SPECIFICATIONS AND PROPOSAL FOR

REPAIR HARBOR AGENT'S OFFICE AT

KALAELOA BARBERS POINT HARBOR, OAHU, HAWAII

JOB S10846

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION

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NOTICE TO BIDDERS

(Chapter 103D, Hawaii Revised Statutes)

The receiving of SEALED BIDS for REPAIR HARBOR AGENT'S OFFICE AT KALAELOA BARBERS POINT HARBOR, OAHU, HAWAII, JOB S10846, will begin as advertised on April 13, 2023, in HIePRO. Bidders are to register and submit bids through HIePRO only. See the following HIePRO link for important information on registering: https://hiepro.ehawaii.gov/welcome.html.

Plans, specifications, proposal, contract forms, and any other applicable documents may be obtained from HIePRO.

Deadline to submit bids is May 11, 2023, at 2:00 p.m. Hawaii Standard Time. Bids received after said due date and time shall not be considered.

The scope of work consists of various repairs at the existing Harbor Agent's office at Kalaeloa Barbers Point Harbor located at 91-550 Malakole Road, Kapolei, Hawaii, 96707. Major items of work include demolition and removal of existing solar water heating system, window air conditioners, exterior window, floor mop sink, interior wall partitions and door, and related appurtenances; construction of new interior wall partitions and door; replacement of existing flooring, casework, plumbing fixtures, toilet accessories, furniture, and appliances; installation of new electric hot water storage tank; new split system air conditioning system; infill of exterior wall openings; painting; mechanical, plumbing, and electrical work, and related appurtenances. The estimated cost of construction is between $200,000 and $300,000.

To be eligible for award, bidders must possess a valid State of Hawaii General Engineering Contractor's "B" license at the time of bidding.

The GENERAL PROVISIONS dated 2016 applicable to this project are available on the internet at http://hidot.hawaii.gov/administration/con/.

All questions and requests for information (RFI) applicable to the bid documents shall be submitted via HIePRO no later than 14 calendar days before bid opening. Questions received after the deadline will not be addressed. Verbal RFI will not receive a response.

Apprenticeship Preference. A 5% bid adjustment for bidders that are parties to apprenticeship agreements pursuant to §103-55.6, Hawaii Revised Statutes (HRS), is applicable to this project.

Employment of State Residents on Construction Procurement Contracts. Compliance with §103B-3, HRS, is a requirement for this project whereby a minimum of 80% of the bidder's work force on this project **must** consist of Hawaii residents.

Campaign Contributions by State and County Contractors. Contractors are hereby notified of the applicability of §11-355, HRS, which states that campaign contributions are prohibited from specified State or County government contractors during the term of the contract if the contractors are paid with funds appropriated by a legislative body. For more information, contact the Campaign Spending Commission at (808) 586-0285.

Any protest of this solicitation shall be submitted in writing to the Director of Transportation, in accordance with §103D-701, HRS, and §3-126, Hawaii Administrative Rules.

The Equal Employment Opportunity Regulations of the Secretary of Labor implementing Executive Order 11246, as amended, shall be complied with on this project.

The U.S. Department of Transportation Regulation entitled "Nondiscrimination in Federally-Assisted Programs of the U.S. Department of Transportation," Title 49, Code of Federal Regulations (CFR), Part 21, is applicable to this project. Bidders are hereby notified that the State Department of Transportation will affirmatively ensure that the contract entered into pursuant to this advertisement will be awarded to the lowest responsible bidder without discrimination on the grounds of race, color, national origin or sex (as directed by 23 CFR, Part 200).

For additional information, contact Mr. Branden Sumida, Harbors Project Manager, by phone at (808) 587-1873 or email at branden.sumida@hawaii.gov.

The State reserves the right to reject any or all proposals and to waive any defects in said proposals for the best interest of the public.

Dreanalee Kalili

DREANALEE K. KALILI
Deputy Director
Department of Transportation, Harbors

INSTRUCTIONS FOR CONTRACTOR'S LICENSING

"A" general engineering contractors and "B" general building contractors are reminded that due to the Hawaii Supreme Court's January 28, 2002 decision in Okada Trucking Co., Ltd. v. Board of Water Supply, et al., 97 Haw. 450 (2002), they are prohibited from undertaking any work, solely or as part of a larger project, which would require the general contractor to act as a specialty contractor in any area where the general contractor has no license. Although the "A" and "B" contractor may still bid on and act as the "prime" contractor on an "A" or "B" project *(See, HRS § 444-7 for the definitions of an "A" and "B" project.)*, respectively, the "A" and "B" contractor may only perform work in the areas in which they have the appropriate contractor's license *(An "A" or "B" contractor obtains "C" specialty contractor's licenses either on its own, or automatically under HAR § 16-77-32.)*. The remaining work must be performed by appropriately licensed entities. It is the sole responsibility of the contractor to review the requirements of this project and determine the appropriate licenses that are required to complete the project.

SPECIAL PROVISIONS

The General Provision is amended as follows:

A. ARTICLE I - TERMS, ABBREVIATIONS, AND DEFINITIONS

1. Section 1.3 Definitions: The definition for "Subcontractor" is amended by deleting it and replacing it with the following:

   "Subcontractor – An individual, partnership, firm, corporation, or joint venture, or other legal entity, as licensed or required to be licensed under Chapter 444, Hawaii Revised Statutes, as amended, which enters into an agreement with the Contractor to perform a portion of the work."

B. ARTICLE II – STANDARD PROVISIONS FOR COMPETITIVE SEALED BIDS AND AWARDS

1. 2.7 Request for Substitution of Specified Materials and Equipment Before Bid Opening is amended as follows:

   a. The last sentence in the first paragraph (line 147 to 152) be replaced with the following:

      "Where a bidder intends to use a material or equipment of an unspecified brand, make, or model, the bidder must submit a request to the Department for review and approval at the earliest date possible. Requests shall be submitted via email to the Contact person listed in HIePRO for the solicitation and also posted as a question in HIePRO under the question/answer tab referencing the email with the request. The request must be posted in HIePRO no later than seventeen (17) calendar days before the bid opening date, not including the bid opening date."

   b. The first sentence in the second paragraph (line 154 to 156) shall be replaced with the following:

      "It shall be the responsibility of the bidder to submit sufficient evidence based upon which a determination can be made by the Department that the alternate brand is a qualified equivalent."

2. 2.8 Preparation and Delivery of Bid is amended as follows: Last paragraph (line 189 to 192) shall be replaced with the following:

   "The bidder shall submit the completed proposal pages and other bid documents in HIePRO. Bids received after said due date and time shall not be considered. Original bid documents are not required to be submitted."

3. 2.11 Bid Security is amended by adding the following after (a)(3)(line 257):

"(4) Proposal Guaranty listed in (1) and (3) shall be in its original form, and shall be received at the Contracts Office, Department of Transportation, Aliiaimoku Hale, 869 Punchbowl Street, Room 105, Honolulu, Hawaii 96813 before the bid deadline."

4. 2.12 Pre-Opening Modification or Withdrawal of Bids is amended by deleting 2.12 Pre-Opening Modification or Withdrawal of Bids in its entirety and replacing it with the following:

   "2.12 Pre-Opening Modification or Withdrawal of Bids. A bidder may withdraw or modify a proposal after the bidder submits the proposal in HIePRO. Withdrawal or modify of proposal must be completed before the time set for the receiving of bids."

5. 2.14 Public Opening of Bids is amended by deleting 2.14 Public Opening of Bids in its entirety.

6. 2.20 Bid Evaluation and Award is amended by replacing 2.20(a) and 2.20(b) with the following:

   "(a) The award shall be made to the lowest, responsive, responsible bidder within 120 days after bid opening and shall be based on the criteria set forth in the invitation for bids. The Department may request the bidders to allow the Department to consider the bids for the issuance of an award beyond the 120 day period. Agreement to such an extension must be made by a bidder in writing. Only bidders who have agreed to such an extension will be eligible for the award.

   (b) No bid shall be withdrawn or corrected for a period of 120 days after bid opening except for a mistake as described in this article; however, a bidder may withdraw a bid without penalty anytime prior to award of the contract if it finds it is unable to comply with the provisions regarding the employment of State of Hawaii residents as described in Section 7.2 and 103B-3, H.R.S."

C. ARTICLE VII – LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

1. 7.1 Insurance Requirements is amended by deleting paragraph "(b)(4) Builder's Risk for All Work" in its entirety.

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HONOLULU, HAWAII

SPECIFICATIONS

PART I

GENERAL PROVISIONS

The Hawaii Department of Transportation AIR and WATER Transportation Facilities Division General Provisions for Construction Projects dated 2016 is not physically included in these specifications. The General Provisions are available at

http://hidot.hawaii.gov/administration/con/

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HONOLULU, HAWAII

SPECIFICATIONS

PART II

TECHNICAL PROVISIONS

ARTICLE X - PROJECT DESCRIPTION

10.1 GENERAL - The work to be done on this project includes furnishing all labor, materials and equipment necessary to repair the Harbor Agent's Office at Kalaeloa Barbers Point Harbor, Oahu, Hawaii. Address: 91-550 Malakole Road, Kapolei, HI 96707.

Bidders are advised to examine the existing conditions at the proposed project site to familiarize themselves with the nature and extent of work involved and working conditions. Appointments may be made with the Harbors Division Project Engineer for clarification of the work involved or definition of the limits of the work.

