilized.

SC-18 STATE GENERAL EXCISE TAX

This project is not exempt from the State of Hawaii General Excise Tax. The CONTRACTOR's prices shall include the General Excise Tax for all work.

Federal Labor Standards Provisions

U.S. Department of Housing
and Urban Development
Office of Labor Relations

Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

A. 1. (i) Minimum Wages. All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible, place where it can be easily seen by the workers.

(ii) (a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where

appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work, all or part

of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

3. (i) Payrolls and basic records. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section I(b)(2)(B) of the Davis-bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section I(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

(ii) (a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, DC 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

(b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be maintained under 29 CFR 5.5 (a)(3)(i) and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll

period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A.3.(ii)(b).

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under subparagraph A.3.(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the

journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) **Trainees.** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) **Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract

6. Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 of this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this paragraph.

7. Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. (i) Certification of Eligibility. By entering into this contract the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1010, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of . . . influencing in any way the action of such Administration . . . makes, utters or publishes any statement knowing the same to be false . . . shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. Contract Work Hours and Safety Standards Act. The provisions of this paragraph B are applicable only where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph

graph (1) of this paragraph, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in sub paragraph (1) of this paragraph.

(3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety. The provisions of this paragraph C are applicable only where the amount of the prime contract exceeds \$100,000.

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, 40 USC 3701 et seq.

(3) The Contractor shall include the provisions of this paragraph in every subcontract so that such provisions will be binding on each subcontractor. The Contractor shall take such action with respect to any subcontract as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

Department of Hawaiian Home Lands
CONSTRUCTION GENERAL CONDITIONS
Dated March 2014

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ARTICLE 1: DEFINITIONS AND ABBREVIATIONS

- 1.1 DEFINITIONS.** Whenever the following terms or pronouns are used in these Construction General Conditions, or in any contract documents or instruments where these Construction General Conditions govern, the intent and meaning shall be interpreted as follows:

ADDENDUM (*plural - Addenda*). A written or graphic document, including Drawings and Specifications, issued by the Chairman during the bidding period which modifies or interprets the bidding documents, by additions, deletions, clarifications or corrections, which shall be considered and made a part of the bid proposal and the contract.

ADDITION (*to the contract sum*). Amount added to the contract sum by Change Order.

ADMINISTRATIVE RULES. Hawaii Administrative Rules for Chapter 103-D of the Hawaii Revised Statutes.

ADVERTISEMENT. A public announcement inviting bids for work to be performed or materials to be furnished.

BAD WEATHER DAY. When weather or other conditions prevent a minimum of four hours of work with the Contractor's normal work force on controlling items of work at the site. (See excess bad weather day.)

BENEFICIAL OCCUPANCY. The point of project completion when the Department can use the constructed facility in whole or in part for its intended purpose even though substantial completion may not be achieved.

BID. See PROPOSAL.

BID SECURITY. The security furnished by the Bidder from which the Department may recover its damages in the event the Bidder breaches its promise to enter into a contract with the Department and fails to execute the required bonds covering the work contemplated, if its proposal is accepted.

BIDDER. Any individual, partnership, firm, corporation, joint venture, or other legal entity submitting, directly or through a duly authorized representative or agent, a proposal for the work contemplated.

BIDDING DOCUMENTS. The advertisement "Notice to Contractors", or invitation to bid, instructions to Bidders, proposal requirements, the bid form and the proposed Contract Documents including all addenda issued prior to receipt of Bids.

BULLETIN. A written notice to the Contractor requesting a price and / or time proposal for contemplated changes preparatory to the issuance of a field order or change order.

BY OR TO THE PROJECT MANAGER. To avoid cumbersome and confusing repetition of expressions in these General Conditions, it is provided that whenever the following words or words of like import are used, they shall be understood as if they were followed by the words "by the Project Manager" or "to the Project Manager", unless the context clearly indicates another meaning: contemplated, required, determined, directed, specified, authorized, ordered, given, designated, indicated, considered necessary, deemed necessary, permitted, reserved, suspended, established, approval, approved, disapproved, acceptable, unacceptable, suitable, accepted, satisfactory, unsatisfactory, sufficient, insufficient, rejected or condemned.

CALENDAR DAY. Any day shown on the calendar beginning at midnight and ending at midnight the following day. If no designation of calendar or working day is made, “day” shall mean calendar day.

CHAIRMAN. The Chairman of the Hawaiian Homes Commission, Department of Hawaiian Home Lands.

CHANGE ORDER. A written order signed by the Chairman that establishes the full payment and final settlement of all claims for direct, indirect and consequential costs, including costs of delays, and establishes any adjustments to contract time related to the work covered and affected by one or more field orders, or for change work done or agreed to be done without issuance of a separate field order. A change order signed by all the parties to the contract constitutes a supplemental agreement.

COMPLETION. See SUBSTANTIAL COMPLETION and FINAL COMPLETION.

CONSULTANT. A person, firm or corporation having a contract with the Department to furnish services with respect to the project.

CONTRACT. The written agreement between the Contractor and the Department by its Chairman, by which the Contractor is bound to furnish all labor, equipment, and materials and to perform the specified work within the contract time stipulated, and by which DHHL is obligated to compensate the Contractor therefor at the prices set forth therein. The contract shall include the Contract Documents, also any and all amendments, and change orders, which are required to complete the construction in an acceptable manner.

CONTRACT COMPLETION DATE. The calendar day on which all work on the project, required by the contract, must be completed. See CONTRACT TIME and FINAL COMPLETION.

CONTRACT DOCUMENTS. The Contract, Addenda (which pertain to the Contract Documents, Contractor’s Proposal (including Wage Schedule, List of Subcontractors and other documentation accompanying the Bid and any post bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the contract, the Notice to Proceed, the Bonds, these General Conditions, the SPECIAL CONDITIONS, the Specifications and the Drawings as the same are more specifically identified in the contract together with all written Amendments, Change Orders, Field Orders, any written order for minor changes in the work and Project Manager’s written interpretations and clarifications issued on or after the effective date of the contract.

CONTRACT PRICE. The amount designated on the face of the contract for the performance of work including allowances, if any.

CONTRACT TIME. The number of working or calendar days provided in the contract for completion of the contract, exclusive of authorized time extensions. The number of days shall begin running on the effective date in the Notice to Proceed. If in lieu of providing a number of working or calendar days, the contract requires completion by a certain date, the work shall be completed by that date.

CONTRACTOR. Any individual, partnership, firm, corporation, joint venture, or other legal entity undertaking the execution of the work under the terms of the contract with the State of Hawaii, and acting directly or through its agents, or employees.

DEPARTMENT. The Department of Hawaiian Home Lands (abbreviated DHHL).

DRAWINGS (or Plans). The contract drawings in graphic or pictorial form, which show the design, location, character, dimensions and details of the work to be done and which shall be a part of the Contract Documents.

EQUAL OR APPROVED EQUAL. Whenever this term is used in the drawings or specifications, it shall be interpreted to mean a brand or article, prequalified in accordance with Section 6.3 SUBSTITUTION OF MATERIALS AND EQUIPMENT AFTER BID OPENING, that may be used in place of the one specified.

EXCESS BAD WEATHER DAY. A working day on which inclement weather prevents work on the contract and is beyond the average weather for the location of the project and the time of the year.

FIELD ORDER. A written order issued by the Project Manager to the Contractor requiring the contract work to be performed in accordance with a change or changes in the work. A field order may (1) establish a price adjustment and/or time adjustment in an amount the Project Manager believes is reasonable for the change; or (2) may declare that the Project Manager does not intend to adjust contract time or price for the work; or (3) may request the Contractor to submit a proposal for an adjustment to the contract time and/or price by a certain date.

FINAL COMPLETION. The date set by the Chairman that all work required by the contract and any amendments or changes thereto is in full compliance with the contract.

FORCE ACCOUNT. Term used when work is ordered to be done at the sole option of the Department and is to be billed for at cost of labor, materials and equipment, insurance(s), taxes, etc., plus a percentage for overhead and profit.

GUARANTEE. Legally enforceable assurance of the duration of satisfactory performance of quality of a product or work.

HAZARDOUS MATERIALS. Any and all radioactive materials, asbestos, polychlorinated biphenyls, petroleum, crude oil, chemicals known to cause cancer or reproductive toxicity, pollutants, contaminants, toxic substances or materials cited in Hazardous Material Laws. Abandoned motor vehicles or parts thereof are not hazardous material.

HOLIDAYS. The days of each year which are set apart and established as State holidays pursuant to Chapter 8, Hawaii Revised Statutes.

INSPECTOR. The person assigned by the Department to make detailed inspections of contract performance and materials supplied for the work.

LAWS. All Federal, State, City and County Laws, ordinances, rules and regulations, and standard specifications, including any amendments thereto effective as of the date of the call for sealed bids.

LETTER OF AWARD. A written notice from the Chairman to the successful Bidder(s) stating that the Department has accepted its proposal.

LIQUIDATED DAMAGES. The amount prescribed in the Special Conditions, LIQUIDATED DAMAGES to be paid to the Department or to be deducted from any payments due or to become due the Contractor for each working day or calendar day (as applicable) delay in completing the whole or any specified portion of the work beyond the Contract Time.

MAJOR UNIT PRICE ITEM. A unit price item which, when extended on its estimated quantities in the proposal form, exceeds five percent (5%) of the total base bid proposal less any allowance and contingent items included in the proposal.

NON-CONFORMING WORK. Work that does not meet the requirements of the Contract Documents.

NOTICE TO PROCEED. A written notice from the Project Manager to the Contractor advising it of the date on which it is to begin the prosecution of the work, which date shall also be the beginning of Contract Time.

POST CONTRACT DRAWINGS. Drawings issued after the award of the contract for the purpose of clarification and / or changes to the work indicated in the original drawings and which may be made a part of the contract.

PROJECT ACCEPTANCE DATE. The calendar day on which the Project Manager accepts the project as sufficiently completed in compliance with the contract so that the Department can occupy or utilize the work for its intended use. See SUBSTANTIAL COMPLETION.

PROJECT CONTRACT LIMITS (or CONTRACT ZONE). The portion of the site as delineated on the drawings which define the Contractor's primary area of operation for the prosecution of the work. It does not define the exact limits of all construction that may be required under the contract.

PROJECT MANAGER. The Department's Contract Administrator as described in ARTICLE 5, CONTROL OF WORK.

PROJECT GUARANTEE. A guarantee issued by the Contractor to the Department. See GUARANTEE.

PROPOSAL (BID). The executed document submitted by a Bidder in the prescribed manner, in response to a request for proposals or invitation to Bid, to perform at the prices quoted, for the work specified under the contract, within the time prescribed for performance.

PROPOSAL FORM. The form prepared by the Department on which the written offer or formal bid for the work to be done is submitted by the Bidder. By submitting a bid on the proposal form, a Bidder adopts the language therein as its own.

PUNCHLIST. A list compiled by the Project Manager (or Contractor) stating work yet to be completed or corrected by the Contractor in order to substantially complete or finally complete the contract requirements.

SHOP DRAWINGS/SUBMITTALS. All drawings, diagrams illustrations, schedules and other data or information which are prepared or assembled by the Contractor and submitted by Contractor to illustrate some portion of the work.

SPECIAL CONDITIONS. The specific clauses that supplements or modify the standard clauses of the GENERAL CONDITIONS setting forth conditions or requirements peculiar to the individual project under consideration, which are not thoroughly or satisfactorily covered, described or explained in these GENERAL CONDITIONS.

SPECIFICATIONS. That portion of the Contract Documents consisting of written descriptions for materials, equipment, construction systems, standards, workmanship, directions, provisions and

requirements that pertain to the method and manner of performing the work and certain administrative requirements applicable thereto.

STATE. The State of Hawaii acting through its authorized representative.

SUBCONTRACT. Any written agreement between the Contractor and its subcontractors which contains the conditions under which the subcontractor is to perform a portion of the work for the Contractor.

SUBCONTRACTOR. An individual, partnership, firm, corporation, joint venture or other legal entity, as covered in Chapter 444, Hawaii Revised Statutes, which enters into an agreement with the Contractor to perform a portion of the work for the Contractor.

SUBSTANTIAL COMPLETION. The status of the project when the Contractor has completed all the work and (1) all utilities and services are connected and working; (2) all equipment is in acceptable working condition; (3) additional activity by the Contractor to correct punchlist items as described herein will not prevent or disrupt use of the work or the facility in which the work is located; and 4) the building, structure, improvement or facility can be used for its intended purpose.

SUPERINTENDENT. The employee of the Contractor, authorized to receive and fulfill instructions from the Project Manager, who is charged with the responsibility of all the work.

SURETY. The qualified individual, firm or corporation other than the Contractor, which executes a bond with and for the Contractor to ensure its acceptable performance of the contract.

UNUSUALLY SEVERE WEATHER. Uncommonly harsh weather including but not limited to hurricanes, tornadoes, tropical storms and tropical depressions.

WORK. The furnishing of all labor, materials, equipment, and other incidentals necessary or convenient for the successful completion of the project and the execution of all the duties and obligations imposed by the contract.

WORKING DAY. A calendar day, exclusive of Saturdays, Sundays and State-recognized legal holidays for the month in question.

1.2 ABBREVIATIONS

DHHL	Department of Hawaiian Home Lands.
HAR	Hawaii Administrative Rules
HRS	Hawaii Revised Statutes
VECP	Value Engineering Cost Proposal

~ END OF ARTICLE 1~

ARTICLE 2: [reserved]

ARTICLE 3: CONTRACT

3.1 NOTICE TO PROCEED

3.1.1 After the contract is fully executed and signed by the Chairman, the Contractor will be sent a formal Notice to Proceed letter advising the Contractor of the date on which it may proceed with the work. The Contractor shall be allowed ten (10) consecutive working days from said date to begin its work. In the event that the Contractor refuses or neglects to start the work, the Chairman may terminate the contract in accordance with Section 7.27, TERMINATION OF CONTRACT FOR CAUSE.

3.1.2 The Contractor may commence its operations strictly at its own risk prior to receipt of the formal notice to proceed, provided it makes a written request and has received approval from the Chairman in writing. All work performed shall be conducted in accordance with Section 7.1, PROSECUTION OF THE WORK.

3.1.3 In certain cases, the Department, with agreement of the Contractor, may issue a Notice to Proceed before full execution of the contract by the Chairman and it may further issue a Notice to Proceed concurrently with the Notice of Award.

3.1.4 In the event the Notice to Proceed is not issued within one hundred eighty (180) days after (1) the date the contract is executed by all parties; or (2) for projects funded with State Capital Improvement Project (CIP) funds, the date that the written certificate that funds are available is issued, whichever is later, the Contractor may submit a claim for increased labor and material costs (but not overhead costs) which are directly attributable to the delay beyond the first one hundred eighty (180) days. Such claims shall be accompanied with the necessary documentation to justify the claim. No payment will be made for assumed escalation costs.

3.2 RELATIONSHIP OF PARTIES. Independent Contractor Status and Responsibilities, including Tax Responsibilities.

3.2.1 In the performance of services required under this Contract, the CONTRACTOR is an “independent contractor,” with the authority and responsibility to control and direct the performance and details of the work and services required under this Contract; however, the STATE shall have a general right to inspect work in progress to determine whether, in the STATE’s opinion, the services are being performed by the CONTRACTOR in compliance with this Contract. Unless otherwise provided by special condition, it is understood that the STATE does not agree to use the CONTRACTOR exclusively, and that the CONTRACTOR is free to contract to provide services to other individuals or entities while under contract with the STATE.

3.2.2 The CONTRACTOR and the CONTRACTOR’s employees and agents are not by reason of this Contract, agents or employees of the State for any purpose, and the CONTRACTOR and the CONTRACTOR’s employees and agents shall not be entitled to claim or receive from the STATE any vacation, sick leave, retirement, workers’ compensation, unemployment insurance, or other benefits provided to state employees.

3.2.3 The CONTRACTOR shall be responsible for the accuracy, completeness, and adequacy of the CONTRACTOR’s performance under this Contract. Furthermore, the CONTRACTOR intentionally, voluntarily, and knowingly assumes the sole and entire liability to the CONTRACTOR’s employees

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and agents, and to any individual not a party to this Contract, for all loss, damage, or injury caused by the CONTRACTOR, or the CONTRACTOR's employees or agents in the course of their employment.

- 3.2.4 The CONTRACTOR shall be responsible for payment of all applicable federal, state, and county taxes and fees which may become due and owing by the CONTRACTOR by reason of this Contract, including but not limited to (i) income taxes, (ii) employment related fees, assessments, and taxes, and (iii) general excise taxes. The CONTRACTOR also is responsible for obtaining all licenses, permits, and certificates that may be required in order to perform this Contract.
- 3.2.5 The CONTRACTOR shall obtain a general excise tax license from the Department of Taxation, State of Hawaii, in accordance with Section 237-9, HRS, and shall comply with all requirements thereof.
- 2.2.6 The CONTRACTOR is responsible for securing all employee-related insurance coverage for the CONTRACTOR and the CONTRACTOR's employees and agents that is or may be required by law, and for payment of all premiums, costs, and other liabilities associated with securing the insurance coverage.
- 3.3 PERSONNEL REQUIREMENTS:
- 3.3.1 The CONTRACTOR shall secure, at the CONTRACTOR's own expense, all personnel required to perform this Contract.
- 3.3.2 The CONTRACTOR shall ensure that the CONTRACTOR's employees or agents are experienced and fully qualified to engage in the activities and perform the services required under this Contract, and that all applicable licensing and operating requirements imposed or required under federal, state, or county law, and all applicable accreditation and other standards of quality generally accepted in the field of the activities of such employees and agents are complied with and satisfied.
- 3.4 NONDISCRIMINATION. No person performing work under this Contract, including any subcontractor, employee, or agent of the Contractor, shall engage in any discrimination that is prohibited by any applicable federal, state, or county law.
- 3.5 CONFLICTS OF INTEREST. The CONTRACTOR represents that neither the CONTRACTOR, nor any employee or agent of the CONTRACTOR, presently has any interest, and promises that no such interest, direct or indirect, shall be acquired, that would or might conflict in any manner or degree with the CONTRACTOR's performance under this Contract.
- 3.6 EMPLOYMENT OF STATE RESIDENTS (§103B-3 HRS). The Contractor shall ensure that Hawaii residents comprise not less than eighty per cent of the workforce employed to perform the contract work on the project. The 80% requirement shall be determined by dividing the total number of hours worked on the contract by Hawaii residents, by the total number of hours worked on the contract by all employees of the Contractor in the performance of the contract. The hours worked by any Subcontractor of the Contractor shall count towards the calculation for this section. The hours worked by employees within shortage trades, as determined by the Department of Labor and Industrial Relations (DLIR), shall not be included in the calculation for this section.

~END OF ARTICLE 3~

ARTICLE 4: SCOPE OF WORK

- 4.1 INTENT OF CONTRACT, DUTY OF CONTRACTOR. The intent of the Contract is to provide for the construction, complete in every detail, of the work described at the accepted bid price and within the time established by the contract. The Contractor has the duty to furnish all labor, materials, equipment, tools, transportation, incidentals and supplies and to determine the means, methods and schedules required to complete the work in accordance with the drawings, specifications and terms of the contract.
- 4.1.1 ENTIRE CONTRACT. This Contract sets forth all of the Contract, conditions, understandings, promises, warranties, and representations between the STATE and the CONTRACTOR relative to this Contract. This Contract supersedes all prior Contracts, conditions, understandings, promises, warranties and representations, which shall have no further force or effect. There are no Contracts, conditions, understandings, promises, warranties, or representations, oral or written, express or implied, between the STATE and the CONTRACTOR other than as set forth or as referred to herein.
- 4.2 CHANGES. The Project Manager may at any time, during the progress of the work, by written order, and without notice to the sureties, make changes in the work as may be found to be necessary or desirable. Such changes shall not invalidate the Contract nor release the Surety, and the Contractor will perform the work as changed, as though it had been a part of the original Contract.
- 4.2.1 MINOR CHANGES. Minor changes in the work may be directed by the Project Manager with no change in contract price or time of performance. Minor changes are consistent with the intent of the Contract Documents and do not substantially alter the type of work to be performed or involve any adjustment to the contract sum or extension of the contract time.
- 4.2.2 ORAL ORDERS
- 4.2.2.1 Any oral order, direction, instruction, interpretation or determination from the Chairman or any other person which in the opinion of the Contractor causes any change, shall be considered as a change only if the Contractor gives the Chairman written notice of its intent to treat such oral order, direction, instruction, interpretation or determination as a change directive. Such written notice must be delivered to both the Chairman and the Project Manager before the Contractor acts in conformity with the oral order, direction, instruction, interpretation or determination, but not more than five (5) days after delivery of the oral order to the Contractor. The written notice shall state the date, circumstances, whether a time extension will be requested, and source of the order that the Contractor regards as a change. Such written notice may not be waived and shall be a condition precedent to the filing of any claim by the Contractor. Unless the Contractor acts in accordance with this procedure, any such oral order shall not be treated as a change for which the Contractor may make a claim for an increase in the contract time or contract price related to such work.
- 4.2.2.2 No more than five (5) days after receipt of the written notice from the Contractor, a Field Order shall be issued for the subject work if the Department agrees that it constitutes a change. If no Field Order is issued in the time established, it shall be deemed a rejection of Contractor's claim for a change. If the Contractor objects to the failure to issue a Field Order, it shall file a written protest with the Chairman within thirty (30) days after delivery to the Chairman of the Contractor's written notice of its intention to treat the oral order as a change. In all cases, the Contractor shall proceed with the work. The protest shall be determined as provided in Section 7.25, DISPUTES AND CLAIMS.
- 4.2.3 FIELD ORDERS. All changes will be set forth in a field order or change order. Upon receipt of a field order, the Contractor shall proceed with the changes as ordered. If the Contractor does not agree

with any of the terms or conditions or in the adjustment or non-adjustment to the contract time and/or contract price set forth therein, it shall file with the Chairman a written protest setting forth its reasons in detail within thirty (30) days after receipt of the field order. In all cases, the Contractor shall proceed with the work as changed. The protest shall be determined as provided in Section 7.25, DISPUTES AND CLAIMS. Failure to file such a protest within the time specified shall constitute agreement on the part of the Contractor with the terms, conditions, amounts and adjustments or non-adjustment to the contract price and/or contract time set forth in the field order.

4.2.4 CHANGE ORDERS

4.2.4.1 The Department will issue sequentially numbered change orders at times it deems appropriate during the contract period. A change order may contain the adjustment in contract price and / or time for a number of Field Orders. No payment for any change will be made until the change order is issued.

4.2.4.2 The penal sum of the Surety Performance and Payment Bonds will be adjusted by the amount of each and every change order.

4.3 DUTY OF CONTRACTOR TO PROVIDE PROPOSAL FOR CHANGES

4.3.1 A Field Order may request the Contractor to supply the Department with a proposal for an adjustment to the contract time or contract price for the work described therein. Any such request for a proposal shall not affect the duty of the Contractor to proceed as ordered with the work described in the Field Order.

4.3.2 The Project Manager from time to time may issue a Bulletin to the Contractor requesting price and / or time adjustment proposals for contemplated changes in the work. A Bulletin is not a directive for the Contractor to perform the work described therein.

4.3.3 Within seven (7) days after receipt of a Bulletin or Field Order containing a request for proposal, the Contractor shall submit to the Project Manager a detailed written statement setting forth all charges the Contractor proposes for the change and the proposed adjustment of the contract time, all properly itemized and supported by sufficient substantiating data to permit evaluation. No time extension will be granted for delays caused by late Contractor pricing of changes or proposed changes. If the project is delayed because Contractor failed to submit the cost proposal within the seven (7) days, or longer as allowed by the Project Manager, liquidated damages will be assessed in accordance with Section 7.26, FAILURE TO COMPLETE THE WORK ON TIME.

4.3.4 No payment shall be allowed to the Contractor for pricing or negotiating proposed or actual changes. No time extension will be granted for delay caused by late Contractor pricing of changes or proposed changes.

4.3.5 The Chairman may accept the entire proposal, or any discreet cost item contained within the proposal or the proposed adjustment to contract time by a notice in writing to the Contractor delivered to the Contractor within thirty (30) days after receipt of the proposal. The written acceptance by the Chairman of all or part of the Contractor's proposal shall create a binding agreement between the parties for that aspect of the change.

4.3.6 If the Department refuses to accept the Contractor's entire proposal, the Chairman may issue a Field Order for the work; or if a Field Order has already been issued, the Department may issue a supplemental Field Order establishing the remaining adjustments to contract price and/or contract time for the ordered changes. If the Contractor disagrees with any term, condition or adjustment

contained in such Field Order or supplemental Field Order, it shall follow the protest procedures set forth in and be subject to the other terms of Subsection 4.2.3, FIELD ORDERS.

4.4 PRICE ADJUSTMENT (§3-125-13 HAR)

4.4.1 Any adjustment in the contract price pursuant to a change or claim in this contract shall be made in one or more of the following ways:

4.4.1.1 By agreement on a fixed price adjustment before commencement of the pertinent performance or as soon thereafter as practicable;

4.4.1.2 By unit prices specified in the contract or subsequently agreed upon;

4.4.1.3 Whenever there is a variation in quantity for any work covered by any line item in the schedule of costs submitted as required by Section 7.2, COMMENCEMENT REQUIREMENTS, by the Department at its discretion, adjusting the lump sum price proportionately;

4.4.1.4 In such other manner as the parties may mutually agree;

4.4.1.5 At the sole option of the Project Manager, by the costs attributable to the event or situation covered by the change, plus appropriate profit or fee, all as specified in Section 4.5, ALLOWANCES FOR OVERHEAD AND PROFIT and the force account provision of Section 8.3, PAYMENT FOR ADDITIONAL WORK; or

4.4.1.6 In the absence of an agreement between the two parties, by a unilateral determination by the Department of the reasonable and necessary costs attributable to the event or situation covered by the change, plus appropriate profit or fee, all as computed in accordance with applicable Sections of Chapters 3-123 and 3-126 of the Hawaii Administrative Rules and Regulations, and Section 4.5, ALLOWANCES FOR OVERHEAD AND PROFIT.

4.5 ALLOWANCES FOR OVERHEAD AND PROFIT (§3-125-13 HAR)

4.5.1 In determining the cost or credit to the Department resulting from a change, the allowances for all overhead, including, extended overhead resulting from adjustments to contract time (including home office, branch office and field overhead, and related delay impact costs) and profit combined, shall not exceed the percentages set forth below:

4.5.1.1 For the Contractor, for any work performed by its own labor forces, twenty percent (20%) of the direct cost;

4.5.1.2 For each subcontractor involved, for any work performed by its own forces, twenty percent (20%) of the direct cost;

4.5.1.3 For the Contractor or any subcontractor, for work performed by their subcontractors, ten percent (10%) of the amount due the performing subcontractor.

4.5.1.4 Field overhead includes, but is not limited to all costs of supervision, engineering, clerical, layout, temporary facilities, improvements and structures, all general condition expenditures, storage, transport and travel, housing, small tools (as defined in 8.3.4.5(h)), pickup trucks and automobiles.

- 4.5.2 Not more than three markup allowance line item additions not exceeding the maximum percentage shown above will be allowed for profit and overhead, regardless of the number of tier subcontractors.
- 4.5.3 The allowance percentages will be applied to all credits and to the net increase of direct costs where work is added and deleted by the changes.
- 4.6 PAYMENT FOR DELETED MATERIAL
- 4.6.1 CANCELED ORDERS. If acceptable material was ordered by the Contractor for any item deleted by an ordered change in the work prior to the date of notification of such deletion by the Project Manager, the Contractor shall use its best efforts to cancel the order. The Department shall pay reasonable cancellation charges required by the supplier excluding any markup for overhead and profit to the Contractor.
- 4.6.2 RETURNED MATERIALS - If acceptable deleted material is in the possession of the Contractor or is ultimately received by the Contractor, if such material is returnable to the supplier and the Project Manager so directs, the material shall be returned and the Contractor will be paid for the reasonable charges made by the supplier for the return of the material, excluding any markup for overhead and profit to the Contractor. The cost to the Contractor for handling the returned material will be paid for as provided in Section 4.4, PRICE ADJUSTMENT.
- 4.6.3 UNCANCELLED MATERIALS. If orders for acceptable deleted material cannot be canceled at a reasonable cost, it will be paid for at the actual cost to the Contractor including an appropriate markup for overhead and profit as set forth in Section 4.5, ALLOWANCES FOR OVERHEAD AND PROFIT. In such case, the material paid for shall become the property of the Department and the cost of further storage and handling shall be paid for as provided in Section 4.4, PRICE ADJUSTMENT.
- 4.7 VARIATIONS IN ESTIMATED QUANTITIES (§3-125-10 HAR)
- 4.7.1 Where the quantity of a major unit price item in this contract is estimated on the proposal form and where the actual quantity of such pay item varies more than fifteen percent (15%) above or below the estimated quantity stated in this contract, an adjustment in the contract price shall be made upon demand of either party. The adjustment shall be based upon any increase or decrease in costs due solely to the variation above one hundred fifteen percent (115%) or below eighty-five percent (85%) of the estimated quantity. The adjustment shall be subject to Section 4.4 PRICE ADJUSTMENT and Section 4.5, ALLOWANCES FOR OVERHEAD AND PROFIT. If the quantity variation is such as to cause an increase in the time necessary for completion, the Chairman shall, upon receipt of a written request for an extension of time within thirty (30) days of the item's completion, ascertain the facts and make such adjustment to the completion date as the Chairman finds justified.
- 4.8 VARIATIONS IN BOTTOM ELEVATIONS. The Contractor shall plan and construct to the bottom elevations of footings, piles, drilled shafts, or cofferdams as shown on the drawings. When the bottom of a footing, pile, drilled shaft, or cofferdam is shown as an estimated or approximate elevation, the Contractor shall plan and construct to that elevation or to any deeper elevation required by the drawings or direction of the Project Manager. In the event the bottom elevation is lowered, the Contractor shall be entitled to additional payment in accordance with Sections 4.4 PRICE ADJUSTMENT and 4.5 ALLOWANCES FOR OVERHEAD AND PROFIT. In the event the bottom elevation is raised, the Department shall be entitled to a credit in accordance with Sections 4.2 CHANGES, 4.4, PRICE ADJUSTMENT and 4.5, ALLOWANCES FOR OVERHEAD AND PROFIT.

- 4.9 DIFFERING SITE CONDITIONS (§3-125-11 HAR)
- 4.9.1 During the progress of the work, if the Contractor encounters conditions at the site differing materially from those shown in the drawings and specifications, Contractor shall promptly, and before any such conditions are disturbed or damaged (except in an emergency as required by Subsection 7.17.8. EMERGENCIES), notify the Project Manager in writing of:
- 4.9.1.1 Subsurface or latent physical conditions at the site differing materially from those indicated in the contract; or
- 4.9.1.2 Unknown physical conditions at the site, of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract. Unclaimed motor vehicles or parts thereof and discarded materials or unclaimed items are not unknown or unforeseen physical conditions. (See also Section 5.8, EXAMINATION OF DRAWINGS, SPECIFICATIONS, PROJECT SITE).
- 4.9.2 After receipt of written notice, the Chairman shall promptly investigate the site, and if it is found that such conditions do materially differ and cause an increase in the Contractor's cost of, or the time required to, perform any part of the work, whether or not changed as a result of such conditions, an adjustment shall be made and the contract modified accordingly. Any adjustment in contract price made pursuant to this Section 4.9. DIFFERING SITE CONDITIONS (§3-125-11 HAR) shall be determined in accordance with Sections 4.4, PRICE ADJUSTMENT and 7.25, DISPUTES AND CLAIMS.
- 4.9.3 Nothing contained in this Section 4.9, DIFFERING SITE CONDITONS shall be grounds for an adjustment in compensation if the Contractor had actual knowledge or should have known of the existence of such conditions prior to the submission of bids.
- 4.10 COSTS AND EXPENSES. Any reimbursement due the CONTRACTOR for per diem and transportation expenses under this Contract shall be subject to Chapter 3-123 (Cost Principles) of the Procurement Rules and the following guidelines:
- 4.10.1 Reimbursement for air transportation shall be actual cost or coach class air fare, whichever is less.
- 4.10.2 Reimbursement for ground transportation costs shall not exceed the actual cost of renting an intermediate-sized vehicle.
- 4.10.3 Unless prior written approval of the CHAIRMAN is obtained, reimbursement for subsistence allowance (i.e., hotel and meals, etc.) shall not exceed the applicable daily authorized rates for interisland or out-of-state travel that are set forth in the current Governor's Executive Order authorizing adjustments in salaries and benefits for state officers and employees in the Chairman branch who are excluded from collective bargaining coverage.

~END OF ARTICLE 4~

ARTICLE 5: CONTROL OF WORK

- 5.1 **AUTHORITY OF THE CHAIRMAN** - The Chairman shall make final and conclusive decisions on all questions which may arise relating to the quality and acceptability of the materials furnished and work performed, the manner of performance and the rate of progress of the work, the interpretation of the plans and specifications, the acceptable fulfillment of the contract on the part of the Contractor, the compensation under the contract and the mutual rights of the parties to the contract. The Chairman shall have the authority to enforce and make effective such decisions and orders at the Contractor's expense when the Contractor fails to carry such decisions and orders out promptly and diligently. The Chairman shall have the authority to suspend the work wholly or in part as provided in Section 7.24, SUSPENSION OF WORK.
- 5.2 **AUTHORITY OF THE PROJECT MANAGER.** The Project Manager has the authority to act on behalf of the Department on all matters regarding the contract and the work that are not reserved for the Chairman. The Project Manager's authority is vested exclusively in the Project Manager except when specific authority to act for the Project Manager has been delegated to a specific person or persons. Such delegation of authority may be established by the Contract Documents; otherwise, it is not effective or binding upon the Department until such written notification of the delegation is received by the Contractor. The Administrator of the Land Development Division of the Department, or his designee, shall also have authority to act on behalf of the Department on all matters regarding the contract that are not reserved for the Chairman.
- 5.3 **AUTHORITY OF THE INSPECTOR**
- 5.3.1 The Inspector shall observe and inspect the contract performance and materials. The Inspector does not have any authority vested in the Project Manager unless specifically delegated in writing.
- 5.3.2 The Inspector may offer advice and recommendations to the Contractor, but any such advice or recommendations are not directives from the Project Manager.
- 5.3.3 The Inspector has no authority to allow deviations from the Contract Documents and may reject any and all work that the Inspector deems is not in conformity with the contract requirements. Failure of an Inspector at any time to reject non-conforming work shall not be considered a waiver of the Department's right to require work in strict conformity with the Contract Documents as a condition of final acceptance.
- 5.4 **AUTHORITY OF CONSULTANT(S).** The Department may engage Consultant(s) for limited or full observation to supplement the inspections performed by the Department and respective Counties. Unless otherwise specified in writing to the Contractor, such retained Consultant(s) will have the authority of an Inspector.
- 5.5 **SHOP DRAWINGS AND OTHER SUBMITTALS.** The following documents shall be submitted where required by the Contract Documents:
- 5.5.1 **SHOP DRAWING**
- (a) The Contractor shall prepare, thoroughly check, and approve all shop drawings, including those prepared by subcontractors or any other persons. The Contractor shall indicate its approval by stamping and signing each drawing. Any shop drawing submitted without being reviewed, stamped and signed will be considered as not having been submitted, and any delay caused thereby shall be the Contractor's responsibility.

- (b) Shop drawings shall indicate in detail all parts of an item of work, including erection and setting instructions and engagements with work of other trades or other separate contractors. Shop drawings for structural steel, millwork and pre-cast concrete shall consist of calculations, fabrication details, erection drawings and other working drawings to show the details, dimensions, sizes of members, anchor bolt plans, insert locations and other information for the complete fabrication and erection of the structure to be constructed.
- (c) The Contractor shall be responsible for the design of all structural curtain walls, all connections and fasteners for structural steel and architectural and structural precast concrete. Curtain walls, connections and fasteners shall be designed by a licensed professional engineer to carry the indicated or necessary loads. The precast concrete pieces shall be designed to withstand erection, transportation and final loading stresses. All calculations shall be performed by a licensed professional engineer and submitted to the Project Manager for review.
- (d) The cost of shop drawings or any other submittal shall not be a separate or individual pay item. All costs of furnishing shop drawings required by the contract shall be included in the price agreed to be paid for the various contract items of work, and no additional allowances will be made therefor.
- (e) All shop drawings as required by the contract, or as determined by the Project Manager to be necessary to illustrate details of the work shall be submitted to the Project Manager with such promptness as to cause no delay in the work or in that of any other Contractor. Delay caused by the failure of the Contractor to submit shop drawings on a timely basis to allow for review, possible resubmittal and acceptance will not be considered as a justifiable reason for a contract time extension. Contractor, at its own risk, may proceed with the work affected by the shop drawings before receiving acceptance; however the Department shall not be liable for any costs or time required for the correction of work done without the benefit of accepted shop drawings.
- (f) It is the Contractor's obligation and responsibility to check all of its and its subcontractor's shop drawings and be fully responsible for them and for coordination with connecting and other related work. The Contractor shall prepare, and submit to the Project Manager coordination drawings showing the installation locations of all plumbing, piping, duct and electrical work including equipment throughout the project. By approving and submitting shop drawings, the Contractor thereby represents that it has determined and verified all field measurements and field construction criteria, or will do so, and that it has checked and coordinated each shop drawing with the requirements of the work and the contract documents. When shop drawings are prepared and processed before field measurements and field construction criteria can be or have been determined or verified, the Contractor shall make all necessary adjustments in the work or resubmit further shop drawings, all at no change in contract price or time.

5.5.1.1 **SHOP DRAWING FORM.** Each drawing and/or series of drawings submitted must be accompanied by a letter of transmittal giving a list of the titles and number of the drawings. Each series shall be numbered consecutively for ready reference and each drawing shall be marked with the following information:

- (a) Date of Submission
- (b) Name of Project
- (c) Project Number
- (d) Location of Project
- (e) Name of submitting Contractor and Subcontractor
- (f) Revision Number
- (g) Specification and/or any drawing reference by article or sheet number.

- 5.5.1.2 No shop drawing shall be smaller than 24" x 36" nor larger than 28" x 42". At the determination of the Project Manager, each sheet of drawings for the submittal shall consist of either (1) reproducible transparency and three ozalid prints; or (2) six ozalid prints.
- 5.5.1.3 The Department will not be responsible for any cost of modifying/adjusting precast structures to fit the final as-built design, actual field conditions and finished work. To this end, the Contractor shall follow the following procedures:
- (a) Submit shop drawings for general design conformity for approval. Delay precasting operations.
 - (b) Start infrastructure work. Expose, check grade and install improvements requiring precast structures. Resubmit shop drawings with schedule for all structures indicating required deviations, correct and final inverts, depths, openings, special reinforcing and details, alignments, correct configurations, tops, grating, etc. The Contractor shall submit a schedule for the precasting work. Precast operations may commence based on approved shop drawings. During precast operations, the Project Manager may inspect the operations at least once per differing group of structures. The Contractor shall assume all risks and costs associated with modifying/adjusting the precast structures due to incomplete field verification, premature analysis and shop drawings.
- 5.5.2 **DESCRIPTIVE SHEETS AND OTHER SUBMITTALS.** When a submittal is required by the contract, the Contractor shall submit to the Project Manager eight (8) complete sets of descriptive sheets such as brochures, catalogs, illustrations, etc., which will completely describe the material, product, equipment, furniture or appliances to be used in the project as shown in the drawings and specifications. Prior to the submittal, the Contractor will review and check all descriptive sheets for conformity to the contract requirements and indicate such conformity by marking or stamping and signing each sheet. It is the responsibility of the Contractor to submit descriptive sheets for review and acceptance by the Project Manager as required at the earliest possible date after the date of award in order to meet the construction schedule. Delays caused by the failure of the Contractor to submit descriptive sheets as required will not be considered as justifiable reasons for contract time extension. The submittal shall list the seven (7) items of information as listed in Subsection 5.5.1, Shop Drawing.
- 5.5.3 **MATERIAL SAMPLES AND COLOR SAMPLES.** Prior to their submittal, all color samples and material shall be assembled and presented as required by the Department. When sample submittals are required by the contract, the Contractor shall review, approve, indicate its approval and submit to the Project Manager samples of the materials to be used in the project and color selection samples. It is the responsibility of the Contractor to submit material and color samples for review as required at the earliest possible date after the date of award in order to meet the construction schedule. Delays caused by the failure of the Contractor to submit material and color samples will not be considered as justifiable reasons for contract time extension. The submittal shall list the seven (7) items of information as listed in Subsection 5.5.1, Shop Drawing.
- 5.5.4 **SUBMITTAL VARIANCES.** The Contractor shall include with the submittal, written notification clearly identifying all deviations or variances from the contract drawings, specifications and other Contract Documents. The notice shall be in a written form separate from the submittal. The variances shall also be clearly indicated on the shop drawing, descriptive sheet, material sample or color sample. Failure to so notify of and identify such variances shall be grounds for the subsequent rejection of the related work or materials, notwithstanding that the submittal was accepted by the Project Manager. If the variances are not acceptable to the Project Manager, the Contractor will be

required to furnish the item as specified or indicated on the Contract Documents at no additional cost or time.

- 5.5.5 **REVIEW AND ACCEPTANCE PROCESS.** The Project Manager shall check shop drawings and within forty-five (45) days of receipt return them to the Contractor unless otherwise agreed between the Contractor and the Department. Submittals required for work to be installed within the first sixty days after the notice to proceed shall be returned by the Project Manager within twenty (20) days. If the volume of shop drawings submitted at any time for review is unusually large, the Contractor may inform the Project Manager of its preferred order for review and the Project Manager shall use reasonable efforts to accommodate the Contractor's priorities.
- 5.5.5.1 The acceptance by the Project Manager of the Contractor's submittal relates only to their sufficiency and compliance with the intention of the contract. Acceptance by the Project Manager of the Contractor's submittal does not relieve the Contractor of any responsibility for accuracy of dimensions, details, and proper fit, and for agreement and conformity of submittal with the Contract Drawings and Specifications. Nor will the Project Manager's acceptance relieve the Contractor of responsibility for variance from the Contract Documents unless the Contractor, at the time of submittal, has provided notice and identification of such variances required by this section. Acceptance of a variance shall not justify a contract price or time adjustment unless the Contractor requests such an adjustment at the time of submittal and the adjustment are explicitly agreed to in writing by the Department. Any such request shall include price details and proposed scheduling modifications. Acceptance of a variance is subject to all contract terms, stipulations and covenants, and is without prejudice to any and all rights under the surety bond.
- 5.5.5.2 If the Project Manager returns a submittal to the Contractor that has been rejected, the Contractor, so as not to delay the work, shall promptly make a resubmittal conforming to the requirements of the Contract Documents and indicating in writing on the transmittal and the subject submittal what portions of the resubmittal has been altered in order to meet the acceptance of the Project Manager. Any other differences between the resubmittal and the prior submittal shall also be specifically described in the transmittal.
- 5.5.5.3 No mark or notation made by the Project Manager or Consultant(s) on or accompanying the return of any submittal to the Contractor shall be considered a request or order for a change in work. If the Contractor believes any such mark or notation constitutes a request for a change in the work for which it is entitled to an adjustment in contract price and/or time, the Contractor must follow the same procedures established in Section 4.2, CHANGES for oral orders, directions, instructions, interpretations or determinations from the Project Manager or else lose its right to claim for an adjustment.
- 5.6 **COORDINATION OF CONTRACT DOCUMENTS.** It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. The Contract Documents are complementary: any requirement occurring in one document is as binding as though occurring in all. In the event of conflict or discrepancy the priorities stated in the following Subsections shall govern:
- 5.6.1 Addenda shall govern over all other Contract Documents. Subsequent addenda issued shall govern over prior addenda only to the extent specified.
- 5.6.2 Special Conditions and Proposal shall govern over the General Conditions and Specifications.
- 5.6.3 Specifications shall govern over drawings.

- 5.6.4 Specification Error - Should an error or conflict appear within the specification, the Contractor shall immediately notify the Project Manager. The Project Manager shall promptly issue instructions as to procedure. Any requirement occurring in one or more parts of the specification is as binding as though occurring in all applicable parts.
- 5.6.4.1 Should an error or conflict appear within a specification section, between a listed manufacturer / product and the performance requirements of the specification section, the performance requirements shall govern.
- 5.6.4.2: In the event of a conflict between AG-008 103D General Conditions (the “General Conditions”) and these DHHL Construction General Conditions, the requirements of these DHHL Construction General Conditions will apply to the extent provided by and as allowed under law.
- 5.6.5 DRAWINGS
- 5.6.5.1 Schedules shall govern over all other notes and drawings.
- 5.6.5.2 Bottom elevations of footings shown on drawings shall govern over a general note such as: “All footings shall rest on firm, undisturbed soil and extend a minimum of a certain number of feet into natural or finish grade, whichever is lower.” In the event the footing must be lowered below the bottom elevation shown, the Contractor shall be entitled to additional payment as provided in Section 4.2, CHANGES. In the event the footing is raised above the bottom elevation shown, the Department shall be entitled to a credit as provided in Section 4.2, CHANGES.
- 5.6.5.3 When a bottom of pile, drilled shaft, piling or cofferdam is shown as an estimated or approximate elevation, the Contractor shall plan and construct to that elevation or to any deeper elevation required by the plans or the direction by the Project Manager. The Project Manager, at the Project Manager’s sole discretion, may order in writing termination of all or part of the work above the estimated or approximate elevation.
- 5.6.5.4 Except for drawing schedules and bottom elevations as noted above, general notes shall govern over all other portions of the drawings:
- 5.6.5.5 Larger scale drawings shall govern over smaller scale drawings.
- 5.6.5.6 Figured or numerical dimensions shall govern over dimensions obtained by scaling. Measurements from the drawings when scaled shall be subject to the approval of the Project Manager.
- 5.6.5.7 In cases of discrepancies in the figures or drawings, the discrepancies shall be immediately referred to the Project Manager without whose decision said discrepancy shall not be corrected by the Contractor save at its own risk and in the settlement of any complications arising from such adjustment without the knowledge and consent of the Project Manager, the Contractor shall bear all extra expense involved.
- 5.6.5.8 Items shown on the drawings that are completely void in terms of description, details, quality and / or performance standards in both the Drawings and Specifications to make a price determination shall be considered an omission and the Contractor shall immediately refer same to the Project Manager for a decision.

- 5.6.5.9 Where there is a conflict between the architectural sheets and the civil or landscaping or electrical sheets, etc., the conflict shall be considered a discrepancy and the Contractor shall immediately refer same to the Project Manager for a decision.
- 5.6.5.10 Any requirement occurring in one or more of the sheets is as binding as though occurring in all applicable sheets.
- 5.7 INTERPRETATION OF DRAWINGS AND SPECIFICATIONS. The Contractor shall carefully study and compare the Contract Documents with each other, with field conditions and with the information furnished by the Department and shall at once report to the Project Manager errors, conflicts, ambiguities, inconsistencies or omissions discovered. Should an item not be sufficiently detailed or explained in the Contract Documents, Contractor shall report and request the Project Manager's clarification and interpretation. The Project Manager will issue a final clarification or final interpretation.
- 5.8 EXAMINATION OF DRAWINGS, SPECIFICATIONS, PROJECT SITE
- 5.8.1 The Contractor shall examine carefully the Project Site to become familiar with the conditions to be encountered in performing the work and the requirements of the Contract Documents.
- 5.8.1.1 No extra compensation will be given by reason of the Contractor's misunderstanding or lack of knowledge of the requirements of the work to be accomplished or the conditions to be encountered in performing the project.
- 5.8.1.2 No extra compensation will be given by reason of the Contractor's misunderstanding or lack of knowledge when the existence of differing site, subsurface or physical conditions could have been reasonably discovered or revealed as a result of any examination, investigation, exploration, test or study of the site and contiguous areas required by the bidding requirements or contract documents to be conducted by or for the Contractor.
- 5.8.2 When the contract drawings include a log of test borings showing a record of the data obtained by the Department's investigation of subsurface conditions, said log represents only the opinion of the Department as to the character of material encountered in its test borings and at only the location of each boring. The Contractor acknowledges that underground site conditions in Hawaii vary widely. There is no warranty, either expressed or implied, that the conditions indicated are representative of those existing throughout the work or any part of it, or that other conditions may not occur.
- 5.8.3 Reference is made to the Special Conditions for identification of subsurface investigations, reports, explorations and tests utilized by the Department in preparation the Contract Documents. Such reports, drawings, boring logs etc., if any, are not part of the Contract Documents.
- 5.9 COOPERATION BETWEEN THE CONTRACTOR AND THE DEPARTMENT
- 5.9.1 FURNISHING DRAWINGS AND SPECIFICATIONS. Contractor will be supplied copies of the Contract Drawings and Specifications as specified in the Special Conditions. Contractor shall have and maintain at least one unmarked copy of the Contract Drawings and Specifications on the work site, at all times. Contractor shall cooperate with the Project Manager, the Inspector(s), and other contractors in every possible way.
- 5.9.2 SUPERINTENDENT. The Contractor shall have a competent superintendent on the work site as its designated agent. The superintendent shall be able to read and understand the project plans and

specifications and shall be experienced in the type of project being undertaken and the work being performed. The superintendent shall receive instructions from the Project Manager or its authorized representative. The Contractor shall authorize the superintendent to (a) execute the orders and directions of the Project Manager or its authorized representative without delay and (b) promptly supply such materials, equipment, tools, labor and incidentals as may be required to complete the project within the prescribed contract time. The Contractor shall furnish a superintendent regardless of the amount of project work sublet.

- 5.9.2.1 If the superintendent or agent is not present at the work site, the Project Manager shall have the right to suspend the work as described under Section 7.24, SUSPENSION OF WORK.
- 5.9.2.2 The Contractor shall file with the Project Manager a written statement giving the name of the superintendent or agent assigned to the project. The Contractor shall be responsible for notifying the Project Manager in writing of any change in the superintendent or agent.
- 5.9.2.3 The requirements of this Subsection 5.9.2, SUPERINTENDENT may be waived by the Project Manager.
- 5.9.3 **ENGINEERING WORK.** The Contractor shall properly and accurately lay out the work, perform all engineering work, and furnish all engineering materials and equipment required to establish and maintain all lines, grades, dimensions and elevations called for in the drawings or required in the progress of construction, unless otherwise noted in the contract documents. The Contractor will be held definitely and absolutely responsible for any errors in lines, grades, dimensions and elevations and shall at once, on instruction from the Project Manager, correct and make good such errors or any errors, or faults in the work resulting from errors in engineering performed under the requirements of its contract to the entire satisfaction of the Project Manager. Full compensation for the work shall be included in the prices paid for contract items of work. No additional allowance will be made for the correction of incorrect engineering work.
 - 5.9.3.1 The Project Manager shall furnish the requisite bench elevations.
 - 5.9.3.2 The Contractor shall locate and verify all lines, grades, dimensions and elevations indicated on the drawings before any excavation, or construction begins. Any discrepancy shall be immediately brought to the attention of the Project Manager; any change shall be made in accordance with the Project Manager's instruction.
 - 5.9.3.3 The Contractor shall verify all street survey monuments (horizontal and vertical alignment) prior to final acceptance by the Project Manager in accordance with any governmental requirements.
 - 5.9.3.4 The Contractor shall provide a surveyor or Civil Engineer licensed in the State of Hawaii to verify and establish all lines, grades, dimensions and elevations.
- 5.9.4 **USE OF STRUCTURE OR IMPROVEMENT.** The Department shall have the right, at any time during construction of the structure or improvements, to enter same for the purpose of installing by government labor or by any other Contractor or utility any necessary work in connection with the installation of facilities, it being mutually understood and agreed, however, that the Contractors, utilities and the Department will, so far as possible work to the mutual advantage of all, where their several works in the above mentioned or in unforeseen instances touch upon or interfere with each other. As a convenience to those involved, the Project Manager shall allocate the work and designate the sequence of construction in case of controversy between Contractors on separate projects under Department jurisdiction.

- 5.9.4.1 The Department shall also have the right to use the structure, equipment, improvement or any part thereof, at any time after it is considered by the Project Manager as available. In the event that the structure, equipment or any part thereof is so used, the Department shall be responsible for all expenses incidental to such use and any damages resulting from the Department's use.
- 5.9.4.2 Equipment warranty will commence to run before the work is complete when and if the Department begins actual use of the equipment for the purpose for which the equipment was designed and installed.
- 5.9.4.3 If the Department enters the structure for construction and/or occupancy and the Contractor is delayed because of interference by the Department or by extra work resulting from damage which the Contractor is not responsible for, or by extraordinary measures the Contractor must take to accommodate the Department, the Contractor shall be granted an extension of time in accordance with Section 7.21, CONTRACT TIME. However, if such use increases the cost or delays the completion of the remaining portions of work, the Contractor shall be entitled to such extra compensation or extension of time or both, as the Department may determine to be proper. Any additional work necessary will be paid in accordance with Section 8.3, PAYMENT FOR ADDITIONAL WORK.
- 5.10 INSPECTION. The Project Manager, the Department's consultants, inspectors employed by the Department and other representatives duly authorized by the Department shall at all times have access to the work during its construction and shall be furnished with every reasonable facility for ascertaining at any time that the materials and the workmanship are in accordance with the requirements and intentions of the contract. All work done and all materials furnished shall be subject to inspection and acceptance.
- 5.10.1 Such inspection and approval may extend to all or part of the work, and to the preparation, fabrication or manufacture of the materials to be used. By entering into a contract for the supply of materials, equipment or performance of labor in connection with the work, such material and equipment supplier or labor contractor consents to and is subject to the terms of Section 5.9, COOPERATION BETWEEN THE CONTRACTOR AND THE DEPARTMENT to the same extent as the Contractor.
- 5.10.2 AUTHORITY TO SUSPEND OPERATIONS. The Project Manager shall have the authority to suspend operations of any work being improperly performed by issuing a written order giving the reason for shutting down the work. Should the Contractor disregard such written order, the work done thereafter will not be accepted nor paid for.
- 5.10.3 The inspection of the work shall not relieve the Contractor of any of its obligations to fulfill the contract as prescribed. Notwithstanding prior payment and acceptance by the Project Manager, any defective and nonconforming work shall be corrected to comply with the contract requirements. Unsuitable, unspecified or unapproved materials may be rejected.
- 5.10.4 FEDERAL AGENCY INSPECTION. Projects financed in whole or in part with Federal funds shall be subject to inspection and corrective requirements at all times by the Federal Agency involved at no cost to the Department.
- 5.11 REMOVAL OF DEFECTIVE, NON-CONFORMING AND UNAUTHORIZED WORK
- 5.11.1 All work which has been rejected as not conforming to the requirements of the Contract shall be remedied or removed and replaced by the Contractor in an acceptable manner and no compensation

will be allowed for such removal or replacement. Any work done beyond the work limits shown on the drawings and specifications or established by the Project Manager or any additional work done without written authority will be considered as unauthorized and will not be paid for. work so done may be ordered removed at the Contractor's expense.

- 5.11.2 SCHEDULING CORRECTIVE WORK. The Contractor shall perform its corrective or remedial work at the convenience of the Department and shall obtain the Project Manager's approval of its schedule.
- 5.11.3 FAILURE TO CORRECT WORK. Upon failure on the part of the Contractor to comply promptly with any order of the Project Manager made under the provisions of Section 5.10, the Project Manager shall have authority to cause defective work to be remedied or removed and replaced, and unauthorized work to be removed, at the Contractor's expense, and to deduct the costs from any monies due or to become due the Contractor.
- 5.12 VALUE ENGINEERING INCENTIVE (§3-132 HAR amended by Act 149 SLH 1999). On projects with contract amounts in excess of \$250,000 (two hundred fifty thousand dollars), the following Value Engineering Incentive Clause shall apply to allow the Contractor to share in cost savings that ensue from cost reduction proposals it submits.
 - 5.12.1 The Value Engineering Incentive Clause applies to all Value Engineering Change Proposals (cost reduction proposals, hereinafter referred to as (VECP) initiated and developed by the Contractor for changing the drawings, designs, specifications or other requirements of this contract. This clause does not however, apply to any VECP unless it is identified as such by the Contractor at the time of its submission to the Project Manager.
 - 5.12.2 VALUE ENGINEERING CHANGE PROPOSAL (VECP). All VECP must:
 - 5.12.2.1 Result in a savings to the Department of at least \$4000 (four thousand dollars) by providing less costly items and without impairing any essential functions and characteristics such as service life, reliability, economy of operation, ease of maintenance and all necessary features of the completed work;
 - 5.12.2.2 Require, in order to be applied to this Contract, a change order to this Contract; and
 - 5.12.2.3 Not adversely impact on the schedule of performance or the Contract completion date.
 - 5.12.3 VECP REQUIRED INFORMATION. The VECP will be processed expeditiously and in the same manner as prescribed for any other change order proposal. As a minimum, the following information will be submitted by the Contractor with each proposal:
 - 5.12.3.1 A description of the difference between the existing contract requirements and the VECP, and the comparative advantages and disadvantages of each including durability, service life, reliability, economy of operation, ease of maintenance, design safety standards, desired appearance, impacts due to construction and other essential or desirable functions and characteristics as appropriate;
 - 5.12.3.2 An itemization of the requirements of the contract which must be changed if the VECP is adopted and a recommendation as to how to make each such change;

- 5.12.3.3 An estimate of the reduction in performance costs that will result from adoption of the VECP taking into account the costs of implementation by the Contractor, including any amounts attributable to subcontracts, and the basis for the estimate;
- 5.12.3.4 A prediction of any effects the VECP would have on other costs to the Department, such as Department furnished property costs, costs of related items, and costs of maintenance and operation over the anticipated life of the material, equipment, or facilities as appropriate; the construction schedule, sequence and time; and bid item totals used for evaluation and payment purposes;
- 5.12.3.5 A statement of the time by which a change order adopting the VECP must be issued so as to obtain the maximum cost reduction during the remainder of this contract noting any effect on the contract time; and 5.12.3.6 The dates of any previous submissions of the VECP, the numbers of any Government contracts under which submitted and the previous actions by the Government, if known.
- 5.12.4 **REQUIRED USE OF LICENSED ARCHITECT OR ENGINEER.** When, in the judgment of the Project Manager, a VECP alters the design prepared by a registered professional architect or engineer, the Contractor shall ensure the changes to be prepared are by or under the supervision of a licensed professional architect or engineer, and stamped and so certified.
- 5.12.5 Unless and until a change order applies a VECP to a contract, the Contractor shall remain obligated to perform in accordance with the terms of the contract and the Department shall not be liable for delays incurred by the Contractor resulting from the time required for the Department's determination of the acceptability of the VECP.
- 5.12.5.1 The determination of the Project Manager as to the acceptance of any VECP under a contract shall be final.
- 5.12.6 **ACCEPTANCE OF VECP.** The Project Manager may accept in whole or in part any VECP submitted pursuant to this section by issuing a change order to the Contract. Prior to issuance of the change order, the Contractor shall submit complete final contract documents similar to those of the original Contract showing the accepted changes and the new design and features as well as the following:
- 5.12.6.1 Design calculations;
- 5.12.6.2 The design criteria used; and
- 5.12.6.3 A detailed breakdown of costs and expenses to construct or implement such revisions.
- 5.12.6.4 The change order will identify the final VECP on which it is based.
- 5.12.7 **VECP PRICE ADJUSTMENTS.** When a VECP is accepted under a contract, an adjustment in the contract price shall be made in accordance with Section 4.4, PRICE ADJUSTMENT. The adjustment shall first be established by determining the effect on the Contractor's cost of implementing the change, including any amount attributable to subcontractors and to the Department's charges to the Contractor for architectural, engineering, or other consultant services, and the staff time required to examine and review the proposal. The contract price shall then be reduced by fifty percent (50%) of the net estimated decrease in the cost of performance.

- 5.12.8 The Contractor may restrict the Department's right to use the data or information or both, on any sheet of a VECP or of the supporting data, submitted pursuant to this Subsection, if it is stated on that sheet as follows:
- 5.12.8.1 "This data or information or both shall not be disclosed outside the Department or be duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate this VECP. This restriction shall not limit the Department's right to use this data or information or both if obtained from another source, or is otherwise available, without limitations. If this VECP is accepted by the Department by issuance of a change order after the use of this data or information or both in such an evaluation, the Department shall have the right to duplicate, use and disclose any data or information or both pertinent to the proposal as accepted in any manner and for any purpose whatsoever and have others so do."
- 5.12.9 In the event of acceptance of a VECP, the Department shall have all rights to use, duplicate or disclose in whole or in part in any manner and for any purpose whatsoever, and to have or permit others to do so, any data or information or both reasonably necessary to fully utilize such proposal.
- 5.12.10 The Contractor shall submit with each VECP all required information and provide all additional information as may be required by the Project Manager to evaluate and implement the VECP. The cost for preparing the VECP shall be the Contractor's responsibility, and any part of the Contractor's cost for implementing the change shall be due only when the proposal is accepted and a change order is issued.
- 5.12.11 If the service of the Department's architect, Project Manager or consultant is necessary to review and evaluate a VECP, the cost therefor shall be paid for by the Contractor.
- 5.12.12 Each VECP shall be evaluated as applicable to this contract, and past acceptance on another Department project for a similar item shall not be automatic grounds for approval.
- 5.12.13 The method by which the Contractor will share a portion of the cost savings from an accepted VECP shall be for this contract only, and no consideration shall be made for future acquisition, royalty type payment or collateral savings.
- 5.12.13.1 The Department may accept the proposed VECP in whole or in part. The Chairman shall issue a contract change order to identify and describe the accepted VECP.
- 5.13 SUBCONTRACTS. Nothing contained in the contract documents shall create a contractual relationship between the Department and any subcontractor.
- 5.13.1 SUBSTITUTING SUBCONTRACTORS. Contractors may enter into subcontracts only with subcontractors listed in the proposal. No subcontractor may be added or deleted and substitutions will be allowed only if the subcontractor:
- 5.13.1.1 Fails, refuses or is unable to enter into a subcontract; or
- 5.13.1.2 Becomes insolvent; or
- 5.13.1.3 Has its subcontractor's license suspended or revoked; or
- 5.13.1.4 Has defaulted or has otherwise breached the subcontract in connection with the subcontracted work; or

- 5.13.1.5 Is unable to comply with other requirements of law applicable to contractors, subcontractors and public works projects.
- 5.13.2 Requesting Approval to Substitute a Subcontractor. Requests to substitute a subcontractor shall be submitted to the Project Manager for approval. Contractor agrees to hold the Department harmless and indemnify the Department for all claims, liabilities, or damages whatsoever, including attorney's fees arising out of or related to the approval or disapproval of the substitution.
- 5.13.3 The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of the General Conditions and the other contract documents insofar as applicable to the work of the subcontractor and to give the Contractor the same rights regarding the termination of a subcontractor as the Department may exercise over the Contractor.
- 5.13.4 The Contractor shall not sponsor any unliquidated subcontractor's claim against the Department and shall defend, indemnify and hold the Department harmless against any direct claims by its subcontractors. Any claim for additional compensation by a subcontractor in connection with the work shall be made only against the Contractor. The Contractor may not assert any such claim against the Department until the liability of the Contractor has been unconditionally established by negotiation, arbitration or litigation, and the amount due the subcontractor has been determined, save for interest due.
- 5.13.5 Once a subcontractor's claim is established, should the Contractor intend to make the claim against the Department, it shall follow the procedure set forth under Section 7.25, DISPUTES AND CLAIMS.
- 5.13.6 SUBCONTRACTING. Contractor shall perform with its own organization, work amounting to not less than twenty percent (20%) of the total contract cost, exclusive of costs for materials and equipment the Contractor purchases for installation by its subcontractors, except that any items designated by the Department in the contract as "specialty items" may be performed by a subcontractor and the cost of any such specialty items so performed by the subcontractor may be deducted from the total contract cost before computing the amount of work required to be performed by the Contractor with its own organization. For the purposes of this section, the Contractor's work is defined as: direct cost labor for contractor's forces; direct cost materials installed by the contractor's direct cost labor force; direct cost equipment, either owned or leased, used by the contractor's direct cost labor force; and field overhead cost to include: field supervision, field office trailer (if any), field office equipment and supplies, etc.

~END OF ARTICLE 5~

ARTICLE 6: CONTROL OF MATERIALS AND EQUIPMENT

- 6.1 MATERIALS AND EQUIPMENT. Contractor shall furnish, pay for and install all material and equipment as called for in the drawings and specifications. Materials and equipment shall be new and the most suitable for the purpose intended unless otherwise specified. The Department does not guarantee that the specified or pre-qualified product listed in the drawings and specifications are available at the time of bid or during the contract period.
- 6.2 SOURCE OF SUPPLY AND QUALITY OF MATERIALS
- 6.2.1 Only materials conforming to the drawings and specifications and, when required by the contract have been accepted by the Project Manager, shall be used. In order to expedite the inspection and testing of materials, at the request of the Project Manager, the Contractor shall identify its proposed sources of materials within ten (10) days after notification by the Project Manager.
- 6.2.2 At the option of the Project Manager, the materials may be accepted by the Project Manager at the source of supply before delivery is started. Representative preliminary samples of the character and quantity prescribed shall be submitted by the Contractor or producer for examination and tested in accordance with the methods referred to under samples and tests.
- 6.2.3 PROJECT MANAGER'S AUTHORIZATION TO TEST MATERIALS. Materials proposed to be used may be inspected and tested whenever the Project Manager deems necessary to determine conformance to the specified requirements. The cost of testing shall be borne by the Contractor. However, should test results show that the material(s) is in compliance with the specified requirements; the cost of the testing will be borne by the Department.
- 6.2.4 UNACCEPTABLE MATERIALS. In the event material(s) are found to be unacceptable, the Contractor shall cease their use, remove the unacceptable material(s) that have already been installed or applied, and furnish acceptable materials all at no additional cost to the Department. No material which is in any way unfit for use shall be used.
- 6.3 SUBSTITUTION OF MATERIALS AND EQUIPMENT
- 6.3.1 SUBSTITUTION OF MATERIALS AND EQUIPMENT BEFORE BID OPENING For materials and equipment submitted in compliance with Instructions to Bidders, if after installing the substituted product, an unlisted variance is discovered the Contractor shall immediately replace the product with a specified product at no cost to the Department.
- 6.3.2 SUBSTITUTION AFTER CONTRACT AWARD. Subject to the Project Manager's determination if the material or equipment is equal to the one specified or prequalified, substitution of material or equipment may be allowed after the Letter of Award is issued only:
- 6.3.2.1 If the specified or prequalified item is delayed by unforeseeable contingencies beyond the control of the Contractor which would cause a delay in the project completion; or
- 6.3.2.2 If any specified or prequalified item is found to be unusable or unavailable due to a change by the manufacturer or other circumstances; or
- 6.3.2.3 If the Contractor desires to provide a more recently developed material, equipment, or manufactured model from the same named manufacturer than the one specified or prequalified; or
- 6.3.2.4 If the specified material and / or equipment inadvertently lists only a single manufacturer.

- 6.3.3 A substitution request after the Contract is awarded shall be fully explained in writing. Contractor shall provide brochures showing that the substitute material and / or equipment is equal or better in essential features and also provide a matrix showing comparison of the essential features. Contractor shall justify its request and include quantities and unit prices involved, respective supplier's price quotations and such other documents necessary to fully support the request. Any savings in cost will be credited to the Department. Contractor shall absorb any additional cost for the substitute item(s) or for its installation. Submitting a substitution request, does not imply that substitutions, for brand name specified materials and equipment will be allowed. The Project Manager may reject and deny any request deemed irregular or not in the best interest of the Department. A request for substitution shall not in any way be grounds for an extension of contract time. At the discretion of the Project Manager, a time extension may be granted for an approved substitution.
- 6.4 ASBESTOS CONTAINING MATERIALS. The use of materials or equipment containing asbestos is prohibited under this contract. Contractor warrants that all materials and equipment incorporated in the project are asbestos-free.
- 6.5 TEST SAMPLES
- 6.5.1 The Project Manager may require any or all materials to be tested by means of samples or otherwise. Contractor shall collect and forward samples requested by the Project Manager. Contractor shall not use or incorporate any material represented by the samples until all required tests have been made and the material has been accepted. In all cases, the Contractor shall furnish the required samples without charge. Where samples are required from the completed work, the Contractor shall cut and furnish samples from the completed work. Samples so removed shall be replaced with identical material and refinished. No additional compensation will be allowed for furnishing test samples and their replacement with new materials.
- 6.5.2 Tests of the material samples will be made in accordance with the latest standards of the American Society for Testing and Materials (ASTM), as amended prior to the contract date unless otherwise provided. In cases where a particular test method is necessary or specifications and serial numbers are stipulated, the test shall be made by the method stated in the above-mentioned publication. Where the test reference is the American Association of State Highway and Transportation Officials (AASHTO), it means the specifications and serial numbers of the latest edition and amendments prior to the bid date.
- 6.5.3 The Project Manager may, at no extra cost to the Department retest any materials which have been tested and accepted at the source of supply after the same has been delivered to the work site. The Project Manager shall reject all materials which, when retested, do not meet the requirements of the Contract.
- 6.6 MATERIAL SAMPLES
- 6.6.1 The Contractor shall furnish all samples required by the drawings and specifications or that may be requested by the Project Manager of any and all materials or equipment it proposes to use. Unless specifically required, samples are not to be submitted with the bid.
- 6.6.2 No materials or equipment of which samples are required shall be used on the work until the Project Manager has received and accepted the samples. If the Contractor proceeds to use such materials before the Project Manager accepts the samples, the Contractor shall bear the risk.

- 6.6.3 Contractor shall furnish two (2) copies of a transmittal letter with each shipment of samples. The letter shall provide a list of the samples, the name of the building or work for which the materials are intended and the brands of the materials and names of the manufacturers. Also, each sample submitted shall have a label indicating the material represented, its place of origin, the names of the producer, the Contractor and the building or work for which the material is intended. Samples of finished materials shall be marked to indicate where the materials represented are required by the drawings or specifications.
- 6.6.4 Acceptance of any sample(s) shall be only for the characteristics or for the uses named in such acceptance and for no other purpose. Acceptance of samples shall not change or modify any contract requirement. All samples will be provided by the Contractor at no extra cost to the Department. See also Section 5.5, SHOP DRAWINGS AND OTHER SUBMITTALS.
- 6.7 NON-CONFORMING MATERIALS. All materials not conforming to the requirements of this contract documents, whether in place or not, shall be rejected and removed immediately from the site of work unless otherwise permitted by the Project Manager in writing. No rejected material which has subsequently been made to conform shall be used unless and until written acceptance has been given by the Project Manager. If the Contractor fails to comply forthwith with any order of the Project Manager made under the provisions of this Section 6.7, NON-CONFORMING MATERIALS the Project Manager shall have the authority to remove and replace non-conforming materials and charge the cost of removal and replacement to the Contractor.
- 6.8 HANDLING MATERIALS. Contractor shall handle all materials to preserve their quality and fitness for work. Transport aggregates from the source or storage site to the work in tight vehicles to prevent loss or segregation of materials after loading and measuring.
- 6.9 STORAGE OF MATERIALS. Contractor shall store all materials to preserve their quality and fitness for the work. Unless otherwise provided, any portion of the project site within the Project Contract Limit not required for public travel may be used for storage purposes and for the Contractor's plant and equipment. Any additional space required shall be provided by the Contractor at its expense subject to the Project Manager's acceptance. Contractor shall store materials on wooden platforms or other hard, clean surfaces and covered to protect it from the weather and damage. Stored materials shall be located to allow prompt inspection.
- 6.10 PROPERTY RIGHTS IN MATERIALS. Nothing in the contract shall be construed to vest in the Contractor any right to any materials and equipment after such materials and equipment have been attached, affixed to, or placed in the work.
- 6.11 ANTITRUST CLAIMS. The STATE and the CONTRACTOR recognized that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the purchaser. Therefore, the CONTRACTOR hereby assigns to STATE any and all claims for overcharges as to goods and material purchased in connection with this Contract, except as to overcharges which result from violations commencing after the price is established under this Contract and which are not passed on to the STATE under an escalation clause.

~END OF SECTION 6~

ARTICLE 7: PROSECUTION AND PROGRESS (Including Legal Relations and Responsibility)

7.1 PROSECUTION OF THE WORK

- 7.1.1 After approval of the Contract by the Chairman, a Notice to Proceed will be given to the Contractor as described in Section 3.10, NOTICE TO PROCEED. The Notice to Proceed will indicate the date the Contractor is expected to begin the construction and from which date contract time will be charged.
- 7.1.2 The Contractor shall begin work no later than ten (10) working days from the date in the Notice to Proceed and shall diligently prosecute the same to completion within the contract time allowed. The Contractor shall notify the Project Manager at least three (3) working days before beginning work.
- 7.1.3 If any subsequent suspension and resumption of work occurs, the Contractor shall notify the Project Manager at least twenty-four (24) hours before stopping or restarting actual field operations.
- 7.1.4 **WORKING PRIOR TO NOTICE TO PROCEED.** The Contractor shall not begin work before the date in the Notice to Proceed. Should the Contractor begin work before receiving the Notice to Proceed, any work performed in advance of the specified date will be considered as having been done at the Contractor's risk and as a volunteer and subject to the following conditions:
 - 7.1.4.1 Under no circumstances shall the Contractor commence work on site until it has notified the Project Manager of its intentions and has been advised by the Project Manager in writing that the project site is available to the Contractor. The project site will not be made available until the Contractor has complied with commencement requirements under Section 7.2, COMMENCEMENT REQUIREMENTS.
 - 7.1.4.2 In the event the contract is not executed, the Contractor shall, at its own expense, do such work as is necessary to leave the site in a neat condition to the satisfaction of the Project Manager. The Contractor shall not be reimbursed for any work performed.
 - 7.1.4.3 All work done prior to the Notice to Proceed shall be performed in accordance with the Contract Documents, but will only be considered authorized work and be paid for as provided in the Contract after the Notice to Proceed is issued.
- 7.1.5 For repairs and/or renovations of existing buildings, unless otherwise permitted by the Project Manager, the Contractor shall not commence with the physical construction unless all or sufficient amount of materials are available for either continuous construction or completion of a specified portion of the work. When construction is started, the Contractor shall work expeditiously and pursue the work diligently until it is complete. If only a portion of the work is to be done in stages, the Contractor shall leave the area safe and usable for the user agency at the end of each stage.
- 7.2 **COMMENCEMENT REQUIREMENTS.** Prior to beginning work on site, the Contractor shall submit the following to the Project Manager:
 - 7.2.1 Identification of the Superintendent or authorized representative on the job site. Refer to Section 5.9, COOPERATION BETWEEN THE CONTRACTOR AND THE DEPARTMENT;
 - 7.2.1.1 Identification of the surveyor who shall be licensed in the State of Hawaii and will work for it throughout the course of the project. Refer to Section 5.9.3.4.

- 7.2.2 Proposed Working Hours on the job. Refer to Section 7.5, NORMAL WORKING HOURS;
- 7.2.3 Permits and Licenses. Refer to Section 7.4, PERMITS AND LICENSES;
- 7.2.4 Schedule of Prices to be accepted for the agreed Monthly Payment Application. Unless the proposal provides unit price bids on all items in this project, the successful Bidder will be required, after the award of contract, to submit a schedule of prices for the various items of construction included in the contract. For projects involving more than a single building and / or facility, the breakdown cost shall reflect a separate schedule of prices for the various items of work for each building and/or facility. The sum of the prices submitted for the various items must equal the lump sum bid in the Bidder's proposal. This schedule will be subject to acceptance by the Project Manager who may reject same and require the Bidder to submit another or several other schedules if in the Project Manager's opinion the prices are unbalanced or not sufficiently detailed. This schedule of prices shall be used for the purpose of determining the value of monthly payments due the Contractor for work installed complete in place; and may be used as the basis for determining cost and credit of added or deleted items of work, respectively;
- 7.2.4.1 The Contractor shall estimate at the close of each month the percentage of work completed under each of the various construction items during such month and submit the Monthly Payment Application to the Project Manager for review and approval. The Contractor shall be paid the approved percentage of the price established for each item less the retention provided in Section 8.4, PROGRESS AND/OR PARTIAL PAYMENTS; and
- 7.2.5 PROOF OF INSURANCE COVERAGE. Certificate of Insurance or other documentary evidence satisfactory to the Project Manager that the Contractor has in place all insurance coverage required by the contract. Refer to Section 7.3, INSURANCE REQUIREMENTS.
- 7.2.6 Until such time as the above items are processed and approved, the Contractor shall not be allowed to commence on any operations unless authorized by the Project Manager.
- 7.3 INSURANCE REQUIREMENTS
- 7.3.1 OBLIGATION OF CONTRACTOR. Contractor shall not commence any work until it obtains, at its own expense, all required herein insurance. Such insurance shall be provided by an insurance company authorized by the laws of the State to issue such insurance in the State of Hawaii. Coverage by a "Non-Admitted" carrier is permissible provided the carrier has a Best's Rating of "A-VII" or better.
- 7.3.2 All insurance described herein will be maintained by the Contractor for the full period of the contract and in no event will be terminated or otherwise allowed to lapse prior to written certification of final acceptance of the work by the Department.
- 7.3.3 Certificate(s) of Insurance acceptable to the Department shall be filed with the Project Manager prior to commencement of the work. Certificates shall identify if the insurance company is a "captive" insurance company or a "Non-Admitted" carrier to the State of Hawaii. The Best's rating must be stated for the "Non-Admitted" carrier. Certificates shall contain a provision that coverage(s) being certified will not be cancelled or materially changed without giving the Project Manager at least thirty (30) days prior written notice. The Department is to be named as Additional Insured on any of the required insurance and it shall be so noted on the certificate. Should any policy be cancelled before final acceptance of the work by the Department, and the Contractor fails to immediately procure replacement insurance as specified, the Department, in addition to all other remedies it may have for

such breach, reserves the right to procure such insurance and deduct the cost thereof from any money due to the Contractor.

- 7.3.4 Nothing contained in these insurance requirements is to be construed as limiting the extent of Contractor's responsibility for payment of damages resulting from its operations under this Contract, including the Contractor's obligation to pay liquidated damages, nor shall it affect the Contractor's separate and independent duty to defend, indemnify and hold the Department harmless pursuant to other provisions of this Contract. In no instance will the Department's exercise of an option to occupy and use completed portions of the work relieve the Contractor of its obligation to maintain the required insurance until the date of final acceptance of the work.
- 7.3.5 All insurance described herein shall be primary and cover the insured for all work to be performed under the Contract, all work performed incidental thereto or directly or indirectly connected therewith, including traffic detour work or other work performed outside the work area and all change order work.
- 7.3.6 The Contractor shall, from time to time, furnish the Project Manager, when requested, satisfactory proof of coverage of each type of insurance required covering the work. Failure to comply with the Project Manager's request may result in suspension of the work, and shall be sufficient grounds to withhold future payments due the Contractor and to terminate the contract for Contractor's default.
- 7.3.7 TYPES OF INSURANCE. Contractor shall purchase and maintain insurance described below which shall provide coverage against claims arising out of the Contractor's operations under the Contract, whether such operations be by the Contractor itself or by any subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.
- 7.3.7.1 WORKER'S COMPENSATION. The Contractor shall obtain worker's compensation insurance for all persons whom they employ in carrying out the work under this contract. This insurance shall be in strict conformity with the requirements of the most current and applicable State of Hawaii Worker's Compensation Insurance laws in effect on the date of the execution of this contract and as modified during the duration of the contract.
- 7.3.7.2 COMMERCIAL GENERAL LIABILITY INSURANCE AND AUTOMOBILE INSURANCE. Contractor's commercial general liability insurance and automobile liability insurance shall both be obtained in a combined, single limit of not less than \$1,000,000 (one million dollars) unless otherwise indicated in the Special Conditions per occurrence that shall include coverage for bodily injury, sickness, disease or death of any person, arising directly or indirectly out of, in connection with, the performance of work under this contract.
- 7.3.7.3 "General Liability and Automobile Insurance. CONTRACTOR shall maintain, at its own expense, the minimum insurance coverage specified below, or as amended in the Special Conditions, throughout the term of this Contract.
- a. General Liability insurance providing coverage of no less than ONE MILLION DOLLARS (\$1,000,000.00) per occurrence and TWO MILLION DOLLARS (\$2,000,000.00) in the aggregate.
 - b. Automobile insurance providing coverage of no less than ONE MILLION DOLLARS (\$1,000,000.00) per accident."
- 7.3.7.4 The Contractor shall either (a) Require each of its subcontractors to procure and to maintain during the life of its subcontract, subcontractor's comprehensive general liability, automobile liability and

property damage liability insurance of the type and in the same amounts specified herein; or (b) Insure the activities of its subcontractors in its own policy.

- 7.3.7.5 **BUILDERS RISK INSURANCE.** Unless excluded by the Special Conditions of this contract, the Contractor shall provide builder's risk insurance during the progress of the work and until final acceptance by the Department upon completion of the contract. It shall be "All Risk" (including but not limited to earthquake, windstorm and flood damage) completed value insurance coverage on all completed work and work in progress to the full replacement value thereof. Such insurance shall include the Department as an additional named insured. The Contractor shall submit to the Project Manager for its approval all items deemed to be uninsurable. The policy may provide for a deductible in an amount of up to twenty five percent (25%) of the amount insured by the policy. With respect to all losses up to any deductible amount, the relationship between the Contractor and the Department shall be that of insurer and the additional insured respectively as if no deductible existed. The Contractor is responsible for theft, if any item of the contract is stolen prior to, or after installation, until the work is accepted by the Department. Progress payment does not constitute acceptance.

7.4 PERMITS AND LICENSES

- 7.4.1 The Department or its representative may process Federal (e.g. Army Corps of Engineers), State and county permit applications. The Contractor shall pick up the preprocessed Permits at the appropriate governmental agency and pay the required fees. Other permits necessary for the proper execution of the work such as utility connection permits, elevator installation permits etc., unless processed by the Department and paid for by the Contractor, shall be obtained and paid for by the Contractor.

- 7.4.2 Until such time as the above permits are approved, the Contractor shall not be allowed to commence any operations without written approval of the Project Manager.

- 7.4.3 The Project Manager reserves the right to waive application and processing of the building permit.

- 7.5 **NORMAL WORKING HOURS.** Prior to beginning operations, unless otherwise established by the Department, the Contractor shall notify the Project Manager in writing of the time in hours and minutes, A.M. and P.M. respectively, at which it desires to begin and end the day's work. If the Contractor desires to change the working hours, it shall request the Project Manager's approval three (3) consecutive working days prior to the date of the change.

7.6 HOURS OF LABOR (§104-2 HRS)

- 7.6.1 No laborer or mechanic employed on the job site of any public work of the Department or any political sub-division thereof shall be permitted or required to work on Saturday, Sunday or a legal holiday of the State or in excess of eight (8) hours on any other day unless the laborer or mechanic receives overtime compensation for all hours worked on Saturday, Sunday and a legal holiday of the State or in excess of eight (8) hours on any other day. For the purposes of determining overtime compensation under this Section 7.6, HOURS OF LABOR (§104-2 HRS) the basic hourly rate of any laborer or mechanic shall not be less than the basic hourly rate determined by the Department of Labor and Industrial Relations to be the prevailing basic hourly rate for corresponding classes of laborers and mechanics on projects of similar character in the Department.

- 7.6.2 Overtime compensation means compensation based on one and one-half times the laborers or mechanics basic hourly rate of pay plus the cost to an employer of furnishing a laborer or mechanic with fringe benefits.

7.7 PREVAILING WAGES (State §104-2 HRS & Federal Davis-Bacon)

7.7.1 The Contractor shall at all time observe and comply with all provisions of Chapter 104, HRS, the significant requirements of which are emphasized in the Department of Labor and Industrial Relations Publication No. H104-3 entitled "Requirements of Chapter 104, Hawaii Revised Statutes, Wages and Hours of Employees on Public Works Law". The Contractor must also comply with all provisions of Federal Davis-Bacon Act (40 U.S.C. 276-276a-5 and Code of Federal Regulation (CFR) Title 29 and related Acts.

7.7.2 WAGE RATE SCHEDULE. The wage rate schedule may not be physically enclosed in the bid documents. However, the wage rate schedule is incorporated herein by reference and made a part of the Bid and Contract Documents. The bidder must obtain and use the latest minimum rates ten (10) days prior to the date set for the bid opening of bids. The wage rate schedule may be obtained from the DHHL, Labor Compliance Specialist, Hale Kalanianaʻole, 91-5420 Kapolei Parkway, Kapolei, Hawaii, 96707 or, State Department of Labor and Industrial Relations web site:

<http://labor.hawaii.gov/rs/home/wages/72-2/>

or the Federal Department of Labor (Davis- Bacon) wage rate schedule web site:

<http://www.wdol.gov>.

7.7.3 The Contractor or its subcontractor(s) shall pay all laborers and mechanics employed on the job site, unconditionally and not less often than once a week, and without deduction or rebate on any account except as allowed by law, the full amounts of their wages including overtime, accrued to not more than five (5) working days prior to the time of payment, at wage rates not less than those stated in the contract, regardless of any contractual relationship which may be alleged to exist between the Contractor and subcontractor and such laborers and mechanics. The wages stated in the contract shall not be less than the minimum prevailing wages (basic hourly rate plus fringe benefits), as determined by the of Labor and Industrial Relations and published in wage rate schedules. Any increase in wage rates, as determined by the of Labor and Industrial Relations and issued in the wage rate schedule, shall be applicable during the performance of the contract, in accordance with Section 104-2(a) and (b), Hawaii Revised Statutes. Notwithstanding the provisions of the original contract, if the of Labor and Industrial Relations determines that prevailing wages have increased during the performance of the contract, the rate of pay of laborers and mechanics shall be raised accordingly.

7.7.4 The applicable wage rate schedule shall be physically included in the Contract Documents executed by the successful Bidder.

7.7.5 POSTING WAGE RATE SCHEDULE. The rates of wages to be paid shall be posted by the Contractor in a prominent and easily accessible place at the job site and a copy of such wages required to be posted shall be given to each laborer and mechanic employed under the contract by the Contractor at the time the person is employed thereunder, provided that where there is a collective bargaining agreement, the Contractor does not have to provide its employees the wage rate schedules. Any revisions to the schedule of wages issued by the Department of Labor and Industrial Relations during the course of the Contract shall also be posted by the Contractor and a copy provided to each laborer and mechanic employed under the Contract as required above.

7.7.6 The Chairman may withhold from the Contractor so much of the accrued payments as the Chairman may consider necessary to pay to laborers and mechanics employed by the Contractor or any

subcontractor on the job site. The accrued payments withheld shall be the difference between the wages required by this Contract and the wages actually received by such laborers or mechanics.

7.8 FAILURE TO PAY REQUIRED WAGES (§104-4, HRS or Federal Davis-Bacon). If the Department finds that any laborer or mechanic employed on the job site by the Contractor or any subcontractor has been or is being paid wages at a rate less than the required rate by the Contract, or has not received their full overtime compensation, the Department may, by written notice to the Contractor, terminate its right, or the right of any subcontractor, to proceed with the work or with the part of the work on which the required wages or overtime compensation have not been paid and may complete such work or part by contract or otherwise, and the Contractor and its sureties shall be liable to the Department for any excess costs occasioned thereby.

7.9 PAYROLLS AND PAYROLL RECORDS (§104-3 HRS)

7.9.1 A certified copy of each weekly payroll shall be submitted to the Chairman within seven (7) calendar days after the end of each weekly payroll period. Failure to do so on a timely basis shall be cause for withholding of payments, termination of the contract, and/or debarment. The Contractor shall be responsible for the timely submission of certified copies of payrolls of all subcontractors. The certification shall affirm that payrolls are correct and complete, that the wage rates contained therein are not less than the applicable rates contained in the wage determination decision, any amendments thereto during the period of the contract, and that the classifications set forth for each laborer and mechanic conform with the work they performed.

7.9.2 Payroll records for all laborers and mechanics working at the site of the work shall be maintained by the General Contractor and its subcontractors, if any, during the course of the work and preserved for a period of four (4) years thereafter. Such records shall contain the name of each employee, their address, their correct classification, rate of pay, daily and weekly number of hours worked, itemized deductions made and actual wages paid. Such records shall be made available for inspection at a place designated by the Chairman, the U.S. Department of Labor and any authorized persons who may also interview employees during working hours on the job site.

7.9.3 Note that the falsification of certifications noted in this Section 7.9, PAYROLLS AND PAYROLL RECORDS (§104-3 HRS) may subject the Contractor or subcontractor to penalties and debarment under the laws referenced in Section 7.14, LAWS TO BE OBSERVED and / or criminal prosecution.

7.10 OVERTIME AND NIGHT WORK

7.10.1 Overtime work shall be considered as work performed in excess of eight (8) hours in any one (1) day or work performed on Saturday, Sunday or legal holiday of the State. Overtime and night work are permissible when approved by the Project Manager in writing, or as called for elsewhere within these Contract Documents.

7.10.2 OVERTIME NOTIFICATION. Contractor shall inform the Project Manager in writing at least two (2) working days in advance as to exactly what specific work is to be done during any overtime and night period to ensure that proper inspection will be available.

7.10.3 In the event that work other than that contained in the above notification is performed and for which the Project Manager determines Department inspection services were necessary but not available because of the lack of notification, the Contractor may be required to remove all such work and perform the work over again in the presence of Department inspection personnel.

- 7.10.4 Any hours worked in excess of the normal eight (8) working hours per day or on Saturdays, Sundays or legal State holidays will not be considered a working day.
- 7.10.5 The Department hereby reserves the right to cancel the overtime, night, Saturday, Sunday or legal State holiday work when it is found that work during these periods is detrimental to the public welfare or the user agency.
- 7.11 OVERTIME AND NIGHT PAYMENT FOR DEPARTMENT INSPECTION SERVICE
- 7.11.1 Whenever the Contractor's operations require the Department's inspection and staff personnel to work overtime or at night, the Contractor shall reimburse the Department for the cost of such services unless otherwise instructed in the Contract. The Project Manager will notify the Contractor of the minimum number of required Department employees and other personnel engaged by the Department prior to the start of any such work. The costs chargeable to the Contractor shall include but not be limited to the following:
- 7.11.1.1 The cost of salaries which are determined by the Department and includes overtime and night time differential for the Department's staff and inspection personnel. In addition to the cost of the salaries, the Contractor shall reimburse the Department's share of contributions to the employee's retirement, medical plan, social security, vacation, sick leave, worker's compensation funds, per diem, and other applicable fringe benefits and overhead expenses;
- 7.11.1.2 The transportation cost incurred by the Department's staff and inspection personnel which are based on established rental rates or mileage allowance in use by the Department for the particular equipment or vehicle; and/or
- 7.11.1.3 Fees and other costs billed the Department by Consultants engaged on the project for overtime and/or night time work.
- 7.11.2 PAYMENT FOR INSPECTION SERVICES. The monies due the Department for staff and inspection work and use of vehicles and equipment as determined in Subsection 7.11.1, OVERTIME AND NIGHT PAYMENT FOR DEPARTMENT INSPECTION SERVICE shall be deducted from the monies due or to become due the Contractor. In any and all events, the Contractor shall not pay the Department's employees directly.
- 7.12 LIMITATIONS OF OPERATIONS
- 7.12.1 Contractor shall at all times conduct the work in such manner and in such sequence as will ensure the least practicable interference with pedestrian and motor traffic passageways. The Contractor shall furnish convenient detours and provide and plan other appropriate signs, flashers, personnel, warnings, barricades and other devices for handling pedestrian and motor traffic.
- 7.12.2 In the event that other contractors are also employed on the job site, the Contractor shall arrange its work and dispose of materials so as not to interfere with the operations of the other contractors engaged upon adjacent work. The Contractor shall join its work to that of others and existing buildings in a proper manner, and in accordance with the drawings and specifications, and perform its work in the proper sequence in relation to that of others, all as may be directed by the Project Manager.

- 7.12.3 Each Contractor shall be responsible for any damage done by it to work performed by another contractor. Each Contractor shall conduct its operations and maintain the work in such condition that no fugitive dust shall be created and adequate drainage shall be in effect at all times.
- 7.12.4 In the event that the Contractor fails to prosecute its work as provided in this Section 7.12, LIMITATIONS OF OPERATIONS or disregards the directions of the Project Manager, the Project Manager may suspend the work until such time as the Contractor provides for the prosecution of the work with minimum interference to traffic and passageways or other contractors, dust control, adequate drainage, the repair of damage and complies with the direction of the Project Manager. No payment will be made to the Contractor for the costs of such suspension.
- 7.13 ASSIGNMENT OR CHANGE OF NAME (§3-125-14 HAR)
- 7.13.1 SUBCONTRACTS AND ASSIGNMENT. The CONTRACTOR shall not assign or subcontract any of the CONTRACTOR's duties, obligations, or interests under this Contract and no such assignment or subcontract shall be effective unless (i) the CONTRACTOR obtains the prior written consent of the STATE and (ii) the CONTRACTOR's assignee or subcontractor submits to the STATE a tax clearance certificate from the Department of Taxation, State of Hawaii, showing that all delinquent taxes, if any, levied or accrued under state law against the CONTRACTOR's assignee or subcontractor have been paid. Additionally, no assignment by the CONTRACTOR of the CONTRACTOR's right to compensation under this Contract shall be effective unless and until the assignment is approved by the Comptroller of the State of Hawaii, as provided in Section 40-58, HRS.
- 7.13.2 RECOGNITION OF A SUCCESSOR IN INTEREST. When in the best interest of the State, a successor in interest may be recognized in an assignment Contract in which the STATE, the CONTRACTOR and the assignee or transferee (hereinafter referred to as the "Assignee") agree that:
- 7.13.2.1 The Assignee assumes all of the CONTRACTOR's obligations;
- 7.13.2.2 The CONTRACTOR remains liable for all obligations under this Contract but waives all rights under this Contract as against the STATE; and
- 7.13.2.3 The CONTRACTOR shall continue to furnish, and the Assignee shall also furnish, all required bonds.
- 7.13.3 CHANGE OF NAME. When the CONTRACTOR asks to change the name in which it holds this Contract with the STATE, the procurement officer of the purchasing agency (hereinafter referred to as the "Agency procurement officer") shall, upon receipt of a document acceptable or satisfactory to the Agency procurement officer indicating change of name (for example, an amendment to the CONTRACTOR's articles of incorporation), enter into an amendment to this Contract with the CONTRACTOR to effect such a change of name. The amendment to this Contract changing the CONTRACTOR's name shall specifically indicate that no other terms and conditions of this Contract are thereby changed.
- 7.13.4 REPORTS. All assignment Contracts and amendments to this Contract effecting changes of the CONTRACTOR's name or novations hereunder shall be reported to the CPO within thirty days of the date that the assignment Contract or amendment becomes effective.
- 7.13.5 ACTIONS AFFECTING MORE THAN ONE PURCHASING AGENCY. Notwithstanding the provisions of Subsections 7.13.2 through 7.13.4 herein, when the CONTRACTOR holds Contracts

with more than one purchasing agency of the State, the assignment Contracts and the novation and change of name amendments herein authorized shall be processed only through the CPO's office.

