STATE OF HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS
91-5420 Kapolei Parkway,
Kapolei, HI. 96707

REFERENCE INFORMATION FOR BIDDING AND CONSTRUCTION

FOR

FURNISHING LABOR AND MATERIALS FOR

LAIOPUA VILLAGE 4 SUBDIVISION, PHASE 2 - HEMA

Kailua-Kona, North Kona, Island of Hawaii, Hawaii

T.M.K. (3) 7-4-21:12 (portion)

IFB No.: IFB-21-HHL-007

November 2020

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

September 21, 2020
WAGE RATE SCHEDULE BULLETIN NO. 498

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) 586-9005.

The next regular schedule will be issued on or about February 15, 2021.

ANNE EUSTAQUIO
Director

STATE OF HAWAI‘I
DAVID Y. IGE, Governor

DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS
ANNE EUSTAQUIO, Director
JOANN A. VIDINHAR, Deputy Director

RESEARCH AND STATISTICS OFFICE
PHYLLIS DAYAO, Research & Statistics Officer

OPERATIONS MANAGEMENT INFORMATION STAFF
Janet Kaya, Supervisor

In cooperation with:
WAGE STANDARDS DIVISION
SHERYL LEE, Administrator

Classification	Current			2021			2022			2023			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:**	**9/21/20**												
Asphalt Concrete Material Transfer	$80.32	$46.45	$33.87	-	-	-	-	-	-	-	-	-	13
Asphalt Raker	$79.36	$45.49	$33.87	-	-	-	-	-	-	-	-	-	13
Asphalt Spreader Operator	$80.84	$46.97	$33.87	-	-	-	-	-	-	-	-	-	13
Laborer, Hand Roller	$76.59	$42.72	$33.87	-	-	-	-	-	-	-	-	-	13
Roller Operator (5 tons and under)	$79.09	$45.22	$33.87	-	-	-	-	-	-	-	-	-	13
Roller Operator (over 5 tons)	$80.52	$46.65	$33.87	-	-	-	-	-	-	-	-	-	13
Screed Person	$80.32	$46.45	$33.87	-	-	-	-	-	-	-	-	-	13
EQUIPMENT OPERATOR:													
Combination Loader/Backhoe (over 3/4 cu. yd.)	$79.36	$45.49	$33.87	-	-	-	-	-	-	-	-	-	13
Combination Loader/Backhoe (up to 3/4 cu. yd.)	$78.38	$44.51	$33.87	-	-	-	-	-	-	-	-	-	13
Concrete saws and/or Grinder (self-propelled unit on streets, highways, airports and canals)	$80.32	$46.45	$33.87	-	-	-	-	-	-	-	-	-	13
Grader, Soil Stabilizer, Cold Planer	$81.15	$47.28	$33.87	-	-	-	-	-	-	-	-	-	13
Loader (2-1/2 cu. yds. and under)	$80.32	$46.45	$33.87	-	-	-	-	-	-	-	-	-	13
Loader (over 2-1/2 cu. yds. to and including 5 cu. yds.)	$80.64	$46.77	$33.87	-	-	-	-	-	-	-	-	-	13
TRUCK DRIVER:													
Assistant to Engineer	$79.09	$45.22	$33.87	-	-	-	-	-	-	-	-	-	13
Oil Tanker (double), Hot Liquid Asphalt Tanker	$80.64	$46.77	$33.87	-	-	-	-	-	-	-	-	-	13
Semi-Trailer, Semi-Dump, Asphalt Distributor	$80.32	$46.45	$33.87	-	-	-	-	-	-	-	-	-	13
Slip-in or Pup	$80.64	$46.77	$33.87	-	-	-	-	-	-	-	-	-	13
Single or Rock Cans Tandem Dump Truck (8 cu. yds. & under, water level)	$79.36	$45.49	$33.87	-	-	-	-	-	-	-	-	-	13
Single or Rock Cans Tandem Dump Truck (over 8 cu. yds., water level)	$79.67	$45.80	$33.87	-	-	-	-	-	-	-	-	-	13
Tractor Trailer (hauling equipment)	$80.75	$46.88	$33.87	-	-	-	-	-	-	-	-	-	13
Utility, Flatbed	$79.09	$45.22	$33.87	-	-	-	-	-	-	-	-	-	13
BOILERMAKER	**2/17/20**												
	$67.58	$36.29	$31.29	-	-	-	-	-	-	-	-	-	13
* **CARPENTER:**	**9/21/20**			**8/30/21**			**9/5/22**			**9/4/23**			
Carpenter; Patent Scaffold Erector (14 feet and over); Piledriver; Pneumatic Nailer	$74.09	$50.50	$23.59	$75.84	$51.25	$24.59	$77.59	$52.00	$25.59	$79.59	$53.00	$26.59	1,12,13
Millwright	$74.34	$50.75	$23.59	$76.09	$51.50	$24.59	$77.84	$52.25	$25.59	$79.84	$53.25	$26.59	1,12,13
Power Saw Operator (2 h.p. & above)	$74.24	$50.65	$23.59	$75.99	$51.40	$24.59	$77.74	$52.15	$25.59	$79.74	$53.15	$26.59	1,12,13
* **CEMENT FINISHER:**	**9/21/20**			**8/30/21**			**9/5/22**			**9/4/23**			
Cement Finisher; Curb Setter; Precast Panel Setter; Manhole Builder	$73.93	$42.10	$31.83	$75.28	$42.60	$32.68	$76.76	$43.33	$33.43	$78.15	$44.12	$34.03	2,12,13
Trowel Machine Operator	$74.08	$42.25	$31.83	$75.43	$42.75	$32.68	$76.91	$43.48	$33.43	$78.30	$44.27	$34.03	2,12,13
* **CHAIN-LINK FENCE ERECTOR (Note: 2 increases for 2020)**	**2/17/20**			**10/3/21**			**10/2/22**			**10/1/23**			
	$40.60	$24.75	$15.85	$43.90	$26.25	$17.65	$45.35	$27.00	$18.35	$46.80	$27.75	$19.05	10,13
	10/4/20												
	$42.45	$25.50	$16.95	-	-	-	-	-	-	-	-	-	10,13

Classification	Current			2021			2022			2023			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	
** **CHLORINATOR**	**9/16/19**												
	$28.84	$28.84	-	-	-	-	-	-	-	-	-	-	
* **DIVER:**	**9/21/20**												
Diver (Aqua Lung) (Scuba) - Up to a depth of 30 feet	$93.52	$60.21	$33.31	-	-	-	-	-	-	-	-	-	13
Diver (Aqua Lung) (Scuba) - Over a depth of 30 feet	$102.89	$69.58	$33.31	-	-	-	-	-	-	-	-	-	13
Stand-By Diver (Aqua Lung) (Scuba)	$84.14	$50.83	$33.31	-	-	-	-	-	-	-	-	-	13
Diver (Other than Aqua Lung)	$102.89	$69.58	$33.31	-	-	-	-	-	-	-	-	-	3,13
Stand-By Diver (Other than Aqua Lung)	$84.14	$50.83	$33.31	-	-	-	-	-	-	-	-	-	3,13
Tender (Other than Aqua Lung)	$81.11	$47.80	$33.31	-	-	-	-	-	-	-	-	-	13
** **DRAPERY INSTALLER**	**9/16/19**												
	$33.11	$31.00	$2.11	-	-	-	-	-	-	-	-	-	
* **DRYWALL INSTALLER**	**9/21/20**			**8/30/21**			**9/5/22**			**9/4/23**			
	$74.34	$50.75	$23.59	$76.09	$51.50	$24.59	$77.84	$52.25	$25.59	$79.84	$53.25	$26.59	12,13
* **DRYWALL TAPERS/FINISHERS**	**2/17/20**			**1/3/21**			**1/2/22**			**1/1/23**			
	$72.75	$43.10	$29.65	$74.75	$43.10	$31.65	$76.50	$43.85	$32.65	$78.25	$44.60	$33.65	
* **ELECTRICIAN**	**9/21/20**												
Cable Splicer (inside/outside)	$87.87	$56.71	$31.16	-	-	-	-	-	-	-	-	-	4,13
Ground Worker (outside)	$64.29	$38.66	$25.63	-	-	-	-	-	-	-	-	-	4,13
Heavy Equipment Operator (outside)	$74.40	$46.40	$28.00	-	-	-	-	-	-	-	-	-	4,13
Line Installer (outside); Wire Installer (inside)	$81.13	$51.55	$29.58	-	-	-	-	-	-	-	-	-	4,13
Telecommunication Worker	**8/23/20**			**8/22/21**			**8/21/22**						
Licensed Technician	$45.65	$32.69	$12.96	$46.82	$33.69	$13.13	$48.63	$34.94	$13.69	-	-	-	13
Technician I / Splicer	$43.74	$31.06	$12.68	$44.85	$32.01	$12.84	$46.57	$33.19	$13.38	-	-	-	13
ELEVATOR CONSTRUCTOR MECHANIC	**2/17/20**												
	$95.905	$61.14	$34.765				-	-	-	-	-	-	13
* **EQUIPMENT OPERATOR:**	**9/21/20**												
Group 1	$78.83	$45.52	$33.31	-	-	-	-	-	-	-	-	-	5,13
Group 2	$78.94	$45.63	$33.31	-	-	-	-	-	-	-	-	-	5,13
Group 3	$79.11	$45.80	$33.31	-	-	-	-	-	-	-	-	-	5,13
Group 4	$79.38	$46.07	$33.31	-	-	-	-	-	-	-	-	-	5,13
Group 5	$79.69	$46.38	$33.31	-	-	-	-	-	-	-	-	-	5,13
Group 6	$80.34	$47.03	$33.31	-	-	-	-	-	-	-	-	-	5,13
Group 7	$80.66	$47.35	$33.31	-	-	-	-	-	-	-	-	-	5,13
Group 8	$80.77	$47.46	$33.31	-	-	-	-	-	-	-	-	-	5,13
Group 9	$80.88	$47.57	$33.31	-	-	-	-	-	-	-	-	-	5,13
Group 9A	$81.11	$47.80	$33.31	-	-	-	-	-	-	-	-	-	5,13
Group 10	$81.17	$47.86	$33.31	-	-	-	-	-	-	-	-	-	5,13
Group 10A	$81.32	$48.01	$33.31	-	-	-	-	-	-	-	-	-	5,13
Group 11	$81.47	$48.16	$33.31	-	-	-	-	-	-	-	-	-	5,13
Group 12	$81.83	$48.52	$33.31	-	-	-	-	-	-	-	-	-	5,13
Group 12A	$82.19	$48.88	$33.31	-	-	-	-	-	-	-	-	-	5,13

Classification	Current			2021			2022			2023			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	
FENCE ERECTOR (CHAIN-LINK TYPE)													
See Chain-Link Fence Erector	-	-	-	-	-	-	-	-	-	-	-	-	
* **FLOOR LAYER (CARPET, LINOLEUM & SOFT TILE)**	**9/21/20**			**2/28/21**			**2/27/22**			**3/5/23**			
	$67.70	$36.77	$30.93	$69.69	$38.02	$31.67	$71.93	$39.27	$32.66	$73.42	$40.52	$32.90	12,13
* **GLAZIER**	**9/21/20**												
	$74.35	$39.50	$34.85	-	-	-	-	-	-	-	-	-	6,13
* **HELICOPTER WORK:**	**9/21/20**												
Airborne Hoist Operator	$82.69	$49.38	$33.31	-	-	-	-	-	-	-	-	-	13
Co-Pilot	$82.83	$49.52	$33.31	-	-	-	-	-	-	-	-	-	13
Pilot	$83.00	$49.69	$33.31	-	-	-	-	-	-	-	-	-	13
INSULATOR	**8/30/20**												
	$67.55	$41.90	$25.65	-	-	-	-	-	-	-	-	-	7,13
* **IRONWORKER:**	**9/21/20**			**9/1/21**									
Reinforcing, Structural	$79.34	$42.50	$36.84	$80.34	$43.50	$36.84	-	-	-	-	-	-	8,12,13
* **LABORER:**	**9/21/20**			**8/30/21**			**9/5/22**			**9/4/23**			
Driller	$63.08	$40.40	$22.68	$64.89	$41.40	$23.49	$66.65	$42.40	$24.25	$68.41	$43.40	$25.01	1,13
Gunite Operator or Shotcrete Operator	$62.58	$39.90	$22.68	$64.39	$40.90	$23.49	$66.15	$41.90	$24.25	$67.91	$42.90	$25.01	1,13
High Scaler (Working Suspended)	$62.58	$39.90	$22.68	$64.39	$40.90	$23.49	$66.15	$41.90	$24.25	$67.91	$42.90	$25.01	13
Laborer I	$61.38	$38.70	$22.68	$62.84	$39.35	$23.49	$64.25	$40.00	$24.25	$65.66	$40.65	$25.01	1,13
Laborer II	$58.78	$36.10	$22.68	$60.24	$36.75	$23.49	$61.65	$37.40	$24.25	$63.06	$38.05	$25.01	1,13
Light/Final Clean-up (Janitorial) Laborer	$47.82	$29.65	$18.17	$48.92	$30.05	$18.87	$50.02	$30.45	$19.57	$51.12	$30.85	$20.27	1,13
Mason Tender/Hod Carrier	$61.98	$39.20	$22.78	$63.44	$39.85	$23.59	$64.85	$40.50	$24.35	$66.26	$41.15	$25.11	1,13
Powder Blaster	$63.08	$40.40	$22.68	$64.89	$41.40	$23.49	$66.65	$42.40	$24.25	$68.41	$43.40	$25.01	1,13
Window Washer (Outside) (On bosun's chair, cable-suspended scaffold or work platform)	$62.38	$39.70	$22.68	$63.84	$40.35	$23.49	$65.25	$41.00	$24.25	$66.66	$41.65	$25.01	13
LANDSCAPER:	**9/2/19**												
Landscape & Irrigation Laborer A	$39.60	$26.15	$13.45	-	-	-	-	-	-	-	-	-	
Landscape & Irrigation Laborer B	$40.60	$27.15	$13.45	-	-	-	-	-	-	-	-	-	
Landscape & Irrigation Maintenance Laborer	$35.00	$21.55	$13.45	-	-	-	-	-	-	-	-	-	
* **LATHER**	**9/21/20**			**8/30/21**			**9/5/22**			**9/4/23**			
	$74.34	$50.75	$23.59	$76.09	$51.50	$24.59	$77.84	$52.25	$25.59	$79.84	$53.25	$26.59	12,13
* **MASON; Bricklayer;**	**9/21/20**			**8/30/21**			**9/5/22**			**9/4/23**			
Cement Blocklayer; Stone Mason; Precast Sill Setter	$75.09	$45.96	$29.13	$76.44	$46.46	$29.98	$77.97	$47.24	$30.73	$79.36	$48.03	$31.33	2,12,13
Pointer-Caulker-Weatherproofer	$75.34	$46.21	$29.13	$76.69	$46.71	$29.98	$78.22	$47.49	$30.73	$79.61	$48.28	$31.33	2,12,13
* **PAINTER: (Note: 2 increases for 2021)**	**7/1/20**			**1/1/21**									
Painter; Spray Painter; Sandblaster or Waterblaster; Thermoplastic Striper; Paper Hanger	$68.99	$38.90	$30.09	$68.99	$38.90	$30.09	-	-	-	-	-	-	12
Painter; Spray Painter; Sandblaster or Waterblaster; Thermoplastic Striper; Paper Hanger	-	-	-	**7/1/21** $68.99	$38.90	$30.09	-	-	-	-	-	-	12

Classification	Current			2021			2022			2023			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	
* **PLASTERER:**	**9/21/20**			**8/30/21**			**9/5/22**			**9/4/23**			
	$75.52	$43.69	$31.83	$76.89	$44.21	$32.68	$78.43	$45.00	$33.43	$79.85	$45.82	$34.03	2,12,13
PLUMBER:	**7/5/20**			**1/3/21**									
Plumber; Pipefitter; Refrigeration Fitter; Heating & Air Conditioning Fitter; Sprinkler Fitter; Steamfitter	$72.48	$44.85	$27.63	$73.60	$45.35	$28.25	-	-	-	-	-	-	9,13
* **ROOFER:**	**9/21/20**			**9/5/21**									
Shingle, Tile, Built-up Roofing	$61.65	$41.80	$19.85	$62.50	$42.55	$19.95	-	-	-	-	-	-	12
Coal Tar Pitch	$103.45	$83.60	$19.85	$105.05	$85.10	$19.95	-	-	-	-	-	-	
SANDBLASTER OR WATERBLASTER:													
Use wages of craft to which sand or water blasting is incidental.													
* **SHEETMETAL WORKER:**	**9/21/20**			**2/28/21**			**2/27/22**			**3/5/23**			
(Note: 2 increases for 2021, 2022, & 2023)	$73.89	$44.39	$29.50	$74.85	$44.93	$29.92	$76.86	$46.22	$30.64	$78.73	$47.37	$31.36	13
				8/29/21			**9/4/22**			**9/23/23**			
				$75.95	$45.63	$30.32	$77.76	$46.78	$30.98	$79.78	$47.95	$31.83	13
** **TERMITE TREATER**	**9/16/19**												
	$20.53	$18.60	$1.93	-	-	-	-	-	-	-	-	-	
* **TERRAZZO:**	**9/21/20**			**8/30/21**			**9/5/22**			**9/4/23**			
Terrazzo Setter	$74.77	$43.50	$31.27	$76.52	$44.40	$32.12	$78.10	$45.30	$32.80	$79.60	$46.20	$33.40	2,12,13
Terrazzo Base Grinder	$72.96	$41.69	$31.27	$74.71	$42.59	$32.12	$76.29	$43.49	$32.80	$77.79	$44.39	$33.40	2,12,13
Certified Terrazzo Floor Grinder and Tender	$71.41	$40.14	$31.27	$73.16	$41.04	$32.12	$74.74	$41.94	$32.80	$76.24	$42.84	$33.40	2,12,13
Terrazzo Floor Grinder	$68.41	$37.14	$31.27	$70.16	$38.04	$32.12	$71.74	$38.94	$32.80	$73.24	$39.84	$33.40	2,12,13
* **TILE SETTER:**	**9/21/20**			**8/30/21**			**9/5/22**			**9/4/23**			
Ceramic Hard Tile; Marble Setter	$74.77	$43.50	$31.27	$76.52	$44.40	$32.12	$78.10	$45.30	$32.80	$79.60	$46.20	$33.40	2,12,13
Certified Ceramic Tile & Marble Helper	$71.41	$40.14	$31.27	$73.16	$41.04	$32.12	$74.74	$41.94	$32.80	$76.24	$42.84	$33.40	2,12,13
TRUCK DRIVER:	**9/16/19**												
** Concrete Mixer	$36.37	$30.95	$5.42	-	-	-	-	-	-	-	-	-	
** Concrete Mixer/Booster	$48.63	$34.53	$14.10	-	-	-	-	-	-	-	-	-	
* Dump Truck, 8 cu. yds. & under (water level);	**9/21/20**												
Water Truck (up to & including 2,000 gallons)	$79.38	$46.07	$33.31	-	-	-	-	-	-	-	-	-	13
* Flatbed, Utility, etc.	$79.11	$45.80	$33.31	-	-	-	-	-	-	-	-	-	13
* End Dump, Unlicensed (Euclid, Mack, Caterpillar, or similar); Tractor Trailer (hauling equipment)	$80.77	$47.46	$33.31	-	-	-	-	-	-	-	-	-	13
* Semi-Trailer, Rock Cans, or Semi-Dump	$80.34	$47.03	$33.31	-	-	-	-	-	-	-	-	-	13
* Slip-in or Pup	$80.66	$47.35	$33.31	-	-	-	-	-	-	-	-	-	13
* Tandem Dump Truck, over 8 cu. yds. (water level); Water Truck (over 2,000 gallons)	$79.69	$46.38	$33.31	-	-	-	-	-	-	-	-	-	13