Approximate repair locations are indicated on the plans. Actual methods of repair may vary from that indicated on the drawings. The Harbors Division Construction Engineer reserves the right to alter repair methods, sizes, and locations to suit field conditions.

The Contractor is not required to take out a policy of builder's risk insurance for this project, as referenced in Section 7.1(b)(4) of the General Provisions for Construction Projects 2016.

10.2 SCOPE OF WORK - The work to be done includes, but is not necessarily limited to, the following major items of work:

A. Mobilization and demobilization, including provision of a temporary mobile office trailer, ramp and related appurtenances.

B. Best Management Practices Plan accepted by the Harbors Division.

C. Selective Demolition.

D. Construction of new bathroom with accessible pre-fab shower; interior renovation of existing office; infill of exterior wall openings. Installation of new electric hot water storage tank.

E. Preparing and painting of exposed interior items and surfaces and existing surfaces affected by work under this project.

F. Furnish and install new office furniture and appliances.

G. Mechanical work.

H. Plumbing work.

I. Electrical work.

10.3 LICENSING - To be eligible for award, bidders must possess a valid State of Hawaii General Engineering Contractor "B" license at the time of bidding.

10.4 HARBOR OPERATIONS AND WORK SCHEDULE - The Contractor shall coordinate its work so as to minimize interference with harbor operations. The work schedule shall be coordinated with the Harbors Division Oahu District Manager and the Harbors Division Construction Engineer and shall be subject to their acceptance. All work shall be scheduled to minimize interference with any operations in the Kalaeloa Barbers Point harbor/project area.

The Contractor shall be responsible for coordination with the Harbors Division on a daily basis regarding scheduling of all work at no additional cost to the State. The exact scheduling of the work and restrictions on the Contractor's activities will be established at the pre-construction meeting.

All work shall be scheduled with the Harbors Division Oahu District Manager and the Harbors Division Construction Engineer. The Contractor shall give the Harbors Division Oahu District Manager and Construction Engineer at least 2 weeks prior notice whenever its work will render a portion of the project area unusable.

10.5 HARBOR SECURITY - The Contractor shall submit required documentation of all Contractor and subcontractor's employees, their representatives, suppliers, manufacturers, and alike, and of all necessary vehicles needing access to the project site to the Harbors Division Construction Engineer and Oahu District Manager before starting work on the project. The documentation will include the following:

A. Authorized personnel's first name, middle initial(s), and last name by company name.

B. Vehicle(s) license plate number(s) by company name.

C. The Contractor may be directed to use a specified entrance to enter and exit the harbor. Upon every entry, each employee must present and possess a photo identification (ID) card.

D. All Contractor's and sub-contractor's employees, their representatives, suppliers, manufacturers, and authorized personnel needing access to the project site shall wear their photo ID card at all times.

E. Contractor's vehicles must be identified with a company logo and will be subject to search. Any employee's personal belongings will also be subject to search.

F. If the Contractor wishes to remove any fencing or open any locked gates, they shall coordinate with and request approval from the Harbors Division Construction Engineer and Oahu District Manager. If approval is granted, the Contractor shall then be responsible for securing open fencing or gate(s)

immediately after entering or posting security personnel to monitor ingress and egress. Inspections of vehicles and equipment moving through the access points will be done in accordance with current MARSEC level and directives.

G. If security personnel are required, the Contractor shall hire the same contract security that provides service to the State of Hawaii, Department of Transportation, Harbors Division. In the event that the security contract for Harbors changes, contractor must hire the new security contractor.

H. By the end of each day, the Contractor shall re-erect and restore all fencing/barrier/perimeter security measures to the satisfaction of the Harbors Division Construction Engineer and the Oahu District Manager. Electricity and lighting shall also be restored and in satisfactory working order, to no less than pre-construction conditions, by the end of each day, to the satisfaction of the Harbors Division Construction Engineer and Oahu District Manager.

I. Under no circumstances shall perimeter security be compromised. If determined by the State, and solely by the State, that the Contractor has left the project site in a condition that compromises security of the harbor, the State reserves the right to make the necessary arrangements to provide and enhance perimeter security, including restoration of electrical power and lighting, at the sole expense of the Contractor.

J. At times, the maritime security level for the State of Hawaii and/or the general color-coded security level for State of Hawaii may be temporarily elevated. In these events, the Contractor may be prohibited to access the project site and may be required to stop work as directed by either the Harbors Division Construction Engineer or Oahu District Manager. The Harbors Division will consider impacts to the work and schedule as a result of prolonged work stoppages.

K. Maritime Security Awareness training is mandatory for all personnel entering the Harbor facility (if required by the Harbors Division). The Contractor shall be responsible to ensure all of its employees, representatives, subcontractors, vendors, and all alike, requiring access to the harbor area for this project, have been trained and possess the required maritime security card before entering the Harbor's property. Prior to starting work on this project, the Contractor shall provide a list of names (full legal name) and birth dates of all employees, representatives, subcontractors, vendors, and all alike, as well as their vehicles license number, year, make, color and model that will be entering the project site, together with a letter attesting that all personnel have received this training to the Harbors Division Oahu District Manager and Construction Engineer. All employees, representatives, subcontractors, vendors, and all alike, shall wear their respective company's identification card bearing the company's name, the individual's first and last name, and middle initial(s), and a recent photograph of the individual on the front of the identification card at all times while on Harbor's property.

With the possible exception of Item J above, all other requirements indicated shall be considered incidental to the project and shall be provided by the contractor at no cost to the State.

The Contractor's personnel requiring unescorted access to secure areas of maritime facilities will be required to obtain a Transportation Worker Identification Credential (TWIC). The project area has been deemed to be within a secured area. TWIC was established by Congress through the Maritime Transportation Security Act and is administered by the Transportation Security Administration (TSA) and U.S. Coast Guard. To obtain a TWIC, the applicant must provide biographic and biometric information such as fingerprints, sit for a digital photograph and successfully pass a security threat assessment conducted by TSA. The Contractor will be responsible to obtain and pay for all costs associated in providing their appropriate employees with TWIC. Information regarding TWIC is available on the TSA website at http://www.tsw.dhs.gov/what_we_do/layers/twic/index/shtm.

10.6 STORAGE AREA - Arrangements for work and storage areas shall be made with the Harbors Division Oahu District Manager and Construction Engineer. The Contractor shall be responsible for maintaining the work and storage areas and, if necessary, shall restore these areas to their original condition at no cost to the State in the event any damage results from its operations.

10.7 LIABILITY AND RESPONSIBILITY - The Contractor shall provide, erect and maintain warning signs, lights, barricades, fences, watchmen and/or all other means as necessary to prevent unauthorized persons from wandering onto the job site where they may suffer injury or create a hazard to the construction operations or the work in progress. The Contractor shall also take all reasonable precautions for safety in its operations and to prevent injury to its employees and to others at the job site.

The Contractor shall be responsible for any and all damages to harbor facilities caused by its operations. The Contractor shall, at its own expense, make prompt restitution for damages to the harbor facility caused by its operations or negligence. The Contractor shall hold the State harmless from all claims for loss or injury.

Hawaii One Call. The Contractor shall comply with the Hawaii One Call law, HRS Section 269E-4. This includes, but is not limited to, coordination with the Hawaii One Call Center (HOCC) for any work involving excavation at least five (5) working days but not more than twenty-eight (28) calendar days prior to commencing excavation. The contractor shall provide to HOCC a description of the excavation site that may include the county, place, address and measurements as needed. HOCC contact information: telephone 811; website http://www.digsafelyhawaii.com.

The Contractor shall remove defective work and replace the required work at no cost to the State.

The Contractor shall verify conditions in the field prior to ordering any materials. The existing conditions are based on the best available information. The Contractor shall make no claim for

extra compensation should actual existing conditions differ from those shown on the plans and specifications.

10.8 PERMITS - The Contractor will be required to complete and submit the form, "Permit for Shoreside and Vessel Work". The Contractor shall obtain the required work permit from the Harbors Division Oahu District Manager.

A Building Permit from the City and County of Honolulu will not be required for this project.

10.9 BEST MANAGEMENT PRACTICES - The Contractor must follow standard best management practices for air pollution, water pollution, noise and solid waste control, as required by Federal, State and County regulations to protect the environment from the effects of construction activity, including prohibiting any construction debris or other deleterious materials to fall, flow or otherwise enter the water.

The Contractor shall submit a site specific Storm Water Pollution Prevention Plan (SWPPP) plan to the Harbors Division Construction Engineer before work begins. The plan shall satisfy the (applicable) requirements of ARTICLE XII - TEMPORARY WATER POLLUTION, DUST, AND EROSION CONTROL. This plan shall describe and detail the methods and procedures to be used to prevent air and water pollution, including preventing any materials, wastes, and debris from entering any adjacent storm drain system and the harbor to the satisfaction of the Harbors Division. The Contractor shall revise the SWPPP plan - at no additional cost to the State - should it be determined by the Harbors Division Construction Engineer that the plan is insufficient to prevent pollution.

10.10 APPROVED EQUAL - The term "approved equal" as used in these specifications refers to the use of alternate equipment, articles or materials of equal quality and characteristics for the purpose intended. An approved equal will be permitted, upon acceptance of the Director prior to bid opening, in accordance with the General Provisions.