- 7.14 LAWS TO BE OBSERVED. The CONTRACTOR shall comply with all federal, state, and county laws, ordinances, codes, rules, and regulations, as the same may be amended from time to time, that in any way affect the CONTRACTOR's performance of this Contract.
- 7.14.1 The Contractor at all times shall observe and comply with all Federal, State and local laws or ordinances, rules and regulations which in any manner affect those engaged or employed in the work, the materials used in the work, and the conduct of the work. The Contractor shall also comply with all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the work. Any reference to such laws, ordinances, rules and regulations shall include any amendments thereto before and after the date of this Contract.
- 7.14.2 The Contractor shall defend, protect, hold harmless and indemnify the State and its departments and agencies and all their officers, representatives, employees or agents against any claim or liability arising from or based on the violation of any such laws, ordinances, rules and regulations, orders or decrees, whether such violation is committed by the Contractor or its Subcontractor(s) or any employee of either or both. If any discrepancy or inconsistency is discovered in the contract for the work in relation to any such laws, ordinances, rules and regulations, orders or decrees, the Contractor shall forthwith report the same to the Project Manager in writing.
- 7.14.3 While the Contractor must comply with all applicable laws, attention is directed to: Wage and Hours of Employees on Public Works, Chapter 104, Hawaii Revised Statutes (HRS); Hawaii Public Procurement Code, Authority to debar or suspend, Section 103D-702, HRS; Hawaii Employment Relations Act, Chapter 377, HRS; Hawaii Employment Security Law, Chapter 383, HRS; Worker's Compensation Law, Chapter 386, HRS; Wage and Hour Law, Chapter 387, HRS; Occupational Safety and Health, Chapter 396, HRS; and Authority to Debar or Suspend, Chapter 126, subchapter 2, Hawaii Administrative Rules (HAR).
- 7.14.4 CONFLICT BETWEEN GENERAL CONDITIONS AND PROCUREMENT RULES. In the event of a conflict between the General Conditions and the Procurement Rules, the Procurement Rules in effect on the date this Contract became effective shall control and are hereby incorporated by reference.
- 7.15 PATENTED DEVICES, MATERIALS AND PROCESSES. If the Contractor desires to use any design, device, material, or process covered by letters of patent or copyright, the right for such use shall be procured by the Contractor from the patentee or owner. The Contractor shall defend, protect, indemnify and hold harmless the State of Hawaii, the contracting agency, and their officers, employees, and agents from and against all liability, loss, damage, cost, and expense, including attorney' fees, and all claims, suits, and demands arising out of or resulting from any claims, demands, or actions by the patent holder for infringement or other improper or unauthorized use of any patented article, patented design, patented device, patented process, patented appliance or patented material in connection with this Contract. The Contractor shall be solely responsible for correcting or curing to the satisfaction of the DHHL any such infringement or improper or unauthorized use, including, without limitation: (a) furnishing at no cost to the DHHL a substitute article, design, device, process, appliance or material acceptable to the DHHL; (b) paying royalties or other required payments to the patent holder; (c) obtaining proper authorizations or releases from the patent holder; and (d) furnishing such security to or making such arrangement with the patent holder as may be necessary to correct or cure any such infringement or improper or unauthorized use. This

section shall not apply to any article, design, device, material, appliance or process covered by letters of patent or copyright, which the Contractor is required to use by the Drawings or Specifications.

7.16 SANITARY, HEALTH AND SAFETY PROVISIONS

7.16.1 The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of its employees as may be necessary to comply with the requirements of the State and local boards of health, or other bodies or tribunals having jurisdiction. Unless otherwise stated in the drawings or specifications, the Contractor shall install toilet facilities conveniently located at the job site and maintain same in a neat and sanitary condition for the use of the employees on the job site for the duration of the Contract. The toilet facilities shall conform to the requirements of the State Department of Health. The cost of installing, maintaining and removing the toilet facilities shall be considered incidental to and paid for under various contract pay items for work or under the lump sum bids as the case may be, and no additional compensation will be made therefor. These requirements shall not modify or abrogate in any way the requirements or regulations of the State Department of Health.

7.16.2 Attention is directed to Federal, State and local laws, rules and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to their health or safety.

7.17 PROTECTION OF PERSONS AND PROPERTY

7.17.1 SAFETY PRECAUTIONS AND PROGRAMS. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take reasonable precautions for the safety of, and shall provide reasonable protection to prevent damage, injury or loss to:

7.17.1.1 All persons on the work site or who may be affected by the work;

7.17.1.2 All the work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor and its subcontractors; and

7.17.1.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavement, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

7.17.2 Contractor shall give notices and comply with applicable laws, ordinances, regulations, rules, and lawful orders of any public body having jurisdiction for the safety of persons or property or their protection from damage, injury or loss; and the Contractor shall erect and maintain reasonable safeguards for safety and protection, including posting danger signs, or other warnings against hazards.

7.17.3 The Contractor shall notify owners of adjacent properties and of underground (or overhead) utilities when performing work which may affect the owners; and shall cooperate with the owners in the protection, removal and replacement of their property.

7.17.4 All damage, injury or loss to any property referred to in Subsections 7.17.1.2 and 7.17.1.3 caused by the fault or negligence or damage or loss attributable to acts or omissions directly or indirectly in whole or part by the Contractor a subcontractor or any one directly or indirectly employed by them, or by anyone for whose acts they might be liable, shall be remedied promptly by the Contractor.

- 7.17.5 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the protection of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor.
- 7.17.6 The Contractor shall not load or permit any part of the construction to be loaded so as to endanger its safety. The Contractor shall not injure or destroy trees or shrubs nor remove or cut them without permission of the Project Manager. Contractor shall protect all land monuments and property marks until an authorized agent has witnessed or otherwise referenced their location and shall not remove them until directed.
- 7.17.7 In the event the Contractor encounters on the site, material reasonably believed to be asbestos or other hazard material that has not been rendered harmless, the Contractor shall stop work in the area and notify the Project Manager promptly. The work in the affected area shall be resumed in the absence of hazard materials or when the hazard has been rendered harmless.
- 7.17.8 EMERGENCIES. In an emergency affecting the safety and protection of persons or the work or property at the site or adjacent thereto, Contractor without special instructions or authorization from the Project Manager, shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Contractor shall give the Project Manager prompt written notice of the emergency and actions taken. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined under the provisions of Section 7.25, DISPUTES AND CLAIMS.
- 7.18 ARCHAEOLOGICAL SITES
- 7.18.1 Should historic sites such as walls, platforms, pavements and mounds, or remains such as artifacts, burials, concentration of charcoal or shells be encountered during construction, work shall cease in the immediate vicinity of the find and the find shall be protected from further damage. The Contractor shall immediately notify the Project Manager and contact the State Historic Preservation Division which will assess the significance of the find and recommend the appropriate mitigation measures, if necessary.
- 7.18.2 When required, the Contractor shall provide and install any temporary fencing to protect archaeological sites within the project. The fencing shall be installed prior to any construction activity and shall be maintained by the Contractor for the duration of the project. Fence installation and maintenance shall be to the satisfaction of the Project Manager. The Contractor shall remove the fencing upon completion of construction, or as directed by the Project Manager.
- 7.18.3 No work shall be done within the temporary fencing area. If any construction work is done within the temporary fencing, the Contractor shall notify the Project Manager immediately; and if the Contractor entered the archaeological site area without permission, it shall stop work in this area immediately. The Project Manager shall notify the archaeologist to assess any damage to the area. The Contractor shall allow the archaeologist sufficient time to perform the field investigation.
- 7.18.4 Any site requiring data recovery within the project shall not be disturbed until data recovery is completed.
- 7.19 RESPONSIBILITY FOR DAMAGE CLAIMS; INDEMNITY
- 7.19.1 The CONTRACTOR shall defend, indemnify, and hold harmless the State of Hawaii, the contracting agency, and their officers, employees, and agents from and against all liability, loss, damage, cost,

and expense, including all attorneys' fees, and all claims, suits, and demands therefor, arising out of or resulting from the acts or omissions of the CONTRACTOR or the CONTRACTOR's employees, officers, agents, or subcontractors under this Contract. The provisions of this Subsection shall remain in full force and effect notwithstanding the expiration or early termination of this Contract.

- 7.19.2 The Contractor agrees that it will not attempt to hold the State and the Department, their officers, representatives, employees or agents, liable or responsible for any losses or damages to third parties from the action of the elements, the nature of the work to be done under these Contract Documents or from any unforeseen obstructions, acts of God, vandalism, fires or encumbrances which may be encountered in the prosecution of the work.
- 7.19.3 The Contractor shall pay all just claims for materials, supplies, tools, labor and other just claims against the Contractor or any subcontractor in connection with this contract and the surety bond will not be released by final acceptance and payment by the Department unless all such claims are paid or released. The Department may, but is not obligated to, withhold or retain as much of the monies due or to become due the Contractor under this contract considered necessary by the Project Manager to cover such just claims until satisfactory proof of payment or the establishment of a payment plan is presented.
- 7.19.4 The Contractor shall defend, indemnify and hold harmless the State and the Department, their officers, representatives, employees or agents from all suits, actions or claims of any character brought on account of any claims or amounts arising out of or recovered under the Workers' Compensation Laws or violation of any other law, by-law, ordinance, order or decree.
- 7.19.5 COST OF LITIGATION. In case the STATE shall, without any fault on its part, be made a party to any litigation commenced by or against the CONTRACTOR in connection with this Contract, the CONTRACTOR shall pay all costs and expenses incurred by or imposed on the STATE, including attorneys' fees.
- 7.20 CHARACTER OF WORKERS OR EQUIPMENT
 - 7.20.1 The Contractor shall at all times provide adequate supervision and sufficient labor and equipment for prosecuting the work to full completion in the manner and within the time required by the contract.
 - 7.20.2 Character and Proficiency of Workers - All workers shall possess the proper license and/or certification, job classification, skill and experience necessary to properly perform the work assigned to them. All workmen engaged in special work or skilled work, such as bituminous courses or mixtures, concrete pavement or structures, electrical installation, plumbing installation, or in any trade shall have sufficient experience in such work and in the operation of the equipment required to properly and satisfactorily perform all work. All workers shall make due and proper effort to execute the work in the manner prescribed in these Contract Documents, otherwise, the Project Manager may take action as prescribed herein.
 - 7.20.2.1 Any worker employed on the project by the Contractor or by any subcontractor who, in the opinion of the Project Manager, is not careful and competent, does not perform its work in a proper and skillful manner or is disrespectful, intemperate, disorderly or neglects or refuses to comply with directions given, or is otherwise objectionable shall at the written request of the Project Manager, be removed forthwith by the Contractor or subcontractor employing such worker and shall not be employed again in any portion of the work without the written consent of the Project Manager. Should the Contractor or subcontractor continue to employ, or again employ such person or persons on the project, the

Project Manager may withhold all payments which are or may become due, or the Project Manager may suspend the work until the Project Manager's orders are followed, or both.

- 7.20.3 INSUFFICIENT WORKERS. A sufficient number of workers shall be present to ensure the work is accomplished at an acceptable rate. In addition, the proper ratio of apprentice to journey worker shall be maintained to ensure the work is properly supervised and performed. In the event that the Project Manager finds insufficient workers are present to accomplish the work at an acceptable rate of progress or if a adequate number of journey workers are not present and no corrective action is taken by the Contractor after being informed in writing, the Chairman may terminate the Contract as provided for under Section 7.27, TERMINATION OF CONTRACT FOR CAUSE.
- 7.20.4 EQUIPMENT REQUIREMENTS. All equipment furnished by the Contractor and used on the work shall be of such size and of such mechanical condition that the work can be performed in an acceptable manner at a satisfactory rate of progress and the quality of work produced will be satisfactory.
 - 7.20.4.1 Equipment used on any portion of the project shall be such that no injury to the work, persons at or near the site, adjacent property or other objects will result from its use.
 - 7.20.4.2 If the Contractor fails to provide adequate equipment for the work, the contract may be terminated as provided under Section 7.27, TERMINATION OF CONTRACT FOR CAUSE.
 - 7.20.4.3 In the event that the Contractor furnishes and operates equipment on a force account basis, it shall be operated to obtain maximum production under the prevailing conditions.
- 7.21 CONTRACT TIME
 - 7.21.1 Time is of the essence for this Contract.
 - 7.21.2 CALCULATION OF CONTRACT TIME. When the contract time is on a working day basis, the total contract time allowed for the performance of the work shall be the number of working days shown in the contract plus any additional working days authorized in writing as provided hereinafter. Refer to ARTICLE 1, DEFINITIONS for the definition of Working Day. The count of elapsed working days to be charged against contract time shall begin from the date of the Notice to Proceed and shall continue consecutively to the date of Project Acceptance determined by the Project Manager. When the contract completion time is a fixed calendar date, it shall be the date on which all work on the project shall be completed. Maintenance periods are not included within the contract time unless specifically noted in the Contract Documents. Failure to complete the work by contract completion date shall not terminate the Contract.
 - 7.21.3 MODIFICATIONS OF CONTRACT TIME (§3-125-4 HAR)
 - 7.21.3.1 EXTENSIONS. For increases in the scope for work caused by alterations and additional work made under Section 4.2, CHANGES, the Contractor will be granted a time extension only if the changes increase the time of performance for the Contract. If the Contractor believes an extension of time is justified and is not adequately provided for in a Field Order, it must request the additional time sought in writing when the detailed cost breakdown required by Section 4.2, CHANGES, is submitted. The Contractor must show how the time of performance for the critical path will be affected and must also support the time extension request with schedules and statements from its subcontractors, suppliers, and/or manufacturers. Compensation for any altered or additional work will be paid as provided in Section 4.2, CHANGES.

- 7.21.3.2 The Department may direct changes to the work at any time until the work is finally accepted. The issuance of a Field Order at any time may alter or modify the contract duration only by the days specified therein; or if not specified therein, for the days the critical path must be extended for the change. Additional time to perform the extra work will be added to the time allowed in the contract without regard to the date the change directive was issued, even if the contract completion date has passed. A change requiring time will not constitute a waiver of pre-existing Contractor delay.
- 7.21.4 DELAY FOR PERMITS. For delays beyond the control of the Contractor in obtaining necessary permits, one day extension for each day delay may be granted by the Project Manager, provided the Contractor notifies the Project Manager that the permits are not available, as soon as the delay occurs. Time extensions shall be the exclusive relief granted on account of such delays. No additional compensation will be paid for these time extensions.
- 7.21.5 DELAYS BEYOND CONTRACTOR'S CONTROL. For delays affecting the critical path caused by acts of God, or the public enemy, fire, unusually severe weather, earthquakes, floods, epidemics, quarantine restrictions, labor disputes, freight embargoes and other reasons beyond the Contractor's control, the Contractor may be granted an extension of time provided that:
- 7.21.5.1 The Contractor notifies the Project Manager in writing within five (5) work days after the occurrence of the circumstances described above and states the possible effects on the completion date of the contract.
- 7.21.5.2 No time extension will be granted for weather conditions other than unusually severe weather occurrences, and floods.
- 7.21.5.3 The Contractor, if requested, submits to the Project Manager within ten (10) work days after the request, a written statement describing the delay to the project. The extent of delay must be substantiated as follows:
- (a) State specifically the reason or reasons for the delay and fully explain in a detailed chronology the effect of this delay to the work and/or the completion date;
 - (b) Submit copies of purchase order, delivery tag, and any other pertinent documentation to support the time extension request;
 - (c) Cite the period of delay and the time extension requested; and
 - (d) A statement either that the above circumstances have been cleared and normal working conditions restored as of a certain day or that the above circumstances will continue to prevent completion of the project.
- 7.21.5.4 Time extensions shall be the exclusive relief granted and no additional compensation will be paid the Contractor for such delays.
- 7.21.6 DELAYS IN DELIVERY OF MATERIALS. For delays in delivery of materials and/or equipment which occur as a result of unforeseeable causes beyond the control and without fault or negligence of the Contractor, its subcontractor(s) or supplier(s), the Contractor may be granted an extension of time provided it complies with the following procedures:
- 7.21.6.1 The Contractor must notify the Project Manager in writing within five (5) consecutive working days after it first has any knowledge of delays or anticipated delays and state the effects such delays may have on the completion date of the Contract.

- 7.21.6.2 The Contractor, if requested, must submit to the Project Manager within ten (10) working days after a firm delivery date for the material and equipment is established, a written statement as to the delay to the progress of the project. The delay must be substantiated as follows:
- (a) State specifically the reason or reasons for the delay. Explain in a detailed chronology the effect of this delay to the other work and / or the completion date;
 - (b) Submit copies of purchase order(s), factory invoice(s), bill(s) of lading, shipping manifest(s), delivery tag(s) and any other pertinent correspondence to support the time extension request; and
 - (c) Cite the start and end date of the delay and the days requested therefore. The delay shall not exceed the difference between the originally scheduled delivery date versus the actual delivery date.
- 7.21.6.3 Time extensions shall be the exclusive relief granted and no additional compensation will be paid the Contractor on account of such delay.
- 7.21.7 DELAYS FOR SUSPENSION OF WORK. Delay during periods of suspension of the work by the Project Manager shall be computed as follows:
- 7.21.7.1 When the performance of the work is totally suspended for one (1) or more days (calendar or working days, as appropriate) by order of the Project Manager in accordance with Subsections 7.24.1.1, 7.24.1.2, 7.24.1.4 or 7.24.1.6 the number of days from the effective date of the Project Manager's order to suspend operations to the effective date of the Project Manager's order to resume operations shall not be counted as contract time and the contract completion date will be adjusted. Should the Contractor claim for additional days in excess of the suspension period, Contractor shall provide evidence justifying the additional time. During periods of partial suspensions of the work, the Contractor will be granted a time extension only if the partial suspension affects the critical path. If the Contractor believes that an extension of time is justified for a partial suspension of work, it must request the extension in writing at least five (5) working days before the partial suspension will affect the critical operation(s) in progress. The Contractor must show how the critical path was increased based on the status of the work and must also support its claim, if requested, with statements from its subcontractors. A suspension of work will not constitute a waiver of pre-existing Contractor delay.
- 7.21.8 CONTRACTOR CAUSED DELAYS - No time extension will be considered for the following:
- 7.21.8.1 Delays in performing the work caused by the Contractor, subcontractor and/or supplier;
 - 7.21.8.2 Delays in arrival of materials and equipment caused by the Contractor, subcontractor and / or supplier in ordering, fabricating, delivery, etc.;
 - 7.21.8.3 Delays requested for changes which the Project Manager determines unjustifiable due to the lack of supporting evidence or because the change is not on the critical path;
 - 7.21.8.4 Delays caused by the failure of the Contractor to submit for review and acceptance by the Project Manager, on a timely basis, pricing proposals, shop drawings, descriptive sheets, material samples, color samples, etc. except as covered in Subsection 7.21.5 and 7.21.6;
 - 7.21.8.5 Failure to follow the procedure within the time allowed to qualify for a time extension; and
 - 7.21.8.6 Days the Contractor is unable to work due to normal rainfall or other normal bad weather day conditions.

- 7.21.9 REDUCTION IN TIME - If the Department deletes any portion of the work, an appropriate reduction of contract time may be made in accordance with Section 4.2, CHANGES.
- 7.22 CONSTRUCTION SCHEDULE
- 7.22.1 The Contractor shall submit its detailed construction schedule to the Project Manager prior to the start of the work. The purpose of the schedule is to allow the Project Manager to monitor the Contractor's progress on the work. The schedule shall account for normal inclement weather, unusual soil or other conditions that may influence the progress of the work, schedules and coordination required by any utility, off or on site fabrications, and all other pertinent factors that relate to progress.
- 7.22.2 Submittal of and the Project Manager's receipt of the construction schedule shall not imply the Department's approval of the schedule's breakdown, its individual elements, and any critical path that may be shown. Any acceptance or approval of the schedule: (1) shall be for general format only and not for sequences or durations thereon; and (2) shall not be deemed an agreement by the Department that the construction means, methods and resources shown on the schedule will result in work that conforms to the contract requirements. The Contractor has the risk of all elements (whether or not shown) of the schedule and its execution.
- 7.22.3 In the event the Contractor submits and the Department receives an accelerated schedule (shorter than the contract time), such will not constitute an agreement to modify the contract time or completion date, nor will the receipt, acceptance or approval of such a schedule incur any obligation by the Department. The Contractor shall be solely responsible for and shall accept all risks and any delays that may materialize during the construction work until the contract completion date is reached. The contract time or completion date is established for the benefit of the Department and cannot be changed without an appropriate change order issued by the Department. All float on an accelerated schedule belongs exclusively to the Department. The Department will not be responsible for or obligated to accept the work before the completion date established by the Contract.
- 7.23 STATEMENT OF WORKING DAYS - For all contracts on a working day basis, the Contractor will submit a statement of the number of working days for each month together with the Monthly Payment Application. The Monthly Payment Application will not be processed without the statement of working days.
- 7.24 SUSPENSION OF WORK (§3-125-7 HAR)
- 7.24.1 PROCEDURE TO BE FOLLOWED. The Chairman may, by written order to the Contractor, at any time and without notice to any surety, suspend the performance of the work either in whole or in part for any cause, including but not limited to:
- 7.24.1.1 Weather or excess bad weather days, considered unsuitable by the Project Manager for prosecution of the work; or
- 7.24.1.2 Soil Conditions considered unsuitable by the Project Manager for prosecution of the work; or 7.24.1.3 Failure of the Contractor to:
- (a) Correct conditions unsafe for the general public or for the workers;
 - (b) Carry out orders given by the Project Manager;
 - (c) Perform the work in strict compliance with the provisions of the contract; or
 - (d) Provide a qualified Superintendent on the jobsite as described under Subsection 5.9.2, SUPERINTENDENT.

- 7.24.1.4 When any redesign is deemed necessary by the Project Manager; or
- 7.24.1.5 Disturbance due to noise, odors or dust arising from the construction even if such disturbance does not violate the section on Environmental Protection contained in the Contract Documents; or
- 7.24.1.6 The convenience of the Department.
- 7.24.2 PARTIAL OR TOTAL SUSPENSION OF WORK. Suspension of work on some but not all items of work shall be considered a partial suspension. Suspension of work on the entire work at the job site shall be considered total suspension. The period of suspension shall be computed as set forth in Subsection 7.21.7, Delays for Suspension of Work.
- 7.24.3 PAYMENT
- 7.24.3.1 In the event that the Contractor is ordered by the Chairman in writing as provided herein to suspend all work under the contract in accordance with Subsections 7.24.1.4 or 7.24.1.6, the Contractor may be reimbursed for actual direct costs incurred on work at the jobsite, as authorized in writing by the Chairman, including costs expended for the protection of the work. Payment for equipment which must standby during such suspension of work shall be made as described in clause 8.3.4.5.(e). No payment will be made for profit on any suspension costs. An allowance of five percent (5%) will be paid on any reimbursed actual costs for indirect categories of delay costs, including extended branch and home-office overhead and delay impact costs.
- 7.24.3.2 However, no adjustment to the contract amount or time shall be made under this Section 7.24, SUSPENSION OF WORK (§3-125-7 HAR) for any suspension, delay, or interruption:
- (a) To the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor; or
 - (b) For which an adjustment is provided for or excluded under any other provision of this Contract.
- 7.24.3.3 Any adjustment in contract price made pursuant to this subsection shall be determined in accordance with this Section 7.24, SUSPENSION OF WORK (§3-125-7 HAR) and Section 4.2, CHANGES.
- 7.24.3.4 Claims for such compensation shall be filed with the Project Manager within ten (10) calendar days after the date of the order to resume work or such claims will be waived by the Contractor. Together with the claim, the Contractor shall submit substantiating documents supporting the entire amount shown on the claim. The Chairman may make such investigations as are deemed necessary and shall be the sole judge of the claim and the Chairman's decision shall be final.
- 7.24.4 CLAIMS NOT ALLOWED. No claim under this Section 7.24, SUSPENSION OF WORK (§3-125-7 HAR) shall be allowed:
- 7.24.4.1 For any direct costs incurred more than twenty (20) days before the Contractor shall have notified the Project Manager in writing of any suspension that the Contractor considers compensable. This requirement shall not apply as to a claim resulting from a suspension order under Subsections 7.24.1.4 or 7.24.1.6; and 7.24.4.2 Unless the claim is asserted in writing within ten (10) calendar days after the termination of such suspension, delay, or interruption, but in no case not later than the date of final payment under the contract.
- 7.24.4.2 No provision of this Section 7.24, SUSPENSION OF WORK (§3-125-7 HAR) shall be construed as entitling the Contractor to compensation for delays due to failure of surety, for suspensions made at

the request of the Contractor, for any delay required under the Contract, for partial suspension of work or for suspensions made by the Project Manager under the provisions of Subsections 7.24.1.1, 7.24.1.2, 7.24.1.3 and 7.24.1.5.

- 7.25 DISPUTES AND CLAIMS (§3-126-31 HAR). Disputes shall be resolved in accordance with Section 103D-703, HRS, and chapter 126, Procurement Rules, as the same may be amended from time to time.
- 7.25.1 REQUIRED NOTIFICATION. As a condition precedent for any claim, the Contractor must give notice in writing to the Project Manager in the manner and within the time periods stated in Section 4.2, CHANGES for claims for extra compensation, damages, or an extension of time due for one or more of the following reasons:
 - 7.25.1.1 Requirements not clearly covered in the Contract, or not ordered by the Project Manager as an extra;
 - 7.25.1.2 Failure by the Department and Contractor to agree to an Oral Order or an adjustment in price or contract time for a Field Order or a Change Order (which was not previously agreed on by a Field Order), issued by the Department;
 - 7.25.1.3 An action or omission by the Project Manager requiring performance changes beyond the scope of the Contract; and/or
 - 7.25.1.4 Failure of the Department to issue a Field Order for controversies within the scope of Section 4.2, CHANGES.
 - 7.25.1.5 For any other type of claim, the Contractor shall give notice within the time periods set forth in contract provisions pertaining to that event. If no specific contract provisions pertain to the claim, then the written notice of claim must be submitted within fifteen (15) days of the event giving rise to the claim.
- 7.25.2 CONTINUED PERFORMANCE OF WORK. The Contractor shall at all times continue with performance of the contract in full compliance with the directions of the Project Manager. Continued performance by the Contractor shall not be deemed a waiver of any claim for additional compensation, damages, or an extension of time for completion, provided that the written notice of claim is submitted in accordance with Subsection 7.25.1, REQUIRED NOTIFICATION.
- 7.25.3 The requirement for timely written notice shall be a condition precedent to the assertion of a claim.
- 7.25.4 REQUIREMENTS FOR NOTICE OF CLAIM. The notice of claim shall clearly state the Contractor's intention to make claim and the reasons why the Contractor believes that additional compensation, changes or an extension of time may be remedies to which it is entitled. At a minimum, it shall provide the following:
 - 7.25.4.1 Date of the protested order, decision or action;
 - 7.25.4.2 The nature and circumstances which caused the claim;
 - 7.25.4.3 The contract provision(s) that support the claim;
 - 7.25.4.4 The estimated dollar cost, if any, of the protested work and how that estimate was determined; and

- 7.25.4.5 An analysis of the progress schedule showing the schedule change or disruption if the Contractor is asserting a schedule change or disruption.
- 7.25.5 If the protest or claim is continuing, the information required in Subsection 7.25.4 REQUIREMENTS FOR NOTICE OF CLAIMS above shall be supplemented as requested by the Project Manager.
- 7.25.6 FINAL STATEMENT FOR CLAIM. The Contractor shall provide a final written statement of the actual adjustment in contract price and/or contract time requested for each notice of claim. Such statement shall clearly set forth that it is the final statement for that notice of claim. All such final statements shall be submitted within thirty (30) days after completion of the work that is the subject of the claim, but in no event no later than thirty (30) days after the Project Acceptance Date or the date of termination of the Contractor, whichever comes first.
- 7.25.7 All claims of any nature are barred if asserted after final payment under this Contract has been made.
- 7.25.8 Contractor may protest the assessment or determination by the Project Manager of amounts due the Department from the Contractor by providing a written notice to the Chairman within thirty (30) days of the date of the written assessment or determination. Said notice shall comply with all requirements of Subsections 7.25.4, REQUIREMENTS FOR NOTICE OF CLAIM and 7.25.6, FINAL STATEMENT FOR CLAIM above. The requirement of such notice cannot be waived and it is a condition precedent to any claim by the Contractor. Failure to comply with these notice provisions constitutes a waiver of any claim.
- 7.25.9 In addition to the requirements of Subsections 7.25.4, 7.25.6, and 7.25.8, all final written statements of claim shall be certified. This certification requirement applies to the Contractor without exception, including, but not limited to, situations involving claims of subcontractors or suppliers which meet the requirements of Subsection 5.13.4. The certification must be executed by a person duly authorized to bind the Contractor with respect to the claim. The certification shall state as follows:
- “I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Department is liable; and that I am duly authorized to certify the claim on behalf of the Contractor.”
- 7.25.10 DECISION ON CLAIM/APPEAL. The decision of the Chairman on the claim shall be final and conclusive, unless fraudulent, or unless the Contractor delivers to the Chairman a written appeal of the Chairman’s decision. Said appeal shall be delivered to the Chairman no later than thirty (30) days after the date of the Chairman’s decision.
- 7.25.10.1 In that event, the decision of the Chairman shall be final and conclusive, unless fraudulent or unless the Contractor brings an action seeking judicial review of the Chairman’s decision in an appropriate circuit court of this State within six (6) months from the date of the Chairman’s decision.
- 7.25.11 PAYMENT AND INTEREST. The amount determined payable pursuant to the decision, less any portion already paid, normally should be paid without awaiting Contractor action concerning appeal. Such payments shall be without prejudice to the rights of either party. Interest on amounts ultimately determined to be due to a Contractor shall be payable at the Statutory rate applicable to judgments against the State under Chapter 662, HRS from the date of receipt of a properly certified final written statement of actual adjustment required until the date of decision; except, however, that if an action is initiated in circuit court, interest under this Section 7.25, DISPUTES AND CLAIMS (§3-126-31 HAR) shall only be calculated until the time such action is initiated. Interest on amounts due the

Department from the Contractor shall be payable at the same rate from the date of issuance of the Project Manager's notice to the Contractor. Where such payments are required to be returned by a subsequent decision, interest on such payments shall be paid at the statutory rate from the date of payment.

7.25.12 Contractor shall comply with any decision of the Chairman and proceed diligently with performance of this contract pending final resolution by a circuit court of this State of any controversy arising under, or by virtue of, this Contract, except where there has been a material breach of contract by the Department; provided that in any event the Contractor shall proceed diligently with the performance of the Contract where the Project Manager has made a written determination that continuation of work under the Contract is essential to the public health and safety.

7.25.13 **WAIVER OF ATTORNEY'S FEES.** In the event of any litigation arising under, or by virtue of, this Contract, the Contractor and the Department agree to waive all claims against each other for attorney's fees and agree to refrain from seeking attorney's fees as part of any award or relief from any court.

7.26 **FAILURE TO COMPLETE THE WORK ON TIME**

7.26.1 Completion of the work within the required time is important because delay in the prosecution of the work will inconvenience the public and interfere with the Department's business. In addition, the Department will be damaged by the inability to obtain full use of the completed work and by increased engineering, inspection, superintendence, and administrative services in connection with the work. Furthermore, delay may detrimentally impact the financing, planning, or completion of other Department projects because of the need to devote Department resources to the project after the required completion date. The monetary amount of such public inconvenience, interference with Department business, and damages, is difficult, if not impossible, to accurately determine and precisely prove. Therefore, it is hereby agreed that the amount of such damages shall be the appropriate sum of liquidated damages.

7.26.1.1 When the Contractor fails to complete the work or any portion of the work within the time or times fixed in the contract or any extension thereof, it is agreed the Contractor shall pay liquidated damages to the Department in the amount of \$1,000 (one thousand dollars) per calendar day, unless otherwise indicated in the Special Conditions.

7.26.1.2 If the Contractor fails to correct Punchlist deficiencies as required by Section 7.32, **PROJECT ACCEPTANCE DATE**, the Department will be inconvenienced and damaged, therefore, it is agreed that the Contractor shall pay liquidated damages to the Department based upon the amount stated in Section 7.26.1.1. Liquidated damages shall accrue for all days after the Contract Completion Date or any extension thereof, until the date the Punchlist items are corrected and accepted by the Project Manager.

7.26.1.3 If the Contractor fails to submit final documents as required by Section 7.33, **FINAL SETTLEMENT OF CONTRACT**, the Department will be inconvenienced and damaged, therefore, it is agreed that the Contractor shall pay liquidated damages to the Department in the amount stated in the Section 7.26.1.1. Liquidated damages shall accrue for all days after the Contract Completion Date or any extension thereof, until the date the final documents are received by the Project Manager.

7.26.1.4 The Project Manager shall assess the total amount of liquidated damages in accordance with the amount of \$1,000 (one thousand dollars) per day, unless otherwise indicated in the Special Conditions, and provide written notice of such assessment to the Contractor.

- 7.26.2 ACCEPTANCE OF LIQUIDATED DAMAGES. The assessment of liquidated damages by the Project Manager shall be accepted by the parties hereto as final, unless the Contractor delivers a written appeal of the Project Manager's decision in accordance with Subsection 7.25.10, DECISION ON CLAIM/APPEAL REQUIREMENTS. Any allowance of time or remission of charges or liquidated damages shall in no other manner affect the rights or obligations of the parties under this contract nor be construed to prevent action under Section 7.27, TERMINATION OF CONTRACT FOR CAUSE. If the Department terminates the Contractor's right to proceed, the resulting damage will include such liquidated damages for such time as may be required for final completion of the work after the required contract completion date.
- 7.26.3 PAYMENTS FOR LIQUIDATED DAMAGES. Liquidated damages shall be deducted from monies due or that may become due to the Contractor under the contract or from other monies that may be due or become due to the Contractor from the Department.
- 7.26.4 If the Contractor contests the per diem liquidated charge, the Department may elect to recover the actual damages caused by the Contractor's delay. Should the Department claim liquidated damages for delay and if such liquidated damages are disallowed for any reason, the Department shall recover the actual damages to which it is legally entitled as a result of the Contractor's delay or other breach.
- 7.27 TERMINATION OF CONTRACT FOR CAUSE (§3-125-18 HAR)
- 7.27.1 DEFAULT. If the Contractor refuses or fails to perform the work, or any separable part thereof, with such diligence as will assure its completion within the time specified in this contract, or any extension thereof, fails to complete the work within such time, or commits any other material breach of this contract, and further fails within seven (7) days after receipt of written notice from the Project Manager to commence and continue correction of the refusal or failure with diligence and promptness, the Chairman may, by written notice to the Contractor, declare the Contractor in breach and terminate the Contractor's right to proceed with the work or the part of the work as to which there has been delay or other breach of contract. In such event, the Department may take over the work and perform the same to completion, by contract or otherwise, and may take possession of, and utilize in completing the work, the materials, appliances, and plant as may be on the site of the work and necessary therefor. Whether or not the Contractor's right to proceed with the work is terminated, the Contractor and the Contractor's sureties shall be liable for any damage to the Department resulting from the Contractor's refusal or failure to complete the work within the specified time.
- 7.27.2 ADDITIONAL RIGHTS AND REMEDIES. The rights and remedies of the Department provided in this contract are in addition to any other rights and remedies provided by law.
- 7.27.3 COSTS AND CHARGES
- 7.27.3.1 All costs and charges incurred by the Department, together with the cost of completing the work under contract, will be deducted from any monies due or which would or might have become due to the Contractor had it been allowed to complete the work under the contract. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay the Department the amount of the excess.
- 7.27.3.2 In case of termination, the Chairman shall limit any payment to the Contractor to the part of the contract satisfactorily completed at the time of termination. Payment will not be made until the work has satisfactorily been completed and the tax clearance required by Section 8.8, FINAL PAYMENT

is submitted by the Contractor. Termination shall not relieve the Contractor or Surety from liability for liquidated damages.

- 7.27.4 **ERRONEOUS TERMINATION FOR CAUSE.** If, after notice of termination of the Contractor's right to proceed under this Section 7.27, **TERMINATION OF CONTRACT FOR CAUSE** (§3-125-18 HAR) it is determined for any reason that good cause did not exist to allow the Department to terminate as provided herein, the rights and obligations of the parties shall be the same as, and the relief afforded the Contractor shall be limited to, the provisions contained in Section 7.28, **TERMINATION FOR CONVENIENCE**.
- 7.28 **TERMINATION FOR CONVENIENCE** (§3-125-22 HAR)
- 7.28.1 **TERMINATION.** The Chairman may, when the interests of the Department so require, terminate this contract in whole or in part, for the convenience of the Department. The Chairman shall give written notice of the termination to the Contractor specifying the part of the contract terminated and when termination becomes effective.
- 7.28.2 **CONTRACTOR'S OBLIGATIONS.** The Contractor shall incur no further obligations in connection with the terminated work and on the date set in the notice of termination the Contractor will stop work to the extent specified. The Contractor shall also terminate outstanding orders and subcontracts as they relate to the terminated work. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated work subject to the Department's approval. The Chairman may direct the Contractor to assign the Contractor's right, title, and interest under terminated orders or subcontracts to the Department. The Contractor must still complete the work not terminated by the notice of termination and may incur obligations as necessary to do so.
- 7.28.3 **RIGHT TO CONSTRUCTION AND GOODS.** The Chairman may require the Contractor to transfer title and delivery to the Department in the manner and to the extent directed by the Chairman, the following:
- 7.28.3.1 Any completed work; and
- 7.28.3.2 Any partially completed construction, goods, materials, parts, tools, dies, jigs, fixtures, drawings, information, and contract rights (hereinafter called "construction material") that the Contractor has specifically produced or specially acquired for the performance of the terminated part of this contract.
- 7.28.3.3 The Contractor shall protect and preserve all property in the possession of the Contractor in which the Department has an interest. If the Chairman does not elect to retain any such property, the Contractor shall use its best efforts to sell such property and construction material for the Department's account in accordance with the standards of Section 490:2-706, HRS.
- 7.28.4 **COMPENSATION**
- 7.28.4.1 Contractor shall submit a termination claim specifying the amounts due because of the termination for convenience together with cost or pricing data, submitted to the extent required by subchapter 15, chapter 3-122, HAR. If the Contractor fails to file a termination claim within one (1) year from the effective date of termination, the Chairman may pay the Contractor, if at all, an amount set in accordance with Subsection 7.28.4.3.

- 7.28.4.2 The Chairman and the Contractor may agree to a settlement provided the Contractor has filed a termination claim supported by cost or pricing data submitted as required and that the settlement does not exceed the total contract price plus settlement costs reduced by payments previously made by the Department, the proceeds of any sales of construction, supplies, and construction materials under Subsection 7.28.3.3 of this Section, and the contract price of the work not terminated.
- 7.28.4.3 Absent complete agreement, the Chairman shall pay the Contractor the following amounts, less any payments previously made under the Contract.
- (a) The cost of all contract work performed prior to the effective date of the notice of termination work plus a five percent (5%) markup on the actual direct costs, including amounts paid to subcontractor(s), less amounts previously paid or to be paid for completed portions of such work; provided, however, that if it appears that the Contractor would have sustained a loss if the entire contract would have been completed, no markup shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss. No anticipated profit or consequential damage will be due or paid.
 - (b) Subcontractors shall be paid a markup of ten percent (10%) on their direct job costs incurred to the date of termination. No anticipated profit or consequential damage will be due or paid to any subcontractor. These costs must not include payments made to the Contractor for subcontract work during the contract period.
 - (c) In any case, the total sum to be paid the Contractor shall not exceed the total contract price reduced by the amount of any sales of construction supplies, and construction materials.
- 7.28.4.4 Costs claimed, agreed to, or established by the Department shall be in accordance with chapter 3-123, HAR.
- 7.29 **CORRECTING DEFECTS.** If the Contractor fails to commence to correct any defects of any nature, within ten (10) working days after the correction thereof has been requested in writing by the Department, and thereafter to expeditiously complete the correction of said defects, the Project Manager may without further notice to the Contractor or surety and without termination of contract, correct the defects and deduct the cost thereof from the contract price.
- 7.30 **FINAL CLEANING.** Before final inspection of the work, the Contractor shall clean all ground occupied by the Contractor in connection with the work of all rubbish, excess materials, temporary structures and equipment, and all parts of the work must be left in a neat and presentable condition to the satisfaction of the Project Manager. However, the Contractor shall not remove any warning and directional signs prior to the formal acceptance by the Project Manager. Full compensation for final cleaning will be included in the prices paid for the various items of work or lump sum bid, as the case may be, and no separate payment will be made therefor.
- 7.31 **SUBSTANTIAL COMPLETION AND FINAL INSPECTION.** Before the Department accepts the project as being completed, unless otherwise stipulated by the Project Manager the following procedure shall be followed:
- 7.31.1 **SUBSTANTIAL COMPLETION**
- 7.31.1.1 The Contractor and its subcontractors shall inspect the project to confirm whether the Project is Substantially Complete. This inspection effort shall include the testing of all equipment and providing a Punchlist that identifies deficiencies which must be corrected. Contractor shall make the corrections and if required repeat the procedure. Also, the Contractor shall schedule final Building, Plumbing, Electrical, Elevator, Fire and other required inspections and obtain final approvals.

- (a) When in compliance with the above requirements, the Contractor shall notify the Project Manager in writing that project is Substantially Complete and ready for a Final Inspection. Along with the Substantial Completion notification, the Contractor shall provide its Punchlist(s) with the status of the deficiencies and dates when the deficiencies were corrected. The Project Inspector and / or the Project Manager shall make a preliminary determination whether project is Substantially Complete.
- (b) If the Project is not Substantially Complete, the Project Manager shall inform the Contractor. The Contractor shall identify deficiencies which must be corrected, update its Punchlist, make the necessary corrections and repeat the previous step. After completing the necessary work, the Contractor shall notify the Project Manager in writing that Punchlist deficiencies have been corrected and the project is ready for a Final Inspection.
- (c) If the Project is Substantially Complete, the Project Manager shall schedule a Final Inspection within fifteen (15) days of the Contractor's notification letter or as otherwise determined by the Project Manager.

7.31.1.2 In addition, and to facilitate closing of the project, the Contractor shall also proceed to obtain the following closing documents (where applicable) prior to the Final Inspection:

- (a) Field-Posted As-Built Drawings;
- (b) Maintenance Service Contract and two (2) copies of a list of all equipment;
- (c) Five (5) sets of operating and maintenance manuals;
- (d) Air conditioning test and balance reports; and
- (e) Any other final submittal required by the Contract.

7.31.2 **FINAL INSPECTION.** If at the Final Inspection the Project Manager determines that all work is completed, the Project Manager shall notify the Contractor in accordance with Section 7.32, **PROJECT ACCEPTANCE DATE**. Should there be remaining deficiencies which must be corrected the Contractor shall provide an updated Punchlist to the Project Manager, within five (5) days from the Final Inspection Date. The Contractor shall make the necessary corrections.

7.31.2.1 The Project Manager shall confirm the list of deficiencies noted by the Contractor's punchlist(s) and will notify the Contractor of any other deficiencies that must be corrected before final settlement.

7.31.3 The Project Manager may add to or otherwise modify the Punchlist from time to time. The Contractor shall take immediate action to correct the deficiencies.

7.31.4 **REVOKING SUBSTANTIAL COMPLETION.** At any time before final Project Acceptance is issued the Project Manager may revoke the determination of Substantial Completion if the Project Manager finds it was not warranted. The Project Manager shall notify the Contractor in writing with the reasons and outstanding deficiencies negating the declaration. Once notified, the Contractor shall make the necessary corrections and repeat the required steps noted in Subsections 7.31.1 and 7.31.2.

7.32 **PROJECT ACCEPTANCE DATE**

7.32.1 If upon Final Inspection, the Project Manager finds that the project has been satisfactorily completed in compliance with the contract, the Project Manager shall declare the project completed and accepted and will notify the Contractor in writing of the acceptance by way of the Project Acceptance Notice.

7.32.2 **PROTECTION AND MAINTENANCE.** After the Project Acceptance Date, the Contractor shall be relieved of maintaining and protecting the work except that this does not hold true for those portions of the work which have not been accepted, including Punchlist deficiencies. The Department shall be responsible for the protection and maintenance of the accepted facility.

- 7.32.3 The date of Project Acceptance shall determine:
- 7.32.3.1 End of Contract Time;
- 7.32.3.2 Commencement of all guaranty periods except as noted in Section 7.34, CONTRACTOR'S RESPONSIBILITY FOR WORK: RISK OF LOSS; and
- 7.32.3.3 Commencement of all maintenance services except as noted in Section 7.34, CONTRACTOR'S RESPONSIBILITY FOR WORK: RISK OF LOSS.
- 7.32.4 PUNCHLIST REQUIREMENTS. If a Punchlist is required under Section 7.31, SUBSTANTIAL COMPLETION AND FINAL INSPECTION, the Project Acceptance Notice will include the Project Manager's Punchlist and the date when correction of the deficiencies must be completed.
- 7.32.5 Upon receiving the Punchlist, the Contractor shall promptly devote the required time, labor, equipment, materials and incidentals necessary to correct the deficiencies expeditiously.
- 7.32.6 For those items of work that cannot be completed by the established date, the Contractor shall submit a schedule in writing to the Project Manager for approval along with documentation to justify the time required, no later than five (5) working days before the date stipulated for completion of the Punchlist work. A Proposed schedule submitted after the five (5) day period will not be considered.
- 7.32.7 FAILURE TO CORRECT DEFICIENCIES. After the Contract Completion Date, or any extension thereof, if the Contractor fails to correct the deficiencies within the established date or agreed to Punchlist completion date, the Project Manager shall assess liquidated damages as required by Section 7.26, FAILURE TO COMPLETE THE WORK ON TIME.
- 7.32.8 If the Contractor fails to correct the deficiencies and complete the work by the established or agreed to date, the Department also reserves the right to correct the deficiencies by whatever method it deems necessary and deduct the cost from the final payment due the Contractor.
- 7.32.9 The Contractor may further be prohibited from bidding in accordance with Section 2.12, DISQUALIFICATION OF BIDDERS. In addition, assessment of damages shall not prevent action under Section 7.27, TERMINATION OF CONTRACT FOR CAUSE.
- 7.33 FINAL SETTLEMENT OF CONTRACT
- 7.33.1 The contract will be considered settled after the project acceptance date and when the following items have been satisfactorily submitted, where applicable:
- 7.33.1.1 Necessary Submissions in addition to the items noted under Subsection 7.31.1.2.
- 7.33.1.2 All written guarantees required by the contract.
- 7.33.1.3 Complete and certified weekly payrolls for the Contractor and its Subcontractor(s).
- 7.33.1.4 Certificate of Plumbing and Electrical Inspection.
- 7.33.1.5 Certificate of Building Occupancy.

- 7.33.1.6 Certificate for Soil Treatment and Wood Treatment.
- 7.33.1.7 Certificate of Water System Chlorination.
- 7.33.1.8 Certificate of Elevator Inspection, Boiler and Pressure Pipe installation.
- 7.33.1.9 Certification of compliance with §103B-3 HRS, Employment of State Residents.
- 7.33.1.10 All other documents required by the Contract.
- 7.33.2 FAILURE TO SUBMIT CLOSING DOCUMENTS. The Contractor shall submit the final Payment Application and the above applicable closing documents within sixty (60) days from the date of Project Acceptance or the agreed to Punchlist completion date. Should the Contractor fail to comply with these requirements, the Chairman may terminate the Contract for cause. The pertinent provisions of Section 7.27, TERMINATION OF CONTRACT FOR CAUSE shall be applicable.
- 7.33.3 In addition, should the Contractor fail to furnish final closing documents within the required time period, the Project Manager shall assess liquidated damages as required by Section 7.26, FAILURE TO COMPLETE THE WORK ON TIME.
- 7.34 CONTRACTOR'S RESPONSIBILITY FOR WORK; RISK OF LOSS
 - 7.34.1 Until the establishment of the Project Acceptance Date or Beneficial Occupancy, whichever is sooner, the Contractor shall take every necessary precaution against injury or damage to any part of the work caused by the perils insured by an All Risk policy, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore and make good all injuries or damage to any portion of the work occasioned by the perils insured by an All Risk policy before the date of final acceptance and shall bear the risk and expense thereof.
 - 7.34.2 After the Project Acceptance Date or Beneficial Occupancy, whichever is sooner, the Contractor shall be relieved of maintaining and protecting the work except for those portions of the work which have not been accepted including Punchlist deficiencies.
 - 7.34.3 The risk of damage to the work from any hazard or occurrence that may be covered by a required Property Insurance policy is that of the Contractor, unless such risk of loss is placed elsewhere by express language in the Contract Documents. No claims for any loss or damage shall be recognized by the Department, nor will any such loss or damage excuse the complete and satisfactory performance of the Contract by the Contractor.
- 7.35 GUARANTEE OF WORK
 - 7.35.1 In addition to any required manufacturers warranties, all work and equipment shall be guaranteed by the Contractor against defects in materials, equipment or workmanship for one year from the Project Acceptance Date or as otherwise specified in the Contract Documents.
 - 7.35.2 REPAIR OF WORK. If, within any guarantee period, repairs or changes are required in connection with the guaranteed work, which in the opinion of the Project Manager is necessary due to materials, equipment or workmanship which are inferior, defective or not in accordance with the terms of the Contract, the Contractor shall within five (5) working days and without expense to the Department commence to:

- 7.35.2.1 Place in satisfactory condition in every instance all such guaranteed work and correct all defects therein; and
- 7.35.2.2 Make good and repair or replace to new or pre-existing condition all damages to the building, facility, work or equipment or contents thereof, resulting from such defective materials, equipment or installation thereof.
- 7.35.3 MANUFACTURER'S AND INSTALLER'S GUARANTEE. Whenever a manufacturer's or installer's guarantee on any product specified in the respective Specification sections, exceeds one year, this guarantee shall become part of this contract in addition to the Contractor's guarantee. Contractor shall complete the guarantee forms in the name of the Department and submit such forms to the manufacturer within such time required to validate the guarantee. Contractor shall submit to the Department a photocopy of the completed guarantee form for the Department's record as evidence that such guarantee form was executed by the manufacturer.
- 7.35.4 If a defect is discovered during a guarantee period, all repairs and corrections to the defective items when corrected shall again be guaranteed for the original full guarantee period. The guarantee period shall be tolled and suspended for all work affected by the defect. The guarantee period for work affected by the defect shall restart for its remaining duration upon confirmation by the Project Manager that the deficiencies have been repaired or remedied.
- 7.36 WORK OF AND CHARGES BY UTILITIES
- 7.36.1 The Contractor shall be responsible for scheduling and coordinating the work with the utility companies and applicable governmental agencies for permanent service installation and connections or modifications to existing utilities. The Contractor shall make available all portions of the work necessary for the utility companies to do their work. The Department shall not bear the risk of any damage to the contract work caused by any utility company, and work of repairing such damage and delay costs must be resolved between the Contractor, the utility company, and their insurers.
- 7.36.2 Unless stated as an allowance item to be paid by the Contractor, the Department will pay the utility companies and applicable governmental agencies directly for necessary modifications and connections. Contractor charges for overhead, supervision, coordination, profit, insurance and any other incidental expenses shall be included in the Contractor's Bid whether the utility is paid directly by the Department or by an allowance item in the Contract.
- 7.37 RIGHT TO AUDIT RECORDS
- 7.37.1 The STATE may, at reasonable times and places, audit the books and records of the CONTRACTOR, prospective contractor, subcontractor or prospective subcontractor which are related to the cost or pricing data, and a State contract, including subcontracts, other than a firm fixed-price contract. The Contractor and subcontractor(s) shall maintain the books and records for a period of four (4) years from the date of final payment under the Contract.
- 7.37.2 The Contractor shall ensure that its subcontractors comply with this requirement and shall bear all costs (including attorney's fees) of enforcement in the event of its subcontractor's failure or refusal to fully cooperate.
- 7.37.3 Additionally, Sections 231-7, 235-108, 237-39 and other HRS chapters through reference, authorize the Department of Taxation to audit all taxpayers conducting business within the State. Contractors

must make available to the Department of Taxation all books and records necessary to verify compliance with the tax laws.

7.38 RECORDS MAINTENANCE, RETENTION AND ACCESS

7.38.1 The Contractor and any subcontractor whose contract for services is valued at \$25,000 (twenty five thousand) or more shall, in accordance with generally acceptable accounting practices, maintain fiscal records and supporting documents and related files, papers, and reports that adequately reflect all direct and indirect expenditures and management and fiscal practices related to the Contractor and subcontractor's performance of services under this Contract.

7.38.2 The representative of the Department, the Chairman, the Attorney General, (the Federal granting agency, the Comptroller General of the United States, and any of their authorized representatives when federal funds are utilized), and the Legislative Auditor of the State of Hawaii shall have the right of access to any book, document, paper, file, or other record of the Contractor and any subcontractor that is related to the performance of services under this Contract in order to conduct an audit or other examination and /or to make copies, excerpts and transcripts for the purposes of monitoring and evaluating the Contractor and subcontractor's performance of services and the Contractor and subcontractor's program, management, and fiscal practices to assure the proper and effective expenditure of funds and to verify all costs associated with any claims made under this Contract.

7.38.3 The right of access shall not be limited to the required retention period but shall last as long as the records are retained. The Contractor and subcontractor shall maintain and retain all books and records related to the Contractor and subcontractor's performance of services under this Contract, including any cost or pricing data for three (3) years from the date of final payment, except that if any litigation, claim, negotiation, investigation, audit or other action involving the books and records has been started before the expiration of the three (3) year period, the Contractor and subcontractors shall retain the books and records until completion of the action and resolution of all issues that arise from it, or until the end of the three (3) year retention period, whichever occurs later. Furthermore, it shall be the Contractor's responsibility to enforce compliance with this provision by any subcontractor.

7.39 COST OR PRICING DATA. Cost or pricing data must be submitted to the Agency purchasing officer and timely certified as accurate for contracts over \$100,000 unless the contract is for a multiple-term or as otherwise specified by the procurement officer. Unless otherwise required by the Agency procurement officer, cost or pricing data submission is not required for Contracts awarded pursuant to competitive sealed bid procedures. If certified cost or pricing data are subsequently found to have been inaccurate, incomplete, or noncurrent as of the date stated in the certificate, the STATE is entitled to an adjustment of the contract price, including profit or fee, to exclude any significant sum by which the price, including profit or fee, was increased because of the defective data. It is presumed that overstated cost or pricing data increased the contract price in the amount of the defect plus related overhead and profit or fee. Therefore, unless there is a clear indication that the defective data was not used or relied upon, the price will be reduced in such amount.

7.39.1 AUDIT OF COST OR PRICING DATA. When cost or pricing principles are applicable, the STATE may require an audit of cost or pricing data.

7.40 CONFIDENTIALITY OF MATERIAL

7.40.1 All material given to or made available to the CONTRACTOR by virtue of this Contract, which is identified as proprietary or confidential information, will be safeguarded by the CONTRACTOR and

shall not be disclosed to any individual or organization without the prior written approval of the STATE.

- 7.40.2 All information, data, or other material provided by the CONTRACTOR to the STATE shall be subject to the Uniform Information Practices Act, chapter 92F, HRS.
- 7.41 **PUBLICITY.** The CONTRACTOR shall not refer to the STATE, or any office, agency, or officer thereof, or any State employee, including the head of the purchasing agency, the Chief Procurement Officer, the Director, the Agency procurement officer, or to the services or goods, or both, provided under this Contract, in any of the CONTRACTOR's brochures, advertisements, or other publicity of the CONTRACTOR. All media contacts with the CONTRACTOR about the subject matter of this Contract shall be referred to the Agency procurement officer.
- 7.42 **OWNERSHIP RIGHTS AND COPYRIGHT.** The STATE shall have complete ownership of all material, both finished and unfinished which is developed, prepared, assembled, or conceived by the CONTRACTOR pursuant to this Contract, and all such material shall be considered "works made for hire." All such material shall be delivered to the STATE upon expiration or termination of this Contract. The STATE, in its sole discretion, shall have the exclusive right to copyright any product, concept, or material developed, prepared, assembled, or conceived by the CONTRACTOR pursuant to this Contract.
- 7.43 **GOVERNING LAW.** The validity of this Contract and any of its terms or provisions, as well as the rights and duties of the parties to this Contract, shall be governed by the laws of the State of Hawaii. Any action at law or in equity to enforce or interpret the provisions of this Contract shall be brought in a state court of competent jurisdiction in Honolulu, Hawaii.
- 7.44 **SEVERABILITY.** In the event that a court declares any provision of this Contract invalid or unenforceable, such invalidity or unenforceability shall not affect the validity or enforceability of the remaining terms of this Contract.
- 7.45 **WAIVER.** The failure of the STATE to insist upon the strict compliance with any term, provision, or condition of this Contract, shall not constitute or be deemed to constitute a waiver or relinquishment of the STATE's right to enforce the same in accordance with this Contract. The fact that the STATE specifically refers to one provision of the Procurement Rules or one section of the Hawaii Revised Statutes, and does not include other provisions or statutory sections in this Contract shall not constitute a waiver or relinquishment of the STATE's rights or the CONTRACTOR's obligations under the Procurement Rules or statutes.
- 7.46 **UTILITIES AND SERVICES**
- 7.46.1 Where its operations are next to or near properties of utility companies or other property, the CONTRACTOR shall not start work until the CONTRACTOR makes arrangements necessary for the protection of said property.
- 7.46.2 The CONTRACTOR shall cooperate, coordinate and schedule its work to suit the owners of underground or overhead utility lines or other property in removing or altering such lines or providing new services in order for the work to progress according to the contract. Cooperation includes rearranging the CONTRACTOR's operations and normal work schedules and realignment of work as approved by the Department in order to accommodate the operations and work of the utilities and/or other property in and around the work site at no additional cost to the Department.

- 7.46.3 The CONTRACTOR shall contact all the various utility companies before the start of the work to ascertain any existing utilities and to develop a full understanding of the utility requirements with respect to this project. The CONTRACTOR shall furnish the Project Manager with evidence that the CONTRACTOR has contacted the utility companies.
- 7.46.4 If the CONTRACTOR discovers that the existence and location of utilities in the contract plans are not correct, the CONTRACTOR shall not disturb the utilities and immediately notify the Project Manager. The Project Manager will advise the CONTRACTOR regarding actions to take.
- 7.46.5 The CONTRACTOR shall ascertain the exact location and depth of utilities within the project area. The CONTRACTOR shall mark such locations to warn workers or equipment operators of their existence and location. The CONTRACTOR shall be responsible to acquaint personnel working near utilities with the type, size, location and depth of the utilities and the consequences that might result from disturbances. The CONTRACTOR shall not start trenching or start similar operations until the CONTRACTOR has taken reasonable and appropriate precautions to protect the utilities.
- 7.46.6 Any utilities or other property that the CONTRACTOR encounters during the progress of the work, such as telephone ducts, electric ducts, water lines, sewer lines, electric lines and drainage pipes, whether shown or not on the contract plans, shall not be disturbed or damaged unless otherwise instructed in the plans and specifications.
- 7.46.7 In the event the utilities or other property are damaged or disturbed by the CONTRACTOR, the CONTRACTOR shall be liable for all such damage where the utilities or other property are:
- (a) Shown on the plan in its actual or approximate location; or
 - (b) Exposed on the job as it progresses; or
 - (c) Pointed out to the CONTRACTOR in the field.
- 7.46.8 Such utilities or other property as described above shall be "known utilities or other property." If the CONTRACTOR encounters an unknown utility or other property, it shall not proceed until it has notified the Project Manager and receives instructions. If the Project Manager directs additional work, it shall be paid for under Section 4.2, CHANGES.
- 7.46.9 The CONTRACTOR shall repair and restore to pre-damaged condition any utilities or any other property it may damage, and it shall be liable for any and all resulting damage at no cost to the Department, the work or utility owner or property owner. Any damage claim due to the disruption of service caused by the utilities being damaged shall be paid by the CONTRACTOR who shall defend, indemnify and hold harmless the Department from all suits, actions or claims of any character brought on account of such damages, whether or not the Department may have been partially at fault. Public liability and property damage insurance to be obtained by the CONTRACTOR pursuant to Section 7.3 INSURANCE REQUIREMENTS shall cover such risk of damage.
- 7.46.10 In the event the CONTRACTOR simultaneously with the discovery of an unknown utility or other property damages that utility or other property, the CONTRACTOR shall not be held liable beyond the extent of the CONTRACTOR's liability insurance but shall immediately notify the Project Manager. Upon instruction from the Project Manager, the CONTRACTOR shall repair all damages and execute a plan for dealing with the damaged utility or other property. This repair work shall be considered additional work as covered in Section 4.2, CHANGES.

~END OF ARTICLE 7~

ARTICLE 8: MEASUREMENT AND PAYMENT

8.1 MEASUREMENT OF QUANTITIES

8.1.1 All work completed under the Contract shall be measured by the Project Manager according to United States standard measures, or as stated in this Contract. The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract shall conform to good Managing practice. These measurements shall be considered correct and final unless the Contractor has protested same to the Project Manager and has demonstrated the existence of an error by actual physical measurement before the work has progressed in a manner, which would prohibit a proper check.

8.1.2 All measurements of the area of the various surfaces, pavement and base courses will be made in the horizontal projection of the actual surface and no deductions will be made for fixtures or structures having an area of nine (9) square feet or less. All measurements of headers, curbs, fences and any other type of construction which is to be paid for by its length will be made in the horizontal projection of the actual driven length from toe to top of cutoff, and for piles, which will be by actual length. All materials which are specified for measurement by the cubic yard "Loose Measurement" or "Measured in the Vehicle" shall be hauled in approved vehicles and measured therein at the point of delivery. Approved vehicles for this purpose may be of any type or size satisfactory to the Project Manager, provided that the body is of such type that the actual contents may be readily and accurately determined. Unless all approved vehicles on a job are of a uniform capacity each approved vehicle must bear a plainly legible identification mark indicating the specific approved capacity. The Inspector may reject all loads not hauled in such approved vehicles.

8.2 **NO WAIVER OF LEGAL RIGHTS.** The Project Manager shall not be precluded or estopped by any measurements, estimate or certificate made either before or after the completion and acceptance of the work and payment therefor, from showing the true amount and character of the work performed and materials furnished by the Contractor, or from showing that any such measurement estimate or certificate is untrue or incorrectly made, or rejecting the work or materials that do not conform in fact to the contract. The Project Manager shall not be precluded or estopped, notwithstanding any such measurement, estimate, or certificate and payment in accordance therewith, from recovering from the Contractor and its sureties such damages as the Department may sustain by reason of the Contractor's failure to comply with the terms of the Contract. Neither the acceptance by the Project Manager or any representative of the Project Manager, nor any payment for or acceptance of the whole or any part of the work, nor any extension of time, or any possession taken by the Project Manager, shall operate as a waiver of any portion of the contract, or of any power herein reserved, or any right to damage herein provided. A waiver of any notice requirement or breach of the contract shall not be held to be a waiver of any other notice requirement or subsequent breach.

8.3 PAYMENT FOR ADDITIONAL WORK

8.3.1 Additional work as defined in Section 4.2, **CHANGES**, when ordered, shall be paid for as defined in Section 4.4, **PRICE ADJUSTMENT** by a duly issued change order in accordance with the terms provided therein.

8.3.2 On credit proposals and proposals covering both increases and decreases, the application of overhead and profit shall be on the net change in direct costs for the performance of the work.

8.3.3 When payment is to be made for additional work directed by a Field Order, the total price adjustment as specified in the Field Order or if not specified therein for the work contained in the related change

order shall be considered full compensation for all materials, labor, insurance, taxes, equipment use or rental and overheads, both field and home office including extended home and branch office overhead and other related delay impact costs.

- 8.3.4 **FORCE ACCOUNT METHOD.** When, for the convenience of the Department, payment is to be made by the Force Account method, all work performed or labor and materials and equipment furnished shall be paid for as described below. Payment by the Force Account method will not alter any rights, duties and obligations under the contract.
- 8.3.4.1 **LABOR.** For all hourly workers, the Contractor will receive the rate of wage including fringe benefits when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the work, which shall be agreed upon in writing before beginning work for each and every hour that said labor is actually engaged in said work.
- (a) All markups for overhead and profit shall be added subject to limitations established in Section 4.5, **ALLOWANCES FOR OVERHEAD AND PROFIT.**
 - (b) No allowance for overtime compensation will be given without the written approval of the Project Manager prior to performance of such work.
- 8.3.4.2 **INSURANCE AND TAXES.** The Contractor and subcontractor(s) will also receive the actual additional costs paid for property damage, liability, worker's compensation insurance premiums, State unemployment contributions, Federal unemployment taxes, social security and Medicare taxes.
- 8.3.4.3 **MATERIALS.** For materials accepted by the Project Manager and used, the Contractor and subcontractor(s) shall receive the actual cost of such materials delivered and incorporated into work, plus a markup allowed under Section 4.5, **ALLOWANCES FOR OVERHEAD AND PROFIT.**
- 8.3.4.4 **SUBCONTRACTORS.** Subcontractor costs shall be the actual costs of the subcontractor marked up as defined in this Section 8.3, **PAYMENT FOR ADDITIONAL WORK** plus a markup allowed under Section 4.5, **ALLOWANCES FOR OVERHEAD AND PROFIT.**
- 8.3.4.5 **EQUIPMENT**
- (a) For machinery or special equipment (other than small tools as herein defined in Subsection 8.3.4.5.(h) owned or leased by the Contractor or a related entity, the use of which has been authorized by the Project Manager:
 - (1) The Contractor will be paid at the per-hour rental rates based on the monthly rate established for said machinery or equipment in the then-current edition of the Rental Rate Blue Book for Construction Equipment including the estimated operating cost per hour and regional correction provided therein.
 - (2) If no rate is listed for a particular kind, type or size of machinery or equipment, then the monthly, hourly rates shall be as agreed upon in writing by the Contractor and the Project Manager prior to the use of said machinery or equipment. If there is no agreement, the Project Manager will set a rate. The Contractor may contest the rate pursuant to Section 7.25, **DISPUTES AND CLAIMS.**
 - (3) Rental rates which are higher than those specified in the aforesaid Rental Rate Blue Book publication may be allowed where such higher rates can be justified by job conditions such as work in water and work on lava, etc. Request for such higher rates shall be submitted in writing to the Project Manager for approval prior to the use of the machinery or equipment in question.

- (b) For machinery or special equipment [other than small tools as herein defined in clause 8.3.4.5 (h)] rented by the Contractor or a related entity specifically for the Force Account work, the use of which has been authorized by the Project Manager, the Contractor will be paid the actual rental cost for the machinery or equipment, including mobilization and demobilization costs. A receipt from the equipment supplier shall be submitted to the Project Manager.
- (c) For machinery or special equipment [other than small tools as herein defined in clause 8.3.4.5 (h)] rented by the Contractor or a related entity for use in the project, but which will also be used for the Force Account work, the use of which has been authorized by the Project Manager, the Contractor will be paid the actual rental cost for the machinery or equipment. No additional mobilization and demobilization costs will be paid. A receipt from the equipment supplier shall be submitted to the Project Manager.
- (d) The rental rate for trucks not owned by the Contractor shall be those as established under the Hawaii State Public Utilities Commission, which will be paid for as an equipment item pursuant to Subsection 8.3.4.5, EQUIPMENT. Rental rates for Contractor owned trucks not listed in the Rental Rate Blue Book shall be agreed upon in writing by the Contractor and Project Manager prior to the use of said trucks. If there is no agreement, the Project Manager shall set the rate. The Contractor may contest the rate pursuant to Section 7.25, DISPUTES AND CLAIMS.
- (e) The rental period shall begin at the time equipment reaches the site of work, shall include each day that the machinery or equipment is at the site of the work and shall terminate at the end of the day on which the equipment is no longer needed. In the event the equipment must standby due to work being delayed or halted by reason of design, traffic, or other related problems uncontrollable by the Contractor, excluding Saturdays, Sundays and Legal Holidays, unless the equipment is used to perform work on such days, the rental shall be two (2) hours per day until the equipment is no longer needed.
 - (1) The rental time to be paid will be for the time actually used. The Project Manager prior to the performance of such work must approve any hours or operation in excess of eight (8) hours in any one (1) day.
 - (2) Rental time will not be allowed or credited for any day on which machinery or equipment is inoperative due to its breakdown. On such days, the Contractor will be paid only for the actual hours, if any, that the machinery or equipment was in operation.
 - (3) In the event the Force Account work is completed in less than eight (8) hours, equipment rental shall nevertheless be paid for a minimum eight (8) hours.
 - (4) For the purpose of determining the rental period the continuous and consecutive days shall be the normal eight (8) hour shift work day, Monday through Friday excluding legal holidays. Any work day to be paid less than eight (8) hours shall not be considered as continuous, except for equipment removed from rental for fuel and lubrication.
 - (5) No additional premium beyond the normal rates used will be paid for equipment over eight (8) hours per day or forty (40) hours per week.
- (f) All rental rates for machinery and equipment shall include the cost of fuel, oil, lubricants, supplies, small tools, necessary attachments, repairs, maintenance, tire wear, depreciation, storage, and all other incidentals.

- (g) All machinery and equipment shall be in good working condition and suitable for the purpose for which the machinery and equipment is to be used.
- (h) Individual pieces of equipment or tools having a replacement value of \$2,000 (two thousand dollars) or less, whether or not consumed by use, shall be considered to be small tools and included in the allowed markup for overhead and profit and no separate payment will be made therefor.
- (i) The total of all Force Account rental charges accrued over the duration of the contract for a specific item of equipment shall not exceed the replacement cost of that equipment.
 - (1) The Contractor shall provide the cost of replacement to the Project Manager prior to using the equipment. If the Project Manager does not agree with the replacement cost, the Project Manager shall set the replacement cost. The Contractor may contest the replacement cost pursuant to Section 7.25, DISPUTES AND CLAIMS.
- (j) Should the item of equipment be rented from an unrelated entity, the rental cost will be treated as equipment cost under Subsection 8.3.4.5, EQUIPMENT.
- (k) Transportation and/or Mobilization: The following provisions shall govern in determining the compensation to be paid to the Contractor for use of equipment or machinery on the Force Account method:
 - (1) The Project Manager shall approve the location from which the equipment is to be moved or transported.
 - (2) Where the equipment must be transported to the site of the Force Account work, the Department will pay the reasonable cost of mobilizing and transporting the equipment, including its loading and unloading, from its original location to the site of Force Account work. Upon completion of the work the Department will pay the reasonable cost of mobilizing and transporting the equipment back to its original location or to another location, whichever cost is less.
 - (3) The cost of transporting the equipment shall not exceed the rates established by the Hawaii State Public Utilities Commission. If such rates are nonexistent, then the rates will be determined by the Project Manager based upon the prevailing rates charged by established haulers within the locale.
 - (4) Where the equipment is self-propelled, the Department will pay the cost of moving the equipment by its own power from its original location to the site of the Force Account work. Upon completion of the work the Department will pay the reasonable cost of moving of the Equipment back to its original or another location, whichever cost is less.
 - (5) At the discretion of the Project Manager, when the Contractor desires to use such equipment for other than Force Account work, the costs of mobilization and transportation shall be prorated between the Force Account and non- Force Account work.
- (l) Pickup trucks, vans, storage trailers, unless specifically rented for the Force Account work, shall be considered incidental to the Force Account work and the costs therefor are included in the markup allowed under Section 4.5, ALLOWANCES FOR OVERHEAD AND PROFIT.

- 8.3.4.6 **STATE EXCISE (GROSS INCOME) TAX AND BOND.** A sum equal to the current percentage rate for the State excise (Gross Income) tax on the total sum determined in Subsections 8.3.4.1, 8.3.4.2, 8.3.4.3 and 8.3.4.4 above, and the bond premium shall be added as compensation to the Contractor. The actual bond premium not to exceed one percent (1%) shall be added to items covered by Subsections 8.3.4.1, 8.3.4.2, 8.3.4.3 and 8.3.4.4 when applicable.
- (a) The compensation as determined in Subsections 8.3.4.1, 8.3.4.2, 8.3.4.3, 8.3.4.4 and 8.3.4.5 above shall be deemed to be payment in full for work paid on a Force Account basis.
- 8.3.4.7 **RECORDS.** The Contractor and the Project Manager shall compare records of the labor, materials and equipment rentals paid by the Force Account basis at the end of each day. These daily records, if signed by both parties, shall thereafter be the basis for the quantities to be paid for by the Force Account method. The Contractor shall not be entitled to payment for Force Account records not signed by the Project Manager.
- 8.3.4.8 **STATEMENTS.** No payment will be made for work on a Force Account basis until the Contractor has submitted to the Project Manager, duplicate itemized statements of the cost of such Force Account work detailed as follows:
- (a) **Laborers.** Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman and also the amount of fringe benefits payable if any.
- (b) **Equipment.** Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
- (c) **Materials:**
- (1) Quantities of materials, prices and extensions.
- (2) Costs of transporting materials, if such cost is not reflected in the prices of the materials.
- (3) Statements shall be accompanied and supported by receipted invoices for all materials used and transportation charges. However, if materials used on the Force Account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractors shall submit an affidavit certifying that such materials were taken from stock and that the amount claimed represents the actual cost to the Contractor.
- (d) **Insurance.** Cost of property damage, liability and worker's compensation insurance premiums, unemployment insurance contributions, and social security tax.
- 8.4 **PROGRESS AND/OR PARTIAL PAYMENTS**
- 8.4.1 **PROGRESS PAYMENTS.** The Contractor will be allowed progress payments on a monthly basis upon preparing the Monthly Payment Application forms and submitting the originals to the Project Manager. The monthly payment shall be based on the items of work satisfactorily completed and the value thereof at unit prices and/or lump sum prices set forth in the contract as determined by the Project Manager and will be subject to compliance with Section 7.9, PAYROLLS AND PAYROLL RECORDS.
- 8.4.1.1 **ORIGINAL INVOICES REQUIRED.** All payments under this Contract shall be made only upon submission by the CONTRACTOR of original invoices specifying the amount due and certifying that services requested under the Contract have been performed by the CONTRACTOR according to the Contract.
- 8.4.1.2 **SUBJECT TO AVAILABLE FUNDS.** Such payments are subject to availability of funds and allotment by the Director of Finance in accordance with chapter 37, HRS. Further, all payments shall be made in accordance with and subject to chapter 40, HRS.

- 8.4.2 In the event the Contractor or any Subcontractor fails to submit certified copies of payrolls in accordance with the requirements of Section 7.9, PAYROLLS AND PAYROLL RECORDS, the Project Manager may retain the amount due for items of work for which payroll affidavits have not been submitted on a timely basis notwithstanding satisfactory completion of the work until such records have been duly submitted. The Contractor shall not be due any interest payment for any amount thus withheld.
- 8.4.3 PARTIAL PAYMENT FOR MATERIALS. The Contractor will also be allowed partial payments to the extent of ninety percent (90%) of the manufacturer's, supplier's, distributor's or fabricator's invoice cost of accepted materials to be incorporated in the work on the following conditions:
- 8.4.3.1 The materials are delivered and properly stored at the site of the work; or
- 8.4.3.2 For special items of materials accepted by the Project Manager, the materials are delivered to the Contractor or subcontractor(s) and properly stored in an acceptable location within a reasonable distance to the site of the work.
- 8.4.4 Partial payments shall be made only if the Project Manager finds that:
- 8.4.4.1 The Contractor has submitted bills of sale for the materials or otherwise demonstrates clear title to such materials.
- 8.4.4.2 The materials are insured for their full replacement value to the benefit of the Department against theft, fire, damages incurred in transportation to the site, and other hazards.
- 8.4.4.3 The materials are not subject to deterioration.
- 8.4.4.4 In case of materials stored off the project site, the materials are not commingled with other materials not to be incorporated into the project.
- 8.4.5 FEDERAL FUNDS. If this Contract is payable in whole or in part from federal funds, Contractor agrees that, as to the portion of the compensation under this Contract to be payable from federal funds, the Contractor shall be paid only from such funds received from the federal government, and shall not be paid from any other funds.
- 8.4.6 Final Payment Requirements (§3-122-112, HAR). Upon receipt of the Contractor's invoice for final payment, the Department shall verify compliance with Section 103D-328 HRS via Hawaii Compliance Express (HCE).
- 8.5 PROMPT PAYMENT (§3-125-23 HAR)
- 8.5.1 Any money, other than retainage, paid to the CONTRACTOR shall be dispersed to subcontractors within ten days after receipt of the money in accordance with the terms of the subcontract; provided that the subcontractor has met all the terms and conditions of the subcontract and there are no bona fide disputes; and
- 8.5.2 BONA FIDE DISPUTES. The existence of a bona fide dispute with a subcontractor or material supplier shall not release the Contractor of its prompt payment obligations as to all sums due that are not directly affected by such dispute.

- 8.5.3 FILING NON-PAYMENT COMPLAINT. Subcontractors and material suppliers may file in writing a complaint with the Chairman regarding non-payment by the Contractor. Such complaint shall include:
- 8.5.3.1 The amount past due for work performed and already paid for by the Department;
- 8.5.3.2 That all the terms, conditions or requirements of its subcontract have been met; and
- 8.5.3.3 That no bona fide dispute over its performance exists. The Department will investigate the validity of the complaint.
- 8.5.4 The Department may withhold from future progress payments amounts to cover any sums paid to the Contractor for work performed by a subcontractor if the Department finds that the subcontractor complaint regarding non-payment by the Contractor has merit.
- 8.5.5 If the Project Manager determines that the Contractor failed to make prompt payment required to a subcontractor or material supplier with whom it has no bona fide dispute, the Project Manager shall inform the Contractor of the findings and request the Contractor make payment accordingly. If the Contractor does not act promptly, the Project Manager shall take appropriate action as allowed under this Contract and/or refer the matter to the Contractor Licensing Board for appropriate action under Section 444-17, Hawaii Revised Statutes regarding the Revocation, Suspension and Renewal of (Contractor) Licenses and/or initiate a petition for debarment of the Contractor from bidding on other Department jobs.
- 8.6 RETAINAGE
- 8.6.1 The Department will retain five percent (5%) of the total amount of progress and / or partial payments until after completion of the entire Contract in an acceptable manner at which time this balance, less any previous payments, will be certified and paid to the Contractor. After fifty percent (50%) of the work is completed and progress is satisfactory, no additional sum will be withheld. If progress is not satisfactory, the Department may continue to withhold retainage sums not exceeding five percent (5%) of the amount due the Contractor.
- 8.6.1.1 Contractor may withhold from amounts due its subcontractors, only the same percentage of retainage as that of the Contractor, and only if its subcontractors have provided valid performance and payments bonds or other bond or collateral acceptable to the Contractor.
- 8.6.1.2 Contractor or Subcontractor may negotiate with, and retain from its respective subcontractors, a different retainage percentage which cannot exceed ten percent (10%).
- 8.6.2 The retainage shall not include sums deducted as liquidated damages from monies due or that may become due the Contractor under the Contract.
- 8.7 WARRANTY OF CLEAR TITLE. The Contractor warrants and guarantees that all work and materials covered by progress or partial payments made thereon shall be free and clear of all liens, claims, security interests or encumbrances, and shall become the sole property of the Department. This provision shall not, however, be construed as an acceptance of the work nor shall it be construed as relieving the Contractor from the sole responsibility for all materials and work upon which payments have been made or the restoration of any damaged work, or as waiving the right of the Department to require the fulfillment of all the items of the Contract.

- 8.7.1 LIENS AND WARRANTIES. Goods provided under this Contract shall be provided free of all liens and provided together with all applicable warranties, or with the warranties described in the Contract documents, whichever are greater.
- 8.8 FINAL PAYMENT
- 8.8.1 Upon final payment to the CONTRACTOR, full payment to the subcontractor, including retainage, shall be made within ten days after receipt of the money; provided that there are no bona fide disputes over the subcontractor's performance under the subcontract.
- 8.8.2 Sums necessary to meet any claims of any kind by the Department may be retained from the sums due the Contractor until said claims have been fully and completely discharged or otherwise satisfied.
- 8.9 STATE'S RIGHT TO OFFSET. The STATE may offset against any monies or other obligations the STATE owes to the CONTRACTOR under this Contract, any amounts owed to the State of Hawaii by the CONTRACTOR under this Contract or any other Contracts or pursuant to any law or other obligation owed to the State of Hawaii by the CONTRACTOR, including, without limitation, the payment of any taxes or levies of any kind or nature. The STATE will notify the CONTRACTOR in writing of any offset and the nature of such offset. For purposes of this Subsection, amounts owed to the State of Hawaii shall not include debts or obligations which have been liquidated, agreed to by the CONTRACTOR, and are covered by an installment payment or other settlement plan approved by the State of Hawaii, provided, however, that the CONTRACTOR shall be entitled to such exclusion only to the extent that the CONTRACTOR is current with, and not delinquent on, any payments or obligations owed to the State of Hawaii under such payment or other settlement plan.

~END OF ARTICLE 8~

GENERAL CONDITIONS

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GENERAL CONDITIONS

1. Coordination of Services by the STATE. The head of the purchasing agency ("HOPA") (which term includes the designee of the HOPA) shall coordinate the services to be provided by the CONTRACTOR in order to complete the performance required in the Contract. The CONTRACTOR shall maintain communications with HOPA at all stages of the CONTRACTOR'S work, and submit to HOPA for resolution any questions which may arise as to the performance of this Contract. "Purchasing agency" as used in these General Conditions means and includes any governmental body which is authorized under chapter 103D, HRS, or its implementing rules and procedures, or by way of delegation, to enter into contracts for the procurement of goods or services or both.
2. Relationship of Parties: Independent Contractor Status and Responsibilities, Including Tax Responsibilities.
 - a. In the performance of services required under this Contract, the CONTRACTOR is an "independent contractor," with the authority and responsibility to control and direct the performance and details of the work and services required under this Contract; however, the STATE shall have a general right to inspect work in progress to determine whether, in the STATE'S opinion, the services are being performed by the CONTRACTOR in compliance with this Contract. Unless otherwise provided by special condition, it is understood that the STATE does not agree to use the CONTRACTOR exclusively, and that the CONTRACTOR is free to contract to provide services to other individuals or entities while under contract with the STATE.
 - b. The CONTRACTOR and the CONTRACTOR'S employees and agents are not by reason of this Contract, agents or employees of the State for any purpose, and the CONTRACTOR and the CONTRACTOR'S employees and agents shall not be entitled to claim or receive from the State any vacation, sick leave, retirement, workers' compensation, unemployment insurance, or other benefits provided to state employees.
 - c. The CONTRACTOR shall be responsible for the accuracy, completeness, and adequacy of the CONTRACTOR'S performance under this Contract. Furthermore, the CONTRACTOR intentionally, voluntarily, and knowingly assumes the sole and entire liability to the CONTRACTOR'S employees and agents, and to any individual not a party to this Contract, for all loss, damage, or injury caused by the CONTRACTOR, or the CONTRACTOR'S employees or agents in the course of their employment.
 - d. The CONTRACTOR shall be responsible for payment of all applicable federal, state, and county taxes and fees which may become due and owing by the CONTRACTOR by reason of this Contract, including but not limited to (i) income taxes, (ii) employment related fees, assessments, and taxes, and (iii) general excise taxes. The CONTRACTOR also is responsible for obtaining all licenses, permits, and certificates that may be required in order to perform this Contract.
 - e. The CONTRACTOR shall obtain a general excise tax license from the Department of Taxation, State of Hawaii, in accordance with section 237-9, HRS, and shall comply with all requirements thereof. The CONTRACTOR shall obtain a tax clearance certificate from the Director of Taxation, State of Hawaii, and the Internal Revenue Service, U.S. Department of the Treasury, showing that all delinquent taxes, if any, levied or accrued under state law and the Internal Revenue Code of 1986, as amended, against the CONTRACTOR have been paid and submit the same to the STATE prior to commencing any performance under this Contract. The CONTRACTOR shall also be solely responsible for meeting all requirements necessary to obtain the tax clearance certificate required for final payment under sections 103-53 and 103D-328, HRS, and paragraph 17 of these General Conditions.
 - f. The CONTRACTOR is responsible for securing all employee-related insurance coverage for the CONTRACTOR and the CONTRACTOR'S employees and agents that is or may be required by law, and for payment of all premiums, costs, and other liabilities associated with securing the insurance coverage.

- g. The CONTRACTOR shall obtain a certificate of compliance issued by the Department of Labor and Industrial Relations, State of Hawaii, in accordance with section 103D-310, HRS, and section 3-122-112, HAR, that is current within six months of the date of issuance.
- h. The CONTRACTOR shall obtain a certificate of good standing issued by the Department of Commerce and Consumer Affairs, State of Hawaii, in accordance with section 103D-310, HRS, and section 3-122-112, HAR, that is current within six months of the date of issuance.
- i. In lieu of the above certificates from the Department of Taxation, Labor and Industrial Relations, and Commerce and Consumer Affairs, the CONTRACTOR may submit proof of compliance through the State Procurement Office's designated certification process.

3. Personnel Requirements.

- a. The CONTRACTOR shall secure, at the CONTRACTOR'S own expense, all personnel required to perform this Contract.
- b. The CONTRACTOR shall ensure that the CONTRACTOR'S employees or agents are experienced and fully qualified to engage in the activities and perform the services required under this Contract, and that all applicable licensing and operating requirements imposed or required under federal, state, or county law, and all applicable accreditation and other standards of quality generally accepted in the field of the activities of such employees and agents are complied with and satisfied.

4. Nondiscrimination. No person performing work under this Contract, including any subcontractor, employee, or agent of the CONTRACTOR, shall engage in any discrimination that is prohibited by any applicable federal, state, or county law.

5. Conflicts of Interest. The CONTRACTOR represents that neither the CONTRACTOR, nor any employee or agent of the CONTRACTOR, presently has any interest, and promises that no such interest, direct or indirect, shall be acquired, that would or might conflict in any manner or degree with the CONTRACTOR'S performance under this Contract.

6. Subcontracts and Assignments. The CONTRACTOR shall not assign or subcontract any of the CONTRACTOR'S duties, obligations, or interests under this Contract and no such assignment or subcontract shall be effective unless (i) the CONTRACTOR obtains the prior written consent of the STATE, and (ii) the CONTRACTOR'S assignee or subcontractor submits to the STATE a tax clearance certificate from the Director of Taxation, State of Hawaii, and the Internal Revenue Service, U.S. Department of Treasury, showing that all delinquent taxes, if any, levied or accrued under state law and the Internal Revenue Code of 1986, as amended, against the CONTRACTOR'S assignee or subcontractor have been paid. Additionally, no assignment by the CONTRACTOR of the CONTRACTOR'S right to compensation under this Contract shall be effective unless and until the assignment is approved by the Comptroller of the State of Hawaii, as provided in section 40-58, HRS.

- a. Recognition of a successor in interest. When in the best interest of the State, a successor in interest may be recognized in an assignment contract in which the STATE, the CONTRACTOR and the assignee or transferee (hereinafter referred to as the "Assignee") agree that:

- (1) The Assignee assumes all of the CONTRACTOR'S obligations;
- (2) The CONTRACTOR remains liable for all obligations under this Contract but waives all rights under this Contract as against the STATE; and
- (3) The CONTRACTOR shall continue to furnish, and the Assignee shall also furnish, all required bonds.

- b. Change of name. When the CONTRACTOR asks to change the name in which it holds this Contract with the STATE, the procurement officer of the purchasing agency (hereinafter referred to as the "Agency procurement officer") shall, upon receipt of a document acceptable or satisfactory to the

Agency procurement officer indicating such change of name (for example, an amendment to the CONTRACTOR'S articles of incorporation), enter into an amendment to this Contract with the CONTRACTOR to effect such a change of name. The amendment to this Contract changing the CONTRACTOR'S name shall specifically indicate that no other terms and conditions of this Contract are thereby changed.

- c. Reports. All assignment contracts and amendments to this Contract effecting changes of the CONTRACTOR'S name or novations hereunder shall be reported to the chief procurement officer (CPO) as defined in section 103D-203(a), HRS, within thirty days of the date that the assignment contract or amendment becomes effective.
 - d. Actions affecting more than one purchasing agency. Notwithstanding the provisions of subparagraphs 6a through 6c herein, when the CONTRACTOR holds contracts with more than one purchasing agency of the State, the assignment contracts and the novation and change of name amendments herein authorized shall be processed only through the CPO's office.
- 7. Indemnification and Defense. The CONTRACTOR shall defend, indemnify, and hold harmless the State of Hawaii, the contracting agency, and their officers, employees, and agents from and against all liability, loss, damage, cost, and expense, including all attorneys' fees, and all claims, suits, and demands therefore, arising out of or resulting from the acts or omissions of the CONTRACTOR or the CONTRACTOR'S employees, officers, agents, or subcontractors under this Contract. The provisions of this paragraph shall remain in full force and effect notwithstanding the expiration or early termination of this Contract.
 - 8. Cost of Litigation. In case the STATE shall, without any fault on its part, be made a party to any litigation commenced by or against the CONTRACTOR in connection with this Contract, the CONTRACTOR shall pay all costs and expenses incurred by or imposed on the STATE, including attorneys' fees.
 - 9. Liquidated Damages. When the CONTRACTOR is given notice of delay or nonperformance as specified in paragraph 13 (Termination for Default) and fails to cure in the time specified, it is agreed the CONTRACTOR shall pay to the STATE the amount, if any, set forth in this Contract per calendar day from the date set for cure until either (i) the STATE reasonably obtains similar goods or services, or both, if the CONTRACTOR is terminated for default, or (ii) until the CONTRACTOR provides the goods or services, or both, if the CONTRACTOR is not terminated for default. To the extent that the CONTRACTOR'S delay or nonperformance is excused under paragraph 13d (Excuse for Nonperformance or Delay Performance), liquidated damages shall not be assessable against the CONTRACTOR. The CONTRACTOR remains liable for damages caused other than by delay.
 - 10. STATE'S Right of Offset. The STATE may offset against any monies or other obligations the STATE owes to the CONTRACTOR under this Contract, any amounts owed to the State of Hawaii by the CONTRACTOR under this Contract or any other contracts, or pursuant to any law or other obligation owed to the State of Hawaii by the CONTRACTOR, including, without limitation, the payment of any taxes or levies of any kind or nature. The STATE will notify the CONTRACTOR in writing of any offset and the nature of such offset. For purposes of this paragraph, amounts owed to the State of Hawaii shall not include debts or obligations which have been liquidated, agreed to by the CONTRACTOR, and are covered by an installment payment or other settlement plan approved by the State of Hawaii, provided, however, that the CONTRACTOR shall be entitled to such exclusion only to the extent that the CONTRACTOR is current with, and not delinquent on, any payments or obligations owed to the State of Hawaii under such payment or other settlement plan.
 - 11. Disputes. Disputes shall be resolved in accordance with section 103D-703, HRS, and chapter 3-126, Hawaii Administrative Rules ("HAR"), as the same may be amended from time to time.
 - 12. Suspension of Contract. The STATE reserves the right at any time and for any reason to suspend this Contract for any reasonable period, upon written notice to the CONTRACTOR in accordance with the provisions herein.
 - a. Order to stop performance. The Agency procurement officer may, by written order to the CONTRACTOR, at any time, and without notice to any surety, require the CONTRACTOR to stop all or any part of the performance called for by this Contract. This order shall be for a specified

period not exceeding sixty (60) days after the order is delivered to the CONTRACTOR, unless the parties agree to any further period. Any such order shall be identified specifically as a stop performance order issued pursuant to this section. Stop performance orders shall include, as appropriate: (1) A clear description of the work to be suspended; (2) Instructions as to the issuance of further orders by the CONTRACTOR for material or services; (3) Guidance as to action to be taken on subcontracts; and (4) Other instructions and suggestions to the CONTRACTOR for minimizing costs. Upon receipt of such an order, the CONTRACTOR shall forthwith comply with its terms and suspend all performance under this Contract at the time stated, provided, however, the CONTRACTOR shall take all reasonable steps to minimize the occurrence of costs allocable to the performance covered by the order during the period of performance stoppage. Before the stop performance order expires, or within any further period to which the parties shall have agreed, the Agency procurement officer shall either:

- (1) Cancel the stop performance order; or
 - (2) Terminate the performance covered by such order as provided in the termination for default provision or the termination for convenience provision of this Contract.
- b. Cancellation or expiration of the order. If a stop performance order issued under this section is cancelled at any time during the period specified in the order, or if the period of the order or any extension thereof expires, the CONTRACTOR shall have the right to resume performance. An appropriate adjustment shall be made in the delivery schedule or contract price, or both, and the Contract shall be modified in writing accordingly, if:
- (1) The stop performance order results in an increase in the time required for, or in the CONTRACTOR'S cost properly allocable to, the performance of any part of this Contract; and
 - (2) The CONTRACTOR asserts a claim for such an adjustment within thirty (30) days after the end of the period of performance stoppage; provided that, if the Agency procurement officer decides that the facts justify such action, any such claim asserted may be received and acted upon at any time prior to final payment under this Contract.
- c. Termination of stopped performance. If a stop performance order is not cancelled and the performance covered by such order is terminated for default or convenience, the reasonable costs resulting from the stop performance order shall be allowable by adjustment or otherwise.
- d. Adjustment of price. Any adjustment in contract price made pursuant to this paragraph shall be determined in accordance with the price adjustment provision of this Contract.

13. Termination for Default.

- a. Default. If the CONTRACTOR refuses or fails to perform any of the provisions of this Contract with such diligence as will ensure its completion within the time specified in this Contract, or any extension thereof, otherwise fails to timely satisfy the Contract provisions, or commits any other substantial breach of this Contract, the Agency procurement officer may notify the CONTRACTOR in writing of the delay or non-performance and if not cured in ten (10) days or any longer time specified in writing by the Agency procurement officer, such officer may terminate the CONTRACTOR'S right to proceed with the Contract or such part of the Contract as to which there has been delay or a failure to properly perform. In the event of termination in whole or in part, the Agency procurement officer may procure similar goods or services in a manner and upon the terms deemed appropriate by the Agency procurement officer. The CONTRACTOR shall continue performance of the Contract to the extent it is not terminated and shall be liable for excess costs incurred in procuring similar goods or services.
- b. CONTRACTOR'S duties. Notwithstanding termination of the Contract and subject to any directions from the Agency procurement officer, the CONTRACTOR shall take timely, reasonable, and

necessary action to protect and preserve property in the possession of the CONTRACTOR in which the STATE has an interest.