Classification	Current			2021			2022			2023			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:**	**8/31/20**			**8/30/21**			**9/5/22**			**9/4/23**			
Worker in a raise, shaft, or tunnel.													
Group 1	$61.98	$39.30	$22.68	$63.44	$39.95	$23.49	$64.85	$40.60	$24.25	$66.26	$41.25	$25.01	13
Group 2	$63.48	$40.80	$22.68	$64.94	$41.45	$23.49	$67.00	$42.75	$24.25	$67.76	$42.75	$25.01	13
Group 3	$63.98	$41.30	$22.68	$65.44	$41.95	$23.49	$66.85	$42.60	$24.25	$68.26	$43.25	$25.01	13
Group 4	$64.98	$42.30	$22.68	$66.44	$42.95	$23.49	$67.85	$43.60	$24.25	$69.26	$44.25	$25.01	13
Group 5	$65.23	$42.55	$22.68	$66.69	$43.20	$23.49	$68.10	$43.85	$24.25	$69.51	$44.50	$25.01	13
Group 6	$65.33	$42.65	$22.68	$66.79	$43.30	$23.49	$68.20	$43.95	$24.25	$69.61	$44.60	$25.01	13
Group 7	$65.58	$42.90	$22.68	$67.04	$43.55	$23.49	$68.45	$44.20	$24.25	$69.86	$44.85	$25.01	13
Group 8	$66.03	$43.35	$22.68	$67.49	$44.00	$23.49	$68.90	$44.65	$24.25	$70.31	$45.30	$25.01	13
* **WATER FRONT CONSTRUCTION (DREDGING):**	**9/21/20**												
CLAMSHELL OR DIPPER DREDGES:													
Clamshell or Dipper Operator	$81.83	$48.52	$33.31	-	-	-	-	-	-	-	-	-	11,13
Mechanic; Welder; Watch Engineer	$81.17	$47.86	$33.31	-	-	-	-	-	-	-	-	-	13
Deckmate; Bargemate	$80.77	$47.46	$33.31	-	-	-	-	-	-	-	-	-	13
Fire Person; Oiler; Deckhand; Barge Worker	$79.11	$45.80	$33.31	-	-	-	-	-	-	-	-	-	13
HYDRAULIC SUCTION DREDGES:													
Lever Operator	$81.47	$48.16	$33.31	-	-	-	-	-	-	-	-	-	13
Mechanic; Welder	$81.17	$47.86	$33.31	-	-	-	-	-	-	-	-	-	13
Watch Engineer (steam or electric)	$81.32	$48.01	$33.31	-	-	-	-	-	-	-	-	-	13
Dozer Operator	$81.11	$47.80	$33.31	-	-	-	-	-	-	-	-	-	13
Deckmate	$80.77	$47.46	$33.31	-	-	-	-	-	-	-	-	-	13
Winch Operator (stern winch on dredge)	$80.66	$47.35	$33.31	-	-	-	-	-	-	-	-	-	13
Fire Person; Oiler; Deckhand (can operate anchor scow under direction of deckmate); Levee Operator	$79.11	$45.80	$33.31	-	-	-	-	-	-	-	-	-	13
DERRICKS:													
Operator: Derrick, Piledriver, Crane	$81.83	$48.52	$33.31	-	-	-	-	-	-	-	-	-	13
Deckmate; Saurman Type Dragline (up to & including 5 yds.)	$80.77	$47.46	$33.31	-	-	-	-	-	-	-	-	-	13
Saurman Type Dragline (over 5 cu. yds.)	$81.17	$47.86	$33.31	-	-	-	-	-	-	-	-	-	13
Fire Person; Oiler; Deckhand	$79.11	$45.80	$33.31	-	-	-	-	-	-	-	-	-	13
BOAT OPERATORS:													
Master Boat Operator	$81.47	$48.16	$33.31	-	-	-	-	-	-	-	-	-	13
Boat Operator	$81.32	$48.01	$33.31	-	-	-	-	-	-	-	-	-	13
Boat Deckhand	$79.11	$45.80	$33.31	-	-	-	-	-	-	-	-	-	13
** **WATER WELL DRILLER:**	**9/16/19**												
Water Well Driller	$46.40	$35.00	$11.40	-	-	-	-	-	-	-	-	-	
Water Well Driller Helper	$32.38	$22.00	$10.38	-	-	-	-	-	-	-	-	-	
WELDER:													
Use wages of craft to which welding is incidental, except for Chain-Link Fence Erector. See remark.													10
** **WINDOW FILM INSTALLER**	**9/16/19**												
	$23.38	$22.62	$0.76	-	-	-	-	-	-	-	-	-	

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.**

**** Rates remain unchanged due to COVID-19 (inability to conduct survey for this 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: $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 Installer, Lather: Effective WRS: 8/30/21 - $0.25; 9/5/22 - $0.50; 9/4/23 - $0.50
    Cement Finisher & Plasterer: Effective: WRS: 8/30/21 - $0.30; 9/5/22 - $0.30; 9/4/23 - $0.30
    Floor Layer: Effective WRS: 3/5/23 - $0.29
    Ironworker: Effective WRS: 9/1/21 - $1.36
    Mason; Bricklayer, Cement Blocklayer; Stone Mason; Precast Sill Setter Pointer-Caulker-Weatherproofer: Effective WRS: 8/30/21 - $0.30; 9/5/22 - $0.30; 9/4/23 - $0.30
    Painter: Effective WRS #499 - $1.15; 7/1/21 - $0.48
    Roofer: Effective WRS: 9/5/21 - $0.80
    Terrazzo, Tile Setter: Effective WRS: 8/30/21 - $0.30; 9/5/22 - $0.30; 9/4/23 - $0.10

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, Presidents' 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, Martin Luther King 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, Martin Luther King Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day.

Floor Layer: Labor Day.

Glazier: Sunday.

Helicopter Worker: 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.

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

Plumber: Sunday, New Year's Day, Martin Luther King Jr. 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, Martin Luther King 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, Martin Luther King 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 Installer
Insulator
Laborer
Lather
Mason
Plasterer
Terrazzo
Tile Setter
Underground Laborer

APPRENTICE SCHEDULE BULLETIN NO. 498 September 21, 2020

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 1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	FRINGE BENEFIT HOURLY RATE Total	Remarks See Pg 9-10
BOILERMAKER	1000	$25.40	$27.22	$29.03	$30.85	$32.66	$34.48					$31.29	10
* CARPENTER													
Indentured After 9/1/02	1000	$20.20										$8.67	1,10
"	1000		$22.73									$12.99	1,10
"	1000			$25.25	$30.30							$17.09	1,10
"	1000					$35.35	$40.40					$19.09	1,10
"	1000							$45.45	$47.98			$21.09	1,10
* CEMENT FINISHER													
Indentured Prior to 9/1/03	1000	$21.05										$10.87	2,10
"	1000		$23.16	$25.26	$29.47	$31.58	$33.68	$35.79	$37.89			$31.83	2,10
Indentured On or After 9/1/03	1000	$21.05	$23.16	$25.26	$29.47	$31.58	$33.68	$35.79	$37.89			$19.63	2,10
* CONSTRUCTION EQUIPMENT OPERATOR													
Indentured On or After 9/1/02	1000	$23.90										$9.25	3,10
"	1000		$26.29									$20.34	3,10
"	1000			$28.68								$21.35	3,10
"	1000				$33.46							$23.37	3,10
"	1000					$38.24						$25.38	3,10
"	1000						$43.02					$27.40	3,10
* DRYWALL INSTALLER													
Indentured After 9/1/02	1000	$20.30										$8.67	10
"	1000		$22.84									$12.99	10
"	1000			$25.38	$30.45							$17.09	10
"	1000					$35.53	$40.60					$19.09	10
"	1000							$45.68	$48.21			$21.09	10
DRYWALL TAPERS/FINISHERS	1000	$17.24	$19.40	$21.55	$23.71							$11.55	
	1000					$25.86						$13.55	
	1000						$28.02					$14.05	
	1000							$32.33	$36.64			$16.55	

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APPRENTICE SCHEDULE BULLETIN NO. 498 September 21, 2020

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 1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	FRINGE BENEFIT HOURLY RATE Total	Remarks See Pg 9-10
(Effective 1/3/21)													
* DRYWALL TAPERS/FINISHERS	1000	$17.24	$19.40	$21.55	$23.71							$12.45	
	1000					$25.86						$14.45	
	1000						$28.02					$14.95	
	1000							$32.33	$36.64			$17.45	
* ELECTRICIAN (WIRE & LINE INSTALLER)													
" "	1000	$18.04										$10.18	10
" "	1000		$20.62									$10.56	10
" "	1000			$23.20								$17.46	4,10
" "	1000				$25.78							$18.56	4,10
" "	1000					$28.35						$19.66	4,10
" "	1000						$30.93					$20.77	4,10
" "	1000							$33.51				$21.87	4,10
" "	1000								$36.09			$22.97	4,10
" "	1000									$41.24		$25.17	4,10
" "	1000										$46.40	$27.38	4,10
ELEVATOR CONSTRUCTOR													
"	850	$30.57										-	10
"	850		$33.63									$34.765	10
"	1700			$39.74	$42.80	$48.91						$34.765	10
* FLOOR LAYER													
Indentured after 2/27/94	1000	$16.55	$18.39									$19.81	10
" "	1000			$20.22	$22.06							$25.31	10
" "	1000					$23.90	$25.74	$29.42	$33.09			$30.93	10
(Effective: 2/28/21)													
* FLOOR LAYER													
Indentured after 2/27/94	1000	$17.11	$19.01									$20.05	10
" "	1000			$20.91	$22.81							$25.55	10
" "	1000					$24.71	$26.61	$30.42	$34.22			$31.67	10

APPRENTICE SCHEDULE BULLETIN NO. 498 September 21, 2020

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Apprentice Classifications	Interval Hrs	BASIC HOURLY RATE 1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	FRINGE BENEFIT HOURLY RATE Total	Remarks See Pg 9-10
* GLAZIER													
Indentured On or After 7/1/99	1000	$17.78										$32.21	5,10
"	1000		$19.75									$32.45	5,10
"	1000			$21.73								$32.69	5,10
"	1000				$23.70							$32.93	5,10
"	1000					$27.65						$33.41	5,10
"	1000						$29.63					$33.65	5,10
"	1000							$31.60				$33.89	5,10
"	1000								$33.58			$34.13	5,10
"	1000									$35.55		$34.37	5,10
"	1000										$37.53	$34.61	5,10
* HEAVY DUTY REPAIRER & WELDER													
Indentured on or after 9/1/02	1000	$23.90										$9.25	3,10
"	1000		$26.29									$20.34	3,10
"	1000			$28.68								$21.35	3,10
"	1000				$33.46							$23.37	3,10
"	1000					$38.24						$25.38	3,10
"	1000						$40.63					$26.40	3,10
"	1000							$43.02				$27.40	3,10
"	1000								$45.41			$28.42	3,10
INSULATOR													
Indentured After 5/3/95	2000	$20.95										$8.15	6,10
"	2000		$20.95									$19.16	6,10
"	2000			$25.14								$19.50	6,10
"	2000				$29.33							$19.85	6,10
"	2000					$33.52						$20.19	6,10
* IRONWORKER (REINFORCING & STRUCTURAL)													
Indentured After 10/31/93	1000	$21.25										$30.72	7,10
"	1000		$23.38									$31.33	7,10
"	1000			$25.50								$31.94	7,10
"	1000				$29.75							$33.16	7,10
"	1000					$34.00						$34.38	7,10
"	1000						$38.25					$35.62	7,10

APPRENTICE SCHEDULE BULLETIN NO. 498 September 21, 2020

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 1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	FRINGE BENEFIT HOURLY RATE Total	Remarks See Pg 9-10
LABORER I													
CONSTRUCTION CRAFT													
Indentured On or After 9/3/02	1000	$19.35										$9.10	1,10
"	1000		$23.22	$27.09	$30.96							$16.90	1,10
HAZARDOUS WASTE MATERIAL TECHNICIAN													
"	1000	$19.35										$7.80	1,10
"	1000		$23.22	$27.09	$30.96							$15.10	1,10
LANDSCAPER	1000	$17.00										$7.25	
"	1000		$18.31	$19.61	$20.92							$11.05	
* MASON													
BRICKLAYER													
Indentured prior to 9/1/03	1000	$22.98										$10.62	2,10
	1000		$25.28	$27.58	$32.17	$34.47	$36.77	$39.07	$41.36			$29.13	2,10
Indentured On or After 9/1/03	1000	$22.98	$25.28	$27.58	$32.17	$34.47	$36.77	$39.07	$41.36			$19.58	2,10
STONE MASON													
Indentured On or After 9/1/03	1000	$25.28	$27.58	$29.87	$32.17	$34.47	$36.77	$39.07	$41.36			$19.58	2,10
POINTER-CAULKER-WEATHERPROOFER													
Indentured On or After 9/1/03	1000	$23.11	$25.42	$27.73	$32.35	$36.97	$41.59					$19.58	2,10
* MILLWRIGHT													
Indentured After 10/14/19	1000	$20.30										$8.67	10
	1000		$22.84									$12.99	10
	1000			$25.38	$30.45							$17.09	10
	1000					$35.53	$40.60					$19.09	10
	1000							$45.68	$48.21			$21.09	10

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 1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	FRINGE BENEFIT HOURLY RATE Total	Remarks See Pg 9-10
PAINTER	1000	$17.51										$9.50	
"	1000		$19.45	$21.40	$23.34	$25.29						$13.00	
"	1000						$27.23					$14.00	
"	1000							$29.18	$33.07			$14.75	
(Effective 1/1/21)													
* PAINTER	1000	$17.51										$9.50	
"	1000		$19.45	$21.40	$23.34	$25.29						$13.00	
"	1000						$27.23					$14.00	
"	1000							$29.18	$33.07			$14.75	
* PAVING EQUIPMENT OPERATOR	1000	$25.55										$9.25	10
"	1000		$32.52									$20.79	10
"	1000			$37.16								$23.94	10
"	1000				$41.81							$28.15	10
* PLASTERER													
Indentured On or After 9/1/03	1000	$17.48	$19.66	$21.85	$24.03	$26.21	$30.58	$34.95	$39.32			$19.63	2,10
PLUMBER:													
PLUMBER; FIRE SPRINKLER FITTER; REFRIGERATION AIR CONDITIONING; STEAMFITTER-WELDER													
Indentured On or After 9/2/85	1000	$18.03										$10.63	8,10
"	1000		$18.03									$10.68	8,10
"	1000			$21.30								$13.44	8,10
"	1000				$21.30							$13.44	8,10
"	1000					$24.67						$14.19	8,10
"	1000						$24.67					$14.19	8,10
"	1000							$29.15				$15.15	8,10
"	1000								$29.15			$15.15	8,10
"	1000									$33.64		$15.84	8,10
"	1000										$33.64	$15.84	8,10

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APPRENTICE SCHEDULE BULLETIN NO. 498 September 21, 2020

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 1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	FRINGE BENEFIT HOURLY RATE Total	Remarks See Pg 9-10
(Effective 1/3/21)													
* PLUMBER:													
PLUMBER; FIRE SPRINKLER FITTER; REFRIGERATION AIR CONDITIONING; STEAMFITTER-WELDER													
Indentured On or After 9/2/85	1000	$18.23										$12.07	8,10
"	1000		$18.23									$12.12	8,10
"	1000			$21.54								$14.88	8,10
"	1000				$21.54							$14.88	8,10
"	1000					$24.94						$15.63	8,10
"	1000						$24.94					$15.63	8,10
"	1000							$29.48				$16.59	8,10
"	1000								$29.48			$16.59	8,10
"	1000									$34.01		$17.28	8,10
"	1000										$34.01	$17.28	8,10
* ROOFER													
Indentured Prior to 11/1/98	1000	$18.81	$20.90	$25.08								$15.60	9
"	1000				$29.26	$33.44	$37.62	$39.71				$19.85	
Indentured On or After 11/1/98 and Prior to 11/4/12	1000	$18.81	$20.90	$25.08								$15.60	9
"	1000				$29.26	$33.44	$35.53	$37.62	$39.71			$19.85	
Indentured On or After 11/4/12	2000	$18.81	$25.08									$15.60	9
"	2000			$33.44	$37.62							$19.85	9

APPRENTICE SCHEDULE BULLETIN NO. 498 September 21, 2020

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 1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	FRINGE BENEFIT HOURLY RATE Total	Remarks See Pg 9-10
SHEETMETAL WORKER													
"	1000	$17.76										$12.96	10
"	1000		$19.98									$13.21	10
"	1000			$22.20								$23.58	10
"	1000				$24.41							$24.18	10
"	1000					$26.63						$24.76	10
"	1000						$28.85					$25.37	10
"	1000							$31.07				$25.95	10
"	1000								$33.29			$26.55	10
"	1000									$35.51		$27.13	10
"	1000										$37.73	$27.73	10
(Effective: 2/28/21)													
* SHEETMETAL WORKER													
"	1000	$17.97										$13.15	10
"	1000		$20.22									$13.40	10
"	1000			$22.47								$23.93	10
"	1000				$24.71							$24.51	10
"	1000					$26.96						$25.11	10
"	1000						$29.20					$25.72	10
"	1000							$31.45				$26.32	10
"	1000								$33.70			$26.91	10
"	1000									$35.94		$27.52	10
"	1000										$38.19	$28.12	10
TELECOMMUNICATION WORKER													
(TECHNICIAN I / SPLICER)	1000	$18.64										$10.58	10
" "	1000		$20.19									$10.84	10
" "	1000			$21.74								$11.10	10
" "	1000				$23.30							$11.36	10
" "	1000					$24.85						$11.62	10
" "	1000						$27.95					$12.16	10

APPRENTICE SCHEDULE BULLETIN NO. 498 September 21, 2020

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 1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	FRINGE BENEFIT HOURLY RATE Total	Remarks See Pg 9-10
* TILE SETTER													
CERAMIC & HARD TILE													
Indentured Prior to 9/1/03	1000	$21.75										$10.62	2,10
"	1000		$23.93	$26.10	$30.45	$32.63	$34.80	$36.98	$39.15			$31.27	2,10
Indentured On or After 9/1/03	1000	$21.75	$23.93	$26.10	$30.45	$32.63	$34.80	$36.98	$39.15			$19.92	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: $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.

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 skyclimber 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, Presidents' 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, Martin Luther King 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.

Glazier: Sunday.

Heavy Duty Repairer & Welder: 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.

Ironworker: Sunday, New Year's Day, Presidents' Day, Memorial Day, Kamehameha Day, Fourth of July, Labor Day, Veteran's Day, Thanksgiving Day and 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, Martin Luther King Jr. 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

"General Decision Number: HI20200001 10/16/2020

Superseded General Decision Number: HI20190001

State: Hawaii

Construction Types: Building, Heavy (Heavy and Dredging), Highway and Residential

Counties: Hawaii Statewide.