10.11 STANDARD SPECIFICATIONS - The term "Standard Specifications" as used in these Technical Provisions of these Specifications, shall mean the "Hawaii Standard Specifications for Road and Bridge Construction, 2005, Department of Transportation Highways Division, Honolulu, Hawaii."

10.12 PROJECT COMPLETION TIME - All work on this project shall be completed within the specified time period as listed on page P-1 of the Proposal. The number of days shall commence on the issuance of the Notice to Proceed. The intent of the contract is to provide for the construction final acceptance of the work described by the contract documents at the accepted bid price and within the time established by the contract. The Contractor has the duty to furnish all labor, materials, equipment, tools, transportation, incidentals, and supplies and to

determine the means, methods, and schedules required to complete the work in accordance with the contract documents.

Unless otherwise directed by the Harbors Division Construction Engineer in writing, the Contractor shall not commence with physical construction without sufficient materials and equipment available at the project site for either continuous construction until completion, or completion of the specified portion of the work.

10.13 AS BUILT DRAWINGS - The Contractor shall keep one set of drawings at the job site and make all field changes thereon. After completion of the project, two (2) full-size sets of drawings, if required by the Harbors Division, and one (1) single Adobe Acrobat PDF (Portable Document Format) file of the entire set of drawings (scanned at 600 DPI or better) on compact disk (CD) or DVD incorporating all the field changes shall be submitted to the Harbors Division Construction Engineer.

10.14 PAYMENT - Payment shall be made as specified below. Such payment shall include furnishing all labor, material, equipment and other expenses required to complete each item in accordance with the plans and specifications. The Best Management Practices (BMP) plan, including temporary water pollution, dust, and erosion measures and Covid-19 Plan, if required, shall be considered incidental to the pay items below.

Item 1 - Mobilization and Demobilization. Payment shall be made at the Contract Lump Sum Price bid in the Proposal Schedule. Sixty percent (60%) of the lump sum bid price will be paid to the Contractor upon completion of mobilization at the work site and approval of the BMP plan. The remaining forty percent (40%) will be included in the final payment under this contract. Such payment shall include setting up and removing all plant equipment and materials at the job site; properly removing and salvaging all items as indicated by the Harbors Division; providing, properly installing, and removing temporary mobile office trailer, ramp, and appurtenances; providing temporary barricades as required for Harbor operations during construction; cleaning up the job site and all other incidental work required to complete this item as shown on the Plans and described in these Specifications.

Item 2 – Selective Demolition. Payment shall be made at the Contract Lump Sum Price bid in the Proposal Schedule. Such payment shall include demolition and removal of existing solar water heating system; window air conditioners; exterior window; wood gate and reception counter; floor mop sink; interior wood framed gypsum board partitions; wood door and frame; ceramic tile shower; toilet accessories; plumbing and fixtures; existing electrical outlets and lighting; furniture and appliances; and all other incidental work required to complete this item as shown on the Plans and described in these Specifications.

Item 3 – Interior Renovation. Payment shall be made at the Contract Lump Sum Price bid in the Proposal Schedule. Such payment shall include construction of new bathroom with accessible pre-fab shower; interior renovation of existing office; infill of exterior wall openings; installation of new electric hot water storage tank; furnish and install modular furniture and appliances; new wood stud framed gypsum board partitions; new wood door, frame and finish hardware; plastic

laminate casework with solid surface countertops; ceramic tile wainscot; toilet and shower accessories including prefabricated accessible shower stall; painting; joint sealants; and all other incidental work required to complete this item as shown on the Plans and described in these Specifications.

Item 4 – Mechanical Work. Payment shall be made at the Contract Lump Sum Price bid in the Proposal Schedule. Such payment shall include furnishing, fabrication, delivery and installation of the air conditioning system complete; new mechanical ventilation; ductwork; controls; adjusting, testing and balancing; and all other incidental work required to complete this item as shown on the Plans and described in these Specifications.

Item 5 – Plumbing Work. Payment shall be made at the Contract Lump Sum Price bid in the Proposal Schedule. Such payment shall include new plumbing fixtures, equipment and connection thereto; domestic cold and hot water piping; and sanitary waste and vent piping; and all other incidental work required to complete this item as shown on the Plans and described in these Specifications.

Item 6 – Electrical Work. Payment shall be made at the Contract Lump Sum Price bid in the Proposal Schedule. Such payment shall include new lighting including luminaires; occupancy sensor and branch circuiting; electrical support for exhaust fan; electrical apparatus including junction boxes, raceways and conductors; and all other incidental work required to complete this item as shown on the Plans and described in these Specifications.

Item 7 – Lead-Containing Paint Control Measures. Payment shall be made at the Contract Lump Sum Price bid in the Proposal Schedule. Such payment shall include properly removing and disposing of the existing wood trims, gypsum wallboard, and door frame containing lead paint in accordance with all applicable Federal, State and county/local regulations; installation, maintenance, monitoring, and removal of BMP; and all other incidental work required to complete this item as shown on the Plans and described in these Specifications.

ARTICLE XI - MOBILIZATION AND DEMOBILIZATION

11.1 GENERAL - The work consists of furnishing at the job site, plant, equipment, materials, labor and appliances and performing all work in connection with mobilization and demobilization for the job in accordance with this article of these Specifications.

11.2 DESCRIPTION

A. Mobilization shall include setting up, ready for use, all plant, equipment and necessary materials at the job site.

B. Providing temporary warning signs, lights, barricades, fences, watchmen and/or all other means as necessary as required for Harbor to prevent unauthorized persons from wandering onto the job site operations during construction.

C. Demobilization shall include the removal of all the Contractor's plant and equipment and surplus material from the job site. The cleanup of the job site, satisfactory to the Construction Engineer, shall also be included in this article.

D. Properly removing and salvaging all items as indicated by the Harbors Division.

11.3 TEMPORARY MOBILE OFFICE TRAILER

A. Contractor to provide one (1) mobile office trailer and (1) mobile office accessible ramp system approved by the Harbors Division, for a minimum of three (3) months or for the anticipated duration of construction, whichever is longer. Trailer and ramp system shall be placed on a firm, smooth surface within the parking lot area of the existing Kalaeloa Barbers Point Harbor Agent's office, location to be coordinated with the Harbors Division.

1. Exterior Dimensions: minimum length: 28' (including hitch), minimum width: 10'.

2. Interior Floor Area: approximately 280 sq. ft. (minimum) / (Restroom not required).

3. Exterior Finishes: aluminum or wood siding; I-beam frame; standard drip rail gutters.

4. Interior Finishes: gypsum board ceiling; paneled walls; vinyl tile floor.

5. Electrical: fluorescent or LED ceiling light fixtures; breaker panel.

6. Cooling: through sufficient wall AC unit(s).

7. Windows and Doors: horizontal slider windows; steel door with dead bolt lock / lock approved by the Harbors Division.

8. ADA/IBC Compliant Entrance Ramp.

11.4 PAYMENT - Payment for Mobilization and Demobilization shall be made as described in Article X of these Specifications.

ARTICLE XII - TEMPORARY WATER POLLUTION, DUST, AND EROSION CONTROL
For Project NOT Subject to NPDES NOI-C Permit

12.1 DESCRIPTION - This section is required for all work, including the Contractor's storage sites. It describes the following:

A. A detailed site-specific Best Management Practice (BMP) Plan including diagrams and narratives; constructing, maintaining, and repairing temporary water pollution, dust, and erosion control measures at the project site including local material sources, work areas and access roads; removing and disposing of wastes and hazardous wastes; and control of fugitive dust (defined as uncontrolled emission of solid airborne particulate matter from any source other than combustion). Additionally, all projects at Honolulu, Kalaeloa Barbers Point, and Kahului Harbors are subject to State of Hawaii, Department of Transportation (HDOT) Harbors Division, Storm Water Management Plan (SWMP) requirements, unless exempted, and are subject to Harbors Storm Water BMP inspections. If any requirement conflicts with those administered by State of Hawaii, Department of Health (HDOH), the Contractor shall follow the more stringent requirement.

B. Compliance with applicable federal and other state permit conditions.

C. Work associated with dewatering and hydrotesting activities and compliance with conditions of the NPDES general permit coverage authorizing discharges associated with construction activity dewatering and hydrotesting.

12.2 GENERAL REQUIREMENTS - In order to provide for the control of water pollution, dust, and erosion arising from the construction activities of the Contractor and his subcontractors in the performance of this contract, the work performed shall comply with all applicable federal, state, and local laws and regulations concerning water pollution control including, but not limited to, the following regulations:

A. State of Hawaii, HDOH, Hawaii Administrative Rules (HAR) Chapter 11-54 - Water Quality Standards and Chapter 11-55 - Water Pollution Control.

B. For projects at Honolulu, Kalaeloa Barbers Point, and Kahului Harbors ONLY, HDOT Harbors Division, Storm Water Management Plan.

C. For projects at Honolulu, Kalaeloa Barbers Point, and Kahului Harbors ONLY, City and County of Honolulu (CCH), Rules Relating to Water Quality.

D. For projects at Honolulu, Kalaeloa Barbers Point, and Kahului Harbors ONLY, CCH, Storm Water BMP Manual for Construction.