- c. Compensation. Payment for completed goods and services delivered and accepted by the STATE shall be at the price set forth in the Contract. Payment for the protection and preservation of property shall be in an amount agreed upon by the CONTRACTOR and the Agency procurement officer. If the parties fail to agree, the Agency procurement officer shall set an amount subject to the CONTRACTOR'S rights under chapter 3-126, HAR. The STATE may withhold from amounts due the CONTRACTOR such sums as the Agency procurement officer deems to be necessary to protect the STATE against loss because of outstanding liens or claims and to reimburse the STATE for the excess costs expected to be incurred by the STATE in procuring similar goods and services.
- d. Excuse for nonperformance or delayed performance. The CONTRACTOR shall not be in default by reason of any failure in performance of this Contract in accordance with its terms, including any failure by the CONTRACTOR to make progress in the prosecution of the performance hereunder which endangers such performance, if the CONTRACTOR has notified the Agency procurement officer within fifteen (15) days after the cause of the delay and the failure arises out of causes such as: acts of God; acts of a public enemy; acts of the State and any other governmental body in its sovereign or contractual capacity; fires; floods; epidemics; quarantine restrictions; strikes or other labor disputes; freight embargoes; or unusually severe weather. If the failure to perform is caused by the failure of a subcontractor to perform or to make progress, and if such failure arises out of causes similar to those set forth above, the CONTRACTOR shall not be deemed to be in default, unless the goods and services to be furnished by the subcontractor were reasonably obtainable from other sources in sufficient time to permit the CONTRACTOR to meet the requirements of the Contract. Upon request of the CONTRACTOR, the Agency procurement officer shall ascertain the facts and extent of such failure, and, if such officer determines that any failure to perform was occasioned by any one or more of the excusable causes, and that, but for the excusable cause, the CONTRACTOR'S progress and performance would have met the terms of the Contract, the delivery schedule shall be revised accordingly, subject to the rights of the STATE under this Contract. As used in this paragraph, the term "subcontractor" means subcontractor at any tier.
- e. Erroneous termination for default. If, after notice of termination of the CONTRACTOR'S right to proceed under this paragraph, it is determined for any reason that the CONTRACTOR was not in default under this paragraph, or that the delay was excusable under the provisions of subparagraph 13d, "Excuse for nonperformance or delayed performance," the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to paragraph 14.
- f. Additional rights and remedies. The rights and remedies provided in this paragraph are in addition to any other rights and remedies provided by law or under this Contract.

14. Termination for Convenience.

- a. Termination. The Agency procurement officer may, when the interests of the STATE so require, terminate this Contract in whole or in part, for the convenience of the STATE. The Agency procurement officer shall give written notice of the termination to the CONTRACTOR specifying the part of the Contract terminated and when termination becomes effective.
- b. CONTRACTOR'S obligations. The CONTRACTOR shall incur no further obligations in connection with the terminated performance and on the date(s) set in the notice of termination the CONTRACTOR will stop performance to the extent specified. The CONTRACTOR shall also terminate outstanding orders and subcontracts as they relate to the terminated performance. The CONTRACTOR shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated performance subject to the STATE'S approval. The Agency procurement officer may direct the CONTRACTOR to assign the CONTRACTOR'S right, title, and interest under terminated orders or subcontracts to the STATE. The CONTRACTOR must still complete the performance not terminated by the notice of termination and may incur obligations as necessary to do so.

- c. Right to goods and work product. The Agency procurement officer may require the CONTRACTOR to transfer title and deliver to the STATE in the manner and to the extent directed by the Agency procurement officer:

- (1) Any completed goods or work product; and
- (2) The partially completed goods and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (hereinafter called "manufacturing material") as the CONTRACTOR has specifically produced or specially acquired for the performance of the terminated part of this Contract.

The CONTRACTOR shall, upon direction of the Agency procurement officer, protect and preserve property in the possession of the CONTRACTOR in which the STATE has an interest. If the Agency procurement officer does not exercise this right, the CONTRACTOR shall use best efforts to sell such goods and manufacturing materials. Use of this paragraph in no way implies that the STATE has breached the Contract by exercise of the termination for convenience provision.

- d. Compensation.

- (1) The CONTRACTOR shall submit a termination claim specifying the amounts due because of the termination for convenience together with the cost or pricing data, submitted to the extent required by chapter 3-122, HAR, bearing on such claim. If the CONTRACTOR fails to file a termination claim within one year from the effective date of termination, the Agency procurement officer may pay the CONTRACTOR, if at all, an amount set in accordance with subparagraph 14d(3) below.
- (2) The Agency procurement officer and the CONTRACTOR may agree to a settlement provided the CONTRACTOR has filed a termination claim supported by cost or pricing data submitted as required and that the settlement does not exceed the total Contract price plus settlement costs reduced by payments previously made by the STATE, the proceeds of any sales of goods and manufacturing materials under subparagraph 14c, and the Contract price of the performance not terminated.
- (3) Absent complete agreement under subparagraph 14d(2) the Agency procurement officer shall pay the CONTRACTOR the following amounts, provided payments agreed to under subparagraph 14d(2) shall not duplicate payments under this subparagraph for the following:
 - (A) Contract prices for goods or services accepted under the Contract;
 - (B) Costs incurred in preparing to perform and performing the terminated portion of the performance plus a fair and reasonable profit on such portion of the performance, such profit shall not include anticipatory profit or consequential damages, less amounts paid or to be paid for accepted goods or services; provided, however, that if it appears that the CONTRACTOR would have sustained a loss if the entire Contract would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss;
 - (C) Costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to subparagraph 14b. These costs must not include costs paid in accordance with subparagraph 14d(3)(B);
 - (D) The reasonable settlement costs of the CONTRACTOR, including accounting, legal, clerical, and other expenses reasonably necessary for the preparation of settlement claims and supporting data with respect to the terminated portion of the Contract and for the termination of subcontracts thereunder, together with reasonable storage, transportation, and other costs incurred in connection with the protection or disposition of property allocable to the terminated portion of this Contract. The total sum to be paid the CONTRACTOR under this subparagraph shall not exceed the

total Contract price plus the reasonable settlement costs of the CONTRACTOR reduced by the amount of payments otherwise made, the proceeds of any sales of supplies and manufacturing materials under subparagraph 14d(2), and the contract price of performance not terminated.

- (4) Costs claimed, agreed to, or established under subparagraphs 14d(2) and 14d(3) shall be in accordance with Chapter 3-123 (Cost Principles) of the Procurement Rules.

15. Claims Based on the Agency Procurement Officer's Actions or Omissions.

- a. Changes in scope. If any action or omission on the part of the Agency procurement officer (which term includes the designee of such officer for purposes of this paragraph 15) requiring performance changes within the scope of the Contract constitutes the basis for a claim by the CONTRACTOR for additional compensation, damages, or an extension of time for completion, the CONTRACTOR shall continue with performance of the Contract in compliance with the directions or orders of such officials, but by so doing, the CONTRACTOR shall not be deemed to have prejudiced any claim for additional compensation, damages, or an extension of time for completion; provided:

- (1) Written notice required. The CONTRACTOR shall give written notice to the Agency procurement officer:

- (A) Prior to the commencement of the performance involved, if at that time the CONTRACTOR knows of the occurrence of such action or omission;
- (B) Within thirty (30) days after the CONTRACTOR knows of the occurrence of such action or omission, if the CONTRACTOR did not have such knowledge prior to the commencement of the performance; or
- (C) Within such further time as may be allowed by the Agency procurement officer in writing.

- (2) Notice content. This notice shall state that the CONTRACTOR regards the act or omission as a reason which may entitle the CONTRACTOR to additional compensation, damages, or an extension of time. The Agency procurement officer, upon receipt of such notice, may rescind such action, remedy such omission, or take such other steps as may be deemed advisable in the discretion of the Agency procurement officer;

- (3) Basis must be explained. The notice required by subparagraph 15a(1) describes as clearly as practicable at the time the reasons why the CONTRACTOR believes that additional compensation, damages, or an extension of time may be remedies to which the CONTRACTOR is entitled; and

- (4) Claim must be justified. The CONTRACTOR must maintain and, upon request, make available to the Agency procurement officer within a reasonable time, detailed records to the extent practicable, and other documentation and evidence satisfactory to the STATE, justifying the claimed additional costs or an extension of time in connection with such changes.

- b. CONTRACTOR not excused. Nothing herein contained, however, shall excuse the CONTRACTOR from compliance with any rules or laws precluding any state officers and CONTRACTOR from acting in collusion or bad faith in issuing or performing change orders which are clearly not within the scope of the Contract.

- c. Price adjustment. Any adjustment in the price made pursuant to this paragraph shall be determined in accordance with the price adjustment provision of this Contract.

16. Costs and Expenses. Any reimbursement due the CONTRACTOR for per diem and transportation expenses under this Contract shall be subject to chapter 3-123 (Cost Principles), HAR, and the following guidelines:

- a. Reimbursement for air transportation shall be for actual cost or coach class air fare, whichever is less.
- b. Reimbursement for ground transportation costs shall not exceed the actual cost of renting an intermediate-sized vehicle.
- c. Unless prior written approval of the HOPA is obtained, reimbursement for subsistence allowance (i.e., hotel and meals, etc.) shall not exceed the applicable daily authorized rates for inter-island or out-of-state travel that are set forth in the current Governor's Executive Order authorizing adjustments in salaries and benefits for state officers and employees in the executive branch who are excluded from collective bargaining coverage.

17. Payment Procedures; Final Payment; Tax Clearance.

- a. Original invoices required. All payments under this Contract shall be made only upon submission by the CONTRACTOR of original invoices specifying the amount due and certifying that services requested under the Contract have been performed by the CONTRACTOR according to the Contract.
- b. Subject to available funds. Such payments are subject to availability of funds and allotment by the Director of Finance in accordance with chapter 37, HRS. Further, all payments shall be made in accordance with and subject to chapter 40, HRS.
- c. Prompt payment.
 - (1) Any money, other than retainage, paid to the CONTRACTOR shall be disbursed to subcontractors within ten (10) days after receipt of the money in accordance with the terms of the subcontract; provided that the subcontractor has met all the terms and conditions of the subcontract and there are no bona fide disputes; and
 - (2) Upon final payment to the CONTRACTOR, full payment to the subcontractor, including retainage, shall be made within ten (10) days after receipt of the money; provided that there are no bona fide disputes over the subcontractor's performance under the subcontract.
- d. Final payment. Final payment under this Contract shall be subject to sections 103-53 and 103D-328, HRS, which require a tax clearance from the Director of Taxation, State of Hawaii, and the Internal Revenue Service, U.S. Department of Treasury, showing that all delinquent taxes, if any, levied or accrued under state law and the Internal Revenue Code of 1986, as amended, against the CONTRACTOR have been paid. Further, in accordance with section 3-122-112, HAR, CONTRACTOR shall provide a certificate affirming that the CONTRACTOR has remained in compliance with all applicable laws as required by this section.

18. Federal Funds. If this Contract is payable in whole or in part from federal funds, CONTRACTOR agrees that, as to the portion of the compensation under this Contract to be payable from federal funds, the CONTRACTOR shall be paid only from such funds received from the federal government, and shall not be paid from any other funds. Failure of the STATE to receive anticipated federal funds shall not be considered a breach by the STATE or an excuse for nonperformance by the CONTRACTOR.

19. Modifications of Contract.

- a. In writing. Any modification, alteration, amendment, change, or extension of any term, provision, or condition of this Contract permitted by this Contract shall be made by written amendment to this Contract, signed by the CONTRACTOR and the STATE, provided that change orders shall be made in accordance with paragraph 20 herein.
- b. No oral modification. No oral modification, alteration, amendment, change, or extension of any term, provision, or condition of this Contract shall be permitted.

- c. Agency procurement officer. By written order, at any time, and without notice to any surety, the Agency procurement officer may unilaterally order of the CONTRACTOR:
 - (A) Changes in the work within the scope of the Contract; and
 - (B) Changes in the time of performance of the Contract that do not alter the scope of the Contract work.
 - d. Adjustments of price or time for performance. If any modification increases or decreases the CONTRACTOR'S cost of, or the time required for, performance of any part of the work under this Contract, an adjustment shall be made and this Contract modified in writing accordingly. Any adjustment in contract price made pursuant to this clause shall be determined, where applicable, in accordance with the price adjustment clause of this Contract or as negotiated.
 - e. Claim barred after final payment. No claim by the CONTRACTOR for an adjustment hereunder shall be allowed if written modification of the Contract is not made prior to final payment under this Contract.
 - f. Claims not barred. In the absence of a written contract modification, nothing in this clause shall be deemed to restrict the CONTRACTOR'S right to pursue a claim under this Contract or for a breach of contract.
 - g. Head of the purchasing agency approval. If this is a professional services contract awarded pursuant to section 103D-303 or 103D-304, HRS, any modification, alteration, amendment, change, or extension of any term, provision, or condition of this Contract which increases the amount payable to the CONTRACTOR by at least \$25,000.00 and ten per cent (10%) or more of the initial contract price, must receive the prior approval of the head of the purchasing agency.
 - h. Tax clearance. The STATE may, at its discretion, require the CONTRACTOR to submit to the STATE, prior to the STATE'S approval of any modification, alteration, amendment, change, or extension of any term, provision, or condition of this Contract, a tax clearance from the Director of Taxation, State of Hawaii, and the Internal Revenue Service, U.S. Department of Treasury, showing that all delinquent taxes, if any, levied or accrued under state law and the Internal Revenue Code of 1986, as amended, against the CONTRACTOR have been paid.
 - i. Sole source contracts. Amendments to sole source contracts that would change the original scope of the Contract may only be made with the approval of the CPO. Annual renewal of a sole source contract for services should not be submitted as an amendment.
20. Change Order. The Agency procurement officer may, by a written order signed only by the STATE, at any time, and without notice to any surety, and subject to all appropriate adjustments, make changes within the general scope of this Contract in any one or more of the following:
- (1) Drawings, designs, or specifications, if the goods or services to be furnished are to be specially provided to the STATE in accordance therewith;
 - (2) Method of delivery; or
 - (3) Place of delivery.
- a. Adjustments of price or time for performance. If any change order increases or decreases the CONTRACTOR'S cost of, or the time required for, performance of any part of the work under this Contract, whether or not changed by the order, an adjustment shall be made and the Contract modified in writing accordingly. Any adjustment in the Contract price made pursuant to this provision shall be determined in accordance with the price adjustment provision of this Contract. Failure of the parties to agree to an adjustment shall not excuse the CONTRACTOR from proceeding with the Contract as changed, provided that the Agency procurement officer promptly and duly makes the provisional adjustments in payment or time for performance as may be reasonable. By

proceeding with the work, the CONTRACTOR shall not be deemed to have prejudiced any claim for additional compensation, or any extension of time for completion.

- b. Time period for claim. Within ten (10) days after receipt of a written change order under subparagraph 20a, unless the period is extended by the Agency procurement officer in writing, the CONTRACTOR shall respond with a claim for an adjustment. The requirement for a timely written response by CONTRACTOR cannot be waived and shall be a condition precedent to the assertion of a claim.
- c. Claim barred after final payment. No claim by the CONTRACTOR for an adjustment hereunder shall be allowed if a written response is not given prior to final payment under this Contract.
- d. Other claims not barred. In the absence of a change order, nothing in this paragraph 20 shall be deemed to restrict the CONTRACTOR'S right to pursue a claim under the Contract or for breach of contract.

21. Price Adjustment.

- a. Price adjustment. Any adjustment in the contract price pursuant to a provision in this Contract shall be made in one or more of the following ways:
 - (1) By agreement on a fixed price adjustment before commencement of the pertinent performance or as soon thereafter as practicable;
 - (2) By unit prices specified in the Contract or subsequently agreed upon;
 - (3) By the costs attributable to the event or situation covered by the provision, plus appropriate profit or fee, all as specified in the Contract or subsequently agreed upon;
 - (4) In such other manner as the parties may mutually agree; or
 - (5) In the absence of agreement between the parties, by a unilateral determination by the Agency procurement officer of the costs attributable to the event or situation covered by the provision, plus appropriate profit or fee, all as computed by the Agency procurement officer in accordance with generally accepted accounting principles and applicable sections of chapters 3-123 and 3-126, HAR.
- b. Submission of cost or pricing data. The CONTRACTOR shall provide cost or pricing data for any price adjustments subject to the provisions of chapter 3-122, HAR.

22. Variation in Quantity for Definite Quantity Contracts. Upon the agreement of the STATE and the CONTRACTOR, the quantity of goods or services, or both, if a definite quantity is specified in this Contract, may be increased by a maximum of ten per cent (10%); provided the unit prices will remain the same except for any price adjustments otherwise applicable; and the Agency procurement officer makes a written determination that such an increase will either be more economical than awarding another contract or that it would not be practical to award another contract.

23. Changes in Cost-Reimbursement Contract. If this Contract is a cost-reimbursement contract, the following provisions shall apply:

- a. The Agency procurement officer may at any time by written order, and without notice to the sureties, if any, make changes within the general scope of the Contract in any one or more of the following:
 - (1) Description of performance (Attachment 1);
 - (2) Time of performance (i.e., hours of the day, days of the week, etc.);
 - (3) Place of performance of services;

- (4) Drawings, designs, or specifications when the supplies to be furnished are to be specially manufactured for the STATE in accordance with the drawings, designs, or specifications;
 - (5) Method of shipment or packing of supplies; or
 - (6) Place of delivery.
 - b. If any change causes an increase or decrease in the estimated cost of, or the time required for performance of, any part of the performance under this Contract, whether or not changed by the order, or otherwise affects any other terms and conditions of this Contract, the Agency procurement officer shall make an equitable adjustment in the (1) estimated cost, delivery or completion schedule, or both; (2) amount of any fixed fee; and (3) other affected terms and shall modify the Contract accordingly.
 - c. The CONTRACTOR must assert the CONTRACTOR'S rights to an adjustment under this provision within thirty (30) days from the day of receipt of the written order. However, if the Agency procurement officer decides that the facts justify it, the Agency procurement officer may receive and act upon a proposal submitted before final payment under the Contract.
 - d. Failure to agree to any adjustment shall be a dispute under paragraph 11 of this Contract. However, nothing in this provision shall excuse the CONTRACTOR from proceeding with the Contract as changed.
 - e. Notwithstanding the terms and conditions of subparagraphs 23a and 23b, the estimated cost of this Contract and, if this Contract is incrementally funded, the funds allotted for the performance of this Contract, shall not be increased or considered to be increased except by specific written modification of the Contract indicating the new contract estimated cost and, if this contract is incrementally funded, the new amount allotted to the contract.
24. Confidentiality of Material.
- a. All material given to or made available to the CONTRACTOR by virtue of this Contract, which is identified as proprietary or confidential information, will be safeguarded by the CONTRACTOR and shall not be disclosed to any individual or organization without the prior written approval of the STATE.
 - b. All information, data, or other material provided by the CONTRACTOR to the STATE shall be subject to the Uniform Information Practices Act, chapter 92F, HRS.
25. Publicity. The CONTRACTOR shall not refer to the STATE, or any office, agency, or officer thereof, or any state employee, including the HOPA, the CPO, the Agency procurement officer, or to the services or goods, or both, provided under this Contract, in any of the CONTRACTOR'S brochures, advertisements, or other publicity of the CONTRACTOR. All media contacts with the CONTRACTOR about the subject matter of this Contract shall be referred to the Agency procurement officer.
26. Ownership Rights and Copyright. The STATE shall have complete ownership of all material, both finished and unfinished, which is developed, prepared, assembled, or conceived by the CONTRACTOR pursuant to this Contract, and all such material shall be considered "works made for hire." All such material shall be delivered to the STATE upon expiration or termination of this Contract. The STATE, in its sole discretion, shall have the exclusive right to copyright any product, concept, or material developed, prepared, assembled, or conceived by the CONTRACTOR pursuant to this Contract.
27. Liens and Warranties. Goods provided under this Contract shall be provided free of all liens and provided together with all applicable warranties, or with the warranties described in the Contract documents, whichever are greater.

28. Audit of Books and Records of the CONTRACTOR. The STATE may, at reasonable times and places, audit the books and records of the CONTRACTOR, prospective contractor, subcontractor, or prospective subcontractor which are related to:
- a. The cost or pricing data, and
 - b. A state contract, including subcontracts, other than a firm fixed-price contract.
29. Cost or Pricing Data. Cost or pricing data must be submitted to the Agency procurement officer and timely certified as accurate for contracts over \$100,000 unless the contract is for a multiple-term or as otherwise specified by the Agency procurement officer. Unless otherwise required by the Agency procurement officer, cost or pricing data submission is not required for contracts awarded pursuant to competitive sealed bid procedures.
- If certified cost or pricing data are subsequently found to have been inaccurate, incomplete, or noncurrent as of the date stated in the certificate, the STATE is entitled to an adjustment of the contract price, including profit or fee, to exclude any significant sum by which the price, including profit or fee, was increased because of the defective data. It is presumed that overstated cost or pricing data increased the contract price in the amount of the defect plus related overhead and profit or fee. Therefore, unless there is a clear indication that the defective data was not used or relied upon, the price will be reduced in such amount.
30. Audit of Cost or Pricing Data. When cost or pricing principles are applicable, the STATE may require an audit of cost or pricing data.
31. Records Retention.
- (1) Upon any termination of this Contract or as otherwise required by applicable law, CONTRACTOR shall, pursuant to chapter 487R, HRS, destroy all copies (paper or electronic form) of personal information received from the STATE.
 - (2) The CONTRACTOR and any subcontractors shall maintain the files, books, and records that relate to the Contract, including any personal information created or received by the CONTRACTOR on behalf of the STATE, and any cost or pricing data, for at least three (3) years after the date of final payment under the Contract. The personal information shall continue to be confidential and shall only be disclosed as permitted or required by law. After the three (3) year, or longer retention period as required by law has ended, the files, books, and records that contain personal information shall be destroyed pursuant to chapter 487R, HRS or returned to the STATE at the request of the STATE.
32. Antitrust Claims. The STATE and the CONTRACTOR recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the purchaser. Therefore, the CONTRACTOR hereby assigns to STATE any and all claims for overcharges as to goods and materials purchased in connection with this Contract, except as to overcharges which result from violations commencing after the price is established under this Contract and which are not passed on to the STATE under an escalation clause.
33. Patented Articles. The CONTRACTOR shall defend, indemnify, and hold harmless the STATE, and its officers, employees, and agents from and against all liability, loss, damage, cost, and expense, including all attorneys fees, and all claims, suits, and demands arising out of or resulting from any claims, demands, or actions by the patent holder for infringement or other improper or unauthorized use of any patented article, patented process, or patented appliance in connection with this Contract. The CONTRACTOR shall be solely responsible for correcting or curing to the satisfaction of the STATE any such infringement or improper or unauthorized use, including, without limitation: (a) furnishing at no cost to the STATE a substitute article, process, or appliance acceptable to the STATE, (b) paying royalties or other required payments to the patent holder, (c) obtaining proper authorizations or releases from the patent holder, and (d) furnishing such security to or making such arrangements with the patent holder as may be necessary to correct or cure any such infringement or improper or unauthorized use.

34. Governing Law. The validity of this Contract and any of its terms or provisions, as well as the rights and duties of the parties to this Contract, shall be governed by the laws of the State of Hawaii. Any action at law or in equity to enforce or interpret the provisions of this Contract shall be brought in a state court of competent jurisdiction in Honolulu, Hawaii.
35. Compliance with Laws. The CONTRACTOR shall comply with all federal, state, and county laws, ordinances, codes, rules, and regulations, as the same may be amended from time to time, that in any way affect the CONTRACTOR'S performance of this Contract.
36. Conflict Between General Conditions and Procurement Rules. In the event of a conflict between the General Conditions and the procurement rules, the procurement rules in effect on the date this Contract became effective shall control and are hereby incorporated by reference.
37. Entire Contract. This Contract sets forth all of the agreements, conditions, understandings, promises, warranties, and representations between the STATE and the CONTRACTOR relative to this Contract. This Contract supersedes all prior agreements, conditions, understandings, promises, warranties, and representations, which shall have no further force or effect. There are no agreements, conditions, understandings, promises, warranties, or representations, oral or written, express or implied, between the STATE and the CONTRACTOR other than as set forth or as referred to herein.
38. Severability. In the event that any provision of this Contract is declared invalid or unenforceable by a court, such invalidity or unenforceability shall not affect the validity or enforceability of the remaining terms of this Contract.
39. Waiver. The failure of the STATE to insist upon the strict compliance with any term, provision, or condition of this Contract shall not constitute or be deemed to constitute a waiver or relinquishment of the STATE'S right to enforce the same in accordance with this Contract. The fact that the STATE specifically refers to one provision of the procurement rules or one section of the Hawaii Revised Statutes, and does not include other provisions or statutory sections in this Contract shall not constitute a waiver or relinquishment of the STATE'S rights or the CONTRACTOR'S obligations under the procurement rules or statutes.
40. Pollution Control. If during the performance of this Contract, the CONTRACTOR encounters a "release" or a "threatened release" of a reportable quantity of a "hazardous substance," "pollutant," or "contaminant" as those terms are defined in section 128D-1, HRS, the CONTRACTOR shall immediately notify the STATE and all other appropriate state, county, or federal agencies as required by law. The Contractor shall take all necessary actions, including stopping work, to avoid causing, contributing to, or making worse a release of a hazardous substance, pollutant, or contaminant, and shall promptly obey any orders the Environmental Protection Agency or the state Department of Health issues in response to the release. In the event there is an ensuing cease-work period, and the STATE determines that this Contract requires an adjustment of the time for performance, the Contract shall be modified in writing accordingly.
41. Campaign Contributions. The CONTRACTOR is hereby notified of the applicability of 11-355, HRS, which states that campaign contributions are prohibited from specified state or county government contractors during the terms of their contracts if the contractors are paid with funds appropriated by a legislative body.
42. Confidentiality of Personal Information.
- a. Definitions.
- "Personal information" means an individual's first name or first initial and last name in combination with any one or more of the following data elements, when either name or data elements are not encrypted:
- (1) Social security number;
 - (2) Driver's license number or Hawaii identification card number; or

- (3) Account number, credit or debit card number, access code, or password that would permit access to an individual's financial information.

Personal information does not include publicly available information that is lawfully made available to the general public from federal, state, or local government records.

"Technological safeguards" means the technology and the policy and procedures for use of the technology to protect and control access to personal information.

b. Confidentiality of Material.

- (1) All material given to or made available to the CONTRACTOR by the STATE by virtue of this Contract which is identified as personal information, shall be safeguarded by the CONTRACTOR and shall not be disclosed without the prior written approval of the STATE.
- (2) CONTRACTOR agrees not to retain, use, or disclose personal information for any purpose other than as permitted or required by this Contract.
- (3) CONTRACTOR agrees to implement appropriate "technological safeguards" that are acceptable to the STATE to reduce the risk of unauthorized access to personal information.
- (4) CONTRACTOR shall report to the STATE in a prompt and complete manner any security breaches involving personal information.
- (5) CONTRACTOR agrees to mitigate, to the extent practicable, any harmful effect that is known to CONTRACTOR because of a use or disclosure of personal information by CONTRACTOR in violation of the requirements of this paragraph.
- (6) CONTRACTOR shall complete and retain a log of all disclosures made of personal information received from the STATE, or personal information created or received by CONTRACTOR on behalf of the STATE.

c. Security Awareness Training and Confidentiality Agreements.

- (1) CONTRACTOR certifies that all of its employees who will have access to the personal information have completed training on security awareness topics relating to protecting personal information.
- (2) CONTRACTOR certifies that confidentiality agreements have been signed by all of its employees who will have access to the personal information acknowledging that:
 - (A) The personal information collected, used, or maintained by the CONTRACTOR will be treated as confidential;
 - (B) Access to the personal information will be allowed only as necessary to perform the Contract; and
 - (C) Use of the personal information will be restricted to uses consistent with the services subject to this Contract.

d. Termination for Cause. In addition to any other remedies provided for by this Contract, if the STATE learns of a material breach by CONTRACTOR of this paragraph by CONTRACTOR, the STATE may at its sole discretion:

- (1) Provide an opportunity for the CONTRACTOR to cure the breach or end the violation; or
- (2) Immediately terminate this Contract.

In either instance, the CONTRACTOR and the STATE shall follow chapter 487N, HRS, with respect to notification of a security breach of personal information.

e. Records Retention.

- (1) Upon any termination of this Contract or as otherwise required by applicable law, CONTRACTOR shall, pursuant to chapter 487R, HRS, destroy all copies (paper or electronic form) of personal information received from the STATE.
- (2) The CONTRACTOR and any subcontractors shall maintain the files, books, and records that relate to the Contract, including any personal information created or received by the CONTRACTOR on behalf of the STATE, and any cost or pricing data, for at least three (3) years after the date of final payment under the Contract. The personal information shall continue to be confidential and shall only be disclosed as permitted or required by law. After the three (3) year, or longer retention period as required by law has ended, the files, books, and records that contain personal information shall be destroyed pursuant to chapter 487R, HRS or returned to the STATE at the request of the STATE.

NOTICE OF INTENTION TO BID

Date: _____

Ms. Jobie M.K. Masagatani, Chairman
Hawaiian Homes Commission
DEPARTMENT OF HAWAIIAN HOME LANDS
91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

Attention: Isaac Takahashi, Land Development Division

Notice of Intention to Bid due 2:00 p.m., November 24, 2015.

Gentlemen:

In accordance with the provisions of Section 103D-310, Hawaii Revised Statutes and Hawaii Administrative Rules 3-122-111, it is the intention of the undersigned to bid on IFB No. IFB-16-HHL-005, 2-Bedroom House Renovation (Lot 58-B-1) & 3-Bedroom House Renovation (Lot 131-A-3), Hilo, County of Hawaii, State of Hawaii, for which bids will be opened at **10:00 a.m., December 4, 2015.**

_____ Name of Firm	_____ Contractor's License No.
_____ Address	_____ Hawaii General Excise Tax No.
_____ City, State and Zip Code	_____ Telephone No. / Facsimile No.
	_____ e-mail address

Respectfully submitted,

_____ Signature
_____ Print Name and Title

Date: _____

Gentlemen:

The Department of Hawaiian Home Lands acknowledges on this date above, your Notice of Intention to Bid on IFB-16-HHL-005.

Jobie M. K. Masagatani, Chairman
Hawaiian Homes Commission

SAMPLE

STATE OF HAWAII
STANDARD
QUALIFICATION QUESTIONNAIRE
FOR
OFFERORS

issued by the
PROCUREMENT POLICY BOARD
STATE OF HAWAII

June 16, 2003

To be filed with the procurement officer calling for offers
in accordance with Section 103D-310, HRS, as amended.

Submitted By _____

Address _____

Date _____

STANDARD QUALIFICATION QUESTIONNAIRE

COVERING EXPERIENCE, EQUIPMENT AND FINANCIAL STATEMENT OF OFFERORS. THE OFFICER CALLING FOR OFFERS MAY REQUIRE THE OFFEROR TO FURNISH ADDITIONAL INFORMATION NOT SPECIFICALLY COVERED HEREIN. ALL ITEMS MUST BE ANSWERED AND OMISSIONS MAY BE CONSIDERED GOOD CAUSE FOR UNFAVORABLE CONSIDERATION.

GENERAL INFORMATION

1. The statements contained in this Questionnaire are being furnished for consideration in submitting an offer for the following project:

(a) Project Title _____

(b) Location _____

(c) Bid Opening Date _____

2. The Questionnaire is being submitted in behalf of:

(a) Name of Offeror _____

- ☐ A Corporation
☐ A Partnership
☐ An Individual
☐ A Joint-Venture

(b) Address _____

(c) Telephone No. _____

(d) Date Submitted _____

3. If the bid is submitted by a joint venture, composed of two or more individual firms, then each member firm comprising the joint venture must submit all information listed on pages 3 through 16, inclusive, of the Questionnaire and, in addition, answer the following:

(a) Members of joint Venture _____

(b) Date of Joint Venture Agreement _____

(c) Is agreement between members comprising the joint venture joint and several liability? _____

If not, state the terms of agreement in this respect: _____

EXPERIENCE QUESTIONNAIRE

Submitted by _____

☐ A Corporation

☐ A Partnership

☐ An Individual

Principal Office _____

The signatory of this questionnaire guarantees the truth and accuracy of all statements and of all answers to interrogatories hereinafter made

1. How many years has your organization been in business as a [General Contractor] under your present business name? _____
2. How many years experience in [construction] _____ has your organization had: (A) as a [General Contractor] _____; (B) as a [Sub-Contractor] _____
3. Show what [construction] projects your organization has completed in the past five (5) years in the following tabulation:

Contract Amt.	Class of Work	When Completed	Name and Address of Owner

4. Have you ever failed to complete any work awarded to you? _____ If so, state when, where and why? _____

5. Has any officer or partner of your organization in the past five (5) years been an officer or partner of some other organization that failed to complete a contract? If so, state name of individual, other organization and reason therefore _____

6. Has any officer or partner of your organization in the past five (5) years failed to complete a contract handled in his own name? _____ If so, state name of individual, name of Owner and reason therefore.

7. In what other lines of business are you financially interested? _____

8. For what corporations or individuals in the past five (5) years have you performed work, and to whom do you refer? _____

9. For what counties within the State of Hawaii have you performed work and to whom do you refer?

10. For what Bureaus or Departments of the State government have you performed work and to whom do you refer?

11. Have you performed work for the U. S. Government? _____ If so, when and to whom do you refer?

12. Have you ever performed any work for any other governmental agencies outside the State of Hawaii? _____ If so, when and to whom do you refer? _____

13. What is the [construction] experience of the principal individuals of your organization?

Individual's Name	Present Position or Office	Years of Work Experience	Magnitude and Type of Work	In What Capacity?

EQUIPMENT QUESTIONNAIRE

Submitted by _____

Principal Office _____

- ☐ A Corporation
☐ A Partnership
☐ An Individual

The signatory of this questionnaire guarantees the truth and accuracy of all statements and of all answers to interrogatories hereinafter made

1. In what manner have you inspected this proposed work? Explain in detail. _____

2. Explain your plan or layout for performing the proposed work. _____

3. The work, if awarded to you, will have the personal supervision of whom? _____

4. Do you intend to do the hauling on the proposed work with your own force? _____ If so, give amount and type of equipment to be used. _____

5. If you intend to sublet the hauling or perform it through an agent, state amount of sub-contract or agent's contract, and, if known, the name and address of sub-contractor or agent, amount and type of his equipment and financial responsibility _____

6. Do you intend to do grading on the proposed work with your own forces? _____ If so, give type of equipment to be used _____

-
-
-
-
-
-

- [illegible]

-
-
-
-
-
-

- [illegible]

- 7

Quantity	Item	Description, Size, Capacity, Etc.	Approximate Cost

12. How and when will you pay for the equipment to be purchased? _____

13. Do you propose to rent any equipment for this work? _____ If so, state type, quantity
 and reasons for renting _____

FINANCIAL STATEMENT

Submitted by _____

Principal Office _____

- ☐ A Corporation
☐ A Partnership
☐ An Individual

The signatory of this questionnaire guarantees the truth and accuracy of all statements and of all answers to interrogatories hereinafter made

BALANCE SHEET

As of _____, 20____

Assets

Current assets:

Cash and cash equivalents (1)	\$ _____
Short-term investments (2)	_____
Accounts receivable, net (3)	_____
Inventories (4)	_____
Costs and estimated earnings in excess of billings on uncompleted contracts (5)	_____
Prepaid expenses and other (6)	_____
Sub-Total Current Assets	_____

Property and equipment:

Land (7)	_____
Buildings (8)	_____
Vehicles, machinery and equipment (9)	_____
Furniture and fixtures (10)	_____
Less accumulated depreciation	(_____)
Sub-Total Net Property and Equipment	_____

Other assets:

Cash surrender value of life insurance policies (11)	_____
Deposits and other (12)	_____
Sub-Total Other Assets	_____

Total Assets: \$ _____

BALANCE SHEET (Continued)

Liabilities and Stockholder's Equity

Current liabilities:

Current portion of long-term debt (1)	\$ _____
Accounts payable (2)	_____
Billings in excess of costs and estimated earnings on uncompleted contracts (3)	_____
Accrued liabilities and other (4)	_____
Sub-Total Current Liabilities	_____

Long-term debt, net of current portion (5)	_____
--	-------

Sub-Total Liabilities & Long-term Debt:	\$ _____
---	----------

Stockholder's equity:

Capital stock (6)	_____
Additional paid-in capital (7)	_____
Retained earnings	_____
Treasury stock (8)	(_____)
Sub-Total Stockholder's Equity	\$ _____

Total Liabilities and Stockholder's Equity	\$ _____
--	----------

DETAILS RELATIVE TO ASSETS

(1) Cash and cash equivalents:

<u>Financial Institution</u>	<u>Type of Account</u>	<u>Amount</u>
		\$ _____

		\$ _____

(2) Short-term investments:

<u>Type of Security</u>	<u>Cost</u>	<u>Unrealized Gains</u>	<u>Unrealized Losses</u>	<u>Estimated Fair Value</u>
_____	\$ _____	\$ _____	\$ _____	\$ _____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
	\$ _____	\$ _____	\$ _____	\$ _____

(3) Accounts receivable (list major debtors):

Completed contracts

<u>Name</u>	<u>Description</u>	<u>Completion Date</u>	<u>Contract Amount</u>	<u>Amount Receivable</u>
_____		\$ _____	\$ _____	\$ _____
_____		_____	_____	_____
_____		_____	_____	_____
		\$ _____	\$ _____	\$ _____

Other than completed contracts

<u>Name</u>	<u>Description</u>	<u>Due Date</u>	<u>Amount Receivable</u>

Less allowance for doubtful accounts			(_____)
			\$ _____

(4) Inventories

<u>Description</u>	<u>Cost</u>	<u>Market Value</u>	<u>Lower of Cost or Market Value</u>
_____	\$ _____	\$ _____	\$ _____
_____	_____	_____	_____
_____	_____	_____	_____
	\$ _____	\$ _____	\$ _____

DETAILS RELATIVE TO ASSETS (Continued)

(5) Costs and estimated earnings in excess of billings on uncompleted contracts

<u>Name</u>	<u>Description</u>	<u>Completion Date</u>	<u>Contract Amount</u>	<u>Costs and Estimated Earnings to Date</u>	<u>Billings to Date</u>	<u>Costs and Estimated Earnings in Excess of Billings</u>
		\$	\$	\$	\$	
			\$	\$	\$	\$

(6) Prepaid expenses and other

<u>Description</u>	<u>Amount</u>
	\$
	\$

(7) Land

<u>Description</u>	<u>Location</u>	<u>Amount</u>
		\$
		\$

(8) Buildings

<u>Description</u>	<u>Location</u>	<u>Amount</u>
		\$
		\$

(9) Vehicles, machinery and equipment

<u>Description</u>	<u>Amount</u>
	\$
	\$

(10) Furniture and fixtures

<u>Description</u>	<u>Amount</u>
	\$
	\$

DETAILS RELATIVE TO ASSETS (Continued)

(11) Cash surrender value of life insurance policies

<u>Key Employee</u>	<u>Insurance Company</u>	<u>Policy Amount</u>	<u>Paid-Up Additional Insurance</u>	<u>CSV Amount</u>
_____	_____	\$ _____	\$ _____	\$ _____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
Less loans payable		_____	_____	(_____)
		\$ _____	\$ _____	\$ _____

(12) Deposits and other

<u>Description</u>	<u>Amount</u>
_____	\$ _____
_____	_____
_____	_____
	\$ _____

DETAILS RELATIVE TO LIABILITIES AND STOCKHOLDER'S EQUITY

(1) Current portion of long-term debt (maturing within 12 months)

<u>Lender</u>	<u>Description</u>	<u>Security Pledged</u>	<u>Due Date</u>	<u>Amount</u>
				\$
				\$

(2) Accounts payable (list major creditors)

<u>Name</u>	<u>Past Due Amount</u>	<u>Amount</u>
	\$	\$
	\$	\$

(3) Billings in excess of costs and estimated earnings on uncompleted contracts

<u>Name</u>	<u>Description</u>	<u>Completion Date</u>	<u>Contract Amount</u>	<u>Costs and Estimated Earnings to Date</u>	<u>Billings to Date</u>	<u>Billings in excess of costs and Estimated Earnings</u>
			\$	\$	\$	\$
			\$	\$	\$	\$

(4) Accrued liabilities and other

<u>Description</u>	<u>Amount</u>
	\$
	\$

(5) Long-term debt, net of current portion

<u>Lender</u>	<u>Description</u>	<u>Security Pledged</u>	<u>Due Date</u>	<u>Amount</u>
				\$
				\$

DETAILS RELATIVE TO LIABILITIES AND STOCKHOLDER'S EQUITY (Continued)

(6) Capital stock

<u>Type of Stock</u>	<u>Class</u>	<u>No. of Shares Authorized</u>	<u>No. of Shares Issued and Outstanding</u>	<u>Par Value</u>	<u>Amount</u>
				\$	\$
					\$

(7) Additional paid-in capital

<u>Description</u>	<u>Amount</u>
	\$
	\$

(8) Treasury stock

<u>Type of Stock</u>	<u>Class</u>	<u>No. of Shares</u>	<u>Cost</u>
			\$
			\$

STATEMENTS OF INCOME AND RETAINED EARNINGS

For the Years Ended _____, 20____ and 20____

	20____ _____	20____ _____
Contract revenues	\$ _____	\$ _____
Costs of contracts	_____	_____
Gross income from contracts		
General and administrative expenses	_____	_____
Income from operations		
Other income (expense)	_____	_____
Income before income taxes		
Income taxes	_____	_____
Net income		
Retained earnings, beginning of the year	_____	_____
Retained earnings, end of the year	\$ _____	\$ _____

If a corporation, answer this: Capital paid in cash, \$ _____ When Incorporated _____ In what State _____ Date registered in Hawaii _____ President's name _____ Vice-President's name _____ Secretary's name _____ Treasurer's name _____	If a partnership, answer this: Date of organization _____ Date registered in Hawaii _____ State whether partnership is general or limited _____ <div style="border-top: 1px solid black; height: 10px; margin-top: 5px;"></div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 80%;">Name and address of partners:</th> <th style="width: 20%;">Age</th> </tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> </table>	Name and address of partners:	Age	_____	_____	_____	_____	_____	_____	_____	_____
Name and address of partners:	Age										
_____	_____										
_____	_____										
_____	_____										
_____	_____										

The undersigned hereby declares: that the foregoing is a true statement of the financial condition of the individual, partnership or corporation herein first named, as of the date herein first given; that this statement is for the express purpose of inducing the party to whom it is submitted to award the offeror a contract; and that any depository, vendor or other agency herein named is hereby authorized to supply such party with any information necessary to verify this statement.

NOTE: A partnership must give firm name and signatures of all partners. A corporation must give full corporate name, signature of official, and affix corporate seal.

Affidavit for Individual

STATE OF HAWAII

COUNTY OF _____

_____ being duly sworn, deposes and says that the foregoing financial statement, taken from his books, is a true and accurate statement of his financial condition as of the date thereof and that the answers to the foregoing interrogatories are true.

Sworn to before me this _____ day of _____ 20____

 (Applicant must also sign here)

 Notary Public

Affidavit for Partnership

STATE OF HAWAII

COUNTY OF _____

_____ being duly sworn, deposes and says that he is a member of the firm of _____; and that he is familiar with the books of the said firm showing its financial condition; that the foregoing financial statement, taken from the books of the said firm, is a true and accurate statement of the financial condition of the said firm as of the date thereof and that the answers to the foregoing interrogatories are true.

Sworn to before me this _____ day of _____ 20____

 (Members of firm must also sign here)

 Notary Public

Affidavit for Corporation

STATE OF HAWAII

COUNTY OF _____

_____ being duly sworn, deposes and says that he is _____ of the _____, the corporation described in and which executed the foregoing statement; that he is familiar with the books of the said corporation showing its financial condition; that the foregoing financial statement, taken from the books of the said corporation, is a true and accurate statement of the financial condition of said corporation as of the date thereof and that the answers to the foregoing interrogatories are true.

Sworn to before me this _____ day of _____ 20____

 (Officer must also sign here)

 Notary Public

Corporate Resolution Form

CORPORATE RESOLUTION
(Name of Corporation - Use Letterhead)

I, _____, Secretary of _____
Corporation, a _____ corporation, do hereby certify that the following is a full,
true and correct copy of a resolution duly adopted by the Board of Directors of said Corporation,
at its meeting duly called and held at the office of the Corporation located at
_____,
(address)

on the _____ day of _____, 20____, at which a quorum was present
and acting throughout; and that said resolution has not been modified, amended or rescinded and
continues in full force and effect:

"RESOLVED that any individual at the time holding the position of
President or Vice President, be, and each of them hereby is, authorized to
execute on behalf of the Corporation any bid, proposal or contract for the
sale or rental of the products of the Corporation or for services to be
performed by the Corporation and to execute any bond required by any
such bid proposal or contract with the United States Government or the
State of Hawaii or the City and County of Honolulu, or any County or
Municipal Government of said State, or any department or subdivision of
any of them."

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of
said _____ Corporation this _____ day of
_____, 20_____.

Secretary

(Names and Addresses of:)
President
Vice President
Secretary

EXHIBIT A

SURETY [BID] [PROPOSAL] BOND
(11/17/98)

Bond No. _____

KNOW TO ALL BY THESE PRESENTS:

That we, _____,
(Full Name or Legal Title of Offeror)

as Offeror, hereinafter called Principal, and _____,
(Name of Bonding Company)

as Surety, hereinafter called Surety, a corporation authorized to transact business as a Surety
in the State of Hawaii, are held and firmly bound unto _____,
(State/County Entity)
as Owner, hereinafter called Owner, in the penal sum of _____

(Required Amount of Bid Security)

Dollars (\$_____), lawful money of the United States of America, for the payment of
which sum well and truly to be made, the said Principal and the said Surety bind ourselves, our
heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these
presents.

WHEREAS:

The Principal has submitted an offer for _____

(Project by Number and Brief Description)

NOW, THEREFORE:

The condition of this obligation is such that if the Owner shall reject said offer, or in the
alternate, accept the offer of the Principal and the Principal shall enter into a Contract with the
Owner in accordance with the terms of such offer, and give such bond or bonds as may be
specified in the solicitation or Contract Documents with good and sufficient surety for the faithful
performance of such Contract and for the prompt payment of labor and material furnished in the
prosecution thereof as specified in the solicitation then this obligation shall be null and void,
otherwise to remain in full force and effect.

Signed this _____ day of _____, _____.

(Seal)

Name of Principal (Offeror)

Signature

Title

(Seal)

Name of Surety

Signature

Title

EXHIBIT B

PERFORMANCE BOND (SURETY)

(6/21/07)

KNOW TO ALL BY THESE PRESENTS:

That _____,
(Full Legal Name and Street Address of Contractor)

as Contractor, hereinafter called Principal, and _____

(Name and Street Address of Bonding Company)

as Surety, hereinafter called Surety, a corporation(s) authorized to transact business as a
surety in the State of Hawaii, are held and firmly bound unto the _____,
(State/County Entity)

its successors and assigns, hereinafter called Obligee, in the amount of _____

DOLLARS (\$ _____), to which payment Principal and Surety bind themselves,
their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by
these presents.

WHEREAS, the above-bound Principal has signed a Contract with Obligee on
_____, for the following project: _____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part
hereof.

NOW THEREFORE, the condition of this obligation is such that:

If the Principal shall promptly and faithfully perform, and fully complete the Contract in
strict accordance with the terms of the Contract as said Contract may be modified or amended
from time to time; then this obligation shall be void; otherwise to remain in full force and effect.

Surety to this Bond hereby stipulates and agrees that no changes, extensions of time, alterations, or additions to the terms of the Contract, including the work to be performed thereunder, and the specifications or drawings accompanying same, shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, extensions of time, alterations, or additions, and agrees that they shall become part of the Contract.

In the event of Default by the Principal, of the obligations under the Contract, then after written Notice of Default from the Obligee to the Surety and the Principal and subject to the limitation of the penal sum of this bond, Surety shall remedy the Default, or take over the work to be performed under the Contract and complete such work, or pay moneys to the Obligee in satisfaction of the surety's performance obligation on this bond.

Signed this _____ day of _____, _____.

(Seal)

Name of Principal (Contractor)

*

Signature

Title

(Seal)

Name of Surety

*

Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

EXHIBIT C

PERFORMANCE BOND

(11/17/98)

KNOW TO ALL BY THESE PRESENTS:

That we, _____,
(Full Legal Name and Street Address of Contractor)

as Contractor, hereinafter called Contractor, is held and firmly bound unto the

_____, its successors and assigns, as Oblige, hereinafter called
(State/County Entity)
Obligee, in the amount of _____

(Dollar Amount of Contract)

DOLLARS (\$ _____), lawful money of the United States of America, for the payment of which to the said Oblige, well and truly to be made, Contractor binds itself, its heirs, executors, administrators, successors and assigns, firmly by these presents. Said amount is evidenced by:

- ☐ Legal tender;
- ☐ Share Certificate unconditionally assigned to or made payable at sight to
Description _____;
_____;
- ☐ Certificate of Deposit, No. _____, dated _____, issued by
_____,
drawn on _____,
a bank, savings institution or credit union insured by the Federal Deposit
Insurance Corporation or the National Credit Union Administration, payable at
sight or unconditionally assigned to _____;
_____;
- ☐ Cashier's Check No. _____, dated _____, issued
by _____,
drawn on _____,
a bank, savings institution or credit union insured by the Federal Deposit
Insurance Corporation or the National Credit Union Administration, payable at
sight or unconditionally assigned to _____;
_____;

- ☐ Teller's Check No. _____, dated _____, issued by _____, drawn on _____, a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ Treasurer's Check No. _____, dated _____, issued by _____, drawn on _____, a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ Official Check No. _____, dated _____, issued by _____, drawn on _____, a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ Certified Check No. _____, dated _____, accepted by a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned _____;

WHEREAS:

The Contractor has by written agreement dated _____ entered into a contract with Obligor for the following Project: _____

 hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW, THEREFORE,

The condition of this obligation is such that, if Contractor shall promptly and faithfully perform the Contract in accordance with, in all respects, the stipulations, agreements, covenants and conditions of the Contract as it now exists or may be modified according to its terms, and shall deliver the Project to the Obligee, or to its successors or assigns, fully completed as in the Contract specified and free from all liens and claims and without further cost, expense or charge to the Obligee, its officers, agents, successors or assigns, free and harmless from all suits or actions of every nature and kind which may be brought for or on account of any injury or damage, direct or indirect, arising or growing out of the doing of said work or the repair or maintenance thereof or the manner of doing the same or the neglect of the Contractor or its agents or servants or the improper performance of the Contract by the Contractor or its agents or servants or from any other cause, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

AND IT IS HEREBY STIPULATED AND AGREED that suit on this bond may be brought before a court of competent jurisdiction without a jury, and that the sum or sums specified in the said Contract as liquidated damages, if any, shall be forfeited to the Obligee, its successors or assigns, in the event of a breach of any, or all, or any part of, the covenants, agreements, conditions, or stipulations contained in the Contract or in this bond in accordance with the terms thereof.

The amount of this bond may be reduced by and to the extent of any payment or payments made in good faith hereunder.

Signed this _____ day of _____, _____.

(Seal)

Name of Contractor

*

Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

EXHIBIT D

LABOR AND MATERIAL PAYMENT BOND (SURETY)

(6/21/07)

KNOW TO ALL BY THESE PRESENTS:

That _____,
(Full Legal Name and Street Address of Contractor)

as Contractor, hereinafter called Principal, and _____

_____,
(Name and Street Address of Bonding Company)

as Surety, hereinafter called Surety, a corporation(s) authorized to transact business as a surety in the State of Hawaii, are held and firmly bound unto the _____,
(State/County Entity)

its successors and assigns, hereinafter called Oblige, in the amount of _____

_____ Dollars (\$ _____), to which payment Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the above-bound Principal has signed Contract with the Oblige on _____ for the following project: _____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW THEREFORE, the condition of this obligation is such that if the Principal shall promptly make payment to any Claimant, as hereinafter defined, for all labor and materials supplied to the Principal for use in the performance of the Contract, then this obligation shall be void; otherwise to remain in full force and effect.

1. Surety to this Bond hereby stipulates and agrees that no changes, extensions of time, alterations, or additions to the terms of the Contract, including the work to be performed thereunder, and the specifications or drawings accompanying same, shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, extensions of time, alterations, or additions, and agrees that they shall become part of the Contract.

2. A "Claimant" shall be defined herein as any person who has furnished labor or materials to the Principal for the work provided in the Contract.

Every Claimant who has not been paid amounts due for labor and materials furnished for work provided in the Contract may institute an action against the Principal and its Surety on this bond at the time and in the manner prescribed in Section 103D-324, Hawaii Revised Statutes, and have the rights and claims adjudicated in the action, and judgment rendered thereon; subject to the Obligee's priority on this bond. If the full amount of the liability of the Surety on this bond is insufficient to pay the full amount of the claims, then after paying the full amount due the Obligee, the remainder shall be distributed pro rata among the claimants.

Signed this _____ day of _____, _____.

(Seal)

Name of Principal (Contractor)

*

Signature

Title

(Seal)

Name of Surety

*

Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

EXHIBIT E

LABOR AND MATERIAL PAYMENT BOND

(11/17/98)

KNOW TO ALL BY THESE PRESENTS:

That we, _____,
(Full Legal Name and Street Address of Contractor)

as Contractor, hereinafter called Contractor, is held and firmly bound unto the

_____, its successors and assigns, as Obligee, hereinafter called
(State/County Entity)

Obligee, in the amount of _____

(Dollar Amount of Contract)

DOLLARS (\$_____), lawful money of the United States of America, for the payment of which to the said Obligee, well and truly to be made, Contractor binds itself, its heirs, executors, administrators, successors and assigns, firmly by these presents. Said amount is evidenced by:

- ☐ Legal tender;
- ☐ Share Certificate unconditionally assigned to or made payable at sight to
Description _____;
_____;
- ☐ Certificate of Deposit, No. _____, dated _____, issued by
_____,
drawn on _____,
a bank, savings institution or credit union insured by the Federal Deposit
Insurance Corporation or the National Credit Union Administration, payable at
sight or unconditionally assigned to _____;
_____;
- ☐ Cashier's Check No. _____, dated _____, issued by
_____,
drawn on _____,
a bank, savings institution or credit union insured by the Federal Deposit
Insurance Corporation or the National Credit Union Administration, payable at
sight or unconditionally assigned to _____;
_____;
- ☐ Teller's Check No. _____, dated _____, issued by
_____,
drawn on _____;

a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

☐ Treasurer's Check No. _____, dated _____, issued by _____,
drawn on _____,
a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

☐ Official Check No. _____, dated _____, issued by _____,
drawn on _____,
a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

☐ Certified Check No. _____, dated _____, accepted by a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

WHEREAS:

The Contractor has by written agreement dated _____ entered into a contract with Oblige for the following Project: _____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW, THEREFORE,

The condition of this obligation is such that, if Contractor shall promptly and faithfully perform the Contract in accordance with, in all respects, the stipulations, agreements, covenants and conditions of the Contract as it now exists or may be modified according to its terms, free from all liens and claims and without further cost, expense or charge to the Oblige, its officers, agents, successors or assigns, free and harmless from all suits or actions of every

nature and kind which may be brought for or on account of any injury or damage, direct or indirect, arising or growing out of the doing of said work or the repair or maintenance thereof or the manner of doing the same or the neglect of the Contractor or its agents or servants or the improper performance of the Contract by the Contractor or its agents or servants or from any other cause, and shall promptly pay all persons supplying labor and materials for the performance of the Contract, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

AND IT IS HEREBY STIPULATED AND AGREED that suit on this bond may be brought before a court of competent jurisdiction without a jury, and that the sum or sums specified in the said Contract as liquidated damages, if any, shall be forfeited to the Obligee, its successors or assigns, in the event of a breach of any, or all, or any part of, the covenants, agreements, conditions, or stipulations contained in the Contract or in this bond in accordance with the terms thereof.

AND IT IS HEREBY STIPULATED AND AGREED that this bond shall inure to the benefit of any and all persons entitled to file claims for labor performed or materials furnished in said work so as to give any and all such persons a right of action as contemplated by Sections 103D-324(d) and 103D-324(e), Hawaii Revised Statutes.

The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment of mechanics' liens which may be filed of record against the Project, whether or not claim for the amount of such lien be presented under and against this bond.

Signed this _____ day of _____, _____.

(Seal)

Name of Contractor

*

Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

EXHIBIT G

**PERFORMANCE BOND (SURETY)
FOR SUPPLEMENTAL AGREEMENT
FOR GOODS AND SERVICES
(11/17/98)**

KNOW TO ALL BY THESE PRESENTS:

That _____,
(Full Legal Name and Street Address of Contractor)

as Contractor, hereinafter called Principal, and _____

(Name and Street Address of Bonding Company)

as Surety, hereinafter called Surety, a corporation(s) authorized to transact business as a surety
in the State of Hawaii, are held and firmly bound unto the _____,
(State/County Entity)
its successors and assigns, hereinafter called Obligee, in the amount of

DOLLARS (\$ _____), to which payment Principal and Surety bind themselves, their
heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these
presents.

WHEREAS, the above-bound Principal has entered into a Contract with Obligee dated
_____ for _____

and entered into Supplemental Agreement No. _____, dated _____ for the period

hereinafter collectively called Contract, which Contract is incorporated herein by reference and
made a part hereof.

NOW THEREFORE, the condition of this obligation is such that:

If the Principal shall promptly and faithfully perform, and fully complete the Contract in
strict accordance with the terms of the Contract as said Contract may be modified or amended
from time to time; then this obligation shall be void; otherwise to remain in full force and effect.

Surety to this Bond hereby stipulates and agrees that no changes, extensions of time,
alterations, or additions to the terms of the Contract, including the work to be performed
thereunder, and the specifications or drawings accompanying same, shall in any way affect its

obligation on this bond, and it does hereby waive notice of any such changes, extensions of time, alterations, or additions, and agrees that they shall become part of the Contract.

In the event of Default by the Principal, of the obligations under the Contract, then after written Notice of Default from the Obligee to the Surety and the Principal, Surety shall either remedy the Default, or take over the work to be performed under the Contract and complete such work, subject, however, to the limitation of the penal sum of this bond.

Signed this _____ day of _____, _____.

(Seal)

Name of Principal (Contractor)

*

Signature

Title

(Seal)

Name of Surety

*

Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

EXHIBIT H

**PERFORMANCE BOND
FOR SUPPLEMENTAL AGREEMENT
FOR GOODS AND SERVICES**

(11/17/98)

KNOW TO ALL BY THESE PRESENTS:

That we, _____,
(Full Legal Name and Street Address of Contractor)
as Contractor, hereinafter called Contractor, is held and firmly bound unto the

_____, its successors and assigns, as Obligee, hereinafter called Obligee,
(State/County Entity)
in the amount of _____

(Dollar Amount of Contract)

DOLLARS (\$ _____), lawful money of the United States of America, for the payment of which to the said Obligee, well and truly to be made, Contractor binds itself, its heirs, executors, administrators, successors and assigns, firmly by these presents. Said amount is evidenced by:

- ☐ Legal tender;
- ☐ Share Certificate unconditionally assigned to or made payable at sight to _____;
Description _____;
- ☐ Certificate of Deposit, No. _____, dated _____ issued by _____,
drawn on _____,
a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ Cashier's Check No. _____, dated _____, drawn on _____,
a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ Teller's Check No. _____, dated _____, drawn on _____,
a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

- ☐ Treasurer's Check No. _____, dated _____, drawn on _____, a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ Official Check No. _____, dated _____, drawn on _____, a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ Certified Check No. _____, dated _____, accepted by a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

WHEREAS:

The Contractor has by written agreement dated _____ entered into a contract with Obligee for the following Project: _____

and entered into Supplemental Agreement No. _____, dated _____ for the period _____; hereinafter collectively called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW, THEREFORE,

The condition of this obligation is such that, if Contractor shall promptly and faithfully perform the Contract in accordance with, in all respects, the stipulations, agreements, covenants and conditions of the Contract as it now exists or may be modified according to its terms, and shall deliver the Project to the Obligee, or to its successors or assigns, fully completed as in the Contract specified and free from all liens and claims and without further cost, expense or charge to the Obligee, its officers, agents, successors or assigns, free and harmless from all suits or actions of every nature and kind which may be brought for or on account of any injury or damage, direct or indirect, arising or growing out of the doing of said work or the repair or maintenance thereof or the manner of doing the same or the neglect of the Contractor or its agents or servants or the improper performance of the Contract by the Contractor or its agents or servants or from any other cause, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

AND IT IS HEREBY STIPULATED AND AGREED that suit on this bond may be brought before a court of competent jurisdiction without a jury, and that the sum or sums specified in the said Contract as liquidated damages, if any, shall be forfeited to the Obligee, its successors or assigns, in the event of a breach of any, or all, or any part of, the covenants, agreements, conditions, or stipulations contained in the Contract or in this bond in accordance with the terms thereof.

The amount of this bond may be reduced by and to the extent of any payment or payments made in good faith hereunder.

Signed this _____ day of _____, _____.

(Seal)

Name of Contractor

*

Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

CONTRACTOR ACKNOWLEDGMENT

CONTRACTOR ACKNOWLEDGMENT:

On this _____ day of _____, 19_____, before me
appeared _____ and _____
to me known to be the person(s) described in and, who, being by me duly sworn, did say that
he/she/they is/are _____ and _____
of _____
the Contractor named in the foregoing instrument, and that he/she/they is/are authorized to
sign said instrument in behalf of the Contractor, and acknowledges that he/she/they executed
said instrument as the free act and deed of the Contractor.

My commission expires: _____



STATE OF HAWAII
STATE PROCUREMENT OFFICE

CERTIFICATION FOR HAWAII PRODUCT PREFERENCE

1. Legal Name of the company whose product is mined, excavated, produced, manufactured, raised or grown in the state of Hawaii

Requester: _____

2. dba: _____

3. Hawaii General Excise Tax Number: _____

4. Address

5. Email Address

6. Contact Person

7. Phone

Submit one (1) form for each product.

8. Specify and provide details of the product for which preference is claimed (ie: Milk, white, 2% low fat, 1 gallon, four (4) to a case etc.):

9. Quality Standards met by product (ie. California Milk Standards, ASTM/AHSTO, USDA, etc.) :

10. Product available on: ☐ Oahu ☐ Maui ☐ Hawaii ☐ Lanai ☐ Kauai ☐ Molokai

11. Product is certified an agricultural, aquacultural, horticultural, silvicultural, floricultural, or livestock product raised, grown, or harvested in the state of Hawaii.

☐ Yes or ☐ No

12	Definition: "Hawaii Input" is the part of the product cost attributable to production, manufacturing, or other expenses arising within the state of Hawaii. Fill in every line in column s A, B, & C	A Hawaii Input	B Non- Hawaii input	C Total A + B
a	Cost to mine, excavate, produce, manufacture, raise, or grow the materials in the state of Hawaii.	\$_____ per unit	\$_____ per unit	\$_____ per unit
b	The added value of that portion of the cost of imported materials incurred after landing in the state of Hawaii, including but not limited to other articles, materials, and supplies, added to the imported materials.	\$_____ per unit	\$_____ per unit	\$_____ per unit
c	Cost of labor, variable overhead, utilities, and services, incurred in the production and manufacturing of materials or products in the state of Hawaii	\$_____ per unit	\$_____ per unit	\$_____ per unit
d	Fixed overhead cost and amortization or depreciation cost, if any, for buildings, tools, and equipment situated and located in the state of Hawaii used in the production or manufacturing of a product.	\$_____ per unit	\$_____ per unit	\$_____ per unit
e	Totals	\$_____ per unit (Add Column A)	\$_____ per unit (Add Column B)	\$_____ per unit (Add Column C)

13. Percent of Hawaii Input _____ % (12e. Column A Total ÷ Column C Total)

14. Failure to adequately verify, deliver, or supply Hawaii products. A procurement officer who has awarded a contract finds the contractor has failed to comply with HRS §103D-1002, Hawaii products, the contract shall be cancelled and the findings shall be referred for debarment or suspension proceedings under HRS §103D-702. Any purchase made or any contract awarded or executed in violation of this section shall be void and no payment shall be made by any purchasing agency. If debarred, the person or company shall be prohibited from bidding on any state or county government solicitations for up to three (3) years.

Should the procurement officer receiving a protest challenging the validity of the classification of a Hawaii product request an audit of the information of the proper classification of the product as defined under HRS §103D-1002, the cost of the audit shall be paid for by the requester.

In the event of any change that materially alters the offeror's ability to supply the certified Hawaii products, the offeror shall notify in writing the procurement officer within five (5) working days of knowing of the change and the parties shall enter into discussions for the purposes of revising the contract or terminating the contract for convenience.

Information submitted is CONFIDENTIAL or PROPRIETARY DATA, and the procurement officer shall not disclose this form, pursuant to HRS §92F-13(3) on government records; exception's to general rule.

I certify, under penalties set forth in HRS §103D-1002, on Hawaii products, that the information provided herein has been examined by me and to the best of my knowledge and belief is true, correct, complete, and made in good faith pursuant to HRS §103D-101.

Signature of Authorized Representative: _____

Date: _____

Print Name of Authorized Representative: _____

Title: _____

GOVERNMENT USE ONLY

☐ APPROVED ☐ DISAPPROVED

SPO-038 (Rev. 11/12/10)

Procurement Officer Signature

Government Agency

FORM 1

CERTIFICATION OF BIDDER'S PARTICIPATION IN APPROVED APPRENTICESHIP PROGRAM UNDER ACT 17

I. Bidder's Identifying Information			
A. Legal Business Name: _____			
B. Project Bid Title & Reference No.: _____			
C. Contact Person's Name: _____			
1. Phone No.: _____		2. E-Mail: _____	
II. Apprenticeable Trades To Be Employed*	B. Apprenticeship Sponsor*	C. No. Enrolled	D. No. Completed
A. (List)	(One Sponsor Per Form)	(# of apprentices currently enrolled as of bidder's request date)	(# of apprentices who completed the apprenticeship program in the 12 months prior to request date)
1.			
2.			
3.			
4.			
5.			
6.			
III. Bidder's Certification			
I certify that the above information is accurate to the best of my knowledge. I understand that my willful misstatement of facts may cause forfeiture of the preference under Act 17 and may result in criminal action. I give permission for outside sources to be contacted and for them to disclose any information necessary to verify the bidder's preference.			
A. Name (Type) _____		B. Title _____	
C. Signature (original signature required) _____		D. Date _____	
IV. Apprenticeship Sponsor's Contact Information			
A. Training Coordinator's Name: _____			
B. Address: _____			
C. Phone No.: _____		D. E-Mail: _____	E. Fax No: _____
V. Apprenticeship Program Sponsor's Certification			
I certify that the above information is accurate to the best of my knowledge. I understand that my willful misstatement of facts may cause forfeiture of the bidder's preference and may result in criminal action. I give permission for outside sources to be contacted and for them to disclose any information necessary to verify the bidder's preference under Act 17.			
A. Name of Authorized Official _____		B. Title _____	
C. Signature (original signature required) _____		D. Date _____	

* Name of Apprenticeable Trade and Apprenticeship Sponsor must be the **same** as recorded in the List of Construction Trades in Registered Apprenticeship Programs that is posted on the State Department of Labor and Industrial Relations website.

FORM 2

MONTHLY REPORT OF CONTRACTOR'S PARTICIPATION IN APPROVED APPRENTICESHIP PROGRAM UNDER ACT 17

I. Contractor's Identifying Information		II. Reporting Period	
A. Legal Business Name:		A. Month:	B. Year:
B. Project Contract Title & Reference No.:			
C. Contact Person's Name:			
1. Phone No.:		2. E-Mail:	
III. Apprenticeship Program (Complete a separate form for <i>each</i> apprenticeship program in which workers are employed on the project.)			
A. Contractor was a party to an apprenticeship program or programs with the following sponsor: (Give sponsor's name.)*		B. Was the contractor a party to the program during the <i>entire</i> report month?	
		1. Yes <input type="checkbox"/>	
		2. No <input type="checkbox"/> If NO, state applicable period and why (may be subject to sanctions.)	
IV. Contractor's Certification			
I certify that the above information is accurate to the best of my knowledge. I understand that my willful misstatement of facts may cause forfeiture of the preference under Act 17 and may result in criminal action. I give permission for outside sources to be contacted and for them to disclose any information necessary to verify the bidder's preference.			
A. Name (Type)		B. Title	
C. Signature (original signature required)		D. Date	
V. Apprenticeship Sponsor's Contact Information			
A. Training Coordinator's Name:			
B. Address:			
C. Phone No.:	D. E-Mail:	E. Fax No:	
VI. Apprenticeship Program Sponsor's Certification			
I certify that the above information is accurate to the best of my knowledge. I understand that my willful misstatement of facts may cause forfeiture of the bidder's preference and may result in criminal action. I give permission for outside sources to be contacted and for them to disclose any information necessary to verify the bidder's preference under Act 17.			
A. Name of Authorized Official		B. Title	
C. Signature (original signature required)		D. Date	

* Name of Apprenticeship Sponsor must be the **same** as recorded in the List of Construction Trades in Registered Apprenticeship Programs that is posted on the State Department of Labor and Industrial Relations website.

**CERTIFICATION OF COMPLIANCE
FOR
EMPLOYMENT OF STATE RESIDENTS
HRS CHAPTER 103B, AS AMENDED BY ACT 192, SLH 2011**

Project Title: _____

Agency Project No: _____

Contract No.: _____

As required by Hawai'i Revised Statutes Chapter 103B, as amended by Act 192, Session Laws of Hawaii 2011—Employment of State Residents on Construction Procurement Contracts, I hereby certify under oath, that I am an officer of _____ and

(Name of Contractor or Subcontractor Company)

for the Project Contract indicated above, _____ was in

(Name of Contractor or Subcontractor Company)

compliance with HRS Chapter 103B, as amended by Act 192, SLH 2011, by employing a workforce of which not less than eighty percent are Hawai'i residents, as calculated according to the formula in the solicitation, to perform this Contract.

☐ I am an officer of the **Contractor** for this contract.

☐ I am an officer of a **Subcontractor** for this contract.

CORPORATE SEAL

(Name of Company)

(Signature)

(Print Name)

(Print Title)

Subscribed and sworn to me before this
_____ day of _____, 2011.

Doc. Date: _____ # of Pages _____ 1st Circuit

Notary Name: _____

Doc. Description: _____

Notary Public, 1st Circuit, State of Hawai'i
My commission expires: _____

Notary Signature

Date

NOTARY CERTIFICATION

EXHIBIT 2

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
IFB-16-HHL-005

2 BEDROOM HOUSE RENOVATION
LOT 58-B-1

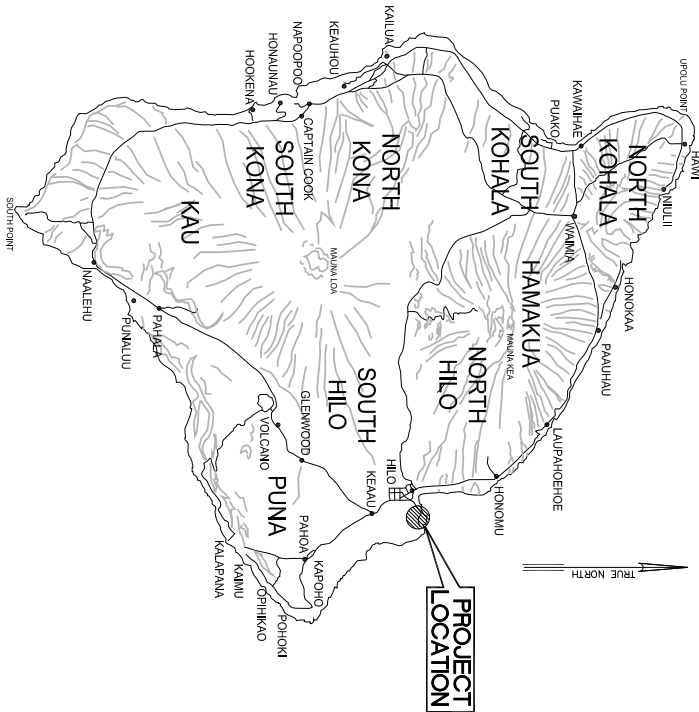
TAX MAP KEY: (3) 2 - 1 - 021: 072
82 ANDREWS AVENUE
SUBDIVISION APPLICATION NO: SUB-15-001465

AND

3 BEDROOM HOUSE RENOVATION
LOT 131-A-3

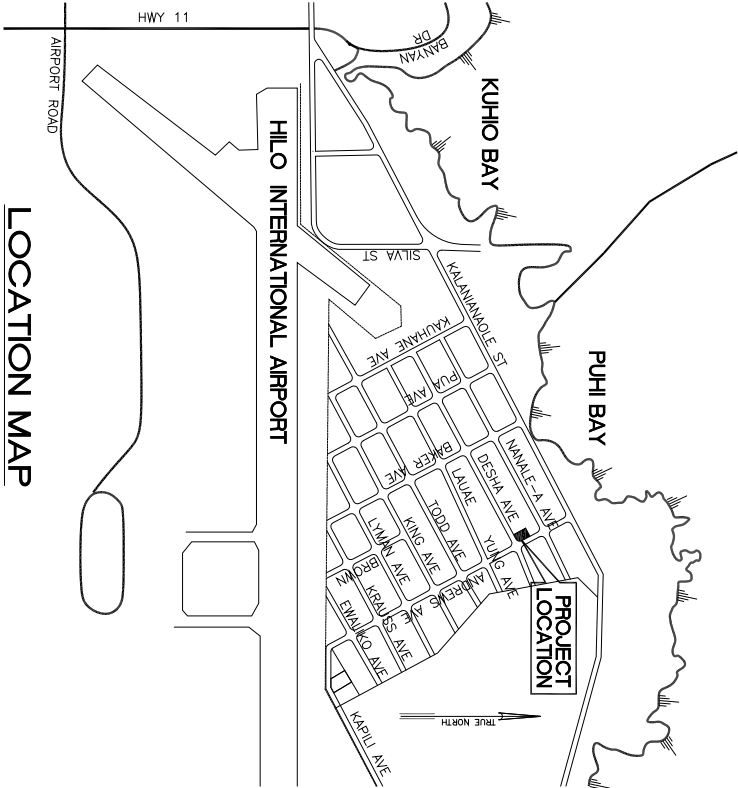
TAX MAP KEY: (3) 2 - 1 - 021: 010
372 DESHA AVENUE
SUBDIVISION APPLICATION NO: SUB-15-001463

WAIAKEA, SOUTH HILO,
ISLAND OF HAWAII, HAWAII



ISLAND OF HAWAII

NOT TO SCALE



LOCATION MAP

NOT TO SCALE

SHEET NO.	DRAWING NO.	DESCRIPTION
1.	TS1	TITLE
2.	TS2	TITLE SHEET, INDEX, MAP NOTES

ARCHITECTURAL

- EXISTING SITE PLAN, ARCHITECTURAL ABBREVIATIONS & SYMBOLS
- EXISTING / DEMOLITION FOUNDATION & FLOOR PLAN / BASEMENT LEVEL, EXISTING / DEMOLITION FLOOR PLAN UPPER LEVEL
- EXISTING / NEW WORK FOUNDATION & FLOOR PLAN / BASEMENT LEVEL, EXISTING / NEW WORK FLOOR PLAN UPPER LEVEL, ROOF FRAMING PLAN (GARPORT)
- DOOR & WINDOW SCHEDULE, LIGHT & VENTILATION REQ. FLASHING DETAILS
- EXISTING / DEMOLITION EXTERIOR ELEVATIONS
- EXISTING / NEW WORK EXTERIOR ELEVATIONS
- EXISTING / DEMOLITION / NEW WORK ROOF PLAN, DETAILS
- EXISTING / DEMOLITION REFLECTED CEILING PLAN / BASEMENT & UPPER LEVEL
- EXISTING / NEW WORK REFLECTED CEILING PLAN / BASEMENT & UPPER LEVEL
- EXISTING / DEMOLITION / NEW WORK INTERIOR ELEVATIONS
- INTERIOR ELEVATIONS
- WALL SECTION, DETAILS
- STAIR DETAILS
- SECTION THRU BUILDING, DETAIL

16 TOTAL SHEET

SHEET NO.	DRAWING NO.	DESCRIPTION
1.	TS1	TITLE
		TITLE SHEET, INDEX, MAP

ARCHITECTURAL

- EXISTING SITE PLAN
- EXISTING / DEMOLITION FLOOR PLAN
- EXISTING / NEW WORK FLOOR PLAN
- EXISTING / DEMOLITION EXTERIOR ELEVATIONS
- EXISTING / NEW WORK EXTERIOR ELEVATIONS
- EXISTING / DEMOLITION / NEW WORK ROOF PLAN, DETAILS
- REFLECTED CEILING PLAN
- EXISTING / DEMOLITION INTERIOR ELEVATIONS
- EXISTING / NEW WORK INTERIOR ELEVATIONS

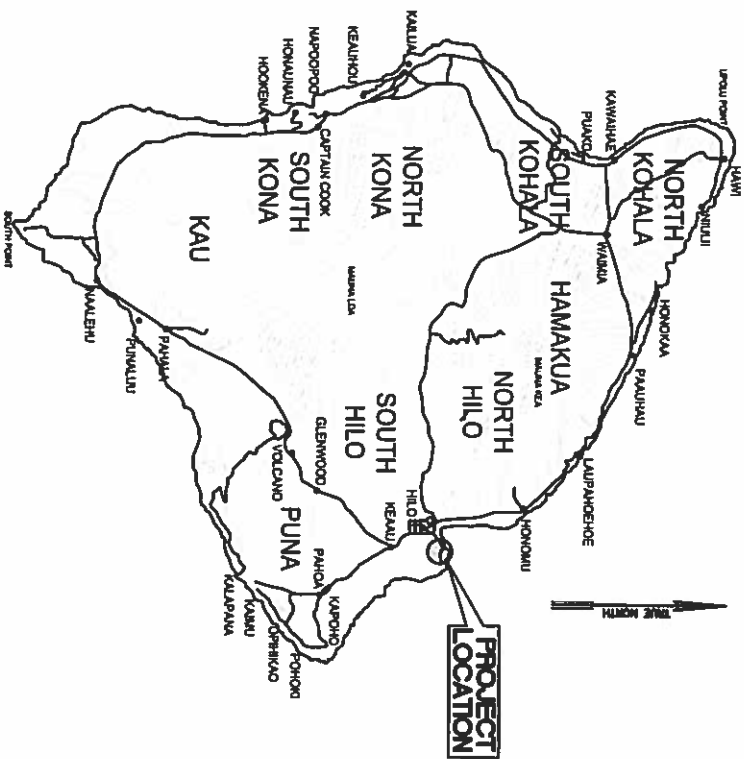
10 TOTAL SHEET

APPROVED BY:

CHAIRMAN, HAWAIIAN HOMES COMMISSION
STATE OF HAWAII

DATE:

No.	DATE	DWG.	CHK.	REVISIONS
△				
△				
△				
DATE		PRINTS TO		

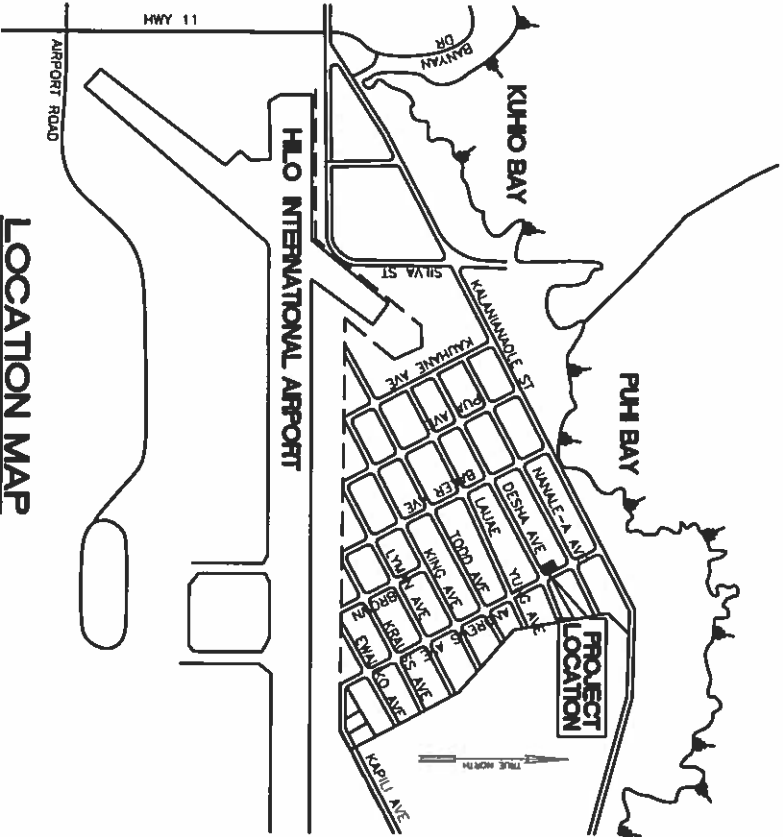


ISLAND OF HAWAII
NOT TO SCALE

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
IFB-
2 BEDROOM HOUSE RENOVATION
LOT 58B

WAIAKEA, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TAX MAP KEY: 3RD DIV. 2 – 1 – 021: 072
ANDREWS AVENUE



LOCATION MAP
NOT TO SCALE

SHEET NO.	DRAWING NO.	DESCRIPTION
1.	TS1	TITLE SHEET, INDEX, MAP
2.	A1.1	EXISTING SITE
3.	A2.1	EXISTING / DEMOLITION FOUNDATION & FLOOR PLAN / BASEMENT LEVEL, EXISTING / DEMOLITION FLOOR PLAN UPPER LEVEL
4.	A2.2	EXISTING / NEW WORK FOUNDATION & FLOOR PLAN / BASEMENT LEVEL, EXISTING / DEMOLITION FLOOR PLAN UPPER LEVEL
5.	A3.1	EXISTING / DEMOLITION EXTERIOR ELEVATIONS
6.	A3.2	EXISTING / NEW WORK EXTERIOR ELEVATIONS
7.	A4.1	EXISTING / DEMOLITION / NEW WORK ROOF PLAN, DETAILS
8.	A5.1	EXISTING / DEMOLITION REFLECTED CEILING PLAN / BASEMENT & UPPER LEVEL
9.	A5.2	EXISTING / NEW WORK REFLECTED CEILING PLAN / BASEMENT & UPPER LEVEL
10.	A6.1	EXISTING / DEMOLITION / NEW WORK INTERIOR ELEVATIONS
11.	A6.2	INTERIOR ELEVATIONS
12.	A7.1	WALL SECTION, DETAILS
12 TOTAL SHEET		

APPROVED BY: _____ DATE: _____
CHAIRMAN, HAWAIIAN HOMES COMMISSION
STATE OF HAWAII



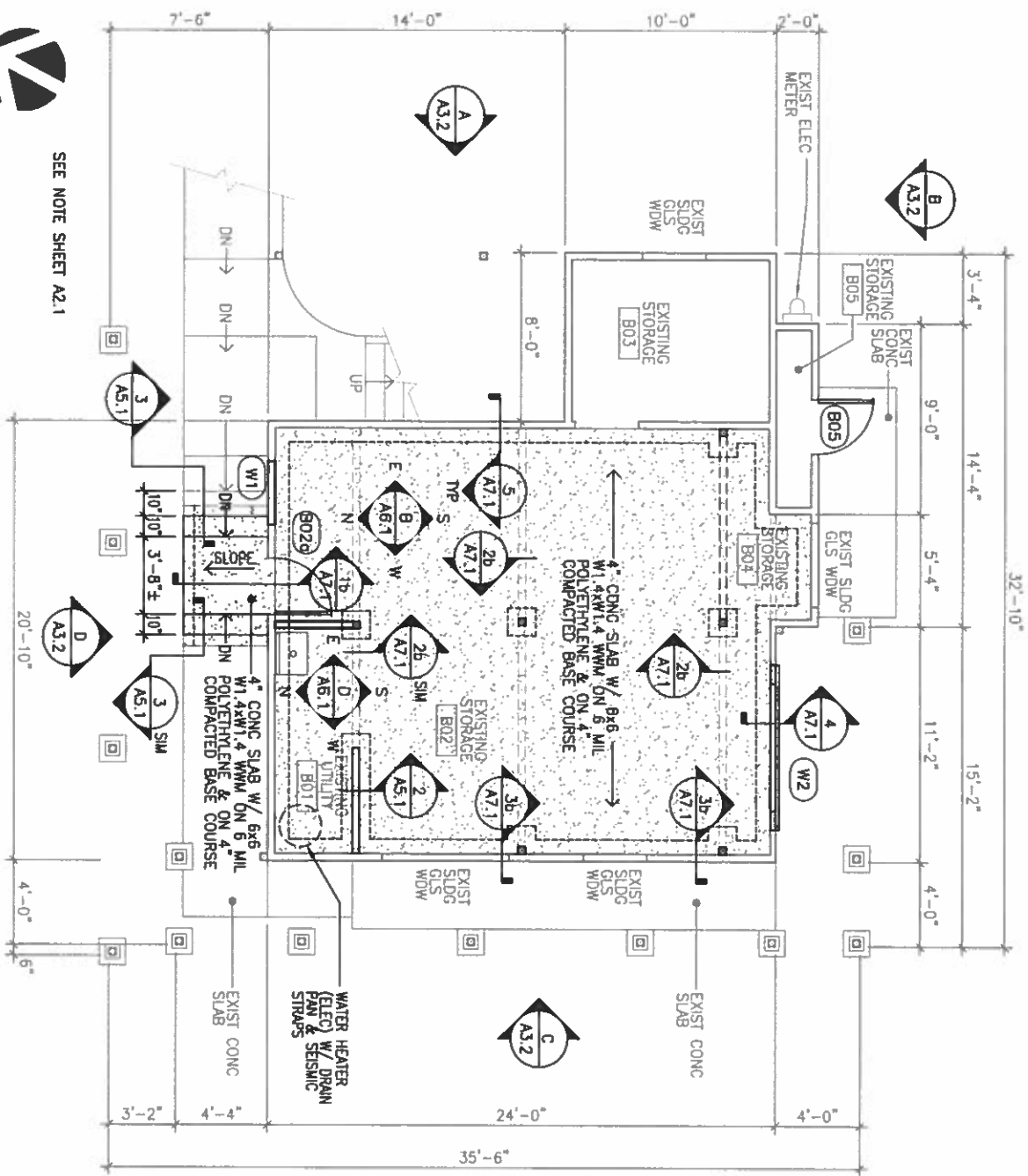
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Wesley R. Segawa & Assoc., Inc.
Exp. 04/30/2015

No	DATE	DWG	CHK	REVISIONS
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job title: DHHL KEAUKAHA LOT 58B
sheet title: 2 BEDROOM HOUSE REPAIR
sheet title: TITLE SHHT, INDEX, MAP, APPROVED BY

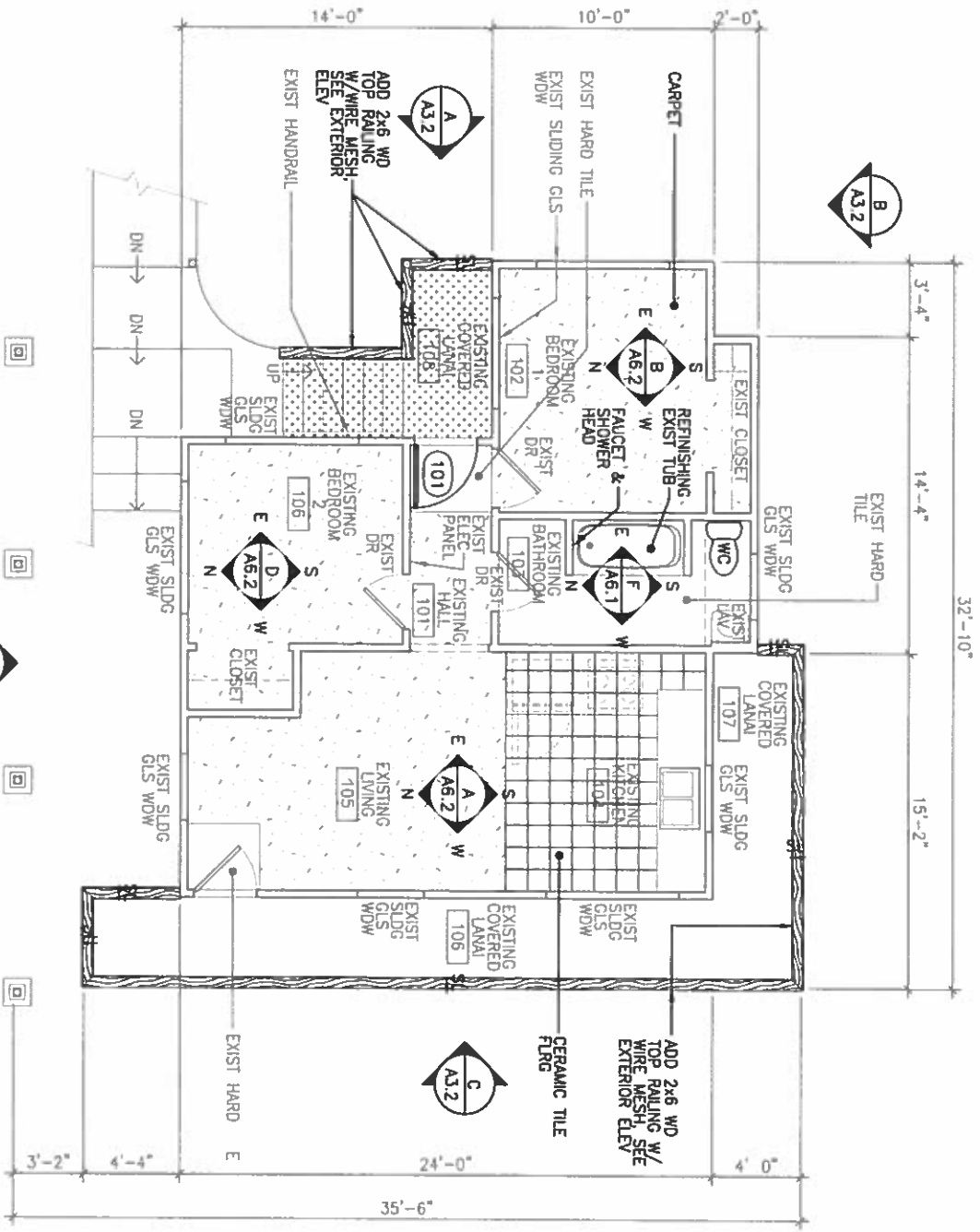
DESIGN BY:	WRS
DRAWN BY:	KK
CHECKED BY:	WRS
APPROVED BY:	
DATE:	APRIL 2015
SCALE:	AS NOTED
FILE NO.	W1302.44

DRAWING No. TS1



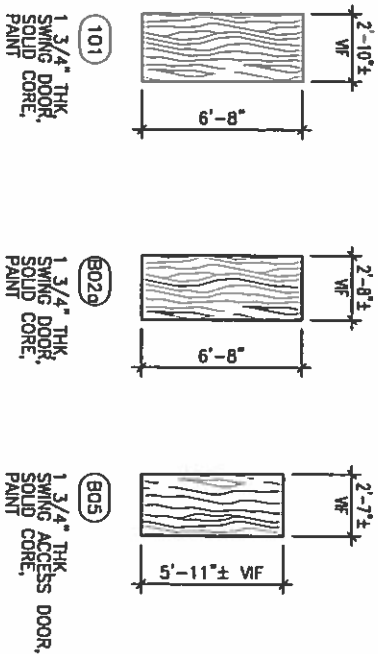
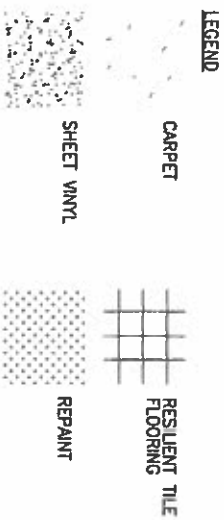
EXISTING / NEW WORK FOUNDATION & FLOOR PLAN /
BASEMENT LEVEL

SCALE 1/4" = 1'-0"



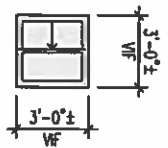
EXISTING / NEW WORK FLOOR PLAN / UPPER LEVEL

SCALE 1/4" = 1'-0"



DOOR SCHEDULE

NOT TO SCALE



WINDOW SCHEDULE

NOT TO SCALE

job title: DHHL KEAUKAHA LOT 58B
2 BEDROOM HOUSE REPAIR
sheet title: EXISTING / NEW WORK EXTERIOR ELEVATIONS



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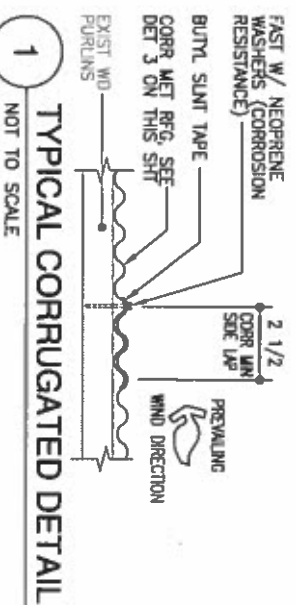
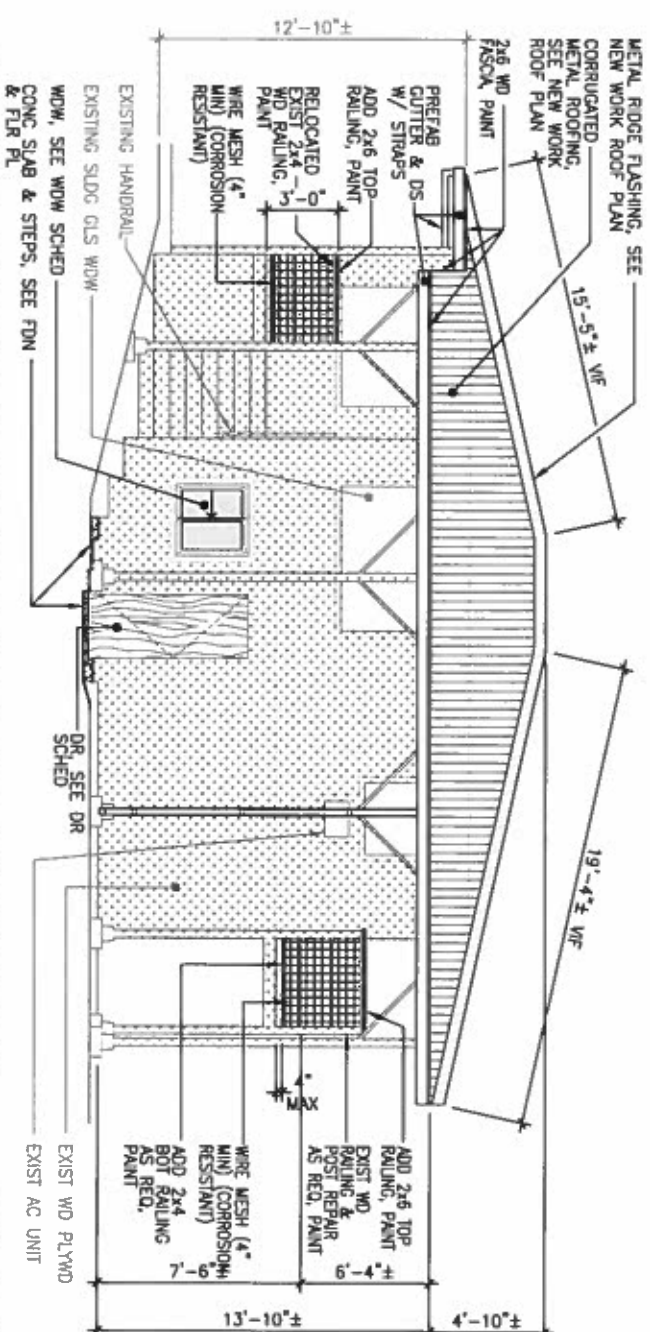
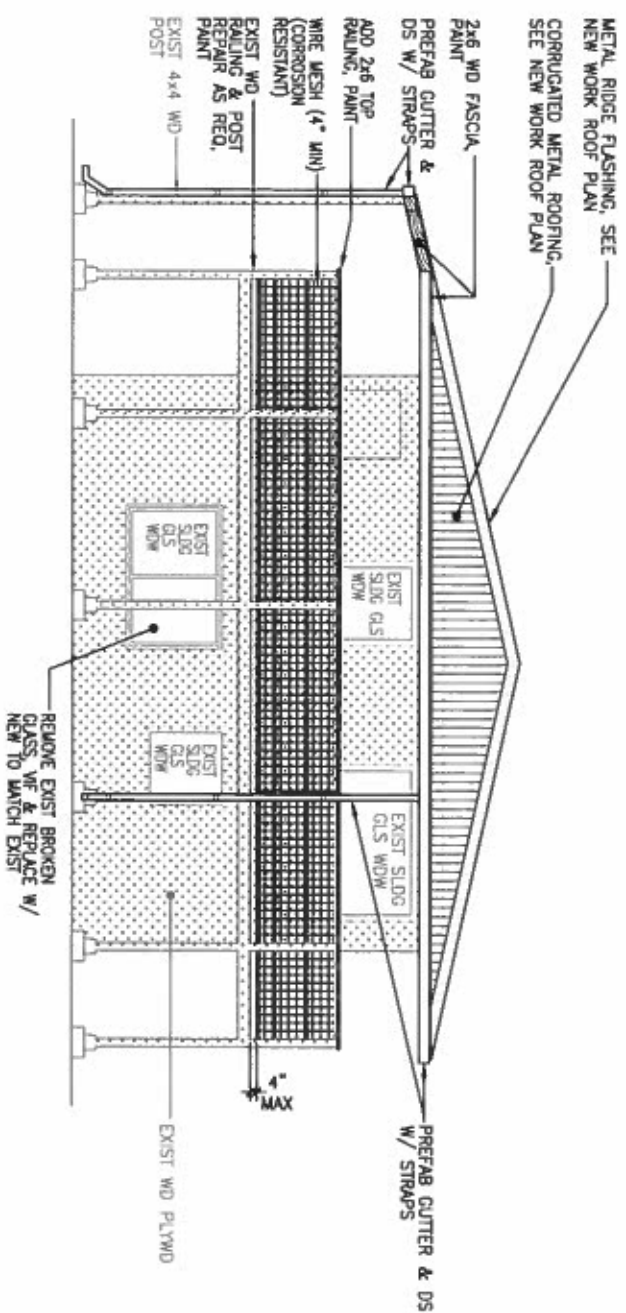
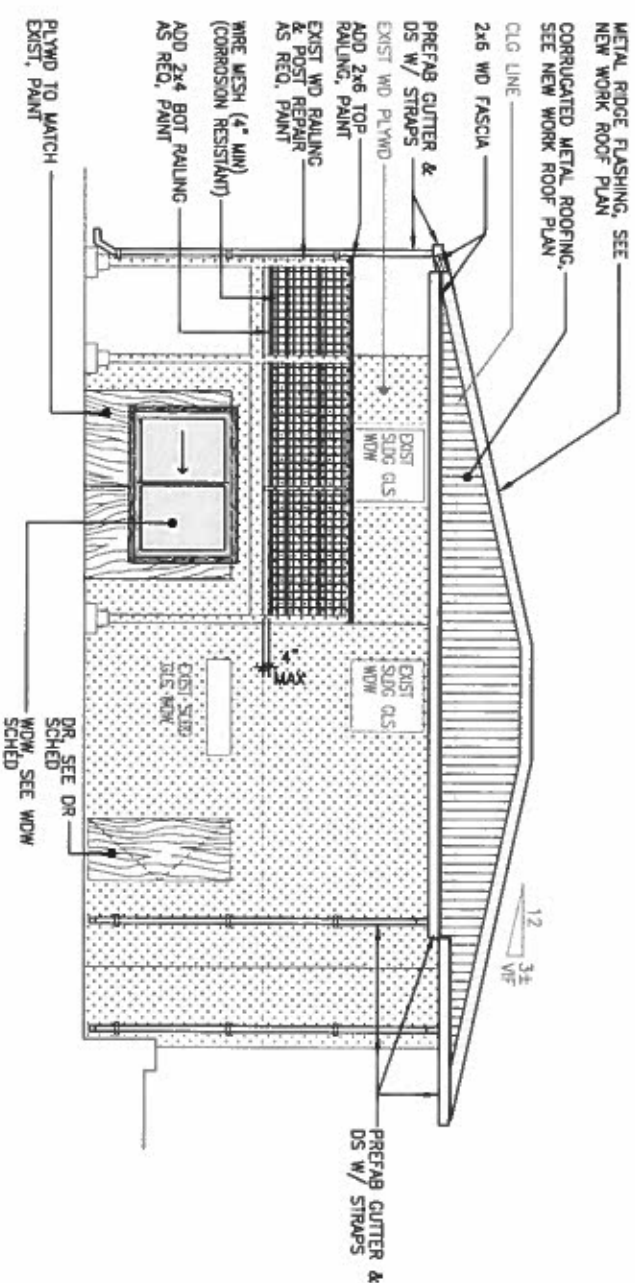
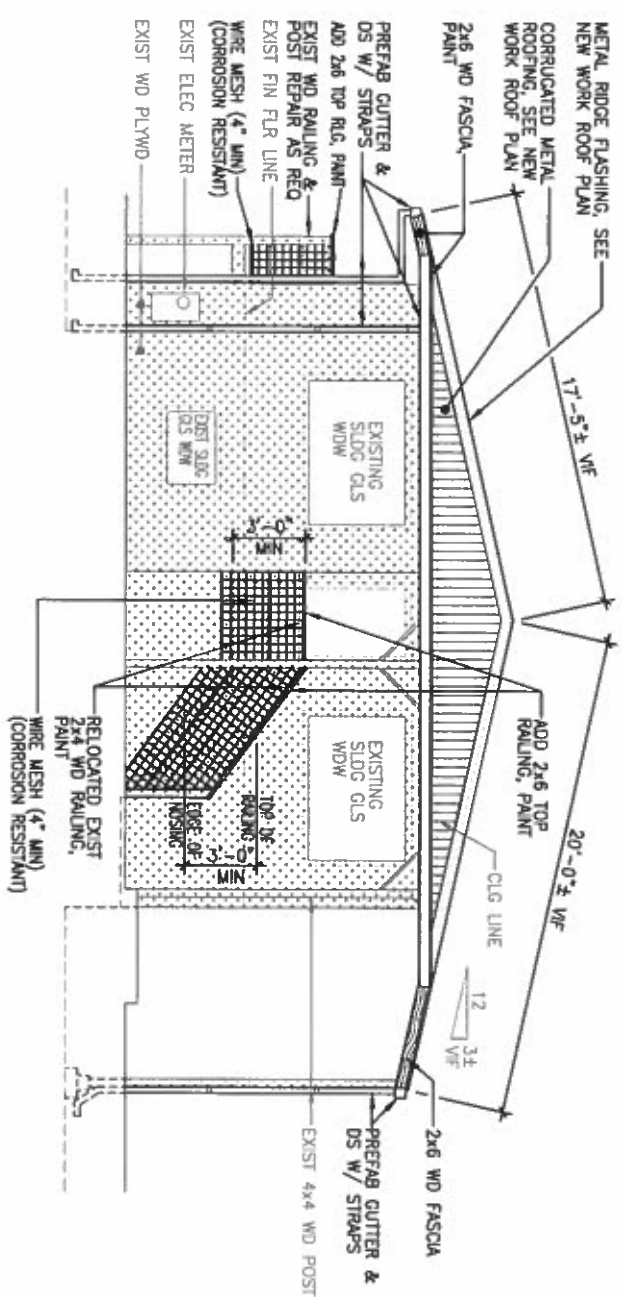
Wesley R. Segawa & Assoc., Inc.