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

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.80 for calendar year 2020 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.80 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2020. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate,if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2020
1	01/31/2020
2	02/07/2020
3	02/21/2020
4	03/06/2020
5	03/20/2020
6	04/03/2020
7	07/24/2020
8	08/21/2020
9	08/28/2020
10	09/18/2020
11	09/25/2020
12	10/02/2020
13	10/09/2020
14	10/16/2020

ASBE0132-001 08/31/2015

	Rates	Fringes

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Asbestos Workers/Insulator
     Includes application of
     all insulating materials,
     protective coverings,
     coatings and finishes to
     all types of mechanical
     systems. Also the
     application of
     firestopping material for
     wall openings and
     penetrations in walls,
     floors, ceilings and
     curtain walls..............$ 39.65            23.50
----------------------------------------------------------------
 BOIL0627-005 01/01/2013

                                  Rates          Fringes

BOILERMAKER.....................$ 35.20            27.35
----------------------------------------------------------------
 BRHI0001-001 08/31/2020

                                  Rates          Fringes

BRICKLAYER
     Bricklayers and Stonemasons.$ 45.95            29.59
     Pointers, Caulkers and
     Weatherproofers.............$ 46.21            29.59
----------------------------------------------------------------
 BRHI0001-002 08/31/2020

                                  Rates          Fringes

Tile, Marble & Terrazzo Worker
     Terrazzo Base Grinders......$ 41.69            28.11
     Terrazzo Floor Grinders
     and Tenders.................$ 40.14            28.11
     Tile, Marble and Terrazzo
     Workers.....................$ 43.50            28.11
----------------------------------------------------------------
* CARP0745-001 08/31/2020

                                  Rates          Fringes

Carpenters:
     Carpenters; Hardwood Floor
     Layers; Patent Scaffold
     Erectors (14 ft. and
     over); Piledrivers;
     Pneumatic Nailers; Wood
     Shinglers and Transit
     and/or Layout Man...........$ 50.50            23.59
     Millwrights and Machine
     Erectors....................$ 50.75            23.59
     Power Saw Operators (2
     h.p. and over)..............$ 50.65            23.59
----------------------------------------------------------------
* CARP0745-002 08/31/2020

                                  Rates          Fringes

Drywall and Acoustical
Workers and Lathers.............$ 50.50            23.59
----------------------------------------------------------------
 ELEC1186-001 08/23/2020
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	Rates	Fringes
Electricians:		
Cable Splicers	$ 56.71	31.16
Electricians	$ 51.55	29.58
Telecommunication worker	$ 32.69	12.96

ELEC1186-002 08/23/2020

	Rates	Fringes
Line Construction:		
Cable Splicers	$ 56.71	31.16
Groundmen/Truck Drivers	$ 38.66	25.63
Heavy Equipment Operators	$ 46.40	28.00
Linemen	$ 51.55	29.58
Telecommunication worker	$ 32.69	12.96

ELEV0126-001 01/01/2020

	Rates	Fringes
ELEVATOR MECHANIC	$ 61.14	34.765

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

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

ENGI0003-002 09/03/2018

	Rates	Fringes
Diver (Aqua Lung) (Scuba))		
Diver (Aqua Lung) (Scuba) (over a depth of 30 feet)	$ 66.00	31.26
Diver (Aqua Lung) (Scuba) (up to a depth of 30 feet)	$ 56.63	31.26
Stand-by Diver (Aqua Lung) (Scuba)	$ 47.25	31.26
Diver (Other than Aqua Lung)		
Diver (Other than Aqua Lung)	$ 66.00	31.26
Diver Tender (Other than Aqua Lung)	$ 44.22	31.26
Stand-by Diver (Other than Aqua Lung)	$ 47.25	31.26
Helicopter Work		
Airborne Hoist Operator for Helicopter	$ 45.80	31.26
Co-Pilot of Helicopter	$ 45.98	31.26
Pilot of Helicopter	$ 46.11	31.26
Power equipment operator - tunnel work		
GROUP 1	$ 42.24	31.26
GROUP 2	$ 42.35	31.26
GROUP 3	$ 42.52	31.26
GROUP 4	$ 42.79	31.26
GROUP 5	$ 43.10	31.26
GROUP 6	$ 43.75	31.26

GROUP 7	$ 44.07	31.26
GROUP 8	$ 44.18	31.26
GROUP 9	$ 44.29	31.26
GROUP 9A	$ 44.52	31.26
GROUP 10	$ 44.58	31.26
GROUP 10A	$ 44.73	31.26
GROUP 11	$ 44.88	31.26
GROUP 12	$ 45.24	31.26
GROUP 12A	$ 45.60	31.26
Power equipment operators:		
GROUP 1	$ 41.94	31.26
GROUP 2	$ 42.05	31.26
GROUP 3	$ 42.22	31.26
GROUP 4	$ 42.49	31.26
GROUP 5	$ 42.80	31.26
GROUP 6	$ 43.45	31.26
GROUP 7	$ 43.77	31.26
GROUP 8	$ 43.88	31.26
GROUP 9	$ 43.99	31.26
GROUP 9A	$ 44.22	31.26
GROUP 10	$ 44.28	31.26
GROUP 10A	$ 44.43	31.26
GROUP 11	$ 44.58	31.26
GROUP 12	$ 44.94	31.26
GROUP 12A	$ 45.30	31.26
GROUP 13	$ 42.22	31.26
GROUP 13A	$ 42.49	31.26
GROUP 13B	$ 42.80	31.26
GROUP 13C	$ 43.45	31.26
GROUP 13D	$ 43.77	31.26
GROUP 13E	$ 43.88	31.26

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

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

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

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

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

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

GROUP 6: Boom Truck or Dual Purpose ""A""Frame Truck (over 5 tons); Combination Loader/Backhoe (up to and including 3/4 cu. yd.); Concrete Batch Plants (wet or dry); Concrete Cutter, Groover and/or Grinder (self-propelled unit on streets, highways, airports, and canals); Conveyor or Concrete Pump (Truck or Equipment Mounted); Drilling Machinery (not to apply to waterliners, wagon drills or

jack hammers); Fork Lift (over 10 tons); Loader (up to and including 3 and 1/2 cu. yds); Lull High Lift (under 40 feet); Lubrication and Service Engineer (Mobile); Maginnis Internal Full Slab Vibrator (on airports, highways, canals and warehouses); Man or Material Hoist; Mechanical Concrete Finisher (Large Clary, Johnson Bidwell, Bridge Deck and similar); Mobile Truck Crane Driver; Portable Shotblast Concrete Cleaning Machine; Portable Boring Machine (under streets, highways, etc.); Portable Crusher; Power Jumbo Operator (setting slip forms, etc., in tunnels); Rollers (over 5 tons); Self-propelled Compactor (single engine); Self-propelled Pavement Breaker; Skidsteer Loader with attachments; Slip Form Pumps (Power driven by hydraulic, electric, air, gas, etc., lifting device for concrete forms); Small Rubber Tired Tractors; Trencher (up to and including 6 feet); Underbridge Personnel Aerial Platform (50 feet of platform or less).

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

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

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

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

GROUP 10: Chicago Boom; Cold Planers; Heavy Duty Repairman or Welder; Hoist and/or Winch (3 drums); Hydraulic Skooper (Koehring and similar); Loader (over 6 cu. yds. up to and

including 12 cu. yds.); Saurman type Dragline (over 5 cu. yds.); Self-propelled, rubber-tired Earthmoving Equipment (over 20 cu. yds. up to and including 31 cu. yds.) (637D and similar); Soil Stabilizer (P & H or equal); Sub-Grader (Gurries or other automatic type); Tractors (D-9 or equivalent, all attachments); Tractor (Tandem Scraper); Watch Engineer.

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

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

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

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

GROUP 13: Truck Driver (Utility, Flatbed, etc.)

GROUP 13A: Dump Truck, 8 cu.yds. and under (water level); Water Truck (up to and including 2,000 gallons).

GROUP 13B: Water Truck (over 2,000 gallons); Tandem Dump Truck, over 8 cu. yds. (water level).

GROUP 13C: Truck Driver (Semi-trailer. Rock Cans, Semi-Dump or Roll-Offs).

GROUP 13D: Truck Driver (Slip-In or Pup).

GROUP 13E: End Dumps, Unlicensed (Euclid, Mack, Caterpillar or similar); Tractor Trailer (Hauling Equipment); Tandem Trucks hooked up to Trailer (Hauling Equipment)

BOOMS AND/OR LEADS (HOURLY PREMIUMS):

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

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

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

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

ENGI0003-004 09/04/2017

	Rates	Fringes
Dredging: (Boat Operators)		
Boat Deckhand	$ 41.22	30.93
Boat Operator	$ 43.43	30.93
Master Boat Operator	$ 43.58	30.93
Dredging: (Clamshell or Dipper Dredging)		
GROUP 1	$ 43.94	30.93
GROUP 2	$ 43.28	30.93
GROUP 3	$ 42.88	30.93
GROUP 4	$ 41.22	30.93
Dredging: (Derricks)		
GROUP 1	$ 43.94	30.93
GROUP 2	$ 43.28	30.93
GROUP 3	$ 42.88	30.93

GROUP 4.....$ 41.22 30.93
Dredging: (Hydraulic Suction Dredges)
GROUP 1.....$ 43.58 30.93
GROUP 2.....$ 43.43 30.93
GROUP 3.....$ 43.28 30.93
GROUP 4.....$ 43.22 30.93
GROUP 5.....$ 37.88 26.76
Group 5.....$ 42.88 30.93
GROUP 6.....$ 37.77 26.76
Group 6.....$ 42.77 30.93
GROUP 7.....$ 36.22 26.76
Group 7.....$ 41.22 30.93

CLAMSHELL OR DIPPER DREDGING CLASSIFICATIONS

GROUP 1: Clamshell or Dipper Operator.
GROUP 2: Mechanic or Welder; Watch Engineer.
GROUP 3: Barge Mate; Deckmate.
GROUP 4: Bargeman; Deckhand; Fireman; Oiler.

HYDRAULIC SUCTION DREDGING CLASSIFICATIONS

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

DERRICK CLASSIFICATIONS

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

ENGI0003-044 09/03/2018

	Rates	Fringes
Power Equipment Operators (PAVING)		
Asphalt Concrete Material Transfer	$ 42.92	32.08
Asphalt Plant Operator	$ 43.35	32.08
Asphalt Raker	$ 41.96	32.08
Asphalt Spreader Operator	$ 43.44	32.08
Cold Planer	$ 43.75	32.08
Combination Loader/Backhoe (over 3/4 cu.yd.)	$ 41.96	32.08
Combination Loader/Backhoe (up to 3/4 cu.yd.)	$ 40.98	32.08
Concrete Saws and/or Grinder (self-propelled unit on streets, highways, airports and canals)	$ 42.92	32.08
Grader	$ 43.75	32.08
Laborer, Hand Roller	$ 41.46	32.08
Loader (2 1/2 cu. yds. and under)	$ 42.92	32.08

Loader (over 2 1/2 cu. yds. to and including 5 cu. yds.)	$ 43.24	32.08
Roller Operator (five tons and under)	$ 41.69	32.08
Roller Operator (over five tons)	$ 43.12	32.08
Screed Person	$ 42.92	32.08
Soil Stabilizer	$ 43.75	32.08

IRON0625-001 09/01/2019

	Rates	Fringes
Ironworkers:	$ 41.50	37.55

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

LABO0368-001 09/02/2020

	Rates	Fringes
Laborers:		
Driller	$ 39.70	23.08
Final Clean Up	$ 29.25	17.22
Gunite/Shotcrete Operator and High Scaler	$ 38.55	21.52
Laborer I	$ 38.70	23.08
Laborer II	$ 36.10	22.08
Mason Tender/Hod Carrier	$ 39.20	23.08
Powderman	$ 39.05	21.52
Window Washer (bosun chair)	$ 38.20	23.08

LABORERS CLASSIFICATIONS

Laborer I: Air Blasting run by electric or pneumatic compressor; Asphalt Laborer, Ironer, Raker, Luteman, and Handroller, and all types of Asphalt Spreader Boxes; Asphalt Shoveler; Assembly and Installation of Multiplates, Liner Plates, Rings, Mesh, Mats; Batching Plant (portable and temporary); Boring Machine Operator (under streets and sidewalks); Buggymobile; Burning and Welding; Chainsaw, Faller, Logloader, and Bucker; Compactors (Jackson Jumping Jack and similar); Concrete Bucket Dumpman; Concrete Chipping; Concrete Chuteman/Hoseman (pouring concrete) (the handling of the chute from ready-mix trucks for such jobs as walls, slabs, decks, floors, foundations, footings, curbs, gutters, and sidewalks); Concrete Core Cutter (Walls, Floors, and Ceiling); Concrete Grinding or Sanding; Concrete: Hooking on, signaling, dumping of concrete for treme work over water on caissons, pilings, abutments, etc.; Concrete: Mixing, handling, conveying, pouring, vibrating, otherwise placing of concrete or aggregates or by any other process; Concrete: Operation of motorized wheelbarrows or buggies or machines of similar character, whether run by gas, diesel, or electric power; Concrete Placement Machine Operator: operation of Somero Hammerhead, Copperheads, or similar machines; Concrete Pump Machine (laying, coupling, uncoupling of all connections and cleaning of equipment); Concrete and/or Asphalt Saw (Walking or Handtype) (cutting walls or flatwork) (scoring old or new concrete and/or asphalt) (cutting for expansion

joints) (streets and ways for laying of pipe, cable or conduit for all purposes); Concrete Shovelers/Laborers (Wet or Dry); Concrete Screeding for Rough Strike-Off: Rodding or striking-off, by hand or mechanical means prior to finishing; Concrete Vibrator Operator; Coring Holes: Walls, footings, piers or other obstructions for passage of pipes or conduits for any purpose and the pouring of concrete to secure the hole; Cribbers, Shorer, Lagging, Sheeting, and Trench Jacking and Bracing, Hand-Guided Lagging Hammer Whaling Bracing; Curbing (Concrete and Asphalt); Curing of Concrete (impervious membrane and form oiler) mortar and other materials by any mode or method; Cut Granite Curb Setter (setting, leveling and grouting of all precast concrete or stone curbs); Cutting and Burning Torch (demolition); Dri Pak-It Machine; Environmental Abatement: removal of asbestos, lead, and bio hazardous materials (EPA and/or OSHA certified); Falling, bucking, yarding, loading or burning of all trees or timber on construction site; Forklift (9 ft. and under); Gas, Pneumatic, and Electric tools; Grating and Grill work for drains or other purposes; Green Cutter of concrete or aggregate in any form, by hand, mechanical means, grindstone or air and/or water; Grout: Spreading for any purpose; Guinea Chaser (Grade Checker) for general utility trenches, sitework, and excavation; Headerboard Man (Asphalt or Concrete); Heat Welder of Plastic (Laborers' AGC certified workers) (when work involves waterproofing for waterponds, artificial lakes and reservoir) heat welding for sewer pipes and fusion of HDPE pipes; Heavy Highway Laborer (Rigging, signaling, handling, and installation of pre-cast catch basins, manholes, curbs and gutters); High Pressure Nozzleman - Hydraulic Monitor (over 100# pressure); Jackhammer Operator; Jacking of slip forms: All semi and unskilled work connected therewithin; Laying of all multi-cell conduit or multi-purpose pipe; Magnesite and Mastic Workers (Wet or Dry)(including mixer operator);Mortar Man; Mortar Mixer (Block, Brick, Masonry, and Plastering); Nozzleman (Sandblasting and/or Water Blasting): handling, placing and operation of nozzle; Operation, Manual or Hydraulic jacking of shields and the use of such other mechanical equipment as may be necessary; Pavement Breakers; Paving, curbing and surfacing of streets, ways, courts, under and overpasses, bridges, approaches, slope walls, and all other labor connected therewith; Pilecutters; Pipe Accessment in place, bolting and lining up of sectional metal or other pipe including corrugated pipe; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, HDPE, metallic or non-metallic, conduit, and any other stationary-type of tubular device used for conveying of any substance or element, whether water, sewage, solid, gas, air, or other product whatsoever and without regard to the nature of material from which tubular material is fabricated; No-joint pipe and stripping of same, Pipewrapper, Caulker, Bander, Kettlemen, and men applying asphalt, Laykold, treating Creosote and similar-type materials (6-inch) pipe and over); Piping: resurfacing and paving of all ditches in preparation for laying of all pipes; Pipe laying of lateral sewer pipe from main or side sewer to buildings or structure (except Contactor may direct work be done under proper supervision); Pipe laying, leveling and marking of the joint used for main or side sewers and storm sewers; Laying of all clay, terra cotta, ironstone, vitrified concrete, HDPE or other pipe for

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

Laborer II: Asphalt Plant Laborer; Boring Machine Tender; Bridge Laborer; Burning of all debris (crates, boxes, packaging waste materials); Chainman, Rodmen, and Grade Markers; Cleaning, clearing, grading and/or removal for streets, highways, roadways, aprons, runways, sidewalks, parking areas, airports, approaches, and other similar installations; Cleaning or reconditioning of streets, ways, sewers and waterlines, all maintenance work and work of an unskilled and semi-skilled nature; Concrete Bucket Tender (Groundman) hooking and unhooking of bucket; Concrete Forms; moving, cleaning, oiling and carrying to the next point of erection of all forms; Concrete Products Plant Laborers; Conveyor Tender (conveying of building materials); Crushed Stone Yards and Gravel and Sand Pit Laborers and all other similar plants; Demolition, Wrecking and Salvage Laborers: Wrecking and dismantling of buildings and all structures, with use of cutting or wrecking tools, breaking away, cleaning and removal of all fixtures, All hooking, unhooking, signaling of materials for salvage or scrap removed by crane or derrick; Digging under streets, roadways, aprons or other paved surfaces; Driller's Tender; Chuck Tender, Outside Nipper; Dry-packing of concrete (plugging and filling of she-bolt holes); Fence and/or Guardrail Erector: Dismantling and/or re-installation of all fence; Finegrader; Firewatcher; Flagman (Coning, preparing, stablishing and removing portable roadway

barricade devices); Signal Men on all construction work defined herein, including Traffic Control Signal Men at construction site; General Excavation; Backfilling, Grading and all other labor connected therewith; Digging of trenches, ditches and manholes and the leveling, grading and other preparation prior to laying pipe or conduit for any purpose; Excavations and foundations for buildings, piers, foundations and holes, and all other construction. Preparation of street ways and bridges; General Laborer: Cleaning and Clearing of all debris and surplus material. Clean-up of right-of-way. Clearing and slashing of brush or trees by hand or mechanical cutting. General Clean up: sweeping, cleaning, wash-down, wiping of construction facility and equipment (other than ""Light Clean up (Janitorial) Laborer. Garbage and Debris Handlers and Cleaners. Appliance Handling (job site) (after delivery unlading in storage area); Ground and Soil Treatment Work (Pest Control); Gunite/Shotcrete Operator Tender; Junk Yard Laborers (same as Salvage Yard); Laser Beam ""Target Man"" in connection with Laborers' work; Layout Person for Plastic (when work involves waterproofing for waterponds, artificial lakes and reservoirs); Limbers, Brush Loaders, and Pilers; Loading, Unloading, carrying, distributing and handling of all rods and material for use in reinforcing concrete construction (except when a derrick or outrigger operated by other than hand power is used); Loading, unloading, sorting, stockpiling, handling and distribution of water mains, gas mains and all pipes; Loading and unloading of all materials, fixtures, furnishings and appliances from point of delivery to stockpile to point of installation; hooking and signaling from truck, conveyance or stockpile; Material Yard Laborers; Pipelayer Tender; Pipewrapper, Caulker, Bander, Kettlemen, and men applying asphalt, Laykold, Creosote, and similar-type materials (pipe under 6 inches); Plasterer Laborer; Preparation, construction and maintenance of roadbeds and sub-grade for all paving, including excavation, dumping, and spreading of sub-grade material; Prestressed or precast concrete slabs, walls, or sections: all loading, unloading, stockpiling, hooking on of such slabs, walls or sections; Quarry Laborers; Railroad, Streetcar, and Rail Transit Maintenance and Repair; Roustabout; Rubbish Trucks in connection with Building Construction Projects (excluding clearing, grubbing, and excavating); Salvage Yard: All work connected with cutting, cleaning, storing, stockpiling or handling of materials, all cleanup, removal of debris, burning, back-filling and landscaping of the site; Sandblasting Tender (Pot Tender): Hoses and pots or markers; Scaffolds: Erection, planking and removal of all scaffolds used for support for lathers, plasters, brick layers, masons, and other construction trades crafts; Scaffolds: (Specially designed by carpenters) laborers shall tend said carpenter on erection and dismantling thereof, preparation for foundation or mudsills, maintenance; Scraping of floors; Screeds: Handling of all screeds to be reused; handling, dismantling and conveyance of screeds; Setting, leveling and securing or bracing of metal or other road forms and expansion joints; Sheeting Piling/trench shoring (handling and placing of skip sheet or wood plank trench shoring); Ship Scalers; Shipwright Tender; Sign Erector (subdivision traffic, regulatory, and street-name signs); Sloper; Slurry Seal Crews (Mixer Operator, Applicator, Squeegee Man, Shuttle Man, Top Man); Snapping of wall ties and removal of tie rods; Soil Test operations of semi and unskilled labor such as filling sand bags; Striper (Asphalt, Concrete or

other Paved Surfaces); Tool Room Attendant (Job Site); Traffic Delineating Device Applicator; Underpinning, lagging, bracing, propping and shoring, loading, signaling, right-of-way clearance along the route of movement, The clearance of new site, excavation of foundation when moving a house or structure from old site to new site; Utilities employees; Water Man; Waterscape/Hardscape Laborers; Wire Mesh Pulling (all concrete pouring operations); Wrecking, stripping, dismantling and handling concrete forms an false work.