E. 40 CFR Part 110, Environmental Protection Agency (EPA), Discharge of Oil.

F. 40 CFR Part 117, EPA, Determination of Reportable Quantities for Hazardous Substances.

G. 40 CFR Part 261, EPA, Identification and Listing of Hazardous Waste.

H. 40 CFR Part 302, EPA, Designation, Reportable Quantities, and Notification.

I. 49 CFR Part 171, U.S. Department of Transportation, Hazardous Materials Regulations.

12.3 MATERIALS - Materials shall conform to the following when applicable:

A. Slope Drains. Slope drains may be constructed of pipe, fiber, mats, erosion control fabric, geotextiles, rubble, Portland cement concrete, bituminous concrete, plastic sheets, or other materials acceptable to the Harbors Division Construction Engineer.

B. Grass. Grass shall be quick growing species such as rye grass, Italian grass, or cereal grasses. Grass shall be suitable to the area and provide a temporary cover that will not compete later with permanent cover. Alternative grasses are allowable if acceptable to the Harbors Division Construction Engineer.

C. Fertilizer and Soil Conditions. Fertilizer and soil conditioners shall be a standard commercial grade acceptable to the Harbors Division Construction Engineer.

D. Silt Fences. Silt fences shall be synthetic filter fabric mounted on posts and embedded in compacted ground in compliance with American Society for Testing and Materials (ASTM) D6462-03, Standard Practice for Silt Fence Installation.

E. Berms. Berms shall be gravel or sand wrapped with geotextile material. Alternate materials are allowable if acceptable to the Harbors Division Construction Engineer.

F. Alternate materials or methods to control, prevent, remove, and dispose of pollution are allowable if acceptable to the Harbors Division Construction Engineer.

12.4 CONSTRUCTION

A. Preconstruction Requirements.

1. Temporary Water Pollution, Dust, and Erosion Control Meeting. The contractor shall be required to submit a site-specific BMP Plan to the Harbors Division Construction Engineer and address all comments by the Harbors Division Construction Engineer. After the Plan is accepted in writing by the Harbors Division Construction Engineer, the Contractor

shall schedule a meeting with the Harbors Division Construction Engineer before the start of construction work to discuss the sequence of work, and plans and proposals for water pollution, dust, and erosion control.

2. Temporary Water Pollution, Dust, and Erosion Control Submittals. The Contractor shall submit the site-specific BMP Plan to the Harbors Division Construction Engineer prior to the start of work for review of compliance with this Article.

   a. Written site-specific BMP Plan shall include the following as applicable:

      1) Identification of potential pollutants and their sources and other factors that may cause water pollution, dust, and erosion.

      2) A list of all material and heavy equipment to be used during construction. Vehicles and equipment shall be well maintained and free from any type of fluid leaks.

      3) Construction schedule.

      4) Name(s) of specific individual(s) designated responsible for water pollution, dust and erosion controls on the project site. Include home, business, and cellular telephone numbers, fax numbers, and e-mail addresses.

      5) Descriptions of the methods and devices used to eliminate certain pollutants (e.g., wastewater, fuels, solvents, detergents, toxic or hazardous substances) from discharging into state waters and drainage systems and provide details of BMP(s) to be installed or utilized. Indicate approximate dates when BMP(s) will be installed and removed.

      6) Description of maintenance and subsequent removal of BMP(s).

      7) Method(s) of removal and disposal of solid and regulated hazardous wastes encountered or generated during construction. The Contractor is advised to procure regulated hazardous materials on an as-needed basis, as feasible. All excess regulated hazardous materials at the conclusion of this project shall remain the property of the Contractor and shall be removed from HDOT Harbors Division property upon the completion of the project.

8) Method(s) of removing and disposing concrete and asphalt pavement cutting slurry, concrete curing water, and hydrodemolition water.

9) Method(s) of containing, removing and disposing of demolition dust and debris to minimize the discharge of these pollutants into state waters and drainage systems.

10) Spill kit contents and location.

11) Fugitive dust control, including dust from grinding, sweeping, or brooming off operations or combination thereof.

12) Method(s) of storing and handling of regulated hazardous materials (e.g., oils, paints) and other products used for the project. Safety Data Sheets (SDS) for all regulated hazardous materials used during construction activities shall be kept on-site throughout the duration of the project and readily available upon inspection. All containers of regulated hazardous materials should be provided with secondary containment during storage. Regulated hazardous materials not specifically needed in the execution of this project shall not be brought or stored on site. As feasible, the Contractor is encouraged to use products that do not contain any regulated constituents. The use of green products is encouraged.

13) Method(s) of concrete washout/waste control.

14) Method(s) of managing material stockpiles to minimize erosion and dust.

15) Good housekeeping practices.

    a) Minimize tracking of sediment offsite from project entrances and exits.

    b) Litter management. The Contractor shall have a comprehensive housekeeping policy and shall actively enforce housekeeping requirements. Housekeeping items include, but are not limited to, cups, cans, bottles and other forms of lightweight litter, unattended containers of hazardous materials, concrete debris (e.g., dust, chips, and other sweepings), and discarded articles of disposable Personal Protective Equipment (e.g., earplugs, dust masks, and gloves). Employees who are

specifically tasked with housekeeping duties shall be identified by name.

c) The Contractor should provide and maintain covered waste receptacles. No construction debris or other refuse that is generated as a result of project activities is to be disposed in HDOT Harbors Division-owned waste receptacles.

16) Provide plan(s)/drawing(s) showing location of followings when applicable:

a) Boundaries of the property and the locations where construction activities will occur, including:

i) Locations where earth-disturbing activities will occur (noting any sequencing of construction activities);

ii) Approximate slopes and drainage patterns with flow arrows before and after the construction;

iii) Locations where sediment, soil, or other construction materials will be stockpiled;

iv) Locations of any contaminated soil or contaminated soil stockpiles;

v) Locations of any crossings of state waters;

vi) Designated points on the site where vehicle will exit onto paved roads;

vii) Locations of structures and other impervious surfaces upon completion of construction; and

viii) Locations of construction support activity areas.

b) Locations of all state waters, including wetlands and indicate which water bodies are listed as impaired.

c) The boundary lines of any natural buffers.

i) Topography of the site, existing vegetative cover, and features (e.g., forest, pasture, pavement, structures), and drainage pattern(s) of storm water onto, over, and from the site property before and after major grading activities.

d) Storm water discharge locations, including locations of any storm drain inlets on-site and in the immediate vicinity of the site to receive storm water runoff from the project; and locations where storm water will be discharging to state waters (including wetlands).

e) Locations of all potential pollutant-generating activities.

f) Locations of storm water control measures; and

g) Locations where chemicals will be used and stored.

17) Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Parts 110, 117, or 302, occurs during a 24-hour period. Contact information must be in locations that are readily accessible and available.

18) The Contractor shall date and sign the site-specific BMP Plan.

b. The Contractor shall keep the current Plan on-site or an easily accessible location throughout the duration of the project. Revisions to the Plan shall be included with the original plan. Modify contract documents to conform to revisions. Include actual date of installation and removal of BMP. Obtain written acceptance by the Harbors Division Construction Engineer before revising BMP. An updated Plan shall be kept on-site throughout the remainder duration of the project.

The Contractor shall follow guidelines in the "*The City and County of Honolulu Storm Water Best Management Practice Manual - Construction*," (dated November 2011) in developing, installing, and maintaining BMP for the project. Additionally, the Contractor

shall follow applicable CCH *Rules Relating to Water Quality* **for all projects at Honolulu, Kalaeloa Barbers Point, and Kahului Harbors**, and use respective Soil Erosion Guidelines for other Maui, Kauai and Hawaii County projects. Information can be found at the respective County websites.

B. Construction Requirements are as Follows.

1. No work shall be allowed to begin until submittals detailed in Subsection 3.4.A.2 - Temporary Water Pollution, Dust, and Erosion Control Submittals are completed and accepted in writing by the Harbors Division Construction Engineer. The Contractor shall prevent pollutants from entering state waters. These efforts shall address areas such as those that drain to water, are over water, or drain to storm drains adjacent and in the area of the project site. The Contractor shall design, operate, implement, and maintain the Plan to ensure that storm water discharges associated with construction activities will not cause or contribute to a violation of applicable state water quality standards.

2. All projects at Honolulu, Kalaeloa Barbers Point, and Kahului Harbors are subject to HDOT Harbors Division SWMP requirements for construction at those harbors unless the project meets a specified exemption class. The requirements include, but are not limited to, construction site BMP initial, recurring (i.e., every two weeks from October through March and every two months otherwise), and final inspections at the frequencies outlined in the SWMP. No grading or land disturbance activities are allowed until the initial BMP inspection is completed and required BMPs are found to be properly installed.

3. Address all comments received from the Harbors Division Construction Engineer.

4. Modify and resubmit plans and construction schedules to correct conditions that develop during construction which were unforeseen during the design and pre-construction stages.

5. Coordinate temporary control provisions with permanent control features throughout the construction and post-construction period.

6. BMP shall be in place and operational until the construction is completed and accepted by Harbors.

7. Install and maintain either or both stabilized construction entrances and wheel washes to minimize tracking of dirt and mud onto roadways. Restrict traffic to stabilized construction areas only. Clean dirt, mud, or other material tracked onto the road immediately. Modify stabilized construction entrances to prevent mud from being tracked onto roadways.

8. Chemicals may be used as soil stabilizers for either or both erosion and dust control if acceptable to the Harbors Division Construction Engineer.

9. Cover exposed surface of materials completely with tarpaulin or similar device when transporting aggregate, soil, excavated material, or material that may be a source of fugitive dust.