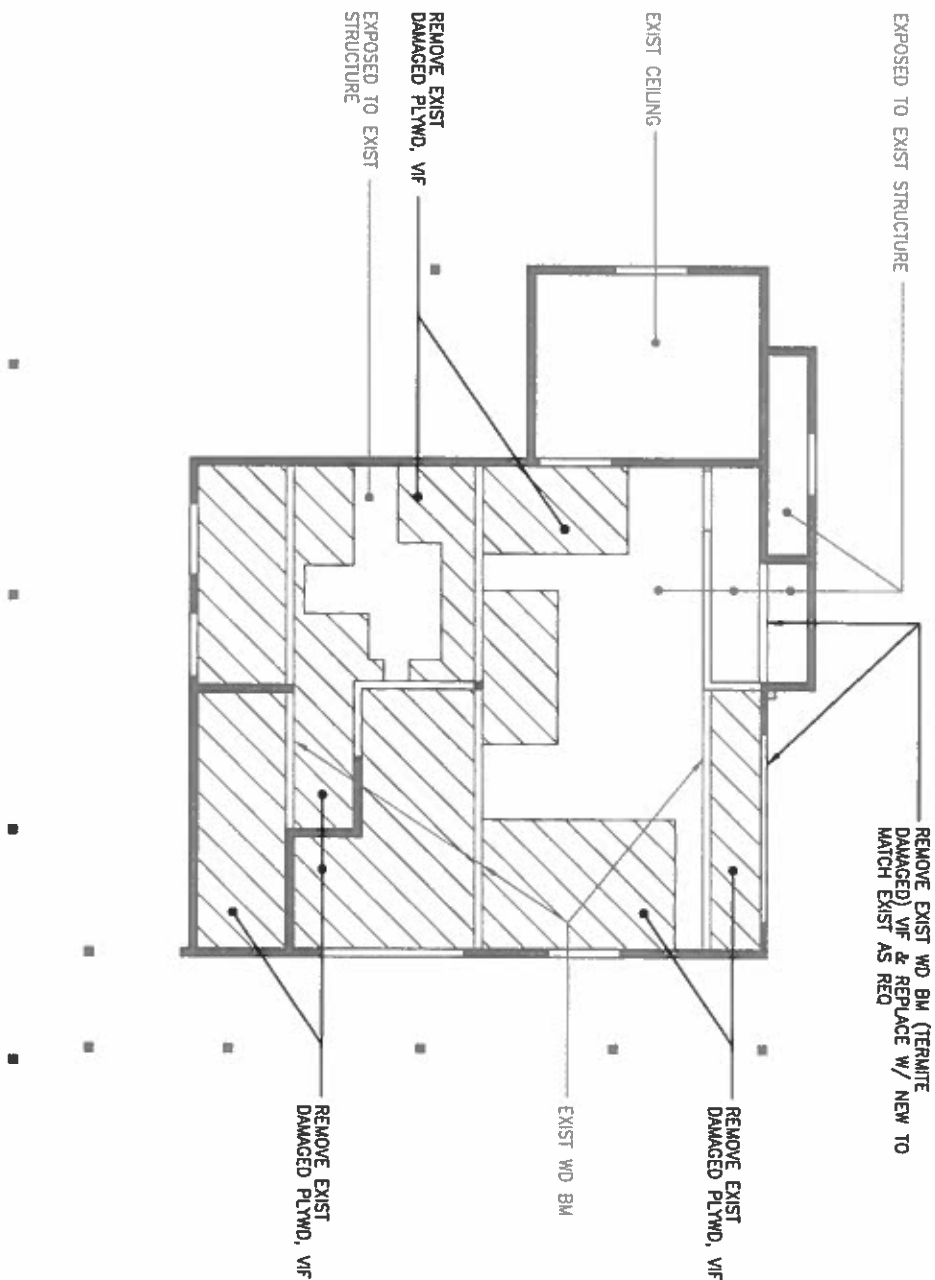
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A2.2

DRAWING NO.

DESIGN BY:	WRS
DRAWN BY:	KK
CHECKED BY:	WRS
DATE:	APRIL 2015
SCALE:	AS NOTED
FILE NO.	W1302.44

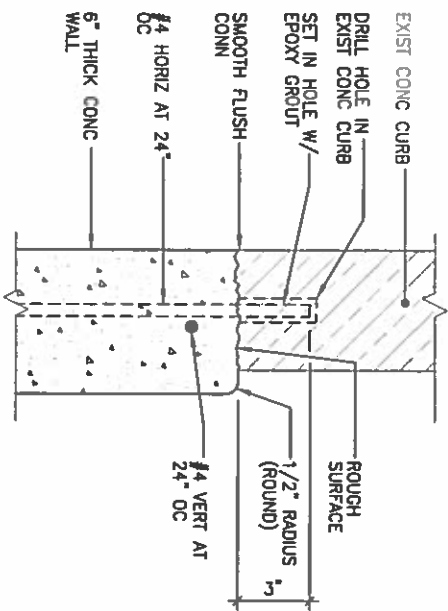




EXISTING / DEMOLITION REFLECTED CEILING PLAN /
BASEMENT LEVEL
SCALE 1/4" = 1'-0"



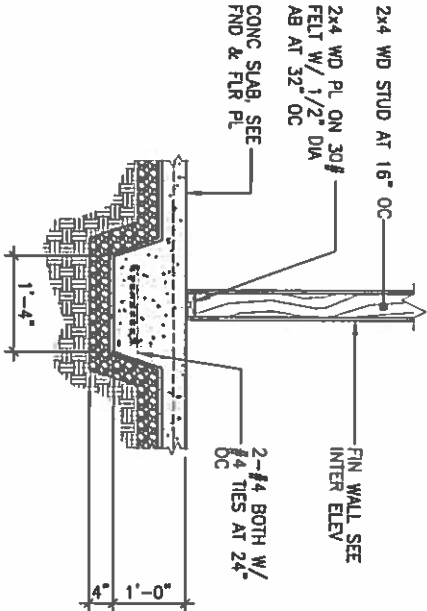
- LEGEND**
- REMOVE
- GEN. NOTES:**
1. CONTRACTOR SHALL PREP ALL SURFACES TO BE PAINTER
 2. INSPECT ALL EXISTING WOOD SIDING, RAFTER, ETC...REPAIR OR REPLACE ANY DAMAGED, TERMINATE OR ROTTING PRIOR TO NEW WORK



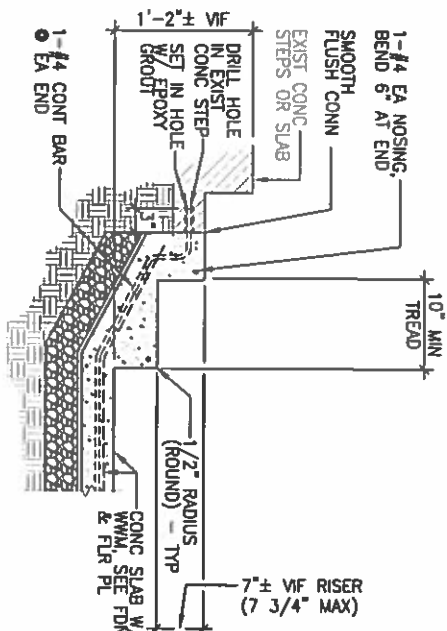
1 PLAN SECTION
SCALE 3" = 1'-0"
SCALE IN INCH



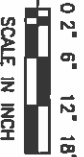
EXISTING / DEMOLITION REFLECTED CEILING / UPPER LEVEL
SCALE 1/4" = 1'-0"



2 FOOTING DETAIL
SCALE 3/4" = 1'-0"
SCALE IN INCH



3 CONC STEPS DETAIL
SCALE 1" = 1'-0"
SCALE IN INCH



job title: **DHHL KEAUKAHA LOT 58B
2 BEDROOM HOUSE REPAIR**
sheet title: **EXISTING / DEMOLITION
REFLECTED CEILING PLAN /
BASEMENT & UPPER LEVEL**



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Wesley R. Sagawa & Assoc., Inc.

No	DATE	DWG	CHK	REVISIONS
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DRAWING No. **A5.1**

DESIGN BY: WRS
DRAWN BY: KK
CHECKED BY: WRS
APPROVED BY: WRS
DATE: APRIL 2015
SCALE: AS NOTED
FILE No. W302.44



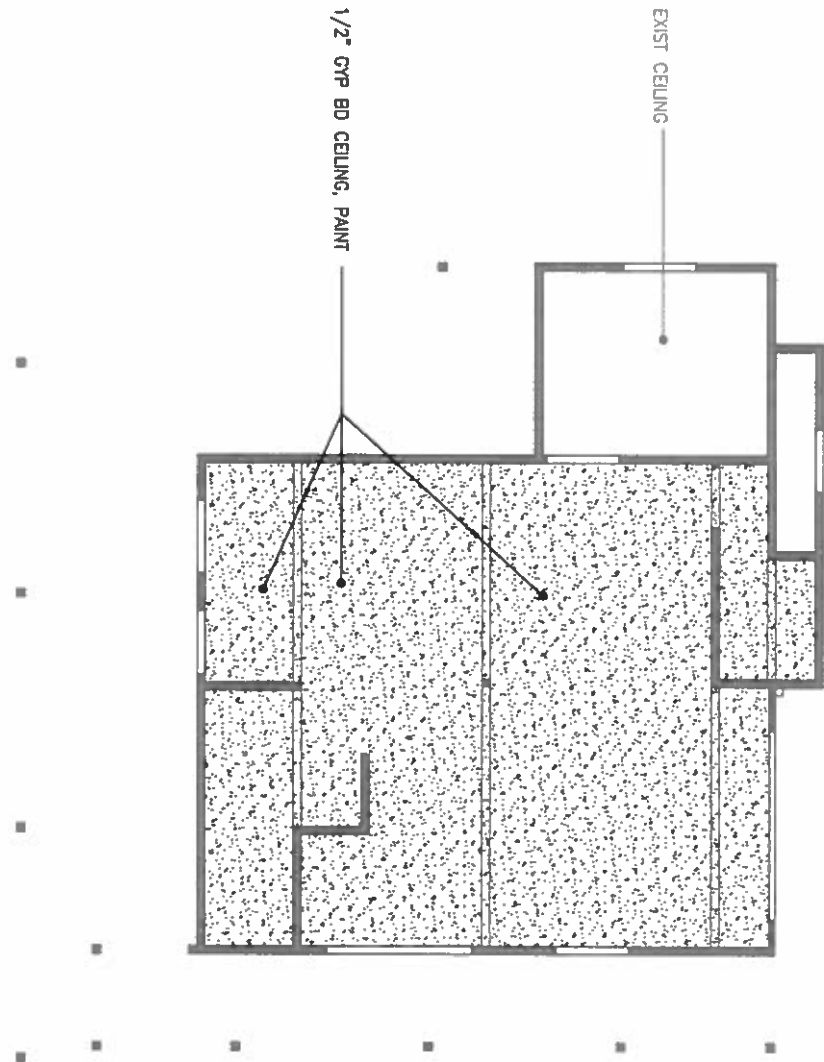
A

EXISTING / NEW WORK REFLECTED CEILING PLAN /
BASEMENT LEVEL

SCALE 1/4" = 1'-0"



SCALE IN FEET



B

EXISTING / NEW WORK REFLECTED CEILING PLAN /
UPPER LEVEL

SCALE 1/4" = 1'-0"



SCALE IN FEET




LEGEND
1/2" GYP BD CEILING, PAINT
REPAINT

job
title:
sheet
title:

DHHL KEAUKAHA LOT 58B
2 BEDROOM HOUSE REPAIR
TMK: (3) 2-1-021:072
EXISTING / NEW WORK
REFLECTED CEILING PLAN /
BASEMENT & UPPER LEVEL



WRSA
Civil & Structural Engineers
101 Silva Street, Suite 201 Hilo, Hawaii 96720-4755
Telephone: (808) 935-4877 Fax: (808) 935-2070



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Wesley R. Segawa & Assoc., Inc.
Exp. 04/30/2018

No	DATE	DWG	CHK	REVISIONS
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DRAWING No.

A5.2

DESIGN BY: WRS

DRAWN BY: KK

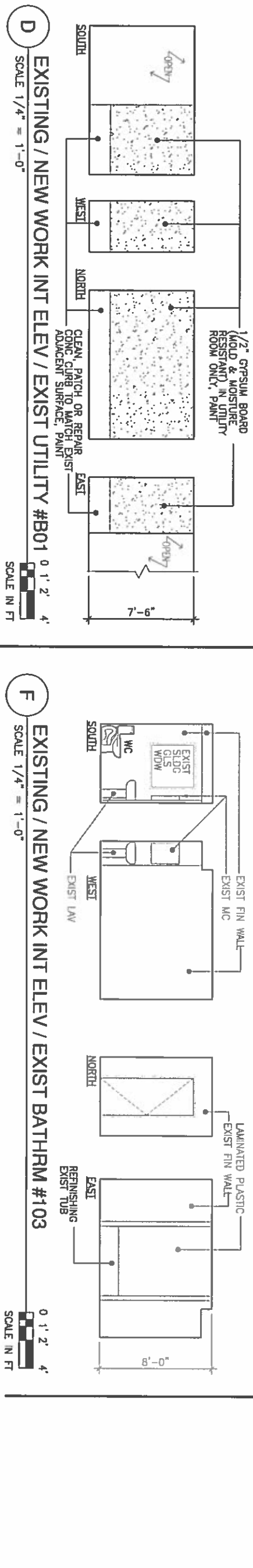
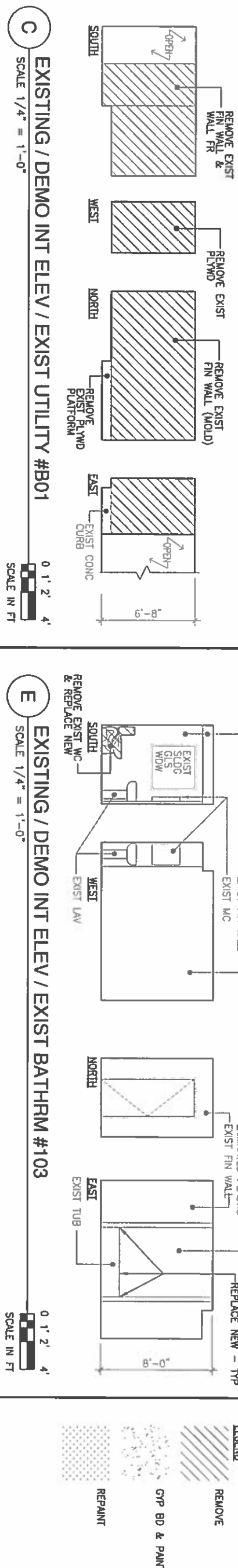
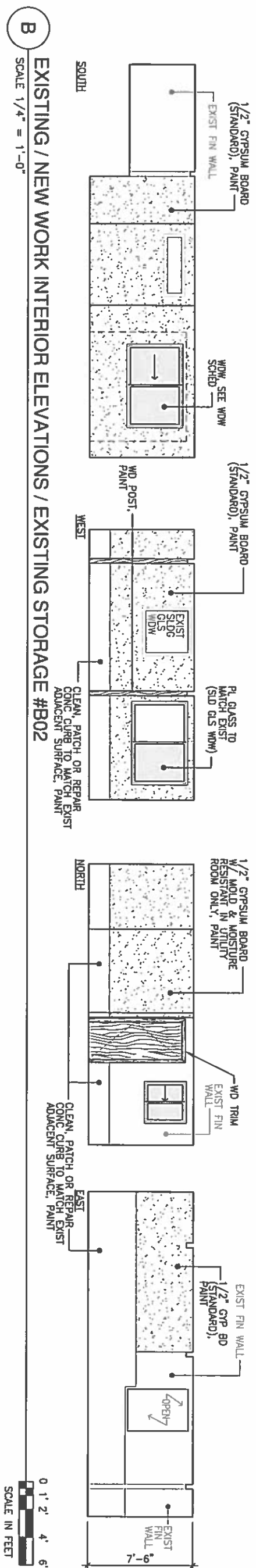
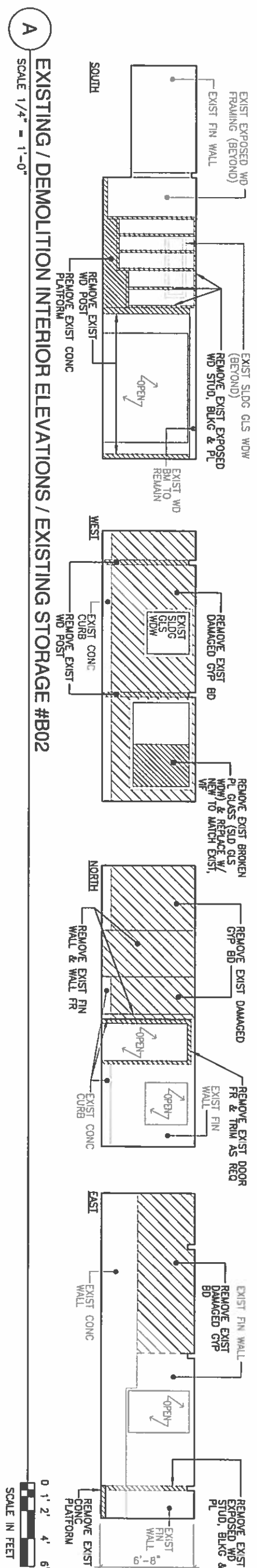
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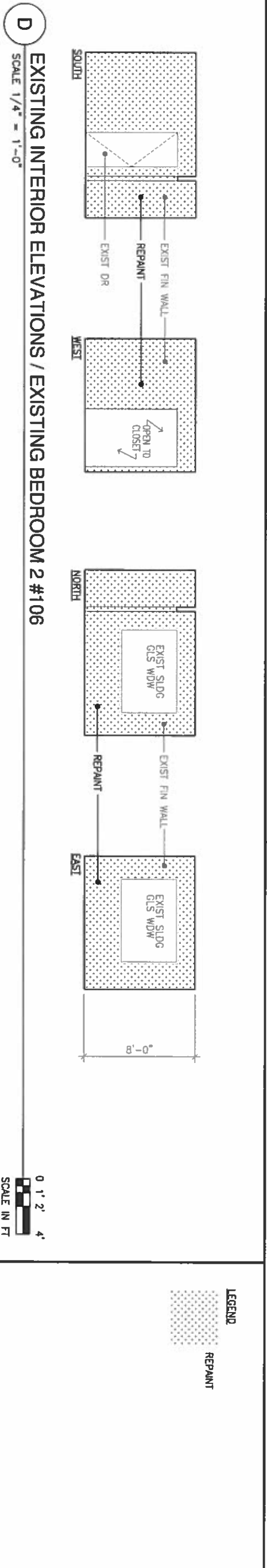
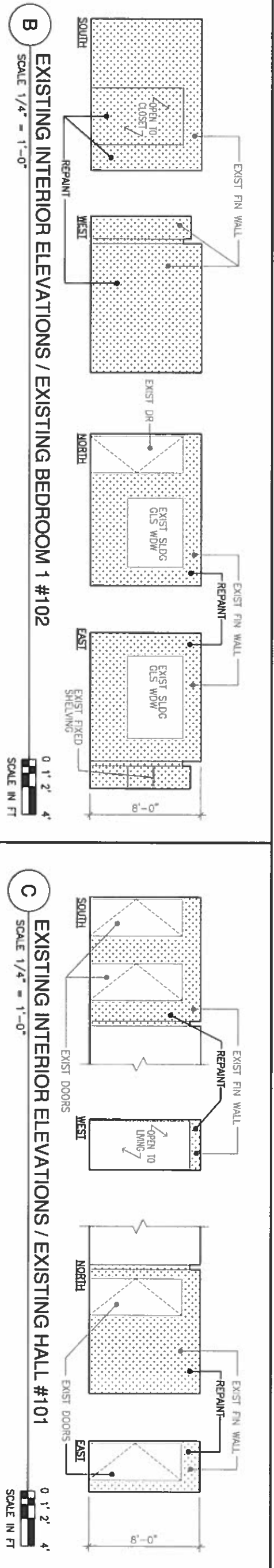
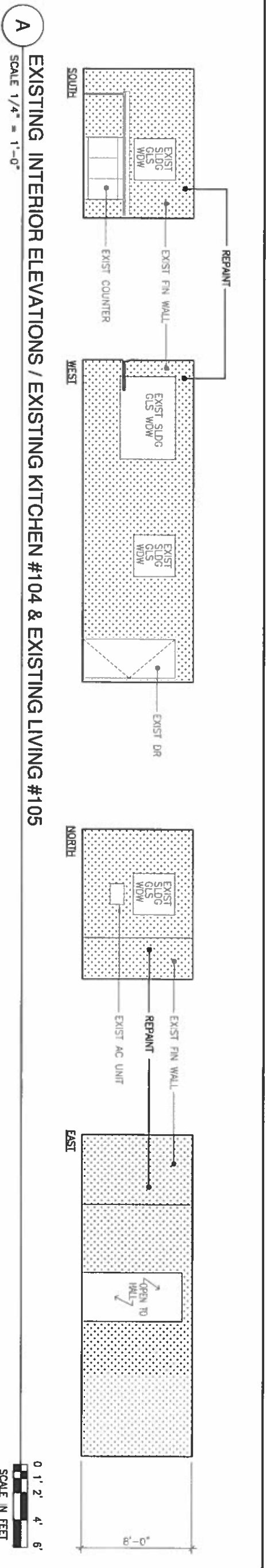
APPROVED BY:

DATE: APRIL 2015

SCALE: AS NOTED

FILE No. W1302.44





LEGEND

REPAINT

Job title: DHHL KEAUKAHA LOT 58B
2 BEDROOM HOUSE REPAIR

sheet title: EXISTING / DEMOLITION / NEW WORK
INTERIOR ELEVATIONS

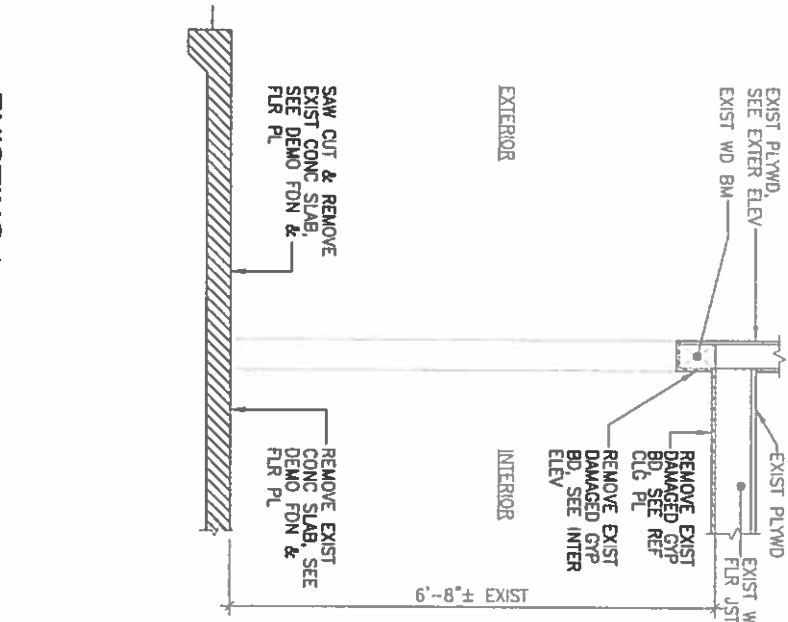
DESIGN BY: WRS
DRAWN BY: KK
CHECKED BY: WRS
APPROVED BY: WRS
DATE: APRIL 2015
SCALE: AS NOTED
FILE No.: W1302.44

DRAWING No. A6.2

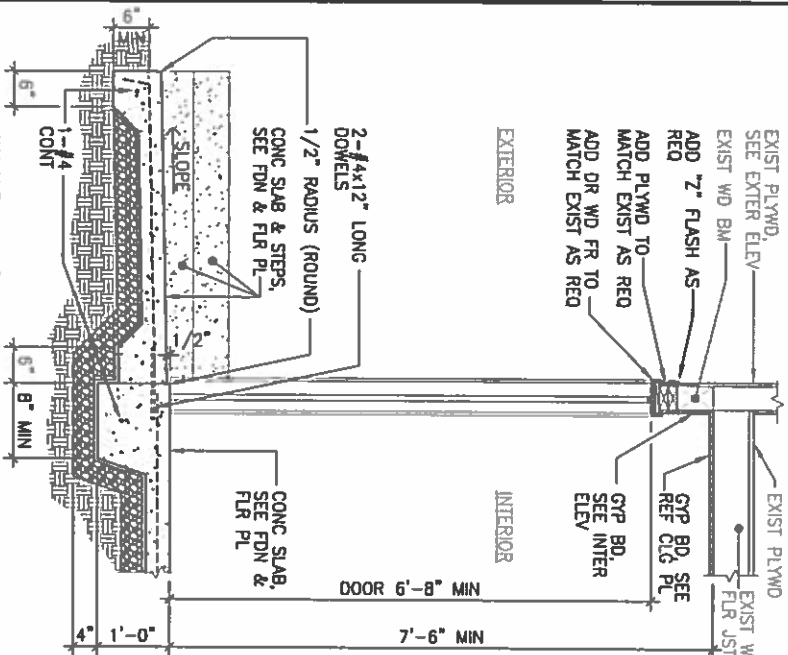
WRS
Civil & Structural Engineers
101 Silva Street, Suite 201 Hilo, Hawaii 96720-4755
Telephone: (808) 935-4877 Fax: (808) 935-2070

WESLEY R. SEGAWA
LICENSED PROFESSIONAL ENGINEER
No. 5116-S
HAWAII U.S.A.
Exp. 04/30/2018
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Wesley R. Segawa & Assoc., Inc.

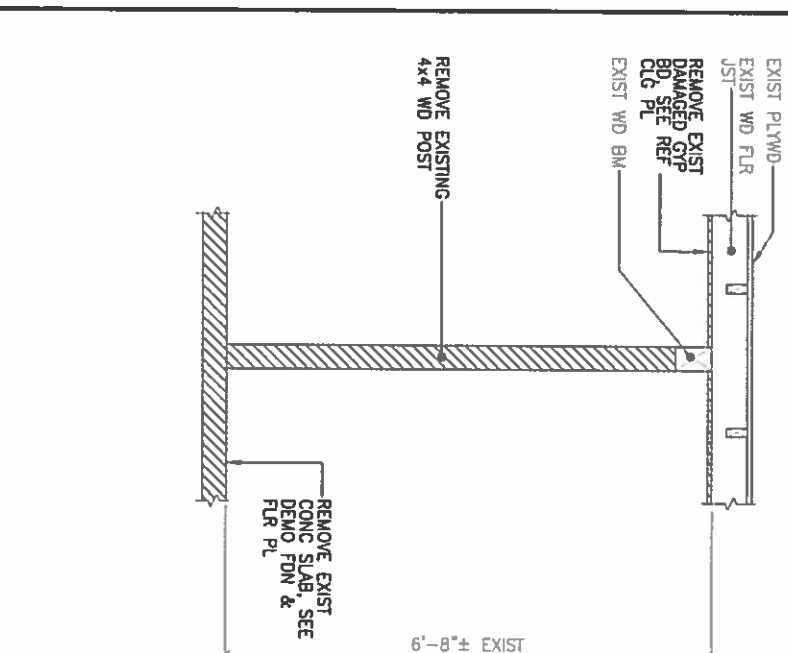
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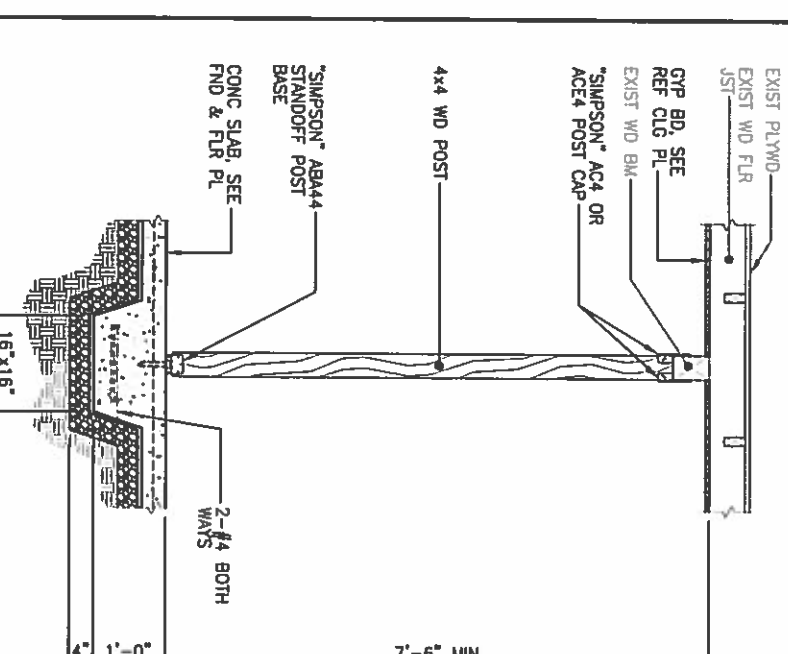
1a
EXISTING /
DEMOLITION WALL
SECTION
SCALE 3/4" = 1'-0"



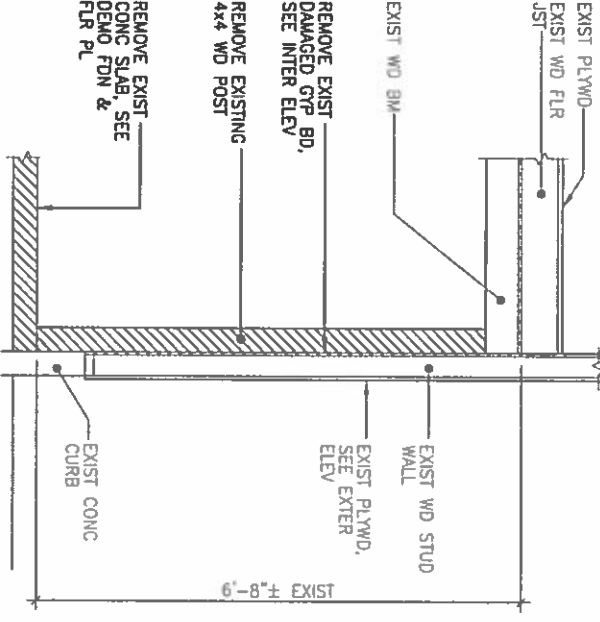
1b
EXISTING /
NEW WORK
WALL SECTION
SCALE 3/4" = 1'-0"



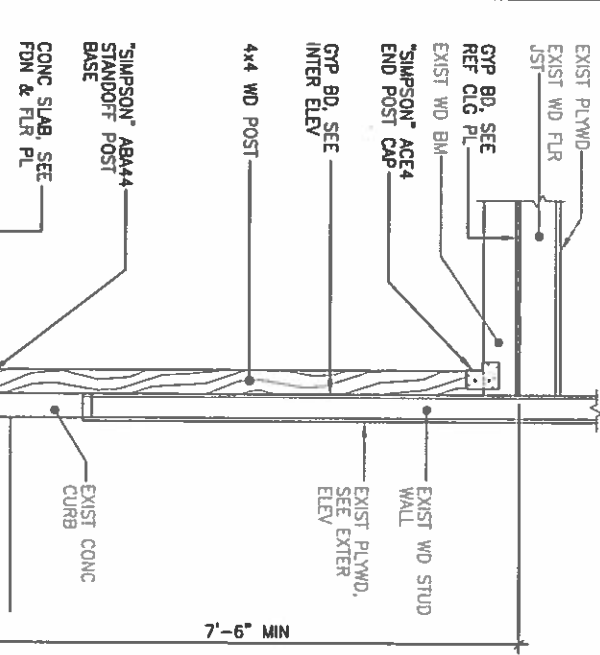
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EXISTING /
DEMOLITION WALL
SECTION
SCALE 3/4" = 1'-0"



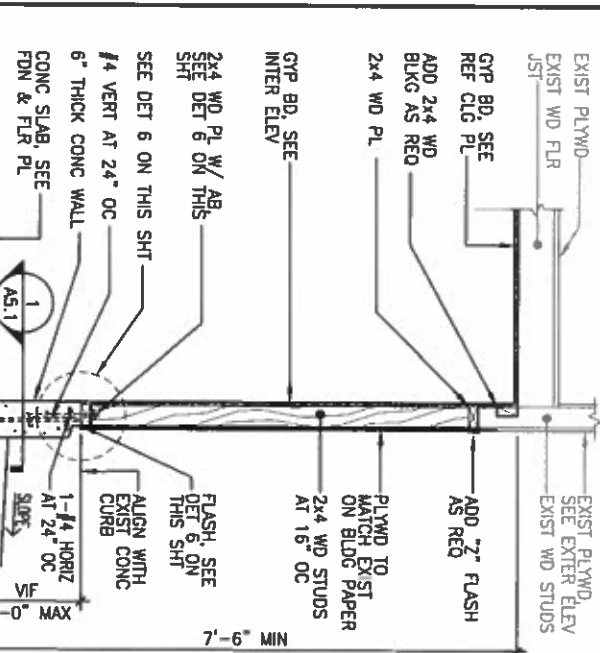
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EXISTING /
NEW WORK
WALL SECTION
SCALE 3/4" = 1'-0"



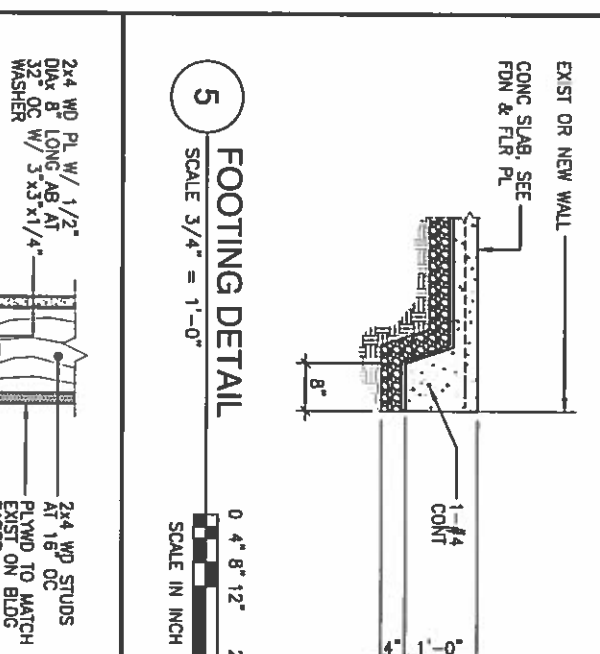
3a
EXISTING /
DEMOLITION WALL
SECTION
SCALE 3/4" = 1'-0"



3b
EXISTING /
NEW WORK
WALL SECTION
SCALE 3/4" = 1'-0"



4
WALL SECTION
SCALE 3/4" = 1'-0"



5
FOOTING DETAIL
SCALE 3/4" = 1'-0"



6
DETAIL
SCALE 3\"/>

No	DATE	DWG	CHK	REVISIONS
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DATE				PRINTS TO

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WESLEY R. SEGAWA
LICENSED PROFESSIONAL ENGINEER
No. 5116-S
HAWAII, U.S.A.
Exp. 04/30/2016

Wesley R. Segawa & Assoc., Inc.

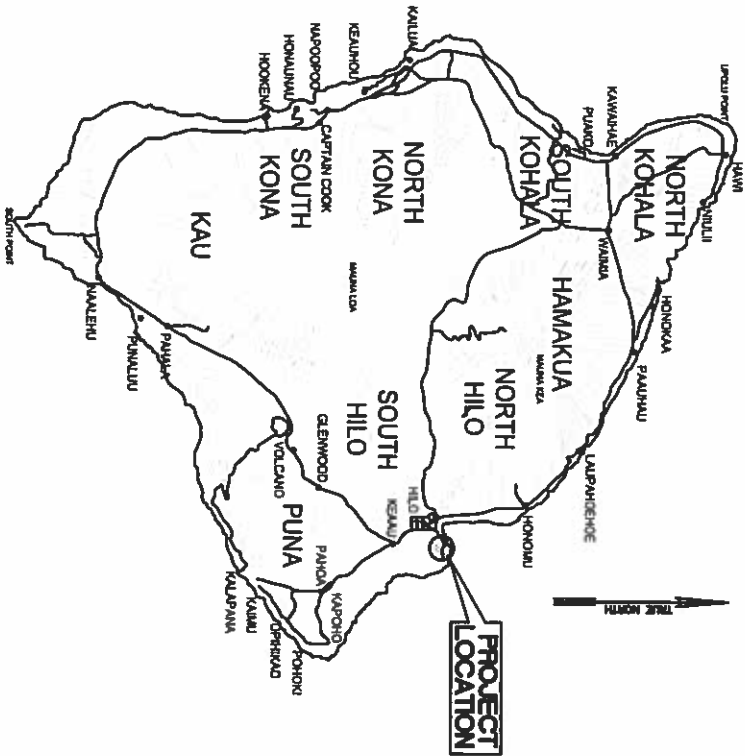
WRS
Wesley R. Segawa and Associates, Inc.
Committed to Quality Performance & Value

Civil & Structural Engineers
101 Silva Street, Suite 201 Hilo, Hawaii 96720-4766
Telephone: (808) 935-4677 Fax: (808) 935-2070

job title: **DHHL KEAUKAHA LOT 58B 2 BEDROOM HOUSE REPAIR**
sheet title: **WALL SECTION, DETAILS**

DESIGN BY: WRS
DRAWN BY: KK
CHECKED BY: WRS
APPROVED BY: WRS
DATE: APRIL 2015
SCALE: AS NOTED
FILE NO.: W1302.44

DRAWING No. **A7.1**



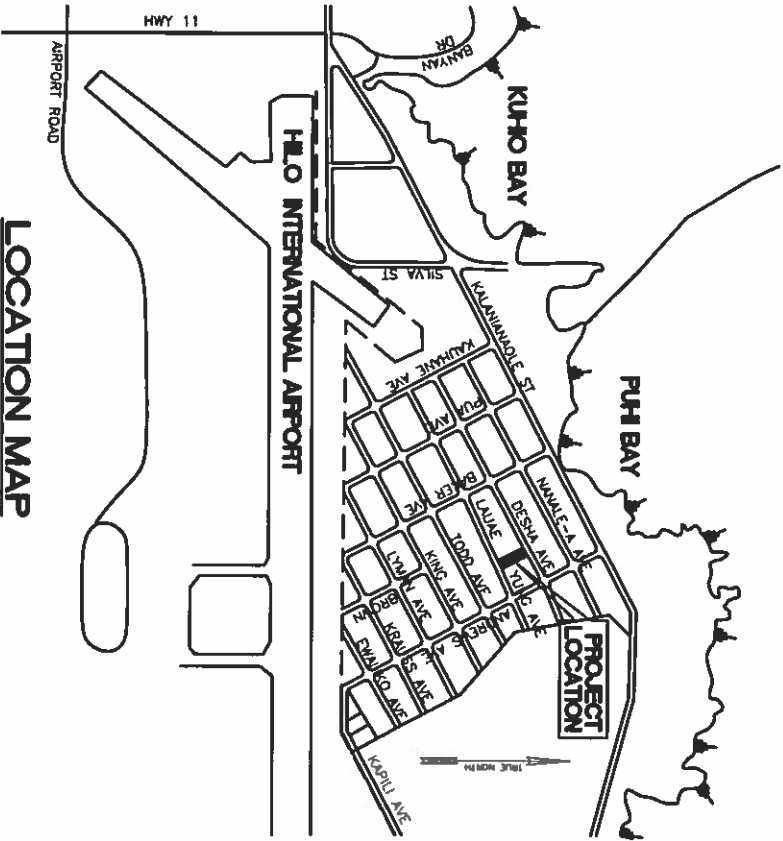
ISLAND OF HAWAII
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STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOMES LANDS
IFB-

3 BEDROOM HOUSE RENOVATION
LOT 131A

WAIAKEA, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TAX MAP KEY: 3RD DN. 2 - 1 - 021: 010
372 DESHA AVENUE



LOCATION MAP
NOT TO SCALE

SHEET NO.	DRAWING NO.	DESCRIPTION
TITLE		
1.	TS1	TITLE SHEET, INDEX, MAP
ARCHITECTURAL		
2.	A1.1	EXISTING SITE PLAN
3.	A2.1	EXISTING / DEMOLITION FLOOR PLAN
4.	A2.2	EXISTING / NEW WORK FLOOR PLAN
5.	A3.1	EXISTING / DEMOLITION EXTERIOR ELEVATIONS
6.	A3.2	EXISTING / NEW WORK EXTERIOR ELEVATIONS
7.	A4.1	EXISTING / DEMOLITION / NEW WORK ROOF PLAN, DETAILS
8.	A5.1	REFLECTED CEILING PLAN
9.	A6.1	EXISTING / DEMOLITION INTERIOR ELEVATIONS
10.	A6.2	EXISTING / NEW WORK INTERIOR ELEVATIONS
10 TOTAL SHEET		

APPROVED BY: _____ DATE: _____
CHAIRMAN, HAWAIIAN HOMES COMMISSION
STATE OF HAWAII

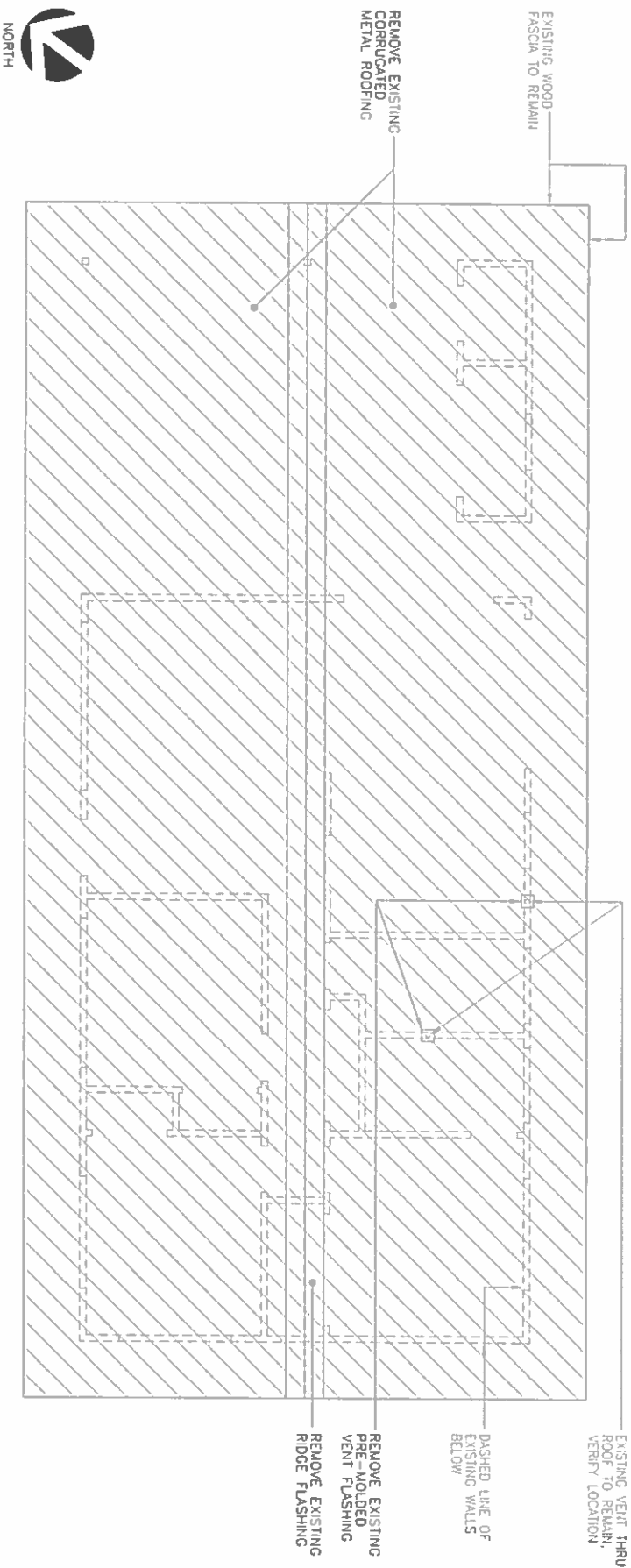


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Wesley R. Segura & Assoc., Inc.

No	DATE	DWC	CHK	REVISIONS
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DATE		PRINTS TO		

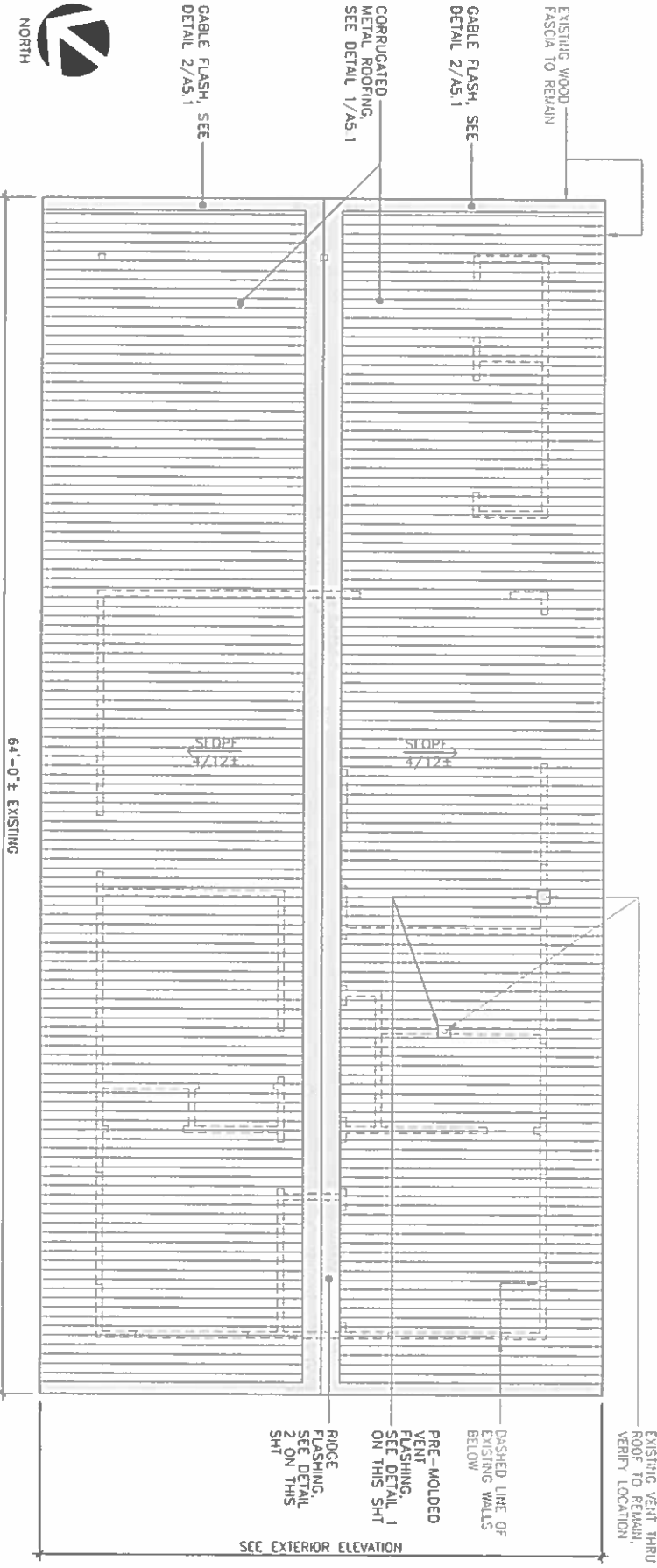
DESIGN BY:	WRS
DRAWN BY:	WK
CHECKED BY:	WRS
APPROVED BY:	
DATE:	MAY 2015
SCALE:	AS NOTED
FILE NO.	W1302.43

job title: DHHL KEAUKAHA LOT 131A
sheet title: 3 BEDROOM HOUSE REPAIR
TITLE SHHT, INDEX, MAP



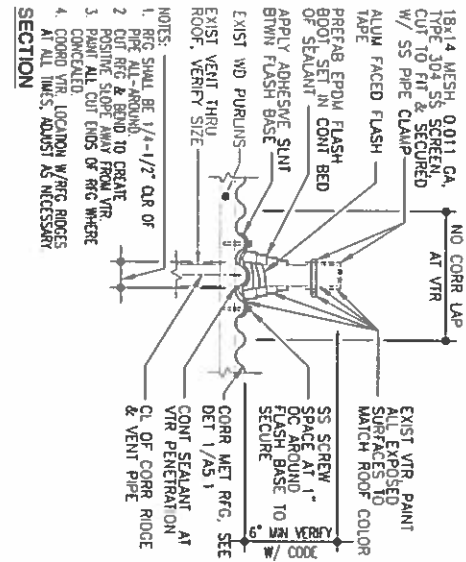
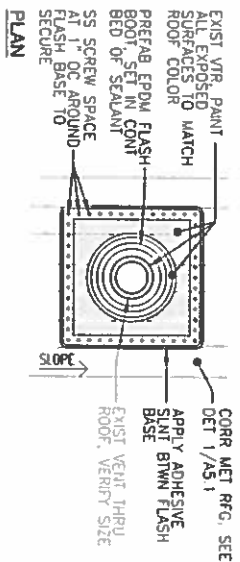
A EXISTING / DEMOLITION ROOF PLAN

SCALE 1/4" = 1'-0"



B EXISTING / NEW WORK ROOF PLAN

SCALE 1/4" = 1'-0"

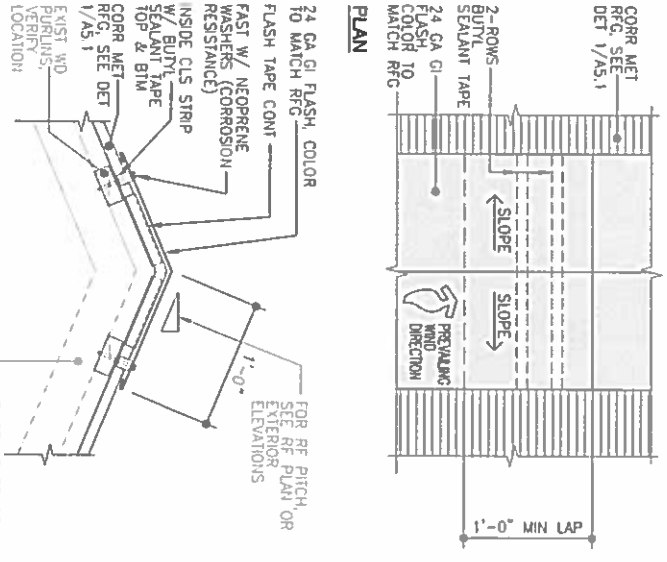


1 NEW FLASHING AT EXISTING VTR

SCALE 1 1/2" = 1'-0"

0' 2' 4' 8' 12"

SCALE IN INCH



SECTION

2 RIDGE FLASHING DETAIL

SCALE 1 1/2" = 1'-0"

0' 2' 4' 8' 12"

SCALE IN INCH

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Wesley R. Segawa & Assoc., Inc.

Wesley R. Segawa
LICENSED PROFESSIONAL ENGINEER
No. 5116-S
HAWAII U.S.A.
Exp. 04/30/2016

WRS
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Consultants in Quality Performance & Value

Civil & Structural Engineers
101 Silvers Street, Suite 201 Hahaione, Hawaii 96720-4755
Telephone: (808) 835-4877 Fax: (808) 835-2070

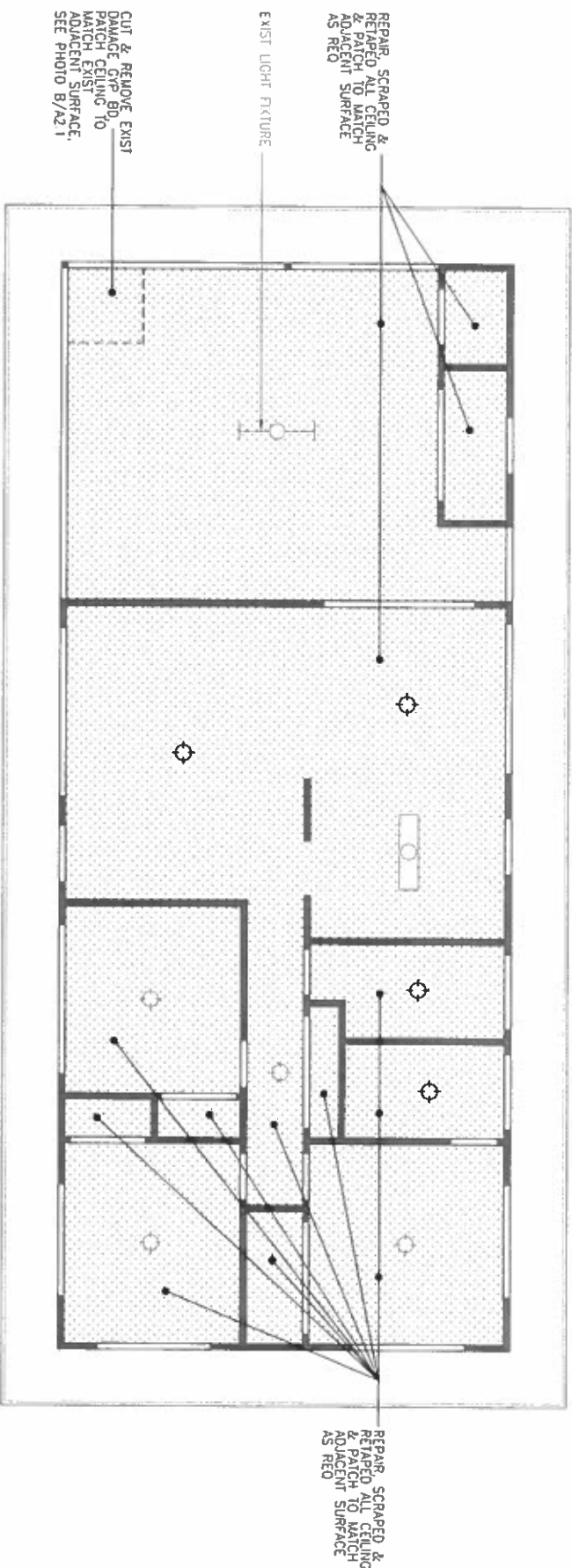
job title: **DHHL KEAUKAHA LOT 131A 3 BEDROOM HOUSE REPAIR**
TUK: (3) 2-1-021:010

sheet title: **EXISTING / DEMOLITION / NEW WORK ROOF PLAN**

DESIGN BY: WRS
DRAWN BY: KK
CHECKED BY: WRS
APPROVED BY: WRS

DATE: MAY 2015
SCALE: AS NOTED
FILE NO. W1302.43

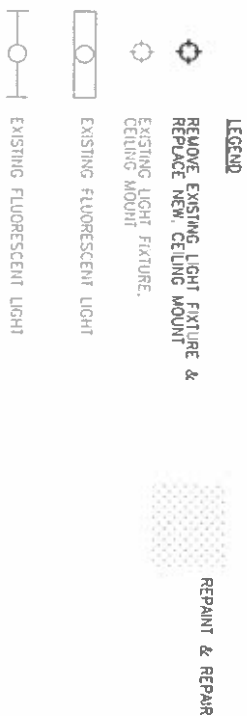
DRAWING No. **A4.1**



NORTH

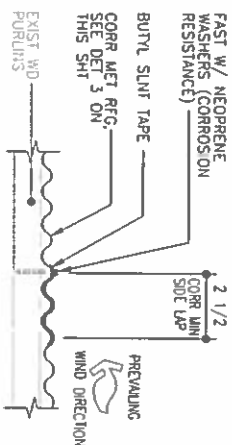
A REFLECTED CEILING PLAN

SCALE 1/4" = 1'-0"



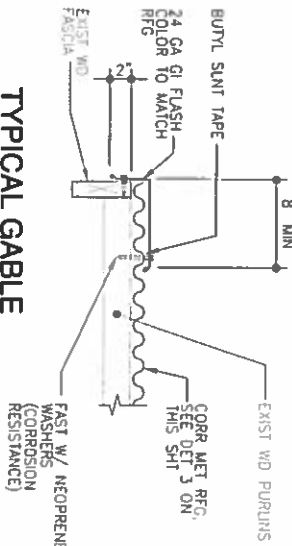
0' 1' 2' 4' 6'

SCALE IN FEET



1 TYPICAL CORRUGATED DETAIL

NOT TO SCALE



2 TYPICAL GABLE FLASHING DETAIL

NOT TO SCALE

job title: **DHHL KEAUKAHA LOT 131A 3 BEDROOM HOUSE REPAIR**

sheet title: **REFLECTED CEILING PLAN, DETAILS**

DESIGN BY: WRS
DRAWN BY: KK
CHECKED BY: WRS
APPROVED BY:
DATE: MAY 2015
SCALE: AS NOTED
FILE NO: W1302 4.1

DRAWING NO.

A5.1

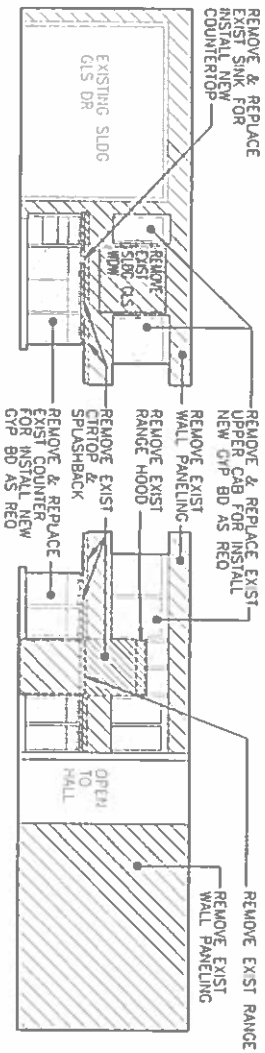
WRS
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Civil & Structural Engineers
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This work was prepared by me or under my supervision and construction of this project will be under my observation.

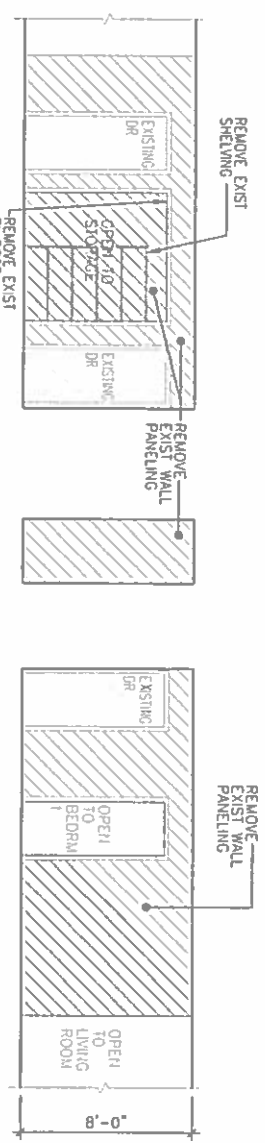
Wesley R. Segawa & Assoc., Inc.

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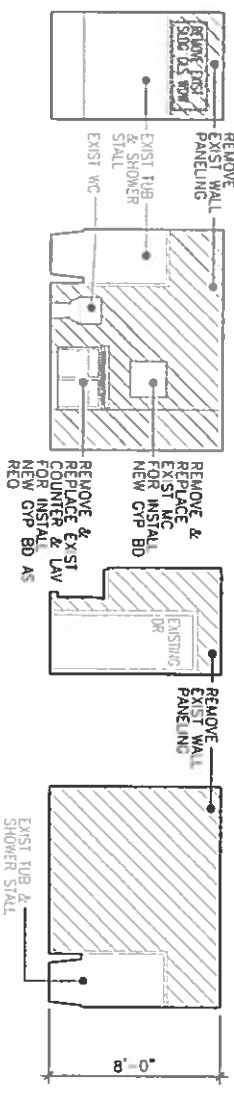
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0' 1' 2' 4' 6'
SCALE IN FEET



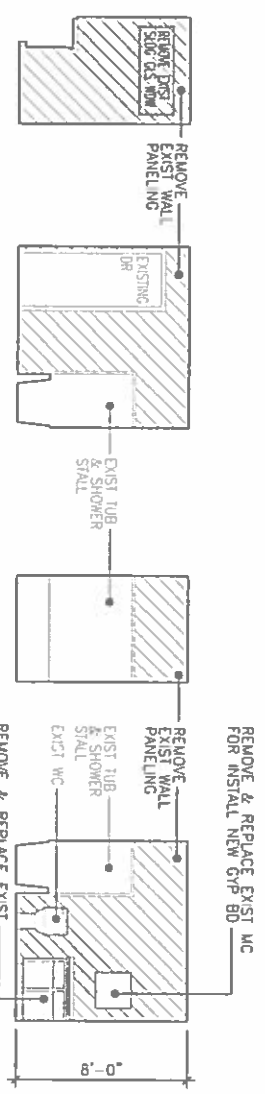
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SCALE IN FT



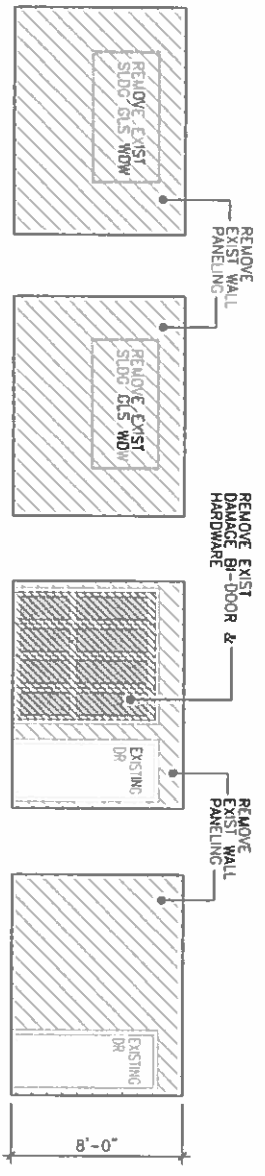
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SCALE IN FT



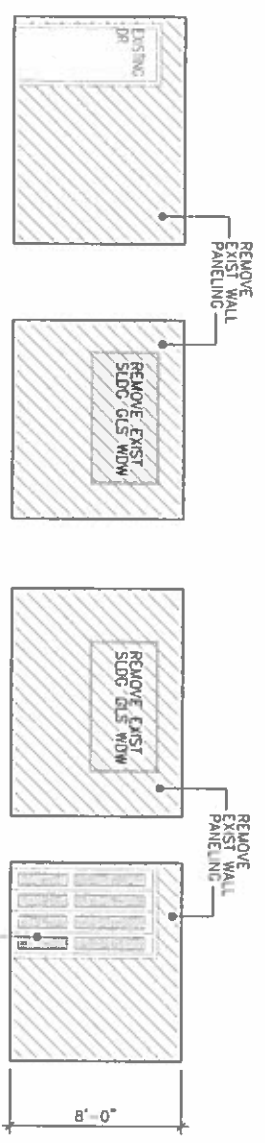
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SCALE IN FT



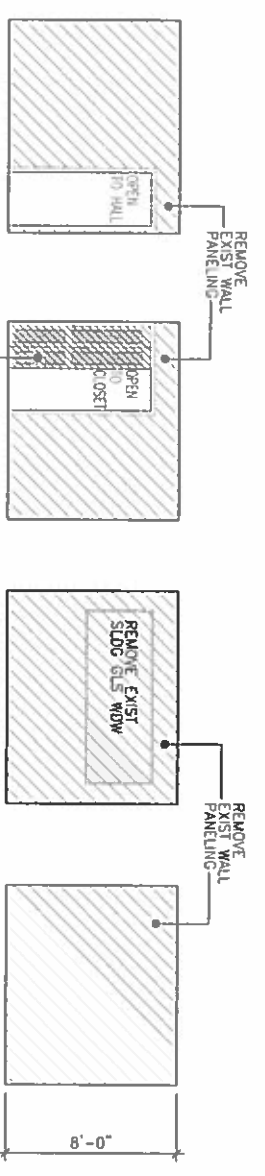
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SCALE 1/4" = 1'-0"

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SCALE IN FT



F
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SCALE 1/4" = 1'-0"

0' 1' 2'
SCALE IN FT



G
EXISTING / DEMO INT ELEV / EXIST BEDROOM 1 #109
SCALE 1/4" = 1'-0"

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SCALE IN FT

No.	DATE	DWG	CHK	REVISIONS
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This work was prepared by me or under my supervision and construction of this project will be under my observation.

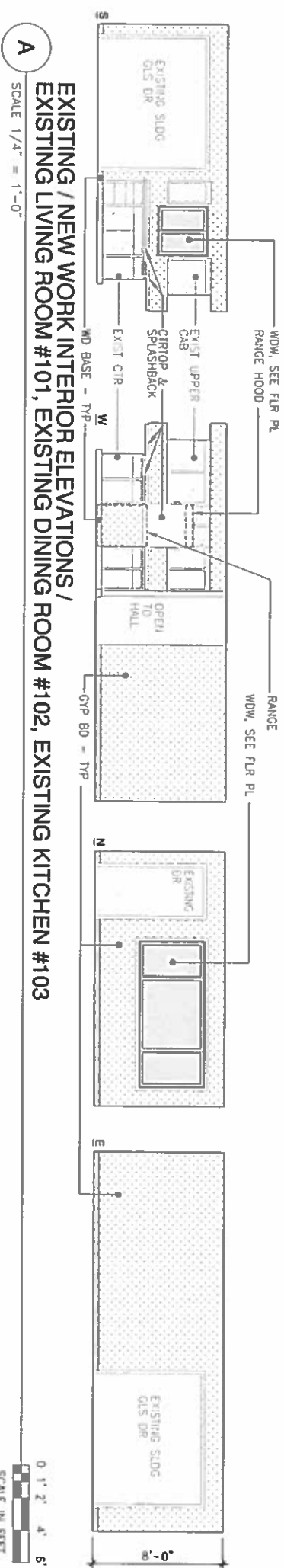


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job title: DHHL KEAUKAHA LOT 131A
3 BEDROOM HOUSE REPAIR
sheet title: EXISTING / DEMOLITION
INTERIOR ELEVATIONS

DESIGN BY: WRS
DRAWN BY: KK
CHECKED BY: WRS
APPROVED BY: WRS
DATE: MAY 2015
SCALE: AS NOTED
FILE NO.: W1302.43

DRAWING NO.
A6.1



LEGEND

1/2" GYP BD
(STANDARD), PAINT

1/2" GYP BD (MOLD &
MOISTURE RESISTANT),
PAINT (BATHROOM ONLY)

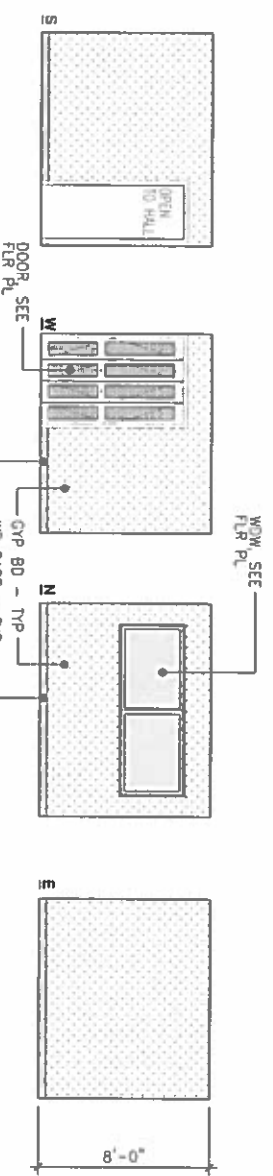
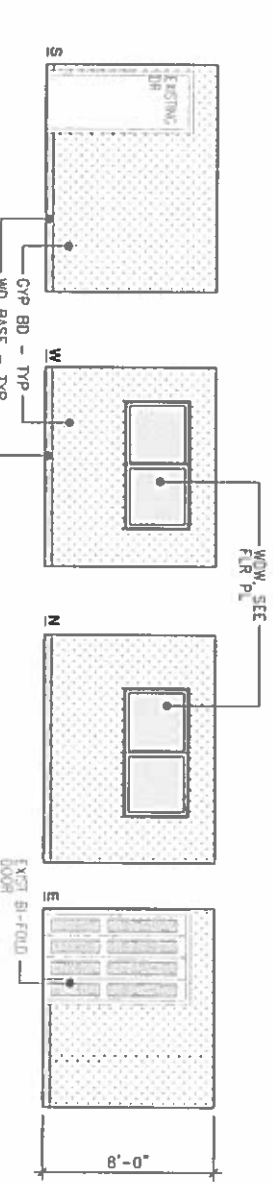
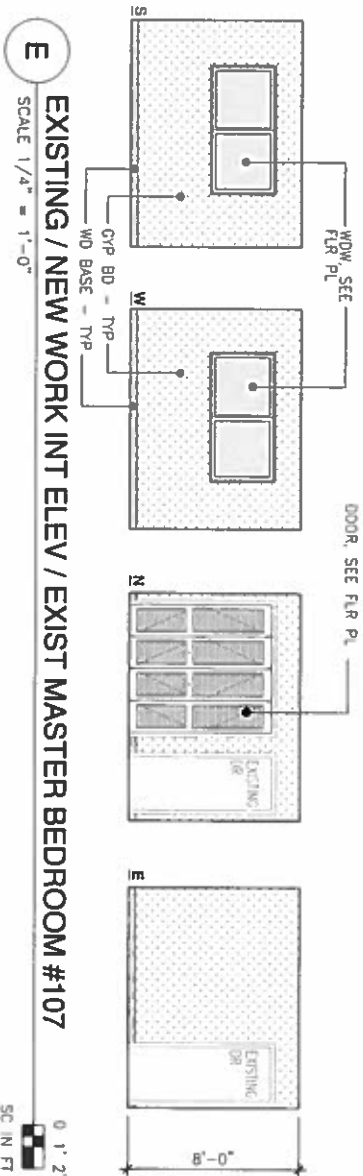
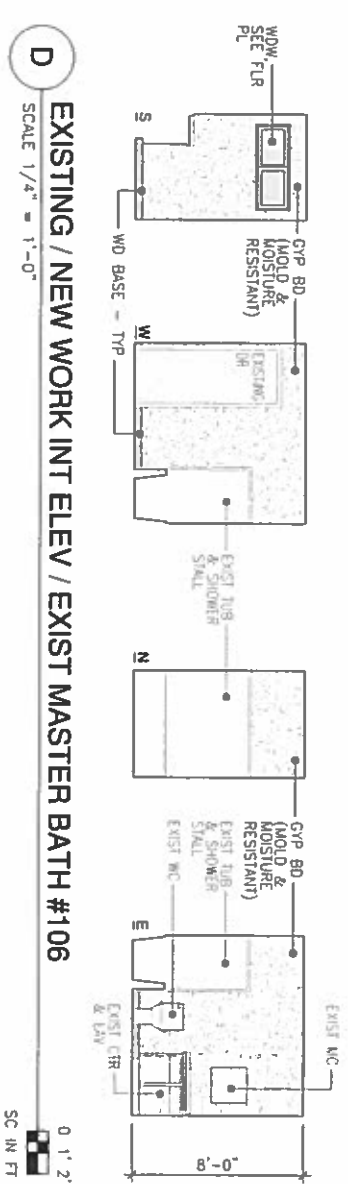
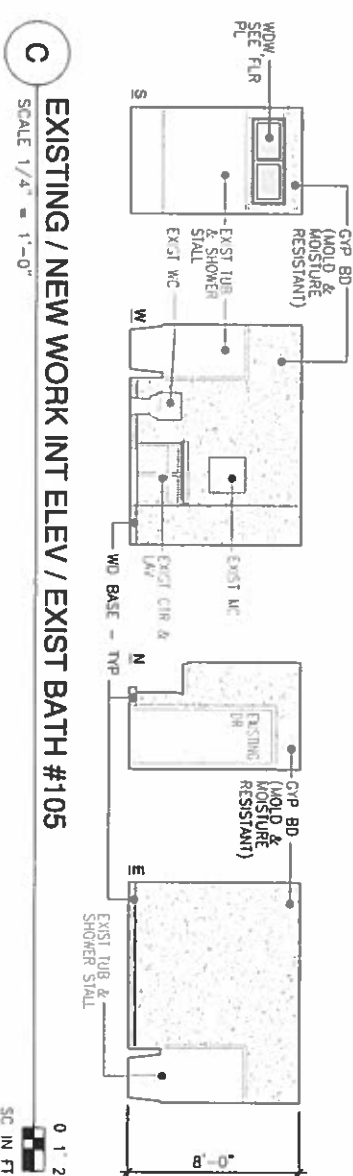
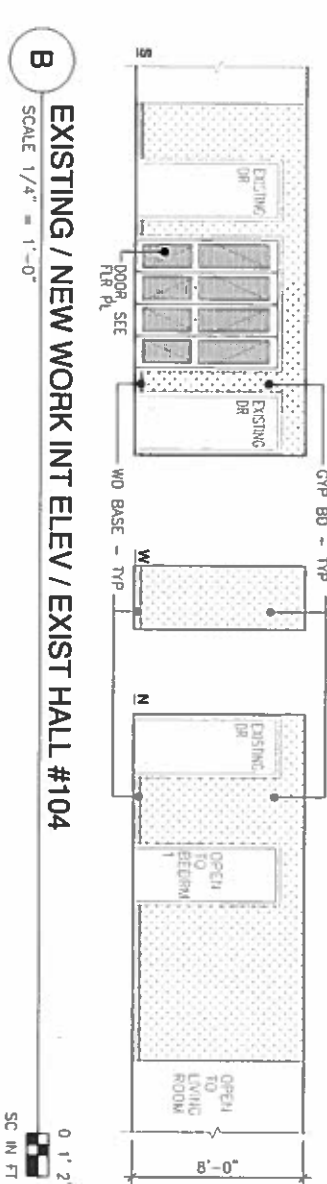


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STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
91-5420 Kapolei Parkway,
Kapolei, HI. 96707

SPECIFICATIONS

FOR
FURNISHING LABOR AND MATERIALS FOR

2-BEDROOM HOUSE RENOVATION (LOT 58-B-1)
&
3-BEDROOM HOUSE RENOVATION (LOT 131-A-3)
HILO, COUNTY OF HAWAII, HAWAII
TAX MAP KEY: (3) 2-1-021:072 & (3) 2-1-021:010

IFB NO.: IFB-16-HHL-005

November 2015



DIVISION 1 – GENERAL REQUIREMENTS

SECTION 00850 – DRAWING INDEX

COMBINED TITLE SHEET

TS

2 BEDROOM HOUSE RENOVATION (LOT 58-B-1)

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6	DOOR & WINDOW SCHEDULE, LIGHT & VENTILATION REQ. FLASHING DETAILS	A2.3
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9	EXISTING/DEMOLITION/NEW WORK FLOOR PLAN, DETAILS	A4.1
10	EXISTING/DEMOLITION REFLECTED CEILING PLAN/BASEMENT & UPPER LEVEL	A5.1
11	EXISTING/NEW WORK REFLECTED CEILING PLAN/BASEMENT & UPPER LEVEL	A5.2
12	EXISTING/DEMOLITION/NEW WORK INTERIOR ELEVATIONS	A6.1
13	INTERIOR ELEVATIONS	A6.2

14	WALL SECTIONS, DETAILS	A7.1
15	STAIR DETAILS	A7.2
16	SECTION THRU BUILDING, DETAIL	A7.3

3 BEDROOM HOUSE RENOVATION (LOT 131-A-3)

<u>Sheet No.</u>	<u>Description</u>	<u>Drawing No.</u>
1	TITLE SHEET, INDEX MAP	TS-1
2	EXISTING SITE PLAN	A1.1
3	EXISTING/DEMOLITION FLOOR PLAN	A2.1
4	EXISTING /NEW WORK FLOOR PLAN	A2.2
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7	EXISTING/DEMOLITION/NEW WORK FLOOR PLAN, DETAILS	A4.1
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10	EXISTING/NEW WORK INTERIOR ELEVATIONS	A6.2

DIVISION 1 – GENERAL REQUIREMENTS

SECTION 01010 – SUMMARY OF WORK

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

The General Provisions and the Special Provisions apply to this Section. Special attention is directed to the Proposal Schedule.

1.02 SUMMARY

Section Includes:

1. Vehicle Parking
2. Provisions for Field Office/Storage Space
3. Location of the Work
4. Hours of work
5. Safety
6. Disposal of excess soil materials
7. Construction stakes, lines and grades
8. Special project requirements
9. Unforeseen Conditions Allowances

1.03 PROVISIONS FOR FIELD OFFICE/STORAGE SPACE

Pending the availability of space on DHHL property, the State will issue a permit to the Contractor for the use of the space, at no charge, to be used specifically for a field office and/or storage of materials and equipment. Since space on DHHL property is limited, the State does not guarantee that the space provided to the Contractor will be in close proximity to the project site. The State will make every effort to provide the Contractor with space on DHHL property, however, should the State determine that no space is available for such use(s), the responsibility shall then be on the Contractor to find space outside of DHHL property.

1.04 LOCATION OF THE WORK

- A. The work to be performed under this contract is located at East Hawaii Keaukaha Tract 1, Waiakea, South Hilo. Refer to the project plans for the jobsite location.
- B. Conditions: Upon award of the contract, the Contractor, at their cost, shall obtain all permits required for this project.

1.05 HOURS OF WORK

- A. Work can be performed at the construction site between 8:00 am and 4:30 pm, Monday through Friday. Submit a proposed construction schedule to Engineer for review and approval within 14 calendar days prior to start of work. The Contractor shall coordinate their schedule with the Engineer if rescheduling of work or intermittent work is required, such work shall be performed at no extra cost to the State. If the Contractor's obligation to pay.
- B. Contractor shall clean work areas at the end of each working shift. Rubbish, loose materials, etc. shall be disposed of daily. Materials shall be safely secured and stored in an area designated by the West Hawaii District Supervisor.

1.06 SAFETY

- A. The Contractor shall take the necessary precautions to protect his workers and other personnel from injuries. The rules and regulations promulgated by the Occupational Safety and Health Acts are applicable and made a part of these specifications.
- B. Barricades and warning signs shall be erected by the Contractor in the work area to properly protect all personnel in the area.
- C. During the progress of the work debris, empty crates, waste, material drippings, etc., shall be removed by the Contractor at the end of each work day, and the work area shall be left clean and orderly.

1.07 DISPOSAL OF EXCESS SOIL MATERIALS

- A. At the Construction Manager and/or Engineers discretion, excess useable soil materials may be used as fill material for this project. Best Management Practices shall be employed at all times to control soil erosion and water pollution that may result from stockpiling activities.
- B. Off-Site Disposal of Excess Soil Material: Any excess soil material and rubbish disposed of outside the DHHL property shall be the responsibility of the Contractor. The Contractor shall make all arrangements and bear all costs involved therewith.

1.08 CONSTRUCTION STAKES, LINES AND GRADES

- A. The Contractor shall perform all construction layout and reference staking necessary for the proper control and satisfactory completion of all structures, grading, paving, drainage, sewer, water, and all other appurtenances required for the completion of the work.
- B. Existing horizontal and vertical survey control points for the project are shown on the plans. The Contractor shall verify the location of all control points prior to the start of construction.
- C. The Department will not be responsible for delays in setting stakes and marks.
- D. All control points and stakes or marks which the Engineer may set shall be preserved by the Contractor. If such control points, stakes or marks are destroyed or disturbed by the Contractor, the cost of replacing such stakes or marks will be charged against the Contractor and deducted from payments due the Contractor.
- E. The Contractor shall be responsible for the placement and preservation of adequate ties to all control points whether established by the Contractor or by the Engineer.
- F. All original, additional or replacement stakes, marks, references and batter-boards which may be required for the construction operations, shall be furnished, set and properly referenced by the Contractor. The Contractor shall be solely and completely responsible for the accuracy of the line and grade of all features of the work. Any errors or apparent discrepancies found in previous surveys, the plans and specifications shall be called to the Engineer's attention by the Contractor for correction or interpretation prior to the proceeding with the work.
- G. Before construction is started on any structure which is referenced to an existing structure or topographical feature, the Contractor shall check the pertinent locations and grades of the existing structures or topographical features to determine whether the locations and grades shown on the plans are correct.
- H. All construction staking shall be performed by qualified personnel under the direct supervision of a person with an engineering background who is experienced in the direction of such work and is acceptable to the Engineer.

- I. All stakes and markers used for control staking shall be of the same quality as used by the Department for this purpose. For slope limits, pavement edges, gutter lines, etc., where so called "working" stakes are commonly used, stakes of different quality may be acceptable.
- J. The Department may check the Contractor's control of the work at any times as the work progresses. The Contractor will be informed of the results of these checks, but the Department by doing so will in no way relieve the Contractor of his responsibility for the accuracy of the layout work. The Contractor shall at his expense correct or replace any deficient or inaccurate layout and construction work. If, as a result of these deficiencies or inaccuracies, the Department is required to make further studies, redesign, or both, all expenses incurred by the Department due to such deficiencies or inaccuracies, will be deducted from any payment due the Contractor.
- K. The Contractor shall furnish all necessary personnel, engineering equipment and supplies, materials, and transportation incidental to the accurate and satisfactory completion of this work.

Unless otherwise provided, all requirements imposed by this section and performed by the Contractor shall be considered incidental to the various contract items and not separate or additional payment will be made thereof.

1.09 SPECIAL PROJECT REQUIREMENTS

- A. Upon receipt of the Contract, the Contractor shall process and return the Contract to the State' Contract Office within five (5) calendar days.
- B. The State intends to issue the Notice to Proceed for the Project to the Contractor within 30 calendar days after bid opening. The Contractor shall be able to commence work on this date.

1.10 UNFORSEEN CONDITIONS ALLOWANCE

- A. Included in this project is an allowance for unforeseen conditions to be used by the engineer to pay for unknown conditions from either review of the contract documents or existing exposed conditions found at the site or anticipated from the type of work found.

- B. All unforeseen conditions that the Contractor is anticipating being compensated for must be brought to the attention of the engineer and acknowledged as an unforeseen condition that will be paid for by the State before the Contractor proceeds with his work.
- C. Work accomplished by the Contractor without prior approval by the Engineer will be considered part of the work and incidental to the work and no additional compensation will be allowed.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

- A. Work under this section will not be measured not paid for separately, but shall be considered incidental to and included in the bid prices for the various items of work in this project.
- B. Work under this section for unforeseen conditions shall be paid under an allowance item in the Proposal Schedule. The allowance is an estimate and the Additional charges by the Contractor for overhead, coordination, profit, included in the Contractor's lump sum bid price.

END OF SECTION

SECTION 01300 – SUBMITTALS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 PROJECT DOCUMENTATION

The contract will not be considered complete until required submittals have been received and accepted by the State.

1.03 DETAILED CONSTRUCTION SCHEDULE

- A. The Contractor shall submit a detailed construction schedule to the Engineer for review, no later than thirty (30) calendar days after award of the Contract. The detailed construction schedule shall be based on a detailed critical path analysis of construction activities and sequence of operations needed for the orderly performance and completion of any separable parts of any work and all work in accordance with the Contract. The schedule shall be Critical Path Method (CPM) type in the form of an arrow diagram and activity listing or comprehensive bar graph. The network diagram shall show in detail and in orderly sequence all activities on a time scale, their description, durations and dependencies, necessary and required to complete all work and any separable parts thereof. The schedule shall show in detail the following information for each activity.
1. Identification by code numbers and description;
 2. Duration;
 3. Craft and Equipment;
 4. Earliest start and finish dates;
 5. Latest start and finish dates;
 6. Total and free float time; and
 7. Highlighted Critical Path
- B. The construction schedule shall be complete in all respects, covering in addition to activities at the site of work, off-site activities such as design, fabrication, and procurement of equipment; the scheduled delivery dates of such equipment; submittal and approval of shop drawings and samples; ordering and delivery of materials; inspections; and testing. The schedule shall also include a manpower forecast by crafts. The detailed construction schedule shall be supplemented by a three week schedule prepared by the Contractor and submitted to the Engineer on a weekly basis. The Contractor shall promptly inform the Engineer of any proposed

change in the schedule and shall furnish the Engineer with a revised schedule and cash flow diagram within fifteen (15) calendar days after approval of such change.

The schedule shall be kept up to date, taking into account the actual progress of work and shall be updated if necessary, every thirty (30) calendar days. The updated schedule shall, as determined by the Engineer, be sufficient to meet the requirements for the completion of the separable parts of work and the entire projects as set forth in the contract. Upon commencing work, the Contractor shall submit at the start of each week to the Engineer for review, a detailed two (2) week construction schedule.

- C. If at any time during the progress of the Work, the Contractor's actual progress appears to the Engineer to be inadequate to meet the requirements of the contract, the Engineer will notify the Contractor of such imminent or actual noncompliance with the contract. The Contractor shall thereupon take such steps as may be necessary to improve his progress and the Engineer may require an increase in the labor force, the number of shifts, and/or overtime operations, days or work and/or the amount of construction plants all without additional cost to the State. Neither such notice by the Engineer nor the Engineer's failure to issue such notice shall relieve the Contractor from his obligation to achieve the quality of work and rate of progress required by the Contract. Failure of the Contractor to comply with instructions of the Engineer under these provisions may be grounds for determination by the State that the Contractor is not prosecuting work with such diligence as will assure completion within the time specified. Upon such determination, the State may employ labor and equipment and charge the Contractor for the cost thereof, including depreciation for plant and equipment or may terminate the Contractor's right to proceed with the performance of the contract, or any separable part thereof, in accordance with the applicable provisions of the contract.
- D. The Contractor shall submit to the Engineer one (1) reproducible and three (3) prints of the detailed construction schedule and of each revised schedule submitted thereafter.
- E. The Contractor shall submit the schedule to the Engineer in Microsoft Project Format (.mpp) and Adobe PDF Format (PDF). The Contractor shall submit a narrative explaining the reasoning behind the construction of the schedule including but not limited to the reasons for durations, sequence of work, and a description of all critical path items. The narrative for each updated schedule shall outline all changes to the schedule and include the justification for each change.

1.04 SCHEDULE OF VALUES

- A. The Contractor shall submit the Schedule of Values to the Engineer for review, no later than thirty (30) calendar days after award of the Contract.
- B. Format and Content: Use the Project Specifications table of contents as a guide to establish the format for the Schedule of Values. Provide at least one line item for each Specification Section. Provide a breakdown of the contract sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principle work or subcontract amounts down into several smaller identifiable items of work.
- C. Identification: Include the following Project identification on the schedule of values:
 - 1. Project name and location
 - 2. Project number
 - 3. Contractor's name and address
 - 4. Contract No.
 - 5. Date of submittal
- D. Arrange the schedule of Values in tabular form with separate columns to indicate the following items listed:
 - 1. Related Specification Section or Division
 - 2. Description of work
 - 3. Dollar value and percent complete
- E. Correlate line items in the Schedule of Values with other required administrative schedules and forms including;
 - 1. Construction Schedule
 - 2. Application for Payment forms including continuation sheets
 - 3. List of Subcontractors
 - 4. List of principle suppliers and fabricators
 - 5. Schedule of submittals
- F. Round amount to nearest whole dollar; the total shall equal the contract sum.
- G. Provide a separate line item in the Schedule of Values for each part of the work where Applications for Payment may include materials or equipment, purchased, fabricated or stored, but not yet installed.
- H. Schedule Updating: Update and resubmit the Schedule of Values prior to the next Applications for Payment or when Charge Orders or Construction Change Directives result in a change in the Contract Sum.