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* LABO0368-002 09/01/2020

	Rates	Fringes
Landscape & Irrigation Laborers		
GROUP 1	$ 26.40	14.25
GROUP 2	$ 27.40	14.25
GROUP 3	$ 21.70	14.25

LABORERS CLASSIFICATIONS

GROUP 1: Installation of non-potable permanent or temporary irrigation water systems performed for the purposes of Landscaping and Irrigation architectural horticultural work; the installation of drinking fountains and permanent or temporary irrigation systems using potable water for Landscaping and Irrigation architectural horticultural purposes only. This work includes (a) the installation of all heads, risers, valves, valve boxes, vacuum breakers (pressure and non-pressure), low voltage electrical lines and, provided such work involves electrical wiring that will carry 24 volts or less, the installation of sensors, master control panels, display boards, junction boxes, conductors, including all other components for controllers, (b) and metallic (copper, brass, galvanized, or similar) pipe, as well as PVC or other plastic pipe including all work incidental thereto, i.e., unloading, handling and distribution of all pipes fittings, tools, materials and equipment, (c) all soldering work in connection with the above whether done by torch, soldering iron, or other means; (d) tie-in to main lines, thrust blocks (both precast and poured in place), pipe hangers and supports incidental to installation of the entire irrigation system, (e) making of pressure tests, start-up testing, flushing, purging, water balancing, placing into operation all irrigation equipment, fixtures and appurtenances installed under this agreement, and (f) the fabrication, replacement, repair and servicing oflandscaping and irrigation systems. Operation of hand-held gas, air, electric, or self-powered tools and equipment used in the performance of Landscape and Irrigation work in connection with architectural horticulture; Choke-setting, signaling, and rigging for equipment operators on job-site in the performance of such Landscaping and Irrigation work; Concrete work (wet or dry) performed in connection with such Landscaping and Irrigation work. This work shall also include the setting of rock, stone, or riprap in connection with such Landscape, Waterscape, Rockscape, and Irrigation work; Grubbing, pick and shovel excavation, and hand rolling or tamping in connection with the performance of such Landscaping and Irrigation work; Sprigging, handseeding, and planting of trees, shrubs, ground covers, and other

plantings and the performance of all types of gardening and horticultural work relating to said planting; Operation of flat bed trucks (up to and including 2 1/2 tons).:

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

GROUP 3: Maintenance of trees, shrubs, ground covers, lawns and other planted areas, including the replanting of trees, shrubs, ground covers, and other plantings that did not ""take"" or which are damaged; provided, however, that re-planting that requires the use of equipment, machinery, or power tools shall be paid for at the rate of pay specified under Landscape and Irrigation Laborer, Group 1; Raking, mowing, trimming, and runing, including the use of ""weed eaters"", hedge trimmers, vacuums, blowers, and other hand-held gas, air, electric, or self-powered tools, and the operation of lawn mowers (Note: The operation of sit-down type and ""gang"" mowers shall be paid for at the rate of pay specified under Landscape & Irrigation Laborer, Group 2); Guywiring, staking, propping, and supporting trees; Fertilizing, Chemical spraying using spray equipment with less than 200 gallon capacity, Maintaining irrigation and sprinkler systems, including the staking, clamping, and adjustment of risers, and the adjustment and/or replacement of sprinkler heads, (Note: the cleaning and gluing of pipe and fittings shall be paid for at the rate of pay specified under Landscape & Irrigation Laborer(Group 1); Watering by hand or sprinkler system and the peformance of other types of gardening, yardman, and horticultural-related work.

LABO0368-003 09/02/2019

	Rates	Fringes
Underground Laborer		
GROUP 1	$ 38.65	21.47
GROUP 2	$ 40.15	21.47

GROUP 3	$ 40.65	21.47
GROUP 4	$ 41.65	21.47
GROUP 5	$ 41.90	21.47
GROUP 6	$ 42.00	21.47
GROUP 7	$ 42.25	21.47

GROUP 1: Watchmen; Change House Attendant.

GROUP 2: Swamper; Brakeman; Bull Gang-Muckers, Trackmen; Dumpmen (any method); Concrete Crew (includes rodding and spreading); Grout Crew; Reboundmen

GROUP 3: Chucktenders and Cabletenders; Powderman (Prime House); Vibratorman, Pavement Breakers

GROUP 4: Miners - Tunnel (including top and bottom man on shaft and raise work); Timberman, Retimberman (wood or steel or substitute materials thereof); Blasters, Drillers, Powderman (in heading); Microtunnel Laborer; Headman; Cherry Pickerman (where car is lifted); Nipper; Grout Gunmen; Grout Pumpman & Potman; Gunite, Shotcrete Gunmen & Potmen; Concrete Finisher (in tunnel); Concrete Screed Man; Bit Grinder; Steel Form Raisers & Setters; High Pressure Nozzleman; Nozzleman (on slick line); Sandblaster-Potman (combination work assignment interchangeable); Tugger

GROUP 5: Shaft Work & Raise (below actual or excavated ground level); Diamond Driller; Gunite or Shotcrete Nozzleman; Rodman; Groundman

GROUP 6: Shifter

GROUP 7: Shifter (Shaft Work & Raiser)

PAIN1791-001 01/01/2020

	Rates	Fringes
Painters:		
Brush	$ 38.90	30.59
Sandblaster; Spray	$ 38.90	30.59

PAIN1889-001 07/01/2020

	Rates	Fringes
Glaziers	$ 39.50	34.85

PAIN1926-001 03/03/2020

	Rates	Fringes
Soft Floor Layers	$ 36.65	31.29

PAIN1944-001 01/05/2020

	Rates	Fringes
Taper	$ 43.10	29.90

PLAS0630-001 09/02/2019

	Rates	Fringes

PLASTERER.....$ 42.64 30.58

PLAS0630-002 09/02/2019

	Rates	Fringes
Cement Masons:		
Cement Masons	$ 41.10	30.68
Trowel Machine Operators	$ 41.25	30.68

PLUM0675-001 07/05/2020

	Rates	Fringes
Plumber, Pipefitter, Steamfitter & Sprinkler Fitter	$ 47.23	27.63

ROOF0221-001 09/06/2020

	Rates	Fringes
Roofers (Including Built Up, Composition and Single Ply)	$ 41.80	20.50

SHEE0293-001 09/02/2018

	Rates	Fringes
Sheet metal worker	$ 42.55	27.44

SUHI1997-002 09/15/1997

	Rates	Fringes
Drapery Installer	$ 13.60	1.20
FENCE ERECTOR (Chain Link Fence)	$ 9.33	1.65

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after

award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage

determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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

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

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

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

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

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

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END OF GENERAL DECISION"

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 States 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**	• **At least 18 years old** • **High school graduate or GED equivalent**	Coordinator Address: PO Box 1612 Page, Arizona 86040 Phone: (928)645-0277 Website: **http://www/westermstatesjac/org/** *No training staff currently based in Hawaii
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**		**02/10/1964**	**8,000**	• **At least 16 years old** • **High school graduate or GED equivalent** • **Physically able to perform duties of the trade**	Director of Training or Training Coordinator Address: Hawaii Masons & Plasterers Training 1188 Sand Island Parkway Honolulu, HI 96819 Phone: (808) 848-0565 Fax: (808) 847-7068 Website: http://www.bacweb.org

Trade	Sponsor	Union	Non-Union	Date of Approval/ Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Carpenter	**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**		**04/01/1964**	**8,000**	• **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.**	Director of Training Address: 1311 Houghtailing Street Room 201 Honolulu, HI 96817 Phone: (808) 848-0794 Ext. 5 Fax: (808) 841-5961 (808) 841-0300 Website: http://www.carpenters.org/
Carpenter	**Associated Builders and Contractors Apprenticeship Committee**		**x**	**02/08/1990**	**8,000**	• **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**	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/
Cement Finisher	**Joint Apprenticeship Committee for Cement Finishers** **(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)**	**x**		**04/01/1961**	**8,000**	• **At least 16 years old** • **Physically able to perform duties of the trade**	Director of Training or Training Coordinator Address: Hawaii Masons & Plasterers Training 1188 Sand Island Parkway Honolulu, HI 96819 Phone: (808) 848-0565 Fax: (808) 847-7068 Website: http://www.opcmia.org/ http://www.bacweb.org

Trade	Sponsor	Union	Non-Union	Date of Approval/ Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Construction Craft Laborer	**Hawaii Laborers' Joint Apprenticeship Committee** **(International Union of North America, Local 368, and Signatory Contractors Association)**	**x**		**02/11/2000**	**4,000**	• **At least 18 years old** • **High school diploma or GED** • **Driver's license** • **Successfully complete Pre-Construction Apprentice Evaluation Course**	Director of Training Address: 96-138 Farrington Hwy. Pearl City, HI 96782 Phone: (808) 455-7979 Fax: (808) 456-8689 Website: http://www.liuna.org/
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**		**11/14/1967**	**6,000**	• **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**	State Administrator Address: P.O. Box 428 Kahuku, HI 96731-0428 Phone: (808) 232-2001 Fax: (808) 232-2217 Website: http://oe3.org/training/
Drywall, Acoustic and Lather Installer	**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**		**04/06/1988**	**8,000**	• **At least 17 years old** • **High school diploma or GED** • **Complete questionnaire** • **Pass basic math test** • **Able to lift 100 lbs.**	Director of Training Address: 1311 Houghtailing Street Room 201 Honolulu, HI 96817 Phone: (808) 848-0794 Ext. 5 Fax: (808) 848-5961 (808) 841-0300 Website: http://www.carpenters.org/

Trade	Sponsor	Union	Non-Union	Date of Approval/ Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Electrical Wireperson	**PECA-HEW Joint Apprenticeship Committee** **(Pacific Electrical Contractors Association and the Hawaii Electrical Workers Division of Laborers International, Local 368)**	**x**		**11/20/1991**	**10,000**	• **At least 18 years old** • **High school diploma or GED** • **Pass color code test** • **Pass aptitude test** • **Transcript of high school or post high school courses** • **Pass one-year high school Algebra 1 (not pre-Algebra) or higher** • **Valid driver's license**	Training Coordinator Address: 1617 Palama Street Honolulu, HI 96817 Phone: (808) 841-5877 Ext 234 Fax: (808) 847-7829 Website: N/A
Electrician	**Associated Builders and Contractors Apprenticeship Committee**		**x**	**02/08/1990**	**10,000**	• **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)**	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/
(Electrician) Wireperson	**Hawaii Electricians Joint Apprenticeship Committee** **(International Brotherhood of Electrical Workers (IBEW) Local 1186, AFL-CIO, and Signatory Employers)**	**x**		**04/08/1947**	**10,000**	• **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**	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/

Trade	Sponsor	Union	Non-Union	Date of Approval/ Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
						courses • Pass industry aptitude test to qualify for oral interview • Application fee (non-refundable)	
Elevator Constructor	International Union of Elevator Constructors Local 126 Joint Apprenticeship Committee (International Union of Elevator Constructors, Local 126 and Signatory Employers)	x		03/27/2003	6,800	• 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	Business Representative Address: 707 Alakea Street Room 314 Honolulu, HI 96813 Phone: (808) 536-8653 Fax: (808) 537-3779 Website: http://iuec.org/
Fire Sprinkler Fitter	Honolulu Joint Apprenticeship and Training Committee for the Plumbing and Pipefitting Industry *aka* 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		10/19/1992	10,000	• 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: 720 Iwilei Road, Suite 222 Honolulu, HI 96817 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		02/17/1966	8,000	• At least 18 years old • Driver's license • Distinguish colors • High school diploma or equivalent • Physically able to perform duties	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 *aka* Glaziers, Architectural Metal and Glassworkers JATC (Glass/Metal Contractors Association of Hawaii and	x		04/01/2001	10,000	• At least 18 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) 942-3988 Fax: (808) 946-6667 Website: http://www.iupat.org/

Trade	Sponsor	Union	Non-Union	Date of Approval/ Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
	Other Signatory Contractors and the Glaziers, Architectural Metal and Glassworkers Union Local 1889, AFL-CIO)						
Hazardous Waste Material Technician	**Hawaii Laborers; Union Local 368**	**x**		**9/19/2017**	**4000**	• **At least 18 years old** • **High School Diploma or GED** • **Possess a Valid Driver's License** • **Pass a Pre-Evaluation course** • **Physical abilities to perform duties of the trade**	96-138 Farrington Highway Pearl City, Hawaii 96782 Phone (808) 455-7979
Heat and Frost 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**		**07/23/1971**	**10,000**	• **At least 18 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/
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**		**11/14/1967**	**8,000**	• **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** • **Ranked on general knowledge and hands on test** • **Have reliable transportation**	State Administrator Address: P.O. Box 428 Kahuku, HI 96731-0428 Phone: (808) 232-2001 Fax: (808) 232-2217 Website: http://oe3.org/training/
Ironworker Shop Fabricator / Welder	**Hawaii Shopmen's Local 803 Joint Apprenticeship and Training Committee** **(International Association of Bridge,**	**x**		**12/31/1963**	**8,000**	• **At least 18 years old** • **High school diploma or GED** • **Physically able to perform duties of the trade**	Training Coordinator Address: 94-497 Ukee Street Waipahu, HI 96797 Phone: (808) 671-4344

Trade	Sponsor	Union	Non-Union	Date of Approval/ Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
	Structural and Ornamental Ironworkers, Local 803, AFL-CIO, and Participating Employers)					• **Must be sponsored by employer who is signatory to the Shopmen's Local 803 collective bargaining agreement**	Fax: (808) 676-1144 Website: http://www.ironworkers.org/
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**		**06/26/1953**	**6,000**	• **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/

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**		**03/01/1961**	**6,000**	• **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/
Landscape and Irrigation Laborer	**Hawaii Laborers Union Local 368**	**x**		**03/30/2016**	**4,000**	• **At least 18 years old** • **High school diploma or GED or 10th grade education** • **Valid driver's license** • **Complete and pass the Pre-Landscape and Irrigation Apprentice Evaluation Course**	Director of Training Address: 96-138 Farrington Hwy. Pearl City, HI 96782 Phone: (808) 455-7979 Fax: (808) 456-8689 Website: http://www.liuna.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**		**09/01/1961**	**8,000**	• **At least 18 years old** • **High school diploma or GED** • **Driver's license** • **Physically able to perform the duties of the trade** • **Pass color code vision test** • **Pass entry level test of math and vocabulary**	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**	**05/02/1990**	**8,000**	• **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/

Trade	Sponsor	Union	Non-Union	Date of Approval/ Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
Painter	**Color Dynamics, Inc.**		**x**	**12/01/1989**	**8,000**	• **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
Painter	**Kawika's Painting**		**x**	**10/01/1984**	**8,000**	• **At least 16 years old** • **Physically fit to perform duties of the trade** • **Must not be color blind**	President Address: 2147 Eluwene Street Honolulu, HI 96819 Phone: (808) 848-0003 Fax: (808) 842-1908 Website: http://www.kawikaspainting.com
Paving 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**		**04/29/2010**	**4,000**	• **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 showing address in HI** • **Current State DOT PUC physical** • **Ranked on general knowledge and hands on test** • **Have reliable transportation**	State Administrator Address: P.O. Box 428 Kahuku, HI 96731-0428 Phone: (808) 232-2001 Fax: (808) 232-2217 Website: http://oe3.org/training/
Plasterer	**Joint Apprenticeship Committee for Plasterers** **(Pacific Bureau for Lathing and Plastering and the Operative Plasterers and Cement Finishers Association of the U.S. and**	**x**		**06/30/1959**	**8,000**	• **At least 16 years old** • **Physically able to perform duties of the trade**	Director of Training or Training Coordinator Address: Hawaii Masons & Plasterers Training 1188 Sand Island Parkway Honolulu, HI 96819

Trade	Sponsor	Union	Non-Union	Date of Approval/ Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
	Canada, Local 630, AFL-CIO)						Phone: (808) 848-0565 Fax: (808) 847-7068 Website: http://www.opcmia.org/ http://www.bacweb.org
Plumber	Honolulu Joint Apprenticeship and Training Committee for the Plumbing and Pipefitting Industry *aka* 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		11/14/1952	10,000	• 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: 720 Iwilei Road, Suite 222 Honolulu, HI 96817 Phone: (808) 456-0585 Fax: (808) 456-7131 Website: http://www.ua.org/
Plumber	Associated Builders and Contractors Apprenticeship Committee		x	02/02/1999	10,000	• 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		08/23/1995	6,000	• At least 16 years old • High school graduate or GED equivalent • Physically able to perform duties of the trade	Director of Training or Training Coordinator Address: Hawaii Masons & Plasterers Training 1188 Sand Island Parkway Honolulu, HI 96819