10. Cleanup and remove any pollutant that can be attributed to the Contractor.

11. Install or modify BMP due to change in the Contractor's means and methods, or for omitted condition that should have been allowed for in the accepted site-specific BMP Plan or a BMP that replaces an accepted site-specific BMP that is not satisfactorily performing.

12. Properly maintain BMP.

13. Remove, replace, or relocate any BMP that must be removed, replaced or relocated due to potential or actual flooding, or potential danger or damage to the project or public.

14. The Contractor's designated representative specified in Subsection 3.4.A.2.a.4 shall address any BMP concerns brought up by the Harbors Division Construction Engineer within 24 hours of notification, including weekends and holidays. Should the Contractor fail to satisfactorily address these concerns, the Harbors Division Construction Engineer reserves the right to employ outside assistance or use the Harbors Division Construction Engineer's own labor forces to provide necessary corrective measures. The Harbors Division Construction Engineer will charge the Contractor such incurred costs plus any associated project engineering costs. The Harbors Division Construction Engineer will make appropriate deductions from the Contractor's monthly progress estimate. Failure to apply BMP shall result in either or both the establishment and increase in the amount of retainage due to unsatisfactory progress or withholding of monthly progress payment. Continued failure to apply BMP may result in one or more of the following: The Contractor being fully responsible for all additional costs incurred by HDOT Harbors Division including any fines levied by HDOH, suspension of the Contract, or cancellation of the Contract.

C. Hydrotesting Activities. If work includes removing, relocation or installing waterlines, and the Contractor elects to flush waterline or discharge hydrotesting effluent into state waters or drainage systems, obtain a Notice of General Permit Coverage (NGPC) authorizing discharges associated with hydrotesting waters from the HDOH Clean Water Branch (CWB). If a permit is required, prepare and submit permit application (CWB-Notice of Intent (NOI) Form F) to the HDOH CWB.

Do not begin hydrotesting activities until the HDOH CWB has issued a NGPC. Hydrotesting operations shall be in accordance with conditions in the NGPC. Submit a copy of the NPDES Hydrotesting Waters Application and Permit to the Harbors Division Construction Engineer.

D. Dewatering Activities. If excavation of backfilling operations requires dewatering, and the Contractor elects to discharge dewatering effluent into state waters or existing drainage systems, obtain an NGPC authorizing discharges associated with construction activity dewatering from the HDOH CWB. If a permit is required, prepare and submit permit application (CWB-NOI Form G) to the HDOH CWB.

Do not begin dewatering activities until the HDOH-CWB has issued an NGPC. Conduct dewatering operations in accordance with the conditions in the NGPC. Submit a copy of the NPDES Dewatering Application and Permit to the Harbors Division Construction Engineer.

12.5 PAYMENT - Payment for Temporary Water Pollution, Dust, and Erosion Control shall not be measured and paid for separately but shall be considered incidental to the applicable items described in Article X of these Specifications.

No progress payment will be authorized until the Harbors Division Construction Engineer accepts in writing the site-specific BMP Plan or when the Contractor fails to maintain the project site in accordance with the accepted BMP Plan.

The Contractor shall reimburse the State of Hawaii within 30-day for the full amount of all outstanding costs incurred by the State of Hawaii for all citations or fines received as a result of the Contractor's non-compliance with regulations.

ARTICLE XIII – SELECTIVE DEMOLITION

13.1 GENERAL

A. Provide all materials, labor, equipment, and tools necessary to complete selective demolition work as indicated by the design intent of the drawings.

B. It shall be the responsibility of the Contractor to examine the project site and determine for himself the existing conditions.

C. Selective demolition work includes but is not limited to selective demolition, removal, and subsequent disposal of all materials indicated or required to be removed.

D. Execute all work in an orderly and careful manner with due consideration for all items of work to remain.

E. Obvious conditions which exist on the site shall be accepted as part of the work, even though they may not be clearly indicated on the Drawings and/or described herein, or may vary therefrom.

F. All debris of any kind accumulated from the work of this Section shall be disposed of off the Site.

G. Protect all existing conditions surrounding the work area, including but not limited to walkways, adjacent roofs not in scope of work, etc. at all times from damage.

H. Any damage as a result of demolition work and any neglect to provide protection shall be fixed new at no cost to the State.

I. Demolish and remove, including but not limited to, existing damaged roof framing end blocking and sheathing; portions of existing roof drain downspout piping, etc.

J. Properly remove and salvage all items as indicated by the Harbors Division.

13.2 SUBMITTALS

Schedule: Submit copies of schedule indicating proposed methods and sequence of operations for selective demolition work to the Construction Engineer for review prior to commencement of work. Include coordination for temporary shut-off and continuation of utility services as required, together with details for dust and noise control protection.

13.3 JOB CONDITIONS

A. Condition of Structure: The State assumes no responsibility for actual condition of items or portions of structure to be demolished.

B. Existing Conditions: Conditions existing at time of commencement of contract will be maintained by the State insofar as practicable.

C. Occupied Spaces: Do not interfere with use of adjacent occupied spaces. Maintain free and safe passage to and from occupied spaces.

D. Partial Demolition and Removal: Items indicated to be removed but of salvageable value to Contractor, may be removed from structure as work progresses. Transport salvaged items from site as they are removed. Storage or sale of removed items on site will not be permitted.

E. Utility Services: The existence of above and below ground and exposed and concealed utility lines other than those shown on the drawings is not definitely known. Should any other utility lines be encountered, the Contractor shall immediately notify the Construction Engineer and follow his direction as to procedure. Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations. Do not interrupt existing utilities serving occupied building or facilities, except when authorized in writing by the Construction Engineer. Outages and interruptions must be accepted in advance by the Construction Engineer. Submit written notice of outages and interruptions not less than fourteen days in advance of intended outage. Report damage, however slight, immediately. Do not repair or reconstruct any pipe, conduit, or installation without authorization, except perform emergency repairs immediately.

F. Dust Control:

1. Keep dust within acceptable levels at all times, including nonworking hours, weekends and holidays, in conformance with Chapter 60.1 – Air Pollution Control of the State Department of Health, Public Health Regulations, latest edition.

2. Mechanical dry sweeping not permitted. Vacuuming, wet mopping, approved limited dry hand, wet or damp sweeping is acceptable.

3. During loading operations, water down debris and waste materials to allay dust.

4. The method of dust control and all costs incurred thereof shall be the responsibility of the Contractor.

5. Reference ARTICLE XXXI - LEAD-CONTAINING PAINT CONTROL MEASURES of these Specifications for handling and dust control methods regarding lead-containing paint.

G. Noise Control:

1. Noise shall be kept within acceptable levels at all times in conformance with State Department of Health, Title II, Administrative Rules, Chapter 46 – Community Noise Control.

2. The Contractor shall obtain and pay for community noise permit from the State Department of Health when the construction equipment or other devices emit noise at a level exceeding the allowable limits.

3. All internal combustion engine powered equipment shall have mufflers to minimize noise and shall be properly maintained to reduce noise to acceptable levels.

4. Starting up of on-site vehicular equipment meeting allowable noise limits shall not be done prior to 6:45 a.m. without prior acceptance of the Construction Engineer. Equipment exceeding allowable noise limits shall not be started up prior to 7:00 a.m.

5. Conform to noise control related to events at the project site or adjoining facilities as directed by the Construction Engineer.

H. Other Controls:

1. Wherever trucks and/or vehicles leave the site and enter surrounding paved streets, the Contractor shall prevent any material from being carried onto the pavement. Waste water shall not be discharged into existing streams, waterways, or drainage systems such as gutter and catch basins unless treated to comply with Department of Health pollution regulations.

2. Trucks hauling materials shall be covered as required by PUC regulation. Trucks hauling fine materials shall be covered.

3. Existing Conditions: The Contractor shall be responsible for protection of existing conditions for the entire duration of the project. Damage to the existing conditions as a result of the work of this section shall be corrected at no additional cost to the State.

13.4 INSPECTION – Prior to commencement of selective demolition work, inspect areas in which work will be performed. Inventory existing conditions of surfaces, equipment or surrounding properties which could be misconstrued as damage resulting from selective demolition work; photograph, video or otherwise document and file with the Construction

Engineer prior to starting work. No compensation from the State shall be provided without proof of existing damage by the Contractor.

13.5 BARRICADES

A. Erect temporary barricades as required, to prevent people from entering into project area to the extent as accepted by the Construction Engineer. The extent of barricade may be adjusted as necessary with the acceptance of the Construction Engineer. This work shall be accomplished at no extra cost to the State.

B. When necessary, the Contractor shall provide, erect and maintain barriers, etc., as required by traffic and safety regulations with special attention to protection of life.

13.6 SELECTIVE DEMOLITION

A. Perform selective demolition work, including all exterior and interior improvements indicated on the drawings, in a systematic manner. Use such methods as required to complete work indicated on drawings in accordance with demolition schedule and governing regulations.

1. Demolish concrete in small sections. Cut concrete at junctures with construction to remain using power-driven masonry saw or hand tools; do not use power-driven impact tools.

2. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction. All dust shall be suppressed by a fog spray or other approved method.

3. Water and sewer facilities shall be available and in operating condition at all times.

B. If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to the Construction Engineer in written, accurate detail. Pending receipt of directive from the Construction Engineer rearrange selective demolition schedule as necessary to continue overall job progress without delay.