1.05 OTHER SUBMITTALS REQUIRED BEFORE CONSTRUCTION

The Contractor shall submit the following items prior to or at the pre-construction meeting or unless otherwise noted:

- A. Name, residence phone number, addresses and scope of authority for the following persons:
 - 1. Superintendent
 - 2. Contractor's authorized representative to sign documents
 - 3. Two (2) additional persons who can be contacted during non-working hours for emergencies
 - 4. Field Office location and phone numbers (cellular, pager, fax, etc.)
- B. Name of Safety Officer
- C. Notice of Materials to be furnished
- D. Three (3) copies each of Certificates of Insurance. The State of Hawaii, Department of Transportation, Airports Division shall be named as additionally insured. If canceled, thirty (30) days written notice to the State of Hawaii must be given. If certificates are not correct, work cannot proceed.
- E. Three (3) copies each Insurance and Tax Rates.
- F. List of apprentices who will be working on the project supposed with the Statement of Apprenticeship or copy of the Apprenticeship Agreements register with the State Board, for each apprentice.
- G. List of equipment to be used on the job. Designate maximum working height and capacity of equipment involved and their respective rental rates.
- H. Three (3) copies of an expenditure (cash flow) plan consisting of an anticipated work completion graph plotting contract time and gross payment anticipated.

1.06 SHOP DRAWINGS, SAMPLES, CATALOG CUTS, AND CERTIFICATES

- A. Submittal Schedule: Prior to the submission of any shop drawings or submittals, the Contractor shall submit to the Engineer for review, a submittal schedule. The schedule shall identify the subject matter of each submittal, the corresponding specification section number and the proposed date of submission. During the progress of work, the Contractor shall revise and resubmit the submittal schedule as directed by the Engineer.

- B. The Contractor shall submit for review to the Engineer, or to a representative designated by the Engineer, six (6) copies of all shop drawings, samples, catalog cuts and certificates. Three (3) copies will be returned to the Contractor with information of review action. The Contractor shall submit additional quantities for their subcontractor's or supplier's use. Each shop drawing, certificate of compliance, sample, and equipment list shall be checked and certified correct by the Contractor, and shall be identified with the applicable information specified hereinafter under "Submittal Identification."

Items are to be reviewed prior to commencing fabrication or delivery of material to the job site.

- C. Each copy of the drawings, certificates, catalog cuts, and lists reviewed by the Engineer will be stamped "REVIEW ACTION" with the appropriate action noted therein. The review of the Engineer shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory. Acceptance of such drawings will not relieve the Contractor the responsibility of conforming to the contract drawings and specifications or for any error or omission which may exist as the Contractor shall be responsible for the dimensions and design of adequate connections, details, and satisfactory construction of all work. Each shop drawing submitted for review shall have, in the lower right-hand corner just above title, a white space 4" x 4" in which the Engineer can place the stamp and indicate action taken. The Contractor shall also inform their subcontractors to provide this space in their preparation of shop drawings.

1.07 TEST REPORTS

Six copies of test reports for any material used in this Contract shall be submitted when specified or required by the Engineer.

1.08 SUBMITTAL IDENTIFICATION

- A. To avoid rejection and to clarify each submittal, the General Contractor shall have a rubber stamp made up in the following format:

- B. _____
General Contractor's Name

PROJECT TITLE: _____

THIS SUBMITTAL HAS BEEN CHECKED BY THIS GENERAL CONTRACTOR
AND IS CERTIFIED CORRECT AND IN COMPLIANCE WITH THE CONTRACT
DRAWINGS AND SPECIFICATIONS.

ITEM NO. _____

SUBMITTAL NUMBER _____
DATE RECEIVED _____
SPECIFICATION SECTION # _____
SPECIFICATION PRARAGRAPH # _____
DRAWING NUMBER _____
SUBCONTRACTOR NAME _____
SUPPLIER NAME _____
MANUFACTURER NAME _____
CERTIFIED BY _____ (Contractor's Signature, Date)
_____ (Contractor's Name and Title)

- C. This stamp "filled in" should appear on each reproducible shop drawing, on the cover sheet of copies of test and mill reports, certificates of compliance, catalog cuts, brochures, etc. The stamp should be placed on a heavy stock paper merchandise (approximately 3" x 6") and one tag tied to each sample submitted for approval. The tag on the samples should state what the sample is, so that if the tag is accidentally separated from the sample they can be matched up again.

The back of this tag will be used by the Engineer for receipt, approval, and log stamp for any comments that relates to the sample.

- D. Submission Number: Each submission is to be sequentially numbered in the space provided in the Contractor's stamp. Correspondence and transmittal will refer to this number.
- E. The Contractor shall ensure that all submittals, including shop drawings, are compete and in conformance to the requirements of the Contract specifications prior to submissions to the State for review and acceptance. Incomplete submittals will not be processed by the State and returned to the Contractor for correction. Any cost impacts and delays in the Project schedule as a result of incomplete submittals shall be the responsibility of the Contactor.

1.09 AS-BUILT DRAWINGS

The Contractor shall maintain on the job site two (2) sets of full-size contract drawings, marking them in red to show all variations between the construction actually provided and that indicated or specified in the contract documents, including buried or concealed construction. Where a choice of material or method is permitted herein or where variations in scope of character of work from that of the original contract or authorized, the drawings shall be marked to define the construction actually provided. Where equipment installation is involved, the size, manufacture's name, model number, power input or output characteristics as applicable shall be shown on the as-built drawings.

The representation of such changes shall conform to standard drafting practice and shall include such supplementary notes, legends, and details as necessary to clearly portray the as-built construction.

The drawings shall be maintained and updated on a daily basis. The Contractor shall stamp, sign, and date each sheet with the following stamp:

AS-BUILT DRAWINGS/SPECIFICATIONS

This certifies that the dimensions and details shown on this sheet reflect the dimensions and details, and specifications as constructed in the field.

CONTRACTOR'S NAME

Signature

Date

Monthly and final payments to the Contractor shall be subject to prior approval of the drawings. On completion of the work, both sets of marked-up drawings shall be delivered to the Engineer, and shall be subjected to approval before acceptance.

1.10 GUARANTEES

Guarantee periods shall start at the time of acceptance in writing by the State.

All guarantees and warranties shall be made out to the "State of Hawaii." Supplier and subcontractor guarantees shall be co-signed by the Contractor. The Contractor is solely responsible for coincidence or non-coincidence of factory warranties or equipment guarantees, and the Contractor's own warranties and guarantees as required by the contract. The Contractor is solely responsible for scheduling and coordinating the installation of equipment and materials so as to take maximum advantage of factory warranties.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the bid prices for the various items of work in this project.

END OF SECTION

SECTION 01400 – QUALITY REQUIREMENTS

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. The Contractor shall establish, provide, and maintain an effective Quality Control Program that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified here in and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.
- B. The intent of this section is to enable the Contractor to establish a necessary level of control that will:
 - 1. Adequately provide for the production of acceptable quality materials.
 - 2. Provide sufficient information to assure both the Contractor and the Engineer that the specification requirements can be met.
 - 3. Allow the Contractor as much latitude as possible to develop his or her own standard of control.
- C. The Contractor shall be prepared to discuss and present, at the pre-construction conference, his/her understanding of the quality control requirements. The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the Quality Control Program has been reviewed and accepted by the Engineer. No partial payment will be made for materials subject to specific quality control requirement until the Quality Control Program has been reviewed and approved by the Engineer.
- D. The quality control requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the acceptance testing requirements. Acceptance testing requirements are the responsibility of the Engineer. All inspection and test reports shall be stamped and signed by a licensed professional engineer.

1.02 DESCRIPTION OF PROGRAM

- A. General Description. The Contractor shall establish a Quality Control Program to perform work quality inspections and control testing on all

materials and items of work required by the technical specifications, including those performed by subcontractors. This program shall ensure conformance to applicable specifications and plans with respect to materials, workmanship, constructions, finish, and functional performance the program shall be effective for control of all construction work performed under this Contract, in addition to other requirements of this section, and any other activities deemed necessary by the Contractor to establish an effective level of quality control.

- B. Quality Control Program. The Contractor shall describe the Quality Control Program in a written document which shall be reviewed by the Engineer prior to the start of any production, construction, or off-site fabrication. The written Quality Control Program shall be submitted to the Engineer for review thirty (30) calendar days after the date of award.
- C. The Quality Control Program shall be organized to address, as a minimum, the following items:
 - 1. Quality control organization;
 - 2. Submittals schedule;
 - 3. Inspection Requirements;
 - 4. Quality control testing plan;
 - 5. Documentation of quality control activities; and
 - 6. Requirements for corrective action when quality control and/or acceptance criteria are not met;
 - 7. A listing of the definable features of work for the project.

The Contractor is encouraged to add any additional elements to the Quality Control Program that he/she deems necessary to adequately control all production and/or construction processes required by this contract.

1.03 QUALITY CONTROL ORGANIZATION

- A. The Contractor's Quality Control Program shall be implemented by the establishment of a separate organization that is not a part of the production organization. An organizational chart shall be developed to show all quality control personnel and how these personnel integrate with other management/production and construction functions and personnel. The organizational chart shall identify all quality control staff by name and function, and shall indicate the total staff required to implement all elements of the program, including work quality inspection and control testing on materials for each item or work. At the top of the chart, an

overall Contractor Quality Control System Manager, CQCSM, shall be named and his/her subordinates shall follow thereafter.

B. The quality control organization shall consist of the following minimum personnel:

1. Contractor Quality Control System Manager. The CQCSM shall be a Licensed Engineer of the Contractor, or a consultant engaged by the Contractor. The CQCSM shall have a minimum of 10 years of experience in airport and/or paving and building construction and shall have had prior quality control experience on a project of comparable size and scope as the contract. The CQCSM shall be on the project full time and shall have production duties. The CQCSM shall NOT be the point of contact for the production organization.

The CQCSM shall have full authority to institute any and all actions necessary for the successful implementation of the Quality Control Program to ensure compliance with the contract plans and technical specifications including authority to independently stop any work not in compliance with the contract. The CQCSM shall report directly to a responsible officer of the construction firm, such officer not being the project Superintendent or Foreman.

2. Quality Control Technicians. A sufficient number of quality control technicians necessary to adequately implement the Quality Control Program shall be provided. These personnel shall either be an engineer, engineering technicians, or experienced craftsman with qualifications in the appropriate fields and shall have a minimum of 7 years of experience in their area of expertise. The Quality Control Technician shall be on the project full time and shall have no production duties.

The quality control technicians shall report directly to the CQCSM and shall perform the following functions.

- a. Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by Section 1.05.
- b. Performance of quality control tests as required by the Contractor's program.

3. Staffing. The Contractor shall provide sufficient qualified control personnel to monitor each work activity at all times. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The Quality Control Program shall state

where different technicians will be required for different work elements

All personnel shown on the organizational chart shall have, in resume form, all information regarding their education, any licenses, their present position, previous work experience, etc., included in the Quality Control Program written documentation. These resumes shall be verified by the CQCSM.

1.04 SUBMITTALS SCHEDULE

The Contractor shall submit a detailed listing of all submittals (e.g., mix designs, material certifications, and color samples) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include:

1. Specification item number.
2. Item description.
3. Description of submittal.
4. Specification paragraph requiring submittal; and
5. Scheduled date of submittal.

1.05 INSPECTION REQUIREMENTS

- A. Quality control inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by Section 1.07.
- B. Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the particular feature of work.
- C. Before any definable feature of work is started, the CQCSM shall notify the Engineer of such work at least 48 hours in advance. Upon notification, the Engineer shall determine if a meeting shall be held to discuss the condition of the work area, material and equipment status, what is to be expected and any questions or possible problems. No definable feature work shall commence without the consent of the Engineer and State Project Manager.

1.06 QUALITY CONTROL TESTING PLAN

- A. As part of the overall Quality Control Program, the Contractor shall implement a quality control testing plan that the Contractor deems necessary to adequately control production and/or construction processes.

- B. The testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:
 - 1. Specification item number;
 - 2. Item description (e.g., plant control, concrete cylinder tests);
 - 3. Test type (e.g., concrete compressive strength);
 - 4. Test standard (e.g., ASTM or AASHTO test number, as applicable);
 - 5. Test results and adjustments made (e.g., to meet specification tolerance requirements; and,)
 - 6. Responsibility (e.g., plant technician, independent lab).
- C. The testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ADTM D 3665.
- D. All quality control test results shall be documented by the Contractor as required by Article 1.07 of this Section.

1.07 DOCUMENTATION

- A. The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that inspections or tests have been performed, including type, results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and /or corrective actions taken.
- B. These records must cover both conforming and defective or deficient features and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the Engineer.
- C. Specific Contractor quality control records required for the contract shall include, but are not necessarily limited to, the following records:
 - 1. Daily Inspection Reports. Each Contractor quality control technician shall maintain a daily log of all inspections performed for both Contractor and Subcontractor operations on a form acceptable to the Engineer. These technician's daily reports shall provide factual evidence that continuous quality control inspections have been performed and shall, as a minimum include the following:
 - a. Technical specification item number and description and location of work performed;
 - b. Compliance with approved submittals;

- c. Proper storage of materials and equipment;
- d. Proper operation of all equipment;
- e. Adherence to plans and technical specifications;
- f. Review of quality control tests; and
- g. Safety inspection.

The daily inspection reports shall identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions or proposed.

The daily inspection reports shall be stamped and signed by the licensed professional engineer CQCSM. The Engineer shall be provided at least one copy of each daily inspection report on the work day following the day of record.

2. Test Reports. The Contractor shall be responsible for establishing a system which will record all off-site and on-site control test results. Test reports shall document the following information:

- a. Technical specification item number and description;
- b. Test designation;
- c. Location;
- d. Date of test;
- e. Control requirements;
- f. Test results;
- g. Causes for rejection;
- h. Remedial action and retest results.

Test results shall be submitted to the Engineer within one (1) week of testing. The test reports shall be stamped and signed by the licensed professional engineer CQCSM.

1.08 CORRECTIVE ACTION REQUIREMENTS

- A. The Quality Control Program shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the Quality Control Program as a whole, and for individual items of work contained in the technical specifications.

- B. The Quality Control Program shall detail how the results of quality control inspections and tests will be used for determining the need for corrective action and shall contain clear sets of rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

1.09 SURVEILLANCE BY THE ENGINEER AND STATE PROJECT MANAGER

- A. all items of material and equipment shall be subject to surveillance by the Engineer at the point of production, manufacture or shipment.
- B. Off-site or on-site surveillance by the Engineer does not relieve the Contractor of performing quality control inspections of either the Contractor's or subcontractor's work.

1.10 NONCOMPLIANCE

- A. The Engineer or State Project Manager will notify the Contractor of any noncompliance with any of the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Any notice, when delivered by the authorized representative at the site of the work, shall be considered sufficient notice.
- B. In cases where quality control activities do not comply with either the Contractor's Quality Control Program or the Contract provisions, or where the Contractor fails to properly operate and maintain an effective Quality Control Program, as determined by the Engineer or State Project Manager, the Engineer or State Project Manager, the Engineer or State Project Manager May:
 - 1. Order the Contractor to replace ineffective or unqualified quality control personnel or subcontractors in accordance with Section 8.5 of the General Provisions
 - 2. Order the Contractor to stop operations in accordance with Section 8.6 of the General Provisions.
 - 3. Determine work performed by the Contractor during periods of noncompliance to be unacceptable and subject to removal or non-payment in accordance with Section 5.8 of the General Provisions.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 01560 – ENVIRONMENTAL CONTROLS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

The General Provisions, Special Provisions, and General Requirements of the Specifications, apply to the work specified in this section. Special attention is directed to the General Provisions, Article VI, Control of Materials, Paragraph 6.9 Unacceptable Materials, and the Special Provisions, Article VIII, Prosecution and Progress, Paragraph 8.14 Standard and Codes.

1.02 ENVIRONMENTAL PROTECTION

With the exception of those measures set forth elsewhere in these specifications, environmental protection shall consist of the prevention of environmental pollution as the result of construction operations under this contract. For the purpose of this specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affects human health or welfare, unfavorably alter ecological balances of importance to human life, environment for aesthetic and recreational purposes.

1.03 APPLICABLE REGULATIONS

In order to provide for abatement and control of environmental pollution arising from the construction activities of the Contractor and their Subcontractors in the performance of this contract, the work performed shall comply with the intent of the applicable Federal, State, and Local laws and regulations concerning environmental pollution control and abatement, including, but not limited to, the following regulations:

- A. State of Hawaii, Department of Health, Administrative Rules, Chapter 55, WATER POLLUTION CONTROL; Chapter 54, WATER QUALITY STANDARDS.
- B. State of Hawaii, Department of Health, Administrative Rules, Chapter 59, AMBIENT AIR QUALITY; Chapter 60, AIR POLLUTION CONTROL.
- C. State of Hawaii, Department of Health, Administrative Rules, Chapter 42, VEHICULAR NOISE CONTROL.
- D. State of Hawaii, Occupational Safety and Health Standards, Title 12, Department of Labor and Industrial Relations, Subtitle 8, Division of Occupational Safety and Health, Part 3 Construction Standards, Chapter 145 Asbestos; Environmental Protection Agency, Code of Federal Regulations Title 40, Part 61, Subpart M (Revised Subpart B), NATIONAL EMISSION STANDARDS FOR AIR POLLUTANTS and Subpart B, NATIONAL EMISSION STANDARDS FOR ASBESTOS; Final Rule dated

November 20, 1990, and U.S. Department of Labor – Occupational Safety and Health Administration (OSHA) Asbestos Regulation, Code of Federal Regulations Title 29, Part 1910, 1915 and 1926, Occupational Exposure to Asbestos, Final Rule dated August 10, 1994.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION

3.01 AIR POLLUTION CONTROL

- A. Emission: The Contractor shall not be allowed to operate equipment and vehicles that show excessive emissions of exhaust gases until corrective repairs or adjustments are made, as determined by the Engineer.
- B. Dust: The Contractor, for the duration of the contract, shall maintain all excavations, embankments, haul roads, permanent access roads, plant sites, waste disposal areas, borrow areas, and all other work areas within or without the project limits free from dust which would cause a hazard to the work, or operations of other Contractors, or to persons or property. Industry-accepted methods of stabilization suitable for the area involved, such as sprinkling or similar methods, will be permitted. Chemical or oil treating shall not be used.
- C. Burning on jobsite shall not be permitted.

3.02 WATER POLLUTION CONTROL

- A. Wastes: The Contractor shall not deposit at the jobsite or in its vicinity solid waste or discharge liquid waste such as fuels, lubricants, bituminous waste, untreated sewage and other pollutants which may contaminate the body of ground water.
- B. Spillage: Care shall be taken to ensure that no petroleum products, bituminous materials, or other deleterious substances, including debris, are allowed to fall, flow, leach, or otherwise enter the sewage systems or storm drains.
- C. Erosion: Contractor shall provide any necessary temporary drainage, dikes, and similar facilities to prevent erosion damage to the site. Run-off shall be controlled to prevent damage to surrounding area.

3.03 NOISE CONTROL

Construction equipment shall be equipped with suitable mufflers to maintain noise within levels complying with applicable regulations.

3.04 DISPOSAL

Construction waste, such as crates, boxes, building materials, pipes, and other rubbish shall be disposed of at a Sanitary Landfill. Large size objects shall be reduced to a size acceptable by the Sanitary Landfill Specifications. Other areas or methods proposed by the Contractor will be approved only if the Engineer determines that their effect on the environment is equal to or less than those described herein.

3.05 HAZARDOUS MATERIALS CONTROL

The use of hazardous materials, i.e., asbestos and PCB, in the construction of this project is prohibited. Any corrective action to remove and replace the hazardous material and contaminated work shall be at the sole expense of the Contractor.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work specified in this Section will not be measured for payment, but will be paid for at the Contract Lump Sum Price. The contract price paid shall be full compensation for all labor, tools, equipment and all other incidentals necessary to complete the work.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
01560.1	Environmental controls	Lump Sum

END OF SECTION

SECTION 01580 – TEMPORARY FACILITIES AND UTILITIES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the Contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 DESCRIPTION

This item shall consist of arranging and maintaining all utilities including, but not limited to, water, electricity, sewage disposal and telephone communications in the work area which the Contractor and Engineer deems necessary to meet the requirements of the work under the contract.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION

3.01 TEMPORARY UTILITIES DURING CONSTRUCTION

- A. Water and Sanitation: The Contractor shall provide temporary drinking water and sanitary facilities for the field personnel. The facilities shall be in accordance with the applicable health regulations and shall be maintained clean and operable until the conclusion of the construction work.
- B. Telephone: Cellular telephones are acceptable. All costs associated with obtaining and maintaining telephone service shall be borne by the Contractor.
- C. Electricity: Contractor shall obtain or provide temporary electric power and shall pay for all connections and energy charges incurred during construction.
- D. Metering: Water and electrical services shall be metered and payment for meters and services shall be borne by the Contractor. Temporary connections for water shall include installation of a meter and backflow preventer at the point of connection according to State standards at the Contractor's cost. The Contractor shall submit requests for temporary connection in writing to the Engineer fourteen (14) calendar days prior to the connection and shall include a description of work and a sketch of the proposed installation.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 01700 – MOBILIZATION AND DEMOBILIZATION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the Contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 GENERAL REQUIREMENTS

Section 699 of “Hawaii Standard Specifications for Road, Bridge, and Public Works Construction, 1994,” are hereby incorporated into and made a part of these specifications by reference unless otherwise modified hereinafter.

1.03 MOBILIZATION

The Contractor shall mobilize and transport his construction plant and equipment including materials and supplies for operation to the site of work, construct temporary buildings and facilities as necessary, and assemble the equipment at the site as soon as possible after receipt of Notice to Proceed, subject to the provisions of the General Provisions.

1.04 DEMOBILIZATION

The Contractor shall demobilize and transport his construction plant and equipment including materials, supplies and temporary buildings off the site as soon as possible after construction is completed. Demobilization shall include all cleanup required under this contract and as directed by the Engineer. Demobilization and final cleanup shall be completed prior to final acceptance.

1.05 PERFORMANCE BOND

The Contractor shall file and pay for the performance and payment bonds according to Section 3.5 of the Special Provisions, except that the value of the bonds shall equal one hundred percent (100%) of the amount of the contract basic bid amount plus one hundred percent (100%) of the amount of the extra work.

Payment for the Contractor’s bond premium will be made in accordance to the terms stated in Part 4 below.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

PART 4 – MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

- A. Mobilization shall not be measured for payment. The maximum bid allowed for “Mobilization” is an amount not to exceed size (6) percent of the sum of all items (excluding this item and all Allowances). If the proposal submitted by the bidder indicates an amount in excess of the allowable maximum, the indicated amount or amounts shall be reduced to the allowable maximum; the “Sum of All Items,” in the proposal schedule shall be adjusted to reflect any such reduction. For the purpose of comparing bids and determining the contract price to be inserted in the contract awarded to the bidder, if any is so awarded, the “Sum of All Items” adjusted in accordance with the foregoing shall be used and the bidder’s proposal shall be deemed to have been submitted for the amounts as reduced and adjusted in accordance herewith.
- B. Demobilization will not be measured for payment. A separate line item called “Demobilization” will be added to the Contractor’s Schedule of Values after the contract has been awarded. The total amount for this item shall be 2.5% of the Contractor’s total bid amount and will be deducted from other line items in the schedule of values as negotiated between the Contractor and the State. **THE CONTRACTOR SHALL NOT MODIFY THE PROPOSAL SCHEDULE BY ADDING A “DEMOBILIZATION” BID ITEM TO THE PROPOSAL SCHEULE.**

4.02 BASIS OF PAYMENT

- A. Mobilization will be paid for at the contract lump sum price under Mobilization. Partial payment will be made as follows:
1. When 2 ½ percent of the original contract amount is earned, 50 percent of the bid amount will be paid.
 2. When 5 percent of the original contract amount is earned, 75 percent of the bid amount will be paid.
 3. When 10 percent of the original contract amount is earned, 100 percent of the bid amount will be paid.

Nothing herein shall be construed or limit or preclude partial payments otherwise provided by the contract.

- B. Partial payment will not be paid for Demobilization. Full payment will be made on the Contractor's final payment request. This will occur after the Contractor has fulfilled all of the requirements of the Contract bid documents to the satisfaction of the State and issuance of the Final Acceptance letter to the Contractor by the State.

C. Payment will be made under:

<u>Item No.</u>	<u>Item</u>	<u>Pay Unit</u>
01700.1	Mobilization (Not to exceed 6% of sums of all items, excluding this item and all allowances)	Lump Sum

END OF SECTION

SECTION 01715 – EXISTING CONDITIONS – LEAD-BASED PAINT SURVEYS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 SUMMARY

A. This section includes the results of the State of Hawaii's survey for Asbestos and Lead, and is provided for the Contractor's information.

B. Related Sections include the following:

1. SECTION 13280 – LEAD-BASED PAINT ABATEMENT for requirements of all work which disturbs lead-containing paint (LCP).

1.03 ASBESTOS

A. The portions of the facilities to be renovated under this contract were surveyed for the presence of ACBM, using State of Hawaii Chapter 501 requirements. A copy of the survey is included in this Section.

1. The report(s) are included, even when no ACBM was found, for the Contractor's information. Review the attached report for the basis on which the negative ACBM finding was made. Contractor may perform further surveys at their own expense, if ACBM not shown in the report is suspected in the areas of the buildings in which work will be performed. If ACBM is found, notify the Engineer immediately. The State will reimburse the Contractor for the testing cost if ACBM is found.

2. If there is ACBM outside of the areas in which work will be performed, this ACBM shall not be disturbed in any way.

B. If applicable, notify employees, Subcontractors and all other persons engaged on the project on the presence of asbestos in the existing buildings in accordance with the requirements of Chapter 110, Article 12-110-2 (f) (1) (B) of the Occupational Safety and Health Standards, State of Hawaii

C. In the event that work is required in any building or buildings on the site other than the ones designated within this project scope, request copies of the asbestos survey report(s) for such building(s) from the Engineer.

Based on the information contained in the additional survey(s), notify affected personnel per paragraph entitled (ASBESTOS", item B., hereinabove.

- D. The Contractor shall follow all applicable rules and regulations pertaining to the handling, removal, and disposal of ACBM.

1.04 LEAD CONTAINING PAINT

- A. Inform employees, Subcontractors and all other persons engaged in this project that LCP is present in the existing buildings and at the job site. Follow the requirements of Title 12 (Department of Labor and Industrial Relations), Subtitle 8 (Division of Occupational Safety and Health), Chapter 148 (Lead Exposure in Construction), and Title 11 (Department of Health), Chapter 41 (Lead-Based Paint Activities) Hawaii Administrative Rules.
- B. Review the attached lead testing data which identify the locations of LCP. Lead testing was for design purposes only, and the results do not satisfy any of the requirements of Chapter 12-148 and HAR 11-41.
- C. Review the attached lead testing data which identify the locations of LCP. Lead testing was for design purposed only, and the results do not satisfy any of the requirements of Chapter 12-148 and HAR 11-41.
- D. The Contractor may perform additional lead content testing of existing painted surface at their own expense.
- E. The Contractor shall follow all applicable rules and regulations pertaining to the handling, removal and disposal of lead paint.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 SURVEY

LEAD-BASED PAINT SURVEY, 48 pages, dated April 6, 2015, prepared by Environet, Inc.

LIMITED ASBESTOS SURVEY REPORT, 25 pages, dated September 3, 2015, prepared by EnviroServices & Training Center, LLC.

END OF SECTION

ATTACHMENT

LEAD-BASED PAINT SURVEY

LOT 58-B-1

82 ANDREWS AVE.



April 6, 2015

**Subject: Lead-Based Paint Survey
 Single Family Residence
 82 Andrews Avenue
 Hilo, HI 96720**

Environet, Inc. (Environet) conducted a limited lead-based paint (LBP) survey and a limited risk assessment at a single family residence located at 82 Andrews Avenue, Hilo, Big Island, Hawai'i (hereinafter referred to as the Site; Figure 1). The Site is constructed primarily of wood and consists of two (2) bedrooms, one (1) living room, one (1) bathroom, and one (1) kitchen on the ground floor, as well as second living area and bedroom located in an unfinished basement. All field work activities were conducted by Environet on March 23, 2015.

Kamalana Kobayashi, certified LBP Risk Assessor and Inspector (State of Hawai'i Certification Number PB-0132) conducted the LBP survey at the Site. A copy of his certification documents are attached at the end of this report.

REGULATORY FRAMEWORK

The United States Environmental Protection Agency (EPA) and the Department of Housing and Urban Development (HUD) define LBP as paint or other surface coatings containing lead levels equal to or greater than (\geq) 1.0 milligrams per square centimeter (mg/cm^2) or 0.5 percent by weight (other equivalent units are: 5,000 micrograms per gram [$\mu\text{g}/\text{g}$], 5,000 milligrams per kilogram [mg/kg], 5,000 parts per million [ppm] by weight). Lead-containing paint (LCP) is paint containing lead at any level less than ($<$) 5,000 mg/kg . The EPA Resource Conservation and Recovery Act (RCRA) regulations set the limit of leachable lead in lead-containing waste at 5.0 milligrams per liter (mg/l). This level is established by an analytical method called Toxicity Characteristic Leaching Procedure (TCLP). Waste that contains leachable lead at concentrations $\geq 5.0 \text{ mg}/\text{l}$ is defined as hazardous waste and must be transported to a hazardous waste treatment, storage, or disposal (TSD) facility. Lead-containing waste or potential waste shown to have a total lead content $\geq 100 \text{ mg}/\text{kg}$ may exceed the RCRA TCLP standard for leachable lead, and must be analyzed by TCLP prior to disposal. Thus, while the EPA does not regard work performed on paint containing 5,000 mg/kg to be a LBP activity, the waste from such activities may still be regarded as hazardous under RCRA.

According to 40 Code of Federal Regulation (CFR) 745, the EPA clearance standard for maximum allowable residual lead dust on floor surfaces is 40 micrograms per square foot ($\mu\text{g}/\text{ft}^2$). The EPA clearance standards for maximum allowable residual lead dust on window sills and troughs are 250 $\mu\text{g}/\text{ft}^2$ and 400 $\mu\text{g}/\text{ft}^2$, respectively. Lead in surface dust can come from weathering and chipping of LBP, renovation, and demolition activities that break a surface painted with LCP (e.g., scraping, sanding), and abrasion on doors and windows.

Lead soil contamination can result when lead paint becomes dislodged from building materials and enters the surrounding soils. In order to characterize potential soil lead contamination, the State of Hawai'i Department of Health (HDOH) recommends utilization of the multi-increment

(MI) sample collection. The MI sampling procedure reduces data variability and increases reproducibility. As a result, soil contamination in a decision unit (DU) can be characterized with a high degree of confidence and appropriate actions can be taken (HDOH, 2011).

The HDOH has established an Environmental Action Level (EAL) for lead in soil. The HDOH EAL for lead in soil is 200 mg/kg for unrestricted land use activities.

PAINT CHIP SAMPLE COLLECTION

Methodology

Environet collected fourteen (14) paint chip samples from painted surfaces of the Site in accordance with the EPA guidelines and recommendations (Figure 2). Each paint chip sample consisted of an approximately two- to four-inch square section of paint scraped off the building material with a paint scraper and placed in a labeled, re-sealable plastic bag. The samples were then placed into a second re-sealable plastic bag for storage. Sampling equipment was cleaned between each sample to avoid cross-contamination. The conditions of the potentially lead-containing material were noted.

The samples were logged and recorded following strict chain-of-custody (COC) procedures and submitted to Hawaii Analytical Laboratories, Inc. (HAL) for analysis by atomic adsorption spectrometry (AAS) using EPA Method 7082M. HAL is accredited for lead analysis in paint chips through the American Industrial Hygiene Association (AIHA) Environmental Lead Proficiency Analytical Testing (ELPAT) Program.

Results

None of the paint chip samples contained concentrations of lead in excess of the EPA/HUD guideline of 5,000 mg/kg, the definition of LBP. However, three (3) of the 14 paint chip samples contained concentrations of lead at levels <5,000 mg/kg, above the laboratory reporting limit (RL), and therefore are considered to be LCP. The lead levels detected below 5,000 mg/kg, above the laboratory RL are summarized below:

Sample ID	Location	Component	Substrate	Color	Result (mg/kg)	Reporting Limit (mg/kg)
82Andrews-L5	Main Entrance	Stairs	Concrete	Red/Gray	500.0	39.0
82Andrews-L8	Exterior Roof	Fascia	Wood	Gray	65.0	39.0
82Andrews-L10	Main Entrance	Stairs	Wood	Gray	110.0	39.0

Notes:

mg/kg = milligrams per kilogram

ID = identification

DUST WIPE SAMPLE COLLECTION

Methodology

EnviroNet collected four (4) dust wipe samples at the Site to identify those locations where lead dust hazards may exist, as well as one (1) blank wipe sample for quality control purposes. Upon arrival, a visual inspection was performed in order to assess conditions that could result in exposure to LBP. Lead dust sampling was performed in accordance with 40 CFR 745 and the EPA Lead Dust Sampling Technician Field Guide (2009; EPA-W-04-022). Federal and State regulations define the following as threshold levels for lead dust in residences: 40 $\mu\text{g}/\text{ft}^2$ for floors; 250 $\mu\text{g}/\text{ft}^2$ for window sills; and 400 $\mu\text{g}/\text{ft}^2$ for window troughs (CFR, 2004).

GhostWipes and a pre-measured 1 square foot (144 square inches) frame/template were used to wipe the prescribed floor surface area for each dust wipe sample. The window sill surface wipe area for each window sill was measured and wiped according to varying size of the window sills at the Site. Wipe area measurements were documented and noted for laboratory reporting purposes.

Each sample was placed into a sealable 50-milliliter (ml) plastic tube, properly labeled and recorded following strict COC procedures, and submitted to HAL for analysis by AAS using EPA Method 7082M. HAL is accredited for lead analysis in dust wipe samples through AIHA ELPAT Program.

Results

Lead was detected at a concentration equal to or exceeding the laboratory RL in two (2) of the samples collected at the Site; however, the detections did not exceed the regulatory limit. Lead was not detected at or above the reporting limit in the blank wipe sample (Table 2).

SOIL SAMPLE COLLECTION

Methodology

Four (4) DUs were defined for the investigation at the Site (Figure 2). According to sampling theory (Pitard, 1993) and HDOH (2011), a minimum of 30 increment samples per DU is generally recommended in order to obtain a reliable estimate of mean concentrations in a given DU. Thirty (30) incremental surface soil samples were randomly collected within each DU (Figure 2).

At each increment soil sample location, a uniform mass of soil was taken and then placed directly into a double-bagged Ziploc[®] bag. The samples were then delivered to HAL for analysis of total lead using EPA Method 7000B. Following HDOH guidance, a triplicate sample was collected as a field quality control measure, the results of which were within acceptable agreement with the primary sample shown in Table 2.

Results

Four primary MI samples consisting of 30 increments, along with a duplicate and triplicate sample, were collected at the Site. Lead levels detected in two of the four all samples were above the HDOH EAL for unrestricted land use (Table 3). This suggests that the surface soil is contaminated with lead at levels above the HDOH EAL at the Site.

CONCLUSIONS AND RECOMMENDATIONS

Environet collected representative samples of paint chips, dust wipes, and surface soil from the Site. Results indicated the following:

- Three (3) paint chip samples collected from the Site contained concentrations of lead at levels <5,000 mg/kg, and above the laboratory RL. Therefore, LBP is not present in painted surfaces at the Site, however LCP is present at the Site (Table 1).
- Lead dust was detected at a concentration equal to or exceeding the laboratory RL in two (2) of the dust wipe samples collected at the Site; however, the samples were not detected at or in exceedance of the regulatory limit (Table 2).
- Lead was detected at concentrations above the HDOH EAL for unrestricted residential use in all soil samples collected from the Site (Table 3; Figure 2). Therefore, the surface soil is considered contaminated with lead at levels above the HDOH EAL.
- If suspect building components not yet sampled are discovered during renovations, they should be considered hazardous until proven otherwise by qualified lead paint contractor.
- Although the EPA does not require paint with lead to be removed prior to demolition or renovation activities, the United States Occupational Safety and Health Administration (OSHA) and Hawai'i Occupational Safety and Health requirements still apply for the potential of worker exposure to any amount of lead that may be in the paint. Proper engineering controls and monitoring by a qualified lead abatement contractor under controlled conditions is recommended if the tested building components undergo renovations.
- Demolished building materials must undergo TCLP sampling prior to disposal, in order to determine if they contain leachable lead at concentrations equal to or greater than the RCRA limit of 5.0 mg/l. If the TCLP sampling reveals concentrations above 5.0 mg/l, the waste must be transported to a hazardous waste TSD facility. Lead-containing waste or potential waste shown to have a total lead content equal to or exceeding 100 mg/kg may exceed the RCRA TCLP standard for leachable lead, and therefore must be analyzed by TCLP prior to disposal.
- Results of the LBP survey were incorporated into a Limited Lead Risk Assessment Report. The Limited Lead Risk Assessment conducted for the Site is included as

Attachment 4 of this report. The Limited Lead Risk Assessment identifies lead hazards present at the Site, as well as recommendations to address these hazards. Abatement Cost estimates are presented in Attachment 7.

LIMITATIONS

The results presented in this report are limited to the areas sampled. There were no inaccessible areas during this sampling event.

REFERENCES

CFR, 2004. Protection of Environment. Title 40, Part 745. Washington, DC. US Government Printing Office.

HDOH, 2011. Technical Guidance Manual Notes: Decision Unit and Multi-Increment Sample Investigations. March.

Pitard, Francis F., 1993. Piere Gy's Sampling Theory and Sampling Practice: Heterogeneity, Sampling Correctness, and Statistical Process Control. 2nd Ed. Boca Raton, FL: CRC Press.

Should you have any questions, please call me at (808) 833-2225 ext. 1012.

Sincerely,



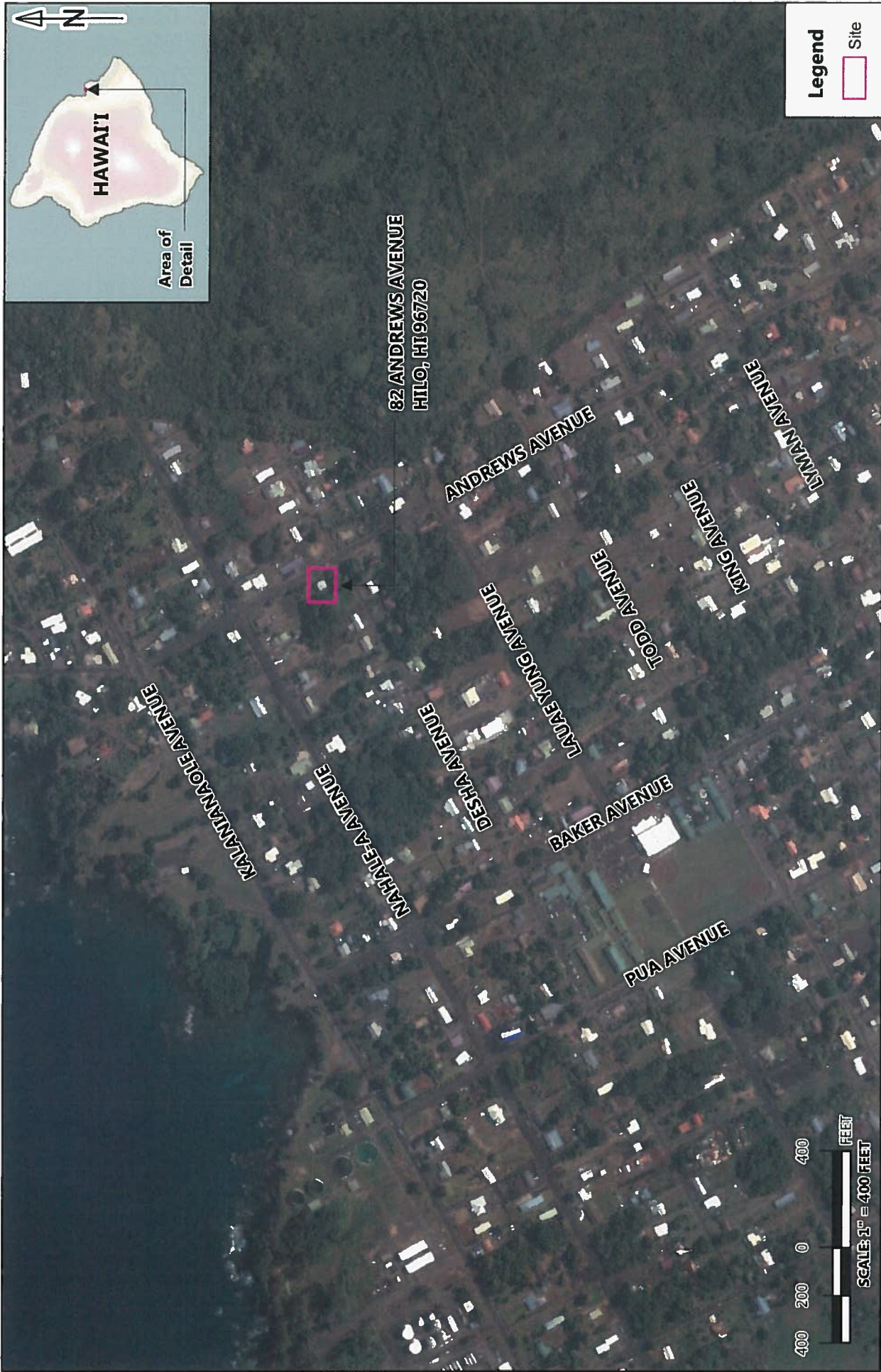
Max Solmssen
Project Manager
ENVIRONET, INC.

Attachments:

- Attachment 1: Figures
- Attachment 2: Tables
- Attachment 3: Photo Log
- Attachment 4: Limited Risk Assessment
- Attachment 5: Analytical Laboratory Reports
- Attachment 6: Personnel Certification Documents
- Attachment 7: Abatement Cost Estimates

Attachment 1: Figures

Figure 1: Project Location Map



 Environet, Inc.	PROJECT NO.: 1194-001		LBP SURVEY	FIGURE 1
	DATE: MARCH 18, 2015			
	DRAWN BY: RM			
	REVIEWED BY: MS			
	PROJECT LOCATION MAP			
		82 ANDREWS AVENUE, HILO, HI 96720		

Figure 2: Sampling Locations Map

Attachment 2: Tables

Table 1: Lead Levels in Paint Chip Samples Collected from Painted Surfaces

Sample ID	Location	Description	Color	Substrate	Interior/ Exterior	Cond.	Result (mg/kg)	RL (mg/kg)
82andrews-L1	Throughout	Walls	Green	Wood	Exterior	Fair	ND	40.0
82andrews-L2	Entrance	Stair Railing	Green	Wood	Exterior	Fair	ND	40.0
82andrews-L3	Throughout	Window Frames	Gray	Wood	Exterior	Fair	ND	40.0
82andrews-L4	Awning	Support Posts	Green	Wood	Exterior	Fair	ND	40.0
82andrews-L5	Throughout	Stairs	Red / Gray	Concrete	Exterior	Poor	500.0	40.0
82andrews-L6	Throughout	Walkway	Green	Wood	Exterior	Fair	ND	40.0
82andrews-L7	Throughout	Roof	Green	Metal	Exterior	Fair	ND	40.0
82andrews-L8	Throughout	Roof Fascia	Gray	Wood	Exterior	Fair	65	40.0
82andrews-L9	Throughout	Door Frame	Gray	Wood	Exterior	Fair	ND	40.0
82andrews-L10	Throughout	Stairs	Gray	Wood	Exterior	Fair	110.0	40.0
82andrews-L11	Throughout	Door Jamb	White	Wood	Interior	Fair	ND	40.0
82andrews-L12	Throughout	Wall	White	Sheet rock	Interior	Fair	ND	40.0
82andrews-L13	Kitchen	Ceiling	White	Sheet rock	Interior	Fair	ND	40.0
82andrews-L14	Basement	Ceiling	White	Wood	Interior	Fair	ND	40.0

Notes:

mg/kg = milligrams per kilogram

ID = identification

ND = not detected at or above laboratory reporting limit (RL)

LBP Survey
 Single Family Residence
 82 Andrews Avenue
 Hilo, HI 96720

Table 2: Lead Levels in Dust Wipe Samples Collected from Horizontal Surfaces

<i>Sample ID</i>	<i>Location</i>	<i>Description</i>	<i>Observations</i>	<i>Substrate</i>	<i>Interior/ Exterior</i>	<i>Regulatory Lead Limit¹ ($\mu\text{g}/\text{ft}^2$)</i>	<i>Result ($\mu\text{g}/\text{ft}^2$)</i>	<i>RL ($\mu\text{g}/\text{ft}^2$)</i>
82 andrews - LW1	Steps	Floor Surface	Moderate dust with no visible paint chips.	Concrete	Poor	40	ND	10
82 andrews- LW2	Kitchen Counter	Counter Surface	Minor dust with no visible paint chips.	Composite	Interior	40	12	10
82 andrews- LW3	Living Room	Window Sill	Minor dust with no visible paint chips.	Wood	Interior	250	33	10
82 andrews- LW4	Kitchen	Window Sill	Minor dust with no visible paint chips.	Wood	Interior	250	ND	10
82 andrews- LW5	NA	Control Sample ²	NA	NA	NA	NA	ND	10

Notes:

$\mu\text{g}/\text{ft}^2$ = micrograms per square foot

ID = identification

NA = not applicable

ND = not detected at or above laboratory reporting limit (RL)

¹ = Regulatory limit established by 40 Code of Federal Regulations (CFR) 745 by the United States Environmental Protection Agency (EPA) in 2001.

² = Blank wipe used as quality control measure.

LBP Survey
 Single Family Residence
 82 Andrews Avenue
 Hilo, HI 96720

Table 3: Lead Levels in MI Soil Samples

<i>Sample ID</i>	<i>Analyte</i>	<i>Laboratory Analytical Method</i>	<i>HDOH EAL¹ (mg/kg)</i>	<i>Result (mg/kg)</i>	<i>RL (mg/kg)</i>
82andrews-LS1A (primary)	Lead (Pb)	EPA 7000B	200	1,000	40
82andrews -LS1B (duplicate)	Lead (Pb)	EPA 7000B	200	1,200	40
82andrews -LS1C (triplicate)	Lead (Pb)	EPA 7000B	200	1,300	40
82andrews -LS2	Lead (Pb)	EPA 7000B	200	1,200	40
82andrews -LS3	Lead (Pb)	EPA 7000B	200	1,600	40
82andrews -LS4	Lead (Pb)	EPA 7000B	200	700	40

Notes:

¹State of Hawai'i Department of Health (HDOH) Environmental Action Level (EAL), unrestricted use.

mg/kg = milligrams per kilograms

EPA = United States Environmental Protection Agency

ID = identification

MI = multi-incremental

RL = laboratory reporting limit

Bold sample concentration results indicate lead levels above the HDOH EAL.

Attachment 3: Photo Log

Photo Log



Photo 1: Single family home located at 82 Andrews Avenue, Hilo, HI.



Photo 4: Interior substrates ; no LBP or LCP detected.



Photo 2: Exterior green wood siding and support posts in fair condition. LCP detected on gray roof fascia.



Photo 5: LCP detected on gray exterior stairs



Photo 3: LCP detected in deteriorated red/gray paint located on front concrete entry stairs.



Photo 6: Lead detected in exposed soil at the Site above screening levels for unrestricted use.

Attachment 4: Limited Risk Assessment

LIMITED LEAD RISK ASSESSMENT

**SINGLE FAMILY RESIDENCE
82 ANDREWS AVENUE
HILO, HI 96720**

Prepared for:
DEPARTMENT OF HAWAIIAN HOME LANDS

Prepared by:
ENVIRONET, INC.
1286 Queen Emma Street
Honolulu, HI 96813
Tel: (808) 833-2225

April 6, 2015

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APPENDICES

APPENDIX I: MAP 1. IDENTIFIED LEAD HAZARDS

APPENDIX II: PHOTOGRAPH LOG – IDENTIFIED LEAD HAZARDS

APPENDIX III: HUD TABLE 6.1 STANDARD REEVALUATION SCHEDULES FOR ONGOING MONITORING

1.0 CERTIFICATIONS AND LIMITATIONS

Environet, Inc. (Environet) has completed this Limited Lead Risk Assessment (Risk Assessment) for the single family residence located at 82 Andrews Avenue, Hilo, Big Island, Hawai'i (herein referred to as the Site). Environet's findings and recommendations contained herein are based on research, site observations, government regulations, and laboratory data, which were gathered at the time and location of the Risk Assessment. Opinions stated in this report do not apply to changes that may have occurred after the services were performed. All field work activities were conducted by Environet on March 23, 2015.

Environet has performed specified services for this project with the degree of care, skill, and diligence ordinarily exercised by professional consultants performing the same or similar services. No other warranty, guarantee, or representation, expressed or implied, is included or intended; unless otherwise specifically agreed to in writing by both Environet and Environet's Client.

This report is intended for the sole use of the Department of Hawaiian Home Lands (DHHL) exclusively for the Site. The DHHL may use and release this report, including making and retaining copies, provided such use is limited to the particular site and project for which this report is provided. However, the services performed may not be appropriate for satisfying the needs of other users. Release of this report to third-parties will be at the sole risk of Environet's Client and/or said user, and Environet shall not be liable for any claims or damages resulting from or connected with such release or any third party's use or reuse of this report.

Prepared By:



Kamalana Kobayashi
State of Hawai'i Certified Lead Risk Assessor
Certification #: PB-0132 Expires: 5/16/16

Date:

April 6, 2015

2.0 EXECUTIVE SUMMARY

Environet has completed this Risk Assessment for the single family residence located at 82 Andrews Avenue, Hilo, Big Island, Hawai'i. On March 23, 2015 Environet personnel performed site reconnaissance and activities to identify suspect lead hazards.

The Site is a single story residential structure consisting of two (2) bedrooms, one (1) bathroom and a living area. The Site also included an unfinished basement.

During Environet's Risk Assessment, lead paint and soil hazards were identified at the Site. The lead hazards identified during Environet's Risk Assessment are summarized below. The map located in Appendix I identifies the approximate locations of each hazard. The Photograph Log in Appendix II shows the photographs further identifying these hazards.

Identified Lead Paint Hazards and Recommendations Single Family Residence 82 Andrews Avenue, Hilo, HI 96720

Type of Hazard	Room/Location	Detailed Description	Comments	Recommendations ¹
Paint	Exterior	Red/Gray Concrete Stairs	Hazard is due to poor paint condition, likely friction surface, and the possibility of weathering and exposure to surrounding soil.	Proper removal or encapsulation of deteriorated LCP.
Soil	Exterior Soils 0' – 5' Perimeter Surrounding Structure	Surface Soils 0" – 2"	Hazard is due to the possibility of exposure to the surrounding soil.	Abatement of soil: removal of soil or permanent enclosure.

¹It is recommended that any activity that disturbs lead paint, lead contaminated soil, lead dust, or any lead hazard corrective action be conducted by personnel certified by United States Environmental Protection Agency's (EPA's) Lead Renovation, Repair, and Painting Program or EPA's Lead-Based Paint Abatement Worker certification.

In summary, lead hazards associated with lead and soil paint were observed at the Site. Based on Environet's Risk Assessment, Environet recommends the following:

- Immediately incorporate ongoing lead paint maintenance activities into regular maintenance of the Site, unless all lead-containing paint (LCP) has been successfully abated (either removed, or enclosed or encapsulated without failure of those treatments). Examples of control options are provided in Section 6 of this report.
- Eliminate all identified lead hazards identified in this report within 90 days of receiving this report. Corrective measures may involve permanent or temporary elimination of lead hazards.

- Permanent corrective lead hazard control within the identified lead hazard locations include the removal of LCP; enclosure, encapsulation, or replacement of building components coated with LCP; and removal of lead-contaminated soil or overlaying of soil with a durable covering such as asphalt (grass and sod are considered interim control measures). All of these strategies require worksite preparation; protection of residents and residents' belongings; cleanup; waste disposal; clearance testing; recordkeeping; and, in some cases, monitoring. Certified or licensed abatement contractors must be used for permanent lead hazard control work, unless the intent of the work is maintenance, renovation, or rehabilitation.
- Temporary corrective measures, using lead-safe work practices, include specialized cleaning, repairs, maintenance, temporary containment, paint stabilization and management and resident education programs. Paint stabilization is the process of repair of any underlying conditions, wet scraping, priming, and repainting surfaces; paint stabilization includes cleanup and clearance.
- If interim controls are used, conduct re-evaluations at two-year intervals by a State of Hawai'i Department of Health (HDOH) certified lead risk assessor, for lead hazards or failures of previous hazard control measures. Interim controls include dust removal; paint stabilization; treatment of friction and impact surfaces; specialized cleaning; installation of soil coverings, such as grass or sod; or land-use controls.
- It is recommended that any activity that disturbs lead paint, lead-contaminated soil, lead dust, or any lead hazard corrective action be conducted by personnel certified by United States Environmental Protection Agency's (EPA's) Lead Renovation, Repair and Painting Program or EPA's Lead-Based Paint Abatement Worker certification.

3.0 INTRODUCTION/PURPOSE

The Risk Assessment was conducted on March 23, 2015, at the Site. The Risk Assessment identified housing conditions considered to be lead hazards that could result in harm to residents, workers and especially to young children. This Risk Assessment report can help owners and/or occupants develop a plan for eliminating any lead hazards that were found, and may aid in establishing an ongoing lead paint maintenance and re-evaluation program, if needed.

4.0 METHODOLOGY

4.1 Lead Risk Assessment

Lead hazards may exist in paint, dust, and/or soil. This Risk Assessment is an onsite interior and exterior investigation to discover any potential lead hazards at the Site. In accordance with the United States Housing and Urban Development (HUD) *Guidance for the Evaluation and Control of Lead-Based Paint Hazards in Housing*, Environet personnel conducted this Risk Assessment for paint, dust, and soil at the Site.

4.1.1 Lead Paint Assessment

Environet personnel evaluated the condition of the painted surfaces at the Site. The extent of any paint deterioration was observed by rating the paint condition as “good,” “fair,” or “poor.” Poor surfaces are considered to be a hazard. Fair surfaces should be repaired, but are not yet considered to be a hazard; if not repaired, they should be monitored frequently. Good surfaces should be monitored to ensure that they remain in a non-hazardous condition.

4.1.2 Lead Dust Assessment

Environet collected four (4) dust wipe samples, including one (1) blank wipe sample for quality control, to identify those locations where lead dust hazards may exist at the Site. Floor dust wipe samples were collected from areas that are likely to be contacted by young children, such as play areas within rooms, high-traffic walkways, room midpoints, or areas immediately underneath windows. Window dust samples in a given room were collected from the window that is most frequently operated or most frequently contacted.

Federal and State regulations define the following as dangerous levels for lead dust in residences: floors greater than or equal to (\geq) 40 micrograms per square foot ($\mu\text{g}/\text{ft}^2$); window sills $\geq 250 \mu\text{g}/\text{ft}^2$; and, window troughs $\geq 400 \mu\text{g}/\text{ft}^2$ (Code of Federal Regulation [CFR], 2004b).

GhostWipes and a pre-measured 1 square foot (144 square inches) frame/template were used to wipe a proscribed floor and window surface area for each dust wipe sample.

Each sample was placed into a sealable 50-milliliter (mL) tube, properly labeled and recorded following strict chain-of-custody (COC) procedures and submitted to Hawaii Analytical Laboratories Inc. (HAL) for analysis via atomic adsorption spectrum (AAS) in accordance with EPA Method 7082m for wipe samples. HAL is accredited for chemical analysis through successful participation in the American Industrial Hygiene Association (AIHA) Environmental Lead Proficiency Analytical Testing (ELPAT) Program.

4.1.3 Lead Soil Assessment

Environet's certified lead risk assessor collected a total of four (4) multi-incremental (MI) samples from the 0-5 foot perimeter of the Site for lead analysis.

Each sample was composited from 30 sub-samples of soil collected from the topsoil layer (depth 0-2 inches) where soil was accessible. The soil was collected into a re-sealable polyethylene bag. The sampling equipment was replaced with clean sampling equipment for each sample collection to avoid cross-contamination between samples.

All samples were properly logged and recorded following strict COC procedures and submitted to HAL for analysis of lead content in accordance with EPA Method 7000B.

5.0 FINDINGS AND RECOMMENDATIONS

During Environet's Risk Assessment, lead paint hazards were identified at the Site. The lead hazards identified during Environet's Risk Assessment are summarized below. The map located in Appendix I identifies the approximate locations of each hazard. The Photograph Log in Appendix II shows the photographs further identifying these hazards.

Identified Lead Paint Hazards and Recommendations
Single Family Residence
82 Andrews Avenue, Hilo, HI 96720

<i>Type of Hazard</i>	<i>Room/Location</i>	<i>Detailed Description</i>	<i>Comments</i>	<i>Recommendations¹</i>
Paint	Exterior	Red/Gray Concrete Stairs	Hazard is due to poor paint condition, likely friction surface, and the possibility of weathering and exposure to surrounding soil.	Proper removal or encapsulation of deteriorated LCP.
Soil	Exterior Soils 0' – 5' Perimeter Surrounding Structure	Surface Soils 0" – 2"	Hazard is due to the possibility of exposure to the surrounding soil.	Abatement of soil: removal of soil or permanent enclosure.

¹*It is recommended that any activity that disturbs lead paint, lead contaminated soil, lead dust, or any lead hazard corrective action be conducted by personnel certified by United States Environmental Protection Agency's (EPA's) Lead Renovation, Repair, and Painting Program or EPA's Lead-Based Paint Abatement Worker certification.*

6.0 CONTROL OPTIONS

6.1 Control Methods

Interim controls are defined as those measures which temporarily reduce or mitigate exposure to lead hazards. Interim controls include, but are not limited to: paint stabilization (covering with new paint); regular cleaning; regular maintenance; renovation; remodeling; temporary containment (*i.e.*, covering lead paint with a new wall or floor surface); and covering lead containing soil with new sod or mulch.

Abatement is defined as the permanent (greater than 20 years) elimination of lead hazards. If abatement does not involve the complete removal of a lead hazard, the abatement method must be guaranteed by the manufacturer and/or contractor to last a minimum of 20 years, or be designed with at least a 20 year life span. Abatement methods include, but are not limited to: the complete removal of lead paint from substrates and components; the removal of lead paint covered materials; and the permanent enclosure of lead hazards with construction materials.

6.2 General Control Recommendations

It is recommended that the occupants be trained in safe lead work practices and conduct regular (daily) cleaning throughout the Site.

6.3 Ongoing Monitoring

If interim control methods are adopted, an ongoing monitoring schedule must be implemented to prevent the development of new lead hazards. Interim control monitoring requires both re-evaluation and annual visual surveys. A re-evaluation is a limited risk assessment performed by a certified risk assessor that may include dust and soil sampling. A visual survey is an annual assessment performed by the owner of the Site. The HUD Table 6.1 Standard Reevaluation Schedules located in Appendix III provides guidelines for ongoing monitoring.

7.0 REFERENCES

Building and Construction Cost Data. RS Means Construction Publishers and Consultants. Reed Construction Data, 2003.

Code of Federal Regulations. Occupational Safety and Health Standards. Title 29, Part 1910.1025. Washington, DC. US Government Printing Office, 2004a.

Code of Federal Regulations. Protection of Environment. Title 40, Part 745. Washington DC. US Government Printing Office, 2004b.

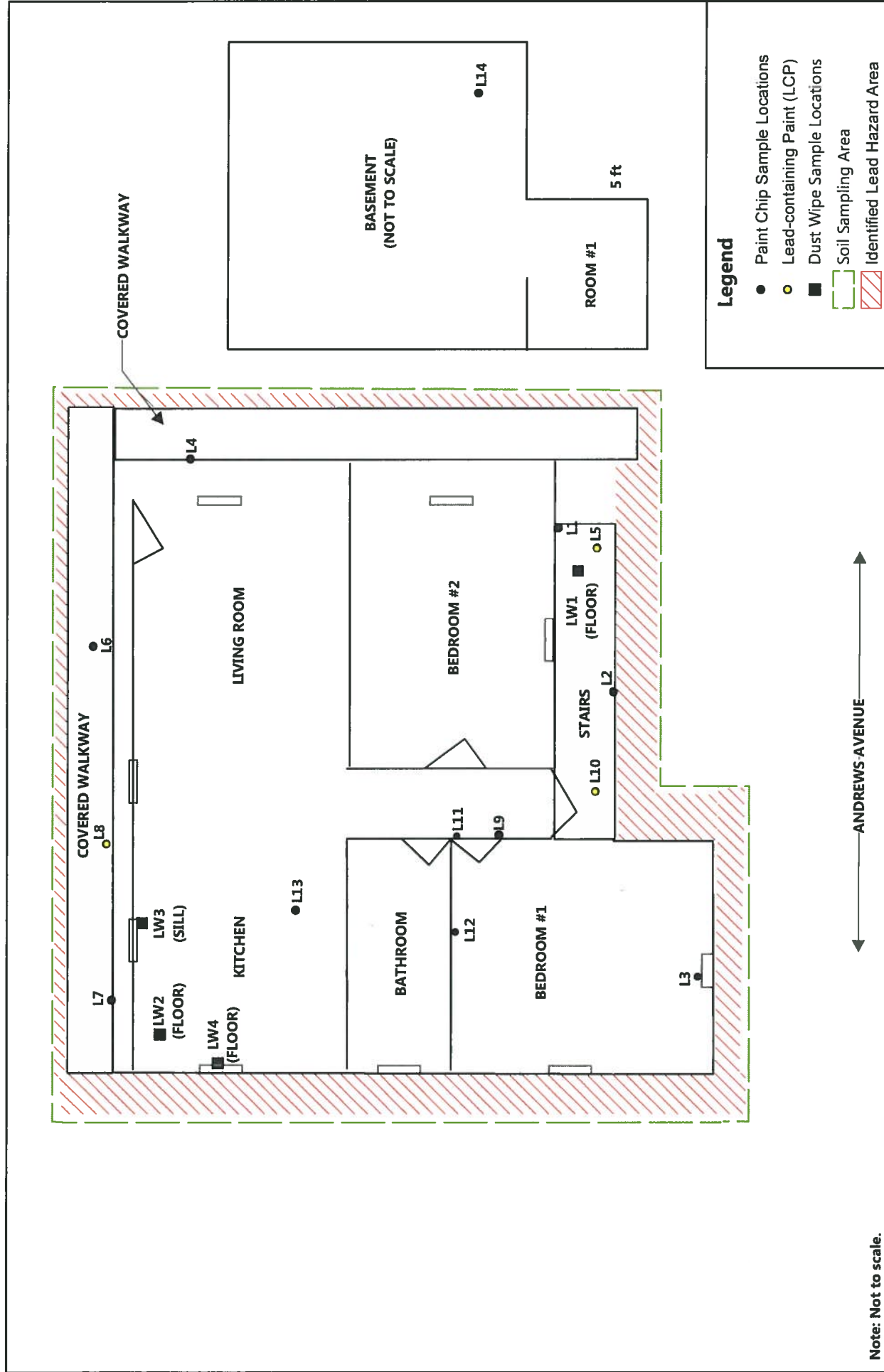
Code of Federal Regulations. Housing and Urban Development. Title 24, Part 35. Washington DC. US Government Printing Office, 2004.

US Department of Housing and Urban Development. Guidance for the Evaluation and Control of Lead-Based Paint Hazards in Housing, 2004.

US Environmental Protection Agency. Risk Assessment Model Curriculum. 1995.

Appendix **I**

MAP 1. IDENTIFIED LEAD HAZARDS



	PROJECT NO.: 1194-001		LBP SURVEY		MAP 1
	DATE: MARCH 27, 2015				
	DRAWN BY: RM		IDENTIFIED LEAD HAZARDS		
	REVIEWED BY: MS		82 ANDREWS AVENUE, HILO, HI 96720		

Appendix **II**

PHOTOGRAPH LOG – IDENTIFIED LEAD HAZARDS

Photo Log



Photo 1: Identified lead hazard area from deteriorated red/gray LCP in high traffic area located on front concrete entry stairs.



Photo 2: Lead hazard area in exposed soil at the Site detected above screening levels for unrestricted use.

Appendix **III**

HUD TABLE 6.1 STANDARD REEVALUATION SCHEDULES FOR ONGOING MONITORING

Table 6.1 Standard Reevaluation Schedules

Schedule	Evaluation Results	Action Taken	Reevaluation Frequency and Duration	Visual Survey (by owner or owner's representative)
1	Combination risk assessment/inspection finds no leaded dust or soil and no lead-based paint.	None.	None.	None.
2	No lead-based paint hazards found during risk assessment conducted before hazard control or at clearance (hazards include dust and soil).	None.	3 Years.	Annually and whenever information indicates a possible problem.
3	The average of leaded dust levels on all floors, interior window sills, or window troughs sampled exceeds the applicable standard, but by less than a factor of 10.	<p>A. Interim controls and/or hazard abatement (or mixture of the two), including, but not necessarily limited to, dust removal. This schedule does not include window replacement.</p> <p>B. Treatments specified in section A plus replacement of all windows with lead hazards.</p> <p>C. Abatement of all lead-based paint using encapsulation or enclosure.</p> <p>D. Removal of all lead-based paint.</p>	<p>1 Year, 2 Years.</p> <p>1 Year.</p> <p>None.</p> <p>None.</p>	<p>Same as Schedule 2, except for encapsulants. The first visual survey of encapsulants should be done one month after clearance; the second should be done 6 months later and annually thereafter.</p> <p>Same as Schedule 3 above.</p> <p>None.</p>
4	The average of leaded dust levels on all floors, interior window sills, or window troughs sampled exceeds the applicable standard by a factor of 10 or more.	<p>A. Interim controls and/or hazard abatement (or mixture of the two), including, but not necessarily limited to dust removal. This schedule does not include window replacement.</p> <p>B. Treatments specified in section A plus replacement of all windows with lead hazards.</p> <p>C. Abatement of all lead-based paint using encapsulation and enclosure.</p> <p>D. Removal of all lead-based paint.</p>	<p>6 Months, 1 Year, 2 Years.</p> <p>6 Months, 2 Years.</p> <p>None.</p> <p>None.</p>	<p>Same as Schedule 3.</p> <p>Same as Schedule 3.</p> <p>Same as Schedule 3.</p> <p>None.</p>

Table 6.1 Standard Reevaluation Schedules (continued)

Schedule	Evaluation Results	Action Taken	Reevaluation Frequency and Duration	Visual Survey (by owner or owner's representative)
5	No leaded dust or leaded soil hazards identified, but lead-based paint or lead-based paint hazards are found.	A. Interim controls or mixture of interim controls and a abatement (not including window replacement).	2 Years.	Same as Schedule 3.
		B. Mixture of interim controls and abatement, including window replacement.	3 Years.	Same as Schedule 3.
		C. Abatement of all lead-based paint hazards, but not all lead-based paint.	4 Years.	Same as Schedule 3.
		D. Abatement of all lead-based paint using encapsulation or enclosure.	None.	Same as Schedule 3.
		E. Removal of all lead-based paint.	None.	None.
6	Bare leaded soil exceeds standard, but less than 5,000 µg/g.	Interim controls.	None.	Three months to check new ground cover, then annually to identify new bare spots.
7	Bare leaded soil greater than or equal to 5,000 µg/g.	Abatement (paving or removal).	None.	None for removal, annually to identify new bare spots or deterioration of paving.

See notes to table 6.1 on following page.

Notes to Table 6.1:

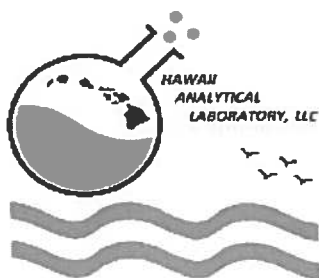
1. When more than one schedule applies to a dwelling, use the one with the most stringent reevaluation schedule. Do not use the results of a reevaluation for Schedule 2.
2. A lead-based paint hazard includes, but is not limited to, deteriorated lead-based paint and leaded dust and soil above applicable standards. See the Glossary for a more complete definition.
3. The frequency of reevaluations and the interval between reevaluations depends on the findings at each reevaluation and the action taken. For example, a dwelling unit or common area falling under Schedule 3.A would be reevaluated 1 year after clearance. If no lead-based paint hazards are detected at that time, the unit or area would be reevaluated again 2 years after the first reevaluation. If no hazards are found in the second reevaluation, no further reevaluation is necessary, but annual visual monitoring should continue.

If, on the other hand, the unit or common area fails a reevaluation, a new reevaluation schedule should be determined based on the results of the reevaluation and the action taken. For instance, if the reevaluation finds deteriorated lead-based paint but no lead-contaminated dust, and the action taken is paint stabilization, Schedule 5.A would apply, which indicates that the next reevaluation should be in 2 years. If, however, the owner of this same property decides to abate all lead-based paint hazards instead of doing only paint stabilization, the property would move to Schedule 5.C, which calls for reevaluation 4 years from the date of clearance after the hazard abatement.

Following another scenario, suppose a reevaluation of this same dwelling unit or common area finds that the average dust lead levels on sampled window troughs exceeds the applicable standard by a factor of 10 or more, but no other lead-based paint hazards. The owner conducts dust removal. In this case the next reevaluation would be 6 months after clearance followed by another a year later, followed by yet another 2 years later, as indicated by Schedule 4.A.

4. The initial evaluation results determine which reevaluation schedule should be applied. An initial evaluation can be a risk assessment, a risk assessment/ inspection combination, or, if the owner has opted to bypass the initial evaluation and proceed directly to controlling suspected hazards, a combination risk assessment/clearance examination. This type of clearance must be conducted by a certified risk assessor, who should determine if all hazards were in fact controlled. The results of the initial clearance dust tests, soil sampling and visual examination should be used to determine the appropriate schedule. If repeated cleaning was necessary to achieve clearance, use the results of the dust tests *before* repeated cleaning was performed for schedule determination.
5. If a unit fails two consecutive reevaluations, the reevaluation interval should be reduced by half and the number of reevaluations should be doubled. If deteriorated lead-based paint hazards continue to occur, then the offending components/surfaces should be abated. If dwellings with dust hazards but no paint-related hazards repeatedly fail reevaluations, the exterior source should be identified (if identification efforts fail, regular dust removal efforts are needed).

Attachment 5: Analytical Laboratory Reports



Hawaii Analytical Laboratory ANALYTICAL REPORT

Thursday, March 26, 2015

3615 Harding Avenue, Ste. 308, Honolulu, Hawaii 96816
Phone: (808) 735-0422

Mr. Max Solmssen
Environet, Inc.
1286 Queen Emma Street

Phone Number: (808) 833-2225
Facsimile:
Email: msolmssen@environetinc.com

Honolulu HI 96813

Lab Job No: 20151504
Your Project: DHHL - 82 Andrews Ave, Hilo, HI (3/23/2015)

Lead, total (wipes)

NIOSH/EPA Method: 7082m LEAD by FAAS/3051A m

Sample No.	Your Sample Description	Results	Units	Date Submitted	Date Analyzed
201507441	82Andrews-LW1 (144in2)	< 10	ugs/ft2	3/24/2015	3/25/2015
Comments					
201507442	82Andrews-LW2 (144in2)	12	ugs/ft2	3/24/2015	3/25/2015
Comments					
201507443	82Andrews-LW3 (72in2)	33	ugs/ft2	3/24/2015	3/25/2015
Comments					
201507444	82Andrews-LW4 (72in2)	< 20	ugs/ft2	3/24/2015	3/25/2015
Comments					
201507445	82Andrews-LW5 (0in2)	< 10	ugs/wipe	3/24/2015	3/25/2015
Comments					

All Quality Control data are acceptable unless otherwise noted.
MRL for lead air is 5ug.
MRL for lead wipe is 10ug.
MRL for lead paint or soil is 40 mg/kg for a 0.25g sample.

Hawaii Analytical Laboratory, is an AIHA CAPT, IHLAP, ELLAP and EMLAP accredited laboratory (Accreditation No. 101812) in the scope of work listed on the AIHA website (www.aiha.org). Hawaii Analytical Laboratory is also an analytical facility accredited in accordance with the recognized ISO/IEC 17025:2005.

Mr. Max Solmssen
Environet, Inc.
1286 Queen Emma Street

Phone Number: (808) 833-2225
Facsimile:
Email: msolmssen@environetinc.com

Honolulu HI 96813

Lab Job No: 20151504
Your Project: DHHL - 82 Andrews Ave, Hilo, HI (3/23/2015)

General Comments

All analysts participate in interlaboratory quality control testing to continuously document proficiency. The sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures associated with the "analytical method" referenced above. Modifications to this methodology may have been made based upon the analyst's professional judgment and / or sample matrix effects encountered. The analysis of sample relates only to the sample analyzed, and may or may not be representative of the original source of the material submitted for our analysis. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report should not be construed as an endorsement for a product or a service by the AIHA or any affiliated organizations. Sample and associated sampling / collection data is reported as provided by client. Concentration and TWA values have been calculated based on information supplied by the client that the laboratory cannot verify. Results have not been corrected for blank determinations unless noted in remarks. Unless otherwise indicated the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

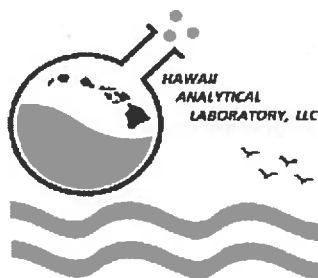
= Analytical methods marked with an "#" are not within our AIHA Scope of Accreditation.

MRL = Method Reporting Limit.



Ms. Eva Skogsberg
Section Supervisor

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Hawaii Analytical Laboratory ANALYTICAL REPORT

Wednesday, March 25, 2015

3615 Harding Avenue, Ste. 308, Honolulu, Hawaii 96816
Phone: (808) 735-0422

Mr. Max Solmssen
Environet, Inc.
1286 Queen Emma Street

Phone Number: (808) 833-2225
Facsimile:
Email: msolmssen@environetinc.com

Honolulu HI 96813

Lab Job No: 20151500
Your Project: DHHL - 82 Andrews Ave, Hilo (3/23/0215)

Lead, total (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample Description	Results	Units	Date Submitted	Date Analyzed
201507405	82Andrews-L1	< 39	mg/kg	3/24/2015	3/24/2015
Comments					
201507406	82Andrews-L2	< 39	mg/kg	3/24/2015	3/24/2015
Comments					
201507407	82Andrews-L3	< 38	mg/kg	3/24/2015	3/24/2015
Comments					
201507408	82Andrews-L4	< 39	mg/kg	3/24/2015	3/24/2015
Comments					
201507409	82Andrews-L5	500	mg/kg	3/24/2015	3/24/2015
Comments					
201507410	82Andrews-L6	< 39	mg/kg	3/24/2015	3/24/2015
Comments					
201507411	82Andrews-L7	< 38	mg/kg	3/24/2015	3/24/2015
Comments					
201507412	82Andrews-L8	65	mg/kg	3/24/2015	3/24/2015
Comments					
201507413	82Andrews-L9	< 38	mg/kg	3/24/2015	3/24/2015
Comments					

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1286 Queen Emma Street

Phone Number: (808) 833-2225
Facsimile:
Email: msolmssen@environetinc.com

Honolulu HI 96813

Lab Job No: 20151500
Your Project: DHHL - 82 Andrews Ave, Hilo (3/23/0215)

Lead, total (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample Description	Results	Units	Date Submitted	Date Analyzed
201507414	82Andrews-L10	110	mg/kg	3/24/2015	3/24/2015
Comments					
201507415	82Andrews-L11	< 38	mg/kg	3/24/2015	3/24/2015
Comments					
201507416	82Andrews-L12	< 39	mg/kg	3/24/2015	3/24/2015
Comments					
201507417	82Andrews-L13	< 39	mg/kg	3/24/2015	3/24/2015
Comments					
201507418	82Andrews-L14	< 38	mg/kg	3/24/2015	3/24/2015
Comments					

All Quality Control data are acceptable unless otherwise noted.
MRL for lead air is 5ug.
MRL for lead wipe is 10ug.
MRL for lead paint or soil is 40 mg/kg for a 0.25g sample.

General Comments

All analysts participate in interlaboratory quality control testing to continuously document proficiency. The sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures associated with the "analytical method" referenced above. Modifications to this methodology may have been made based upon the analyst's professional judgment and / or sample matrix effects encountered. The analysis of sample relates only to the sample analyzed, and may or may not be representative of the original source of the material submitted for our analysis. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report should not be construed as an endorsement for a product or a service by the AIHA or any affiliated organizations. Sample and associated sampling / collection data is reported as provided by client. Concentration and TWA values have been calculated based on information supplied by the client that the laboratory cannot verify. Results have not been corrected for blank determinations unless noted in remarks. Unless otherwise indicated the sample condition at the time of receipt was acceptable.

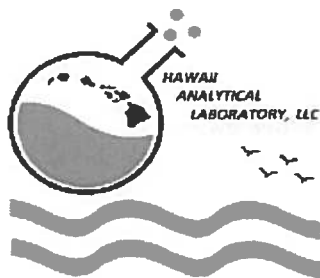
Results and Symbols Definitions

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< This testing result is less than the numerical value listed.
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MRL = Method Reporting Limit.



Ms. Eva Skogsberg
Section Supervisor

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Hawaii Analytical Laboratory ANALYTICAL REPORT

Thursday, March 26, 2015

3615 Harding Avenue, Ste. 308, Honolulu, Hawaii 96816
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Honolulu HI 96813

Lab Job No: 20151499
Your Project: DHHL - 82 Andrews Ave, Hilo, HI (3/23/2015)

Lead, total (soil)

EPA Method: 3051m/7000Bm

Sample No.	Your Sample Description	Results	Units	Date Submitted	Date Analyzed
201507399	82Andrews-LS1A	1000	mg/kg	3/24/2015	3/25/2015
Comments	Multi-incremental sampling was performed on the sample.				
201507400	82Andrews-LS1B	1200	mg/kg	3/24/2015	3/25/2015
Comments	Multi-incremental sampling was performed on the sample.				
201507401	82Andrews-LS1C	1300	mg/kg	3/24/2015	3/25/2015
Comments	Multi-incremental sampling was performed on the sample.				
201507402	82Andrews-LS2	1200	mg/kg	3/24/2015	3/25/2015
Comments	Multi-incremental sampling was performed on the sample.				
201507403	82Andrews-LS3	1600	mg/kg	3/24/2015	3/25/2015
Comments	Multi-incremental sampling was performed on the sample.				
201507404	82Andrews-LS4	700	mg/kg	3/24/2015	3/25/2015
Comments	Multi-incremental sampling was performed on the sample.				

All Quality Control data are acceptable unless otherwise noted.
MRL for lead air is 5ug.
MRL for lead wipe is 10ug.
MRL for lead paint or soil is 40 mg/kg for a 0.25g sample.

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Honolulu HI 96813

Lab Job No: 20151499
Your Project: DHHL - 82 Andrews Ave, Hilo, HI (3/23/2015)

General Comments

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***Attachment 6: Personnel Certification
Documents***

State of Hawai'i
Lead Based Paint Activities Certification

Expiration Dates:

Inspector-	n/a
Supervisor-	n/a
Risk Assessor-	05/16/2016
Project Designer-	n/a
Worker-	n/a

Kobayashi
Kamalana

Certification # PB-0132



Attachment 7: Abatement Cost Estimates

<i>Type of Hazard</i>	<i>Room/Location</i>	<i>Detailed Description</i>	<i>Estimated Quantity</i>	<i>Approximate Abatement Cost</i>
Paint	Exterior Entry	Red/Gray Concrete Stairs	40 ft2	\$960
Soil	Exterior Soils 0'-5' Perimeter Surrounding Structure	Surface Soils 0"-2"	710 ft2	\$5,112

ASBESTOS SURVEY

LOT 58-B-1

82 ANDREWS AVE.

LIMITED ASBESTOS SURVEY REPORT

**TASK ORDER No. 7, LOT 58B, 82 ANDREWS AVENUE
DEPARTMENT OF HAWAIIAN HOME LANDS
TMK 3-2-1-021:072
KEAUKAHA, HILO, HAWAII**

Prepared for:
WESLEY R. SEGAWA & ASSOCIATES
101 Silva Street, Suite 201
Keaukaha, Hilo, Hawaii 96720

Prepared by:
ENVIROSERVICES & TRAINING CENTER, LLC
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814
tel: (808) 839-7222

ETC Project No. 15-4042

September 3, 2015

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6.0	RECOMMENDATIONS.....	6

TABLES

TABLE 1	ASBESTOS SURVEY RESULTS	APPENDIX I
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APPENDICES

APPENDIX I:	TABLES OF RESULT
APPENDIX II:	LABORATORY ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS
APPENDIX III:	SAMPLE LOCATION MAP
APPENDIX IV:	PHOTO DOCUMENTATION

1.0 CERTIFICATIONS AND LIMITATIONS

EnviroServices & Training Center, LLC (ETC) has completed this Limited Asbestos Survey Report for the residential vacant home located at 82 Andrews Avenue, Keaukaha, Hilo, Hawaii (Subject Site). ETC's findings and recommendations contained herein are based on research, site observations, government regulations and laboratory data, which were gathered at the time and location of the study. Opinions stated in this report do not apply to changes that may have occurred after the services were performed.

ETC has performed specified services for this project with the degree of care, skill and diligence ordinarily exercised by professional consultants performing the same or similar services. No other warranty, guarantee, or representation, expressed or implied, is included or intended; unless otherwise specifically agreed to in writing by both ETC and ETC's Client.

This report is intended for the sole use of Wesley R. Segawa & Associates exclusively for the Subject Site. Wesley R. Segawa & Associates may use and release this report, including making and retaining copies, provided such use is limited to the particular site and project for which this report is provided. However, the services performed may not be appropriate for satisfying the needs of other users. Release of this report to third-parties will be at the sole risk of ETC's Client and/or said user, and ETC shall not be liable for any claims or damages resulting from or connected with such release or any third party's use or reuse of this report.

Prepared By:



Ververdee K. Roberts

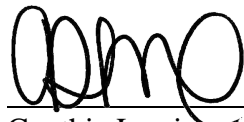
State of Hawaii Asbestos Building Inspector Certification # HIASB-0315

State of Hawaii Lead Risk Assessor Certification # PB-0041

Date:

September 3, 2015

Surveyed By:



Cynthia Lewis

State of Hawaii Asbestos Building Inspector Certification # HIASB-3939

State of Hawaii Lead Risk Assessor Certification # PB-0753

Date:

August 24, 2015

2.0 EXECUTIVE SUMMARY

ETC has completed this Limited Asbestos Survey Report for the residential home, located at 82 Andrews Avenue, Keaukaha, Hilo, Hawaii (Subject Site). The survey was conducted on August 24, 2015.

Summary of Asbestos Containing Materials Survey

Laboratory analysis determined that one (1) of the sampled materials contained asbestos above the regulatory limit of 1%. The asbestos containing material is summarized below.

Homogenous Area	Material	Condition	Category	Friability	Estimated Quantity
Roof	Black Soffit Sealant with Silver Foil	Good	Misc.	Non Friable I	3ft ²

3.0 INTRODUCTION/PURPOSE

The purpose of this Limited Asbestos Survey Report was to investigate the Residential Home located at 82 Andrews Avenue Keaukaha, Hilo, Hawaii (Subject Site) for asbestos materials that will require special handling prior to demolition/renovation activities. Specifically, ETC completed the following tasks:

- Mobilized a State of Hawaii Department of Health (DOH)/Environmental Protection Agency (EPA) certified asbestos building inspector to the Subject Site;
- Performed site reconnaissance at the Subject Site;
- Collected eighteen (18) samples of suspected Asbestos Containing Material (ACM) from various locations throughout the Subject Site;
- Submitted the eighteen (18) samples of suspected ACM to EMC Labs, Inc. (EMC) in Phoenix, Arizona for analysis of asbestos via Polarized Light Microscopy (PLM) in accordance with the Asbestos Hazard Emergency Response Act (AHERA) protocol and the National Institute for Occupational Safety and Health (NIOSH) Method 600/R-93/116; and
- Prepared this report documenting the field activities and the results of the investigation including analytical results, conclusions, and recommendations.

4.0 METHODOLOGY

Asbestos

ETC personnel collected a total of eighteen (18) samples of suspected ACM for asbestos analysis. The suspected ACM samples were collected in accordance with EPA guidelines and recommendations.

The suspected ACM was wetted with amended water before sample collection. A small piece was then carefully cut out and placed into a labeled re-sealable plastic bag. The sampling equipment was cleaned between each sample collection to avoid cross-contamination between samples. The approximate quantity of each suspected ACM was noted. Sample locations were randomly selected in accordance with EPA protocols and recommendations.

Samples were properly logged and recorded following strict chain of custody procedure and submitted to EMC for analysis by PLM in accordance with EPA Method 600/R-93/116. EMC is accredited for bulk asbestos analysis through successful participation in the National Voluntary Lab Accreditation Program (NVLAP).

5.0 RESULTS

Asbestos Inspection

Laboratory analysis determined that the black soffit sealant with silver foil on the roof, contained levels of asbestos above the regulatory limit of 1%. The results of this analysis are contained in Table 1 found in Appendix I.

In accordance with federal and state regulations and industry standard practice ETC determined homogenous areas of each suspect material and collected multiple representative samples of the material from each homogenous area. Typically, all samples for a suspect material will have similar laboratory results. When the results differ, a single result above the regulatory limit is sufficient to determine that the material within the homogenous area is ACM and the entirety of the homogenous area should be treated as ACM. Thus, ETC may request that the laboratory stops analyzing when the first sample in the set is determined to have an asbestos content above 1%. Two (2) samples were not analyzed for this reason.

6.0 RECOMMENDATIONS

Based on ETC's visual inspection of the facility, inventory of potentially hazardous materials, and laboratory data, ETC recommends the following:

- Manage and/or remove and dispose of hazardous and regulated materials in accordance with applicable local, state, and federal regulations, prior to renovation and/or demolition activities that may disturb these materials.
- All friable ACM must be removed and disposed of by a qualified asbestos abatement contractor. Friable ACM is defined as those materials that may be crumbled, pulverized, or otherwise damaged by hand pressure.
- Any non-friable ACM which could be crumbled and pulverized during renovation/demolition activities must be removed and disposed of by a qualified asbestos abatement contractor.
- In addition, the services of a qualified consultant should be obtained to monitor and inspect the removal activities to ensure compliance with applicable Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and Hawaii Occupational Safety and Health (HIOSH) regulations pertaining to the handling of asbestos containing material.
- Have air monitoring conducted for airborne asbestos fibers by a State of Hawaii certified Project Monitor during any asbestos abatement and general renovation/demolition activities of areas that were determined to contain this contaminant.

Appendix **I**

TABLES OF RESULTS

Table 1
Asbestos Survey Results
Department of Hawaiian Homelands Hilo
Task Order No. 7, Lot 58B, 82 Andrews Avenue

<i>Sample ID</i>	<i>Homogeneous Area</i>	<i>Material</i>	<i>Condition</i>	<i>Category</i>	<i>Friability</i>	<i>Analysis Layer</i>	<i>Asbestos Content</i>	<i>Estimated Quantity</i>
58B-AB-01	1st Floor Throughout	Drywall	Damaged	N/A	N/A	All	None Detected	N/A
58B-AB-02							None Detected	
58B-AB-03							None Detected	
58B-2AB-01	2nd Floor Kitchen and Bathroom	12" x 12" White Ceramic Tile with Grout	Good	N/A	N/A	All	None Detected	N/A
58B-2AB-02							None Detected	
58B-2AB-03							None Detected	
58B-2AB-04	2nd Floor Bathroom	Bathtub Caulking	Good	N/A	N/A	All	None Detected	N/A
58B-2AB-05							None Detected	
58B-2AB-06							None Detected	
58B-2AB-07	2nd Floor Kitchen Sink	White Insulation	Good	N/A	N/A	All	None Detected	N/A
58B-2AB-08							None Detected	
58B-2AB-09							None Detected	
58B-2AB-10	2nd Floor Walls and Ceiling	Drywall	Good	N/A	N/A	All	None Detected	N/A
58B-2AB-11							None Detected	
58B-2AB-12							None Detected	
58B-R-AB-01	Roof	Flashing with Silver Foil	Good	N/A	N/A	All	None Detected	N/A
58B-R-AB-02							None Detected	
58B-R-AB-03							None Detected	
58B-R-AB-04	Roof	Black Soffit Sealant with Silver Foil	Good	Misc.	Non- Friable I	Black Sealant	Chrysotile 5%	3 ft²
58B-R-AB-05						Black/Silver Flashing	Chrysotile 5%	
58B-R-AB-06						All	Not Analyzed	
							Not Analyzed	

Appendix **II**

LABORATORY ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report

0159758

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	ENVIROSERVICES & TRAINING CENTER	Job# / P.O. #:	
Address:	505 WARD AVE, STE 202	Date Received:	08/27/2015
	HONOLULU HI 96814	Date Analyzed:	09/01/2015
Collected:	08/25/2015	Date Reported:	09/01/2015
Project Name:	DEPT OF HAWAIIAN HOME LANDS HILO	EPA Method:	EPA 600/R-93/116
Address:	PRJ #15-4042 LOT 58-B (ANDREWS AVE)	Submitted By:	CYNTHIA LEWIS
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0159758-001 58-AB-01	1ST FL THROUGHOUT	LAYER 1 Drywall, Off White/ Brown	No	None Detected	Cellulose Fiber	12%
		LAYER 2 Texture, White/ Off White	No	None Detected	Gypsum Carbonates Mica Cellulose Fiber Carbonates Mica Quartz Binder/Filler	88% <1% 99%
0159758-002 58-AB-02	1ST FL THROUGHOUT	Drywall, Off White/ Brown	No	None Detected	Cellulose Fiber	12%
					Gypsum Carbonates Mica Quartz	88%
0159758-003 58-AB-03	1ST FL THROUGHOUT	Drywall, Off White/ Brown	No	None Detected	Cellulose Fiber	12%
					Gypsum Carbonates Mica	88%

EMC LABS, INC.

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Laboratory Report
0159758

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client: ENVIROSERVICES & TRAINING CENTER Job# / P.O. #:
Address: 505 WARD AVE, STE 202 Date Received: 08/27/2015
HONOLULU HI 96814 Date Analyzed: 09/01/2015
Collected: 08/25/2015 Date Reported: 09/01/2015
Project Name: DEPT OF HAWAIIAN HOME LANDS HILO EPA Method: EPA 600/R-93/116
Address: PRJ #15-4042 LOT 58-B (ANDREWS AVE) Submitted By: CYNTHIA LEWIS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0159758-004 58-2AB-01	2ND FL KITCHEN & BATHRM	LAYER 1 Ceramic Floor Tile, White / Tan	No	None Detected	Gypsum Quartz Binder/Filler 100%
		LAYER 2 Grout, Lt. Gray	No	None Detected	Gypsum Quartz Carbonates Mica Binder/Filler 100%
		LAYER 3 Thin Set, Gray	No	None Detected	Carbonates Quartz Gypsum Mica Binder/Filler 100%
0159758-005 58-2AB-02	2ND FL KITCHEN & BATHRM	LAYER 1 Ceramic Floor Tile, White / Tan	No	None Detected	Gypsum Quartz Binder/Filler 100%
		LAYER 2 Grout, Lt. Gray	No	None Detected	Gypsum Quartz Carbonates Mica Binder/Filler 100%
		LAYER 3 Thin Set, Gray	No	None Detected	Carbonates Quartz Gypsum Mica Binder/Filler 100%

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Laboratory Report

0159758

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	ENVIROSERVICES & TRAINING CENTER	Job# / P.O. #:	
Address:	505 WARD AVE, STE 202	Date Received:	08/27/2015
	HONOLULU HI 96814	Date Analyzed:	09/01/2015
Collected:	08/25/2015	Date Reported:	09/01/2015
Project Name:	DEPT OF HAWAIIAN HOME LANDS HILO	EPA Method:	EPA 600/R-93/116
Address:	PRJ #15-4042 LOT 58-B (ANDREWS AVE)	Submitted By:	CYNTHIA LEWIS
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0159758-006 58-2AB-03	2ND FL KITCHEN & BATHRM	LAYER 1 Ceramic Floor Tile, White / Tan	No	None Detected	Gypsum Quartz Binder/Filler 100%
		LAYER 2 Grout, Lt. Gray	No	None Detected	Gypsum Quartz Carbonates Mica Binder/Filler 100%
		LAYER 3 Thin Set, Gray	No	None Detected	Carbonates Quartz Gypsum Mica Binder/Filler 100%
0159758-007 58-2AB-04	2ND FL BATHRM	Caulking, White/ Off White	No	None Detected	Carbonates Quartz Binder/Filler 100%
0159758-008 58-2AB-05	2ND FL BATHRM	Caulking, White/ Off White	No	None Detected	Carbonates Quartz Binder/Filler 100%
0159758-009 58-2AB-06	2ND FL BATHRM	Caulking, White/ Off White	No	None Detected	Carbonates Quartz Binder/Filler 100%
0159758-010 58-2AB-07	2ND FL KITCHEN SINK	Insulation, White/ Off White	No	None Detected	Cellulose Fiber 5%
					Carbonates Mica Quartz Binder/Filler 95%

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Laboratory Report

0159758

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client: ENVIROSERVICES & TRAINING CENTER Job# / P.O. #:
Address: 505 WARD AVE, STE 202 Date Received: 08/27/2015
HONOLULU HI 96814 Date Analyzed: 09/01/2015
Collected: 08/25/2015 Date Reported: 09/01/2015
Project Name: DEPT OF HAWAIIAN HOME LANDS HILO EPA Method: EPA 600/R-93/116
Address: PRJ #15-4042 LOT 58-B (ANDREWS AVE) Submitted By: CYNTHIA LEWIS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0159758-011 58-2AB-08	2ND FL KITCHEN SINK	Insulation, White/ Off White	No	None Detected	Cellulose Fiber	5%
					Carbonates Mica Quartz Binder/Filler	95%
0159758-012 58-2AB-09	2ND FL KITCHEN SINK	Insulation, White/ Off White	No	None Detected	Cellulose Fiber	5%
					Carbonates Mica Quartz Binder/Filler	95%
0159758-013 58-2AB-10	2ND FL WALLS & CEILING	LAYER 1	No	None Detected	Cellulose Fiber	12%
		Drywall, Off White/ Brown			Gypsum Carbonates Mica	88%
		LAYER 2	No	None Detected	Cellulose Fiber	1%
		Joint Compound, White/ Off White			Carbonates Mica Quartz	99%
		LAYER 3	No	None Detected	Carbonates Mica Quartz Binder/Filler	100%
		Texture, White/ Off White				
0159758-014 58-2AB-11	2ND FL WALLS & CEILING	LAYER 1	No	None Detected	Cellulose Fiber	12%
		Drywall, Off White/ Brown			Gypsum Carbonates Mica	88%
		LAYER 2	No	None Detected	Carbonates Mica Quartz Binder/Filler	100%
		Texture, White/ Off White				

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Laboratory Report

0159758

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	ENVIROSERVICES & TRAINING CENTER	Job# / P.O. #:	
Address:	505 WARD AVE, STE 202	Date Received:	08/27/2015
	HONOLULU HI 96814	Date Analyzed:	09/01/2015
Collected:	08/25/2015	Date Reported:	09/01/2015
Project Name:	DEPT OF HAWAIIAN HOME LANDS HILO	EPA Method:	EPA 600/R-93/116
Address:	PRJ #15-4042 LOT 58-B (ANDREWS AVE)	Submitted By:	CYNTHIA LEWIS
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0159758-015 58-2AB-12	2ND FL WALLS & CEILING	LAYER 1 Drywall, Off White/ Brown	No	None Detected	Cellulose Fiber	12%
					Gypsum Carbonates Mica	88%
		LAYER 2 Texture, White/ Off White	No	None Detected	Carbonates Mica Quartz Binder/Filler	100%
0159758-016 58-R-AB-01	ROOF	LAYER 1 Flashing, Black	No	None Detected	Gypsum Quartz Carbonates Binder/Filler	100%
		LAYER 2 Flashing, Black/ Silver Note: Difficult to separate adjacent layers	No	None Detected	Cellulose Fiber Aluminum Carbonates Binder/Filler	<1% 99%
0159758-017 58-R-AB-02	ROOF	LAYER 1 Flashing, Black	No	None Detected	Gypsum Quartz Carbonates Binder/Filler	100%
		LAYER 2 Flashing, Black/ Silver Note: Difficult to separate adjacent layers	No	None Detected	Cellulose Fiber Aluminum Carbonates Binder/Filler	<1% 99%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report

0159758

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client: ENVIROSERVICES & TRAINING CENTER Job# / P.O. #:
Address: 505 WARD AVE, STE 202 Date Received: 08/27/2015
HONOLULU HI 96814 Date Analyzed: 09/01/2015
Collected: 08/25/2015 Date Reported: 09/01/2015
Project Name: DEPT OF HAWAIIAN HOME LANDS HILO EPA Method: EPA 600/R-93/116
Address: PRJ #15-4042 LOT 58-B (ANDREWS AVE) Submitted By: CYNTHIA LEWIS
Collected By:

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0159758-018 58-R-AB-03	ROOF	LAYER 1 Flashing, Black	No	None Detected	Gypsum Quartz Carbonates Binder/Filler 100%
		LAYER 2 Flashing, Black/ Silver Note: Difficult to separate adjacent layers	No	None Detected	Cellulose Fiber <1% Aluminum Carbonates Binder/Filler 99%
0159758-019 58-R-AB-04	ROOF	LAYER 1 Sealant, Black	Yes	Chrysotile 5%	Carbonates Binder/Filler 95%
		LAYER 2 Flashing, Black/ Silver Note: Difficult to separate adjacent layers	Yes	Chrysotile 5%	Aluminum Carbonates Binder/Filler 95%
0159758-020 58-R-AB-05	ROOF	LAYER 1 Sealant, Black Note: *Not analyzed per client request			
		LAYER 2 Flashing, Black/ Silver Note: *Not analyzed per client request			
0159758-021 58-R-AB-06	ROOF	LAYER 1 Sealant, Black Note: *Not analyzed per client request			
		LAYER 2 Flashing, Black/ Silver Note: *Not analyzed per client request			

EMC LABS, INC.