Trade	Sponsor	Union	Non-Union	Date of Approval/ Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
							Phone: (808) 848-0565 Fax: (808) 847-7068 Website: http://www.bacweb.org
Refrigeration Air-Conditioning	**Honolulu Joint Apprenticeship and Training Committee for the Plumbing and Pipefitting Industry *aka* 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**		**09/04/1962**	**10,000**	• **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: 720 Iwilei Road, Suite 222 Honolulu, HI 96817 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**		**01/13/1968**	**8,000**	• **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**	**01/09/1996**	**7,000**	• **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/
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**		**01/02/1958**	**10,000**	• **At least 18 years old** • **High school diploma or GED** • **Complete industry test** • **Driver's license** • **Physically able to perform work**	Apprenticeship Coordinator Address: 1405 North King Street Room 403 Honolulu, HI 96817 Phone: (808) 841-6106 Fax: (808) 841-1842 Website: http://www.smwia.org/
Steamfitter/ Welder	**Honolulu Joint Apprenticeship and Training Committee for the Plumbing and Pipefitting Industry *aka* 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**		**02/05/2002**	**10,000**	• **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: 720 Iwilei Road, Suite 222 Honolulu, HI 96817 Phone: (808) 456-0585 Fax: (808) 456-7131 Website: http://www.ua.org/
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**		**02/10/1964**	**8,000**	• **At least 16 years old** • **High school graduate or GED equivalent** • **Physically able to perform duties of the trade**	Director of Training or Training Coordinator Address: Hawaii Masons & Plasterers Training 1188 Sand Island Parkway Honolulu, HI 96819

Trade	Sponsor	Union	Non-Union	Date of Approval/ Registration	No. of Hours of On-the-Job Training	Minimum Requirements	Contact Information
							Phone: (808) 848-0565 Fax: (808) 847-7068 Website: http://www.bacweb.org
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**		**09/01/1967**	**8,000**	• **At least 18 years old** • **Physically able to perform duties of the trade** • **Driver's license** • **High school diploma or equivalent**	Training Coordinator Address: 2240 Young Street Honolulu, HI 96826 Phone: (808) 941-0991 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**		**09/16/1998**	**6,000**	• **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)**	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**		**06/24/1958**	**8,000**	• **At least 16 years old** • **High school graduate or GED equivalent** • **Physically able to perform duties of the trade**	Director of Training or Training Coordinator Address: Hawaii Masons & Plasterers Training 1188 Sand Island Parkway Honolulu, HI 96819 Phone: (808) 848-0565 Fax: (808) 847-7068 Website: http://www.bacweb.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**	• **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** • **Ranked on general knowledge and hands on test** • **Have reliable transportation**	State Administrator Address: P.O. Box 428 Kahuku, HI 96731-0428 Phone: (808) 232-2001 Fax: (808) 232-2217 Website: http://oe3.org/training/

Years 2021 and 2022
Holidays to be observed by the
HAWAII STATE GOVERNMENT

www.dhrd.hawaii.gov
Website where State Holiday Schedule posted

Year 2021 HAWAII STATE HOLIDAYS

(Hawaii Rev. Statutes, Sec. 8-1)	Day Observed in 2021	Official Date Designated in Statute/Constitution
New Year's Day	Jan. 1, Friday	The first day in January
Dr. Martin Luther King, Jr. Day	Jan. 18 Monday	The third Monday in January
Presidents' Day	Feb. 15 Monday	The third Monday in February
Prince Jonah Kuhio Kalanianaole Day	Mar. 26 Friday	The twenty-sixth day in March
Good Friday	April 2 Friday	The Friday preceding Easter Sunday
Memorial Day	May 31 Monday	The last Monday in May
King Kamehameha I Day	June 11 Friday	The eleventh day in June
Independence Day	July 5 Monday	The fourth day in July
Statehood Day	Aug. 20 Friday	The third Friday in August
Labor Day	Sept. 6 Monday	The first Monday in September
Veterans' Day	Nov 11 Thursday	The eleventh day in November
Thanksgiving	Nov. 25 Thursday	The fourth Thursday in November
Christmas	Dec. 24 Friday	The twenty-fifth day in December

Year 2022 HAWAII STATE HOLIDAYS

(Hawaii Rev. Statutes, Sec. 8-1)	Day Observed in 2022	Official Date Designated in Statute/Constitution
New Year's Day	Dec. 31, Friday	The first day in January
Dr. Martin Luther King, Jr. Day	Jan. 17 Monday	The third Monday in January
Presidents' Day	Feb. 21 Monday	The third Monday in February
Prince Jonah Kuhio Kalanianaole Day	Mar. 25 Friday	The twenty-sixth day in March
Good Friday	April 15 Friday	The Friday preceding Easter Sunday
Memorial Day	May 30 Monday	The last Monday in May
King Kamehameha I Day	June 10 Friday	The eleventh day in June
Independence Day	July 4 Monday	The fourth day in July
Statehood Day	Aug. 19 Friday	The third Friday in August
Labor Day	Sept. 5 Monday	The first Monday in September
Election Day	Nov. 8 Tuesday	The first Tuesday in November following the first Monday of even numbered years (*Hawaii State Constitution, Article 2-Section 8)*
Veterans' Day	Nov 11 Friday	The eleventh day in November
Thanksgiving	Nov. 24 Thursday	The fourth Thursday in November
Christmas	Dec. 26 Monday	The twenty-fifth day in December

FOOTNOTES: For use solely by State government agencies. Federal government and local banking holidays may differ. For State agencies that operate on other than Monday-Friday 7:45 AM to 4:30 PM schedules, also refer to appropriate collective bargaining agreements. Created by the Department of Human Resources Development 5/20/2020 subject to change.

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SUBSURFACE INVESTIGATION REPORT

LA'I'OPUA VILLAGE 4
AKAU AND HEMA SUBDIVISIONS

KEALAKEHE, HAWAII, HAWAII

for

ENGINEERS SURVEYORS HAWAII, INC.

by

FEWELL GEOTECHNICAL ENGINEERING, LTD.

This report was prepared by
me or under my supervision.

By Timothy J. Cavanaugh, P.E.

March 22, 2012

Important Information about Your

Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply the report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

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SUBSURFACE INVESTIGATION REPORT

La'i'opua Village 4
Akau and Hema Subdivisions
Kealakehe, Hawaii, Hawaii

INTRODUCTION

We have completed a subsurface investigation for the site of the proposed La'i'opua Village 4, Akau and Hema Subdivisions, in Kealakehe, Hawaii, Hawaii. This report summarizes our findings and presents geotechnical recommendations for the development of the site. This work has been completed in general accordance with our March 31, 2011 Proposal and your emailed notice to proceed dated August 16, 2011.

PROJECT HISTORY

The La'i'opua Village 4 site is an irregularly-shaped parcel covering an area of about 55 acres on the northwestern corner of the intersection of Keanalehu Drive and Manawalea Street in Kealakehe. The general area of the site is shown on the Project Location Map, Figure 1 in the Appendix. The subdivision was originally designed to support about 236 single family residential lots for the Department of Hawaiian Home Lands (DHHL).

A Soils Investigation Report, dated December 9, 2005, was completed for the project by Hirata & Associates, Inc. (HAI). The HAI report indicates that the site was originally underlain by a thin soil layer consisting of volcanic ash with gravel and cobbles, over intact basalt interbedded with up to 6-foot thick seams of Aa Clinker.

Mass grading operations for the subdivision were performed under the observation and testing of HAI personnel during the period between October 15, 2007 and October 22, 2008. The grading operations included fills up to 20 feet thick, and included layers of coarse rock fill which were to be choked off with 12-inch thick choke layers consisting of 6-inch minus granular fill. The individual lots were to be capped with at least 24 inches of 2-inch minus granular fill. In cut areas, the existing soils and rock were to be overexcavated to allow placement of the 24 inches of capping fill.

The site grading operations were discontinued in late 2008. We understand that most of the grading operations had been completed by this time. Most of the lots and roadways had reportedly been graded to their planned finish subgrade levels. However, the grading for several of the lots was reportedly not completed in accordance with the recommendations of the HAI report, due primarily to a shortage of capping fill material.

Copies of the field reports by HAI documenting their observations and test results during the construction were submitted to DHHL. However, we understand that a Final Grading Report for the subdivision was not completed since the grading work was not entirely complete at the time the work was discontinued.

We understand that based on their construction documents, DHHL is comfortable that the previous grading operations had been completed in conformance with the project requirements and that the previously placed fills are acceptable to DHHL up to their existing grades. We also understand that the graded slopes within the site are considered to possess adequate stability.

PURPOSE AND SCOPE

The construction of the La'i'opua Village 4 Subdivision is now scheduled to resume under a new set of design consultants. The work will be divided into 2 parts, designated as the Akau and Hema Subdivisions. Engineers Surveyors Hawaii, Inc. (ESH) will provide the civil engineering design services for the Akau Subdivision, including the remaining site grading and the design of the roadways, utilities, and related infrastructure improvements. Akinaka & Associates, Ltd. (AAL) will provide similar design services for the Hema Subdivision.

Geotechnical engineering services to assist ESH and AAL with the completion of the civil engineering design of both subdivisions was requested of Fewell Geotechnical Engineering, Ltd, (FGE) by ESH. The geotechnical engineering design services are based on our understanding with ESH that the existing fills at the site are considered to have been properly constructed in accordance with the recommendations of the 2005 HAI report to their current levels and are acceptable "as is" to DHHL. Additionally, we understand that the existing slopes at the site are considered to possess adequate stability such that no additional stability evaluation is required.

Our work included reviewing our available soil information on the site and the geotechnical construction records by HAI which were provided by ESH, and performing a site reconnaissance to observe and map the exposed surface conditions on the lots and roadways. The

reconnaissance included excavating 26 shallow test pits in selected lots to evaluate the thickness and quality of the surface capping fill.

Samples were obtained for laboratory classification and compaction testing, and field density tests were performed on the surface soils on up to 50 of the subdivisions' lots, to evaluate the general compaction levels currently exhibited by the capping fill. The field and laboratory data were evaluated in conjunction with the planned construction, and our findings and conclusions are presented in this report.

The scope of our work also included developing general recommendations for the project's preliminary drywell design and construction. The general recommendations for the drywells are based on the boring information included in the 2005 HAI Report and our experience with the drywells on the nearby La'i'opua Village 5 Subdivision. Except for the shallow test pits to investigate the thickness and quality of the surface capping fill, no subsurface explorations or test borings were included in our work to evaluate the quality and thickness of the thicker fills, the drainage characteristics of the on-site materials, or the natural subsurface materials for the drywell design. The drywell recommendations should be confirmed by FGE during construction.

We understand that the houses on the individual lots of the subdivision's will likely be designed and constructed using the design/build construction process. At the request of ESH, preliminary geotechnical recommendations for the foundations and concrete slab-on-grade floors of the future residences have been provided to assist the designer-builders with their preliminary designs and their preliminary cost estimating for the project. The final design of the new dwellings and their individual improvements should be the responsibility of the designer-builders and their own geotechnical engineers.

The results of the field exploration, including a Test Pit Location Plan and a summary of the materials encountered in the test pits are included in Appendix A. The results of the field density tests performed on various lots, together with the results of laboratory tests, are also included in Appendix A. The limitations of this investigation and report are included as Appendix B.

PROJECT CONSIDERATIONS

The La'i'opua Village 4 site is an irregularly-shaped parcel covering an area of about 55 acres on the northwestern corner of the intersection of Keanalehu Drive and Manawalea Street in Kealakehe. The site is bounded by Keanalehu Drive on the west and south, by Manawalea Street on the east, by existing residences and the Uhiuhi Preserve on the north.

The original site topography, prior to the previous grading, sloped down moderately toward the southwest at an average gradient of about 10 percent. The existing ground surface ranged from about Elev. 590 in the northeastern corner of the site, down to about Elev. 400 along its western edge. The previous grading which was discontinued in 2008 has resulted in a series of terraces which drop down in the east-to-west direction. The grade differences between the terraces are supported by graded 2 Horizontal to 1 Vertical (2H:1V) slopes up to 30 feet in height.

A 5-acre piece on the northern edge of the site, which is designated as a future park site, has been graded to provide a relatively level terrace within the interior portion of the site. Graded 2H:1V slopes between 10 and 20 feet high, with an 8-foot wide bench at approximately 10 feet below the top of the slope, elevate the adjacent residential areas outside the northern, edge of the park site. Similar 2H:1V slopes up to 20 feet high, with an 8- to 10-foot wide bench about 10 feet below the top of slope, support the grade difference between the park site and the Uhiuhi Preserve site above the eastern edge of the park, and Lots 67 and 68 of the Akau Subdivision outside the southern edge of the park. A 2H:1V slope up to 12 feet high drops down to the Akau Subdivision Lots 25, 26, and 54 along the western edge of the park area.

Currently, most of the lots in the northern and western portions of the site are covered with waist-high grass. The lots in the southeastern portion of the site are generally covered with tall grass and dense bushes with scattered clear areas. Five temporary silting basins, 4 along the lower, western and southern edges of the site, and 1 within its central area, are present within the site. The silting basins are generally 2 to 5 feet deep and covered with dense vegetation.

The Lot Numbering Plan, received from Engineers Surveyors Hawaii, Inc. (ESH) via email on September 1, 2011, indicates that the La'i'opua Village 4 Subdivision will now include 2 separate subdivisions, designated as the Akau Subdivision and the Hema Subdivision. The Akau Subdivision encompasses the northern portion of the La'i'opua Village 4 parcel, with the Hema Subdivision occupying the southern portion of the property.

The Akau Subdivision will be developed to support 118 single-family residential lots, a Clustered Mailbox Unit (CBU) lot, a Mini Preserve, and a 5-acre park. The Mini-Preserve is the size of an individual lot in which no grading is planned. Additional improvements in the Akau Subdivision will include 8 asphalt-paved residential roads, designated as Roads A through H, with a total of about 5,400 linear feet of roadway. Similar lengths of utility improvements, including sewer, water and electrical utilities are anticipated.

The Hema Subdivision will include 125 single-family residential lots and 5 asphalt-paved roads, designated as Roads B-1, F-1, G-1, H-1 and I. This results in a total of about 4,300 feet of road and a similar length of sewer, water, and electrical utilities for the Hema Subdivision.

Site drainage for each subdivision will be disposed of through a series of drywells. The preliminary information indicates that 27 drywells are anticipated for the Akau Subdivision and we have assumed a similar number of drywells will be necessary for the Hema Subdivision. We have assumed that the drywells will consist of the County of Hawaii's standard drywell and will be extended to depths of up to 25 feet below the lowest adjacent finish ground surface. Full-scale percolation tests are assumed to be required for selected drywells, randomly selected by the County during construction.

Except for the previously graded 5-acre Park Site of the Akau Subdivision, we understand that no major site grading is planned at the site. Additional grading within the lots of the subdivisions is anticipated be limited to fills of up to 2 feet in thickness, to provide the desired gradients for drainage as well as to assure that the lots are overlain by sufficient thicknesses of capping fill material. Additional grading within the park site is anticipated to include cuts of up to 10 feet in depth and fills of up to 5 feet in thickness. The cuts are planned along the eastern edge of the park site, adjacent to the Uhiuhi Preserve, to extend the level area of the site while maintaining the current grade difference between the preserve and the park site. Graded slopes are planned to support the grade differences resulting from the additional site grading with no retaining walls currently anticipated.

SUBSURFACE INVESTIGATION

A total of 26 test pits were excavated on August 23 and 24, 2011 at the approximate locations shown on the Test Pit Location Plan, Figure 2 in the Appendix. The test pits were excavated with a Komatsu WB140 rubber-tired hopto to depths ranging from 1 to 3 feet to evaluate the capping

fill. The test pits were terminated once either the 6-inch minus fill or basalt underlying the capping fill was encountered, or at a depth of 3 feet, whichever was shallower. The materials found in the test pits are summarized in Table I in Appendix A.

Field density tests were performed on the exposed subgrade soils on 46 of the individual lots of the development. The tests were generally performed on lots were the exposed surface soils consisted of the 2-inch minus granular capping fill. No tests were performed on lots where the exposed surface materials consisted of the coarser, 6-inch minus fill, or basalt. The results of field density tests performed on the capping fill are summarized in Table II.

LABORATORY TESTING

Bag samples of the predominant materials found in the test pits were selectively obtained for laboratory testing. The rocky nature of the materials at the site generally limited the laboratory testing to index property tests such as gradation and Atterberg Limits tests. A Laboratory California Bearing Ratio (CBR) test was performed on a bulk sample obtained from the test pits. The results of the CBR, gradation and Atterberg Limits tests are graphically presented in Figures 3 through 7 in Appendix A.

GENERAL SUBSURFACE CONDITIONS

Eleven of the fourteen test pits excavated within the Akau Subdivision, Test Pits 2, 4 through 9, and 11 through 14, encountered capping fill which extended to depths of between 2 and 3 feet below the current ground surface. Test Pits 1, 3, and 10, encountered between ¼ and 1¾ feet of capping fill over 6-inch minus coarse granular fill which extended to the bottom of these test pits. Our field observations and laboratory testing indicate that about half of the capping fill consisted of 2-inch minus granular fill, with the remaining half of the capping fill consisting of 3-inch minus material.

Of the twelve test pits excavated within the Hema Subdivision, only two test pits, Test Pits 15 and 18, encountered at least 2 feet of the capping fill. Of the remaining ten test pits, seven test pits, Test Pits 16, 17, 20 through 23, and 26, encountered between 1 and 1½ feet of either 2-inch minus or 3-inch minus capping fill, over either the coarse 6-inch minus fill, or basalt. Test Pits 19, 24, and 25 encountered the 6-inch minus fill material at the ground surface.

Our field observations and laboratory gradation tests performed on the capping fill indicated that the capping fill material generally has a maximum particle size of 3 inches and contains between

48 and 59 percent gravel-sized rock fragments, between 34 and 42 percent sand-sized fragments, and between 7 and 9 percent silt. The fine-grained portions of the materials were non-plastic. A Laboratory CBR test indicated that the capping fill material exhibits a CBR of 99 with no swell.

The field density testing revealed variable compacted dry densities for the capping material between 109.9 pounds per cubic foot (p.c.f.) and 142.5 p.c.f., through generally between about 120 and 132 p.c.f. The variance in the dry densities appears to be due to the gradation of the material as the lower dry densities were indicated in fill which appeared "boney", i.e., contained little fine-grained soils. In general, the capping fill, as well as the underlying 6-inch minus fill exposed in the test pits, appeared to have been compacted into a dense configuration.

Groundwater or subsurface seepage was not observed in any of the test pits excavated during this investigation.

DISCUSSION

We believe that the proposed site of La'i'opua Village 4 can be adequately developed to satisfactorily support the planned dwellings and their related subdivision improvements provided the recommendations of this report are followed. However, based on the materials encountered in the test pits and our field observations, it appears that the southern Hema Subdivision will require significantly more additional grading work than the northern Akau Subdivision.

The subsurface investigation has revealed that the majority of the Akau Subdivision site is generally underlain by at least 2 feet of 2-inch minus or 3-inch minus low expansion capping fill over either coarse 6-inch minus granular fill material. Although about ½ of the capping fill encountered in the test pits or exposed at the ground surface in the Akau Subdivision appeared to consist of 3-inch minus granular fill, rather than the 2-inch minus granular capping fill material specified in the original project documents, we do not believe that the slightly larger-grained capping material should have significant adverse effects of the proposed construction. However, the future design/build house builder contractor should be advised of the larger grain sizes of the capping fill throughout both subdivisions.

Test Pits 1, 3, and 10, which were excavated along the lower, western row of lots, between the existing Keanalehu Drive and the future Road B of the Akau Subdivision, encountered between ¼ and 1¾ feet of the capping fill over the 6-inch minus coarse fill material. This insufficient capping

fill thickness appears to represent Lots 1 through 18. However, since the current grades on these lots are below the current grades along the adjacent Road B, it appears that additional capping fill still needs to be placed. If no additional fill is planned within these lots, the existing capping fill and underlying 6-inch minus material should be removed sufficiently to allow placement of at least 2 feet of 2-inch minus capping fill on these lots.