13.7 PROTECTIONS – Provide temporary barricades and other forms of protection as required to protect the general public from injury due to selective demolition work.

A. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or elements to be removed, and adjacent facilities or work to remain.

B. Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.

C. Life safety procedures and provisions shall be in conformance with all applicable Federal, State, and City and County regulations, including OSHA.

D. Remove protections at completion of work.

13.8 DAMAGES – Promptly repair damages caused to adjacent facilities by demolition work at no cost to the State.

13.9 DISPOSAL OF DEMOLISHED MATERIALS – Remove debris, rubbish, and other materials resulting from demolition operations from building site daily. Transport and legally dispose of materials off site.

A. If hazardous materials are encountered during demolition operations, comply with applicable regulation, laws, and ordinances concerning removal, handling, and protection against exposure or environmental pollution.

B. Burning of removed materials is not permitted on project site.

13.10 CLEAN-UP AND REPAIR

A. Upon completion of demolition work, remove tools, equipment, and demolished materials from site. Remove protections and leave interior areas broom clean.

B. Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

C. Return temporarily relocated furniture, equipment, supplies back to their original locations per existing conditions following completion of floor repair work to make space ready for next business day for Harbors operations, if required by the Construction Engineer.

13.11 PAYMENT – Payment for Selective Demolition shall be made as described in Article X of these Specifications.

ARTICLE XIV – ROUGH CARPENTRY

14.1 GENERAL

A. Work under this Article includes furnishing all labor, materials and equipment necessary to perform rough carpentry work.

B. All work shall be in accordance with the following sections of the Standard Specifications except as modified or supplemented herein:

Section 502 Timber Structures
Section 714 Structural Timber and Related Materials.

Sections on Materials referenced in the above sections are hereby incorporated.

14.2 MATERIALS

A. Lumber – Lumber shall be termite and rot pressure preservative treated coastal douglas fir conforming with standard grading and dressing rules of the West Coast Lumber Bureau (WCLB).

1. Unless otherwise noted, structural members shall have the following grades or better:

2x Framing: Grade No. 2

4x Framing: Grade No. 1

B. Sheathing – Sheathing shall be identified with the appropriate trademark of the American Plywood Association, and shall meet the requirements of the latest edition of U.S. Product Standard PS 1 or APA's performance standards.

1. Exterior wall sheathing shall be 1/2-inch APA rated siding, exterior exposure, 16-inch oc span rating (Contractor shall field match to thickness of existing exterior plywood siding).

C. Nails – Nails shall be galvanized common nails.

D. Wood Screws – Wood screws shall be Simpson Strong-Tie strong-drive screws or approved equal. Install per manufacturer's printed installation instructions.

E. Bolts – Bolts shall conform to ASTM A307, Grade A, and hot-dipped galvanized unless otherwise noted.

14.3 CONSTRUCTION METHODS

A. Set carpentry work accurately to required levels and lines, with members plumb and true and accurately cut and fitted.

B. Securely attach carpentry work to substrate by anchoring and fastening as shown, or if not shown, as required by recognized standards. Countersink nail heads on exposed carpentry work and fill holes.

C. Use common wire nails, except as otherwise indicated. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.

D. Provide minimum nailing per Table 2304.9.1 of the International Building Code.

E. Provide framing members of sizes and on spacings wherever shown, and frame openings as shown. Do not splice structural members between supports.

F. Place a layer of 30# roofing felt between all wood members and concrete or masonry surfaces.

14.4 PAYMENT – Payment for Rough Carpentry work shall be made as described in Article X of these specifications.

ARTICLE XV - FINISH CARPENTRY

15.1 SUMMARY

A. Provide all finish carpentry as indicated on the drawings, complete, including, but not limited to, the following:

1. Millwork.

2. Casework.

3. Install finish hardware, doors, toilet accessories, miscellaneous specialties, and any other items specified to be installed under this section but furnished under other sections of these specifications.

4. Miscellaneous materials.

B. Related Work Specified Elsewhere:

1. Article XVI – WOOD TREATMENT: Wood treatments.

2. Article XXI – DOOR HARDWARE: Hardware for installation.

3. Article XXV - PAINTING: Wood finishing.

15.2 SUBMITTALS

A. Submit in accordance with these Specifications.

B. Shop Drawings: Submit shop drawings showing location of each item, dimensioned plans and elevations, large scale details, attachment devices, and other components. Submit shop drawings for the following:

1. Casework.

C. Product Data: Submit product data for cabinet hardware.

D. Samples: Submit following samples of each material and color for selection:

1. Plastic laminate.

2. Items requiring selection.

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15.3 QUALITY ASSURANCE

A. Grading Marks: Factory mark each piece of lumber and plywood with type, grade, mill, and grading agency identification. Certificate of inspection and grading by a recognized agency may be submitted with each shipment in lieu of factory marking, at Contractor's option.

B. AWS Quality Standard: Comply with applicable requirements of "Architectural Woodwork Quality Standards" published by Architectural Woodwork Institute (AWI) except as otherwise indicated for grades of finish carpentry required or indicated for construction, finishes, installation, and other requirements.

C. Qualified Manufacturer: Manufacturer experienced in producing carpentry work similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. ADAAG Requirements:

1. ADAAG 309.3 Height: Operable parts, for cabinets required to be accessible, shall be placed within one or more of the reach ranges specified in ADAAG 308.

2. ADAAG 309.4 Operation: Operable hardware shall have a shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist to operate. The force required to activate operable parts shall be 5 pounds maximum.

15.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Protect finish carpentry materials during transit, delivery, storage, and handling to prevent damage, soiling, and deterioration.

B. Do not deliver finish carpentry materials until building is enclosed and weatherproof, until painting, wet work, grinding, and similar operations which could damage, soil or deteriorate carpentry work have been completed in installation areas. If, due to unforeseen circumstances, finish carpentry materials must be stored in other than installation areas, store only in areas meeting requirements specified for installation areas.

15.5 WOOD PRODUCT QUALITY STANDARDS

A. Softwood Lumber Standards: Comply with DOC PS 20 and with applicable grading rules of the respective grading and inspection agency for the species and product indicated.

B. Plywood Standards: Comply with DOC PS 1 for softwood plywood.

15.6 MATERIALS

A. General:

1. Lumber Sizes: Nominal sizes are indicated, except as shown by detailed dimensions. Provide dressed or worked and dressed lumber, as applicable, manufactured to the actual sizes as required by PS 20 or to actual sizes and pattern as shown, unless otherwise indicated.

2. Moisture Content of Softwood Lumber: Provide kiln-dried lumber having a moisture content from time of manufacture until time of installation not greater than values required by the applicable grading rules of the respective grading and inspecting agency for the species and product indicated.

3. Moisture Content of Hardwood Lumber: Provide kiln-dried lumber having a moisture content from time of manufacture until time of installation within a range of 8% to 13% for individual pieces, and an average of 11% for the entire lot.

4. Particleboard, flakeboard, or fiberboard shall not be used for any components.

B. Solid Wood: Frames, trims, moldings, etc. shall be Douglas Fir, WCLIB, Grade "C & BTR".

C. Plywood for Plastic Laminated Covered Casework: Softwood plywood with Douglas Fir veneer, Grade A-B, suitable for plastic laminate.

D. Plastic Laminate: High pressure decorative laminate (HPDL) shall be in conformance with NEMA LD3, latest edition.

1. Plastic laminate shall be in colors as selected from the manufacturer's catalogs or sample colors.

2. Adhesives shall be as recommended by manufacturer.

3. Plastic laminate shall be as manufactured by WilsonArt, Formica, Pionite, or an approved equal.

E. Miscellaneous Materials:

1. Hardboard: U.S. Dept. of Commerce PS-58, tempered.

2. Fasteners and Anchorages: Provide nails, screws, and other anchoring devices of the proper type, size, material, and finish for application indicated to provide secure attachment, concealed where possible, and complying with applicable Federal Specifications.

   a. Provide all concealed fasteners and anchorages with a hot-dipped zinc coating (ASTM A 153/A 153M).

   b. Stainless steel fasteners where exposed.

3. Moisture Barrier: Provide where indicated or required, asphalt-saturated roofing felt, ASTM D 226/D 226M, Type I, No. 15 or Type II, No. 30.

4. Framing Lumber: Nailers, plates, blocking, rough bucks, furring, etc., provide No. 2 grade Douglas Fir/Larch.

15.7 FABRICATION

A. General: Casework shall be fabricated in accordance with detailed drawings, in as large units as practicable for shipment and introduction into permanent position in an orderly arrangement for neat and rigid field assembly. All units when erected in place shall be straight, square, plumb, level, and free from damage and tool marks; all units shall be belt-sanded at mill and hand-sanded smooth immediately following installation in place. All joints shall be made up with waterproof glue. Nails and screws shall be placed in concealed surfaces to the maximum extent possible.

B. Casework Quality Standard: Comply with AWS SECTION 10 - Casework and SECTION 11 - Countertops.

C. Plastic Laminate for Finished Countertops and Cabinets: Provide high pressure decorative laminate in grades indicated for the following types of surfaces:

   1. Postformed Surfaces: HGP (0.039-inch nominal thickness).

   2. Vertical Surfaces: VGS (0.028-inch nominal thickness).

   3. Interior Surfaces of Drawers, Doors, and Cabinets: CLS (0.020-inch nominal thickness).

   4. Backer Sheet: BKL (0.020-inch nominal thickness).

D. Fabrication of Casework:

1. Edges: All plywood edges shall be banded with wood of same material as its face prior to application of plastic laminate. No visible nails.