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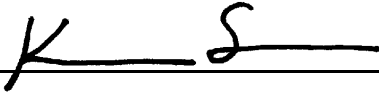
Laboratory Report
0159758

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	ENVIROSERVICES & TRAINING CENTER	Job# / P.O. #:	
Address:	505 WARD AVE, STE 202	Date Received:	08/27/2015
	HONOLULU HI 96814	Date Analyzed:	09/01/2015
Collected:	08/25/2015	Date Reported:	09/01/2015
Project Name:	DEPT OF HAWAIIAN HOME LANDS HILO	EPA Method:	EPA 600/R-93/116
Address:	PRJ #15-4042 LOT 58-B (ANDREWS AVE)	Submitted By:	CYNTHIA LEWIS
		Collected By:	

Lab ID	Sample	Layer Name /	Asbestos	Asbestos Type	Non-Asbestos
Client ID	Location	Sample Description	Detected	(%)	Constituents



Analyst - Kenneth Scheske



Signatory - Lab Director - Kurt Kettler

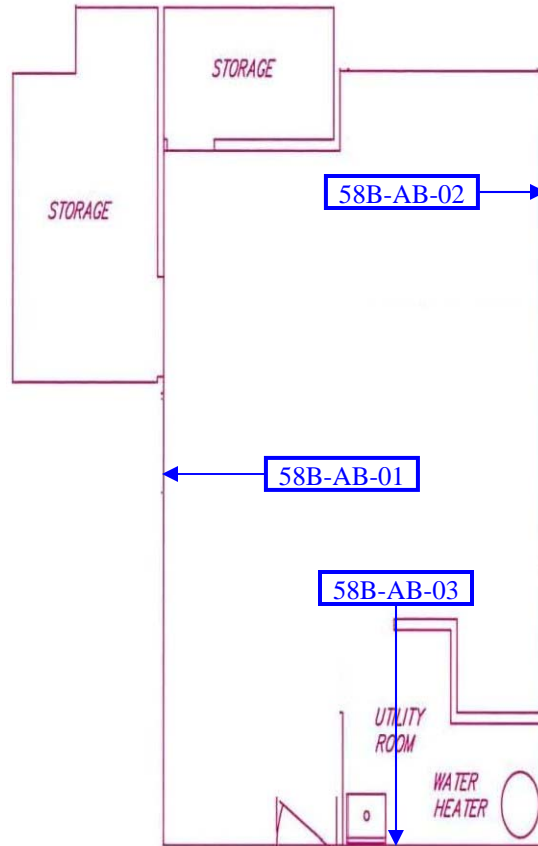
Distinctly stratified, easily separable layers of samples are analyzed as subsamples of the whole and are reported separately for each discernible layer. All analyses are derived from calibrated visual estimate and measured in area percent unless otherwise noted. The report applies to the standards or procedures identified and to the sample(s) tested. The test results are not necessarily indicated or representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products, nor do they represent an ongoing quality assurance program unless so noted. These reports are for the exclusive use of the addressed client and that they will not be reproduced wholly or in part for advertising or other purposes over our signature or in connection with our name without special written permission. The report shall not be reproduced except in full, without written approval by our laboratory. The samples not destroyed in testing are retained a maximum of thirty days. The laboratory measurement of uncertainty for the test method is approximately less than 1 by area percent. Accredited by the National Institute of Standards and Technology, Voluntary Laboratory Accreditation Program for selected test method for asbestos. The accreditation or any reports generated by this laboratory in no way constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. Polarized Light Microscopy may not be consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials.

Table 1
Asbestos Survey
Department of Hawaiian Homelands Hilo
82 Andrews Avenue

	<i>Sample ID</i>	<i>Homogeneous Area</i>	<i>Material</i>
1	58B-AB-01	1st Floor Throughout	Drywall
2	58B-AB-02		
3	58B-AB-03		
4	58B-2AB-01	2nd Floor Kitchen and Bathroom	12" x 12" White Ceramic Tile with Grout
5	58B-2AB-02		
6	58B-2AB-03		
7	58B-2AB-04	2nd Floor Bathroom	Bathtub Caulking
8	58B-2AB-05		
9	58B-2AB-06		
10	58B-2AB-07	2nd Floor Kitchen Sink	White Insulation
11	58B-2AB-08		
12	58B-2AB-09		
13	58B-2AB-10	2nd Floor Walls and Ceiling	Drywall
14	58B-2AB-11		
15	58B-2AB-12		
16	58B-R-AB-01	Roof	Flashing with Silver Foil
17	58B-R-AB-02		
18	58B-R-AB-03		
19	58B-R-AB-04	Roof	Soffit Sealant with Silver Foil
20	58B-R-AB-05		
21	58B-R-AB-06		

Appendix **III**

SAMPLE LOCATION MAPS



**LIMITED ASBESTOS SURVEY
ASBESTOS SAMPLE LOCATIONS**

Legend

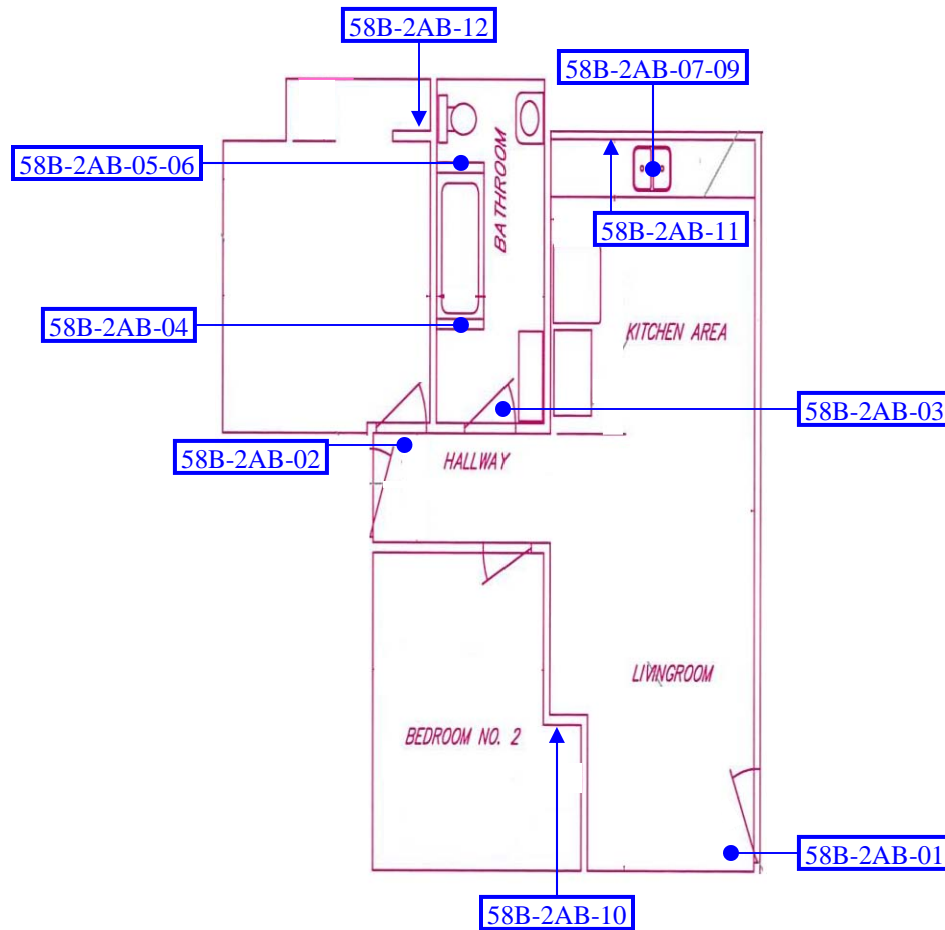
- 58B-AB-XX Positive (Asbestos Containing Material)
- 58B-AB-XX Negative (None Detected)
- 58B-AB-XX Not Analyzed
- ← Wall Sample
- Non-Wall Sample

**Department of Hawaiian
Home Lands Hilo
Task Order No. 7, Lot 58B
82 Andrews Avenue
Hilo, Hawaii**

1st Floor

ETC Project No. 15-4042

September 2015



**LIMITED ASBESTOS SURVEY
ASBESTOS SAMPLE LOCATIONS**

Legend

58B-2AB-XX Positive (Asbestos
Containing Material)

58B-2AB-XX Negative
(None Detected)

58B-2AB-XX Not Analyzed

← Wall Sample

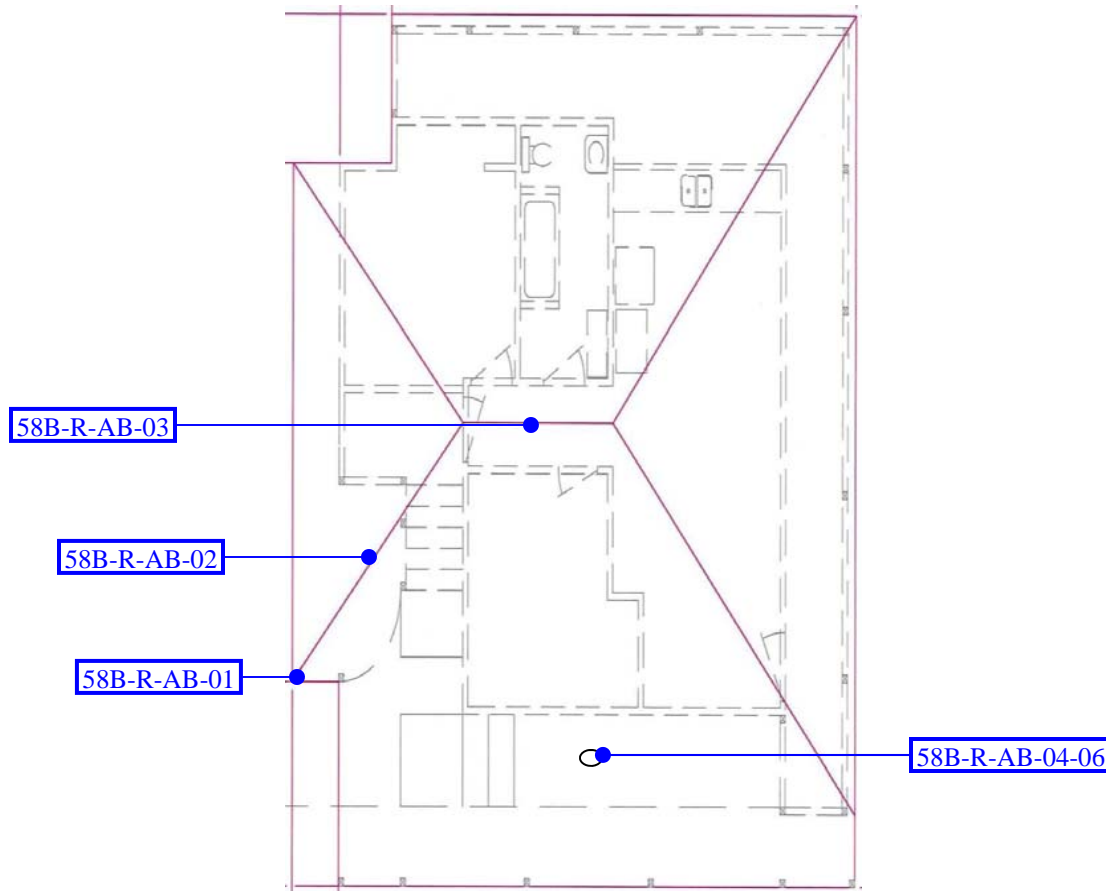
● Non-Wall Sample

**Department of Hawaiian
Home Lands Hilo
Task Order No. 7, Lot 58B
82 Andrews Avenue
Hilo, Hawaii**

2nd Floor

ETC Project No. 15-4042

September 2015



**LIMITED ASBESTOS SURVEY
ASBESTOS SAMPLE LOCATIONS**

Legend

58B-R-AB-XX Positive (Asbestos
Containing Material)

58B-R-AB-XX Negative
(None Detected)

58B-R-AB-XX Not Analyzed

← Wall Sample

● Non-Wall Sample

**Department of Hawaiian
Home Lands Hilo
Task Order No. 7, Lot 58B
82 Andrews Avenue
Hilo, Hawaii**

Roof

ETC Project No. 15-4042

September 2015

Appendix **IV**

PHOTO DOCUMENTATION



Photograph 1: Roof, Black Soffit Sealant with
Silver Foil

ASBESTOS AND
LEAD-BASED PAINT SURVEY

LOT 131-A-3

372 DESHA AVE.

LIMITED ASBESTOS AND LEAD PAINT SURVEY REPORT

**TASK ORDER No. 6, LOT 131-A
372 DESHA AVENUE
DEPARTMENT OF HAWAIIAN HOME LANDS
TMK 3-2-1-021:010
KEAUKAHA, HILO, HAWAII**

Prepared for:
WESLEY R. SEGAWA & ASSOCIATES
101 Silva Street, Suite 201
Keaukaha, Hilo, Hawaii 96720

Prepared by:
ENVIROSERVICES & TRAINING CENTER, LLC
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814
tel: (808) 839-7222

ETC Project No. 15-4042

September 2, 2015

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TABLES

TABLE 1	ASBESTOS SURVEY RESULTS	APPENDIX I
TABLE 2	LEAD PAINT SURVEY RESULTS	APPENDIX I

APPENDICES

APPENDIX I:	TABLES OF RESULTS
APPENDIX II:	LABORATORY ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS
APPENDIX III:	SAMPLE LOCATION MAP
APPENDIX IV:	PHOTO DOCUMENTATION

1.0 CERTIFICATIONS AND LIMITATIONS

EnviroServices & Training Center, LLC (ETC) has completed this Limited Asbestos and Lead Paint Survey Report for the residential home located at 372 Desha Avenue, Keaukaha, Hilo, Hawaii (Subject Site). ETC's findings and recommendations contained herein are based on research, site observations, government regulations and laboratory data, which were gathered at the time and location of the study. Opinions stated in this report do not apply to changes that may have occurred after the services were performed.

ETC has performed specified services for this project with the degree of care, skill and diligence ordinarily exercised by professional consultants performing the same or similar services. No other warranty, guarantee, or representation, expressed or implied, is included or intended; unless otherwise specifically agreed to in writing by both ETC and ETC's Client.

This report is intended for the sole use of Wesley R. Segawa & Associates exclusively for the Subject Site. Wesley R. Segawa & Associates may use and release this report, including making and retaining copies, provided such use is limited to the particular site and project for which this report is provided. However, the services performed may not be appropriate for satisfying the needs of other users. Release of this report to third-parties will be at the sole risk of ETC's Client and/or said user, and ETC shall not be liable for any claims or damages resulting from or connected with such release or any third party's use or reuse of this report.

Prepared By:



Ververdee K. Roberts

State of Hawaii Asbestos Building Inspector Certification # HIASB-0315

State of Hawaii Lead Risk Assessor Certification # PB-0041

Date:

September 2, 2015

2.0 EXECUTIVE SUMMARY

ETC has completed this Limited Asbestos and Lead Paint Survey Report for the residential home, located at 372 Desha Avenue Keaukaha, Hilo, Hawaii (Subject Site). The survey was conducted on August 24 & 25, 2015.

Summary of Asbestos Containing Materials Survey

Laboratory analysis determined that three (3) of the sampled materials contained asbestos above the regulatory limit of 1%. The asbestos containing materials are summarized below.

Homogenous Area	Material	Condition	Category	Friability	Estimated Quantity
Kitchen and Bathroom Floors	12"x12" White Speckled Vinyl Floor Tile with Adhesive	Damaged	Misc.	Non Friable I	330ft ²
Kitchen	Black Insulation	Good	Misc.	Non Friable I	4ft ²
Roof	Soffit Sealant w/Black Tar	Good	Misc.	Non Friable I	3ft ²

Summary of Lead Paint Survey

The two (2) sampled surfaces did not contain detectable levels of lead and are not considered to be lead-containing. The results of this analysis are presented in Table 1, Appendix I.

3.0 INTRODUCTION/PURPOSE

The purpose of this Limited Asbestos and Lead Paint Survey was to investigate the residential home located at 372 Desha Avenue Keaukaha, Hilo, Hawaii (Subject Site) for asbestos and/or lead paint that will require special handling prior to demolition/renovation activities. Specifically, ETC completed the following tasks:

- Mobilized a State of Hawaii Department of Health (DOH)/Environmental Protection Agency (EPA) certified asbestos building inspector and lead risk assessor to the Subject Site;
- Performed site reconnaissance at the Subject Site;
- Collected eighteen (18) samples of suspected Asbestos Containing Material (ACM) from various locations throughout the Subject Site;
- Submitted the eighteen (18) samples of suspected ACM to EMC Labs, Inc. (EMC) in Phoenix, Arizona for analysis of asbestos via Polarized Light Microscopy (PLM) in accordance with the Asbestos Hazard Emergency Response Act (AHERA) protocol and the National Institute for Occupational Safety and Health (NIOSH) Method 600/R-93/116;
- Collected two (2) paint chip samples from the Subject Site;
- Submitted the paint chip samples to EMC for analysis via EPA Method 7000B for total lead content; and
- Prepared this report documenting the field activities and the results of the investigation including analytical results, conclusions, and recommendations.

4.0 METHODOLOGY

4.1 Asbestos

ETC personnel collected a total of eighteen (18) samples of suspected ACM for asbestos analysis. The suspected ACM samples were collected in accordance with EPA guidelines and recommendations.

The suspected ACM was wetted with amended water before sample collection. A small piece was then carefully cut out and placed into a labeled re-sealable plastic bag. The sampling equipment was cleaned between each sample collection to avoid cross-contamination between samples. The approximate quantity of each suspected ACM was noted. Sample locations were randomly selected in accordance with EPA protocols and recommendations.

Samples were properly logged and recorded following strict chain of custody procedure and submitted to EMC for analysis by PLM in accordance with EPA Method 600/R-93/116. EMC is accredited for bulk asbestos analysis through successful participation in the National Voluntary Lab Accreditation Program (NVLAP).

4.2 Lead Paint

ETC personnel collected two (2) paint chip samples from the Subject Site in accordance with EPA guidelines and recommendations.

The suspected leaded paint was wetted with amended water before sample collection. Paint was carefully scraped and placed into a labeled re-sealable plastic bag. The sampling equipment was cleaned between each sample collection to avoid cross-contamination between samples.

All samples were properly logged and recorded following strict chain of custody procedure and submitted to EMC for analysis in accordance with EPA Method 7000B.

5.0 RESULTS

5.1 Asbestos Inspection

Laboratory analysis determined that three (3) of the materials sampled contained levels of asbestos above the regulatory limit of 1%. The results of this analysis are contained in Table 1 found in Appendix I.

In accordance with federal and state regulations and industry standard practice ETC determined homogenous areas of each suspect material and collected multiple representative samples of the material from each homogenous area. Typically, all samples for a suspect material will have similar laboratory results. When the results differ, a single result above the regulatory limit is sufficient to determine that the material within the homogenous area is ACM and the entirety of the homogenous area should be treated as ACM. Thus, ETC may request that the laboratory stops analyzing when the first sample in the set is determined to have an asbestos content above 1%. Six (6) samples were not analyzed for this reason.

5.2 Lead Paint Inspection

The sampled surfaces did not contain lead in excess of the EPA/United States Department of Housing and Urban Development (HUD) guideline of 0.5% by weight defining Lead-Based Paint (LBP) or lead above the laboratory detection limit and are considered to be non lead containing paint. The lead paint survey results are recorded in Table 2, found in Appendix I.

6.0 RECOMMENDATIONS

Based on ETC's visual inspection of the facility, inventory of potentially hazardous materials, and laboratory data, ETC recommends the following:

- Manage and/or remove and dispose of hazardous and regulated materials in accordance with applicable local, state, and federal regulations, prior to renovation and/or demolition activities that may disturb these materials.
- All friable ACM must be removed and disposed of by a qualified asbestos abatement contractor. Friable ACM is defined as those materials that may be crumbled, pulverized, or otherwise damaged by hand pressure.
- Any non-friable ACM which could be crumbled and pulverized during renovation/demolition activities must be removed and disposed of by a qualified asbestos abatement contractor.
- In addition, the services of a qualified consultant should be obtained to monitor and inspect the removal activities to ensure compliance with applicable Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and Hawaii Occupational Safety and Health (HIOSH) regulations pertaining to the handling of asbestos containing material.
- Have air monitoring conducted for airborne asbestos fibers by a State of Hawaii certified Project Monitor and airborne lead by qualified personnel during any asbestos abatement and general renovation/demolition activities of areas that were determined to contain this contaminant.

Appendix **I**

TABLES OF RESULTS

Table 1
Asbestos Survey Results
Department of Hawaiian Homelands Hilo
Task Order No. 6, Lot 131-A, 372 Desha Avenue

Sample ID	Homogeneous Area	Material	Condition	Category	Friability	Analysis Layer	Asbestos Content	Estimated Quantity
131-A-AB-01	Throughout Carport and Interior	Textured Drywall Ceiling	Damaged	N/A	N/A	All	None Detected	Not Applicable
131-A-AB-02							None Detected	
131-A-AB-03							None Detected	
131-A-AB-04	Carport Storage Room	Drywall Wall	Damaged	N/A	N/A	All	None Detected	Not Applicable
131-A-AB-05							None Detected	
131-A-AB-06							None Detected	
131-A-AB-07	Kitchen and Bathroom Floors	12" x 12" White Speckled Vinyl Floor Tile w/Adhesive	Damaged	Misc.	Non-Friable I	VFT	Chrysotile 3%	330 ft²
131-A-AB-08						Yellow Adhesive	None Detected	
						VFT	Not Analyzed	
						Yellow Adhesive	None Detected	
131-A-AB-09						VFT	Not Analyzed	
	Yellow Adhesive	None Detected						
131-A-AB-10	Kitchen Sink	Black Insulation	Good	Surfacing	Friable	All	Chrysotile 3%	2 ft2
131-A-AB-11						All	Not Analyzed	
131-A-AB-12							Not Analyzed	
131-A-Roof-01	Roof	Soffit - Black Rubber w/Adhesive	Good	Misc.	Non-Friable I	All	None Detected	Not Applicable
131-A-Roof-02							None Detected	Not Applicable
131-A-Roof-03							None Detected	Not Applicable
131-A-Roof-04	Roof	Soffit - Sealant w/Black Tar	Good	Misc.	Non-Friable I	Black Tar	Chrysotile 8%	4 ft2
131-A-Roof-05						All	Not Analyzed	
131-A-Roof-06							Not Analyzed	

Table 2
Lead Paint Survey Results
Department of Hawaiian Homelands Hilo
Task Order No. 6, Lot 131-A, 372 Desha Avenue

<i>Sample ID</i>	<i>Location</i>	<i>Color</i>	<i>Description</i>	<i>Condition</i>	<i>Reporting Limit (% Pb by weight)</i>	<i>Lead Conc. (% Pb by weight)</i>
131-A-Pb-01	Throughout Carport and Interior	White	Textured Drywall Ceilings	Intact	0.010	BRL
131-A-Pb-02	Carport and Storage Room	Mustard	Drywall Walls	Intact	0.010	BRL

BRL=Below Reportable Limits

Appendix **II**

LABORATORY ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FORMS

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0159762

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	ENVIROSERVICES & TRAINING CENTER	Job# / P.O. #:	15-4042
Address:	505 WARD AVE, STE 202	Date Received:	08/27/2015
	HONOLULU HI 96814	Date Analyzed:	09/01/2015
Collected:	08/25/2015	Date Reported:	09/01/2015
Project Name:	372 DESHA AVE	EPA Method:	EPA 600/R-93/116
Address:	LTD ASB & LEAD PAINT SURVEY	Submitted By:	CYNTHIA LEWIS
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0159762-001 131-AB-01	CARPORT/INTERIO R CEILING	Drywall, White/ Brown	No	None Detected	Cellulose Fiber 10% Gypsum Quartz Carbonates 90%
0159762-002 131-AB-02	CARPORT/INTERIO R CEILING	Drywall, White/ Brown	No	None Detected	Cellulose Fiber 10% Gypsum Quartz Carbonates 90%
0159762-003 131-AB-03	CARPORT/INTERIO R CEILING	Drywall, White/ Brown	No	None Detected	Cellulose Fiber 10% Gypsum Quartz Carbonates 90%
0159762-004 131-AB-04	CARPORT/STORAG E	LAYER 1 Drywall, White/ Brown	No	None Detected	Cellulose Fiber 10% Gypsum Quartz Carbonates 90%
		LAYER 2 Joint Compound, Off White	No	None Detected	Synthetic Fiber <1% Carbonates Mica Quartz Binder/Filler 99%
0159762-005 131-AB-05	CARPORT/STORAG E	Drywall, White/ Brown	No	None Detected	Cellulose Fiber 10% Gypsum Quartz Carbonates 90%
0159762-006 131-AB-06	CARPORT/STORAG E	Drywall, White/ Brown	No	None Detected	Cellulose Fiber 10% Gypsum Quartz Carbonates 90%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report

0159762

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	ENVIROSERVICES & TRAINING CENTER	Job# / P.O. #:	15-4042
Address:	505 WARD AVE, STE 202	Date Received:	08/27/2015
	HONOLULU HI 96814	Date Analyzed:	09/01/2015
Collected:	08/25/2015	Date Reported:	09/01/2015
Project Name:	372 DESHA AVE	EPA Method:	EPA 600/R-93/116
Address:	LTD ASB & LEAD PAINT SURVEY	Submitted By:	CYNTHIA LEWIS
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0159762-007 131-AB-07		LAYER 1 12"x12" VFT, White/ Speckled	Yes	Chrysotile 3%	Carbonates Gypsum Quartz Binder/Filler 97%
		LAYER 2 Adhesive, Yellow	No	None Detected	Cellulose Fiber <1% Carbonates Gypsum Quartz Binder/Filler 99%
0159762-008 131-AB-08		LAYER 1 12"x12" VFT, White/ Speckled Note: *Not analyzed per client request	No	None Detected	Cellulose Fiber <1% Carbonates Gypsum Quartz Binder/Filler 99%
		LAYER 2 Adhesive, Yellow			
0159762-009 131-AB-09		LAYER 1 12"x12" VFT, White/ Speckled Note: *Not analyzed per client request	No	None Detected	Cellulose Fiber <1% Carbonates Gypsum Quartz Binder/Filler 99%
		LAYER 2 Adhesive, Yellow			
0159762-010 131-AB-10	KITCHEN	Sink Insulation, Black	Yes	Chrysotile 3%	Carbonates Mica Quartz Binder/Filler 97%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0159762

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	ENVIROSERVICES & TRAINING CENTER	Job# / P.O. #:	15-4042
Address:	505 WARD AVE, STE 202	Date Received:	08/27/2015
	HONOLULU HI 96814	Date Analyzed:	09/01/2015
Collected:	08/25/2015	Date Reported:	09/01/2015
Project Name:	372 DESHA AVE	EPA Method:	EPA 600/R-93/116
Address:	LTD ASB & LEAD PAINT SURVEY	Submitted By:	CYNTHIA LEWIS
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0159762-011 131-AB-11	KITCHEN	Sink Insulation, Black Note: *Not analyzed per client request			
0159762-012 131-AB-12	KITCHEN	Sink Insulation, Black Note: *Not analyzed per client request			
0159762-013 131-A-ROOF- 01	ROOF SOFFIT	LAYER 1 Rubber, Black	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Adhesive, Yellow	No	None Detected	Carbonates Gypsum Quartz Binder/Filler 100%
0159762-014 131-A-ROOF- 02	ROOF SOFFIT	Rubber, Black	No	None Detected	Carbonates Quartz Binder/Filler 100%
0159762-015 131-A-ROOF- 03	ROOF SOFFIT	LAYER 1 Rubber, Black	No	None Detected	Carbonates Quartz Binder/Filler 100%
		LAYER 2 Coating, Silver	No	None Detected	Carbonates Gypsum Binder/Filler 100%
0159762-016 131-A-ROOF- 04	ROOF SOFFIT SEALANT	Tar, Black	Yes	Chrysotile 8%	Carbonates Gypsum Quartz Binder/Filler 92%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0159762

Bulk Asbestos Analysis by Polarized Light Microscopy

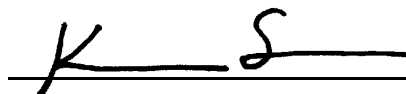
NVLAP#101926-0

Client:	ENVIROSERVICES & TRAINING CENTER	Job# / P.O. #:	15-4042
Address:	505 WARD AVE, STE 202	Date Received:	08/27/2015
	HONOLULU HI 96814	Date Analyzed:	09/01/2015
Collected:	08/25/2015	Date Reported:	09/01/2015
Project Name:	372 DESHA AVE	EPA Method:	EPA 600/R-93/116
Address:	LTD ASB & LEAD PAINT SURVEY	Submitted By:	CYNTHIA LEWIS
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0159762-017 131-A-ROOF- 05	ROOF SOFFIT SEALANT	Note: *Not analyzed per client request			
0159762-018 131-A-ROOF- 06	ROOF SOFFIT SEALANT	Note: *Not analyzed per client request			



Analyst - Kurt Kettler



Signatory - Lab Manager - Ken Scheske

Distinctly stratified, easily separable layers of samples are analyzed as subsamples of the whole and are reported separately for each discernible layer. All analyses are derived from calibrated visual estimate and measured in area percent unless otherwise noted. The report applies to the standards or procedures identified and to the sample(s) tested. The test results are not necessarily indicative or representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products, nor do they represent an ongoing quality assurance program unless so noted. These reports are for the exclusive use of the addressed client and that they will not be reproduced wholly or in part for advertising or other purposes over our signature or in connection with our name without special written permission. The report shall not be reproduced except in full, without written approval by our laboratory. The samples not destroyed in testing are retained a maximum of thirty days. The laboratory measurement of uncertainty for the test method is approximately less than 1 by area percent. Accredited by the National Institute of Standards and Technology, Voluntary Laboratory Accreditation Program for selected test method for asbestos. The accreditation or any reports generated by this laboratory in no way constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. Polarized Light Microscopy may not be consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials.

CHAIN OF CUSTODY

EMC Labs, Inc.
9830 S. 51st St., Ste B-109
Phoenix, AZ 85044
(800) 362-3373 Fax (480) 893-1726

LAB#:

159762

TAT:

3 days

Rec'd: AUG 27 P.M.

COMPANY NAME: ENVIROSERVICES & TRAINING CENTER, LLC

505 Ward Ave. Suite #202

Honolulu, HI 96814

CONTACT:

Vel Roberts

Phone/Fax:

(808) 839-7222 ext 232/(808) 839-4455

Email:

vel@goetec.com

Now Accepting: VISA - MASTERCARD

BILL TO:

(If Different Location)

Trina Oshiro

Price Quoted: \$ / Sample \$ / Layers

COMPLETE ITEMS 1-4: (Failure to complete any items may cause a delay in processing or analyzing your samples)

1. TURNAROUND TIME: [Same Day RUSH] [1-Day] [2-Day] [3-4-5 Day] [6-10 Day]

****Prior confirmation of turnaround time is required

****Additional charges for rush analysis (please call marketing department for pricing details)

****Laboratory analysis may be subject to delay if credit terms are not met

2. TYPE OF ANALYSIS: [Bulk-PLM] [Air-PCM] [Lead] [Point Count] [Fungi: AOC, W-C, Bulk, Swab, Tape]

3. DISPOSAL INSTRUCTIONS: [Dispose of samples at EMC] / [Return samples to me at my expense]

(If you do not indicate preference, EMC will dispose of samples 60 days from analysis.)

4. Project Name: Limited Asbestos and ~~Lead~~ Lead Paint Survey - 372 Desha Avenue

P.O. Number: Project Number: 15-4042

EMC SAMPLE #	CLIENT SAMPLE #	DATE & TIME SAMPLED	LOCATION/MATERIAL TYPE	Samples Accepted Yes / No	AIR SAMPLE INFO / COMMENTS		
					ON	OFF	FLOW RATE
	372-R	8-24-15	(ceiling)	Y N			
1	131A-AB-01	8-25-15	Carport/Interior-textured drywall	Y N			
2	↓ -02	↓	↓	Y N			
3	↓ -03	↓	↓	Y N			
4	131A-AB-04	8-25-15	Carport/storage-Drywall wall	Y N			
5	↓ -05	↓	↓	Y N			
6	↓ -06	↓	↓	Y N			
7	131-A-AB-07	8-25-15	12x12 white speckle VFT	Y N			
8	↓ -08	↓	↓ w/adhesive	Y N			
9	↓ -09	↓	↓	Y N			
10	131-A-AB-10	8-25-15	Kitchen-Black Sink Insulation	N			
11	↓ -11	↓	↓	N			
12	↓ -12	↓	↓	N			
				Y N			
				Y N			

SPECIAL INSTRUCTIONS: Please Stop at First Positive

Sample Collector: (Print) Vel Roberts (Signature) Vel Roberts

Relinquished by: 8-25-15 Date/Time:

Received by: Diana Federica

Date/Time: 8/29/15

Relinquished by: Diana Federica

Date/Time: 8/29/15

Received by: [Signature]

Date/Time: 8/29/15

Relinquished by: Date/Time:

Received by: [Signature]

Date/Time:

** In the event of any dispute between the above parties for these services or otherwise, parties agree that jurisdiction and venue will be in Phoenix, Arizona and prevailing party will be entitled to attorney's fees and court costs.

CHAIN OF CUSTODY

EMC Labs, Inc.
9830 S. 51st St., Ste B-109
Phoenix, AZ 85044
(800) 362-3373 Fax (480) 893-1726

LAB#:

TAT:

Rec'd:

159762

COMPANY NAME: ENVIROSERVICES & TRAINING CENTER, LLC

505 Ward Ave. Suite #202

Honolulu, HI 96814

CONTACT:

Phone/Fax:

Email:

(808) 839-7222 ext 232/(808) 839-4455

vel@getroute.com

BILL TO:

(If Different Location)

Trina Oshiro

Now Accepting: VISA - MASTERCARD

Price Quoted: \$ / Sample \$ / Layers

COMPLETE ITEMS 1-4: (Failure to complete any items may cause a delay in processing or analyzing your samples)

1. TURNAROUND TIME: [Same Day RUSH] [1-Day] [2-Day] [3-4-5 Day] [6-10 Day]

****Prior confirmation of turnaround time is required

****Additional charges for rush analysis (please call marketing department for pricing details)

****Laboratory analysis may be subject to delay if credit terms are not met

2. TYPE OF ANALYSIS: [Bulk-PLM] [Air-PCM] [Lead] [Point Count] [Fungi: AOC, W-C, Bulk, Swab, Tape]

3. DISPOSAL INSTRUCTIONS: [Dispose of samples at EMC] / [Return samples to me at my expense]

(If you do not indicate preference, EMC will dispose of samples 60 days from analysis.)

4. Project Name: Limited Asbestos and Lead Paint Survey - 372 Desha Avenue

P.O. Number: Project Number: 15-4042

EMC SAMPLE #	CLIENT SAMPLE #	DATE & TIME SAMPLED	LOCATION/MATERIAL TYPE	Samples Accepted Yes / No	AIR SAMPLE INFO / COMMENTS		
					ON	OFF	FLOW RATE
13	131-A-Roof-01	8-24-15	Roof Soffit - Black Rubber w/adhesive	N			
14	↓ -02	↓	↓	Y N			
15	↓ -03	↓	↓	Y N			
16	131-A-Roof-04	8-24-15	Roof Soffit Sealant - Black tar	N			
17	-05	↓	↓	Y N			
18	-06	↓	↓	Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			

SPECIAL INSTRUCTIONS: Please stop at first Positive

Sample Collector: (Print) Vel Roberts (Signature) Vel Roberts

Relinquished by: Diana Federico Date/Time: 8-25-15 Received by: Diana Federico Date/Time: 8/24/15

Relinquished by: Diana Federico Date/Time: 8/24/15 Received by: Date/Time:

Relinquished by: Date/Time Received by: Date/Time:

** In the event of any dispute between the above parties for these services or otherwise, parties agree that jurisdiction and venue will be in Phoenix, Arizona and prevailing party will be entitled to attorney's fees and court costs.



9830 South 51st Street, Suite B-109 / PHOENIX, ARIZONA 85044 / 480-940-5294 or 800-362-3373 / FAX 480-893-1726
emclab@emclabs.com

LEAD (Pb) IN PAINT CHIP SAMPLES
EMC SOP METHOD #L01/1 EPA SW-846 METHOD 7420

EMC LAB #: L56851		DATE RECEIVED: 08/27/15			
CLIENT: Enviroservices & Training Center, LLC		REPORT DATE: 09/01/15			
		DATE OF ANALYSIS: 09/01/15			
CLIENT ADDRESS: 505 Ward Ave. Suite #202 Honolulu, HI 96814		P.O. NO.:			
PROJECT NAME: Limited Asbestos and Lead Paint Survey – 372 Desha Ave.		PROJECT NO.: 15-4042			
EMC # L56851-	SAMPLE DATE /15	CLIENT SAMPLE #	DESCRIPTION	REPORTING LIMIT (%Pb by weight)	%Pb BY WEIGHT
1	08/25	131-A-Pb-01	Carport / Interior / White Paint / Ceilings	0.010	BRL
2	08/25	131-A-Pb-02	Carport / Storage / Mustard Paint on Drywall Wall	0.010	BRL

[^] = Dilution Factor Changed * = Excessive Substrate May Bias Sample Results **BRL** = Below Reportable Limits # = Very Small Amount Of Sample Submitted, May Affect Result

This report applies to the standards or procedures identified and to the samples tested only. The test results are not necessarily indicative or representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products, nor do they represent an ongoing quality assurance program unless so noted. Unless otherwise noted, all quality control analyses for the samples noted above were within acceptable limits.

Where it is noted that a sample with excessive substrate was submitted for laboratory analysis, such analysis may be biased. The lead content of such sample may, in actuality, be greater than reported. EMC makes no warranty, express or implied, as to the accuracy of the analysis of samples noted to have been submitted with excessive substrate. Resampling is recommended in such situations to verify original laboratory results.

These reports are for the exclusive use of the addressed client and are rendered upon the condition that they will not be reproduced wholly or in part for advertising or other purposes over our signature or in connection with our name without special written permission. Samples not destroyed in testing are retained a maximum of sixty (60) days.

ANALYST:

Jason Thompson

QA COORDINATOR:

Kurt Kettler

CHAIN OF CUSTODY

EMC Labs, Inc.
9830 S. 51st St., Ste B-109
Phoenix, AZ 85044
(800) 362-3373 Fax (480) 893-1726

LAB#: 256851
TAT: 3 day
Rec'd: 8/27/15

COMPANY NAME: ENVIROSERVICES & TRAINING CENTER, LLC

BILL TO: (If Different Location)

505 Ward Ave. Suite #202

Trina Oshiro

Honolulu, HI 96814

CONTACT:

Vel Roberts

Phone/Fax:

(808) 839-7222 ext 232/(808) 839-4455

Email:

vel@getenviro.com

Now Accepting: VISA - MASTERCARD

Price Quoted: \$ / Sample \$ / Layers

COMPLETE ITEMS 1-4: (Failure to complete any items may cause a delay in processing or analyzing your samples)

1. TURNAROUND TIME: [Same Day RUSH] [1-Day] [2-Day] [3-4-5 Day] [6-10 Day]

****Prior confirmation of turnaround time is required

****Additional charges for rush analysis (please call marketing department for pricing details)

****Laboratory analysis may be subject to delay if credit terms are not met

2. TYPE OF ANALYSIS: [Bulk-PLM] [Air-PCM] [Lead] [Point Count] [Fungi: AOC, W-C, Bulk, Swab, Tape]

3. DISPOSAL INSTRUCTIONS: [Dispose of samples at EMC] / [Return samples to me at my expense]

(If you do not indicate preference, EMC will dispose of samples 60 days from analysis.)

4. Project Name: Limited Asbestos and Lead Paint Survey - 372 Desha Ave.

P.O. Number:

Project Number:

15-4042

EMC SAMPLE #	CLIENT SAMPLE #	DATE & TIME SAMPLED	LOCATION/MATERIAL TYPE	Samples Accepted Yes / No	AIR SAMPLE INFO / COMMENTS		
					ON	OFF	FLOW RATE
	131-A-Pb-01	8-25-15	Textured drywall ceiling - Corport/Interior	Y N			
	131-A-Pb-02	8-25-15	Textured drywall ceiling - Corport/Interior	Y N			
1	131-A-Pb-01	8-25-15	Corport/Interior - White Paint on textured drywall ceiling	Y N			
				Y N			
				Y N			
2	131-A-Pb-02	8-25-15	Corport/Storage - Mustard Paint on drywall wall	Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			
				Y N			

SPECIAL INSTRUCTIONS:

Sample Collector: (Print)

Vel Roberts

(Signature)

Vel Roberts

Relinquished by:

WR

Date/Time: 8-25-15

Received by:

Date/Time:

Relinquished by:

Dome

Date/Time:

8/27/15

Received by:

Dome

Date/Time:

8/27/15

** In the event of any dispute between the above parties for these services or otherwise, parties agree that jurisdiction and venue will be in Phoenix, Arizona and prevailing party will be entitled to attorney's fees and court costs.

Appendix **III**

SAMPLE LOCATION MAPS

**LIMITED ASBESTOS AND LEAD
PAINT SURVEY
ASBESTOS SAMPLE LOCATIONS**

Legend

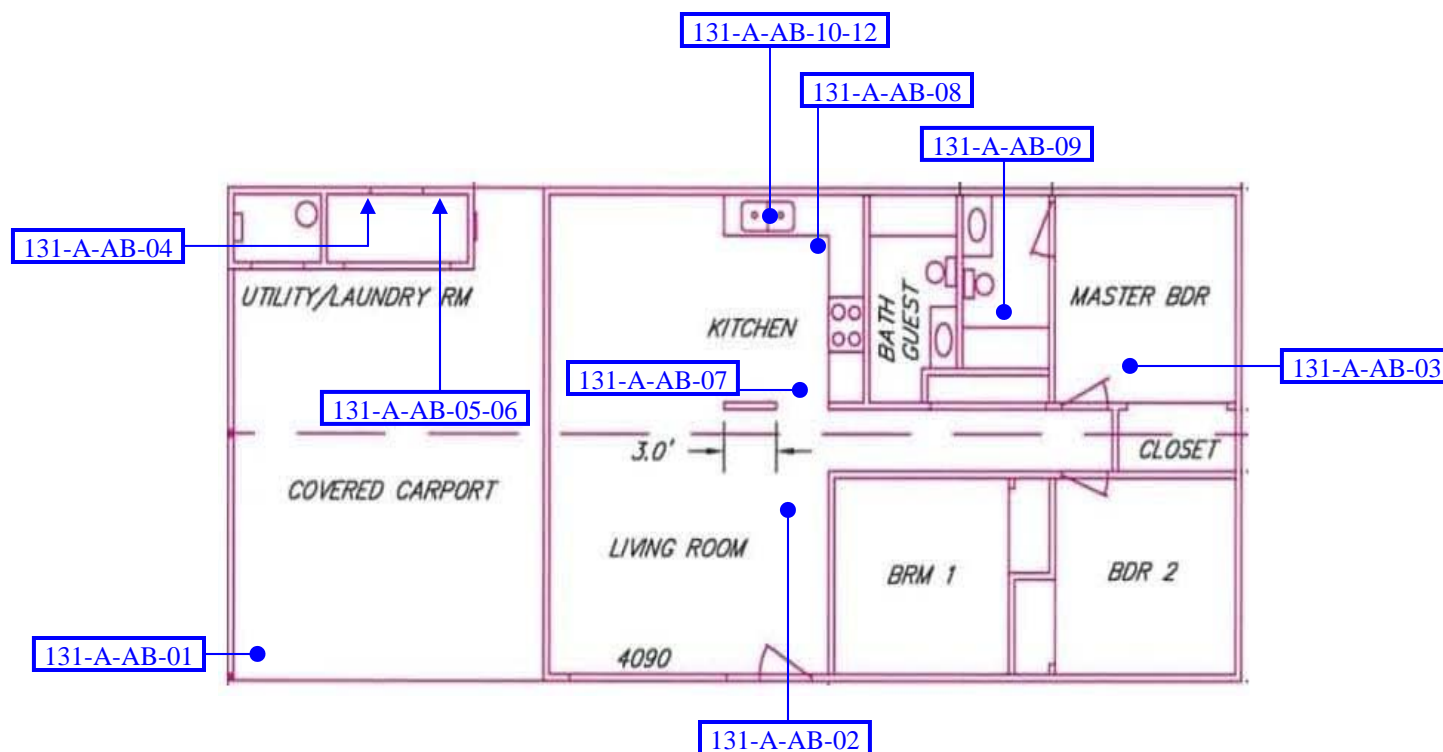
131-A-AB-XX Positive (Asbestos
Containing Material)

131-A-AB-XX Negative
(None Detected)

131-A-AB-XX Not Analyzed

← Wall Sample

● Non-Wall Sample



DESHA AVENUE

**Department of Hawaiian
Home Lands Hilo
Task Order No. 6, Lot 131-A
372 Desha Avenue
Hilo, Hawaii**

Floor Plan

ETC Project No. 15-4042

September 2015

**LIMITED ASBESTOS AND LEAD
PAINT SURVEY
ASBESTOS SAMPLE LOCATIONS**

Legend

131-A-Roof-XX Positive (Asbestos
Containing Material)

131-A-Roof-XX Negative
(None Detected)

131-A-Roof-XX Not Analyzed

← Wall Sample

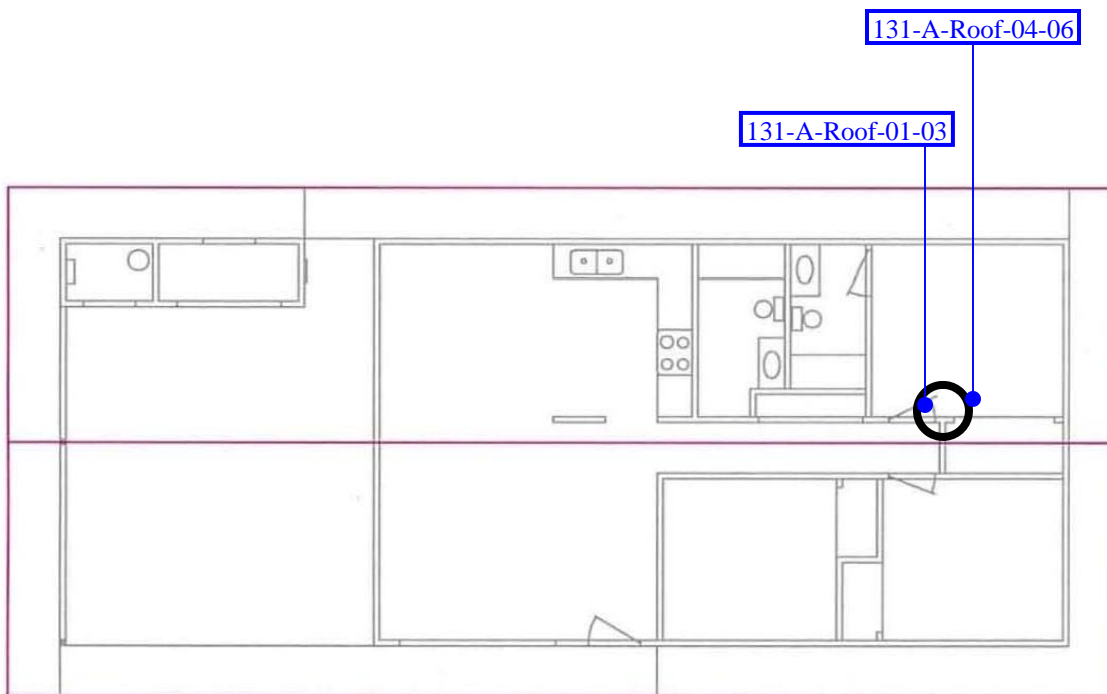
● Non-Wall Sample

**Department of Hawaiian
Home Lands Hilo
Task Order No. 6, Lot 131-A
372 Desha Avenue
Hilo, Hawaii**

Roof

ETC Project No. 15-4042

September 2015



DESHA AVENUE

Appendix **IV**

PHOTO DOCUMENTATION



Photograph 1: Floors, 12"x12" White Speckled Vinyl Floor Tile w/Adhesive



Photograph 2: Kitchen Sink:
Black Sink Insulation



Photograph 3: Roof, Soffit - Sealant with Black Tar

DIVISION 2 – SITE WORK

SECTION 02050 – DEMOLITION AND REMOVAL

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

As specified in section 01010.

1.02 SUMMARY

Provide all equipment, materials, tools, labor, etc., as required to perform all demolition, removal work, and clearing and grubbing of the construction area, complete, as indicated on the drawings and as specified herein, including careful removal and disposal of material.

1.03 SPECIAL REQUIREMENTS

- A. Visit the site, examine the areas and note all existing conditions and extent of work involved for the complete removal and surface preparation work required.
- B. Accept obvious conditions of existing premises on date of bid opening as part of the work, even though they may not be indicated on the drawings or may vary there from.
- C. Exercise every precaution to preserve and protect from damage all existing structures, plants, trees, walls and utilities above and below ground, etc., that are to remain. Damages shall be repaired to the satisfaction of the University.
- D. The existence of underground utility lines other than those shown is not definitely known. Should any be encountered, immediately notify the University and follow directions as to procedures at no additional cost to the Engineer. The locations of underground utilities are shown on the plans for reference purposes and the locations are approximate only.

1.04 PERMITS AND NOTICES

- A. Procure and pay for all necessary permits or certificates required in connection with this work.
- B. Comply with pollution control regulations and safety code.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 GENERAL

- A. All work shall be executed in an orderly and careful manner with due consideration of the existing buildings and septic tanks.
- B. Existing utility lines, etc., on/in the buildings shall be protected from damage. Removal of same where required to facilitate renovation work shall be permitted, however, same shall be reinstalled to original location and condition.
- C. Backfill all voids, trenches, holes, depressions and pits created by the removal of such miscellaneous improvements as required in other specification sections referenced herein.
- D. Any damage caused by the use of motorized equipment, shall be the Contractor's responsibility regardless of permission granted by the DHHL for use of such equipment. All damages shall be repaired or replaced to the satisfaction of the Engineer and at no cost to the Engineer.

3.02 REMOVAL WORK

- A. Remove existing buildings, concrete slabs, and asphaltic concrete pavements, as indicated on the drawings. The resulting base shall be scarified in accordance with Section 02200 – EARTHWORK. Repair existing adjacent, asphaltic concrete pavements, concrete, CMU, or other features that may be damaged during removal.
- B. Sawcut existing asphaltic concrete to create clean transitions between existing and new surfaces.
- C. Items may be removed to implement removal of items noted in this section or elsewhere in these specifications and/or as indicated on the drawings. Such items to be removed and reinstalled shall be carefully removed to avoid damage and securely reinstalled.
- D. All removed materials having no salvage value as determined by the Engineer shall become the property of the Contractor and shall be completely removed and hauled away from the premises.

3.03 RESURFACE PREPARATION WORK

- A. The entire area shall be inspected by the Engineer before any new work can be started. Should the Contractor start the new work without the Engineer's approval, the Engineer may have the Contractor remove and repair the area at no cost to the Engineer.
- B. Repair any damages occurring during the progress of the work.

3.04 PATCHWORK

- A. All areas or surfaces damaged as a result of removal work shall be patched to match existing adjacent surfaces and/or areas to the satisfaction of the Engineer.

3.05 TEMPORARY BARRICADES

- A. Provide, erect and maintain safety barricades and dust barriers around the project areas during the execution of work under this contract including work done by other sections. At the discretion and approval of the Engineer, alternative means to provide safety around the project area are acceptable.
- B. Barricades shall be constructed from durable materials to provide necessary protection and security of the project site.
- C. The barricades shall remain until final acceptance of the project or until the hazardous condition no longer remains and approval is given by the Engineer for their removal.

3.06 MAINTENANCE OF TRAFFIC

Conduct operations and schedule work for minimum interference to streets, driveways, sidewalks, etc. To the extent possible, confine all work, equipment, materials, and personnel to the work area as indicated so as not to interfere with the normal operations of the school.

3.07 CLEAN-UP

- A. From time to time, as directed by the Engineer and at the completion of the removal work, remove from the site all rubbish, debris, fines, etc., accumulated from this work and leave the area neat and clean to the satisfaction of the Engineer.
- B. After the completion of the repair work and before the final acceptance of the project, the Contractor shall clean all areas of all rubbish, debris, fines, etc.

PART 4 – MEASUREMENT AND PAYMENT (Not Applicable)

END OF SECTION

SECTION 02225 – TRENCHING

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

This section describes the following:

- A. Excavating and backfilling to depths and lines established for drainage structure foundations.
- B. Excavating and backfilling trenches for drainage structures.
- C. Disposing of surplus material from excavations.

1.02 SUMMARY

Provide all equipment, materials, tools, labor, etc., as required to perform all demolition, removal work, and clearing and grubbing of the construction area, complete, as indicated on the drawing and as specified herein, including careful removal and disposal of material.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Structural Backfill Material – refer to 2005 State Highways Standard Specification, Section 703.20.
- B. Trench Backfill Material – refer to 2005 State Highways Standard Specification, Section 703.21.
- C. Cullet and Cullet-Made Material – refer to 2005 State Highways Standard Specification, Section 717.

Structural and trench backfill material shall include mixture of aggregate and cullet. When cullet is not produced on the project island, or material unit price of cullet is greater than material unit price of structure backfill or greater than material unit price of trench backfill, cullet may be excluded for the backfill application. Before excluding cullet, submit availability and pricing documentation.

PART 3 – EXECUTION

3.01 GENERAL

- A. Structural and Trench Excavation – provide the following:

1. Notify the Engineer 10 working days before excavating for drainage structures.
2. The Contractor shall be responsible for the stability of temporary open cuts during construction of structures or trenches and shall take appropriate measures to meet OSHA requirements.
3. Keep foundation excavation dry by draining, bailing, pumping, driving sheathings, or other methods accepted by the Engineer.
4. In excavation operations, do not disturb ground below bottom of bed course material. If ground below bottom of bed course material is disturbed, excavate disturbed ground until undisturbed ground is reached. Backfill this area with Class D concrete to require bottom elevation of bed course material.
5. Remove solid rock encountered during excavation from drainage structure invert elevation to bottom grade of bed course material. Remove saturated or organic material, material containing debris or trash, and other unsuitable material, to width equal to drainage structure width and to depth ordered by the Engineer. Backfill rock-removal and unsuitable material excavation with bed course material in maximum 6-inch lifts, and compact to relative compaction of not less than 95 percent.
6. When material from excavation does not meet quality requirements specified for backfill, furnish conforming material, as required.
7. Deposit remaining structure and trench excavation material that is not used as backfill, in designated fill areas or as directed by the Engineer.

B. Structure and Trench Backfill – provide the following:

1. For cast-in-place drainage structures, do not deposit fill material against back of outside walls until test samples indicate that concrete has reached the developed strength.
2. Cure test samples under conditions similar to those affecting the structure. Continue backfilling so that excessive unbalanced loads are not introduced against the structure.
3. Place backfill material in uniform horizontal layers not exceeding 8 inches in loose thickness before compaction. Moisten and compact each layer of backfill until relative compaction of not less than 95 percent is achieved. The Engineer may reduce 95 percent

compaction requirement in situations where such compaction is not feasible.

4. The Engineer cannot use field density test, compact each layer of backfill with vibratory, or other equipment acceptable to Engineer, on granular backfill material.
5. Compaction of backfill material by ponding or jetting will not be allowed.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 02900 – LANDSCAPE PLANTING

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

This section describes planting of groundcover and grass.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Hydro-Mulch – Mulch shall be specially processed fiber conforming to 2005 State Highways Standard Specifications Section 641.02(C) – Mulch. Seed, sprigs, or stolons shall be added as indicated in the contract documents.
- B. Herbicides – Chemical herbicides shall contain either or both glyphosate and cacodylic acid. Use only State Department of Agriculture approved herbicides.
- C. Fertilizer
 - 1. Commercial Fertilizer – Fertilizer shall be in new, clean sealed, and properly labeled bags or containers. Fertilizer shall be protected from weather after delivery to the Project.
 - 2. Manure – Manure shall be from chickens, horses, or cattle. Manure shall be aged three months to two years before use.
 - 3. Application Records – Records shall be kept by Contractor of dates of application, type of fertilizer or manure used, quantities, and areas that were covered and shall be submitted to Engineer within 24 hours of application.
- C. Mulch and Soil Amendments
 - 1. Wood Chips – Mulching wood chips shall be nitrogen stabilized and free of leaves, twigs, shavings, and bark. Maximum size shall be 3 inches by 1 ½ inches by ½ inch.
 - 2. Aggregates – Aggregates for mulch shall be gravel, crushed stone, lava rock, or coral that passes 3-inch sieve.
 - 3. Burnt Bagasse – Burnt bagasse shall be product of sugar cane waste that is free of weed seed, fungus, chemicals, and materials deleterious to plant growth.
 - 4. Recycled Mulch Material – Recycled material, such as processed newspaper, is allowable for use as mulch if acceptable to Engineer.

PART 3 – EXECUTION

3.01 GENERAL

- A. Perform work in accordance with applicable laws, codes, and regulations. Provide inspections and permits required by Federal, State, and local governmental authorities.
- B. Preparing Areas for Landscaping
 - 1. Before starting soil preparation work or excavation, remove trash, debris, and weeds from work area. Planting areas shall be free of stones greater than a ½ inch in diameter.
 - 2. Within limit of clearing, grub natural ground to depth necessary to remove stumps, roots, and other objectionable material.
 - 3. Before applying chemical herbicide, obtain Engineer's acceptance of proposed weed control program.
 - 4. Apply herbicide before weeds become taller than 2 inches.
- C. Verifying Subgrade Preparation – Excavate and remove material from work area that will be overlaid with aggregate. Obtain Engineer's verification and acceptance of subgrade before proceeding.
- D. Planting Soil – Place planting soil as specified by 2005 State Highways Standard Specifications Section 617.
- E. Adding Fertilizer and Amendments
 - 1. Uniformly distribute fertilizer and amendments over planting areas. Rototill top four inches of soil to evenly incorporate fertilizer and amendments.
 - 2. Do not add soil amendment when slope is steeper than 3H:1V.
 - 3. Level undulations or irregularities caused by tilling or other work from surface of soil before proceeding to plant.
- F. Planting Period – Planting period extends 90 days from date Engineer accepts site to start planting period. When area has mixture of grass, planting period shall not start until all grass areas are planted. Replace grass that fail to develop healthy growth or die during the planting period. Provide replacements within two weeks of receiving notification from Engineer that plants are unacceptable. Apply fertilizer at time of planting and 40 to 50 days after planting. Ground cover application is two pounds per 1,000 square feet. Notify Engineer 24 hours in advance of fertilization.

If satisfactory growth is attained before 90 days, Contractor may submit written request for earlier end of planting period.

- G. Hydro-mulching – Perform hydro-mulch planting as specified in 2005 State Highways Standard Specifications Section 641 – Hydro-mulch Seeding.
- H. Watering – After initial watering, continue to water in quantity and frequency necessary to sustain plant growth.
- I. Plant Establishment Period – Plant establishment period shall extend 90 days from accepted completion date of planting period, unless extended by Engineer because of Contractor's failure to perform required work. During plant establishment period, water, fertilize, cultivate, weed, cut, and apply pesticide when required. Replace grass that fail to develop healthy growth, become injured, or die. Provide replacements within two weeks of receiving notification from Engineer that grass are unacceptable. Keep planted area at least 90 percent free of weeds and grass considered undesirable by Engineer. Remove weeds by pulling roots.
- J. Acceptance – Acceptance, if granted, will be at end of establishment period. For hydro-mulched areas, Engineer will base acceptance on 98 percent minimum coverage with healthy, well-established ground cover of grass. Grass shall be at least 3 inches tall. There shall be not more than 2 square feet of bare earth for every 100 square feet of planted area. Plants shall be in healthy growing condition.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Hydro-Mulch seeding and planting and 90 day maintenance will be paid on a lump sum basis. Measurement for payment will not apply.

The Engineer will pay for the pay item in the proposed schedule:

<u>Item No.</u>	<u>Item</u>	<u>Pay Unit</u>
02900.1	Temporary Erosion Control, including Hydro-Mulch Seeding (90 Sq. Yds.) and 90 Day Maintenance	Lump Sum

END OF SECTION

DIVISION 3 – CONCRETE

SECTION 03050 – BASIC MATERIALS & METHODS

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

This section describes structural concrete consisting of Portland cement, fine aggregate, coarse aggregate, and water. This will include adding admixtures for purpose of entraining air, retarding or accelerating set, and other purposes as required or permitted.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Portland Cement – as specified in 2005 State Highways Standard Specification Section 701.01.
- B. Fine Aggregate for Concrete – as specified in 2005 State Highways Standard Specification Section 703.01
- c. Course Aggregate for Portland Cement Concrete – as specified in 2005 State Highways Standard Specification Section 703.02
- D. Admixtures – as specified in 2005 State Highways Standard Specification Section 711.03
- E. Water – as specified in 2005 State Highways Standard Specification Section 712.01.

PART 3 – EXECUTION

3.01 GENERAL

Construction

- A. Quality Control – Portland cement concrete production requires Contractor responsibility for quality control of materials during handling, blending, mixing, curing, and placement operations. Sample, test, and inspect concrete to ensure quality control of component materials and concrete. Sampling and testing for quality control in accordance with standard methods shall be performed by certified ACI Concrete Field Technician Grade 1. Perform quality control test for slump, air content, temperature, and unit weight during production of structural concrete other than concrete for incidental construction. Submit quality control test results. Design and Designation of Concrete – Design concrete mixture for

concrete work specified. When requested by the Engineer, submit mix designs using Highways Division for DOT 4-151. Do not start until the Engineer accepts mix design. Proportion concrete designated by compressive strength such that concrete conforms to required strength. When type of concrete is not indicated in the contract documents, use Class A concrete. The Engineer reserves the right to stop work when a series of low strength tests occur. Do not continue concrete work until cause is established and the Engineer is informed of and accepts, necessary corrective action to be taken.

B. Batching – Measure and batch materials in accordance with the following provisions:

1. Portland Cement – Either sacked or bulk cement may be used. Do not use fraction of sack of cement unless cement is weighted. Weigh bulk cement on weighing device accepted by the Engineer. Seal and vent bulk cement-weighing hopper properly to preclude dusting during operation. Do not suspend discharge chute from weighing hopper. Arrange discharge chute so that cement will not lodge in hopper or leak from hopper. Batching accuracy shall be within 1 percent, plus or minus, of required weight.
2. Water – Measure water by volume or by weight. Use readily adjustable device for measurement of water, with accuracy within 1 percent, plus or minus, of quantity of water required for batch. Arrange device so that variable pressure in water supply line does not affect measurements. Equip measuring tanks with outside taps and valves or other accepted means to allow for checking calibration.

C. Aggregates – When storing and stockpiling aggregates, avoid separation of coarse and fine particles within each size, and do not intermix various sizes before proportioning. Protect stored or stockpiled aggregates from dust or other foreign matter. Do not stockpile together, aggregates from different sources and of different gradations. Proportion aggregates by weight, with the exception that aggregates in concrete for minor structures may be proportioned by either volume or weight. For volumetric proportioning, use measuring boxes of known capacity to measure quantity of each aggregate size. Use batch weight based on dry materials plus total weight of moisture (both absorbed and surface) contained in aggregate. Measure individual aggregates to within 2 percent, plus or

minus, of required weight, and total weight of aggregates to within 1 percent, plus or minus, of required weight.

- D. **Mixing –** Mix concrete in mechanically operated mixers. When accepted by Engineer, batches not exceeding 1/3 cubic yard may be hand mixed in accordance to specifications. Unless otherwise indicated in the contract documents or accepted by the Engineer, concrete shall be mixed at proportioning plant. Operate mixer at agitating speed while in transit. Concrete may be truck-mix only when cement or cement and mixing water are added at point of delivery. Begin mixing truck-mixed concrete immediately after introduction of mixing water to cement and aggregates, or introduction of cement to aggregates. Truck mixers shall produce thoroughly mixed and uniform mass of concrete, and shall discharge concrete without segregation. Operate truck mixers at mixing speed designated by manufacturer, but at not less than 6 or more than 18 revolutions per minute. Water may be added to mixture not more than two times after initial mixing is completed. Each time that water is added, turn drum an additional 30 revolutions or more at mixing speed until concrete is mixed uniformly.
- E. **Transporting Mixed Concrete –** Transport central-mixed concrete to delivery point in truck agitators or truck mixers operating at speed designated by equipment manufacturer as agitating speed. For revolving drum trucks mixers transporting central-mixed concrete, limit concrete volume to manufacturer's rated capacity for agitator operation. Maintain agitating speed for both revolving drum mixers and revolving blade type agitators as designated on manufacturer's data plate. Equip truck mixers or truck agitators with electrically or mechanically actuated counters. Actuate counter after introducing cement to aggregates. When truck mixer or agitator is used for transporting central-mixed concrete to delivery point, complete discharge within 1 ½ hours, or before 250 revolutions of drum or blades, whichever comes first after introduction of mixing water to cement and aggregates, or cement to aggregates. Submit delivery tickets from manufacturers of central-mixed concrete with each truckload of concrete before unloading at jobsite.
- F. **Consistency –** Regulate quantity of water used in concrete mixes so that concrete consistency is within nominal slump range. If concrete slump exceeds nominal slump, adjust mixture of subsequent batches. If slump exceeds maximum slump, the Engineer will reject concrete unless deemed satisfactory for its use. The Engineer will also reject harsh or

unworkable concrete that cannot be properly placed. Remove rejected concrete at no increase in contract price or contract time.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

The Engineer will measure concrete in accordance with applicable sections. The Engineer will pay for the accepted concrete under applicable sections.

END OF SECTION

SECTION 03100 – CONCRETE ACCESSORIES

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

This section describes drilling hole and installing dowel reinforcing bars where new concrete is to be joined to existing concrete by means of dowel reinforcing bars grouted into holes drilled into existing concrete.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Reinforcing Steel – refer to Section 602, 2005 State Highways Standard Specifications.
- B. Epoxy-Resin Adhesive – refer to Section 712.02, 2005 State Highways Standard Specifications.
- C. Epoxy Grout – refer to Section 712.04(B), 2005 State Highways Standard Specifications.

Submit test certifications indicating conformance of materials to standards referred in this subsection.

PART 3 – EXECUTION

3.01 CONSTRUCTION

- A. Drilling and Installation – Drill holes by methods that will not shatter or damage concrete adjacent to hole. Unless otherwise specified or shown on plans, diameter of drilled holes shall be ½ inch larger than nominal dowel diameter. Holes encountered longitudinal or transverse reinforcement during drilling will be rejected. Adjacent to rejected hole, drill new hole to required depth, avoiding existing reinforcement. Place dowel reinforcing bars after drilling to depth shown on plans and cleaning holes of dust and residue. Fill holes with epoxy grout after removing fine particles.
- B. Inspection – Before filling holes with epoxy grout, notify the Engineer that holes are ready for inspection.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS FOR MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for various items of work in this project.

END OF SECTION

SECTION 03200 – CONCRETE REINFORCEMENT

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

This section describes furnishing, storing, and placing reinforcing steel (also referred to as rebar, bar, or reinforcement).

PART 2 – PRODUCTS

2.01 MATERIALS

Reinforcing Steel – Submit certificate of compliance for reinforcing steel. When steel bars, other than bars conforming to ASTM A 706, are to be spliced by welding, or when requested by the Engineer, submit six copies of certified mill test reports showing physical and chemical analyses for each heat and size of reinforcing steel.

PART 3 – EXECUTION

3.01 CONSTRUCTION

- A. Order Lists and Bending Diagrams – Submit six copies of reinforcing steel order lists and bending diagrams to the Engineer prior to fabrication. Assume absolute responsibility for accuracy of lists and diagrams.
- B. Storage, Surface Condition, and Protection of Reinforcement – Store reinforcing steel above ground surface on platforms, skids, or other supports. Protect reinforcing steel from mechanical damage and surface deterioration caused by exposure to corrosion-producing conditions. When placed in the work, reinforcing steel shall be free from dirt, loose rust or scale, mortar, paint, grease, oil, or other coatings that would destroy or reduce bond. Reinforcing steel shall be free from injurious defects such as cracks and laminations. Bonded rust, surface seams, surface irregularities, or mill scale shall not be cause for rejection, provided minimum dimensions, cross-sectional area, and tensile properties of a hand-wire brushed specimen meet physical requirements for size and grade of steel specified.
- C. Fabrication
 - 1. Bending – Bend reinforcing steel cold. Do not field bend bars that are partially embedded in concrete, except as indicated in the contract documents or permitted by the Engineer. Bend or straighten bars in a manner that shall not damage the material. Bars having cracks or splits at bends will be rejected.

Unless otherwise indicated in the contract documents, bend steel only once at the same location.

2. Hooks and Bend Dimensions – Dimensions of hooks and diameters of bends shall be in accordance with the contract documents. When dimensions of hooks or diameter of bends are not indicated in the contract documents, they shall conform to AASHTO LRFD Bridge Design Specifications, Second Edition, Article 5.10.2-Hooks and Bends.
3. Identification – Ship reinforcing steel in standard bundles. Tag bundles of reinforcing bars showing quantity, grade, size, and identification that allows for checking, sorting, and placing. Tag bundles of welded wire fabric reinforcement showing quantity, style designation, width, and length.

- D. Placing and Fastening – Place and fasten reinforcing steel bars in accordance with recommended practices and procedures in CRSI Placing Reinforcing Bars. Accurately place reinforcing steel and hold firmly in position indicated in the contract documents by wiring at intersections and splices; and by using bar supports accepted by the Engineer that have sufficient strength to resist crushing under applied loads. Unless otherwise indicated in the contract documents, place reinforcing steel within tolerances conforming to Table 602.03-1 – Placement Tolerances, found in 2005 State Highways Standard Specifications. Begin concrete placement only after the Engineer inspects and accepts reinforcing steel position.

Maintain proper clearance between reinforcing steel and boundaries of concrete by precast concrete bar supports of equal compressive strength as concrete to be placed around them, and of shape and dimensions accepted by the Engineer.

Unless otherwise indicated in the contract documents, bar supports and their spacing shall conform to recommendations in Chapter 3 – Bar Supports of CRSI Manual of Standard Practice (MOSP). Steel wire bar supports shall be Class 1 (plastic-protected) bar supports, as described in CRSI MOSP. All plastic bar supports will be allowed for vertical construction only.

Separate bar layers using precast concrete blocks or other bar supports accepted by the Engineer. Use of pebbles, pieces of broken stone or brick, metal pipes, or wooden blocks will not be allowed.

Maintain minimum 2 ½ bar diameters for center-to-center spacing of parallel bars. Minimum clear distance between bundles of bars and

adjacent bundles or single bars shall be not less than the following:
bundles of two bars, 2 times diameter of larger bar; bundles of three bars, 2 ½ times diameter of largest bar; bundles of four bars, 3 times diameter of largest bar.

In no case shall clear distance between bars or bundles of bars be less than 1 ½ time maximum coarse aggregate size or less than 1 ½ inches, whichever is greater.

Tie bundled bars together at a distance of not more than 6 feet on centers along length of bar. Limit maximum number of bars in bundle to two bars for No. 14 and No. 18 bars and four bars for other sizes. Bundling bars by tack welding will not be allowed.

Individual bars in bundle that are cut off within span of member shall be terminated at different points, with at least a 40-bar diameter stagger.

Unless otherwise indicated in the contract documents, concrete cover for unprotected main reinforcing steel shall conform to Table 602.03-2 – Concrete Cover (Main Bars), found in 2005 State Highways Standard Specifications. Cover for rebar mechanical connections shall be same as for reinforcing steel.

Cover to ties and stirrups may be ½ inch less than values specified in Table 602.03-2 – Concrete Cover (Main Bars), found in 2005 State Highways Standard Specifications, but shall not be less than 1 inch.

E. Splicing of Bars

1. General – Furnish reinforcing steel in full lengths in accordance with the contract, except in the following cases:

- a. Unless otherwise indicated in the contract documents, when required lengths of bars No. 4 through No. 11 are longer than 40 feet, bar may be spliced by lapping, butt welding, mechanical butt splicing, or mechanical lap splicing.
- b. Lap splicing for bars No. 14 and No. 18 will not be allowed. When required lengths of these bars are longer than commercially available lengths, use butt welding or mechanical but splicing.

Welded lap splicing and mechanical lap splicing may only be used for bars No. 4, 5, and 6.

Reinforcing steel may be made continuous at locations where splices are indicated in the contract documents, at the Contractor's option.

Submit splice locations. Locate splices in areas of low stresses. Splicing bottom reinforcing steel at or near centerline of span and splicing top reinforcing steel at or near continuous support will not be allowed. Unless otherwise indicated in the contract documents, splices in adjacent reinforcing bars at any particular section shall be staggered. Minimum distance between staggered lap splices or mechanical lap splices shall be equal to the length required for a lapped splice in the largest bar being spliced. Minimum distance between staggered butt splices shall be 2 feet, measured between splice midpoints, along a line that is centered between axes of the adjacent bars.

Number of bars spliced at sections normal to axis of member shall not exceed 33 percent of total main reinforcing steel in member. If bars cross construction joint, embed each end of reinforcing steel a distance equal to required length of lap, on each side of joint.

Deviation in alignment of reinforcing bars at welded or mechanical splice shall not exceed ¼ inch over a 3 ½ - foot length of bar.

V-groove welded splice and welded lap splicing shall conform to details indicated in the contract documents and the following requirements:

- i. On V-groove welded splices, reinforcing bars at joint shall not be offset at weld by more than 1/8 inch.
- ii. Trim back or shape ends of reinforcing bars to be spliced by V-groove welding by carbon arc, oxyacetylene cutting, or sawing. Trim back sheared surfaces not less than 1/8 inch.
- iii. Unless otherwise specified, weld by manual shielded metal-arc process. Use low hydrogen electrodes conforming to requirements of AWA A5.1 for E7016 or E7018 electrodes.
- iv. Purchase electrodes in hermetically sealed containers, or dry for two hours at 450 degrees F. to 500 degrees F. before use. Immediately after removal from hermetically sealed containers or from drying ovens, store electrodes in ovens held at temperature of at least 250 degrees F. Redry electrodes not used within four hours after removal from hermetically sealed containers or from drying or storage ovens.
- v. Do not weld in inclement or wet weather unless protection accepted by the Engineer is provided.

- vi. Flare welds may be made in one pass. Make butt welds with multiple passes.
 - vii. Pre-heating or post-heating of ASTM A706 bars in weld area will not be required.
 - viii. Tack welding for alignment purposes will be allowed when tack weld will be consumed by subsequent weld.
 - ix. Visual inspection of completed welds shall show no evidence of cracks, lack of fusion, undercutting, excessive piping, porosity, or inadequate size.
 - x. Prequalify welders by requiring them to make procedure and qualification weld that conforms to provisions in Subsection 602.03(E)(4) – Qualification of Welding and Mechanical Splicing, of the 2005 State Highways Standard Specifications. Perform procedure and qualification welding in presence of the Engineer, using materials similar to those to be welded on the project, in same position as will be encountered in the work.
2. Lapped Splices – Lapped splices shall consist of reinforcing steel placed in contact and wired together in such a manner as to maintain alignment and provide minimum clearances. Non-contact lapped splices will not be allowed.
- Lapped splices will not be allowed at locations where concrete section is insufficient to provide minimum clear distance between splice and nearest adjacent bar, as specified in Subsection 602.03(D) – Placing and Fastening, in 2005 State Highways Standard Specifications, for minimum clear distance between parallel bars or bundle of bars.
- Lapped splices in bundled bars shall conform to the following: in bundles of two bars, make lapped splice length same as single bar lapped splice length; in bundles of three bars, make lapped splice length 1.2 times single bar lapped splice length; in bundles of four bars, make splices by butt welding or by mechanical butt splicing.
3. Butt-Jointed Splices – Butt-jointed splices shall be either welded or mechanical splices. Do not locate splices on bent portions of bars. Butt-jointed splices shall be capable of resisting flexural and other load effects due to construction activities, including handling and placing of reinforcing steel. Completed butt splices shall develop

not less than 125 percent of specified yield strength of the unspliced bars.

Prior to use in the work, qualify welded and mechanical butt splices by test made on sample splices, as specified in Subsection 602.03(E)(4) – Qualification of Welding and Mechanical Splicing, in 2005 State Highways Standard Specifications. Perform job control tests on sample splices representing each lot of mechanical butt splices as specified in Subsection 602.03(E)(5) – Job Control Tests, in 2005 State Highways Standard Specifications. Test sample splices for qualification and job control tests for compliance with splices requirements in accordance with the contract. The Contractor shall fabricate and test sample splices and shall submit copy of test results to the Engineer.

- a. Welded Butt Splices – Welded butt splices in reinforcing steel shall be complete joint penetration butt welds conforming to requirements of AWS D1.4 and the contract documents.

Shop-produced resistance butt welds conforming to requirements of the contract documents and produced by fabricator accepted by the Engineer may be used.

Use only joint details and dimensions as shown in Figure 3.2

–

Direct Butt Joints of AWS D1.4-98, for making complete joint penetration butt welds of reinforcing steel. Split pipe backing will not be allowed.

Use flat plate in accordance with ASTM A 709, Grade 36, as backing for complete joint penetration butt welds of reinforcing steel. Flat plate shall be ¼ inch thick, with width as measured perpendicular to bar axis, equal to nominal bar diameter; and length not exceeding twice nominal bar diameter. Fit flat plate backing tightly to bar, with weld root centered on plate. Grind smooth and flush with adjacent surface, bar deformations or obstructions preventing a tight fit. Locate tack welds used to fit backing plates, within weld root area, so that tack welds are completely consumed by finished weld. Do not remove backing plates.

Make butt welds with multiple weld passes using stringer bead, without appreciable weaving motion. Maximum stringer bead width be 2.5 times electrode diameter.

Perform slagging between each weld pass. Weld reinforcement shall not exceed 1/8 inch in convexity.

Terminate or initiate welds made on unbent portion of cold bent reinforcing steel, at minimum distance of two bar diameters from points of tangency for radius created by cold bending.

Before any electrodes or flux-electrode combinations are used, submit at no increase in contract price or contract time, certified copies of test reports for pertinent tests specified in AWS A5.1, AWS A5.5, AWS A5.18, or AWS A5.20, whichever is applicable, made on electrodes or flux-electrode combinations of the same class, brand, and nearest specified size as the electrodes to be used. Tests may have been made for process qualification or quality control, and shall have been made within one year prior to manufacturer of electrodes and fluxes to be used. Include in report manufacturer's certification that process and

material requirements were same for manufacturing tested electrodes and electrodes to be used. Certification shall be specified in Subsection 106.07 – Certificate of Compliance, in 2005 State Highways Standard Specifications.

Electrodes for manual shielded metal arc welding of ASTM A 6015, Grade 60 bars shall conform to AWS A5.5 for E9018-M or E10018-M electrodes.

Electrodes for manual shielded metal arc welding of ASTM A 706 bars shall conform to AWS A5.5 for E8016-C3 or E8018-C3 electrodes.

Solid and composite electrodes for semiautomatic gas metal-arc and flux-cored arc welding of Grade 40 reinforcing bars shall conform to AWS A5.18 for ER70S-2, ER70S-3, ER70S-6, or ER70S-7 electrodes; or AWS A5.20 for E70T-1, E70T-5, E70T-6, E70T-8 electrodes.

Electrodes for semiautomatic welding of ASTM A 615, Grade 60 and ASTM A 706 bars shall produce weld metal deposit with properties conforming to Section 5.3.4 in AWS D1.1 for ER80S-Ni1, ER80S-Ni2, ER80S-Ni3, ER80S-D2, E90T1-K2 and E90T1-K2 electrodes.

Prior to welding ASTM A 615 bars, preheat bars for a distance of not less than 6 inches on each side of joint.

For all welding of ASTM A 615, Grade 40 or Grade 60 bars, requirements of Table 5.2 – Minimum Preheat and Interpass Temperatures of AWS D1.4-98 are superseded by the following:

- b. Minimum preheat and interpass temperatures shall be 400 degrees F. for Grade 40 bars and 600 degrees F. for Grade 60 bars. Immediately after completing welding, cover at least 6 inches of bar on each side of splice with insulated wrapping to control rate of cooling. Keep insulated wrapping in place until bar has cooled below 200 degrees F.

When welding different grades of reinforcing steel, electrode shall conform to Grade 40 bar requirements and preheat shall conform to Grade 60 bar requirements.

If specified preheat interpass, or post weld cooling temperatures are not met, remove all weld and heat-affected zone metal and reweld splice.

Protect welding from air currents, drafts, and precipitation in a manner accepted by the Engineer.

Direct butt splicing of reinforcing steel by thermite welding will not be allowed.

c. Mechanical Butt Splices

- 1. General – The following mechanical butt splices may be used:
sleeve-filler metal type, sleeve-threaded type, sleeve-swaged type, sleeve-fill grout type, sleeve-lockshear bolt type, two-part sleeve-forged bar type, or two-part sleeve-friction bar type.

Use mechanical butt splices of design accepted by the Engineer. The Engineer's acceptance of a new design will be based upon the following: technical data, including test results, and other proof of satisfactory performance submitted by manufacturer; and test results by the Engineer or the Engineer's authorized representative on manufacturer-furnished sample splices and splice material. Resubmit design

if change is made in details or materials previously submitted and accepted.

Total slip of reinforcing steel with splice sleeve, after loading in tension of 30,000 pound per square inch and relaxing to 3,000 pounds per square inch, shall not exceed values in Table 602.03-3 – Allowable Total Slip, in 2005 State Highways Standard Specifications. Slip may be measured between gap points that are clear of splice sleeve.

Slip requirements shall not apply to mechanical lap splices.

Splice procedures shall conform to manufacturer's recommendations, except as modified in this section. Make splices using manufacturer's standard equipment, jigs, clamps, and other required accessories.

Cut ends of reinforcing bars to be butt-spliced, nominally square.

Splice sleeves shall have concrete cover of not less than 1 $\frac{3}{4}$ inches, measured from concrete surface to outside of sleeve. Adjust or relocated stirrups, ties, and other bars, and place additional reinforcing steel, if necessary, to provide planned concrete cover to reinforcing steel.

2. Sleeve-Filler Metal Mechanical Butt Splices – Sleeve-filler metal type of mechanical butt splices shall consist of a steel splice sleeve that fits closely over the reinforcing bar, with ferrous fill metal in annular space between reinforcing steel and sleeve, and between ends of reinforcing steel. Melt filler metal by exothermic reaction. Splicing process shall not fuse filler metal with reinforcing steel or heat reinforcing steel to its melting point, except for nominal melting of ends of reinforcing steel at mid-length of splice sleeve.

Remove oversize projection and distortions of reinforcing steel within sleeve by grinding.

Clean surfaces of reinforcing steel within sleeve and for 2 inches beyond end of sleeve, of slag, mill scale, rust, and other foreign materials. Clean either by oxyacetylene torch followed by power wire brushing or by abrasive blast cleaning.

Immediately prior to adding filler material to splice sleeve, preheat cleaned bar ends and entire splice sleeve to 300 degrees F., plus or minus 50 degrees F. When gas torches are used for preheating, do not direct flame into the inside of splice sleeve.

In completed splice, sound, non-porous filler metal shall be visible completely around reinforcing steel, at both ends of splice sleeve and at tap hole in center of sleeve.

Fill annular space between reinforcing steel and sleeve with filler material, to the extent that the average depth of any recess, over entire perimeter, caused by use of packing ring, and voids due to other causes, at each end of sleeve, does not exceed 1/2 inch. Depth of recesses and voids will be measured by wire probe inserted to deepest points of recesses and voids.

3. Sleeve-Threated Mechanical Butt Splices – Sleeve-threaded type of mechanical butt splices shall consist of a steel splice sleeve, with tapered interior threads, that joins reinforcing bars with matching tapered threads. Taper threads to such a degree that cross threading will not occur during assembly.

Mark each splice sleeve with heat treatment lot number.

After completion of assembly, tighten splice to torque value recommended by manufacturer.

4. Sleeve-Swaged Mechanical Butt Splices – Sleeve-swaged type of mechanical butt splices shall consist of a seamless steel sleeve applied over ends of reinforcing bar and swaged to bars by means of a hydraulic press.

5. Sleeve-Filler Grout Mechanical Butt Splice – Sleeve-filler grout type of mechanical butt splice shall consist of a steel splice sleeve that fits closely over reinforcing bars with non-shrink grout filler in annular space between reinforcing steel and sleeve, and between ends of reinforcing steel.

Allow no vibration or movement of reinforcing bar or sleeve at splice while splice is developing sufficient strength to support reinforcing bar. Submit complete details of bracing and clamping system to eliminate vibration or movement at splice during setup of filler, as specified in Subsection 105.03 – Shop Drawings, in 2005 State Highways Standard Specifications.
6. Sleeve-Lockshear Bolt Mechanical Butt Splice – Sleeve-lockshear bolt type of mechanical butt splices shall consist of seamless steel sleeve, center hole with centering pin, and bolts that are tightened until both heads shear off, leaving both ends embedded in reinforcing bar. Seamless steel sleeve shall be either formed into a V configuration or shall have two serrated steel strips welded to inside of sleeve.
7. Two-Part Sleeve-Forged Bar Mechanical Butt Splices – Two-part sleeve-forged bar type of mechanical butt splices shall consist of a shop-machined, two-part threaded steel sleeve that interlocks two hot-forged reinforcing bar ends. Forged bar ends may be either shop-produced or field-produced.
8. Two-Part Sleeve-Friction Bar Mechanical Butt Splices – Two-part sleeve-friction bar type of mechanical butt splices shall consist of a shop machined, two-part threaded steel sleeve whose ends are friction welded, in the shop, to reinforcing bar ends.
9. Qualification of Welding and Mechanical Splicing – Procedures to be used in splicing reinforcing bar and welders and operators who will apply these procedure shall be qualified by tests performed by the Contractor on sample splices of the type to be used, before making splices in the work.

For welded splices, submit written welding procedure specifications (WPS) and welder qualification tests to be used that conform to AWS D1.4.

Fabricator accepted by the Engineer shall produce resistance butt weld.

Each operator qualification test for mechanical splices shall consist of two sample splices. Each mechanical splice procedure test shall consist of two sample splices.

For sleeve-filler, sleeve-threaded, sleeve-lockshear bolt, and two-part sleeve friction bar mechanical butt splices, make sample splices on largest reinforcing bar size to be spliced by procedure or operator being tested, except that no. 14 bars may be substituted for No. 18 bars.

For sleeve-swaged and two-part sleeve-forged mechanical butt splices, and mechanical lap splices, make sample splices on largest reinforcing bar size, of each deformation pattern to be spliced by procedure or operator being tested. When joining new reinforcing bar to existing reinforcing bar, make qualification test sample bars using only deformation patterns of new reinforcing bar to be joined. If operator is qualified for mechanical splicing of reinforcing bar of a give size, that operator will also be considered qualified for reinforcing bar sizes smaller than those used in making tests.

Perform separate operator qualification test or procedure test for each mechanical splicing position and procedure that operator is expected to use in the work.

Operator and procedure qualification tests may be performed simultaneously.

The Engineer will accept mechanical splice procedures and operators based upon acceptance of previous tests performed on appropriate sample splices.

Submit completed sample splices at least 60 inches long, with splice at mid-length.

Make and test sample splices in the presence of the Engineer or the Engineer's representative, including test performed by a commercial agency.

10. Job Control Test – When mechanical butt splices, shop-produced complete joint penetration butt-welded splices, or shop-produced resistance butt-welded splices are used, submit job control tests from a qualified testing laboratory. Job control test shall consist of fabrication, under conditions used to produce splice, and physical testing of three sample splices for each lot of 150 splices.

A mechanical butt splice lot is defined as 150, or fraction thereof, of the same type of mechanical butt splices used for each combination of bar size deformation pattern that is used in the work.

A shop-produced, complete joint penetration butt-welded splice lot, or shop-produced, resistance butt-welded splice lot, is defined as 150, or fraction thereof, of the same type of welds used for each combination of bar size and bar deformation pattern that is used in the work.

When joining new reinforcing bar to existing bars, make job control test using only deformation patterns of new reinforcing steel to be joined.

Sample splice shall consist of splice made at job site to connect two 30-inch long minimum length bars, using sample splice materials, position, location, and equipment, and following same procedures as are being used to make splices in the work. Shorter sample splice bars may be used if accepted by the Engineer. Make and test sample splices in the presence of the Engineer or the Engineer's representative.

Identify sample splices with weatherproof marking prior to shipment to testing laboratory.

For sleeve-threaded mechanical butt splices, fabricate reinforcing bars to be used for job control tests on a random basis, during thread cutting on reinforcing steel of each lot. Ship job control test samples to jobsite with material they represent.

For shop-produced, complete joint penetration butt welds, shop-produced, resistance butt-welded splices, and all types of mechanical butt splices, except sleeve-threaded type, the Engineer will designate when job control test samples are to be fabricated, and will determine limits of lot represented by each job control test.

Should average of test results made on three sample splices, or should more than one sample splice in any job control test fail to meet requirements for splices, all splices represented by that test will be rejected as specified in Subsection 106.08 – Non Conforming Materials, in 2005 State Highways Standard Specifications. Rejection shall prevail unless the Contractor, at no increase in contract price or contract time, obtains and submits evidence acceptable to the Engineer, that strength and quality of splices in the work are acceptable.

11. Nondestructive Splice Tests – The Contractor shall perform required radiographic examinations of complete joint penetration butt-welded splices in accordance with requirements of AWS D1.4 and as otherwise indicated in the contract documents.

Prior to radiographic examination, welds shall conform to requirements of Subsection 4.4 – Quality of Welds, of AWS D1.4-98

- F. Splicing of Welded Wire Fabric – Overlap flat sheets of welded wire fabric (WWF) to maintain uniform strength. Fasten sheets of WWF at ends and edges. Use edge lap not less than the following: one spacing of cross wires plus 2 inches; or 6 inches; or the numerical value of the longitudinal wire size (W-Size Number) times 4.3 divided by the longitudinal wire spacing in inches.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASURE AND PAYMENT

DHHL IMPROVEMENTS
HILO/WAIMEA AND EAST/WEST HAWAII
ISLAND OF HAWAII, HAWAII
IFB-16-HHL-005

Concrete Reinforcement
03200-14

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 03300 – CONCRETE STRUCTURES

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

This section describes construction of concrete drop inlet and shallow drywell.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Structural Concrete – Refer to Section 601, 2005 State Highways Standard Specifications.
- B. Reinforcing Steel – Refer to Section 602, 2005 State Highways Standard Specifications.

PART 3 – EXECUTION

3.01 CONSTRUCTION

- A. Foundation – Excavate and backfill foundations in accordance with Section 206 – Excavation and Backfill for Drainage Facilities, 2005 State Highways Standard Specifications, and as indicated in the contract documents.
- B. Forms – Use wood or metal forms that are mortar tight and sufficiently rigid to prevent distortion due to pressure of concrete and other loads, including vibration, incidental to construction. Construct and maintain forms to prevent joints from opening.

Unless otherwise indicated in the contract documents, place minimum $\frac{3}{4}$ inch by $\frac{3}{4}$ inch chamfer at sharp corners. Give girder and coping forms a bevel or draft to ensure easy removal.

Set and maintain forms true to lines designated. When forms appear to be unsatisfactory, either before or during concrete placement, the Engineer may stop work until defects are corrected.

When forms are submerged in water and concrete is placed in the dry, make forms watertight below high water level.

Cover knotholes and damaged areas in wood forms with metal patches.

Control rate of depositing concrete in forms to prevent form deflection or form panels that exceed permitted deflections. When structure height is greater than 6 feet, submit rate of depositing concrete. Use forms for concrete surfaces not completely enclosed or hidden below permanent ground surface that conform to requirements, in this subsection, for

exposed-surface forms. Interior surfaces of underground drainage structures will be considered completely enclosed surfaces.

Before using forming systems for exposed surfaces, submit form design and materials data for each system.

Design and construct forms for exposed concrete surfaces so that formed surface of concrete does not undulate excessively between studs, joists, form stiffeners, form fasteners, or walls. Undulations exceeding either $\frac{3}{32}$ inch or $\frac{1}{270}$ of center-to-center distance between studs, joists, form stiffeners, or walls will be considered to be excessive. The Engineer will reject portions of concrete structure will surface undulations over limits specified herein.

Form exposed surfaces of each concrete structure element with same forming material or with materials that produce similar concrete surface texture, color, and appearance.

For exposed surfaces, provide form panel facing consisting of continuous sections of form facing material, unbroken by joint marks, against which concrete is placed.