The subsurface investigation indicates that the grading work within the southern Hema Subdivision, had not progressed as far as the work on the Akau Subdivision. Ten of the 12 test pits excavated within the Hema Subdivision encountered less than the required 2-foot thickness of capping fill recommended in the HAI Report. Additionally, intact basalt or coarse granular fill with boulders up to 12 inches in diameter, were exposed at the ground surface in at least 32 of the 125 lots.

Based on the test pits and our field observations, it appears that, except for about 25 lots along the northern edge of the subdivision, most of the lots within the Hema Subdivision currently have less than the recommended 2-foot thickness of capping fill. The lots which appear to have the recommended capping fill in place are Lots 46, 47, 72 through 77, 98 through 104, 112 through 117, and 122 through 125.

If no additional grading is planned to attain the finish grades within the lots of the Hema Subdivision, extensive remedial earthwork will be required to provide the 2-foot thickness of capping fill. If these grades are at or near the planned finish grades, up to 2 feet of additional rock excavation and the subsequent backfilling with the 2-inch minus capping fill will be necessary to provide the recommended 2-foot thick capping fill thickness.

Where the coarse rock fill is exposed at the current subgrade levels, overexcavations of up to 3 feet would be required to allow placement of the 2 feet of capping fill over a 1-foot thick choke layer above the coarse rock fill. To reduce the amount of the additional site excavations, including hard rock excavation, it may be desirable to adjust the finish grading scheme for the Hema Subdivision to fill the existing subdivision by at least 2 feet to attain the finish pad grades. This will increase the amount of imported fill necessary to complete the grading but would reduce the additional site excavation and fill reconstruction.

The field density tests completed on the exposed capping fill indicated dry densities ranging from about 110 p.c.f. to over 140 p.c.f. The existing capping fill exposed at the subgrade level in all of

the lots and roadways should be proof-rolled with a heavy, smooth-drum vibratory compactor, to densify any loose pockets, prior to additional fill placement or future construction.

The 2005 HAI Soils Investigation Report indicates that the original ground surface at the site was underlain by intact basalt interbedded with seams of Aa clinker at shallow depths. Heavy rock excavating equipment, such as large, hoeram-equipped excavators, should be anticipated to facilitate the removal of the intact basalt encountered in utility trenches extending below the original ground surface. Large boulder-sized rock fragments generated by utility trenches extending into the basalt layers, will require crushing and segregation before they can be re-used as 2-inch minus trench backfill or in the shallow fills anticipated at the site.

We understand that the fill placed during the original mass grading included coarse rock fills which were choked off with 6-inch minus choke layers. Should the coarse rock fill be present above the invert of utility lines, overexcavation of the coarse rock fill will be required to allow reconstruction of the 1-foot thick choke layer beneath the utilities pipe bedding layer. Utility excavations in the fills will likely be ragged with significant over-breaks due to the crushed rock materials within the fills. Utility trench sideslopes within fill embankments will possess little or no binder, and raveling and sloughing of the sidewalls will likely occur. The contractors should be advised to anticipate these occurrences and provide for it in their excavation and backfilling work.

The park site grading will result in additional cuts of up to 10 feet in depth along its eastern edge, but will not increase the overall slope height of 20 feet in this area. The exposed slope appears to be a basalt formation consisting of intact basalt with thin interbedded layers of Aa Clinker. Our analysis indicates that cut slopes in the exposed basalt formation should be stable at an inclination of 1½H:1V for the existing heights of up to 20 feet, with factors of safety of at least 1.5 under static conditions, and at least 1.1 under the seismic conditions anticipated for this area under the 2006 International Building Code (IBC). These are the typically accepted minimum safety factors for this type of geotechnical analysis.

The above-recommended 1½H:1V cut slopes will result in relatively steep high slopes at the park site. We believe it would be prudent to prevent access to the top of these slopes to minimize the potential for residents falling down the slopes.

Drywells - The project will include up to 27 drywells in each of the 2 subdivisions to dispose of surface water runoff. We understand that it is desired to use 5-foot inside diameter (I.D.) wells,

rather than the County of Hawaii's Standard 6-foot I.D. drywells. Additionally, we understand that, where possible, it is desired not to use the concrete rings for the drywells.

The 2005 HAI Report indicates that the La'i'opua Village 4 site is generally underlain by intact 3- to 8-foot thick layers of intact, massive basalt interbedded with 1- to 6-foot thick layers of Aa Clinker. The subsurface conditions of the HAI report are similar to those encountered by FGE at the nearby La'i'opua Village 5 site. Based on previous, full-scale percolation tests performed in the drywells for the La'i'opua Village 5 Subdivision, it appears that 5-foot diameter drywells may be sufficient for both subdivisions, provided the design flows do not exceed 2 c.f.s. However, extending the 5-foot I.D. drywells deeper than the standard 25-foot depth may be required should additional full-scale tests indicate inadequate drainage capacity.

Regarding the requirement for using the concrete rings within the drywells, the rings surrounded by filter gravel can resist caving and assist the drywell in maintaining its planned volume and drainage attributes. From a geotechnical standpoint, the need for the concrete rings depends primarily on the stability of the drywell shaft walls and is a function of the subsurface materials and the contractor's construction methods.

The concrete rings will be required for the upper portions of the drywell shafts which extend through the surface fill. Once the drywell shaft encounters the intact, massive basalt, the drywell shafts can generally be excavated vertically and still maintain adequate stability. Rings should still be anticipated where thick seams of Aa Clinker are encountered. The omission of the rings within the portion of the drywell extending through the intact basalt should be acceptable, provided the lack of filter gravel does not adversely affect the performance of the drywells.

We understand that lava tubes were encountered in previous utility excavations on Keanalehu Drive, near is intersection with Road C, and DHHL is concerned with lava tubes being encountered within the new drywell excavations. Where lava tubes showing evidence of transmitting water are encountered in the drywell excavations, an extension of the drywells and the inclusion of non-perforated concrete rings within the drywell down to the invert of the lava tube, may be required. Should lava tubes be exposed during construction, FGE should be notified for supplemental recommendations regarding the drywell construction.

Preliminary Dwelling Foundation and Slab Recommendations – The following preliminary recommendations are given to assist the designer- builders for the project with their preliminary

design and cost-estimating purposes for the dwellings and lot improvements during the house construction and individual lot development. The final design and construction of the dwellings and lot improvements should be the responsibility of designer-builders of the project and their own geotechnical engineering consultant.

Provided the grading recommendations of this report are followed, we believe that light residential dwellings can be supported on shallow individual spread footing, continuous foundations or a combination of these two types. The foundations should bear within the properly compacted 2-inch minus capping fill of the graded lots.

Individual spread footings should have a minimum base width of at least 18 inches. Continuous foundations should have a minimum base width of at least 12 inches. Foundations should be embedded at least 12 inches below the lowest adjacent compacted subgrade on level ground. Foundations on slopes or within 5 feet of the top of the slope should be founded such that there is at least 6 feet of horizontal setback from the lower outside edge of the foundation to the slope face.

Foundations should bear on the 2-inch minus crushed rock granular fill compacted in accordance with the grading recommendations of this report, where they may be designed for a maximum allowable capacity of 3,000 pounds per square foot (p.s.f.). This value may be increased by one-third for short-term wind or seismic loads.

The bottom of the foundation excavations should be cleaned of loose materials and compacted to at least 90 percent relative compaction prior to the placement of the steel and concrete. Soft areas found in the fills should be removed down to properly compacted fill or hard/dense natural ground, and the resulting depression backfilled with properly compacted fill.

Steel reinforcement of the foundations should be provided in accordance with the recommendations of the designer builder's Structural Engineer. Total and differential settlements exceeding ½ inch are not anticipated provided the site grading is completed in accordance with the recommendations of this report and the column and wall loads of 30 kips and 2 kips per foot, respectively.

Concrete slabs-on-grade may be used for the dwelling construction provided the grading recommendations of this report are followed. This will assure that the subgrades for the slabs

consist of at least 2 feet of 2-inch minus crushed rock fill material compacted to at least 90 percent relative compaction, placed over intact rock or previously compacted materials.

Concrete slabs-on-grade should be underlain by at least 4 inches of ASTM D448 No. 6 aggregate to provide a capillary break between the bottom of the slab and the subgrade materials. If a vapor barrier is desirable, it should be installed in accordance with the recommendations of the designer-builder's Structural Engineer. Steel reinforcing of the concrete slabs-on-grades should be provided as recommended by the designer-builder's Structural Engineer.

RECOMMENDATIONS

Site Preparation

1. Prior to the start of actual grading operations, the site should be cleared and grubbed of all vegetation (not marked to remain), existing rubble, debris, and other deleterious material in accordance with Section 201 of the Standard Specifications for Road and Bridge Construction (Standard Specifications) of the County of Hawaii.

   a. All surface vegetation and other cleared materials should be removed and wasted off-site. Due to the rocky nature of the surface materials, some difficulties in the clearing operations should be anticipated, and hand-removal of the brush, small trees and their roots should be anticipated.

   b. The actual depth of grubbing can best be determined in the field, but we believe that 4 to 6 inches will likely suffice. The grubbed materials are not suitable for use as fill and should be wasted off-site.

2. Areas to receive fill where the then-existing ground surface is steeper than 5H:1V should be benched prior to fill placement. Benches should extend through any loose slope materials into clinker or the intact basalt. Sliver fills should be avoided.

Site Grading

3. Once the site has been properly prepared, grading operations may begin to generate the design finish grades. The level building pads for the dwellings should be designed such that their top of slope extends at least 5 feet beyond edge of the dwellings, their foundations, lanais and similar structural attachments. Where this criteria cannot be met, deeper than normal foundations or deepened thickened edge slabs should be anticipated.

4. Except for Lots 1 through 18, which are the westernmost row of lots adjacent to Keanalehu Drive, the subsurface investigation suggests that the Akau Subdivision is generally underlain by at least 2 feet of 2-inch minus or 3-inch minus granular capping fill.

5. Lots 1 through 18 of the Akau Subdivision will require the placement of up to 2 feet of additional, 2-inch minus granular capping fill. Since these lots appear to be below their planned

finish subgrade level, the placement of the 2 feet of capping fill material should not result in significant excavations to allow placement of the capping fill material.

6. The investigation indicates that the majority of the lots of the Hema Subdivision are underlain by less than 2 feet of capping fill material, and on many lots no capping material at all. Where less than 2 feet of fill is planned within the Hema Subdivision lots, the currently exposed subgrade should be overexcavated sufficiently to allow the placement of at least 2 feet of 2-inch minus capping fill on the lots and roadways.

7. After the site has been cleared and grubbed, the exposed soil subgrade in areas designated to support new construction should be proof-rolled with at least 5 passes of a heavy, vibratory smooth drum compactor, such as a Caterpillar CS-533 or equivalent imparting at least 40,000 pounds of dynamic force, to densify the near-surface fill. Any loose spots encountered should be removed down to properly compacted fill or intact basalt and the resulting depression backfilled in accordance with these recommendations.

8. Where the then-exposed subgrade consists of either intact basalt or coarse rock fill, it should be track-rolled with at least 7 passes of a large dozer such as a D-8 dozer, or larger, to densify any near-surface loose clinker pockets, and to detect any near-surface voids, lava tubes, soft spots, or other defects in the rock.

9. Site excavations to provide a sufficient thickness of the 2-inch minus capping fill, will likely encounter either coarse rock fill or intact basalt which will require the use of heavy rock-excavating equipment. It is anticipated that the predominant excavated material will be boulder-sized fragments of up to 2 to 3 feet in diameter, which must be segregated, processed and crushed for use as 2-minus capping fill or utility backfill.

10. Fills and backfills, whether imported or generated on-site, used within depths of 2 feet of the finish subgrade level of the lots or roadways should be relatively well-graded, and should have a maximum size of no more than 2 inches (2-inch minus crushed rock material). It should exhibit a CBR of at least 25 with no more than 1 percent swell, when tested in accordance with ASTM D1883 under a 51 p.s.f. surcharge. Larger well-graded 6-inch minus crushed rock fill and backfill may be used below depths of 2 feet below the finish subgrade levels of future structures or roadways.

11. The 2-inch minus fine-grained fill and backfill should be placed in level lifts of no more than 8 inches in loose thickness, moisture-conditioned to within 3 percent of their optimum moisture content and uniformly compacted to at least 90 percent relative compaction as determined by Laboratory Compaction Test ASTM D1557. Fill placed within 2 feet of the finished subgrades within the street right-of-ways should be compacted to at least 95 percent relative compaction.

12. The 6-inch minus material should be placed in level lifts of no more than 8 inches in loose thickness and compacted into a dense, unyielding layer. Field density testing of fills consisting of the minus 6-inch crushed rock material is not practical due to the large rock sizes and must be visually monitored. Compaction of the minus 6-inch crushed rock should be accomplished by contractors experienced in rock fill construction and should be observed full-time by FGE to determine whether the fill has been compacted in accordance with the recommendations herein.

13. Fill slopes should be laterally over-constructed during the mass grading and subsequently trimmed back to the planned finished grades, such that the finish slope face consists of a tight, well-compacted surface. Where coarse rock fills have been used for the site grading, boulders on the slope face should be removed and the slopes should be tracked to form a tight face. The use of additional 6-inch minus crushed rock should be anticipated to fine grade the coarse rock fill slopes.

14. New fill slopes within the subdivisions may be constructed as steep as 2H:1V for heights of up to 5 feet without benches. New slopes exceeding this height are not anticipated at this time and should be individually evaluated, should they occur. Cut slopes in the existing fills of the subdivisions should be sloped no steeper than 2H:1V for slope heights of up to 5 feet.

15. Cut slopes within the intact basalt and clinker along the eastern edge of the park site may be sloped as steep as 1½H:1V for heights of up to 20 feet. Unauthorized access to the tops of these slopes should be prevented.

16. The above-recommended slope inclinations should be adequately stable, but the surface will be subject to raveling. Should loose pockets in the existing fills, or defects in the rock be observed during construction, FGE should be notified such that additional recommendations can be provided. The remedial measures where this occurs will depend on the actual condition of the

formation, but may include guniting of occasional thick or loose clinker layers to minimize raveling and subsequent undermining of the slope.

Utilities

17. Utilities should be installed in accordance with Section 206 of the Standard Specifications and the applicable sections for each particular utility. Utility backfills should be placed and compacted utilizing the appropriate mechanical compactors around and above the pipes. Jetting and ponding as methods to compact the backfills should not be allowed.

18. Utilities may be founded in the compacted fill, Aa Clinker, or intact basalt. Where soft or loose spots are encountered at the bottom of utility excavations, they should be removed down to properly compacted fill, dense clinker, or intact basalt and the resulting depressions replaced with 2-inch minus fill compacted in accordance with the Grading recommendations.

19. It is anticipated that most of the deeper utilities will encounter intact basalt. The use of heavy rock-trenching equipment and hoe-rams should be anticipated for the excavations into the basalt.

20. Where utility trench excavations encounter coarse rock fill at the invert level, the trenches should be overexcavated sufficiently to allow placement of at least a 1-foot thick layer of 6-inch minus choke fill between the coarse rock fill and the pipe bedding.

21. At least 6 inches of pipe bedding or bed course should be provided below the utility pipes to provide uniform support to the pipes. Where intact basalt is encountered at the pipe invert levels, it should be over-excavated in accordance with the applicable section pertaining to each utility, but at least 6 inches below the bottom of the pipes, to allow the placement of granular pipe bedding or bed course.

22. The trench excavations in the fills should either be sloped back or shored in accordance with the applicable government safety regulations to prevent the granular fills from caving in, and to safeguard the workers within the trenches during the construction. The design of the shoring systems should be the responsibility of the contractor.

23. The trench excavations in the crushed rock fills and native clinker will likely be ragged with raveling and sloughing of the sidewalls due to the type of materials within the fills. Significant over-breaks should be anticipated. The contractors should be advised to anticipate these occurrences and make the appropriate provisions in their excavation and backfilling work.

24. The backfill for the utility trenches should meet the requirement of Structure Backfill A, or Trench Backfill A of Sections 703.20 and 703.21, respectively, of the Standard Specifications. Material conforming to Trench Backfill A, with a maximum size of 1 inch, should be used around and above the pipes to at least 12 inches above the pipes.

25. Utility trench backfill should be placed and compacted in accordance with the Grading recommendations of this report.

Pavements

26. Provided the Grading recommendations have been followed, the road subgrades should consist of fine-grained, relatively well-graded granular materials with a CBR of at least 25 and less than 1 percent swell. For this condition and the anticipated light residential traffic, we believe that a minimum pavement section consisting of 2 inches of Asphalt Concrete Paving, over 6 inches of Aggregate Base Course, placed over compacted subgrades should be sufficient.

27. The composition and placement of the Aggregate Base Course should conform to Section 703.06 of the Standard Specifications. The base course should be compacted to at least 95 percent relative compaction. The road subgrade should be shaped to drain to preclude the ponding of water adjacent to or beneath the pavements, and should similarly be compacted to at least 95 percent relative compaction for a minimum of 6 inches prior to the placement of the Aggregate Base Course.

28. The above pavement section is recommended for preliminary design purposes and should be verified by CBR tests on samples of the actual subgrade materials encountered during construction.

Quality Control

29. The site preparation and site grading, including the proof-rolling and track-rolling operations, should be observed by FGE to verify that the anticipated subsurface conditions have been encountered.

30. Samples of the proposed fill materials should be submitted to FGE no less than 7 working days prior to its intended job-site delivery to allow adequate time for testing, evaluation, and approval.

31. Intermittent field density tests should be taken to determine whether the specified levels of compaction are consistently obtained in the finer-grained fills and backfills. Field density testing of the minus 6-inch crushed rock fill and coarse rock fill is not feasible, and the construction of these layers should be visually monitored on a full-time basis by FGE.

32. Foundation excavations for the street improvements should be observed by FGE prior to the placement of reinforcing steel to determine whether the anticipated bearing materials have been encountered. The recommendations provided herein are contingent on adequate observation and testing of the geotechnical phases of the construction by FGE.

Miscellaneous

33. Adequate drainage provisions should be included in the design of the project to direct the surface water away from the slopes, and to preclude the ponding of water adjacent to or beneath the pavements, structures and embankments.

34. The graded slopes should be protected from erosion, as necessary, as soon as practical after the completion of the site grading.

35. Assuming that the materials described in the boring logs of the 2005 HAI report extend to depths of at least 100 feet below the existing ground surface, we believe that the site can be classified as Site Class C, "Very dense soil and soft rock" under the 2006 International Building Code (IBC).

Limitations

36. This report was prepared for the exclusive use of **Engineers Surveyors Hawaii, Inc.** for the proposed **La'i'opua Village 4, Akau and Hema Subdivisions** in Kealakehe, Hawaii, Hawaii. The limitations of this investigation and report are presented in Appendix B.