2. Exposed Edges: Where edges of plastic laminate sheets will be visible after fabrication, provide through-color plastic laminate.

3. Division and End Panels: All panels shall be dadoed to receive bottoms, web frames, and stretchers or plastic laminate.

4. Drawers: Sides blind dovetail dadoed and securely glued into fronts. Sides multiple dovetailed or lockjointed and nailed, or dadoed and nailed to backs. Sides and front plowed to receive bottom.

5. Pre-Cut Openings: Fabricate casework with pre-cut openings, where possible, to receive hardware, plumbing fixtures, and similar items. Locate openings accurately and use templates or roughing-in diagrams for proper size and shape. Smooth edges of cutoffs and, where located in countertops and similar exposures, seal edges of cutouts with a water-resistant coating.

6. Measurements: Before proceeding with fabrication of casework required to be fitted to other construction, obtain measurements and verify dimensions and shop drawing details as required for accurate fit. Where sequence of measuring substrates before fabrication would delay the project, proceed with fabrication (without field measurements) and provide ample borders and edges to allow for subsequent scribing and trimming of woodwork for accurate fit.

7. Cabinet Drawer and Door Tolerances: Clearance gap between adjoining doors or drawers shall be 1/8-inch maximum, with a 1/32-inch maximum allowable variation in gap width.

8. Maximum warp or twist allowed in any surface shall be 1/32-inch per lin. ft.

F. Wood Treatment: Treat all finish carpentry lumber and plywood in accordance with industry standard.

15.8 CABINET HARDWARE

A. General: Provide cabinet hardware and accessory materials associated with architectural casework. Provide finish for exposed hardware that complies with ANSI/BHMA Al 56.9 and ANSI/BHMA Al 56.18, brushed chrome finish. Provide as scheduled hereinbelow unless otherwise indicated on the drawings or selected as per submittals. Products are based on the following to establish the standard. Approved equal products are acceptable.

B. Hardware Schedule:

Door Hinges	Clip-on	Blum or equal
Door/Drawer Pulls	3-inch wire	Trimco
Drawer Slides	Full extension	Accuride
Shelf Standards	255	Knape & Vogt
Shelf Supports	256	Knape & Vogt

15.9 INSTALLATION

A. Discard units of material which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned or too small to fabricate work with minimum of joints or optimum jointing arrangements, or which are of defective manufacture with respect to surfaces, sizes or patterns.

B. Install the work plumb, level, true, and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8-inch in 8-feet for plumb and level installations; and with 1/16-inch maximum offset in flush adjoining 1/8-inch maximum offsets in revealed adjoining surfaces.

C. Scribe and cut work to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.

D. Install standing and running trims with minimum number of joints possible, using full-length pieces (from maximum lengths of lumber available) to the greatest extent possible. Stagger joints in adjacent and related members. Cope at returns, miter at corners, to produce tight fitting joints with full surface contact throughout length of joint. Use scarf joints for end-to-end joints.

E. Anchor finish carpentry work to anchorage devices or blocking built-in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and where prefinished matching fasteners heads are required, use fine finishing nail for exposed nailings, countersunk, and filled flush with finished surface.

F. Install casework without distortion so that doors and drawers will fit openings properly and be accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unemcumbered operation. Complete the installation of hardware and accessory items.

15.10 ADJUSTMENT, CLEANING, FINISHING, AND PROTECTION

A. Repair damaged and defective casework wherever possible to eliminate defects functionally and visually; where not possible to repair properly, replace casework. Adjust joinery for uniform appearance.

B. Clean hardware, lubricate, and make final adjustments for proper operation.

C. Clean casework on exposed and semi-exposed surfaces. Touch-up shop applied finishes to restore damaged or soiled areas.

D. Protection: Installer of finished millwork shall advise Contractor of procedures required to protect architectural millwork during remainder of construction period to ensure that work will be without damage or deterioration at time of acceptance.

15.11 PAYMENT – Payment for Finish Carpentry shall be made as described in Article X of these Specifications.

ARTICLE XVI - WOOD TREATMENT

16.1 SUMMARY

A. Plant preservative and insecticide treatment of lumber and other wood products specified in other sections of this Specification by pressure and dip methods.

B. Field treatment of field cut or drilled lumber.

16.2 RELATED SECTIONS

ARTICLE XV - FINISH CARPENTRY: Lumber product treatment.

16.3 REFERENCES

American Wood-Preservers' Association:

A. AWPA C2-00: Lumber, Timber, Bridge Ties and Mine Ties-Preservative Treatment by Pressure Processes.

B. AWPA C9-00: Plywood-Preservative Treatment by Pressure Processes.

C. AWPA C31-00: Lumber Used out of Contact with the Ground and Continuously Protected from Liquid Water-Treatment by Pressure Processes.

D. AWPA M4-01: Care of Preservative-Treated Wood Products.

E. AWPA N1-01: All millwork, Preservative Treatment by Non-Pressure Process.

F. AWPA N2-00: Composite Wood Products, Preservative Treatment by Non-Pressure Process.

16.4 SUBMITTALS

A. Product Data: Provide data on all treatment products, including field application instructions if applicable.

B. Material Safety Data Sheets: Provide manufacturer's Material Safety Data Sheets on all products and hazardous materials.

C. Preserver Certifications: Provide a Certificate of Treatment showing compliance with these specifications for the following:

1. Kiln drying.

2. Method of treatment performed, including dip treatment.

D. Contractor's Certification: Provide a certification letter stating that all wood used on this job including cuts and penetration were treated and coated with preservatives in compliance with requirements of this contract.

E. Contractor ACT 45 Temporary Permit: Submit copy of Contractor Temporary Permit authorizing the use or application of chlorpyrifos as an active ingredient until December 31, 2022 as specified under item entitled "ACT 45 RELATING TO ENVIRONMENTAL PROTECTION" hereinbelow.

F. Guarantee: Guarantee form for written guarantee.

16.5 REGULATORY REQUIREMENTS

Comply with HIOSH codes and regulations (Occupancy Safety and Health Law) and pollution controls regulations of the State Department of Health and EPA.

16.6 ACT 45 RELATING TO ENVIRONMENTAL PROTECTION

A. Act 45 was passed by the 2018 Legislature and requires that all uses of chlorpyrifos and products which contain chlorpyrifos require possession of a permit, issued by the Hawaii Department of Agriculture Pesticides Branch, beginning January 1, 2019. On January 1, 2023 all uses and sale of chlorpyrifos in the State of Hawaii are banned and permitting of its use will cease at that time. Any chlorpyrifos permits that extend past December 31, 2022 will be terminated as of that date.

B. The application for a permit to use chlorpyrifos includes all products that will be used in an Agricultural setting (which include cattle ear tags) or for a Non-Agricultural Use. Those who desire to use products which include chlorpyrifos as 1 or more active ingredients are required to fill in Form C-45.

C. The permit application form, C-45, can be requested from the Pesticides Branch at the Hawaii Department of Agriculture following email address: HDOA.PB@hawaii.gov. Upon return of a completed application form the HDOA Pesticides Branch will process the applications within 72 hours of receipt. Permits will be sent to the applicant at the email address that is associated with the application form. If the applicant desires a hard copy of the permit, then please indicate the request when submitting the completed application form.

D. If you have any questions about this, please contact the Pesticides Branch at (808) 973-9411 or email at HDOA.PB@hawaii.gov.

16.7 QUALITY ASSURANCE

A. Comply with the American Wood-Preservers' Association standards as described in the applicable building or residential code. Preservatives shall be EPA registered.

B. Do not use preservatives containing arsenic or other EPA banned chemicals.

C. Do not use Perma-Clear 65 or other zinc napthanate and permethrin products.

D. Do not use the pesticide containing chlorpyrifos as an active ingredient if Contractor did not obtain a Contractor Temporary Permit authorizing the use or application of chlorpyrifos. Refer to item entitled "ACT 45 RELATING TO ENVIRONMENTAL PROTECTION" hereinabove.

16.8 DELIVERY, STORAGE, AND HANDLING

Protect AWPA C31 inorganic boron treated wood from contact with the ground, rain or other sources of liquid water until permanent installation of covering construction.

16.9 GUARANTEE

Contractor's Guarantee:

A. Provide a 2-year guarantee to replace all treated wood which is attacked by subterranean termites.

B. Provide a 5-year guarantee to replace all treated wood which is attacked by dry wood termites or deteriorates due to dry rot. The Surety shall not be held liable beyond 2 years from the project acceptance date.

C. Guarantee periods shall commence on Project Acceptance date.

16.10 GENERAL

A. Mill lumber to finish size and shape prior to treating, and treat before assembly. Plywood may be treated in regular panel sizes.

B. Mark each treated item with the treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece, or omit marking and provide certificates of treatment compliance issued by inspection agency.

16.11 PRESSURE TREATMENT WITH WATER-BORNE PRESERVATIVES

A. Treating Solutions:

1. Copper azole, Type A (CBA-A).

2. Inorganic boron (SBX).

B. Treatment Methods:

1. General:

a. All water-borne treatment methods require incising of lumber of nominal 2-inch thickness (1-1/2 inches actual dimension).

b. Choice of treatment method and conditions of use of each treating solution shall conform to the treatment schedule contained in Schedule of Treatments.