- C. Form Lumber – Use form lumber, except for curved and special surfaces, of five ply panel boards or dressed shiplap, used with or without form liners. Rough lumber may be used for unexposed surfaces in finished structure. Three-ply boards may be used for forming soffit of unexposed portions of box girder top slabs.

Use plywood conforming to latest edition of “United States Product Standard PS-1 for Construction and Industrial Plywood” for forms. Place form panels in uniform widths of not less than 36 inches and in uniform lengths of not less than 6 feet, except where dimensions of members formed are less than specified panel dimensions. Place plywood panels with grain of outer plies in direction of span.

Place form panels in neat, symmetrical pattern, subject to acceptance of the Engineer. Place panels with long dimension horizontal and with horizontal joints level and continuous. Stagger and position perpendicular to vertical joints, as shown in the contract documents.

- D. Form Ties – Use form ties of sufficient strength and number to hold form securely in place and prevent spreading of forms during concrete placement. The following will not be allowed:
 - a. Ties consisting of twisted wire loops to hold forms in position.

- b. Non-metallic forming ties, anchorages, forming supports or other accessories that may be embedded permanently in concrete.
- c. Drive type anchorages for fastening forms or form supports to concrete.

Construct form ties or anchorages within forms to permit removal to depth of least 1 inch from face, without injury to concrete. Design fittings for form ties or anchorages so that, upon removal, cavities left are of the smallest possible size. Fill cavities completely with cement mortar and leave surface sound, smooth, even, and uniform in color.

- E. Surface Treatment – Immediately before each use, clean and treat forms with non-staining form oil that will permit ready release of forms and will not discolor concrete.
- F. Metal Forms – Specifications for forms regarding design, mortar tightness, filleted corners, beveled projections, bracing, alignment, removal, reuse, and oiling apply to metal forms. Metal thickness used for forms shall be such that forms will remain true to shape. Countersink bolts and rivet heads. Design clamps, pins, or other connecting devices to hold forms rigidly together and to allow removal without injury to concrete. Metal forms that are rough or crooked will not be allowed.
- G. Reuse of Forms – Maintain shape, strength, rigidity, watertightness, and surface smoothness of reused forms. Resize warped or bulged lumber before using.
- H. Removal of Forms – Remove support using method that permits concrete to uniformly and gradually take stresses caused by its own weight.

After placing concrete, remove forms no earlier than removal times specified in Table 503.03-1, 2005 State Highways Standard Specifications. The Engineer will determine exact removal time.

- I. Loading – Inducing loading, outside of its own weight, onto any part of a structure will not be allowed until the following conditions have been met: at least 15 days have elapsed since placing concrete; and test specimens show that concrete has developed compressive strength of either 3,000 psi or required 28-day compressive strength, whichever is greater.
- J. Placing Concrete – Place and consolidate concrete by methods that shall not cause aggregate segregation or unsound concrete and shall result in dense, homogeneous concrete, free of voids, rock pockets and other defects. Use concrete while it is plastic and has sufficient workability for

placement. Retempering or remixing concrete that has partially hardened will not be allowed. Allow no more than 30 minute interval between placement of two consecutive batches or partially hardened will not be allowed. Allow no more than 30 minutes interval between placement of two consecutive batches or loads of concrete.

Do not deviate from schedule for placing concrete without permission from the Engineer.

Water blast laitance and foreign material and moisten interface surfaces with water immediately before placing concrete over subgrade or construction joint.

Submit method and sequence of concrete placement. Place concrete on structure only after forms have been cleared of debris and the Engineer has checked and accepted forms and reinforcing steel.

Place concrete for foundations and bottom slabs of drainage structures on ground that is free of water. Dewater, sheath, place filter material, and do other work, as required by field conditions, to ensure saturated surface dry foundation bed. Costs for obtaining saturated surface dry foundation bed will be part of structure excavation.

Excavate and place sides of concrete not supported on piles or rock to neat lines.

Begin placing concrete at low point and proceed up grade. Remove struts, braces, or blockings when concrete placed has reached elevation rendering them unnecessary.

Deposit concrete in approximate horizontal layers to avoid flowing along forms. When less than a complete layer is placed in one operation, terminate layer in vertical bulkhead. Layer depth shall not exceed 20 inches and shall be such that succeeding layer shall be placed before previous layer has attained its initial set. Place concrete in layers that can be satisfactorily consolidated with vibrators.

Thoroughly work external surface of concrete with vibrator. Work to force coarse aggregate from surface and to bring mortar against forms, producing a smooth finish, nearly free from water and air pockets, and honeycomb.

Fill each part of form by depositing concrete as close to final position as possible. Work coarse aggregate from forms and around reinforcement without displacing bars. After initial set of concrete, do not jar forms and do not place stress on ends of projecting reinforcing. After concrete placement stops, remove accumulations of mortar on reinforcing steel and

surfaces of forms, before next concrete placement. If concrete is wet, prevent dried mortar chips, other foreign material, and dust from falling onto wet concrete surface. If concrete has set, clean reinforcing steel in a manner that will not be detrimental to concrete-steel bond.

- K. Drop Inlet – Place and allow base slab of drop inlet to set at least 12 hours before constructing remainder of drop inlet. Monolithically construct sidewalls and top slab of drop inlet 4 feet or less, in height.
- L. Chutes and Troughs – The use of aluminum for chutes, tremies, troughs or pipes will not be allowed. Place concrete so as to avoid segregation of materials and displacement of reinforcement.

Use of long troughs, chutes, and pipes of minimum 6-inch diameter will be allowed only with written authorization of the Engineer. Incline chutes or pipes to allow concrete to flow at required consistency. Addition of water to concrete mix to promote free flow in chutes of low inclination will not be allowed.

Do not drop concrete into forms from vertical distance of more than 5 feet unless confined by closed chutes or pipes.

Keep chutes, troughs, and pipes clean and free from coatings of hardened concrete by thoroughly flushing them with water after each run. Discharge flushing water away from in-place concrete.

- M. Vibrating – Consolidate concrete, except for concrete placed under water, using high frequency internal vibrators. Minimum transmitted vibration frequency shall be 4,500 impulses per minute, and shall be such as to visibly affect mass of concrete of 1-inch slump over radius of at least 18 inches. Use sufficient number of vibrators to properly consolidate incoming concrete within 15 minutes after depositing concrete in forms. Make at least two vibrators available at structure site when placing more than 25 cubic yards of concrete. Apply vibrators at uniformly spaced points and not farther apart than is visibly effective. Attaching vibrators to or holding them against forms or reinforcing steel will not be allowed. Insert vibrators in vertical position at a uniform spacing over the entire concrete placement area. Dragging vibrators through concrete will not be allowed.

External vibrators accepted by the Engineer may be used to consolidate concrete when concrete is inaccessible for adequate consolidation, provided forms are constructed sufficiently rigid to resist displacement or damage from external vibration.

When required, supplement vibration by hand spading with suitable tools to ensure proper and adequate compaction. Manipulate vibrators to work concrete thoroughly around reinforcement and imbedded fixtures; and into corners and angles of forms. Using vibrators to cause concrete to flow or run into position, instead of placing, will not be allowed. Vibrate sufficiently to compact, but avoid prolonging vibration to the point where segregation occurs.

N. Joints

1. Construction Joints – Place construction joints only at locations indicated in the contract documents, perpendicular to principal lines of stress and at points of minimum shear.

After placing substrate concrete to construction joint and letting concrete set, thoroughly clean by abrasive blast cleaning, the entire joint surface, including projecting reinforcement. Remove laitance, curing compound, and other material foreign to concrete, and expose cleaned coarse aggregate, and roughen construction joint surface to full amplitude of approximately 1/4 inch, after curing period or immediately before placing concrete on substrate concrete at construction joint, whichever occurs first.

Before placing new concrete, draw forms tightly against concrete already in place. Thoroughly clean, water blast laitance and foreign material, and saturate old surface with water to a saturated surface-dry condition immediately before placing new concrete. Place concrete in substructures so that horizontal construction joints are truly horizontal. Where possible, place joints such that they will be hidden from view in finished structure. Where vertical construction joints are necessary, extend reinforcing bars across joint to make structure monolithic. Do not place construction joints through paneled wing walls or other large surfaces that are to be treated architecturally.

When construction joint is necessary because of emergency, furnish and place reinforcing steel across construction joint as ordered by the Engineer, at no increase in contract price or contract time.

2. Expansion Joint – Construct expansion joints of type and in location indicated in the contract documents. Expansion joints may be friction, open, filled compression, mortise, or special type. Refer to Section 503.03 – Concrete Structures, 2005 State Highways

Standard Specification for details on Expansion Joints,
Waterproofing, and Joint Sealing.

- O. Protection and Curing – Protect concrete from mechanical damage and damage caused by exposure to sun, rain, and flowing water. Do not allow concrete to dry out from time of concrete placement until end of minimum curing period. Minimum curing period shall be as follows:

1. Cure structures for at least 7 days. Maintain temperature of structural concrete at not less than 45 degrees F. for 72 hours after placing. Maintain temperature at not less than 40 degrees F. for an addition 4 days. Submit written outline of proposed method for protecting concrete.
2. Water Curing – Water cure by keeping concrete continuously wet with fresh water, using water sprays, acceptable water saturated coverings, or ponding. Keep wood forms that remain in place sufficiently damp to prevent opening at joints and drying of concrete.

After surface water has evaporated, apply moisture to concrete surface using fog spray nozzle. Continue applying moisture to surface until regular curing begins. Use adequate water supply and sufficient moisture to fog and water cure concrete without damaging surface or texture of concrete.

3. Impervious Membrane Curing – Seal concrete surface thoroughly with liquid membrane-forming compound. Apply compound uniformly in two or more applications. Use ratio of at least 1 gallon for each 125 square feet of concrete surface.

Use curing compound that will not permanently darken concrete on exposed surfaces of completed structure. Keep concrete surfaces moist before applying impervious membrane. If membrane film is broken or damaged during specified curing period, apply new treatment to affected area, duplicating first application.

4. Forms-In-Place Curing – Cure formed surfaces of concrete by retaining forms in place. Maintain forms in place for minimum period of 7 days after concrete placement. Keep all form joints and joints between end of forms and concrete, moisture-tight during curing period. Reseal cracks in forms and cracks between forms and concrete by methods accepted by the Engineer.

- P. Finishing Concrete Surfaces – Apply Class 1 Ordinary Surface Finish to the concrete surfaces, either as final finish or preparatory to applying a higher-class finish. On surfaces to be buried underground or that are enclosed, removal of fins and form marks and rubbing of mortared surfaces to obtain a uniform color will not be required.

After removing forms, remove form bolts and ties to depth of at least 1 inch below concrete surface. Clean, wet, and fill resulting holes or depressions with mortar. Mortar shall consist of one part cement to two parts sand by volume. Add white cement to mortar in sufficient quantity to tint mortar a shade lighter than 1 hour old and that bonds indistinguishably with concrete. After mortar has thoroughly hardened, rub surface with carbonrundry stone to obtain same color in mortar as in surrounding concrete. Remove fins caused by form joints and other projections. Remove stains and discolorations visible from traveled way.

Clean and fill pockets with mortar, except for those scattered pockets or pinholes less than 1/2 inch long or wide and less than 3/8 inch deep. Pockets shall not affect strength of structure or shorten life of steel reinforcement. Fill pockets on surfaces visible to pedestrian traffic and surfaces exposed to stream flow. Use mortar for filling pockets, as specified for bolt and tie holes. When rock pockets affect strength or structure materially or shorten life of steel reinforcement, the Engineer will declare concrete unacceptable and require removal and replacement of affected structure.

- Q. Cleaning Up – Upon completion of finishing operation and before final acceptance of structure, remove forms, excavated or useless material, rubbish, and temporary structures. Replace or restore property damaged during prosecution of work. Leave job site in neat and presentable condition.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

DIVISION 6 - WOOD AND PLASTICS

SECTION 06200 – FINISH CARPENTRY

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the Contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 SUMMARY

Section Includes: Furnishing and installing all carpentry, millwork, and related items.

1.03 QUALITY ASSURANCE

- A. Millwork shall be manufactured in accordance with the standards established in the amended latest Edition of the "Manual of Millwork" of the Woodwork Institute (WI) in the Grade indicated.
- B. Plywood shall comply with "Softwood Plywood, Construction and Industrial" Product Standard PS-1-74 of U.S. Department of Commerce, Bureau of Standards.

1.04 DELIVERY. STORAGE. AND HANDLING

- A. Place materials in area protected from weather and ultra-violet exposure immediately upon delivery to storage facility and to job site.
- B. Protect sheet materials from damage while unloading and when stored.
- C. Store materials out of the way of Work-in-progress in well-ventilated rooms. Comply with manufacturer's guidelines to prevent exposure to damaging changes of temperature and humidity.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Door and Window Frames. Millwork, Siding and Trim:
 - 1. Interior
 - a. Lumber Species shall be: Oak for stained finish,

Pine/Poplar for painted finish.

- b. Interior Standing and Running Trim and Rails. Grade: Select and Better.
- c. Interior Door Frames. Grade: Select and Better.
- d. Interior Miscellaneous Ornamental Items. Grade: Select and Better.
- e. Trim profile and dimension to match existing.
- f. New trim may consist of two pieces. Window and door trim shall have no sea at per meter edges, unless matching existing conditions.
- g. If existing window or door lacks interior trim, provide trim that matches other existing trim in dwelling. If no interior trim exists, provide standard trim samples for Property Owner's selection.
- h. Intended Finish: Semi-gloss, stain or transparent finish to match existing, as specified in Section 09910 - PAINTING.

2. Exterior Trim:

- a. Redwood, vertical grain, S4S, sill and casing shapes to match existing, new items in profiles as indicated on Details. Finger joints not permitted if transparent finish is required. Window and door trim shall have no seams at perimeter edges, unless matching existing conditions.
- b. WI Grade: Custom
- c. Intended Finish: Semi-gloss or transparent finish to match existing, as specified in Section 09910 - PAINTING.

- B. Framing Lumber: Construction grade Douglas Fir or better. Appearance grade where exposed; S4S. 19 percent maximum moisture content. Provide headers at widened openings.
- C. Building Paper. 15-pound non-perforated asphalt-saturated felt.
- D. Flashing Paper: Fortifiber Corporation "Moistop EZ Seal" or approved equal.

- E. Sealing Tape: Carlisle "Hardcast" BRT-801 or approved equal.
- F. Rough Hardware: Furnish items required to complete the Work.
 - 1. Toggle Bolts, Expansion Anchors, Bolts, Nuts, and Washers: Hot-dipped galvanized ASTM A 153. Washers shall be malleable iron.
 - 2. Nails: Hot-dipped galvanized, aluminum or stainless steel in locations exposed to moisture; electro-galvanized not acceptable.
 - 3. Metal Connectors: Simpson strong Tie, Silver or Teco; types and sizes as required.
- G. Attic Access Panel: Exterior Grade plywood, Medium Density Overlay (MDO) face veneer, A-C faces. Provide hardwood edge banding on all four sides. Paint exposed surface as specified in Section 09910 - PAINTING, color to match ceiling.
- H. Attic Platforms and Walkways to Mechanical Equipment: Plywood, not less than 1/2-inch thick, Douglas Fir, C-C faces.
- I. Insulation on Panels and Baffles: As shown on panel and baffle Details and as specified in Section 07210 - BUILDING INSULATION

2.02 FABRICATION

- A. Job measurements shall be made as required for the proper fabrication of the Work.
- B. Fabricate items to profiles shown or to match existing profiles.

PART 3 – EXECUTION

3.01 PREPARATION

Condition new woodwork to average prevailing humidity conditions in installation areas.

3.02 INSTALLATION AND APPLICATION

- A. Millwork and Trim.
 - 1. Install all millwork plumb, true, and in accordance with referenced standards. Shim as required with concealed shims. Install to a tolerance of 1/8" in 8'- 0" for plumb and level with no variations in flushness of adjoining surfaces. Install to a 1/16" maximum offset for reveal installation or to

match existing reveal.

2. Attach woodwork to anchor or blocking built in or directly attach to substrate. Secure to blocking grounds or stripping with countersink concealed fasteners and blind nailing as required for a complete installation. Nail through solid material. Fill, stain and finish nail holes to match adjacent surfaces. Use fine finishing nails for exposed nailing, countersink and fill flush with wood putty.
3. Sealant called for in Drawings shall be inspected by State Engineer prior to being concealed.
4. Ease all exposed edges of all millwork.
5. Install millwork as indicated on the Drawings and as required for complete finish Work. Miter corners of running trim and finished frames.
6. Where applicable, new trim shall align with existing trim and be cut or, coped as necessary to match existing.
7. Where existing trim is scribed to fit ceramic tile or other wall materials. New trim pieces shall be similarly scribed to fit existing conditions.
8. If baseboard replacement is needed at a patched area, replace for the entire wall length.
9. Provide millwork in lengths as long as are available. Where joints are unavoidable, scar such joints and stagger locations of joints on adjacent pieces.
10. All exterior millwork and trim shall be prime painted on all surfaces prior to installation. Wood shall be prime painted in accordance with Section 09910 - PAINTING.

B. Enlarged Window Openings:

1. Where lowering window sills is indicated on the Drawings, remove existing finishes, framing, trim and portion of existing window frame as required to enlarge and prepare the opening for the new window.
2. Field verify all dimensions to assure correct size of opening and that opening meets egress requirements (at required locations).

3. Construct rough opening as required for new window.
4. Install building paper, flashing paper, sealing tape and sheet metal flashing as required to direct water to the exterior.

C. Soffits, Chases, Furred Ceilings and Other Duct Enclosures:

1. Provide enclosure of new horizontal and vertical duct runs in finished rooms and in closets. Provide new trim and rework closet rods and shelves as required to put area back in working order. Verify duct run location and enclosure with Property Owner prior to installation. At all times, minimize the amount of space lost due to duct enclosure(s).
2. At enclosures in living areas, tape, mud and prime paint gypsum board, and provide base trim or other trim to match existing adjacent conditions. Stain or paint trim to match existing.
3. At enclosures in closet areas, provide enclosures of gypsum board. Tape and mud gypsum board, prime paint, and paint to match adjacent surfaces.
 - a. 16 gauge galvanized steel, primed white, or
 - b. Primed M.D.O, with wood outside corner or miter at vertical seams.
4. Provide a pressure relief at chases and soffits containing new ductwork and located adjacent to attics or exterior walls. Pressure relief shall be one 4" x 10" or equivalent sized grille. Locate pressure relief between chase or soffit and interior of house in an inconspicuous location acceptable to homeowner.

D. Wood Finishing: Leave ready for finish as indicated, in accordance with Section 09910 - PAINTING.

E. Nailing:

1. Use only hot-dipped galvanized fasteners as specified or aluminum nails or stainless steel nails for installation of exterior millwork and finish carpentry Work.
2. Use appropriate rough hardware where other anchorage is indicated.

3. Secure Work tight to wall with finishing nail s or screws as required, unless otherwise indicated. Countersink heads of finishing nails and screws, and fill with wood filler.
 4. Hammer marks, tool marks, nail head depressions, marred surfaces and edges are not acceptable on exposed surfaces.
- F. Install all items specified under other Sections that are not to be installed by manufacturer or supplier.
1. Install in accordance with the Drawings, manufacturer's printed instructions, and any additional requirements included in the respective Specification Section.
 2. All wall-mounted items shall be securely fastened to solid backing or blocking as specified in the detailed Drawings.
 3. Where new attic access panels are required install at locations indicated. Enlarge existing openings and panels where indicated.

3.01 ADJUSTING AND CLEANING

- A. After completion of installation, clean exposed surfaces, touch up finish as required, remove and refinish damaged or soiled areas of finish, and adjust and repair damaged or defective Work as directed.
- B. Provide protection for installed Work until final acceptance of Project.

PART 4 - MEASUREMENT & PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
06200.1	Carpentry	Lump Sum

END OF SECTION

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

SECTION 07920 – JOINT SEALANTS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 SUMMARY

Section Includes: Furnishing and installing of all exterior and interior caulking and sealing.

1.03 PERFORMANCE

Provide sealants that establish and maintain watertight and airtight continuous seals without staining or deteriorating finishes or substrates.

1.04 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. Product Data: Manufacturer's specifications recommendations, and installation instruction, including cleaning of joints surfaces, for each type of material required
- C. Samples: Each color required for each of exposed sealant.

1.05 QUALITY ASSURANCE

- A. Each material shall be installed in a manner and under conditions approved by the material manufacturer, comply with manufacturer's printed instruction, except where more stringent requirements are indicated.
- B. Before application of each required material, confirm its compatibility with all other materials as per manufacturer's recommendations.
- C. Exterior sealants shall be ultra-violet stabilized.

1.06 DELIVERY. STORAGE. AND HANDLING

- A. Deliver materials to project site in original, unopened containers or bundles with labels intact.

- B. Store and handle materials per manufacturer's written instructions to prevent deterioration or damage.

1.07 PROJECT CONDITION

Environmental Limitations: Do not proceed with installation of sealants when

1. Ambient and substrate temperature conditions are outside limits allowed by sealant manufacturer.
2. Substrates are wet (dry substrate if possible).
3. Joint widths are not within limits allowed by manufacturer for application required.
4. Contaminants present are capable of interfering with adhesion.

1.08 WARRANTY

- A. Period: Two (2) years from date of Substantial Completion.
- B. Manufacturer's Warranty: Written warranty, signed by sealant manufacturer agreeing to furnish products to repair or replace those that fail within the specified warranty period.
- C. Installer's Warranty: Written warranty, signed by installer agreeing to repair or replace sealants which do not comply within specified warranty period.

PART 2 – PRODUCT

2.01 APPROVED MANUFACTURERS

- A. Single Component Non-sag Polyurethane Sealant:
 1. Approved Sealants:
 - a. Chern-Caulk 900, Bostik
 - b. Vulkem 116, Mameco
 - c. 77-A. Manus Bond
 - d. Sikaflex, Dika Corp
 - e. NP1, SonoJastic
 - f. Dymonic, Tremco
 - g. Flexiprene 1000, Polymeric Systems, Inc.

- B. Single Component Non-Sag Siliconized Acrylic:
 - 1. Approved Sealants:
 - a. Alex Plus, OAP
 - b. Glidden Paint Co.
 - c. 67-A, Manus Bond
 - d. Sololax, Sonneborn Building Products Division. ChemRex Inc.
 - e. Tremco, Tremflex 834
- C. Mildew-Resistant Silicone Sealant:
 - 1. Approved Sealants:
 - a. 786 Mildew Resistant; Dow Corning
 - b. Sanitary 1700; GE Silicones
 - c. NuFlex 302; NUCO Industries, Inc.
 - d. 898 Silicone Sanitary Sealant; Pecora Corporation
 - e. PSI-601; Polymeric Systems, Inc.
 - f. Omniplus, Sonneborn Building Products Division, ChemRex, Inc.
 - g. Tremsil600 White; Tremco
- D. Acoustical Sealant:
 - Approved Sealants:
 - a. AC-20 FTR Acoustical and Insulation Sealant; Pecora Corp.
 - b. Sheetrock Acoustical Sealant; USA Corp.
 - c. Tremflex 834; Tremco

2.02 AVAILABLE PRODUCTS

- A. Compatibility: Provide sealants, backings and other related materials compatible with one another and with substrates.
- B. Colors: To match existing adjacent materials as closely as possible.
- C. Elastomeric Sealant Standard: Comply with ASTM C920 for each liquid-applied, chemically cured sealant.
- D. Stain-Test Characteristics: Non-staining to porous substrates according to ASTM C 1248.

2.03 ACRYLIC LATEX SEALANT

- A. Comply with ASTM C834 for interior use.
 - 1. Characteristics:
Type and Grade: S (single component) and NS (Non-Sag).
 - 2. Class 5.
 - 3. Use: Non Traffic (NT).
 - 4. Paintable, non-toxic, water based, silicone acrylic, dries clear within 24 hours.

2.04 ACOUSTICAL SEALANT

- A. Provide manufacturer's non-sag, paintable, non-staining and permanently flexible sealant to comply with ASTM C 834. Product shall effectively reduce airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies per ASTM E90-02 (and later revisions).
Concealed Joints
- B. Provide manufacturer's standard, non-drying, non-hardening, non-skinning, non-staining, gun-able synthetic rubber sealant recommended.

2.05 ELASTOMETRIC SEALANT

- A. Comply with ASTM C 920, for exterior use including attics and unheated spaces.
- B. Characteristics:
 - 1. Type and Grade: S (single component) and NS (Non-Sag).
 - 2. Class: 25.
 - 3. Use: Non-Traffic (NT).

2.06 MILDEW RESISTANT SILICONE SEALANT

- A. Provide products formulated with fungicide intended for sealing interior ceramic tile joints and other non-porous substrates subject to in-service exposures to high humidity and temperature extremes.
 - 1. Characteristics:
 - 2. Type and Grade: S (single component) and NS (Non-Sag).
 - 3. Class: 25.

4. Use: Non-Traffic (NT).

2.07 MISCELLANEOUS MATERIALS

- A. A Joint Primer/Sealer: As recommended by sealant manufacturer where required for adhesion of sealant to substrate.
- B. Provide sealant backings of materials and type that are non-staining, compatible with substrates, sealant, primers and other joint fillers; and are approved for applications
- C. Cylindrical Backings: ASTM C1330, of type indicated below and of size and density to control sealant depth and contribute to optimum performance.
 1. Type C: Closed cell material with a surface skin.
 2. Type O: Open-cell material.
 3. Type B: Bicellular material with a surface skin.
- D. Bond-Breaker Tape: Polyethylene or plastic tape for back of joint to prevent sealant adhesion to substrate, self-adhesive where applicable.
- E. Cleaners: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming substrates and adjacent finishes.
- F. Masking Tape: Non-staining, non-absorbent material compatible with sealants and surfaces adjacent to joints.
- G. All materials used in association with sealants shall comply with requirements of sealant manufacture, and shall be compatible with adjacent sealants.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Clean joint surfaces immediately before installation of sealant.
 1. Remove dirt, mortar, dust, debris, insecure coatings, moisture, and other substances that would interfere with bond of sealant.
 2. Apply sealant according to manufacturer's specified conditions for humidity levels.
 3. Use cleaning solvent to clean all joint surfaces.

4. Wipe joints free of solvent, using clean, dry, white cotton cloths or white, lint less paper.
 5. Remove excess solvent immediately from all surfaces.
- B. Prime or seal joint surfaces to receive sealant. Install continuous sealant at all joints between new Work and existing construction, at all joints between components of new Work , at all locations shown on Details, and at all locations where required to prevent moisture from entering the building or penetrating into the structure of roofs, walls and floors.
1. All surfaces to receive sealant shall be primed with primer recommended by sealant manufacturer.
 2. Do not allow primer/sealer to spill or migrate onto adjoining surfaces.
- C. Install sealant backer rod for elastomeric sealants where joints are wider than 3/16 inch, except where recommended to be omitted by sealant manufacturer for application shown, or backed by other solid substrate.
- D. Install bond-breaker tape wherever backer rod is not used and wherever required by manufacturer's recommendations to ensure that elastomeric sealants will perform properly.
- E. Employ manufacturer's installation guidelines to ensure that sealants will be deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of joint bond surfaces equally on opposite sides. Apply by gun with cartridge nozzle cut to width of joint where possible. Fill joint completely, forcing sealant to contact sides of joint.
1. Except as otherwise indicated, fill sealant rabbet to a slightly concave surface, slightly below adjoining surfaces.
 2. Where horizontal joints are between a horizontal surface and a vertical surface, fill joint to form a slight cove, so that joint will not trap moisture and dirt.
- F. Install sealants to depths as recommended by sealant manufacturer, but within following general limitations. Fill joints wider than 1/4 inch to a depth no greater than the joint width, but not more than 1/2 inch deep or less than 1/4 inch deep.

3.02 CLEANING AND CURING

- A. Clean adjoining surfaces with methods safe for the finishes of adjoining surfaces.

- B. Cure sealants in compliance with manufacturer's recommendations to obtain high early-bond strength, internal cohesive strength, and surface durability.
 - C. Leave the Work free of sags, smears, droppings and discontinuous coverage.
- PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
07920.1	Sealants and Caulking	Lump Sum

END OF SECTION

DIVISION 8 – DOORS AND WINDOWS

SECTION 08050 – BASIC DOORS, MATERIALS & METHODS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 SUMMARY

Section Includes: Furnishing and installing all fiberglass doors, including factory preparation (pre-machining) for finish hardware.

1.03 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. Product Data: Manufacturer's specifications for doors proposed for this Project
- C. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door.
- D. Maintenance Instructions: Provide door manufacturer's maintenance instructions to each property owner with new door
- E. Warranty: Submit samples of manufacturer's warranty.

1.04 QUALITY ASSURANCE

Manufacturers: Firms regularly engaged in manufacture of fiberglass doors of the types and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.

1.05 DELIVERY. STORAGE. AND HANDLING

- A. Manufacturer shall prime all four edges of doors before shipment. Primer shall be compatible with specified finish.
- B. Manufacturer shall provide clearly labeled protective wrapping or containers for shipping. Comply with door manufacturer's

recommendations for handling, storage and protection.

C. Schedule deliveries so that no interruption or delay in work will occur.

1.06 WARRANTY

Provide a door manufacturer's written warranty against defects in materials and workmanship. Warranty shall include removal of defective doors and refinishing and reinstallation that may be required because of repair or replacement of defective doors. Exterior doors shall have a warranty period of 10 years from recordation of Notice of Completion.

PART 2 – PRODUCTS

2.01 DOORS

Manufacturer: Masonite, Weathermaster, Jeld-wen, Steven & Sons

1. Door Type: Jalousie Storm Doors (16 louvers, full jalousie)
2. Door Type: Slab, 1-3/4 inch thick, Woodgrain Flush Solid Core unfinished hardwood slab or pre-hung.
3. Or approved equal

2.02 MATERIALS

1. Panels, Stiles, and Rails
Door Skins: Smooth Flush Hardwood solid core hardwood material.
 2. Or approved equal
- A. Provide the following door clearances, unless otherwise noted.
1. Provide 1/8-inch at head and jambs.
 2. Provide 3/8-inch maximum between bottom of door and top of threshold.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Remove existing doors and weather-stripping, if any. Verify that size and condition of door frames are as required for proper installation of doors.

- B. Repair or replace out-of-plumb openings that would hinder installation of doors.

3.02 INSTALLATION

- A. Install doors in accordance with requirements of manufacturer's warranty.
 - 1. All new doors shall be installed the same day that the existing doors they are to replace are removed.
 - 2. Temporary doors, boards, plywood or other means of closing the openings will not be permitted.
- B. Fit to frames and machine for hardware to whatever extent not previously worked at factory as required for proper fit and uniform clearance at each edge. Finish: Apply to all six surfaces of doors and to muntins, frames, stops, and trim in accordance with manufacturer's instructions.
 - 1. Paint: Semi-gloss finish as specified.
 - 2. Stain: Stain finish as specified.
- C. Install new hardware as specified.

3.03 ADJUST AND CLEAN

- A. Replace or re-hang doors that are hinge-bound and do not swing or operate freely.
- B. Factory Finished Doors: Replace doors that are damaged or do not comply with requirements. Repair or refinish doors if work complies with requirements and shows no evidence of repair or refinishing.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

Item No.	Item	Unit
08050.1	Doors	Lump Sum

END OF SECTION

SECTION 08520 - ALUMINUM WINDOWS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the Contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 SUMMARY

Section Includes: Furnishing and installing vinyl windows.

1.03 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. Product Data: Manufacturer's specifications and installation recommendations, including standard hardware.
- C. Shop Drawings: Show full size sections at head, jamb and sill for each window type at each wall condition. Show window frame interface with adjacent wall materials for each type of construction. Include methods of anchorage, glazing, weather stripping, sealant and screens.
- D. Samples: Three 6-inch tong extrusions showing permissible range of each color specified in this Section.
- E. Certification: Submit certified test reports less than 5 years old verifying that windows meet specified design criteria and Sound Transmission Class ratings. Tests shall be certified by independent testing laboratories for the average size window of each type used on this Project.
- F. Warranties: Submit sample warranties from manufacturer and Contractor describing coverage and terms of each warranty, and showing name and telephone number of local person responsible for resolving claims.

1.04 WARRANTY

- A. Provide window manufacturer's written warranty against defects in materials and workmanship. Warranty shall cover removal and repair or replacement of defective windows and installation of new windows. Warranty period shall be for 10 years from recordation of Notice of Completion. Warranty shall be transferable to subsequent Property Owners throughout the warranty period.
- B. Pigmented organic finishes on windows and component parts (such as

panning and muntins) shall be certified as complying fully with requirements of AAMA 603.8 for pigmented organic coating and shall be fully warranted against chipping, peeling, cracking and blistering for 10 years from recordation of Notice of Completion. Warranty shall be transferable to subsequent Property Owners throughout the warranty period.

PART 2—PRODUCTS

2.01 ALUMINUM WINDOWS

- A. Manufactures:
 - 1. Jeld-Wen
 - a. Horizontal Sliding: 200 Series, White.
 - b. Glazing type: Double Pane.
 - c. Fixed: Left Hand/Right Hand.
 - d. Casement: Aluminum Frames.
 - 2. Ply Gem
 - a. Horizontal Sliding: (white).
 - b. Fixed: Left Hand/Right Hand.
 - c. Glazing type: Double Pane.
 - d. Casement: Aluminum Frames.
 - 3. Or approved equal.
- B. Screens: Charcoal gray fiberglass mesh, in aluminum frame finished to match windows. Provide screens at operable sash.
- C. Exterior Panning: Manufacturer's standard shapes.
- D. Interior Trim: Manufacturer's standard strap.

2.02 MATERIALS

- A. Extrusions: As recommended by windows manufacturer for strength, corrosion resistance and application.
- B. Fasteners and Miscellaneous Fastening Devices: Material and strength as recommended by window manufacturer.
- C. Weather-stripping: Woven pile to comply with ASTM 701.

- E. Hardware: Manufacturer's standard, to comply with requirements of this Section.
1. Primary Sash Locks: Extruded aluminum, stainless steel or bronze; no plastic or die cast zinc.
 2. Sash Stops: Locate to prevent over-travel of sash.
 3. Sash Balances: Block and tackle type.
 4. Latches: Provide single latches at horizontal sliding windows less than 3'-6" high and at double-hung windows less than 3'-0" wide. At horizontal sliding windows 3'-6" high and larger, and at double-hung windows 3'-0" wide and larger, provide two latches. Determine the number of latches by field measurements.
 5. Limit Stop: Provide manufacturer's standard type.
 6. Egress Windows: Provide at Bedrooms where required by applicable Code. Comply with requirements for dimensions for all egress windows.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Do not remove existing windows until new windows are ready for immediate installation.
- B. Remove existing items carefully, to avoid damage to existing construction to remain.
- C. New windows shall be sized by field measurement so that typical shim space is 1/8 inch, and no shim space exceeds 1/4 inch.

3.02 INSTALLATION

- A. Field verify all dimensions and conditions of window openings. Provide blocking, shim, pack voids with insulation and sealants as indicated and required. In bedrooms with only one exit, operable portions of at least one bedroom window are subject to egress requirements of not less than 20 inches clear width, not less than 24 inches clear height, and not less than 5.7 square feet of clear open area, with finished sill height not more than 44 inches above the finished floor. Notify the Engineer if an existing finished opening needs to be enlarged to meet these requirements.
- B. Modify existing openings as required to accept new windows. Work includes cutting back existing finished surfaces (such as ceramic tile,

sheetrock and wood paneling) at some window openings. Patch openings with new materials to match existing. Modifications shall not include the replacement of headers or other structural members without notification of the Engineer.

1. Where structural weakening of the existing rough window opening caused by dry rot or termite damage has been uncovered the Contractor shall proceed as follows: If the weakened material is within the first 1-1/2 inches of rough opening and wall cladding measured on all sides of the window, submit a cost proposal for repair (Change Request). Upon review and approval of the proposed cost, the State Representative will authorize the performance of this Work and issuance of a Change Order.
 2. If the weakened material extends beyond the first 1-1/2 inches of rough opening and wall cladding measured on all sides of the window, notify the State Representative, then if requested submit a cost proposal to property owner for repair of all structural weakening.
 3. Insert windows shall be installed over existing aluminum or vinyl nail-fin frames or existing wood frames. Wood frames exposed by removal of existing windows shall be prime painted prior to installation of new windows. Where nail-fin windows are used, install as recommended by manufacturer. Application of prime paint shall be in accordance with Section 09910 - PAINTING. Install exterior panning where required. Install interior trim at perimeter of each window.
- C. Install exterior trim and sills. Finger jointed trim will not be allowed if transparent finish is required. Replace existing deteriorated window sills with new Redwood sills matching the existing sill profile. Nail with corrosion resistant finish nails. Countersink nail heads and fill with an exterior grade wood filler such as "Spackle". Before installing new exterior wood trim and sills, prime paint all surfaces in accordance with Section 09910 - PAINTING.
- D. Install interior trim and sills. Finger jointed trim will not be allowed if transparent finish is required. Prior to installation of new wood trim and sills, prime paint all surfaces in accordance with Section 09910 - PAINTING.
- E. Provide all exterior and interior patching and filling at openings damaged during window removal. Installation will be over lath and flashing felts in accordance with specifications of the Lathing and Plastering Contractors

Association for a complete weather-tight job. Exterior siding materials shall match accurately with adjoining surfaces.

- F. Whenever wall finish is broken to remove existing windows, joints between existing sashes shall be sealed with tape, to prevent dust from penetrating the joints.
- G. Removal of existing windows shall be limited to the quantity of new replacement windows to be installed the same day. In no event shall window openings be allowed to be "temporarily boarded up" with plywood, boards, etc. All replacement windows shall be installed the same day existing windows are removed.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
08520.1	Aluminum Windows	Lump Sum
	END OF SECTION	

SECTION 08700 - DOOR HARDWARE

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the Contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 SUMMARY

Section Includes: Furnishing and installing door hardware and salvaging and reinstalling certain existing hardware.

1.03 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. Hardware List: Submit a complete hardware list showing the hardware groups, quantities, types, manufacturers, catalog numbers, finish samples and locations of the various articles of hardware required. Hardware groups will be referenced to door numbers which are shown on the Drawings.
 - 1. Hardware will not be ordered until hardware list has been approved and returned.
 - 2. Engineer's approval of hardware list will not be construed as certifying that this list is complete.
- C. Close-Out Documentation Samples:
 - 1. Provide manufacturers' warranty.
 - 2. Provide operation and maintenance instructions to each property owner with new door hardware.
- D. Samples:
 - 1. Submit full-size operating hardware when requested by the Engineer. If substitution is requested, submit both the specified item and the proposed substitute.
 - 2. Samples will be returned if requested by the Contractor.

1.04 QUALITY ASSURANCE

Finish hardware will comply with applicable building codes and security codes.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Hardware will be delivered so that the Work on the Project may progress without delay or interruption.
- B. Each article of hardware shall be individually packaged in manufacturer's original container, properly marked or labeled in conformity with the approved hardware list.
- C. Templates: Furnish templates required by manufacturers of doors and frames to enable frame and door manufacturers to make proper provisions to receive hardware.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. General Requirements :
 - 1. This Section is intended to specify hardware for all doors in the Project and establish a type and standard of quality , but it is the responsibility of the Contractor to furnish proper hardware for all openings ,whether specified or not.
 - 2. If there are omissions or discrepancies in hardware groups, they shall be called to the attention of the Engineer when the hardware list is submitted.
 - 3. No extra cost will be allowed because of changes or corrections necessary to facilitate the proper installation of any hardware.
 - 4. All locksets and deadbolts for a building shall be from the same manufacturer.
- B. Hinges: Stanley or approved equal. Widths shall be sufficient to clear trim projection when door swings 180 degrees. Hinge pins at out swinging exterior doors shall be non-removable. Hinge screws shall be countersunk flat-head wood screws not less than 1-1/2 inches long .
- C. At 1-3/8 Inch Thick Doors (3'-0" x 6'-8"):1-1/2 pair per door, size 4-1/2 inches x 4-1/2 inches. Unless otherwise noted in "General Hardware Notes" on drawings, furnish and install Cylindrical Locksets and Latch sets as noted on "Door Hardware Modifications" schedule: Corbin-Russwin. Yale, Sargent, or approved equal, meeting ANSI A156.2 Series 4000, Grade 2, Entry lockset ANSI F81 or F109. Knob shall be Corbin-Russwin (4400 Series, GWC Design), Yale (4300 Series, Carolina Design), Sargent

(6 Line, 6G05, OB Design) or approved equal, with 2- 3/8 inch or 2-3/4inch backset.

D. Single Cylinder Deadbolts: Corbin-Russwin, Yale. Sargent, meeting ANSI

A 156.5, Grade 2, or approved equal, unless existing is reused. Backset shall be 2-3/8 inches, throw shall be 1 inch. Series and designs to match lockset/latchset. Miscellaneous Hardware: The following items or approved equal. Not all of the following items may be required.

1. Thresholds:

- a. Exterior Doors: Pemko 114A, Pemko 1148, Pemko 1140 or Pemko 114G.
- b. Interior Doors: Pemko 173A, Pemko 1730 or Pemko 173G.

2. Door Shoes:

- a. Exterior Doors: Pemko 216AV, Pemko 216DV, Pemko 216GV or Pemko 216PWV.
- b. Interior Doors: Pemko 220AV. Pemko 220DV or Pemko 220GV.

3. Weather-strips: Pemko 303AS, Pemko 303DS. Pemko 303GS or Pemko 303PWS.

4. Rain Drip: Pemko 346C, Pemko 3460, Pemko 346G or Pemko 346PW.

5. Door Stop: Ives 64-MB3 or Ives 64-MB26D.

F. Fasteners: Furnish necessary screws, bolts, nuts and other items as required or suitable types and sizes.

- 1. Fasteners shall match hardware material and finish.
- 2. Furnish required wedge anchors and other anchors as recommended by the hardware manufacturer.
- 3. Furnish machine screws for hardware fastened to concrete.

G. Keys and Keying:

- 1. Key all new locksets and deadbolts alike at each living unit, and key locksets and deadbolt at each living unit differently from all other living units. Master key new locksets and deadbolts in each building.
- 2. Furnish two sets of keys for new locksets and deadbolts and two

master keys per building to property owner.

- H. Hinge Lockset and Deadbolt Finishes: Unless shown otherwise on the Drawings under "Door Hardware Modifications" or "Miscellaneous Modifications" provide hardware finishes to match existing hardware. Finishes indicated on the Drawings are:

1. Hinge Finishes:
 - a. Bright Brass 605 (US3).
 - b. Satin Chrome: 626 (US26D).
 - c. Bright Chrome: 625 (US026).
 - d. Oil-Rubbed Bronze: 613 (US10B).
2. Lockset and Deadbolt Finishes:
 - a. Bright Brass: 605 (US3).
 - b. Satin Chrome: 626 (US260).
 - c. Bright Chrome: 625 (US026).
 - d. Oil-Rubbed Bronze: 613 (US10B).

PART 3 – EXECUTION

3.01 INSTALLATION APPLICATION

- A. Finish hardware shall be neatly and properly installed in accordance with the best practices as prescribed by the manufacturer. Where existing hardware is reused, salvage, clean and reinstall existing hardware in accordance with accepted trade practices. Rain Drip: Install rain drip in bed of silicone sealant, using fasteners of adequate length to attach rain drip securely.
- B. Items of hardware not definitely specified herein, but necessary for completion of the Work shall be provided at no additional cost. Such items shall be the type and quality suitable for the service required and comparable to adjacent hardware.
- C. Hardware specified herein is for typical door conditions. If conditions at certain doors are not typical, provide hardware of the same quality suitable for such conditions, with specified operational and functional features, and with the same finish. Sizes shall be adequate for service to which articles of hardware shall be subjected in course of normal use. Such hardware

will be subject to approval of the Engineer and shall be provided at no additional cost.

3.02 CLEANING

At completion of the Work, all protective coverings shall be removed and all hardware shall be cleaned and polished.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
08710.1	Door Hardware	Lump Sum

END OF SECTION

DIVISION 9 – FINISHES

SECTION 09290 - GYPSUM BOARD

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 SUMMARY

Section Includes: Furnishing and installing gypsum board, complete with all related accessories and fasteners.

1.03 QUALITY CONTROL

- A. Manufacturers: Gypsum board throughout the Project, including accessories and fasteners, shall be produced by one manufacturer.
- B. Codes and Standards: Work shall comply with the applicable requirements of Gypsum Association publication GA-216, "Recommended Specifications for the Application and Finishing of Gypsum Board," and the Uniform Building Code, Chapter 25.
- C. Construction Tolerances:
 - 1. Gypsum board surfaces shall have no measurable variation in any 2-foot direction and a maximum variation of 1/16-inch in 10-foot 0-inches when a straight-edge is laid on the surface in any direction.
 - 2. Shim Work as required to comply with specified tolerances.
 - 3. Do not exceed 1/16-inch offset between planes of abutting sheets at edges or ends.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Store materials inside under cover and stack flat.
- B. Stack gypsum board so that longer lengths are under shorter lengths. Gypsum board shall not be stored or stacked on floors of new Work in excess of forty pounds per square foot equivalent loading.

1.05 PROJECT CONDITIONS

- A. Environmental Conditions:

1. Temperature: During cold weather, in areas receiving gypsum board installation, maintain temperature range between 55 degrees and 70 degrees F for (24) hours before, during and after gypsum board and joint treatment application.
2. Ventilation:
 - a. Provide ventilation during and following adhesives and joint treatment applications.
 - b. Use temporary air circulators in enclosed areas lacking natural ventilation.
 - c. Under slow drying conditions allow additional drying time between coats of joint treatment.
 - d. Protect installed materials from drafts during hot, dry weather.

B. Protection: Protect adjacent surfaces against damage and stains.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Gypsum Board: U.S. Gypsum, National Gypsum, Dotmar Gypsum or approved equal.
1. Regular Board:
 - a. ASTM C 36 or FS SS-L-30, Type III, Grade R, Class 1.
 - b. Thickness: 1/2-inch, unless shown otherwise.
 2. Water-Resistant Regular Board:
 - a. ASTM C 630.
 3. Thickness: 1/2-inch, unless shown otherwiseFire-Rated Board: As required by applicable code, 5/8 inch and 1 inch thickness.
- B. Fasteners:
1. Phillips head screws with bugle shape, Type W at wood framing.
 2. Sizes of fasteners shall be as required by code and as recommended by gypsum board manufacturer
- C. Metal Reinforcements, Channels and Casing: Electro-galvanized.
1. Exterior Corner: 1-inch x 1-inch flange: USG #101 Dur-A-Bead or

- approved equal.
- 2. Intersection of Wallboard with Dissimilar Material: USG #200-B metal trim or approved equal.
- D. Gypsum Board Joint Treatment Materials:
 - 1. Joint Tape:
 - a. ASTM C 475 or FS SS-J 570, Type II.
 - b. Perforated Tape.
 - 2. Joint and Finishing Compound:
 - a. ASTM C 475 or FS SS-J-570, Type I.
 - b. Ready-mixed joint compounds.
 - c. All-purpose joint compound.
 - d. U.S. Gypsum W/R Compound for water-resistant board.
 - 3. Pre-fill Joint Compound:
 - a. ASTM C475 or FS SS-J-570, Type I.
 - b. Powdered joint compound.
- E. Mechanical Access Panels: As required for access to mechanical equipment.
 - 1. Resilient Channels and Metal Studs: 2-1/2 inch structural stud, 20 gauge, ClarkDietrich Building Systems.
 - 2. RC Deluxe Resilient Channel. ClarkDietrich Building Systems

PART 3 – EXECUTION

3.01 INSPECTION

- A. Check framing for accurate spacing and alignment.
- B. Verify that spacing of installed framing does not exceed maximum allowable for thickness of board to be used.
- C. Do not proceed with installation until deficiencies are corrected and surfaces are acceptable.
- D. Protrusions of framing, twisted framing members, or unaligned

members must be repaired before installation of wallboard is started.

3.02 INSTALLATION

- A. Work shall comply with all applicable requirements of GA-216, except where more stringent requirements are specified herein, by local codes, or by manufacturer of board.
 - 1. Apply water-resistant gypsum board at locations exposed to water.
 - 2. Construct all gypsum board enclosures, shafts, furring and suspended ceilings indicated on Drawings, to conceal ducts and pipes installed for this Project. Install components of suspended ceilings and fire-rated assemblies in accordance with requirements of applicable codes.
- B. Attach boards with fasteners as specified here in.
- C. Apply boards with long dimension perpendicular to framing members with all abutting ends and edges over supports.
- D. Neatly fit and stagger all end joints.
- E. Brush cut edges and penetrations of water-resistant board with thinned water resistant CN/R) compound.
- F. Make joints occur on different studs at opposite sides of partition.
- G. Cut and fit neatly around an outlets and switches. Erection technique shall result in plumb and straight surfaces with no waves or buckles, free of unevenness at joints.
- H. Installation of Gypsum Board Fasteners:
 - 1. Space fasteners as required by code.
 - 2. Screws: Spaced not more than 16-inches at walls, 12-inches at ceiling.
 - 3. Modify fastener spacing as recommended by gypsum board manufacturer and as required to comply with fire-rating requirements.
 - 4. Do not locate fasteners less than 3/8-inch from edges or ends of sheets.
 - 5. Space fasteners in accordance with GA-216 recommendations.

6. Drive screws with power screwdriver recommended by gypsum board manufacturer.
 7. Do not hammer-drive screws.
 8. Do not break through paper surface of gypsum board.
 9. Set fastener heads slightly below surface of gypsum board, but not break or strip paper face around fastener.
 10. Stagger fasteners opposite each other on adjacent ends or edges.
 11. Omit fasteners at edges where metal edge trim will be installed.
- I. Metal Trim:
1. Apply trim at all exterior corners and at interior corners where gypsum board intersects metal or other dissimilar material.
 2. No splicing permitted.
 3. Run trim straight and square with all planes.
- J. Remove and replace sheets damaged in handling or installation.
- K. For conditions not specified or shown on the Drawings, follow procedures recommended by U.S. Gypsum Company.

3.03 Leave surfaces in a clean condition, ready for taping and painting.

3.03 TEXTURED FINISHING

- A. Surface Preparation and Primer: Prepare and prime drywall and other surfaces in strict accordance with texture finish manufacturer's instructions. Apply primer to all surfaces to receive texture finish.
- B. Finish Application : Mix and apply finish to drywall and other surfaces to receive finish in strict accordance with manufacturer's instructions to produce uniform texture, without starved spots or other evidence of thin application and free of application patterns. Provide base coat of textured finish on rebuilt ceiling with textured finish. Apply a prime coat over rebuilt, existing ceiling.
- C. Remove all texture drippings or over spray from doors, windows, frames, walls, floor and other adjoining construction.

3.04 TAPING AND FINISHING

- A. Mix joint and finishing compounds in accordance with manufacturer's

directions.

- B. Center tape over joint and embed in uniform layer of joint compound of sufficient width and depth to provide firm and complete bond.
 - 1. Apply skim coat while embedding tape.
 - 2. At water-resistant gypsum board, fill all fastener heads, penetrations, and joints with water-resistant f>N/R) compound.
- C. Treat angles with reinforcing tape folded to conform to adjacent surfaces and straight, true angles.
- D. Provide minimum twenty-four (24) hours drying time between applications of compounds.
- E. Apply coat of finishing compound over Joint compound and tape.
 - 1. Spread evenly and feather out beyond edge of gypsum board.
 - 2. After first finishing coat is thoroughly dry, cover with second coat with edges feathered out slightly beyond the preceding coat.
- F. Give all dimples at fastener heads and all marred spots on surface of gypsum board one coat joint compound and two coats finishing compound, applied in same manner as for joints specified above.
- G. Conceal flanges of metal reinforcement with minimum two coats compound. Compound shall extend 8-inches to 10-inches each side of metal nosing.
- H. After each application of joint or finishing compound has dried, lightly sand joints. Leave gypsum board and treated areas uniformly smooth and ready for painting or other decoration.
- I. Provide fire taping only at joints of unexposed gypsum board application.
- J. Texture Finish: Apply to match texture on existing adjacent surfaces.

3.05 CLEAN-UP

Before Substantial Completion and at least two days after final mudding and sanding, "vacuum clean" all areas (not just work areas) where dust has settled.

3.06 PROTECTION OF WORK

Provide final protection and maintain conditions, in a manner suitable to Engineer, which ensures Work is without damage or deterioration at the time of

Substantial Completion.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
09290.1	Gypsum Board	Lump Sum

END OF SECTION

SECTION 09910 – PAINTING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 SUMMARY

Section Includes: Furnishing of materials and equipment and completion of painting and painter's finish on exposed exterior and interior surfaces as required to complete finishing of the Work.

1.03 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. Product Data:
 - 1. Submit a complete list of materials proposed for use, together with manufacturer's specifications.
 - 2. Paint materials and products will be subject to the Engineer's approval.

1.04 QUALITY ASSURANCE

- A. Each completed painted surface shall have a uniform, finished appearance.
- B. Touch-up painting will not be permitted unless approved by the Engineer.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver sealed containers with labels legible and intact.
- B. Storage of Materials:
 - 1. Store only acceptable Project materials.
 - 2. Store in a secure location. No items shall be stored within the property owner's premises.
 - 3. Restrict storage to paint materials and related equipment.
 - 4. Comply with health and fire regulations.

1.06 PROJECT CONDITIONS

- A. Environmental Requirements:
 - 1. Comply with manufacturer's recommendations as to environmental conditions under which coatings and coating systems can be stored and applied.
 - 2. Do not apply finish in areas where dust is being generated.
- B. Protection: Cover or otherwise protect finish Work of other trades and surfaces not being painted concurrently or not to be painted.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Products specified are as manufactured by Sherwin-Williams, Mautz, Pittsburg Paints, Valspar, Glidden, Benjamin Moore, or approved equal.
- B. Materials selected for coating systems for each type surface shall be the product of a single manufacturer.
- C. Materials for General Use:
 - 1. Thinner: As recommended by each manufacturer for their respective product.
 - 2. Linseed Oil: Pure first quality, conforming to Federal Specification TT-0-364 or ASTM D 260.
 - 3. Putty: Pure linseed-oil putty of standard manufacture, with sufficient varnish; thoroughly mixed to prevent the possibility of shrinkage. Color will match the final finish of adjoining surfaces.
 - 4. Turpentine: FS TT-T-801.
 - 5. Shellac: Type I, bleached, No. 4, cut with pure grain alcohol, conforming to Federal Specifications TT-V-916 or ASTM D 207.
- D. Primer: As specified in this Section for each painting system.
Unsuitability of Specified Products: Claims concerning unsuitability of any material specified (or his inability to satisfactorily produce the Work) will not be entertained, unless such claim is made in writing to the Engineer before the Work is started.

2.02 COLORS

- A. Color and sheen of new paint shall match color and sheen of existing paint on same or adjacent surface.

- B. The Engineer will be the sole judge of the acceptability of colors.

2.03 MIXING AND TINTING

- A. Deliver paints ready mixed to the job site.
- B. Accomplish job mixing and job tinting only when acceptable to the paint manufacturer.
- C. Mix only in mixing pails placed in suitably sized nonferrous or oxide-resistant metal pans.
- D. Use tinting colors recommended by manufacturer for specific type of finish.

PART 3 – EXECUTION

3.01 INSPECTION

- A. Examine surfaces scheduled to receive paint and finishes for conditions that will adversely affect execution, permanence, or quality of Work and that cannot be put into acceptable condition through preparatory Work as included in Article 3.02, "Preparation of Surfaces". Repair and patch existing surfaces as required. New Work shall match existing.
- B. Do not proceed with surface preparation or coating application until conditions are suitable.

3.02 PREPARATION OF SURFACES

- A. Metals:
 - 1. Remove mill scale, rust, and corrosion.
 - 2. Clean oils, grease, and dust from surfaces using mineral spirits. Touch up all chipped or abraded areas in shop coatings using appropriate primer.
 - 3. Galvanized surfaces shall be brushed with a wash coat made by dissolving 8 ounces copper acetate or copper sulfate in 1 gallon of water.

B. Stucco:

1. Patch to match existing, where existing finish is disturbed for new Work. Fill cracks and irregularities with grout or patching mortar to provide uniform surface texture.
2. Surfaces shall not be painted until they have completely cured and have a stabilized moisture content, within limits recommended by paint manufacturer.
3. Where stucco is patched on two or more openings of the same wall plane, that entire wall shall be repainted.

C. Gypsum Board or Plaster:

1. Patch to match existing, where existing finish is disturbed for new Work. Fill narrow cracks and small holes with spackling compound.
2. Sand smooth after drying; do not raise nap of paper on board.
3. Where gypsum board or plaster is patched on two or more openings of the same wall plane, that entire wall shall be repainted.

D. Wood:

1. Fill nail holes, cracks, open joints and other defects with filler.
2. Sand to smooth and even surfaces.
3. Prior to the installation of new Work, prime-paint existing exterior wood sills, millwork, trim and wood surfaces exposed by the removal of existing doors and windows, or damaged by installation of new Work. Use primer specified for the applicable exterior wood painting system.

E. Surfaces that cannot be prepared or painted as specified shall be immediately brought to the attention of the Engineer in writing.

1. Starting Work without such written notification shall be considered acceptance by the Contractor of surfaces involved.
2. The Contractor shall replace unsatisfactory work caused by improper or defective surfaces, as directed by the Engineer, at no additional cost to the State.

3.03 APPLICATION

- A. Do not apply initial coating until moisture content of surface is within limitations recommended by paint manufacturer.

- B. Painting:
1. Apply paint with suitable brushes, rollers, or spraying equipment.
 2. Rate of application shall not exceed that as recommended by paint manufacturer for surface involved.
 3. Apply prime paint to all new wood surfaces prior to installation. All surfaces shall include surfaces to be concealed by construction.
- C. Comply with recommendation of product manufacturer for drying time between succeeding coats.
- D. Finish coats shall be smooth and free from brush marks streaks, laps or pile-up of paints, and skipped or missed areas.
- E. Leave all parts of moldings and ornaments clean and true to details with no undue amount of paint in corners and depressions.
- F. Make edges of paint adjoining other materials or colors clean and sharp with no overlapping.
- G. When repainting existing surfaces, paint entire surface to natural break, such as corner or joint. Repaint entire door frame and window frame; touch-up shall not be accepted.
- H. Hardware, hardware accessories, plates, lighting fixtures, and similar items in place shall be removed prior to painting and replaced upon completion of each space.
- I. Items adjacent to walls shall be disconnected by workers skilled in the appropriate trades, and moved to permit surfaces to be painted. Following completion of painting, items shall be expertly replaced and reconnected. Paint doors with prime and finish coats on all six sides and cutouts.

3.04 CLEANING

- A. Clean, prime, touch up and restore prime coat and/or finish where damaged.
- B. Remove spilled, splashed, or spattered paint from all surfaces.
- C. Do not mar surface finish or item being cleaned.
- D. Premises shall be left in exact condition as found.

3.05 PAINT SYSTEMS

- A. General: All exposed surfaces of new materials shall be shop painted,

except as specified under "Surfaces Not to Be Painted". All concealed surfaces of new exterior materials shall be primed. Prime coat may be omitted when painting over existing paint.

1. Interior paint systems are specified and identified herein by letter and exterior paint systems by number.
2. All materials in any one system shall be products of one manufacturer.
3. Miscellaneous items and areas within a room or space shall be treated with suitable system.
4. This Specification shall serve as a guide and is meant to establish procedure and quality; confer with the Engineer to determine exact finish desired.
5. Number of coats scheduled is minimum. Additional coat shall be applied at no additional cost if necessary to completely hide base material, produce uniform color, and provide satisfactory finish results.

B. Surfaces Not To Be Painted:

1. Items with factory-applied final finish.
2. All pipes and conduit.
3. Concrete or wood surfaces except where specifically noted on the Drawings to be painted.
4. Wall-mounted shelving, hooks, electrical cover plates.

C. Approval of Final Colors: Final coat of paint shall not be accepted until approved by the Engineer.

D. Interior Painting Systems:

1. System A - Flat Finish on Gypsum Board
1 coat W 101 Pigmented Sealer
2 coats W 401 Acrylic Copolymer
2. System B - Eggshell Finish on Gypsum Board
1 coat W 101 Pigmented Sealer
2 coats W 440 Acrylic Enamel
3. System C - Semi gloss Finish on Gypsum Board

1 coat W 101 Pigmented Sealer
2 coats W 450 Acrylic Enamel

4. System D - Semi gloss Finish on Wood

1 coat W 707 Enamel Undercoat
2 coats W 450 Acrylic Enamel

5. System E - Transparent Finish on Wood

1 coat V 108 Stain
1 coat V 161 Sealer
2 coats V 163 Varnish

E. Exterior Painting Systems:

1. System 1 - Flat Finish on Cement Plaster

1 coat W 718 Epoxy Primer
2 coats W 701 Acrylic Latex

2. System 2 - Semi gloss Finish on Galvanized Metal

1 coat 4-7 Primer (Omit where factory primed)
2 coats W 901 Acrylic Latex Enamel

3. System 3 - Semi gloss Finish on Ferrous Metal 1 coat 43-5 Primer

2 coats W 901 Acrylic Latex Enamel.

4. System 4 - Semi gloss Finish on Wood

1 coat W 708 Acrylic Primer
2 coats W 901 Acrylic Latex Enamel

5. System 5 - Transparent Finish on Wood

1 coat V 108 Stain
1 coat V 161 Sealer
2 coat McCloskey "Man O'War" 6507 Marine
Spar Varnish with UV!

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
09910.1	Painting	Lump Sum

END OF SECTION

DIVISION 10 - SPECIALTIES

SECTION 10520 – FIRE PROTECTION DEVICES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 SUMMARY

Section Includes: Furnishing and installing miscellaneous specialties.

1.03 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. Product Data: Manufacturer's catalog cuts and data sheets, complete parts list, and installation requirements for each item specified.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver items in manufacturer's original unopened protective packaging.
- B. Store materials in original protective packaging to prevent soiling, physical damage, or wetting.
- C. Handle so as to prevent damage to finished surfaces.
- D. Protection:
 - 1. Maintain protective covers on all units until installation is complete.
 - 2. Remove protective covers at final cleanup of installation.

1.05 PROJECT CONDITIONS

Coordinate submissions of installation instruction so that backing, blocking, framing, and formwork can be properly installed and Work of other trades will not be delayed.

PART 2 - PRODUCTS

2.01 SPECIALTIES

- A. Smoke Detector: Battery powered multi-purpose ionization unit with alarm as manufactured by Kidde Safety, BRK Brands Inc., First alert or equal.

1. Features: Low battery beeping signal, capability to test for proper operation.
2. Meets Underwriters Laboratories (UL) 217 Standard.
3. Approved by the California State Fire Marshall.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Check areas to receive specialties for conditions that would affect quality and execution of Work.
- B. Verify spacing of items that affect installation of specialties.
- C. Do not begin installation of specialties until conditions are acceptable.

3.02 INSTALLATION

- A. Install specialties where indicated in the "Miscellaneous Modifications". Install in accordance with manufacturer's recommendations.
 1. Smoke Detector: Provide in each building included in this Contract in locations shown on floor plans. Install in accordance with manufacturer's recommendations and code requirements.
 - a. Prior to final inspection, test all existing smoke detectors for proper operation. If any fail to operate, submit written proposal for cost (Change Request) to make smoke detectors operable to State Engineer.
 - b. When directed by Change Order, perform work necessary to make all inoperable existing smoke detectors operable.

3.03 ADJUST AND CLEAN

- A. Adjust specialties for proper operation.
- B. After completion of installation, clean and polish all exposed surfaces of specialties and adjacent surfaces affected by the installation.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
10520.1	Miscellaneous Specialties	Lump Sum

END OF SECTION

DIVISION 13-SPECIAL CONSTRUCTION

SECTION 13280 – HAZRDOUS MATERIAL REMEDIATION

PART 1- GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the Contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 DESCRIPTION

This item of work shall include the furnishing of all labor, materials, tools and equipment necessary for preparation of the project site; disposal procedures; and removal or stabilization of building components coated with deteriorated lead containing paint. Work shall be performed in accordance with applicable State of Hawaii Department of Health (DOH), Environmental Protection Agency (EPA), United States (U.S.) Department of Transportation (DOT) and the Occupational Safety and Health Administration (OSHA) regulations. Lead work is regulated by OSHA 29 CFR 1926.62; State of Hawaii Occupational Safety and Health (HIOSH) 12-148.1; and EPA 40 CFR 261. Specifically, this item of work shall include the special provisions for handling and disposal of potentially hazardous materials such as lead-based paint (LBP), and lead containing paint at the Keaukaha Subdivision site.

The abatement contractor shall furnish all labor, materials, services, insurance, equipment, and decontamination facilities to carry out the work identified in these special provisions. All work shall be supervised by persons experienced in asbestos and lead abatement. During all phases of work, the abatement contractor shall have at least one supervisory employee currently certified by DOH per work area. All work shall be performed by employees currently certified by DOH as certified lead workers as specified in Hawaii Administrative Rules (HAR) 11-41.

Keaukaha Subdivision site: Areas sampled for suspect LBP include all interior/exterior portions and painted surfaces of the selected houses located at the Keaukaha Subdivision site.

1.03 SUBMITTALS

- A. Submit in accordance with Section 01300 – SUBMITTALS
- B. Individual written letter reports describing sampling methodology, laboratory results, recommendations, and a photo log of the sample locations and affected areas if present.
- C. Contractor work plan, including review, comment and back check.
- D. Lead abatement worker certification forms.

1.04. LBP HANDLING

- A. The United States Environmental Protection Agency (EPA) and the Department of Housing and Urban Development (HUD) define LBP as paint or other surface coatings containing lead levels equal to or greater than (\geq) 1.0 milligrams per square centimeter (mg/cm^2) or 0.5 percent by weight (other equivalent units are: 5,000 micrograms per gram [$\mu\text{g}/\text{g}$], 5,000 milligrams per kilogram [mg/kg], 5,000 parts per million [ppm] by weight). Lead-containing paint (LCP) is paint containing lead at any level less than ($<$) 5,000 mg/kg . The EPA Resource Conservation and Recovery Act (RCRA) regulations set the limit of leachable lead in lead-containing waste at 5.0 milligrams per liter (mg/l). This level is established by an analytical method called Toxicity Characteristic Leaching Procedure (TCLP). Waste that contains leachable lead at concentrations $\geq 5.0 \text{ mg}/\text{l}$ is defined as hazardous waste and must be transported to a hazardous waste treatment, storage, or disposal (TSD) facility. Lead-containing waste or potential waste shown to have a total lead content $\geq 100 \text{ mg}/\text{kg}$ may exceed the RCRA TCLP standard for leachable lead, and must be analyzed by TCLP prior to disposal. Thus, while the EPA does not regard work performed on paint containing 5,000 mg/kg to be a LBP activity, the waste from such activities may still be regarded as hazardous under RCRA.
- B. According to 40 Code of Federal Regulation (CFR) 745, the EPA clearance standard for maximum allowable residual lead dust on floor surfaces is 40 micrograms per square foot ($\mu\text{g}/\text{ft}^2$). The EPA clearance standards for maximum allowable residual lead dust on window sills and troughs are 250 $\mu\text{g}/\text{ft}^2$ and 400 $\mu\text{g}/\text{ft}^2$, respectively. Lead in surface dust can come from weathering and chipping of LBP, renovation, and demolition activities that break a surface painted with LCP (e.g., scraping, sanding), and abrasion on doors and windows.

- C. Lead soil contamination can result when lead paint becomes dislodged from building materials and enters the surrounding soils. In order to characterize potential soil lead contamination, the State of Hawaii Department of Health (HDOH) recommends utilization of the multi-increment (MI) sample collection. The MI sampling procedure reduces data variability and increases reproducibility. As a result, soil contamination in a decision unit (DU) can be characterized with a high degree of confidence and appropriate actions can be taken (HDOH, 2011).

The HDOH has established an Environmental Action Level (EAL) for lead in soil. The HDOH EAL for lead in soil is 200 mg/kg for unrestricted land use activities.

2 BEDROOM HOUSE RENOVATION

LEAD-PAINT SURVEY

1.05 **PAINT CHIP SAMPLE COLLECTION**

A. Methodology

1. Environet collected fourteen (14) paint chip samples from painted surfaces of the Site in accordance with the EPA guidelines and recommendations (figure 2). Each paint chip sample consisted of an approximately two- to four-inch square section of paint scraped off the building material with a paint scraper and placed in a labeled, re-sealable plastic bag. The samples were then placed into a second re-sealable plastic bag for storage. Sampling equipment was cleaned between each sample to avoid cross-contamination. The conditions of the potentially lead-containing material were noted.
2. The samples were logged and recorded following strict chain-of-custody (COC) procedures and submitted to Hawaii Analytical Laboratories, Inc. (HAL) for analysis by atomic adsorption spectrometry (AAS) using EPA Method 7082M. HAL is accredited for lead analysis in paint chips through the American Industrial Hygiene Association (AIHA Environmental Lead Proficiency Analytical Testing (ELPAT) Program.

B. Results

1. None of the paint chip samples contained concentrations of lead in

excess of the EPA/HUD guideline of 5,000 mg/kg, the definition of LBP. However, three (3) of the 14 paint chip samples contained concentrations of lead at levels <5,000 mg/kg, above the laboratory reporting limit (RL), and therefore are considered to be LCP. The lead levels detected below 5,000 mg/kg, above the laboratory RL are summarized below:

Sample ID	Location	Component	Substrate	Color	Result (mg/kg)	Reporting Limit (mg/kg)
82Andrews-L5	Main Entrance	Stairs	Concrete	Red/Gray	500.0	39.0
82Andrews-L8	Exterior Roof	Fascia	Wood	Gray	65.0	39.0
82Andrews-L10	Main Entrance	Stairs	Wood	Gray	110.0	39.0

Notes:

mg/kg = milligrams per kilogram

ID = identification

1.06 DUST WIPE SAMPLE COLLECTION

A. Methodology

1. Environet collected four (4) dust wipe samples at the Site to identify those locations where lead dust hazards may exist, as well as one (1) blank wipe sample for quality control purposes. Upon arrival, a visual inspection was performed in order to assess conditions that could result in exposure to LBP. Lead dust sampling was performed in accordance with 40 CFR 745 and the EPA Lead Dust Sampling Technician Field Guide (2009; EPA-W-04-022). Federal and State regulations define the following as threshold levels for lead dust in residence: 40 µg/ft² for floors; 250 µg/ft² for window sills; and 400 µg/ft² for window troughs (CRF, 2004).
2. Ghost Wipes and pre-measured 1 square foot (144 square inches) frame/template were used to wipe the prescribed floor surface area for each dust wipe sample. The window sill surface wipe area for each window sill was measured and wiped according to varying size of the window sills at the Site. Wipe area measurements were documented and noted for laboratory reporting purposes.
3. Each sample was placed into a sealable 50-milliliter (ml) plastic tube, properly labeled and recorded following strict COC procedures, and submitted to HAL for analysis by AAS using EPA Method 7082M. HAL is accredited for lead analysis in dust wipe

samples through AIHA ELPAT Program.

B. Results

1. Lead was detected at a concentrate equal to or exceeding the laboratory RL in two (2) of the samples collected at the Site; however, the detections did not exceed the regulatory limit. Lead was not detected at or above the reporting limit in the blank wipe sample (Table 2). (See Division 1, Section 01715, Attachment; Lead-Based Paint Survey Inspection Pgs. 1-48)

1.07 SOIL SAMPLE COLLECTION

A. Methodology

1. Four (4) DUs were defined for the investigation at the Site (Figure2). According to sampling theory (Pitard, 1993) and HDOF (2011), a minimum of 30 increment samples per DU is generally recommended in order to obtain a reliable estimate of mean concentration in a given DU. Thirty (30) incremental surface soil samples were randomly collected within each DU (Figure 2). (See Division 1, Section 01715, Attachment; Lead-Based Paint Survey Inspection Pgs. 1-48)
2. At each increment soil sample location, a uniform mass of soil was taken and then placed directly into a double-bagged Ziploc® bag. The samples were then delivered to HAL for analysis of total lead using EPA Method 7000B. Following HDOH guidance, a triplicate sample was collected as a field quality control method, the results of which were within acceptable agreement with the primary sample shown in Table 2. (See Division 1, Section 01715, Attachment; Lead-Based Paint Survey Inspection Pgs. 1-48)

B. Results

1. Four primary MI samples consisting of 30 increments, along with a duplicate and triplicate sample, were collected at the Site. Lead levels detected in two of the four all samples were above the HDOH EAL for unrestricted land use (Table 3). This suggests that the surface soil is contaminated with lead at levels above the HDOH EAL at the Site. (See Division 1, Section 01715, Attachment; Lead-Based Paint Survey Inspection Pgs. 1-48)

1.08 CONCLUSIONS AND RECOMMENDATIONS

- A. Environet collected representative samples of paint chips, dust wipes, and surface soil from the Site. Results indicated the following:
1. Three (3) paint chip samples collected from the Site contained concentration of lead at levels <5,000 mg/kg, and above the laboratory RL. Therefore, LBP is not present in painted surfaces at the Site, however LCP is present at the Site (Table 1).
 2. Lead dust was detected at a concentration equal to or exceeding the laboratory RL in two (2) of the dust wipe samples collected at the Site; however, the samples were not detected at or in exceedance of the regulatory limit (Table 2). (See Division 1, Section 01715, Attachment; Lead-Based Paint Survey Inspection Pgs. 1-48)
 3. Lead was detected at concentrations above the HDOH EAL for unrestricted residential use in all soil samples collected from the Site (Table 3; Figure 2).

(See Division 1, Section 01715, Attachment; Lead-Based Paint Survey Inspection Pgs. 1-48). Therefore, the surface soil is considered contaminated with lead at levels above the HDOH EAL.
 4. If suspect building components not yet sampled are discovered during renovations, they should be considered hazardous until proven otherwise by qualified lead paint contractor.
 5. Although the EPA does not require paint with lead to be removed prior to demolition or renovation activities, the United States Occupational Safety and Health Administration (OSHA) and Hawaii Occupational Safety and Health requirements still apply for the potential of worker exposure to any amount of lead that may be in the paint. Proper Engineering controls and monitoring by a qualified lead abatement contractor under controlled conditions is recommended if the tested building components undergo renovations.
 6. Demolished building materials must undergo TCLP sampling prior to disposal, in order to determine if they contain leachable lead at

concentrations equal to or greater than the RCRA limit of 0.5 mg/l. If the TCLP sampling reveals concentrations above 5.0 mg/l, the waste must be transported to a hazardous waste TSD facility. Lead-containing waste or potential waste shown to have a total lead content equal to or exceeding 100mg/kg may exceed the RCRA TCLP standard for leachable lead, and therefore must be analyzed by TCLP prior to disposal.

7. Results of the LBP survey were incorporated into a Limited Lead Risk Assessment Report. The Limited Lead Risk Assessment conducted for the Site is included as attachment 4 of this report. The Limited Lead Risk Assessment identifies lead hazards present at the Site, as well as recommendations to address these hazards. Abatement Cost estimates are presented in Attachment 7. (See Division 1, Section 01715, Attachment; Lead-Based Paint Survey Inspection Pgs. 1-48)

2 BEDROOM HOUSE RENOVATION

ASBESTOS SURVEY

1.09 INTRODUCTION/PURPOSE

The purpose of this Limited Asbestos Survey Report was to investigate the Residential Home located at 82 Andrews Avenue Keaukaha, Hilo, Hawaii (Subject Site) for asbestos materials that will require special handling prior to demolition/renovation activities. Specifically, ETC completed the following tasks:

Mobilized a State of Hawaii Department of Health (DOH)/Environmental Protection Agency (EPA) certified asbestos building inspector to the Subject Site;

Performed site reconnaissance at the Subject Site;

Collected eighteen (18) samples of suspected Asbestos Containing Material (ACM) from various locations throughout the Subject Site;

Submitted the eighteen (18) samples of suspected ACM to EMC Labs, Inc. (EMC) in Phoenix, Arizona for analysis of asbestos via Polarized Light Microscopy (PLM) in accordance with the Asbestos Hazard Emergency Response Act (AHERA) protocol and the National Institute for Occupational Safety and Health (NIOSH) Method 600/R- 93/116; and

Prepared this report documenting the field activities and the results of the

investigation including analytical results, conclusions, and recommendations.

1.10 METHODOLOGY

A. Asbestos

1. ETC personnel collected a total of eighteen (18) samples of suspected ACM for asbestos analysis. The suspected ACM samples were collected in accordance with EPA guidelines and recommendations.
2. The suspected ACM was wetted with amended water before sample collection. A small piece was then carefully cut out and placed into a labeled re-sealable plastic bag. The sampling equipment was cleaned between each sample collection to avoid cross-contamination between samples. The approximate quantity of each suspected ACM was noted. Sample locations were randomly selected in accordance with EPA protocols and recommendations.
3. Samples were properly logged and recorded following strict chain of custody procedure and submitted to EMC for analysis by PLM in accordance with EPA Method 600/R-93/116. EMC is accredited for bulk asbestos analysis through successful participation in the National Voluntary Lab Accreditation Program (NVLAP)

1.11 RESULTS

A. Asbestos Inspection

1. Laboratory analysis determined that the black soffit sealant with silver foil on the roof, contained levels of asbestos above the regulatory limit of 1%. The results of this analysis are contained in Table 1 found in Appendix I.
2. In accordance with federal and state regulations and industry standard practice ETC determined homogenous areas of each suspect material and collected multiple representative samples of the material from each homogenous area. Typically, all samples for a suspect material will have similar laboratory results. When the results differ, a single result above the regulatory limit is sufficient to determine that the material within the homogenous area is ACM

and the entirety of the homogenous area should be treated as ACM. Thus, ETC may request that the laboratory stops analyzing when the first sample in the set is determined to have an asbestos content above 1%. Two (2) samples were not analyzed for this reason.

1.12 RECOMMENDATIONS

Based on ETC's visual inspection of the facility, inventory of potentially hazardous materials, and laboratory data, ETC recommends the following:

Manage and/or remove and dispose of hazardous and regulated materials in accordance with applicable local, state, and federal regulations, prior to renovation and/or demolition activities that may disturb these materials.

All friable ACM must be removed and disposed of by a qualified asbestos abatement contractor. Friable ACM is defined as those materials that may be crumbled, pulverized, or otherwise damaged by hand pressure.

Any non-friable ACM which could be crumbled and pulverized during renovation/demolition activities must be removed and disposed of by a qualified asbestos abatement contractor.

In addition, the services of a qualified consultant should be obtained to monitor and inspect the removal activities to ensure compliance with applicable Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and Hawaii Occupational Safety and Health (HIOSH) regulations pertaining to the handling of asbestos containing material.

Have air monitoring conducted for airborne asbestos fibers by a State of Hawaii certified Project Monitor during any asbestos abatement and general renovation/demolition activities of areas that were determined to contain this contaminant.

3 BEDROOM HOUSE RENOVATION

LEAD-PAINT AND ASBESTOS SURVEY

1.13 INTRODUCTION/PURPOSE

- A. The purpose of this Limited Asbestos and Lead Paint Survey was to investigate the residential home located at 372 Desha Avenue Keaukaha, Hilo, Hawaii (Subject Site) for asbestos and/or lead paint that will require special handling prior to demolition /renovation activities. Specifically,

EnviroServices & Training Center (ETC) completed the following tasks:

- B. Mobilized a State of Hawaii Department of Health (DOH)/Environmental Protection Agency (EPA) certified asbestos building inspector and lead risk assessor to the Subject Site;
- C. Performed site reconnaissance at the Subject Site;
- D. Collected eighteen (18) samples of suspected Asbestos Containing Material (ACM) from various locations throughout the Subject Site;
- E. Submitted the eighteen (18) samples of suspected ACM to EMC Labs. Inc. (EMC) in Phoenix, Arizona for analysis of asbestos via Polarized Light Microscopy (PLM) in accordance with the Asbestos Hazard Emergency Response Act (AHERA) protocol and the National Institute for Occupational Safety and Health (NIOSH) Method 600/R- 93/ 116;
- F. Collected two (2) paint chip samples from the Subject Site;
- G. Submitted the paint chip samples to EMC for analysis via EPA Method 7000B for total lead content; and
- H. Prepared this report documenting the field activities and the results of the investigation including analytical results, conclusions, and recommendation.

1.14 METHODOLOGY

- A. Asbestos
 - 1. ETC personnel collected a total of eighteen (18) samples of suspected ACM for asbestos analysis. The suspected ACM samples were collected in accordance with EPA guidelines and recommendations.
 - 2. The suspected ACM was wetted with amended water before sample collection. A small piece was then carefully cut out and placed into a labeled re-scalable plastic bag. The sampling equipment was cleaned between each sample collection to avoid cross-contamination between samples. The approximate quantity of each suspected ACM was noted.
 - 3. Sample locations were randomly selected in accordance with EPA protocols and recommendations.

4. Samples were properly logged and recorded following strict chain of custody procedure and submitted to EMC for analysis by PLM in accordance with EPA Method 600/R-93/ 1 16. EMC is accredited for bulk asbestos analysis through successful participation in the National Voluntary Lab Accreditation Program (NVLAP).

A. Lead Paint

1. ETC personnel collected two (2) paint chip samples from the Subject Site accordance with EPA guidelines and recommendations.
2. The suspected leaded paint was wetted with amended water before sample collection. Paint was carefully scraped and placed into a labeled re-sealable plastic bag. The sampling equipment was cleaned between each sample collection to avoid cross-contamination between samples.
3. All samples were properly logged and recorded following strict chain of custody procedure and submitted to EMC for analysis in accordance with EPA Method 7000B.

1.15 RESULTS

A. Asbestos Inspection

1. Laboratory analysis determined that three (3) of the materials sampled contained levels of asbestos above the regulatory limit of 1 %. The results of this analysis are contained in Table I found in Appendix I. (Limited Asbestos and Lead Paint Survey pgs. 1-25)
2. In accordance with federal and state regulations and industry standard practice ETC determined homogenous areas of each suspect material and collected multiple representative samples of the material from each homogenous area. Typically, all samples for a suspect material will have similar laboratory results. When the results differ, a single result above the regulatory limit is sufficient to determine that the material within the homogenous area is ACM and the entirety of the homogenous area should be treated as ACM. Thus, ETC may request that the laboratory stops analyzing when the first sample in the set is determined to have an asbestos content above 1 %. Six (6) samples were not analyzed for this

reason.

B. Lead Paint Inspection

1. The sampled surfaces did not contain lead in excess of the EPA/United States Department of Housing and Urban Development (HUD) guideline of 0.5% by weight defining Lead-Based Paint (LBP) or lead above the laboratory detection limit and are considered to be non-lead containing paint. The lead paint survey results are recorded in Table 2, found in Appendix I. (Limited Asbestos and Lead Paint Survey pgs. 1-25)

1.16 RECOMMENDATIONS

- A. Based on ETC's visual inspection of the facility, inventory of potentially hazardous materials, and laboratory data, ETC recommends the following:

1. Manage and/or remove and dispose of hazardous and regulated materials in accordance with applicable local, state, and federal regulations, prior to renovation and/or demolition activities that may disturb these materials.
2. All friable ACM must be removed and disposed of by a qualified asbestos abatement contractor. Friable ACM is defined as those materials that may be crumbled, pulverized, or otherwise damaged by hand pressure.
3. Any non-friable ACM which could be crumbled and pulverized during renovation / demolition activities must be removed and disposed of by a qualified asbestos abatement contractor.
4. In addition, the services of a qualified consultant should be obtained to monitor and inspect the removal activities to ensure compliance with applicable Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and Hawaii Occupational Safety and Health (HIOSH) regulations pertaining to the handling of asbestos containing material.
5. Have air monitoring conducted for airborne asbestos fibers by a State of Hawaii certified Project Monitor and airborne lead by qualified personnel during any asbestos abatement

and general renovation/demolition activities of areas that were determined to contain this contaminant.

1.17 LBP DISPOSAL

- A. The EPA RCRA regulations set the limit of leachable lead in lead-containing waste at 5.0 mg/L. This level is established by an analytical method called TCLP.
- B. Waste that contains leachable lead at concentrations equal to or greater than the RCRA limit is defined as hazardous waste and must be transported to a hazardous waste TSO facility. Lead-containing waste or potential waste shown to have a total lead content equal to or exceeding 100 mg/kg may exceed the RCRA TCLP standard for leachable lead, and must be analyzed by TCLP prior to disposal. Thus, while the EPA does not regard work performed on paint containing less than 5,000 mg/kg to be a LBP activity, the waste from such activities may still be regarded as hazardous under RCRA.

1.18 HEALTH HAZARDS

- A. Description: Pure lead is a heavy metal at room temperature and pressure. A basic chemical element, it can combine with various other substances to form numerous lead compounds. Lead has been poisoning workers for thousands of years. Lead can damage the central nervous system, cardiovascular system, reproductive system, hematological system, and kidneys. When absorbed into the body in high enough doses, lead can be toxic. In addition, workers' lead exposure can harm their children's development.

Short-term (acute) overexposure (as short as days) can cause acute encephalopathy, a condition affecting the brain that develops quickly into seizures, coma, and death from cardiorespiratory arrest. Short-term occupational exposures of this type are highly unusual but not impossible.

Extended, long-term (chronic) overexposure can result in severe damage to the central nervous system, particularly the brain. It can also damage the blood-forming, urinary, and reproductive systems. There is no sharp dividing line between rapidly developing acute effects of lead and chronic effects that take longer to develop. Symptoms of chronic overexposure include:

1. Loss of appetite.
2. Constipation.
3. Nausea.
4. Excessive tiredness.
5. Headache.
6. Fine tremors.
7. Colic with severe abdominal pain.
8. Metallic taste in the mouth.
9. Weakness.
10. Nervous irritability.
11. Hyperactivity.
12. Muscle and joint pain or soreness.
13. Anxiety.
14. Pallor.
15. Insomnia.
16. Numbness.
17. Dizziness.

- B. Reproductive Risks: Lead is toxic to both male and female reproductive systems. Lead can alter the structure of sperm cells and there is evidence of miscarriage and stillbirth in women exposed to lead or whose partners have been exposed. Children born to parents who were exposed to excess lead levels are more likely to have birth defects, mental retardation, or behavioral disorders or to die during the first year of childhood.

Workers who desire medical advice about reproductive issues related to lead should contact qualified medical personnel to arrange for a job

evaluation and medical follow-up (particularly if they are pregnant or actively seeking to have a child). Employers whose employees may be exposed to lead and who have been contacted by employees with concerns about reproductive issues must make medical examinations and consultations available. Under certain limited circumstances, a physician may prescribe special drugs called chelating agent to reduce the amount of lead absorbed in body tissues. Using chelation as a preventive measure - that is, to lower blood level but continue to expose a worker - is prohibited and therapeutic or diagnostic chelations of lead that are required must be done under the supervision of a licensed physician in a clinical setting, with thorough and appropriate medical monitoring. The employee must be notified in writing before treatment of potential consequences and allowed to obtain a second opinion.

- C. Worker Exposure: Lead is most commonly absorbed into the body by inhalation. When workers breathe in lead as a dust, fume, or mist, their lungs and upper respiratory tract absorb it into the body. They can also absorb lead through the digestive system if it enters the mouth and is ingested. A significant portion of the lead inhaled or ingested gets into the bloodstream. Once in the blood stream, lead circulates through the body and is stored in various organs and body tissues. Some of this lead is filtered out of the body quickly and excreted, but some remains in the blood and tissues. As exposure continues, the amount stored will increase if the body absorbs more lead than it excretes. The lead stored in the tissue can slowly cause irreversible damage, first to individual cells, then to organs and whole body systems.
- D. Lead Usage: In construction, lead is used frequently for roofs, cornices, tank linings, and electrical conduits. In plumbing, soft solder, used chiefly for soldering tinplate and copper pipe joints, is an alloy of lead and tin. Soft solder has been banned for many uses in the United States. In addition, the Consumer Product Safety Commission bans the use of lead-based paint in residences. Because lead-based paint inhibits the rusting and corrosion of iron and steel, however, lead continues to be used on bridges, railways, ships, lighthouses, and other steel structures, although substitute coatings are available. Construction projects vary in their scope and potential for exposing workers to lead and other hazards. Projects such as removing paint from a few interior residential doors may involve limited exposure. Others projects, however, may involve removing or stripping substantial quantities of lead-based paints on large bridges and other structures.
- E. Most Vulnerable Workers: Workers potentially at risk for lead exposure

include those involved in iron work; demolition work; painting; LBP abatement; plumbing; heating and air conditioning maintenance and repair; electrical work; and carpentry, renovation, and remodeling work. Plumbers, welders, and painters are among those workers most exposed to lead. Significant lead exposures also can arise from removing paint from surfaces previously coated with lead-based paint such as bridges, residences being renovated, and structures being demolished or salvaged. With the increase in highway work, bridge repair, residential lead abatement, and residential remodeling, the potential for exposure to lead-based paint has become more common. Workers at the highest risk of lead exposure are those involved in:

1. Abrasive blasting.
2. Welding, cutting, and burning on steel structures.
3. Lead burning.
4. Using lead-containing mortar.
5. Power tool cleaning without dust collection systems.
6. Rivet busting.
7. Cleanup activities where dry expendable abrasives are used.
8. Movement and removal of abrasive blasting enclosures.
9. Manual dry scraping and sanding.
10. Manual demolition of structures.
11. Heat-gun applications.
12. Power tool cleaning with dust collection systems.
13. Spray painting with lead-based paint.

F OSHA's Lead Standard for the Construction Industry, Title 29 Code of Federal Regulations 1926.62, covers lead in a variety of forms, including metallic lead, all inorganic lead compounds, and organic lead soaps.

G Exposure Limits: The standard establishes maximum limits of exposure to lead for all workers covered, including a Permissible Exposure Limit (PEL)

and Action Level (AL). The PEL sets the maximum worker exposure to lead: 50 micrograms of lead per cubic meter of air (50 µg/m³ averaged over an eight-hour period. If employees are exposed to lead for more than eight hours in a workday, their allowable exposure as a TWA for that day must be reduced according to this formula: Employee exposure (in µg/m³)=400 divided by the hours worked in the day. The AL, regardless of respirator use, is an airborne concentration of 30 µg/m³ averaged over an eight-hour period. The AL is the level at which an employer must begin specific compliance activities outlined in the standard.

H Applicability to Construction: OSHA's lead in construction standard applies to all construction work where an employee may be exposed to lead. All work related to construction, alteration, or repair, including painting and decorating, is included. Under this standard, construction includes, but is not limited to:

1. Demolition or salvage of structures where lead or materials containing lead are present.
2. Removal or encapsulation of materials containing lead.
3. New construction, alteration, repair, or renovation of structures, substrates, or portions or materials containing lead.
4. Installation of products containing lead.
5. Lead contamination from emergency cleanup.
6. Transportation, disposal, storage, or containment of lead or materials containing lead where construction activities are performed.
7. Maintenance operations associated with these construction activities.

1.19 EMPLOYERS RESPONSIBILITIES

A. Worker Protections: Employers of construction workers are responsible for developing and implementing a worker protection program. At a minimum, the employer's worker protection program for employees exposed to lead at concentrations exceeding the PEL should include:

1. Hazard determination, including exposure assessment.
2. Medical surveillance and provisions for medical removal.

3. Job-specific compliance programs.
 4. Engineering and work practice controls.
 5. Respiratory protection.
 6. Protective clothing and equipment.
 7. Housekeeping.
 8. Hygiene facilities and practices.
 9. Signs.
 10. Employee information and training.
 11. Recordkeeping.
- B. Because lead is a cumulative and persistent toxic substance and health effects may result from exposure over prolonged periods, employers must use these precautions to minimize employee exposure to lead. The employer should, as needed, consult a qualified safety and health professional to develop and implement an effective, site-specific worker protection program. These professionals may work independently or may be associated with an insurance carrier, trade organization, or onsite consultation program.
- C. Elements of a Compliance Program: For each job where employee exposure exceeds the PEL, the employer must establish and implement a written compliance program to reduce employee exposure to the PEL or below. The compliance program must provide for frequent and regular inspections of job sites, materials, and equipment by a competent person. Written programs, which must be reviewed and updated at least every six months, must include:
1. Description of each activity in which lead is emitted (such as equipment used, material involved, controls in place, crew size, employee job responsibilities, operating procedures, and maintenance practices).

2. The means to be used to achieve compliance and engineering plans and studies used to determine the engineering controls selected where they are required.
3. Information on the technology considered to meet the PEL.
4. Air monitoring data that documents the source of lead emissions.
5. A detailed schedule for implementing the program, including copies of documentation (such as purchase orders for equipment, construction contracts).
6. A work practice program.
7. An administrative control schedule, if applicable.
8. Arrangements made among contractors on multi-contractor sites to inform employees of potential lead exposure.

1.20 HAZARD ASSESSMENT

- A. An employer is required to conduct an initial employee exposure assessment of whether employees are exposed to lead at or above the AL based on:
 1. Any information, observation, or calculation that indicates employee exposure to lead.
 2. Any previous measurements of airborne lead.
 3. Any employee complaints of symptoms attributable to lead exposure.
- B. Objective data and historical measurements of lead may be used to satisfy the standard's initial monitoring requirements.
- C. Initial Employee Exposure Assessment: Initial monitoring may be limited to a representative sample of those employees exposed to the greatest concentrations of airborne lead. Representative exposure sampling is permitted when there are a number of employees performing the same job, with lead exposure of similar duration and level, under essentially the same conditions. For employees engaged in similar work, the standard requires that the members of the group reasonably expected to have the highest exposure levels be monitored. This result is then attributed to the other employees of the group.

The employer must establish and maintain an accurate record documenting the nature and relevancy of previous exposure data. Instead of performing initial monitoring, the employer may in some cases rely on objective data that demonstrate that a particular lead-containing material or product cannot result in employee exposure at or above the action level when it is processed, used, or handled.

- D. Biological Monitoring Tests: Analysis of blood lead samples must be conducted by an OSHA-approved lab and be accurate (to a confidence level of 95 %) within plus or minus 15 %, or 6 µg/dl, whichever is greater. If an employee's airborne lead level is at or above the AL for more than 30 days in any consecutive 12 months, the employer must make biological monitoring available on the following schedule:
1. At least every two months for the first six months and every six months thereafter for employees exposed at or above the action level for more than 30 days annually.
 2. At least every two months for employees whose last blood sampling and analysis indicated a blood lead level at or above 40 µg/dl.
 3. At least monthly while an employee is removed from exposure due to an elevated blood lead level.
- E. Pending Employee Exposure Assessment: Until the employer performs an exposure assessment and documents that employees are not exposed to concentrations of lead that exceed the PEL, OSHA requires some degree of interim protection for employees. This means providing respiratory protection, protective work clothing and equipment, hygiene facilities, biological monitoring, and training (as specified by the standards) for certain tasks prone to produce high exposure. These include:
1. Manual demolition of structures such as dry wall, manual scraping, manual sanding, and use of a heat gun where lead-containing coatings or paints are present.
 2. Power tool cleaning with or without local exhaust ventilation.
 3. Spray painting with lead-containing paint.
 4. Lead burning.
 5. Use of lead-containing mortar.