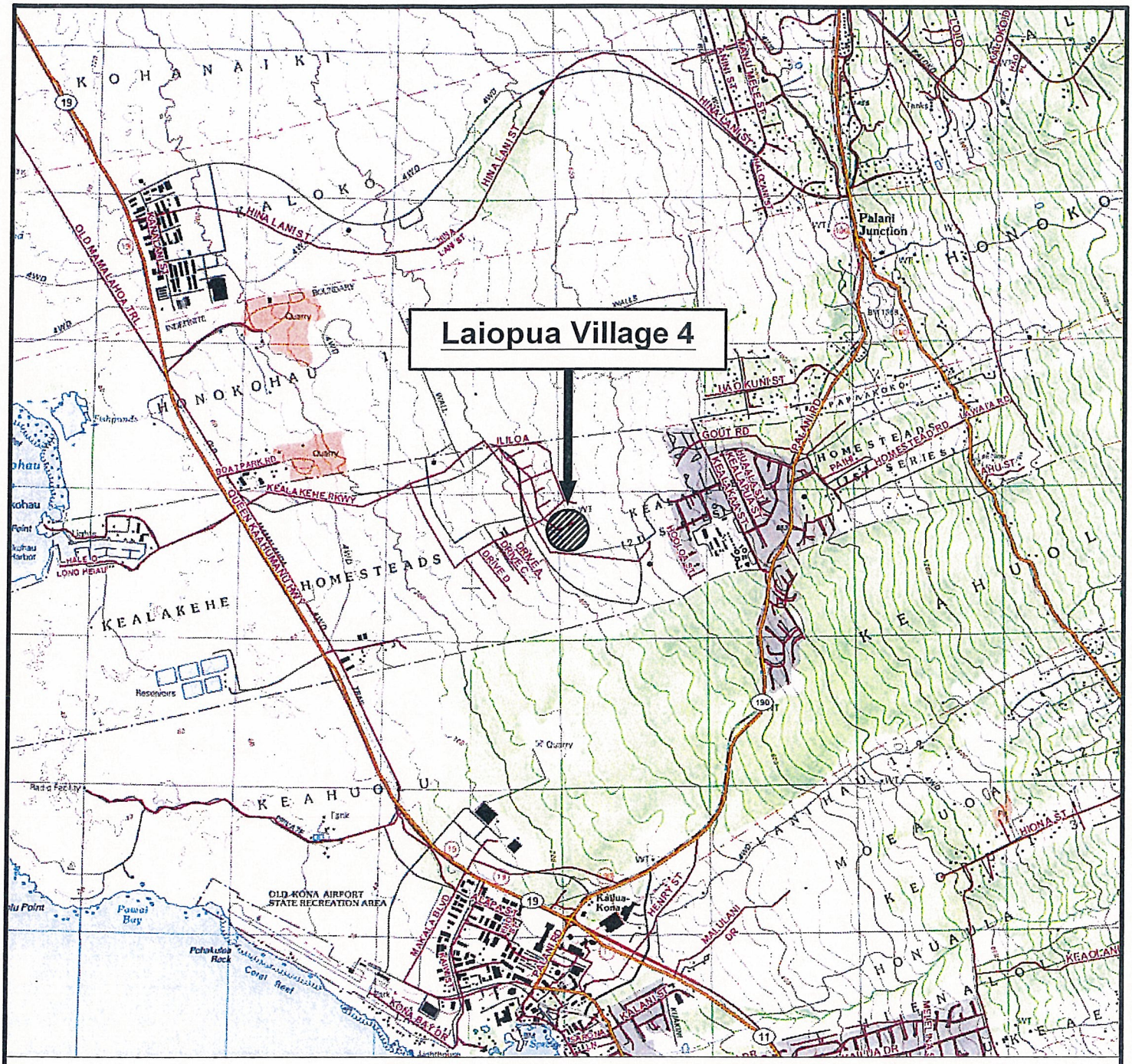
APPENDIX A

Subsurface Investigation Summary

Project Designation:	La'i'opua Village 4 Akau and Hema Subdivisions	**File:** 3067.01
Location:	Kealakehe, Hawaii, Hawaii	
Project Location Map:	Figure 1	
Test Pit Location Plan:	Figure 2	
Excavating Equipment:	Komatsu WB140	
Test Pit Summary		Table I
Field Density Test Summary		Table II

Laboratory Testing Summary

	Sample Number	Figure Designation
California Bearing Ratio Curves:	TP-15 (Hema Lot 124)	3
Gradation Charts:	TP-7 (Akau Lot 68)	4
	TP-9 (Akau Lot 93)	5
	TP-15 (Hema Lot 124)	6
Plasticity Chart:	TP-9 (Akau Lot 93)	7
	TP-15 (Hema Lot 124)	7



LEGEND:

PROJECT LOCATION

SCALE: 1:24000

GENERAL AREA:
KEALAKEHE, HAWAII, HAWAII

REFERENCE:
KAILUA QUADRANGLE
U.S.G.S. TOPOGRAPHIC MAP

F.G.E.

PROJECT LOCATION MAP

La'i'opua Village 4
Akau and Hema Subdivisions
Kealakehe, Hawaii, Hawaii

File: 3067.01

March 2012

Figure 1

LEGEND

N

APPROXIMATE FGE TEST PIT LOCATION

APPROXIMATE SCALE IN FEET

200 100 0 200

PLAN PROVIDED BY ENGINEERS SURVEYORS HAWAII, INC. MARCH 2012

FEWELL GEOTECHNICAL ENGINEERING, LTD.

TEST PIT LOCATION PLAN

La'i'opua Village 4
Akau and Hema Subdivisions
Kealakehe, Hawaii, Hawaii

March 2012 | File: 3067.01

Figure 2

96-1416
Waihona
Place
Pearl City
Hawaii
96782-

TABLE I

Test Pit Summary

Akau Subdivision

Test Pit Number	Lot Number	Ground Surface Elevation	Depth Interval	Material
1	18	402'	0 - 1½' 1½' - 2'	2"-minus well-graded silty gravel, dense 6"-minus gravel and cobbles, dense
2	25	448'	0 - 2½'	3"-minus well-graded gravel, boney, dense
3	9	425'	0 – 1¾' 1¾' – 2½'	3"-minus, poorly-graded gravel, boney, dense 6"-minus gravel and cobbles, dense
4	38	427'	0 – 3'	2"-minus well-graded silty gravel, dense
5	29	445'	0 – 2½' 2½' – 3'	3"-minus, well-graded gravel, dense 6"-minus gravel and cobbles, dense
6	55	459'	0 – 2' 2' – 2½'	3"-minus, well-graded gravel, dense 6"-minus gravel and cobbles, dense
7	68	487'	0 – 2½' 2½' – 3'	3"-minus, poorly-graded gravel, dense 6"-minus gravel and cobbles, dense
8	91	510'	0 – 2½' 2½' – 3'	3"-minus, well-graded gravel, dense 6"-minus gravel and cobbles, dense
9	93	589'	0 – 2½' 2½' – 3'	3"-minus, well-graded gravel, dense 6"-minus gravel and cobbles, dense
10	3	430'	0 –¼' ¼' – 1½'	2"-minus, well-graded gravel, dense 6"-minus gravel and cobbles, dense
11	45	455'	0 –¼' ¼' – 2½'	2"-minus, poorly-graded gravel, boney, dense 3"-minus well-graded gravel, dense
12	61	474'	0 – 2¼' 2¼' – 3'	2"-minus, well-graded gravel, dense 6"-minus gravel and cobbles, dense
13	85	503'	0 – 2½' 2½' – 3'	2"-minus, well-graded gravel, dense 6"-minus gravel and cobbles, dense
14	103	534'	0 – 2' 2' – 3'	2"-minus, well-graded gravel, dense 6"-minus gravel and cobbles, dense

TABLE I (Continued)

Test Pit Summary

Hema Subdivision

Test Pit Number	Lot Number	Ground Surface Elevation	Depth Interval	Material
15	124	435'	0 – 2½'	3"-minus, well-graded silty gravel, dense
16	119	468'	0 – 1½' 1½' – 2'	2"-minus, well-graded silty gravel, dense 6"-minus gravel and cobbles, dense
17	7	446'	0 - 1'	2"-minus poorly-graded silty gravel, dense Basalt at 1'
18	104	490'	0 – 2½'	2"-minus, well-graded silty gravel, dense
19	94	493'	0 - 1'	6"-minus gravel and cobbles, dense Basalt at 1'
20	68	516'	0 – 1'	2"-minus well-graded silty gravel, dense Basalt at 1'
21	49	547'	0 – 1' 1' – 1½'	2"-minus, well-graded silty gravel, dense 6"-minus gravel and cobbles, dense
22	45	556'	0 – 1' 1' – 2½'	3"-minus, poorly-graded gravel, dense 6"-minus gravel and cobbles, dense Basalt at 2½'
23	17	468'	0 – 1¼' 1¼' – 2'	2"-minus, well-graded silty gravel, dense 6"-minus gravel and cobbles, dense
24	54	529'	0 – 2'	6"-minus gravel and cobbles, dense
25	34	518'	0 – ½'	6"-minus gravel and cobbles, dense Basalt at ½'
26	26	490'	0 – 1 ½'	2"-minus well-graded silty gravel, dense Basalt at 1½'

TABLE II

Field Density Test Summary

Akau Subdivision

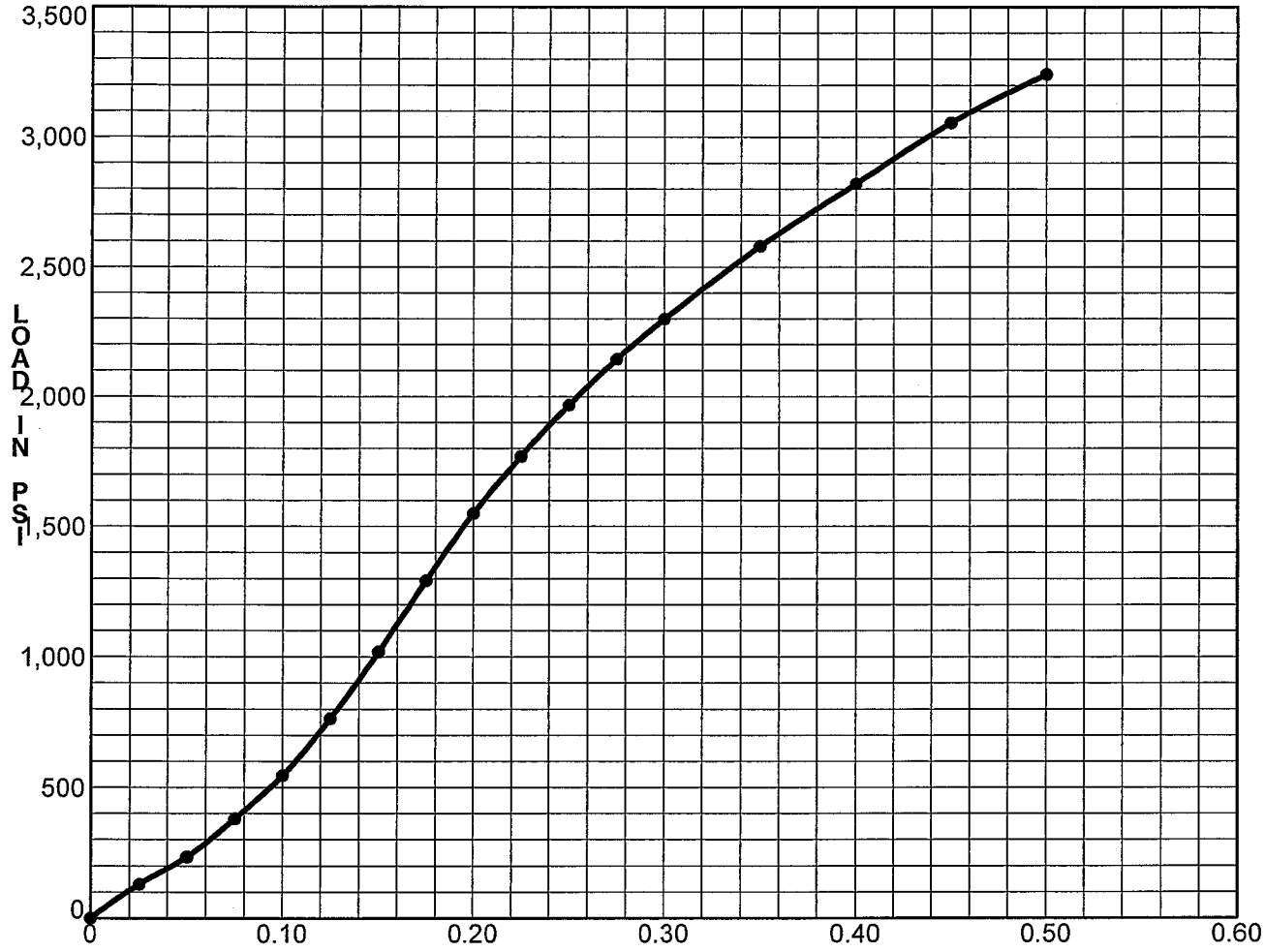
Density Test Number	Lot Number	Ground Surface Elevation	Density	Content	Comments
1	18	403'	142.5	0.6	
2	25	447'	132.9	1.2	
3	29	445'	136.9	0.5	
4	9	425'	126.3	0.7	
5	21	430'	132.1	0.6	
6	14	421'	126.8	1.1	
7	34	424'	124.3	0.8	
8	38	429'	124.8	0.8	
9	5	429'	120.9	0.5	Boney
10	3	430'	120.4	0.4	Boney
11	43	433'	117.1	0.4	Boney
12	48	457'	132.4	0.7	
13	58	457'	122.5	0.9	
14	52	459'	131.4	0.3	
15	55	459'	122.4	0.6	
16	61	474'	131.1	1.1	
17	64	480'	129.9	1.0	
18	67	486'	125.3	1.2	
19	68	487'	122.2	1.6	
20	75	477'	118.7	0.9	Boney
21	85	503'	120.0	0.7	Boney
22	80	509'	117.7	0.7	Boney
23	81	511'	119.7	0.5	Boney
24	103	534'	121.4	0.2	
25	89	542'	120.9	1.2	
26	91	544'	127.9	0.8	
27	99	543'	124.1	0.6	
28	93	589'	125.9	0.8	
29	107	560'	132.8	1.0	

TABLE II (Continued)

Field Density Test Summary

Hema Subdivision

Density Test Number	Lot Number	Ground Surface Elevation	Density	Content	Comments
30	43	553'	119.6	1.1	
31	26	490'	121.8	1.0	
32	21	479'	119.4	0.9	
33	17	468'	121.0	0.8	
34	12	457'	118.8	0.7	Boney
35	9	450'	119.5	0.6	Boney
36	7	446'	120.4	0.7	Boney
37	2	430'	117.2	0.5	Boney
38	75	532'	120.7	1.9	
39	79	526'	121.0	0.5	
40	74	533'	131.7	1.1	
41	68	516'	125.8	0.7	
42	98	501'	122.4	0.4	
43	102	498'	118.0	0.7	Boney
44	99	499'	109.9	0.1	Boney
45	104	490'	119.3	0.7	Boney
46	125	433'	120.2	0.6	Boney



	Sample Identification	Classification	CBR	% Comp.	Max Den.	Opt. % MC	% Swell	LL	PI
●	TP-15	Well Graded GRAVEL with Silt (GP-GM)	99.0	96	141.0	4.5	0.0	NP	NP

F.G.E. Ltd.

CALIFORNIA BEARING RATIO

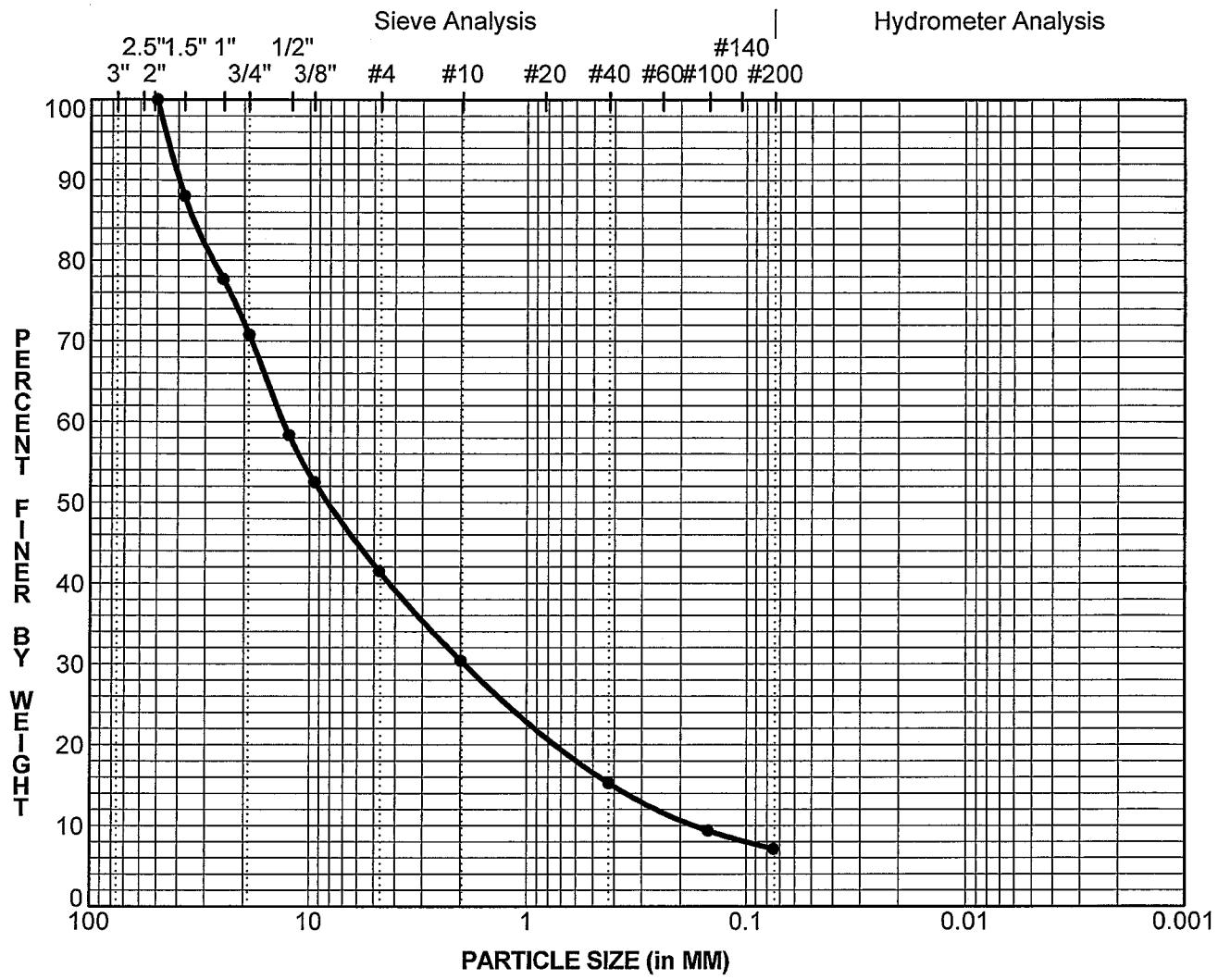
La'i'opua Village 4, Akau and Hema Subdivisions

Kealakehe, Hawaii, Hawaii

File: 3067.01

March 2012

Figure 3



Gravel		Sand			Silt and Clay
coarse	fine	coarse	medium	fine	

Sample ID	Depth	Classification	MC %	LL	PL	PI	Cc	Cu
● TP-7	0.0	Poorly Graded GRAVEL with Silt (GP-GM)					2	79

Sample ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt & Clay
● TP-7	0.0	50.0	13.2	1.92	0.167	59	34	7

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GRAIN SIZE DISTRIBUTION

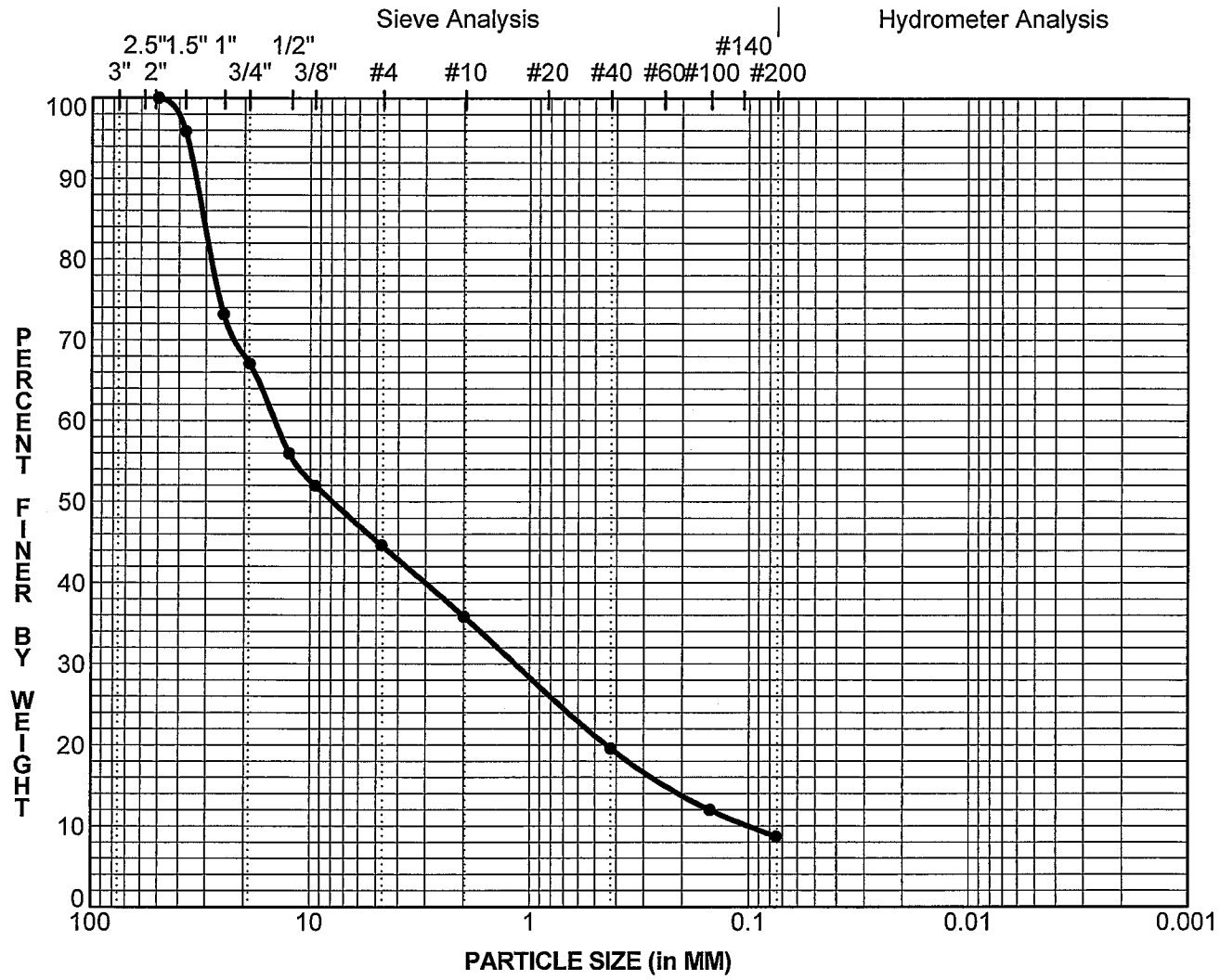
La'i'opua Village 4, Akau and Hema Subdivisions

Kealakehe, Hawaii, Hawaii

File: 3067.01

March 2012

Figure 4



Gravel		Sand			Silt and Clay
coarse	fine	coarse	medium	fine	

Sample ID	Depth	Classification	MC%	LL	PL	PI	Cc	Cu
● TP-9	0.0	Well Graded GRAVEL with Silt (GP-GM)	6	NP	NP	NP	1	147

Sample ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt & Clay
● TP-9	0.0	50.0	14.5	1.15	0.099	55	36	9

F.G.E. Ltd.

GRAIN SIZE DISTRIBUTION

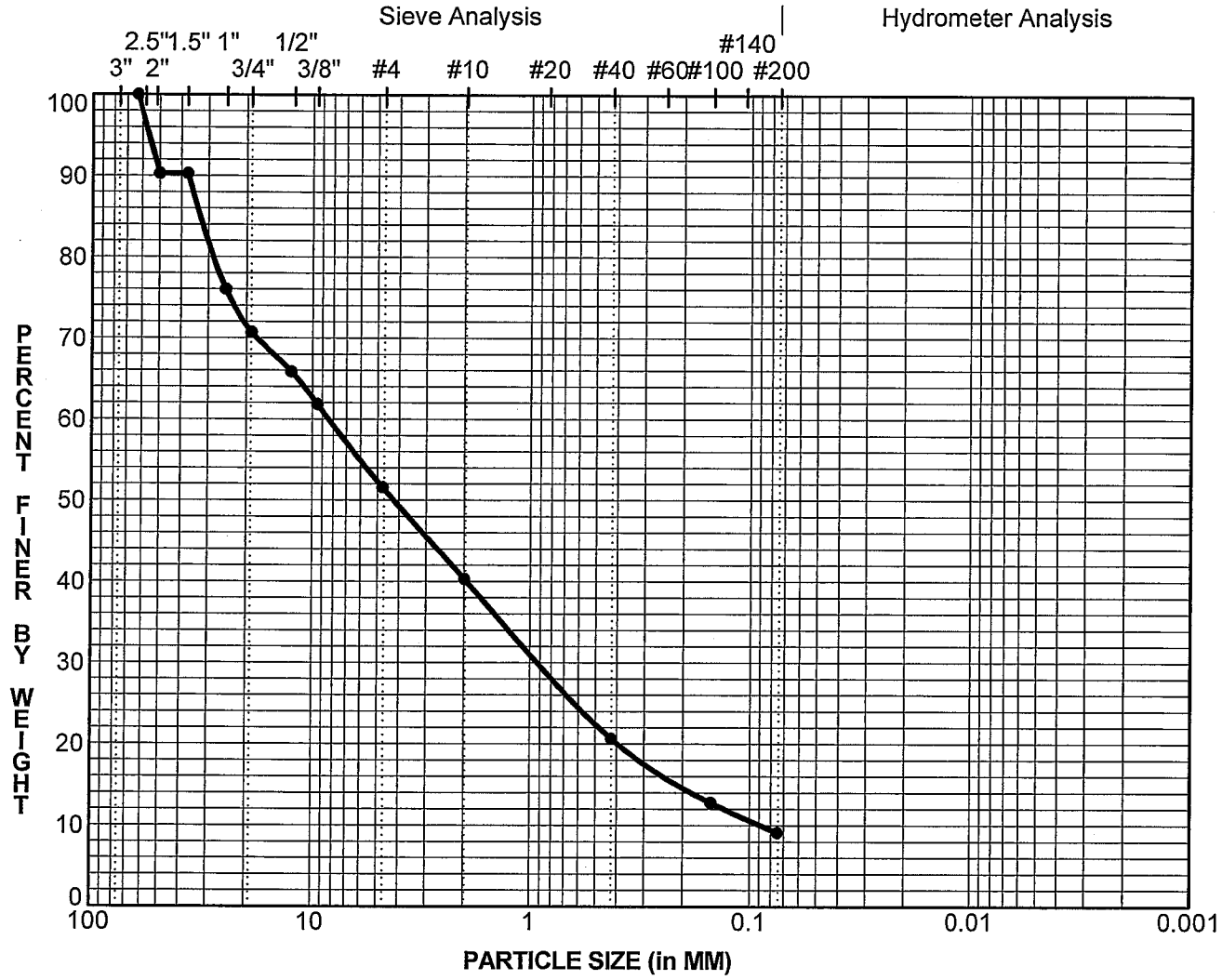
La'i'opua Village 4, Akau and Hema Subdivisions

Kealakehe, Hawaii, Hawaii

File: 3067.01

March 2012

Figure 5



Gravel		Sand			Silt and Clay
coarse	fine	coarse	medium	fine	

Sample ID	Depth	Classification	MC%	LL	PL	PI	Cc	Cu
● TP-15	0.0	Well Graded GRAVEL with Silt (GP-GM)	5	NP	NP	NP	1	95

Sample ID	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt & Clay
● TP-15	0.0	63.0	8.4	0.89	0.088	48	42	9

F.G.E. Ltd.

GRAIN SIZE DISTRIBUTION

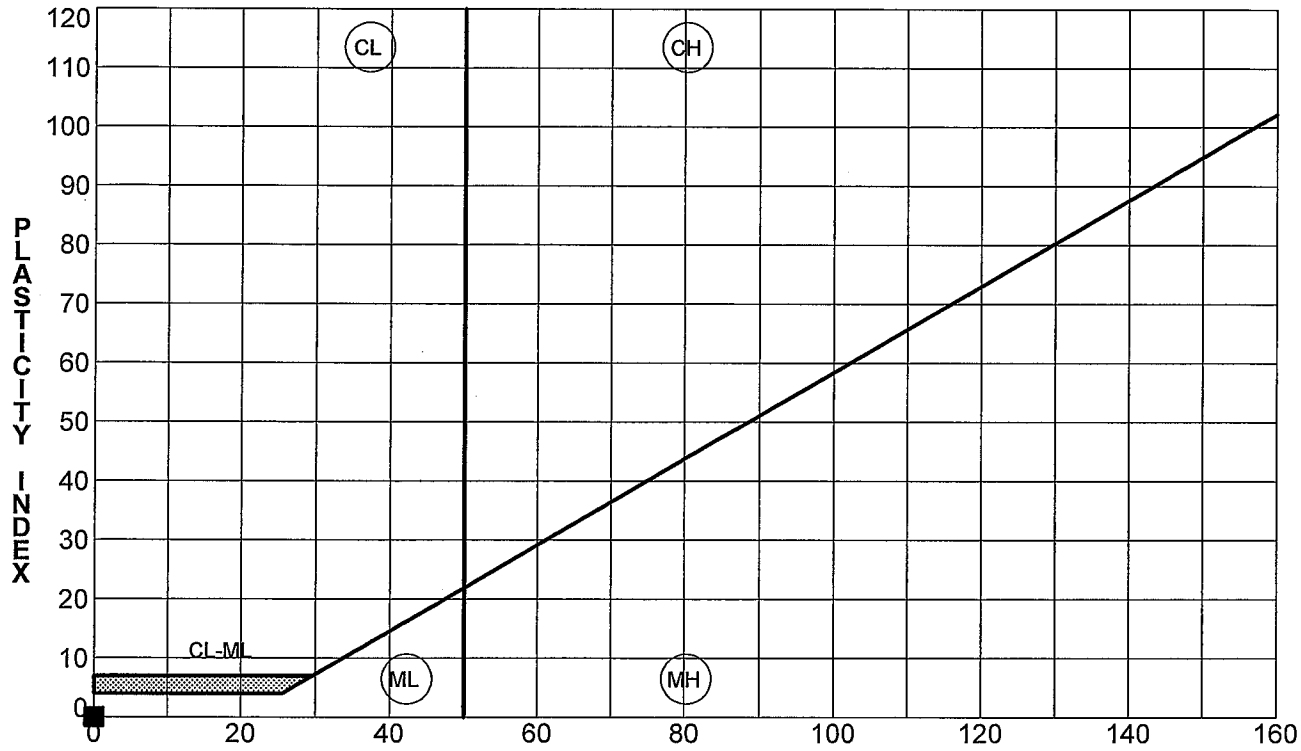
La'i'opua Village 4, Akau and Hema Subdivisions

Kealakehe, Hawaii, Hawaii

File: 3067.01

March 2012

Figure 6



Sample ID	Depth (ft)	LL	PL	PI	Classification
● TP-9	0.0	NP	NP	NP	Well Graded GRAVEL with Silt (GP-GM)
■ TP-15	0.0	NP	NP	NP	Well Graded GRAVEL with Silt (GP-GM)

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PLASTICITY INDEX CHART

La'i'opua Village 4, Akau and Hema Subdivisions

Kealakehe, Hawaii, Hawaii

File: 3067.01

March 2012

Figure 7

APPENDIX B

Limitations

This report has been prepared for the exclusive use of **Engineers Surveyors Hawaii, Inc.** for the proposed **La'i'opua Village 4 Akau and Hema Subdivisions** in Kealakehe, Hawaii, Hawaii. In the performance of our work and the completion of this report, we have endeavored to perform our services in a manner consistent with that level of care and skill ordinarily exercised by members of the geotechnical profession practicing under similar conditions in Hawaii. No other warranty, expressed or implied, is made.

The analysis, conclusions and recommendations submitted in this report are based in part upon the data obtained in the test pits, and upon the assumption that the soil conditions do not deviate from those observed. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that planned at the present time, Fewell Geotechnical Engineering, Ltd. (FGE) should be notified so that supplemental recommendations can be given. The conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report modified or verified in writing.

The preliminary geotechnical recommendations for the design and construction of the foundations and concrete slab-on-grade floors of the future residences have been provided to assist the designer-builders with their preliminary designs and their preliminary cost estimating for the project. The final design of the new dwellings and their individual improvements should be the responsibility of the designer-builders and their own geotechnical engineers.

Unanticipated soil conditions are commonly encountered and cannot be fully determined by soil samples, test borings, or test pits. Such unexpected conditions frequently require that additional expenditures be made to attain a properly constructed project. Some contingency funds are recommended to accommodate such potential extra costs.

The site investigation for this report may not have disclosed the presence of underground structures, such as cesspools, drywells, storage tanks, etc. that may be present at the site.

Should these items be encountered during construction, FGE should be notified to provide recommendations for their disposition. The cost for these services was not included within the fee for this investigation.

The scope of work for this investigation was limited to conventional geotechnical services and did not include environmental assessments or evaluations. Silence in the report regarding any environmental aspects of the site does not indicate the absence of potential environmental problems.

The test pit locations were staked out in the field based on measurements from existing physical features. The ground surface elevations were estimated based on the Topographic Plans provided by Engineers Surveyors Hawaii, Inc.. The location and elevation of the test pits should be considered accurate only to the degree implied by the methods used.

Groundwater was not encountered in any of the test pits excavated during this investigation. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall and other factors not present at the time the measurements were made.

FGE should be provided the opportunity for a general review of the final design drawings and specification to verify that the earthwork recommendations have been properly interpreted and implemented in the design and specification. If FGE is not accorded the privilege of making this recommended review, it can assume no responsibility for misinterpretations of the recommendations.

FGE should also be retained to provide periodic soil engineering services during construction. This is to observe compliance of the design concepts, specifications and recommendations and to allow design changes in the event the subsurface conditions differ from that anticipated prior to construction. The recommendations contained herein are contingent upon adequate construction monitoring of the geotechnical phases of the construction by FGE.

DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-33785

In reply, please refer to:
EMD/CWB

R10F282.FNL.17

August 24, 2017

The Honorable Jobie Masagatani
Chairperson
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, Hawaii 96805

Attention: Mr. Jeffrey Fujimoto
Project Manager

Dear Ms. Masagatani:

Subject: NOTICE OF GENERAL PERMIT COVERAGE (NGPC)
National Pollutant Discharge Elimination System (NPDES)
Laiopua Village 4 Subdivision Phase 2 - Hema
Kailua-Kona, Island of Hawaii, State of Hawaii
File No. HI R10F282

This letter is to notify you that the **DEPARTMENT OF HAWAIIAN HOME LANDS** (hereinafter PERMITTEE) is now covered under the NPDES General Permit authorizing discharges of storm water associated with construction activities. Coverage under this general permit authorizes you to discharge only storm water to the receiving State waters discharge point(s) from the project location(s) identified in the revised Notice of Intent (NOI), dated August 4, 2017 (received August 16, 2017), **provided that you comply with Hawaii Administrative Rules (HAR) 11-54; HAR 11-55; HAR 11-55, Appendix A; HAR 11-55, Appendix C; and the information submitted in the Notice of Intent (NOI).** Discharges of non-storm water, toxics, and other water pollutants to State waters are not authorized by this NPDES General Permit. HAR 11-54 and 11-55 are available on the DOH-CWB website at: http://health.hawaii.gov/cwb/.

This NGPC will take effect on the date of this notice. This NGPC will expire at midnight, December 5, 2018, or when amendments to HAR, Chapter 11-55, Appendix C, are adopted, whichever occurs first. Failure to comply with HAR 11-54; HAR 11-55; HAR 11-55, Appendix A; HAR 11-55, Appendix C; and information provided in the NOI is an enforceable violation and your NGPC may be terminated. If you violate Hawaii Revised Statutes (HRS), Chapter 342D, you may be subject to penalties of up to $25,000 per violation per day and up to two (2) years in jail.

Falsification of information, including providing information in the NOI that does not match what is actually occurring at the project site/facility and failure to prepare the Storm Water Pollution Prevention Plan (SWPPP) prior to NOI submission, may result in criminal penalties for the Permittee and their authorized representative as provided in Clean Water Act, Section 309 and HRS, Section 342D-35.

As a reminder, this general permit requires the Permittee to:

1. Notify DOH of the construction start date within seven (7) calendar days before the start of construction activities.
2. Complete and submit the Solid Waste Disclosure Form for Construction Sites to the DOH, Solid and Hazardous Waste Branch, Solid Waste Section, as specified on the form at least 30 calendar days before the start of the construction activities. The form can be downloaded at: http://health.hawaii.gov/shwb/files/2013/06/swdiscformnov2008.pdf.
3. Implement the SWPPP in accordance with HAR 11-55, Appendix C. The Director of Health reserves the right to require the Permittee to modify the SWPPP.
4. Submit a new NOI with filing fee and obtain a new NGPC for any revisions to the information submitted in the NOI (with the exception of changes to contact person information for non-transfer of ownerships and changes to the SWPPP). This NGPC cannot be modified.
5. Complete and submit the Notice of Cessation (NOC) within seven (7) calendar days after the end of the month that the subject project was completed.

All NGPC compliance submittals, including the NOC shall be submitted on the CWB Compliance Submittal Form for Individual NPDES Permits and NGPCs. This form shall be completed on the e-Permitting Portal located at: https://eha-cloud.doh.hawaii.gov/epermit.

The Permittee is responsible for obtaining other Federal, State, or local authorizations as required by law.

Please complete the DOH Customer Satisfaction Survey regarding your request for General Permit coverage. This brief survey is available on the e-Permitting Portal located at: https://eha-cloud.doh.hawaii.gov/epermit. Please use the Application Finder button and search for the “Customer Satisfaction Survey.”

If you have any questions, please contact the Enforcement Section or Mr. Darryl Lum of the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

for

VIRGINIA PRESSLER, M.D.
Director of Health

c: Mr. Jeffrey Fujimoto, DHHL [via e-mail Jeffrey.Y.Fujimoto@hawaii.gov only]
Ms. Joni Tanimoto, Akinaka & Associates, Ltd. [via e-mail jct@akinaka.com only]
(w/Receipt No. 51500 for $500 Filing Fee only)
CWB, Hawaii District Health Office [via e-mail only]