6. Abrasive blasting, rivet busting, welding, cutting, or torch-burning on any structure where lead-containing coatings or paint are present.
 7. Abrasive blasting enclosure movement and removal.
 8. Cleanup of activities where dry expendable abrasives are used.
 9. Any other task the employer believes may cause lead exposures in excess of the PEL.
- F. Test Results Showing No Overexposures: If the initial assessment indicates that no employee is exposed to concentrations of lead above the AL, the employer may discontinue monitoring. Further exposure testing is not required unless there is a change in processes or controls that may result in additional employees being exposed to lead at or above the AL, or may result in employees already exposed at or above the AL being exposed above the PEL. The employer must keep a written record of the determination, including the date, location within the work site and the name and social security number of each monitored employee.
- G. Employee Notification of Monitoring Results: The employer must notify each employee in writing of employee exposure assessment results within five working days of receiving them. Whenever the results indicate that the representative employee exposure to lead, without the use of respirators, is above the PEL, the employer must include a written notice stating that the employee's exposure exceeded the PEL and describing corrective action taken or to be taken to reduce exposure to or below the PEL.

1.21 MEDICAL SURVEILLANCE

- A. When an employee's airborne exposure to lead is at or above the AL for more than 30 days in any consecutive 12 months, an immediate medical consultation is required when the employee notifies the employer that he or she:
1. Has developed signs or symptoms commonly associated with lead-related disease.
 2. Has demonstrated difficulty in breathing during respirator use or a fit test.

3. Desires medical advice concerning the effects of past or current lead exposure on the employee's ability to have a healthy child.
 4. Is under medical removal and has a medically appropriate need.
- B. Medical Exams: The best indicator of personal lead exposure is through a blood test to indicate elevated blood lead levels. A medical exam must also include:
1. Detailed work and medical histories, with particular attention to past lead exposure (occupational and non occupational), personal habits (smoking and hygiene), and past gastrointestinal, hematologic, renal, cardiovascular, reproductive, and neurological problems.
 2. A thorough physical exam, with particular attention to gums, teeth, hematologic, gastrointestinal, renal, cardiovascular, and neurological systems; evaluation of lung function if respirators are used.
 3. A blood pressure measurement.
 4. A blood sample and analysis to determine blood lead level.
 5. Hemoglobin and hematocrit determinations, red cell indices, and an exam of peripheral smear morphology.
 6. Zinc protoporphyrin; blood urea nitrogen; and serum creatinine.
 7. A routine urinalysis with microscopic exam.
 8. Any lab or other test the examining physician deems necessary.
- C. Information for the Examining Physician: The employer must provide all examining physicians with a copy of the lead in construction standard, including all appendices, a description of the affected employees duties as they relate to the employee's exposure, the employee's lead exposure level or anticipated exposure level, a description of personal protective equipment used or to be used, prior blood lead determinations, and all prior written medical opinions for the employee.
- D. When Monitoring Shows No Employee Exposures to Lead above the AL: Employers must make available, at no cost to the employee, initial medical surveillance for employees exposed to lead on the job at or above the action level on any one day per year. This initial medical surveillance consists of biological monitoring in the form of blood sampling and

analysis for lead and zinc protoporphyrin (ZPP) levels. In addition, a medical surveillance program with biological monitoring must be made available to any employee exposed at or above the action level for more than 30 days in any consecutive 12 months.

- E. After the Medical Examination: Employers must obtain and provide the employee a copy of a written opinion from each examining or consulting physician that contains only information related to occupational exposure to lead and must include:
1. Whether the employee has any detected medical condition that would increase the health risk from lead exposure.
 2. Any special protective measures or limitations on the worker's exposure to lead.
 3. Any limitation on respirator use.
 4. Results of the blood lead determinations. In addition, the written statement may include a statement that the physician has informed the employee of the results of the consultation or medical examination and any medical condition that may require further examination or treatment.

The employer must instruct the physician that findings, including lab results or diagnoses unrelated to the worker's lead exposure, must not be revealed to the employer or included in the written opinion to the employer. The employer must also instruct the physician to advise employees of any medical condition, occupational or non-occupational, that necessitates further evaluation or treatment. In addition, some states also require laboratories and health care providers to report cases of elevated blood lead concentrations to their state health departments.

1.22 MEDICAL REMOVAL PROVISIONS

- A. Temporary medical removal can result from an elevated blood level or a written medical opinion. More specifically, the employer is required to remove from work an employee with a lead exposure at or above the AL each time periodic and follow-up (within two weeks of the periodic test) blood sampling tests indicate that the employee's blood level is at or above 50 micrograms per deciliter ($\mu\text{g/dl}$). The employer also must remove from work an employee with lead exposure at or above the AL each time a final medical determination indicates that the employee needs reduced lead exposure for medical reasons. If the physician who is implementing the employer's medical program makes a final written

opinion recommending the employee's removal or other special protective measures, the employer must implement the physician's recommendation.

For an employee removed from exposure to lead at or above the AL due to a blood lead level at or above 50 µg/dl, the employer may return that employee to former job status when two consecutive blood sampling tests indicate that the employee's blood lead level is below 40 µg/dl. For an employee removed from exposure to lead due to a final medical determination, the employee must be returned when a subsequent final medical determination results in a medical finding, determination, or opinion that the employee no longer has a detected medical condition that places the employee at increased risk of lead exposure.

The employer must remove any limitations placed on employees or end any special protective measures when a subsequent final medical determination indicates they are no longer necessary. If the former position no longer exists, the employee is returned consistent with whatever job assignment discretion the employer would have had if no removal occurred.

- B. Worker Protections and Benefits: The employer must provide up to 18 months of medical removal protection (MRP) benefits each time an employee is removed from lead exposure or medically limited. As long as the position/job exists, the employer must maintain the earnings, seniority, and other employment rights and benefits as though the employee had not been removed from the job or otherwise medically limited. The employer may condition medical removal protection benefits on the employee's participation in follow-up medical surveillance.

If a removed employee files a worker's compensation claim or other compensation for lost wages due to a lead-related disability, the employer must continue medical removal protection benefits until the claim is resolved.

However, the employers MRP benefits obligation will be reduced by the amount that the employee receives from these sources. Also, the employer's MRP benefits obligation will be reduced by any income the employee receives from employment with another employer made possible by virtue of the employee's removal.

- C. Records Requirements Involving Medical Removal: In the case of medical removal, the employer's records must include:

1. The worker's name and social security number.
2. The date of each occasion that the worker was removed from current exposure to lead.
3. The date when the worker was returned to the former job status.
4. A brief explanation of how each removal was or is being accomplished and a statement indicating whether the reason for the removal was an elevated blood lead level.

1.23 RECORDKEEPING

- A. Employer Requirements: The employer must maintain any employee exposure and medical records to document ongoing employee exposure, medical monitoring, and medical removal of workers. This data provides a baseline to evaluate the employee's health properly. Employees or former employees, their designated representatives, and OSHA must have access to exposure and medical records in accordance with 29 CFR 1910.1020. Rules of agency practice and procedure governing OSHA access to employee medical records are found in 29 CFR 1913.10.
- B. Exposure Assessment Records: The employer must establish and maintain an accurate record of all monitoring and other data used to conduct employee exposure assessments as required by this standard and in accordance with 29 CFR 1910.1020. The exposure assessment records must include:
 1. The dates, number, duration, location, and results of each sample taken, including a description of the sampling procedure used to determine representative employee exposure.
 2. A description of the sampling and analytical methods used and evidence of their accuracy.
 3. The type of respiratory protection worn, if any.
 4. The name, social security number, and job classification of the monitored employee and all others whose exposure the measurement represents.
 5. Environmental variables that could affect the measurement of employee exposure.

C. Medical Surveillance Records: The employer must maintain an accurate record for each employee subject to medical surveillance, including:

1. The name, social security number, and description of the employee's duties.
2. A copy of the physicians written opinions.
3. The results of any airborne exposure monitoring done for the employee and provided to the physician.

D. Any employee medical complaints related to lead exposure.

In addition, the employer must keep or ensure that the examining physician keeps the following medical records:

1. A copy of the medical examination results including medical and work history.
2. A description of the laboratory procedures and a copy of any guidelines used to interpret the test results.
3. A copy of the results of biological monitoring.

E. The employer or physician or both must maintain medical records in accordance with 29 CFR 1910.1020.

F. Documents for Employees Subject to Medical Removal: The employer must maintain (for at least the duration of employment) an accurate record for each employee subject to medical removal, including:

1. The name and social security number of the employee.
2. The date on each occasion that the employee was removed from current exposure to lead and the corresponding date which the employee was returned to former job status.
3. A brief explanation of how each removal was or is being accomplished.
4. A statement about each removal indicating whether the reason for removal was an elevated blood level.

G. Documents for Employees Subject to Medical Removal: The employer must establish and maintain an accurate record documenting the nature

and relevancy of objective data relied on to assess initial employee exposure in lieu of exposure monitoring. The employer must maintain the record of objective data relied on for at least 30 years

- H. Documents for OSHA and NIOSH Review: The employer must make all records (including exposure monitoring, objective data, medical removal, and medical records) available upon request to affected employees, former employees, and their designated representatives and to the OSHA Assistant Secretary and the Director of the NIOSH for examination and copying in accordance with 29 CFR 1910.1020.
- I. When Closing a Business: When an employer ceases to do business, the successor employer must receive and retain all required records. If no successor is available, these records must be sent to the Director of NIOSH.

1.24 EXPOSURE REDUCTION AND EMPLOYEE PROTECTION

The most effective way to protect workers is to minimize their exposure to lead through engineering controls, good work practices and training, and use of personal protective clothing and equipment. Including respirators, where required. The employer needs to designate a competent person capable of identifying existing and predictable lead hazards and who is authorized to take prompt corrective measures to eliminate such problems. The employer should, as needed, consult a qualified safety and health professional to develop and implement an effective worker protection program. These professionals may work independently or may be associated with an insurance carrier, trade organization, or onsite consultation program.

1.25 ENGINEERING CONTROLS

- A. Engineering measures include local and general exhaust ventilation, process and equipment modification, material substitution, component replacement, and isolation or automation. Examples of recommended engineering controls that can help reduce worker exposure to lead are described as follows:
 - 1. Exhaust Ventilation: Equip power tools used to remove lead-based paint with dust collection shrouds or other attachments so that paint is exhausted through a High-Efficiency Particulate Air (HEPA) vacuum system. For operations such as welding, cutting/burning, or heating, use local exhaust ventilation. Use HEPA vacuums during cleanup operations.

For abrasive blasting operations, build a containment structure that is designed to optimize the flow of clean ventilation air past the workers' breathing zones. This will help reduce the exposure to airborne lead and increase visibility. Maintain the affected area under negative pressure to reduce the chances that lead dust will contaminate areas outside the enclosure. Equip the containment structure with an adequately sized dust collector to control emissions of particulate matter into the environment.

Enclosure or Encapsulation: One way to reduce the lead inhalation or ingestion hazard posed by LBP is to encapsulate it with a material that bonds to the surface, such as acrylic or epoxy coating or flexible wall coverings. Another option is to enclose it using systems such as gypsum wallboard, plywood paneling, and aluminum, vinyl, or wood exterior siding. Floors coated with LBP can be covered using vinyl tile or linoleum.

The building owner or other responsible person should oversee the custodial and maintenance staff and contractors during all activities involving enclosed or encapsulated LBP. This will minimize the potential for an inadvertent lead release during maintenance, renovation, or demolition.

- B. Substitution: Choose materials and chemicals that do not contain lead for construction projects. Among the options are:
 - 1. Use zinc-containing primers covered by an epoxy intermediate coat and polyurethane topcoat instead of lead-containing coatings.
 - 2. Substitute mobile hydraulic shears for torch cutting under certain circumstances.
 - 3. Consider surface preparation equipment such as needle guns with multiple reciprocating needles completely enclosed within an adjustable shroud, instead of abrasive blasting under certain conditions. The shroud captures dust and debris at the cutting edge and can be equipped with a HEPA vacuum filtration with a self-drumming feature. One such commercial unit can remove lead-based paint from flat steel and concrete surfaces, outside edges, inside corners, and pipes.
- C. Choose chemical strippers in lieu of hand scraping with a heat gun for work on building exteriors, surfaces involving carvings or molding, or

intricate iron work. Chemical removal generates less airborne lead dust. Be aware, however, that these strippers themselves can be hazardous and that the employer must review the material safety data sheets (MSDSs) for these stripping agents to obtain information on their hazards. Component Replacement: Replace lead-based painted building components such as windows, doors, and trim with new components free of lead-containing paint. Another option is to remove the paint offsite and then repaint the components with zinc-based paint before replacing them.

- D. Process or Equipment Modification: When applying lead paints or other lead containing coatings, use a brush or roller rather than a sprayer. This application method introduces little or no paint mist into the air to present a lead inhalation hazard. (Note that there is a ban on the use of lead-based paint in residential housing).

Use non-silica-containing abrasives such as steel or iron shot/grit sand instead of sand in abrasive blasting operations when practical. The free silica portion of the dust presents a respiratory health hazard.

When appropriate for the conditions, choose blasting techniques that are less dusty than open-air abrasive blasting. These include hydro- or wet-blasting using high-pressure water with or without an abrasive or surrounding the blast nozzle with a ring of water, and vacuum blasting where a vacuum hood for material removal is positioned around the exterior of the blasting nozzle.

When using a heat gun to remove lead-based paints in residential housing units, be sure it is of the flameless electrical softener type. Heat guns should have electronically controlled temperature settings to allow usage below 700 degrees Fahrenheit (°F). Equip heat guns with various nozzles to cover all common applications and to limit the size of the heated work area.

When using abrasive blasting with a vacuum hood on exterior building surfaces, ensure that the configuration of the heads on the blasting nozzle match the configuration of the substrate so that the vacuum is effective in containing debris.

Ensure that HEPA vacuum cleaners have the appropriate attachments for use on unusual surfaces. Proper use of brushes of various sizes, crevice and angular tools, when needed, will enhance the quality of the HEPA-vacuuming process and help reduce the amount of lead dust released into the air.

Isolation: Although it is not feasible to enclose and ventilate some abrasive blasting operations completely, it is possible to isolate many operations to help reduce the potential for lead exposure. Isolation consists of keeping employees not involved in the blasting operations as far away from the work area as possible, reducing the risk of exposure.

1.26 HOUSEKEEPING AND PERSONAL HYGIENE

A. Lead is a cumulative and persistent toxic substance that poses a serious health risk. A rigorous housekeeping program and the observance of basic personal hygiene practices will minimize employee exposure to lead. In addition, these two elements of the worker protection program help prevent workers from taking lead-contaminated dust out of the worksite and into their homes where it can extend the workers' exposures and potentially affect their families' health.

B. Housekeeping Practices: An effective housekeeping program involves a regular schedule to remove accumulations of lead dust and lead-containing debris. The schedule should be adapted to exposure conditions at a particular worksite. OSHA's Lead Standard for Construction requires employers to maintain all surfaces as free of lead contamination as practicable. Vacuuming lead dust with HEPA-filtered equipment or wetting the dust with water before sweeping are effective control measures. Compressed air may not be used to remove lead from contaminated surfaces unless a ventilation system is in place to capture the dust generated by the compressed air.

In addition, put all lead-containing debris and contaminated items accumulated for disposal into sealed, impermeable bags or other closed impermeable containers. Label bags and containers as lead containing waste. These measures provide additional help in controlling exposure.

C. Personal Hygiene Practices: Emphasize workers' personal hygiene such as washing their hands and face after work and before eating to minimize their exposure to lead. Provide and ensure that workers use washing facilities. Provide clean change areas and readily accessible eating areas. If possible, provide a parking area where cars will not be contaminated with lead. These measures:

1. Reduce workers' exposure to lead and the likelihood that they will ingest lead.
2. Ensure that the exposure does not extend beyond the worksite.

3. Reduce the movement of lead from the worksite.
 4. Provide added protection to employees and their families.
- D. **Change Areas:** The employer must provide a clean change area for employees whose airborne exposure to lead is above the PEL. The area must be equipped with storage facilities for street clothes and a separate area with facilities for the removal and storage of lead-contaminated protective work clothing and equipment. This separation prevents cross contamination of the employee's street and work clothing.

Employees must use a clean change area for taking off street clothes, suiting up in clean protective work clothing, donning respirators before beginning work, and dressing in street clothes after work. No lead-contaminated items should enter this area.

Work clothing must not be worn away from the jobsite. Under no circumstances should lead-contaminated work clothes be laundered at home or taken from the worksite, except to be laundered professionally or for disposal following applicable federal, state, and local regulations.

- E. **Showers and Washing Facilities:** Showers must be provided for use by employees whose airborne exposure to lead is above the permissible exposure limit so they can shower before leaving the worksite. Where showers are provided, employees must change out of their work clothes and shower before changing into their street clothes and leaving the worksite. If employees do not change into clean clothing before leaving the worksite, they may contaminate their homes and automobiles with lead dust, extending their exposure and exposing other members of their household to lead.

In addition, employers must provide adequate washing facilities for their workers. These facilities must be close to the worksite and furnished with water, soap, and clean towels so employees can remove lead contamination from their skin.

Contaminated water from washing facilities and showers must be disposed of in accordance with applicable local, state, or federal regulations. **Personal Practices:** The employer must ensure that employees do not enter lunchroom facilities or eating areas with protective work clothing or equipment unless surface lead dust has been removed.

HEPA vacuuming and use of a downdraft booth are examples of cleaning methods that limit the dispersion of lead dust from contaminated work clothing.

In all areas where employees are exposed to lead above the PEL, employees must observe the prohibition on the presence and consumption or use of food, beverages, tobacco products, and cosmetics. Employees whose airborne exposure to lead is above the PEL must wash their hands and face before eating, drinking, smoking, or applying cosmetics.

F. End-Of-Day Procedures: Employers must ensure that workers who are exposed to lead above the permissible exposure limit follow these procedures at the end of their workday:

1. Place contaminated clothes, including work shoes and personal protective equipment to be cleaned, laundered, or disposed of, in a properly labeled closed container.
2. Take a shower and wash their hair. Where showers are not provided, employees must wash their hands and face at the end of the work shift.
3. Change into street clothes in clean change areas.

1.27 PROTECTIVE CLOTHING AND EQUIPMENT

A. Employer Requirements: Employers must provide workers who are exposed to lead above the PEL or for whom the possibility of skin or eye irritation exists with clean, dry protective work clothing and equipment that are appropriate for the hazard. Employers must provide these items at no cost to employees. Appropriate protective work clothing and equipment used on construction sites includes:

1. Coveralls or other full-body work clothing.
2. Gloves, hats, and shoes or disposable shoe coverlets.
3. Vented goggles or face shields with protective spectacles or goggles.

4. Welding or abrasive blasting helmets.
 5. Respirators.
- B. Clean work clothing must be issued daily for employees whose exposure levels to lead are above 200 µg/m³ weekly if exposures are above the PEL but at or below 200 µg/m or where the possibility of skin or eye irritation exist.
- C. Handling Contaminated Protective Clothing: Workers must not be allowed to leave the worksite wearing lead-contaminated protective clothing or equipment. This is an essential step in reducing the movement of lead contamination from the workplace into the worker's home and provides added protection for employees and their families.

Disposable coveralls and separate shoe covers may be used, if appropriate, to avoid the need for laundering. Workers must remove protective clothing in change rooms provided for that purpose.

Employers must ensure that employees leave the respirator use area to wash their faces and respirator face pieces as necessary. In addition, employers may require their employees to use HEPA vacuuming, damp wiping, or another suitable cleaning method before removing a respirator to clear loose particle contamination on the respirator and at the face-mask seal.

Place contaminated clothing that is to be cleaned, laundered, or disposed of by the employer in closed containers. Label containers with the warning: "Caution: Clothing contaminated with lead. Do not remove dust by blowing or shaking.

Dispose of lead-contaminated wash water in accordance with applicable local, state, or federal regulations."

Workers responsible for handling contaminated clothing, including those in laundry services or subcontractors, must be informed in writing of the potential health hazard of lead exposure. At no time shall lead be removed from protective clothing or equipment by brushing, shaking, or blowing. These actions disperse the lead into the work area.

- D. Preventing Heat Stress: Workers wearing protective clothing, particularly in hot environments or within containment structures can face a risk from heat stress if proper control measures are not used.

Heat stress is caused by several interacting factors, including environmental conditions, type of protective clothing worn; the work activity required and anticipated work rate, and individual employee characteristics such as age, weight, and fitness level. When heat stress is a concern, the employer should choose lighter, less insulating protective clothing over heavier clothing, as long as it provides adequate protection. Other measures the employer can take include: discussing the possibility of heat stress and its signs and symptoms with all workers; using appropriate work/rest regimens; and providing heat stress monitoring that includes measuring employees' heart rates, body temperatures, and weight loss. Employers must provide a source of water or electrolyte drink in a non-contaminated eating and drinking area close to the work area so workers can drink often throughout the day. Workers must wash their hands and face before drinking any fluid if their airborne exposure is above the PEL.

1.28 RESPIRATORY PROTECTION

- A. Although engineering and work practice controls are the primary means of protecting workers from exposure to lead, source control at construction sites sometimes is insufficient to control exposure. In these cases, airborne lead concentrations may be high or may vary widely. Respirators often must be used to supplement engineering controls and work practices to reduce worker lead exposures below the PEL. When respirators are required, employers must provide them at no cost to workers.

The standard requires that respirators be used during periods when an employee's exposure to lead exceeds the PEL, including:

1. Periods necessary to install or implement engineering or work practice controls.
 2. Work operations for which engineering and work practice controls are insufficient to reduce employee exposures to or below the PEL.
- B. Respirators also must be provided upon employee request. A requested respirator is included as a requirement to provide increased protection for those employees who wish to reduce their lead burden below what is required by the standard, particularly if they intend to have children in the near future. In addition, respirators must be used when performing previously indicated high exposure or "trigger" tasks, before completion of the initial assessment.

- C. Providing Adequate Respiratory Protection: Before any employee first starts wearing a respirator in the work environment, the employer must perform a fit test. For all employees wearing negative or positive pressure tight-fitting face piece respirators, the employer must perform either qualitative or quantitative fit tests using an OSHA-accepted fit testing protocol. In addition, employees must be fit tested whenever a different respirator face piece is used, and at least annually thereafter. Where daily airborne exposure to lead exceeds 50 µg/m³ affected workers must don respirators before entering the work area and should not remove them until they leave the high-exposure area or have completed a decontamination procedure. Employers must assure that the respirator issued to the employee is selected and fitted properly to ensure minimum leakage through the face piece-to-face seal.
- D. Respiratory Protection Programs: When respirators are required at a worksite, the employer must establish a respiratory protection program in accordance with the OSHA standard on respiratory protection, 29 CFR 1910.134. At a minimum, an acceptable respirator program for lead must include:
1. Procedures for selecting respirators appropriate to the hazard.
 2. Fit testing procedures.
 3. Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations, including cartridge change schedules.
 4. Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators.
 5. Training of employees in the respiratory hazard to which they are potentially exposed during routine and emergency situations.
 6. Training of employees in the proper use of respirators, including putting on and removing them, any limitations of their use, and their maintenance.
 7. Procedures for regularly evaluating the effectiveness of the program.
 8. Procedures to ensure air quality when supplied air is used.
 9. A written program and designation of a program administrator.

10. Recordkeeping procedures.

- E. In addition, the construction industry lead standard stipulates medical evaluations of employees required to use respirators. If an employee has difficulty in breathing during a fit test or while using a respirator, the employer must make a medical examination available to that employee to determine whether he or she can wear a respirator safely.

Selecting a Respirator: The employer must select the appropriate respirator from Table 1 of the lead standard, 29 CFR 1926.62(f)(3)(i). The employer must provide a powered air-purifying respirator when an employee chooses to use this respirator and it will provide the employee adequate protection. A NIOSH-certified respirator must be selected and used in compliance with the conditions of its certification. In addition, if exposure monitoring or experience indicates airborne exposures to contaminants other than lead such as silica, solvents, or polyurethane coatings, these exposures must be considered when selecting respiratory protection.

Select type CE respirators approved by NIOSH for abrasive blasting operations. Currently, there are two kinds of CE respirators with the following assigned protection factors (APFs): a continuous-flow respirator with a loose-fitting hood, APF 25; and a full face piece supplied-air respirator operated in a positive-pressure mode, APF 2,000. (Note: OSHA recognizes Bullard Helmets, Models 77 and 88 (1995); Clemco Appello, Models 20 and 60 (1997); and 3M Model 8100 (1998) as having APFs of 1,000.) For any airline respirator, it is important to follow the manufacturer's instructions regarding air quality, air pressure, and inside diameter and length of hoses. Be aware that using longer hoses or smaller inside diameter hoses than the manufacturer specifies or hoses with bends or kinks may reduce or restrict the airflow to a respirator.

1.29 EMPLOYEE INFORMATION AND TRAINING

- A. The employer must inform employees about lead hazards according to the requirement of OSHA's Hazard Communication standard for the construction industry, 29 CFR 1926.59, including-but not limited to - the requirements for warning signs and labels, material safety data sheets (MSDSs), and employee information and training. (Refer to 29 CFR 1910.1200.)
- B. Program Requirements: Employers must institute an information and training program and ensure that all employees subject to exposure to lead or lead compounds at or above the action level on any day

participate. Also covered under information and training are employees who may suffer skin or eye irritation from lead compounds. Initial training must be provided before the initial job assignment. Training must be repeated at least annually and, in brief summary, must include:

1. The content of the OSHA lead standard and its appendices.
2. The specific nature of operations that could lead to lead exposure above the action level.
3. The purpose, proper selection, fit, use, and limitations of respirators.
4. The purpose and a description of the medical surveillance program, and the medical removal protection program.
5. Information concerning the adverse health effects associated with excessive lead exposure.
6. The engineering and work practice controls associated with employee's job assignments.
7. The contents of any lead-related compliance plan in effect.
8. Instructions to employees that chelating agents must not be used routinely to remove lead from their bodies and when necessary only under medical supervision and at the direction of a licensed physician.
9. The right to access records under "Access to Employee Exposure and Medical Records," 29 CFR 1910.1020.

All materials relating to the training program and a copy of the standard and its appendices must be made readily available to all affected employees.

- D. Warning Signs: Employers are required to post these warning signs in each work area where employee exposure to lead is above the PEL:

WARNING
LEAD WORK AREA
POISON

NO SMOKING OR EATING

All signs must be well lit and kept clean so that they are easily visible. Statements that contradict or detract from the signs meaning are prohibited. Signs required by other statutes, regulations, or ordinances, however, may be posted in addition to, or in combination with, this sign.

PART 2 - PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Units</u>
13280	Hazardous Material Remediation	Lump Sum

END OF SECTION

DIVISION 15 - MECHANICAL

SECTION 15000-GENERAL MECHANICAL REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 GENERAL MECHANICAL REQUIREMENTS

- A. These general mechanical requirements govern work specified under all sections of DIVISION 15 MECHANICAL.
- B. The Contractor shall furnish all labor, materials, tools and equipment and perform all work and services necessary for complete and properly operating mechanical equipment and systems, as shown on drawings and as specified, in accordance with provisions of the Contract Documents and completely coordinated with work of all other trades.
- C. The Contractor shall completely examine the Contract Documents and shall report to the State any error, inconsistency or omission he discovers.
- D. Furnish and install all supplementary or miscellaneous items, details, appurtenances and devices incidental to or necessary for a sound, secure and complete mechanical system where work required is not specifically indicated.
- E. Drawings and specifications shall be taken together. Provide work specified and not indicated or work indicated and not specified as though mentioned in both.
- F. The Contractor shall warrant that all materials and equipment furnished under this Contract will be new and that all work will be of good quality, free from faults and defects and in conformance with Contract Documents for a guaranteed period of one year after the date of acceptance as specified.
- G. The Contractor shall maintain at the site one (1) copy of all Drawings, Specifications, Addenda, approved Shop Drawings, Change Orders and other modifications, in good order and marked (in red) to record all changes made during construction. These shall be made available to the State.

- H. The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by its operations. At the completion of the work, he shall remove all its waste materials and rubbish from and about the project as well as all its tools, construction equipment, machinery and surplus materials and shall clean all new equipment and accessories.
- I. The Contractor shall give the State timely notice of its readiness for testing any work including the data arranged so the State may observe such testing. The Contractor shall bear all cost of such tests.
- J. The State shall have the right to accept or reject material, equipment, and/or workmanship and determine when the Contractor has complied with the contract documents.

1.03 INSPECTION OF SITE

The Contractor shall visit the site and examine the conditions affecting its work before submitting its proposal. The submission of the proposal shall be considered evidence that the Contractor has visited the site and no extra payments will be allowed to the Contractor on account of extra work made necessary by its failure to visit the site. If there are any questions or discrepancies in the design, the Contractor shall bring it to the attention of the State before submitting its proposal.

1.04 SUBMITTALS

- A. Submit shop drawings, manufacturer's data and certificates for equipment, materials and finish and pertinent details for each system and have them approved before procurement, fabrication or delivery of the items to the job site. Partial submittals will not be acceptable and will be returned without review. Submit in accordance with Section 01300 SUBMITTALS. Submittals shall include the manufacturer's name, trade name, catalog model or number, nameplate data, size, layout dimensions, capacity, project specification and paragraph reference, applicable industry and technical society publication references and other information necessary to establish contract compliance of each item the Contractor proposed to furnish.
 - 1. Shop Drawings: Drawings shall be a minimum of 24 inches by 36 inches in size, except as specified otherwise. Drawings shall include floor plans, sectional views, wiring diagrams and installation details of equipment; and equipment spaces identifying and indicating proposed location, layout and arrangement of items of equipment, control panels, accessories, piping and other items that

must be shown to assure a coordinated installation. Wiring diagrams shall identify circuit terminals and indicate the internal wiring for each item of equipment and interconnection on between each type of equipment. Drawings shall indicate adequate clearance for operation, maintenance and replacement of operating equipment devices. If equipment is disapproved, drawings shall be revised to show acceptable equipment and be resubmitted.

- a. The Contractor shall review, stamp with its approval and submit, all Shop Drawings required by the Contract Documents or subsequently by the Engineer as covered by modifications. At the time of submission, the Contractor shall inform the Engineer in writing of any deviation in the Shop Drawings from the requirements of the Contract Documents. By approving and submitting Shop Drawings, the Contractor certifies that he has determined and verified all field measurements and obstructions, field construction criteria, materials, catalog numbers and similar data, that he has checked and coordinated each Shop Drawing with the requirements of the work and of the Contract Documents and that all equipment fits within designated spaces.
2. Manufacturer's Data: Submittals for each manufactured item shall be manufacturer's descriptive literature of cataloged products, equipment drawings, diagrams, performance and characteristic curves and catalog cuts.
3. Standards Compliance: When materials or equipment must conform to the standards of organizations such as the American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), National Electrical Manufacturers Association (NEMA) and Underwriters Laboratories (UL), proof of such conformance shall be submitted to the State for approval. If an organization uses a label or listing to indicate compliance with a particular standard, the label or listing will be acceptable evidence, unless otherwise specified in the individual sections. In lieu of the label or listing, the Contractor shall submit a certificate from an independent testing organization, which is competent to perform acceptable test and is approved by the State. The certificate shall state that the item has been tested in accordance with the specified organization's test methods and that the item conforms to the specified organization's standard. For materials and equipment whose compliance with organizational standards or specifications is not regulated by an organization using its own listing or label as

proof of compliance, a certificate of compliance from the manufacturer shall be submitted for approval. The certificate shall identify the manufacturer, the product and the referenced standard and shall simply state that the manufacturer certifies that the product conforms to all requirements of the project specification and of the referenced standards listed. Certified Test Reports: Before delivery of materials and equipment, certified copies of all test reports specified in the individual section shall be submitted for approval.

4. Certificates of Conformance or Compliance: Submit certification from the manufacturer attesting that materials and equipment to be furnished for this project comply with the requirements of this specification and of the reference publications. Pre-printed certifications will not be acceptable; certifications shall be in the original. The certification shall not contain statements that could be interpreted to imply that the product does not meet all requirements specified, such as "as good as"; "achieve the same end use and result as materials formulated in accordance with the referenced publication", "equal or exceed the service and performance of the specified material". The certification shall simply state that the product conforms to the requirements specified.
5. "Field Posted As-Built" Drawings: Keep at the job site a complete, accurate record of all approved deviations from the contract drawings, shop drawings and specifications. Keep these changes on prints of the drawings affected and turn over one (1) set to the State at the completion of the project.

1.05 LAWS, REGULATIONS AND CODES

- A. All work shall be in accordance with government laws, ordinances, rules and regulations and orders.
- B. The following shall govern where applicable; the Plumbing Code of the County of Hawaii, the Building Code of the County of Hawaii, State of Hawaii Department of Health Regulations, U.S. Department of H.E.W., Applicable National Fire Protection Association Standards, OSHA, Rules and Regulations, County of Hawaii Energy Code and all other codes and standards referenced in these specifications. Where requirements differ in these code and standards, the more stringent shall apply.

1.06 TRADE NAME

Mentioning of a trade name in the plans and specifications indicates that the

Manufacturer is acceptable to the State. However, certain specified construction and details may not be regularly included in the manufacturer's catalogued product. The Mechanical Contractor shall provide the material or equipment complete as specified.

1.07 PERMITS AND INSPECTIONS

- A. Applications for permits will be done by the contractor; the Contractor shall pay for all necessary licenses, permits and fees.
- B. The Mechanical Contractor shall apply and pay for all necessary inspections required by any public authority having jurisdiction.

1.08 DISCREPANCIES

- A. The Drawings and Specifications are intended to be cooperative. Any materials, equipment or system related to this section and exhibited on the Architectural, Structural, Electrical or Mechanical Drawings but not mentioned in the Specifications are to be executed to the intent and meaning thereof, as if it were both mentioned in the Specifications and set forth on the Drawings.
- B. In case of differences between the Drawings and Specifications, the Specifications shall govern first, and then the Drawings. Large scale details shall take precedence over small scale Drawings as to the shape and details of construction. Specifications shall govern as to materials.
- C. Drawings and Specifications are intended to be fully cooperative and to agree, but should any discrepancy or apparent difference occur between Drawings and Specifications or should error occur in the work of others affecting the work, the Contractors shall notify the State at once. If the Contractor proceeds with the work affected without instructions from the State, he shall make good any resultant damage or defect. All interpretations of Drawings and specifications shall be clarified by the State.

1.09 WORKMANSHIP AND MATERIALS

- A. Workmanship shall be of the best quality and none but competent mechanics skilled in their trades shall be employed. The Contractor shall furnish the services of an experienced superintendent, who will be constantly in charge of the erection of the work, until completed and accepted.
- B. Unless otherwise hereinafter specified, each article of its kind shall be the standard product of a single manufacturer. Whenever the words "or

approved equal" or other words of similar intent or meaning are used, implying that judgment is to be exercised, it is understood that it is the judgment of the State that is referred to.

- C. Pre-bid approval is required for all substitutions. Post-bid substitutions accepted on limited basis only or for value stating purposes.
- D. The State shall have the right to accept or reject material, equipment, and/or workmanship and determine when the Contractor has complied with the requirements herein specified. All manufactured materials shall be delivered and stored in their original containers equipment shall be clearly marked or stamped with the manufacturer's name and rating. Equipment and materials shall be carefully handled, properly stored and adequately protected to prevent damage before and during installation, in accordance with the manufacturer's recommendations and as approved by the State. Damaged or defective items, in the opinion of the State, shall be replaced.
- E. Reference to standards is intended to be the latest revision of the standard specified.

1.10 MANUFACTURER'S RECOMMENDATIONS

Equipment installed under this Division of the Specifications shall be installed according to manufacturer's recommendations, unless otherwise shown on the drawings or herein specified. Where installation procedures or any part thereof are required to be in accordance with the recommendations of the manufacturer of the material being installed, printed copies of these recommendations shall be furnished to the State, prior to installation. Installation of the item will not be allowed to proceed until the recommendations are received. Failure to furnish these recommendations can be cause of rejection of the material.

1.11 OPENINGS, CUTTING AND REPAIRING

- A. The Mechanical Contractor shall cooperate with the work to be done under other sections in providing information as to openings required in walls and slabs for all piping including sleeves where required.
- B. Any drilling or cutting required for the performance of work under this Section shall be the responsibility of this Contractor and the cost shall be borne by him.
- C. Holes in Concrete: The Mechanical Contractor shall pay all costs for cutting holes. All holes through existing concrete shall be either core drilled or saw cut. All holes required shall have the approval of the State prior to cutting and drilling.

- D. It shall be the responsibility of this Contractor to ascertain that all openings are properly located.

1.12 ELECTRICAL WORK

- A. All power wiring, including final hook-up to all mechanical equipment will be provided. Control devices required on the power wiring shall be provided by the Mechanical Contractor, to be wired by the Electrical Contractor. The Mechanical Contractor shall furnish all starters for installation by the Electrical Contractor. The Mechanical Contractor shall turn over these items to the Electrical Contractor at the site after receipt of notice from the Electrical Contractor that he is ready to install said items.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. As specified in all sections of Division 15 - Mechanical.
- B. Materials and equipment shall be cataloged products of manufacturers regularly engaged in production of such materials or equipment and shall be manufacturer's latest design that comply with the specification requirements. Materials and equipment shall be duplicate items that have been in satisfactory commercial or industrial use at least 2 years prior to bid opening. Where two or more items of the same class of equipment are required, these items shall be products of a single manufacturer, however, the component parts of the items need not be the products of the same manufacturer. Each item of equipment shall have the manufacturer's name, address, model number and serial number on the nameplate

2.02 SUBSTITUTIONS

- A. The material, products and equipment described in these specifications establish a standard of required function, quality, dimension, capacity, and appearance to be met by any proposed substitution.
- B. Specific product listings in these specifications shall not preclude alternate product selections of comparable or superior quality. The Contractor may make reasonable substitutions, provided that these are submitted to the State for acceptance prior to bid in accordance with the Special Provisions and General Requirements and Covenants. The Contractor shall be responsible for design changes to accommodate the substituted product, at no additional costs to the State.

PART 3 – EXECUTION

3.01 MECHANICAL EQUIPMENT, FIXTURES AND ACCESSORIES

A. Mechanical Equipment, Fixtures and Accessories:

1. All mechanical equipment, accessories, plumbing fixtures and plumbing accessories shall be purchased by a Hawaii based manufacturer's representative who is factory authorized to furnish these items in the State of Hawaii. The manufacturer's representative shall be knowledgeable in the operation and functioning of the items furnished by him and must meet the following conditions:
 - a. The manufacturer's representative shall furnish recommendations on the installation and operation of the items furnished in a capacity conforming to that of the actual manufacturer.
 - b. The manufacturer's representative shall stock a reasonable amount of replacement parts locally.
 - c. The manufacturer's representative shall have the ability to provide warranty replacement parts for equipment in a timely fashion to reduce the down time of equipment.

B. Maintenance Service Contractor: The maintenance service contractor shall have a local office, staffed with competent and qualified field service personnel. The personnel shall be certified by the manufacturer to perform service and maintenance tasks on all equipment in accordance with the one year maintenance service contract and the terms and conditions of all equipment manufacturers' warranties and recommendations. Field service personnel shall be fully capable of providing technical assistance instruction, routine maintenance and emergency maintenance service on all system equipment components.

C. Trouble Calls:

1. Emergency service and repairs required between regular service calls shall be rendered within 24 hours after the Contractor is notified, non-work days excluded.
2. The Contractor shall call the State, the next working day after being notified of the problem and report the status of repairs.

- D. Manufacturer's Representative: Air conditioning equipment to be considered for bid purposes shall be purchased from a manufacturer's sales and service representative located in the State of Hawaii that has locally stocked spare parts and support of a service organization within the State of Hawaii which has serviced manufacturer's unit of comparable type, size and capacity as those specified. The manufacturer must have other units of comparable type, size and capacity installed and operating satisfactorily in the State of Hawaii for a minimum of two years prior to bid opening. The Contractor shall provide a list of locations in Hawaii with addresses and telephone numbers when requested by the State.
- E. Mechanical Equipment:
1. The mechanical equipment supplier shall maintain a local support office within the State of Hawaii, staffed with factory trained representatives or staff, capable of providing instruction on operation and installation of all system components.
 2. Provide competent and qualified manufacturer's factory-trained and certified field service personnel on-site to be responsible for execution of all diagnostic testing in accordance with equipment manufacturer's installation and start-up certification requirements and warranty terms and conditions.
 3. The Contractor shall provide manufacturer's representative and/or service technicians for any field modifications to equipment. The Contractor shall ensure that any modifications to equipment will not invalidate the manufacturer's warranties.

3.02 PIPING IDENTIFICATION

- A. Identification of all pipe lines shall be by means of colored, waterproof, all temperature, self-adhering labels and directional arrow.
- B. At Contractor's option, each and every system may be identified by painting with contrasting colors, using 3/4" high minimum stencil letters. Painting shall be done by the Mechanical Contractor.
- C. All exposed pipes, whether insulated or not shall be identified. Labels may be omitted from piping where the use is obvious, due to its connection to equipment and where the appearance would be objectionable in finished rooms, as approved by the State.
- D. Identification labels shall be placed as follows:
1. Near each valve and branch connection.
 2. Wherever piping merges or disappears from view from the floor of

the room in which it is installed.

3. Labels shall not be more than 50 feet apart.

3.03 VALVE INDEX

The Mechanical Contractor shall provide brass or plastic tags on all valves with letters stamped or engraved thereon designating service of each valve.

3.04 FIELD TEST

The Mechanical Contractor shall perform all tests of the installed work and shall provide all services, labor, equipment, materials and instruments needed for the tests. During pressure tests, all items in the system to be tested, not designed for test pressures shall be removed or isolated from the system and shall be reconnected or unblocked after tests are completed. Should operating tests require the presence of manufacturers' representatives, the Mechanical Contractor shall cooperate with them and shall place at their disposal all assistance, materials and services required to perform such test. The Mechanical Contractor shall certify in writing that all work has passed all required tests.

3.05 POSTED OPERATING INSTRUCTION

Furnish approved operating instructions for each principal item of equipment for the use of the operation and maintenance personnel. The operating instructions shall include wiring diagrams, control diagrams and control sequence for each principal item of equipment. Operating instruction shall be printed or engraved and shall be framed under glass or in approved laminated plastic and posted where directed by the State. Operating instructions shall be attached to or posted adjacent to each principal item of equipment including start up, procedure in the event of equipment failure and other items of instruction as recommended by the manufacturer of each item of equipment. Operating instructions exposed to the weather shall be made of weather-resistant materials or shall be suitably enclosed to be weather protected. Operating instructions shall not fade when exposed to sunlight and shall be secured to prevent easy removal or peeling.

3.06 INSTRUCTION TO MAINTENANCE PERSONNEL

The Contractor shall furnish the services of competent instructors who will give full instruction to the designated personnel in the adjustment, operation and maintenance, including pertinent safety requirements, of the equipment or system specified. Each instructor shall be thoroughly familiar with all parts of the installation and shall be trained in operating theory as well as practical operation and maintenance work. Instruction shall be given during the first regular work week after the equipment or system has been accepted and turned over to the

State for regular operation. When significant changes or modifications in the equipment or systems are made under the term of the contract, additional instruction shall be provided to acquaint the operating personnel with the changes or modifications.

3.07 SAFETY REQUIREMENTS

Belts, pulleys, chains, gears, couplings, projecting setscrews, keys and other rotating parts located so that any person can come in close proximity thereto shall be fully enclosed or properly guarded. High temperature equipment and piping so located as to endanger personnel or create a fire hazard shall be properly guarded or covered with insulation of a type as specified herein. Items such as catwalks, ladders and guardrails shall be provided where required for safe operation and maintenance of equipment.

3.08 INSPECTIONS

- A. All work and materials are subject to field observation at any and all times by the State.
- B. Contractor shall notify the State a minimum of two days prior to testing any piping or ducting systems which must be witnessed and approved before they are covered up or enclosed. Should the Contractor fail to notify the State at the times prescribed, it shall then be the Contractor's responsibility to make duct work accessible, expose any concealed lines, or demonstrate the acceptability of any part of the system. Any extra cost caused by the removal of such work shall be borne by the Contractor.
- C. If the State finds any material or work not conforming to these Specifications, Contractor within three days of being notified shall remove said materials from the premises and replace with approved material, at no cost to the State.

3.09 FINAL INSPECTION

Final inspection shall be requested by the Contractor only after submittal of all required certificates. No final inspection will be made until all moving parts of equipment are properly guarded, all controls and safety devices tested and operative, all painting required done and the site cleaned up.

3.10 ONE YEAR GUARANTEE AND MAINTENANCE SERVICE CONTRACT

- A. In addition to the Guaranty on material and workmanship, the installer shall submit Seven (7) copies the Maintenance Service Contract, countersigned by the Contractor, that will validate said Guaranty.
- B. The Guarantee and maintenance services shall extend for a period of one year commencing after 30 consecutive days of trouble-free operation after

the Project Acceptance Date, and shall include all labor, materials, equipment and parts necessary to service the complete system, in accordance with the Schedule of Maintenance Service (see Section 3.12), so as to assure proper operation and function of the system. All costs for the periodic maintenance, including emergency calls, shall be borne by the Contractor. This maintenance period and the Guaranty period shall run concurrently (same start and end dates).

Trouble-free operation is defined as a non-disabling condition or a non-recurring failure or disruption and the following:

1. The system shall be free of all discrepancies, contamination and debris which require correction in excess of those described for the monthly service which is included in the Schedule of Maintenance.
 2. The system is maintaining operational conditions and other parameters measured during acceptance tests.
- C. The Installer shall include a listing of the following items along with the Maintenance Service Contract:
1. Name of the servicing contractor.
 2. Mechanical system acceptance date.
 3. Service contract expiration date.
 4. Monthly inspection schedule for the maintenance period.
 5. Itemized listing of the equipment covered under the service contract, including a description of the equipment identified, its serial number(s) and manufacturer's name(s).
- D. The Maintenance Service Contract shall be submitted along with the Operations and Maintenance Manual on/or before the Project Acceptance Date.

Note to Contractor: Equipment specified shall have either replacement parts which are locally stocked and an in-state service organization able to provide the necessary repair and maintenance service.

Distribution of Submittal:

1 Copy: Contractor
1 Copy: Homeowner
1 Copy: State

3.11 OPERATIONAL AND MAINTENANCE MANUAL

DHHL IMPROVEMENTS
HILO/WAIMEA AND EAST/WEST HAWAII
ISLAND OF HAWAII, HAWAII
IFB-16-HHL-005

General Mechanical Requirements
15000-12

A. Submit Three (3) hard bound copies of the Operating and Maintenance Manual on all equipment and the system as a whole. The manual shall identify project name and number, contractor, consultant, date and all equipment provided. It shall include the equipment manufacturer's name, model and serial number, tag no., capacity, quantity of units, their location and area (room) served and shall include the manufacturer's operation and maintenance manuals including control and wiring diagrams and source of service and replacement parts. When standard manufacturers brochures are used, adequately indicate (highlight, arrow, etc.) the project related information and delete (X or cross-out) the non-applicable information.

B. Distribution of Submittal:

1 Copy: State

1 Copy: Homeowner

3.12 SCHEDULE OF MAINTENANCE SERVICE

All services performed by the Contractor shall include applicable items listed but shall not be limited to the following maintenance tasks:

A. Fan Coil Unit

Monthly Service

1. Flush all related condensate drain lines with nitrogen. (Contractor may be liable for water damage due to clogged drains). Install pan tablets if necessary to control algae.
2. Clean all air filters at least once a month.
3. Lubricate and oil all fan and motor bearings and connections.
4. Check all drives for wear; adjust accordingly.
5. Operate equipment to check for proper operation, unusual noise and vibration; adjust or repair all equipment and controls as required; clean-up all equipment.
6. Certify performance of monthly services and that all discrepancies are reported and corrected.

Annual Service

1. Adjust alignment of bearings; lubricate fan and motor bearings.

Replace worn or noisy parts. Clean cooling coils of dirt accumulation using nitrogen, high pressure air, or chemical coil cleaner solution.

2. Clean supply and return air grilles.
3. Clean all fan wheels and interior and exterior of equipment housings.
4. Secure all loose housing, seal leaks and touch-up paint after cleaning all rust.
5. Check and calibrate all electric temperature controls.
6. Certify performance of annual service and correct and report all discrepancies.

B. Air Cooled Condensing Unit

Monthly Service

1. Perform the tasks of Item A. Fan Coil Unit: Monthly Service.
2. Check compressor oil level and refrigerant sight glass; add oil as needed and change filter/drier if moisture indicated.
3. Check refrigerant system for leaks, unusual noise and vibration and record suction, discharge and oil pressures in maintenance log book and correct and report all deficiencies.

Annual Service

1. Perform the tasks of Item A. Fan Coil Unit: Annual Service.
2. Check compressor coupling alignment: lubricate or replace noisy bearings.
3. Clean condenser coils of dirt accumulation using nitrogen, high pressure air/water, and steam or chemical coil cleaner solution.
4. Test compressor crankcase oil and replace if contaminated or submit oil test results. Clean or replace strainer and oil filter (open compressor).
5. Test and check system response at various cooling load conditions for proper operation, record settings, adjust as required. Re-calibrate all safeties, capacity, and temperature controls to proper

settings.

6. Check and clean all unit housing (inside and outside and components), seal leaks and remove rust from exterior components and touch-up paint. Megger (electrical test to measure wire insulation resistance, i.e. condition) compressor motor and submit report and recommendation; check starter, relays, and control contacts and electrical connections for tightness and clean as required.

C. Ventilation Fans (Exhaust)

Quarterly Service

1. Remove and wash intake grille.
2. Certify performance of quarterly fan maintenance service and correct and report all discrepancies.

Semi-Annual Service

1. Check and clean fan wheels and housings of dust, dirt, and grease.
2. Remove and wash all intake grilles.
3. Certify performance of semi-annual fan maintenance service and correct and report all discrepancies.

D. Temperature Controls

Quarterly Service

1. Check control devices for proper operation, sticking stems, and calibration; repair/replace weak or broken springs and all other parts.
2. Certify performance of quarterly maintenance service and that all discrepancies are reported and corrected.

E. Solar Water Heating System

Semi-Annual Service

1. Check temperature sensors, circulation pump, and control panel for proper operation. Repair/replace parts as necessary.

- F. Certify performance of semi-annual maintenance service and that all discrepancies are reported and corrected.

G. Work Schedule:

All maintenance work shall be performed between the hours of 7:30 a.m. and 4:00 p.m. on normal working days, Monday through Friday, excluding Holidays.

H. Trouble Calls:

Emergency service and repairs required between regular service calls shall be rendered within 24 hours after the Contractor is notified, non-work days excluded.

I. Maintenance Report/Checklist:

The Contractor shall prepare and maintain a maintenance service report/checklist which shall include the following:

1. Date maintenance service was performed.
2. The name of the mechanic who performed said maintenance.
3. The type and cost (labor, materials, parts and equipment) of repair work performed on the unit, if any.
4. Documents and other data pertaining to the maintenance performed.
5. Service (Monthly, Quarterly, Annual) check list of status of all items per schedule and operation and maintenance manual.

It will be the responsibility of the Contractor to maintain the report/checklist by recording the above noted data after each scheduled maintenance and emergency repairs, and have the checklist available for inspection at the site. The report shall be sufficiently detailed to properly reflect the past maintenance history of the equipment.

Reports shall be certified by a representative of the facility being served and shall be submitted to the State monthly.

3.13 CLEANUP AND WORK PRACTICES

- A. The Contractor shall keep the job site free of debris, litter, discarded parts, etc. and shall clean all oil drippings during the daily progress of work. The Contractor shall remove all tools, parts and equipment from the service areas upon completion of the work.
- B. The Contractor shall exercise caution during the progress of its maintenance and repair work to prevent damage to the ceilings, roofing

and other building structure.

The Contractor shall restore all damages, caused by its negligence, to its original condition at its own expense.

PART 4- MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SERVICE MAINTENANCE REPORT

Date:

SHEET NO.

Name of Service Personal:

Name of Facility and Location:

Date of Service Call:

Time In, Time Out at Site:

Person(s) Contacted:

Nature of Service Call - (Routine Maintenance or Emergency - Explain and Cost Break-down).

Equipment Readings and Maintenance Performed.

Remarks:

SECTION 15250 - INSULATION OF MECHANICAL SYSTEMS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 GENERAL REQUIREMENTS FOR THIS SECTION

Section 15000, "General Mechanical Requirements", with the additions and modifications specified herein, applies to this section.

1. Manufacturer's Stamp or Label: Every package or standard container of insulation, jackets, cements, adhesives and coatings delivered to the project site for use must have the manufacturer's stamp or label attached giving name of manufacturer, brand and description of material. Insulation packages and containers shall be marked "asbestos-free".
2. Fire Resistance: Insulation, adhesives, vapor-barrier materials and other accessories, except as specified herein, shall be noncombustible. The materials shall have a flame-spread rating not more than 25 and a smoke-developed rating not more than 50 in accordance with NFPA 255, ASTM E 84-80 or UL 723.
 - a. Materials Tests: Test factory-applied materials assembled. Field-applied materials may be tested individually. Use no fugitive or corrosive treatments to impart flame resistance. UL label or satisfactory certified test report from an approved testing laboratory will be required to indicate that fire hazard ratings for materials proposed for use do not exceed those specified. Flame-proofing treatments subject to deterioration due to effects of moisture or high humidity are not acceptable.
 - b. Materials Exempt from Fire-Resistant Rating:
 - 1) Nylon anchors
 - 2) Treated wood inserts

1.03 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.

- B. The items for which the submittal requirements of Section 15000, "General Mechanical Requirements", apply are as follows:
1. Manufacturer's Data:
 - a. Insulation
 - b. Jackets
 - c. Vapor-barrier materials
 - d. Accessory-materials
 2. Standards Compliance. Standards compliance labels are required on each container or package:
 - a. Insulation
 - b. Jackets
 - c. Vapor-barrier materials
 - d. Accessory materials

1.04 DEFINITIONS

- A. Finished Spaces: Habitation or occupancy spaces where rough surfaces are plastered, paneled or otherwise treated to provide a pleasing appearance.
- B. Unfinished Spaces: Storage or work areas where appearance is not a factor, unexcavated spaces, crawl spaces, etc.
- C. Concealed Spaces: Spaces between a ceiling and floor construction above or between double walls or furred-in areas; pipe and duct shafts, etc.
- D. Exposed: Open to view inside the building. For example, pipe run through a room and not covered by other construction, is exposed.
- E. Fugitive Treatments: Treatment of materials subject to deterioration due to aging, moisture, high humidity, oxygen, ozone and heat. Fugitive means entrapped materials that can cause deterioration e.g., solvents, water vapor, etc.
- F. Outside: Open to view beyond the exterior side of walls, above the roof and unexcavated or crawl spaces, above or beneath pier floors, in tunnels or exposed on all sides in trenches connected or not connected to an exterior portion of a building.

1.05 PIPING REQUIRING INSULATION

- A. Hot Water Piping.
- B. Cold Water Piping
- C. Refrigerant Piping
- D. Condensate Drain Piping

PART 2 – PRODUCTS

2.01 PIPING INSULATION

Insulation exterior shall be cleanable, grease resistant, non-flaking and non-peeling. Pipe insulation shall conform to the referenced publications and the specified temperature ranges and densities in pounds per cubic foot (pcf). Insulation for fittings and flanges shall be pre-molded, pre-cut or job-fabricated insulation of the same thickness and conductivity as used on adjacent piping.

- 1. Refrigerant Piping: All refrigerant piping shall be insulated with 1" AP Armaflex closed cell insulation, provide with Pittwrap and finish with Johns Manville, Zeston 2000 PVC Jacket, 0.20 mils thick, or approved equal
- 2. Interior Cold Water Piping: All interior cold water piping shall be insulated with: 3/4" Rubatex or equal.
- 3. Interior Hot Water Piping: hot water piping shall be insulated with 1" fiberglass insulation with insulation jacket.
- 4. Condensate Drain Piping: All interior condensate drain piping shall be insulated with 3/4" Rubatex or equal.

2.02 INSULATION JACKETS

Vapor-Barrier Material: Material shall be resistant to flame and moisture penetration and not support mold growth. Provide vapor-barrier material on insulation in exposed locations with a white surface suitable for painting without sizing. Perm rating of .01.

2.03 ADHESIVES. SEALANTS AND COMPOUNDS

Shall be compatible with materials to which applied and suitable for the service.

- 1. Vapor-Barrier and Jacket Adhesive: Fire resistant type. Foster Products or approved equal
- 2. Lagging Adhesive: Fire resistant type. Foster Products or approved equal.

3. Mineral Fiber Insulation Cement: ASTM C 195, thermal conductivity 0.85 max at 200 degrees F mean when tested per ASTM C 177.
4. Bedding Compound and Joint Sealer: Fire resistant type. Foster Products or approved equal.
5. Vapor-Barrier Coating: Fire resistant type. Perm rating of .05. Foster Products or approved equal.

2.04 ACCESSORIES

- A. Staples: Corrosion-resistant outside-clinch type.
- B. Anchor Pins: Provide anchor pins and speed washers recommended by the insulation manufacturer.
- C. Glass Cloth and Tape. Textile Glass.
- D. Vapor-Barrier Material Tape. Pressure-Sensitive adhesive backed. Arno or approved equal.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install insulation system in accordance with manufacturer's recommendations using tradesman skilled in this trade and approved by the insulation manufacturer. Provide insulation products with a composite (insulation, jacket and adhesive) fire and smoke hazard rating as tested under ASTM E84, NFPA 255 and UL 723 not exceeding a flame spread of 25 and smoke developed of 50s.
- B. Pipe Insulation Thickness: insulation thickness shall conform to Table 1.

PIPE INSULATION THICKNESS (Inches Nominal)				
	PIPE DIAMETERS (Inches)			
	.25-1.25	1.5-3	3.5-5	6-10
Flexible Cellular/foam Glass	1	1	2	3

Table 1.

- C. Expansion Clearances: At points where pipe will move during expansion and contraction (expansion joints, Z-bends, expansion loops and ells), clearances between the pipe and encased insulation shall be sized to permit full pipe movement without cracking or damaging insulation and jacket.

3.02 FIELD INSPECTION

Visually inspect to insure that materials used conform to specifications. Inspect installation progressively for compliance with requirements.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
15250.1	Insulation of Mechanical Systems	Lump Sum

END OF SECTION

SECTION 15400 - PLUMBING PIPING AND SPECIALTIES

PART 1- GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 SCOPE

Plumbing work as indicated on the drawings including tightness test, disinfection of potable water lines, clean-up, and record drawings and product warranty certificates. Connection to the water service and sanitary system.

1.03 WORK SPECIFIED IN THIS SECTION

All materials, labor and equipment necessary for complete and operating interior plumbing system within 5 feet of building face, including complete sanitary and potable water lines.

1.04 WORK SPECIFIED IN OTHER SECTIONS

- A. Section 15000: General Mechanical Requirements
- B. Section 15250: Insulation of Mechanical Systems
- C. Section 15450: Plumbing Fixtures and Trim

1.05 STANDARDS AND CODES

Installation shall conform to all applicable provisions of the latest editions of the following:

- A. County of Hawaii Plumbing Code.
- B. State of Hawaii, Title 11 Administrative Rules, Department of Health.
- C. Water System Standards, State of Hawaii.
- D. American Water Works Association Standards.
- E. American Society for Testing and Material (ASTM) Standards.
- F. American National Standards Institute (ANSI) Standards.
- G. Hawaii County Energy Code.

H. All Other Applicable Codes and Standard.

Where the Specifications indicate materials or construction in excess of code requirements, the Specifications shall govern. The Contractor shall be responsible with conforming to all codes and standards regulating this work whether specifically mentioned or not in these specifications.

1.06 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. The items for which the submittal requirements of Section 15000 "General Mechanical Requirements", apply are as follows:
 - 1. Manufacturer's Data:
 - a. Water Piping and Valves
 - b. Unions
 - c. Escutcheons
 - d. Hangers and Supports

PART 2 - PRODUCTS

2.01 GENERAL

- A. All materials shall be new, free of defects and conform to the Local Codes. Materials that are defective or unsatisfactory to the Engineer shall be replaced at no additional compensation from the State.
 - B. These product specifications are general and encompass piping items found in typical commercial work. Some items may not be applicable to this particular project. Contractor shall also provide any other products, not specifically mentioned here which are part of normal accepted trade practice for the installation of a functioning plumbing system.
- 2.02 Specific product listings in this Part shall not preclude alternative product selections of comparable or superior quality. Contractor may make reasonable substitutions, provided that these are submitted to the Engineer for approval PRIOR TO BID opening. The Contractor shall be responsible for design changes to accommodate the substituted product, at no additional cost to the State.

2.03 POTABLE WATER PIPING

- A. Water Lines Above Grade; Copper Type L, hard temper, with wrought
- DHHL IMPROVEMENTS
HILO/WAIMEA AND EAST/WEST HAWAII
ISLAND OF HAWAII, HAWAII
IFB-16-HHL-005
- Plumbing Piping and Specialties
15400-2

copper or cast bronze fittings made up with silvabrite 100 lead free solder. All copper piping in walls and thru floors shall be provided with IPS Weld-On Pipe Insulators at all wood contact with the copper piping.

- B. Ball Valves/Balancing Valves: Nibco S-FP-600 brass ball valves, provide with locking lever for balancing valves or approved equal.
- C. Check Valve: Horizontal Swing, 200 psi CWP. Nibco S-413-Y-LF or approved equal.

2.04 UNIONS

- A. Copper. Bronze body, 200 psi using ground joints for 2' piping and smaller.
- B. Dielectric Unions shall separate all ferrous and nonferrous metals in all piping systems. Unions shall match those above, except that of metal-to-metal contact shall be avoided. Where flanges are used, the bolts shall be electrically insulated from the body of the flange.

2.05 AIR CHAMBERS

Air chambers shall be 12" Jong copper tubing, the same size as branch pipe to fixture. Pipe shall be capped, crimping is not allowed.

2.06 ESCUTCHEONS

Brass body, chrome-plated finish. Of sizes sufficient to cover pipe openings through the floor, wall, or ceiling. Escutcheons shall be secured in place by either spring clips or setscrews.

2.07 PIPE SLEEVES

Schedule 40 galvanized steel pipe sleeves in concrete, 18 gauge galvanized sheet metal sleeves in other construction. Sleeves shall be sized to provide a minimum of 1/4" clearance around bare or insulated piping or as otherwise required by Code.

2.08 PIPE HANGERS AND SUPPORTS

- A. General: All hangers and supports shall be of the res1hent type as indicated below.
- B. For Uninsulated Copper Tubing: Acousto-Plumb Systems.
- C. For Insulated Copper Tubing: Acousto-Plumb Systems.

- D. Riser Clamps: Black steel, Fee and Mason No. 241. PVC coated, Erica, Acousto-Plumb Systems for Copper Piping.

E. Hanger Spacing:

Pipe	Maximum Spacing
Copper Tubing, 1-1/2" and smaller	6 ft.
Copper Tubing, 2" and larger	10 ft.

- F. Hanger Rods: Continuous threaded rod conforming to ASTM A-107. Eye rods shall be Fee and Mason Figure No. 228 and 228 WL. Sizes shall be as follows:

Pipe Size	Rod size
1/2" to 2"	3/8"
2 1/2" to 3"	1/2"
4" to 6"	5/8"

2.08 PLUMBING FIXTURES AND TRIM

As indicated in Section 15450.

PART 3 - EXECUTION

3.01 PROPOSED WORK APPROVAL

Do not commence with installation until shop drawing and equipment brochure submittals are approved.

3.02 FIELD INVESTIGATIONS

Existing utility locations shall be field-verified. Unforeseen obstructions or lack of invert depth shall be brought to the attention of the State.

3.03 WORKMANSHIP AND COORDINATION

- A. All work shall be of the highest standard. Poor workmanship will be rejected by the Engineer and shall be replaced at no additional cost to the State.
- B. Coordinate this work with schedules of other trades, specifically sanitary gas and water lines below concrete slabs or concealed in walls.
- C. Lay out piping to insure a neat and orderly arrangement, with vertical lines plumb.

- D. Carefully handle all exposed piping to avoid tool marking. Handle polished fittings with extra care so tool marks do not show.

3.04 PIPING INSTALLATION

A. Cutting and Patching:

1. Cutting and patching to accommodate this work shall be done by that trade experienced in the particular type of work required.
2. Where cutting of framing or structural members is unavoidable, obtain the approval of the Engineer before proceeding.

B. Roughing-In:

1. Proceed with the rough-in work as rapidly as general construction will permit and have all of the roughing-in stubbed out and tested before any finished work are in place.
2. Fit all piping to follow the building structural elements as closely as possible.

C. General Installation Guidelines:

1. Inspect all pipes fully inside and out for defects. Ream out ends of pipe and remove all burrs. Water and gas lines shall be protected during construction to prevent contamination of interior surfaces.
2. Do not close up before pipe inspection and approval is given by the Engineer.
3. Provide pipe sleeves where pipes pass through masonry below grade. Fill annular space within sleeves with nonstick grout or fire stop. Flashing around base of pipes penetrating the roof shall be provided under another section.
4. Protect copper tubing from coming in contact with dissimilar metal with dielectric union. Provide plastic sleeves for underground copper lines.
5. All piping shall be properly and safely supported. Support soil stacks at their bases and at each floor with metal clamps. Horizontal pipes above grade shall be supported with hangers not more than 18 inches from every joint. Provide seismic sway bracing at all horizontal supported piping.

3.05 FIXTURE INSTALLATION

- #### A.
- Set all plumbing fixtures in an approved workman like manner. Point up edges against wall with approved sealant

- B. Adjust equipment and plumbing fixtures to operate properly and clean all fixtures just prior to final inspection.

3.06 DISINFECTION OF WATER LINES

- A. Flush out water lines to remove foreign matter. After flush water runs clear, disinfect the lines with chlorine in accordance with AWWA Standard C601, pertaining to methods, concentrations, and contact times. Flush out until residual is reduced to 0.3 ppm. Submit a certificate of completion for this work from a contractor experienced and licensed to do disinfecting work.
- B. Obtain two water samples from selected points and submit them to a licensed laboratory for bacteriological testing. Water shall meet Federal Water purity standards. Submit the laboratory report. All costs of testing shall be borne by the Contractor. Notify the Engineer in writing if the County water supply to the site exceeds maximum permissible limits for coliform content.

3.07 TESTS AND ACCEPTANCE INSPECTIONS

- A. Test all new plumbing lines in accordance with methods described in Section 318 of the Plumbing Code.
- B. The Contractor shall arrange for inspections by the County and conduct required tests in the presence of the Engineer and inspectors from the County.
- C. Tests shall be repeated as necessary to satisfy the Engineer, or such tests shall be made by the Engineer and charged to the Contractor.

3.08 CLEAN-UP AND REPAIRS

- A. Upon completion of the work, remove all debris, excess materials, tools, etc., resulting from this work from the job site, and leave the location broom-clean in a manner acceptable to the Engineer.
- B. Clean all fixtures and equipment of oil, grease, stains, paint, etc. All plates, trim, etc., shall be polished. Traps and drains shall be clean and unobstructed. All equipment piping and lines shall be thoroughly cleaned before leaving the work.

3.09 WARRANTY

- A. Guarantee work against defects for one year after acceptance. Furnish manufacturer's product warranty certificates in a binder.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
15400.1 Sum	Plumbing Piping and Specialties	Lump

END OF SECTION

SECTION 15450 - PLUMBING FIXTURES

PART 1- GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 WORK SPECIFIED I N THIS SECTION

- A. All materials, labor and equipment necessary for complete and operating interior plumbing fixtures.
- B. A complete system of drain piping.
- C. A complete hot water and cold water system including point of connection as indicated on drawings.
- D. Painting of exposed plumbing pipes and supports.

1.03 WORK SPECIFIED IN OTHER SECTIONS

Section 15000: General Mechanical Requirements

Section 15250: Insulation of Mechanical Systems

Section 15400: Plumbing

Section 09910: Painting

1.04 QUALITY ASSURANCE

- A. Products of the following manufacturers are acceptable in lieu of those specified hereinafter, subject to submittal and shop drawing requirements specified in Section 15000 - MECHANICAL GENERAL REQUIREMENTS. All additional related work caused by the product installation and operational requirements shall be the contractor's responsibility at no additional cost to the DHHL.
 - 1. Valves: Nibco, Stockholm.
 - 2. Insulation: Owens Corning, Mansville, Certainteed.
 - 3. Pipe Supports: Elceen, Fee and Mason, Grinnell, Unistrut.
 - 4. Solar Hot Water Tank: SunEarth, Ruud, Rheem

5. Solar Heater Panels: SunEarth, Radco, Rheem, Solahart.
 6. Solar Heater Circulation Pump: Taco, Bell & Gossett, Grundfos.
 7. Mixing Valves: Cash ACME, Watts, Leonard, Symmons, Powers.
 8. Differential Temperature Controls: Steca, SunEarth, Goldline
 9. Time Switch: Intermatic, GE, Sylvania, Woods.
- B. Comply with the latest recommendations and requirements of the Codes and Standards listed hereafter in addition to detailed requirements of this specification. In the event of conflicting requirements, these specifications shall prevail.

American Society for Testing and Materials Publications (ASTM):

A53/A53M Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.

B88 Seamless Copper Water Tube.

American National Standards Institute Publications (ANSI):

B16.8 Cast-Bronze Solder-Joint Pressure Fittings with Addenda 816.1Ba-967.

B16.22 Wrought Copper and Bronze Solder-Joint Pressure Fittings.

B16.23 Cast-Bronze Fittings for Flared Copper Tubes. B16.26 Wrought Copper and Wrought Copper Alloy Solder-Joint Drainage Fittings.

C1 National Electrical Code.

American Society of Mechanical Engineers (ASME):

ERRATA Boiler and Pressure Vessel Codes.

National Fire Protection Association Publication (NFPA):

255 Surface Burning Characteristics of Building Materials, Test Methods.

Underwriters' Laboratories Publications (UL):

732 Surface Burning Characteristics of Building Materials, tests for.

1.05 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. The items for which the submittal requirements of Section 15000, "General Mechanical Requirements", apply are as follows:
 - 1. Manufacturer's Data:
 - a. Plumbing Fixtures

PART 2 - PRODUCTS

2.01 PLUMBING FIXTURES

- A. Solar Hot Water Tank/Back-Up Heater: SunEarth Model SUBOTC-1, 80 gallon storage capacity with 4500 watt heating element.
- B. On-Demand Gas Water Heater (WH-1): Rheem Model RTG-95DULN, Indoor direct vent, temperature range 80 °F to 140 °F, GPM at 40 °F temperature rise of 7.4, and maximum GPM 9.5.
- C. Solar Water Heating Panels: 4' x 10' Solar Panels shall be SunEarth model EC40.
- D. Solar Heater Circulation Pump: Circulation pump shall have 3-speed motor with Stainless Steel Union Housing. Motor shall be a 2-pole, single phase motor and operate off of a 115v source. Pump shall be capable of delivering 2 GPM at 11 feet of head, Grundfos Model UPS 35-SUC.
- E. Mixing Valve: Cash Acme Mixing Valve 110-DLF Series, 95 degrees to 120 degrees.
- F. Mounting Hardware: Bronzed Anodized Sola Strut, with 316 Stainless Steel Strut Nuts and Hanger Bolts.
- G. Differential Temperature Controller: Microprocessor-based differential temperature control shall have LCD with adjustable temperature setting for on/off differential and high limit. Control shall have 3 outputs for temperature sensors with varistor high voltage spike protection and one 120VAC output for circulation pump control. Steca SETR 0301 U, provide with PT1000 Probe and PT1000 Lug Temperature Sensors.
- H. Time Switch: The time switch shall be of the 24 hour dial type capable of permitting up to 12 ON/OFF operations each day. The time switch shall provide a minimum ON or OFF time of 1 hour. The time switch to be powered by 208-277 volt AC, 60 Hz power supply. The time switch motor

shall be a synchronous motor which shall be designed to withstand a minimum of 6000 volt transients. Time switch shall include a skipper feature and shall provide for maintaining a selected schedule during the week and allow the load to remain ON as required during weekend or other desired time periods.

The time switch mechanism shall be a snap in design to provide ease of mechanism removal for mounting the enclosure. The time switch enclosure shall be a NEMA 1 lockable steel enclosure. The time switch shall include an external override to allow overriding of the time switch without opening the cover and to provide override capability when the cover is padlocked. A visual indicator shall be provided in the time switch for inspecting clock motor operation. The time switch shall provide clear terminal identification on a see-through non-curling terminal insulator.

Terminal connections shall be made using teeter type terminal screws to provide secure connections for wire sizes up to 8 AWG. Switch shall have a UL listed rating of:

40 amps per pole, Resistive, Inductive Tungsten 125/208/240/277 Volts AC

1. 1000 VA Pilot Duty, 125/208/240/277 Volts AC
2. HP (24 FLA), 125 Volts AC
3. 5 HP (28 FLA), 240 Volts AC

Time switch shall be UL listed under UL category 917 Clock Operated Switches and shall be Intermatic Model WH40.

- I. Gas Water Heater: 3"/5" Concentric Vent System with Integrated Condensate Collector (indoor models only) connects to Metal Fab Inc., 3"/5" Concentric Venting without an adapter. Next Generation Burner Technology. .26 GPM Minimum Flow Rate. .40 GPM Minimum Activation Flow Rate. UMC-117 remote control and 10 ft. of thermostat wire is included. Exclusive! Guardian OFW™ overheat film wrap. All Rheem tank-less models are third-party efficiency certified by GAMA. Continuous hot water, energy saving and compact, space saving design. Intelligent electronic controls designed to increase energy efficiency and safety. Self-Diagnostic System. Digital display shows temperature setting and maintenance codes. Built-in electric blower. Supplied with a 120 volt power cord. Environmentally friendly Low NOx burner meets SCAQMD rule 1146 requirements. Freeze protection to -30° F.

- J. Solar Storage Tank: Tank shall be specifically designed for installation as a thermal storage tank. Water port fittings shall be located at front of storage tank. Tank shall have full port, full flow brass drain valve. Tank shall have factory installed temperature and pressure relief valve and vacuum breaker. Tank shall be Rheem Marathon 50 gallon capacity, MTS50200 or approved equal.

PART 3 - EXECUTION

3.01 EQUIPMENT SUBSTITUTIONS APPROVAL

Do not commence with installation until proposed equipment substitution submittals are approved.

3.02 FIXTURE INSTALLATION

- A. Set all plumbing fixtures in an approved workmanlike manner. Point up edges against wall with approved caulking.
- B. Flanges at wall penetrations shall be flush against wall and shall not spin when rotated by hand.
- Adjust equipment and plumbing fixtures and trim to operate properly and clean all fixtures just prior to final inspection.
- C. Provide individual accessible stop valves on all fixture and equipment supply piping.
- D. All exposed metal parts, accessories and fittings associated with plumbing fixtures (including piping) shall be chrome finished unless another finish is specifically indicated otherwise. Provide polished chrome plated brass escutcheons at all exposed piping structure penetrations (wall, floor, ceiling, etc.) and fixture connections.
- E. Install all fixtures according to manufacturer's recommendations.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

Item No.	<u>Item</u>	<u>Unit</u>
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15450.1

Plumbing Fixtures

Lump Sum

END OF SECTION

DIVISION 16 – ELECTRICAL

SECTION 16100 - ELECTRICAL WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the Contract, including General and Special Provisions and General Requirements of the Specifications apply to the work specified in this section.

1.02 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. Shop Drawings: Submit complete shop drawings and manufacturer's literature for Engineer's review before any work is fabricated. Submit manufacturer's literature for the following:
 - 1. Loadcenter.
 - 2. Combination Meter Socket with Disconnect.
 - 3. Combination Meter Socket with Loadcenter.
 - 4. Disconnect Switches.
 - 5. Receptacles.
 - 6. Non Metallic Sheathed Cable.
 - 7. Service Entrance Cable.
 - 8. Raceways.
 - 9. Junction Boxes.

Intent of Shop Drawing and Catalog Cut Review:

- 1. Shop drawing and catalog cut submittals processed by the Engineer are not Change Orders. The purpose of the submittals by the Contractor is to demonstrate to the Engineer that he understands the design concept, that he demonstrates his understanding by indicating which equipment and material he intends to furnish and install and by detailing the fabrication and installation methods he intends to use.
- 2. If deviations, discrepancies or conflicts between shop drawings and specifications are discovered either prior to or after shop drawing submittals are processed by the Engineer, the design drawings and specifications shall control and shall be followed.

3. Prequalification: Where materials or products specified herein are designated by manufacturer's name, any request to substitute materials or products other than those specified shall be approved by the Engineer during the bidding period, as specified in the SPECIAL PROVISIONS. Burden of proof of equality of proposed substitutions will be the responsibility of the Contractor.
4. Shop drawings and catalogue cuts for substitute materials shall clearly specify compliance with and/or deviation from specified material. Certification shall not contain statements to imply that the item does not meet requirements specified, such as "as good as"; and "achieve the same end use and results as materials formulated in accordance with the referenced publications". Certifications shall simply state that the item conforms to the requirements specified. Certificates shall be printed on the manufacturer's letterhead and shall be signed by the manufacturer's official authorized to sign certificates of compliance. Review of shop drawings and catalogue cuts shall not release Contractor from complying with intent of drawings and specifications.

1.03 GUARANTEE AND CERTIFICATE

Any item of material, apparatus, equipment, furnished and installed, or construction by the Contractor showing defects in design, construction, quality or workmanship within one year from the date of final acceptance by the State shall be replaced by such new material, apparatus or parts as may be found necessary to make such defective portion of the complete system conform to the true intent and meaning of the specification and/or the drawings. Such repairs or replacement shall be made by the Contractor or his surety, free of all expense to the State.

1.04 GENERAL REQUIREMENTS

The Contractor shall furnish all labor, materials (except as hereinafter noted), tools, equipment and appliances required to provide and install all electrical work, complete, as indicated on the drawings and/or as herein specified. The drawings note various sizes of equipment as determined for basis of design; the electrical work, however, shall be installed to comply with the equipment furnished by the successful supplier. The work shall include but not necessarily be limited to, the following:

1. Provide complete electrical system for all new mechanical equipment including ACCU, FCU, exhaust fans, electric water heaters, etc.
2. Before bidding on this work. Carefully, examine each of the drawings and the site. By submitting a proposal of the work included in this Contract, the Contractor shall be deemed to have made such examination and to be familiar with and accept all conditions of the job site.

3. Prior to ordering equipment, the Contractor shall examine the plans to verify the amount of space allocated for the electrical equipment and to determine if the material proposed will fit within the allotted space. It shall be the contractor's responsibility to provide equipment that will fit within the allotted space.
4. Rules and Permit: The entire installation shall be made in strict accordance with the latest rules and regulations of the National Board of Fire Underwriters, the currently adopted edition of the National Electrical Code (NEC) and the local Electrical Bureau. The Contractor shall obtain and pay for the electrical permit as required by local laws and rules. All work shall be inspected by the proper local authorities as it progresses. The Contractor shall pay all inspection fees and shall deliver certificates of completion and inspection to the State before final payment will be made. Costs of permits and inspection fees shall be included in the Contractor's bid price.
5. Make detailed arrangements and pay for all work by utility companies (HELCO) pertaining to contract.

1.04 COORDINATION WITH UTILITY COMPANIES AND OTHER TRADES

During bidding and construction, Contractor shall coordinate his work with utilities, and other trades to avoid omissions and overlapping of responsibilities. Contractor shall submit all service upgrade requests to HELCO. Contractor shall be responsible for all engineering designs, building department permit resubmittals and construction for all changes required by HELCO. Comply with all HELCO requirements and provide any additional requirements (junction boxes, utility poles, guy wires, etc.) as indicated by HELCO.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All materials shall be new, except as specifically noted, and shall bear the label of Underwriters Laboratories (UL) whenever standards have been established and label service is normally and regularly furnished by the agency.
- B. Loadcenter: Surface/flush-mounted as noted, rated as indicated on the drawings, with solid neutral, copper bussing, circuit breaker compliment as shown, complete with door, trim, 2-ply plastic nameplate and directory. Short circuit withstand capacity of load center shall match existing equipment, confirm rating with

HELCO. Provide NEMA 1 rating for interior locations and NEMA 3R for exterior locations.

- C. Individual Circuit Breaker: UL listed, molded plastic case circuit breaker with toggle operated mechanism and thermal-magnetic overload trips. Toggle positions "ON" and "OFF" engraved or embossed on body. Provide arc fault interrupter type breaker for circuits feeding the dining rooms, living rooms, bedrooms, hallways, etc. per NEC 210.12. Half width plug-in breakers are not permitted. For fan coil unit, exhaust fan and electric water heater circuits, provide breakers capable of being locked in the off position per NEC 422.31.
- D. Combination Meter Socket with Disconnect Meter socket shall be NEMA 3R, rain tight, fabricated from painted, galvanized steel, rated for 120/240V, 1-phase, 3-wire with four (4) jaw, with integrated circuit breaker and comply with all HELCO and EUSERC requirements. Short circuit withstand capacity of load center shall match existing equipment, confirm rating with HELCO.
- E. Combination Meter Socket with Loadcenter: Meter socket shall be NEMA 3R, rain tight, fabricated from painted, galvanized steel, rated for 120/240V, 1-phase, 3-wire with four (4) jaw, with integrated load center and comply with all HELCO and EUSERC requirements. Provide solid neutral, copper bussing, circuit breaker compliment as shown, complete with door, trim, 2-ply plastic nameplate and directory. Short circuit withstand capacity of load center shall match existing equipment, confirm rating with HELCO.
- G. Disconnect Switches: General-duty, horse-power rated when used as motor disconnect, non-fusible, lever-operated contacts, spring-loaded, 3P60A. Provide NEMA 3R enclosure. Handle shall be capable of being locked in the off position. Single Receptacles: Single receptacles rated at 20-ampere, 125-volt, back and side wired, 3-wires, in ivory plastic body with parallel and ground U-shaped slots, specification grade. Provide surface mounted in outlet box and device plate. Provide weatherproof, while-in-use hinged cover.
- H. Nonmetallic Sheathed Cable: Nonmetallic sheathed cable shall be copper, No. 12 minimum. 10 AWG and smaller, solid, No. 8 AWG and larger, stranded cable shall be UL-listed Type UF-8, sunlight, moisture and fungus resistant PVC Jacket.
- I. Service Entrance Cable: Service entrance cable shall be THHN/THWN stranded copper conductors, UL-listed Type SE, weather resistant PVC jacketed.
- J. Conductors and Cables: Conductors shall be copper, No. 12 AWG minimum; No. 10 AWG and smaller, solid; No. 8 AWG and larger, stranded. Conductors shall be type THHN/THWN for interior use and RHW-USE for exterior use.
- K. Raceways:
 - 1. Galvanized rigid steel (GRS): Hot dipped galvanized, 3/4" minimum diameter for exterior locations.

2. Non-Metallic Conduit: PVC Schedule 80, rated for direct bury.
 3. Flexible Metal Conduit: Hot dipped galvanized steel construction, fully interlocked; for wet or moist areas - liquid-tight with factory fittings, exterior rated with UV sunlight resistant jacket, UL-listed per UL-360.
- L. Outlet and Small Junction Boxes: In all conditions and for all cases, outlet and junction on boxes shall be increased in size to conform to NEC Article 314 fill requirements. Minimum size of box to be 4-11/16" square by 2-1/8" deep. Boxes shall be cast iron, stainless steel, ferrous alloy, or as noted on drawings, prime painted and enamel finished, with threaded hubs for conduit connection.
- M. Large Junction Boxes: For dry interior locations, the box shall be fabricated from NEC gauge galvanized steel with matching screw-on type cover, field punched knockouts. For exterior and wet locations, the box shall be NEMA 3R galvanized steel. All screws shall be galvanized steel.

PART 3 - EXECUTION

3.01 GENERAL

- A. Rules and Permit The entire installation shall be made in strict accordance with the latest rules and regulations of the National Board of Fire Underwriters, the currently adopted edition of the National Electrical Code (NEC) and the local Electrical Bureau. All work shall be inspected by the proper local authorities as it progresses. The Contractor shall pay all inspection fees and shall deliver certificates of completion and inspection to the Engineer before final payment will be made. Costs of permits and inspection fees shall be included in the Contractor's bid price.
- B. Qualification of Installers:
1. For actual fabrication, installation and testing of the work of this section, use only thoroughly trained and experienced workmen completely familiar with items required and with manufacturers' recommended methods of installation. In acceptance or rejection of installed work, no allowance will be made for lack of skill on part of workmen.
 2. Workmanship shall meet the approval of Engineer who shall be afforded every opportunity to determine skill and competency. Concealed work shall be reopened at random during formal inspection by Engineer at his request.
- C. Construction Methods: Construction shall conform to construction practices as recommended by the American Electricians Handbook by Croft (latest

edition), Edison Electric Institute, National Electrical Code, National Electrical Safety Code and applicable instructions of manufacturers of equipment and material supplied for this project.

- D. Provide structural bracing for equipment permanently attached to the building. Structural bracing shall resist the effects of earthquake motions in accordance with ASCE 7 per 2006 IBC, Section 1613.
- E. Field-Posted As-Built Drawings: The Contractor shall maintain an accurate and adequate record of each change as it occurs, regardless of how ordered and submit as-built drawings after project completion.
- F. Plans and Specification: This specification is intended to cover all labor, materials and standards of workmanship to be employed in the work indicated on the plans and called for in the specification or reasonably implied therein. The plans and specification supplement one another. Any part of the work mentioned in one and not represented in the other, shall be done the same as if it had been mentioned in both. The Contractor shall not make alterations to the drawings and specification.
- G. Discrepancies and Interpretations:
 - 1. Should the Contractor find any discrepancies in or omissions from any of the documents or be in doubt as to their meaning, he shall advise the Engineer who will issue any necessary clarification within a time period which does not disrupt the progress of the work.
 - 2. All interpretation and supplemental instructions will be in the form of a written addenda to the Contract Documents.
 - 3. Should any discrepancy arise from the failure of the Contractor to notify the Engineer, the higher quality or larger quantity of item shall prevail. Engineer shall make the final interpretation and judgment.
 - 4. In the event of a discrepancy between small scale drawings and large scale details, or between drawings and specification, on which is in violation of any regulations, ordinances, laws or codes, the discrepancy, if known by the Contractor, shall be immediately brought to the attention of the Engineer for a decision before proceeding with the particular work involved. Work carried out disregarding these instructions will be subject to removal and replacement at the Contractor's expense.
- H. Symbols: The standard electrical symbols together with the special symbols,

notes and instructions shown on the drawings indicate the work required and are all to be included as a part of this specification.

- I. Coordination: This specification is accompanied by floor plans of the affected buildings, elevations, and site plans indicating locations of all boxes, electrical connections, service runs, and other electrical apparatus. These locations are approximate and, before installing, the Contractor shall study the adjacent architectural details and actually make the installation in the most logical manner. The circuit routing is typical only and may be varied in any logical manner.

3.02 INSTALLATION

A. Grounding:

1. All metallic enclosures, raceways, and electrical equipment shall be grounded according to requirements of NEC Article 250. Final connection to equipment, raceways and other metallic parts directly exposed to ungrounded electric conductors shall be No. 12 AWG minimum, copper, NEC type TW, green insulation. Use approved bonding terminal at loadcenters.
2. All grounding wire runs within building shall be routed together with circuit conductors. Bond and ground all feeder conduit to loadcenter enclosures.

B. Wiring System:

1. For direct bury, use Schedule 80 PVC. Provide separate ground wire and rise out of ground with PVC. Transition to flexible conduit as required within 6" of finished grade or floor.
2. Flexible conduit shall be used for connecting air cooled condensing units, electric water heaters and other equipment subject to vibration, movement or exposure to weather.
3. Conduit shall be cut square and inner edges reamed. Butt together evenly in couplings.
4. Bends and offsets shall be made with hickey or conduit bending machine. Do not use vise or pipe tee. Bends shall be made so that interior cross-sectional areas will not be reduced. Radius of curve of inner edge of field bend shall not be less than ten times internal diameter of conduit.
5. Use of running threads and set screw couplings will not be permitted. Where conduit cannot be joined by standard threaded couplings, approved watertight conduit union or compression couplings shall be used.

6. Cap conduit, during construction, with plastic or galvanized pipe caps to prevent entrance of dirt or moisture. All conduits shall be swabbed out and dried before wires or cables are pulled in.
7. Conduit shall be mounted clear of other piping, valves or mechanical equipment.
8. Fish wires, cords strings, chains or the like shall not be placed or inserted into the conduit system during installation. Insulating bushings and two locknuts shall be installed on the end of every run of conduit at sheet metal enclosures and boxes.
9. Securely fasten conduit to Junction boxes and to structure support. Project adequate number of conduit threads through box for bushings. Anchorage for 1- 1/2" and smaller conduit shall be made with two-hole galvanized conduit straps or clamps. Two-inch and larger conduits shall be anchored with galvanized wrought iron one-hole clamps or equal fittings. Exposed conduit shall be parallel with, or at right angles to, structural or architectural elements, and securely fastened in place with two-hole galvanized pipe straps with screws, or with approved beam clamps, or approved single or gang pipe hangers spaced not more than five feet apart as conditions required. Vertical runs shall be supported at intervals not exceeding five feet approved clamp hangers.
10. Pullwire shall be installed in empty conduit Pullwire shall be #12 AWG type TW insulated wire or nylon pull line. Pullwires shall be tagged at conduit terminations to identify conduit use (i.e. power, telephone, data, etc.).

C. Conductors:

1. Mechanical means for pulling shall be torque-limiting type and not used for
#2 AWG and smaller wires.
2. Pulling tension shall not exceed wire manufacturer's recommendations.
3. Where necessary, powdered soapstone may be used as a lubricant for drawing wires through conduit. No other means of lubricating will be allowed.
4. Form neatly in enclosures for minimum of crossovers. Tag all feeders.

5. All nonmetallic sheathed cable installations shall conform to NEC 334.10 requirements.
- D. Splicing of Wire and Cable:
1. Wires shall be formed neatly in enclosures and boxes.
 2. Splices made according to NEC Article 110.
 3. Splices shall be reinsulated. Remove all sharp points that can pierce tape. Use Minnesota Mining and Manufacturing Co. "Scotch" #33 tape or equal Splices in boxes for exterior locations shall be water-tight.
- E. Trench Excavation:
1. Dimensions and locations of trenches for pullboxes and ductlines shall be as indicated on drawings. Trench width and depths shall be sufficient to accommodate proper installation of conduit banks and cables.
 2. Where a trench is excavated on slope, sides are to be vertical, and depth measured at lowest side. AU measurements are to be based on final grades.
 3. Bottom of trenches to be flat and smooth.
 4. Trenches shall be widened at pullbox sites to permit proper entry of ducts.
 5. All excavations for pullboxes in excess of the required depths shall be filled with concrete.
 6. Sheathing and bracing as required shall be provided to support sides of excavations from cave-ins.
 7. Provide drainage and pumps to keep trenches dry.
 8. Excavated material may be placed alongside trench.
- F. Backfill:
1. Backfilling shall be to finished grades indicated on accompanying drawings, and matching existing conditions.
 2. Backfill material shall be completely free of wood or other debris.
 3. Backfill material shall be placed in maximum of 12" layers in loose thickness before compacting. Backfill shall be thoroughly compacted

with hand or mechanical tampers, and in no case shall tamping be accomplished by using the wheels or tracks of a vehicle.

G. Conduit and Duct Bank:

1. Bottom of trenches for all systems shall be clean, smooth and well graded prior to installation of conduits.
2. Saw cut, ream and taper ducts and conduits with manufacturers' approved tool.
3. Couplings and bells shall be tight to prevent entry of dirt into ducts and conduits.
4. Provide spacers to maintain proper separation between ducts. Changes in direction of greater than 5° shall be accomplished by using special couplings or bends manufactured for this purpose. Where ducts enter pull boxes, they shall be terminated in end bells. Ducts shall be thoroughly cleaned before laying. When it is necessary to cut tapered end of duct at site, cut shall be made with saw and tapered with lathe designed to match original taper. Coordinate placement of duct runs with other utilities, building structures, existing facilities and landscaping elements to avoid conflicts. When necessary, obtain acceptance from the Engineer for relocation and adjustments at no additional cost to the State.
6. Ducts shall be clean and free from debris and rubbish.
7. After each day's work, provide temporary conduit plugs at the end of conduit banks to prevent entry of dirt, rubbish, or debris.
8. Pass smooth bullet-shaped, blunt tip wooden test mandrel through the entire length of each duct or conduit to test for burrs and obstructions. Unless indicated otherwise, mandrel shall be 14" long and shall have diameter of 2" less than inside diameter of duct or conduit. If burrs or obstructions are encountered, that section shall be replaced at no additional cost to the State.
9. Unless indicated otherwise, install #12 AWG galvanized iron pulling wire or polypropylene cord in each conduit after testing.
10. Apply thin coat of sealing compound on ducts and conduits at couplings and bells.
11. Provide duct seals at each entry point into pull boxes to prevent water from flowing between pull boxes.
12. A 4" wide warning tape, with black imprinted message "WARNING - ELECTRICAL LINE BELOW" shall be placed 12" below finish grade

over electrical ductlines. Color shall be as noted on drawings.

H. Finishing:

1. All cutting that may be required for complete installation of the electrical work shall be carefully performed, and all patching shall be finished in first-class condition by the Contractor.
2. Close unused knockouts in boxes or enclosures with metal cap.

Wipe clean all exposed raceways and boxes with rag and solvent. Unfinished raceways and boxes shall be prime- painted and finished to blend into background.

I. Miscellaneous Details:

1. Cut, drill and patch as required to install electrical system. Repair any surface damaged or marred by notching, drilling or any other process necessary for installation of electrical work. Cutting, repairs and refinishing subject to the approval of the Engineer. Need for remedial work determined by Engineer as attributable to poor coordination and workmanship shall be cause for reconstruction to the satisfaction of the State of Hawaii.
2. Attachment of electrical equipment to wood by non-ferrous wood screws. Attachment to concrete by expansion anchors. Powder-charge-driven studs and anchors permitted only with prior approval.
3. Complete all loadcenter circuit directories, using typewriter. Verify "room" and "use" designations before typing.
4. Furnish necessary test equipment and make all test necessary to check for unspecified grounding, shorts and wrong connections. Correct faulty conditions, if any.

3.03 TESTING AND INSPECTION

- A. If the State (or its representative) discovers any errors, the Contractor, at his own expense, shall go over all similar portions of the entire job, taking the necessary or directed remedial action.
- B. Interior installations 600 volts and less shall be tested for insulation resistance after all wiring is completed and ready for connection to fixtures and equipment. Using a 500V megger, measure and record the insulation resistance from phase to phase and phase to neutral. The above tests shall be witnessed by the Engineer and the records turned over to him for proper

disposition. The Contractor shall notify the Engineer when this test is to be performed.

- C. The Contractor shall re-tape splices which have been bared for inspection. The Contractor shall test all portions of the electrical system furnished by him for proper operation and freedom from accidental grounds. All tests shall be subject to the approval of the Engineer. Wherever test or inspection reveals faulty equipment or installation, the Contractor shall take corrective action, at his own expense, repairing or replacing equipment or installation as directed.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
16100.1	Electrical Work	Lump Sum
16100.2	Utility Companies Expense Allowance	Allowance

END OF SECTION