2. CBA-A: Treatment methods, depth of penetration and treating solution retention shall conform to AWPA C2 for lumber and C9 for plywood.

3. SBX: Treatment method shall conform to AWPA C31. Treating solution retention shall be a minimum of 0.28 pounds per cubic foot (equivalent to 0.42 DOT).

C. Drying:

1. Before Treatment:

a. CBA-A Treatment: Wood shall be air dried or kiln-dried before treatment to an average moisture content of 28 percent or less per AWPA standards.

b. SBX Treatment: Wood having a moisture content higher than 28 percent is acceptable when treating with SBX.

2. After Treatment: All one-inch and 2-inch lumber and all plywood shall be dried to a moisture content of 19 percent or less after treatment.

16.12 PRESSURE TREATMENT WITH OIL-BORNE PRESERVATIVES

A. Caution: Refer to item entitled "QUALITY ASSURANCE" hereinabove regarding the use of chlorpyrifos.

B. Treating Solution:

1. 0.50 percent by weight chlorpyrifos, 0.75 percent by weight 3-iodo-2-propynyl butyl carbamate (IPBC). The solvent used in formulating the preservative solution shall meet the requirements of AWPA hydrocarbon solvent Type C, Standard P9, Paragraph 3.1.

2. For interior application use low odor mineral spirits as solvent.

C. Treatment Methods: Treated wood shall attain the following net retention requirements: 0.0175 pounds of chlorpyrifos per cubic foot of wood, 0.035 pound of 3-lodo-2 propynyl butyl carbamate per cubic foot of wood.

D. Drying:

1. Before Treatment: All wood treated with oil-borne preservatives shall be kiln-dried to an average moisture content of 12 percent to 15 percent per AWPA standards.

2. After Treatment: Wood shall be thoroughly dried and virtually odor- free prior to installation.

16.13 PRESERVATION BY DIP TREATMENT

A. Caution: Refer to item entitled "QUALITY ASSURANCE" hereinabove regarding the use of chlorpyrifos.

B. Treating Solution:

1. Any of the Oil-Borne Preservatives listed above.

2. A solution of one-quart chlorpyrifos in 55 gallons of a 0.50 percent IPBC solution.

C. Treatment Methods:

1. Immersion treat for a minimum period of 15 minutes.

2. Do not incise lumber scheduled to be left unpainted or receive a clear finish.

16.14 FIELD TREATMENT

Treatment Method: Treat in accordance with AWPA Standard M4-98 using 2 heavy brush coats of a treating solution.

16.15 SCHEDULE OF TREATMENTS

A. Species:

1. Treat all wood species except all-heart redwood.

2. All water-borne and oil-borne treatment solutions are applicable to Douglas-Fir and hem-fir species except for CBA-A treatment which is acceptable for hem-fir species only.

B. Application:

1. Pressure Treatment:

a. General: Unless otherwise stipulated, all lumber and plywood shall be pressure treated.

b. Hardwood flooring and exposed lumber 1-1/2 inch (net thickness) and over that will be unpainted or receive a clear finish shall be pressure treated with oil-borne preservative. Do not incise lumber.

c. SBX treated wood shall not be used in areas exposed to direct precipitation (e.g. exposed decking, trellises, fencing, etc.) unless painted or covered with a finish material.

2. Dip Treatment: All finish lumber under 1-1/2 inch net thickness (except hardwood flooring); finish plywood; and mill work items, such as for cabinet work, shelving and similar wood work that will be exposed to view in the finished work.

3. Field Cuts: Treat end cuts, notches and penetrations into treated lumber or plywood. Exception: Cuts and penetrations made in SBX treated wood 2-inches or less in nominal thickness need not be field treated.

16.16 PAYMENT – Payment for Wood Treatment shall be made as described in Article X of these Specifications.

ARTICLE XVII - SOLID SURFACE FABRICATIONS

17.1 SUMMARY

A. Provide all solid surface fabrications as indicated on the drawings and as specified herein.

B. Related Work Specified Elsewhere: ARTICLE XV - FINISH CARPENTRY: Coordinate casework installations.

17.2 SUBMITTALS

A. Product Data: Submit product data for description, fabrication information and compliance with specified performance requirements.

B. Shop Drawings: Submit shop drawings indicating dimensions, component sizes, fabrication details, attachment provisions and coordination requirements with adjacent work.

C. Samples: Submit minimum 2-inch x 2-inch samples. Indicate full range of color and pattern variation. Approved samples will be retained as standards for work.

D. Maintenance Data: Submit manufacturer's care and maintenance data, including repair and cleaning instructions. Include in project close-out documents.

E. Warranty: Submit warranty as noted under item "WARRANTY" hereinbelow.

17.3 WARRANTY

Provide manufacturer's 10-year written warranty from the project acceptance date against defects in materials. Warranty shall provide material and labor to repair or replace defective materials at manufacturer's own expense. The Surety shall not be held liable beyond 2 years from the project acceptance date.

17.4 QUALITY ASSURANCE

A. Allowable Tolerances:

1. Variation in Component Size: +/- 1/8-inch.

2. Location of Openings: +/- 1/8-inch from indicated location.

17.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver no components to project site until areas are ready for installation. Store components indoors prior to installation.

B. Handle materials to prevent damage to finished surfaces. Provide protective coverings to prevent physical damage or staining following installation for duration of project.

17.6 SOLID SURFACE MATERIALS

A. Material: Cast, nonporous, filled polymer, not coated, laminated or of composite construction with through body colors meeting ANSI Z124.3 or ANSI Z124.6, Type Six, and Fed. Spec. WW-P-541E/GEN.

1. Material shall have minimum physical and performance properties specified in the following paragraph entitled "Performance Characteristics" hereinbelow.

2. Superficial damage to a depth of 0.010-inch shall be repairable by sanding and polishing.

B. Countertops: Solid surface material and edge details as indicated on the Drawings. Provide with cove backsplash and endsplashes as indicated on the Drawings or as required.

C. Performance Characteristics:

PROPERTY	REQUIREMENT	TEST PROCEDURE
	(minimum or maximum)	
Tensile Strength	6000 psi minimum	ASTM D 638
Tensile Modulus	1.5×10^6 psi minimum	ASTM D 638
Flexural Strength	10,000 psi minimum	ASTM D 790
Flexural Modulus	1.0×10^6 psi minimum	ASTM D 790
Elongation	0.4 percent minimum	ASTM D 638
Hardness	85-Rockwell "M" scale minimum 56-Barcol	ASTM D 785 ASTM D2583
Thermal Expansion	1.80×10^6 inch/inch/degrees	ASTM D 696

Color Stability	No change, 200 hours minimum	NEMA LD3-3.10
Wear and Cleanability	Passes	ANSI Z124.3
High Temperature Resistance	No Change	NEMA LD3-3.06
Impact Resistance Notched lzod	25 foot-pounds/inch of notch	ASTM D 256, Method A
Stain Resistance	Passes	ANSI Z124.3
Weatherability	No change, minimum 1000 hours	ASTM G 155
Fungi and Bacteria	No Attack	ASTM G 21
Water Absorption Weight (Percent Maximum)	Long Term 0.8 percent (1/4-inch) 0.4 percent (3/4-inch)	ASTM D 570
Flammability	Class A (Class 1)	ASTM E 84
Flame Spread	25 max	ASTM E 84
Smoke Developed	25 max	ASTM E 84

17.7 ACCESSORY PRODUCTS

A. Joint Adhesive: Manufacturer's standard 2-part adhesive kit to create inconspicuous, non-porous joints, with a chemical bond.

B. Panel Adhesive: Manufacturer's standard panel adhesive.

C. Sealant: Manufacturer's standard mildew-resistant, FDNUL recognized silicone sealant in color matching solid surface material.

17.8 FABRICATION

A. For warranty coverage, fabricator/installer shall be approved by solid surface material manufacturer.

B. Fabricate components in shop to greatest extent practical to sizes and shapes indicated, in accordance with approved shop drawings and solid surface material manufacturer requirements.

C. Form joints between components using manufacturer's standard joint adhesive. Joints shall be inconspicuous in appearance and without voids. Attach 2-inch wide reinforcing strip of solid surface material under each joint.

D. Provide holes and cutouts for plumbing and bath accessories as indicated on the drawings or as required.

E. Rout and finish component edges to a smooth, uniform finish. Rout all cutouts, then sand all edges smooth. Repair or reject defective or inaccurate work.

F. Finish: All surfaces shall have uniform finish. Matte with a gloss rating of 5 - 20.

G. Cove Backsplashes: Fabricate 1/2-inch radius cove at intersection of counters and backsplashes. Form backsplashes using 1/2-inch solid polymer material. Fabricate in shop or field.

17.9 INSTALLATION

A. Install components plumb and level, in accordance with approved shop drawings and product installation details.

B. Form field joints using manufacturer's recommended adhesive, with joints inconspicuous in finished work. Keep components and hands clean when making joints.

C. Provide backsplashes and endsplashes as indicated on the drawings or as required. Adhere to countertops using manufacturer's standard color-matched silicone sealant.

D. Keep components and hands clean during installation. Remove adhesives, sealants and other stains. Components shall be clean on project acceptance date.

E. Protect surfaces from damage until project acceptance date. Repair or replace damaged work that cannot be repaired at no additional cost to the State.

F. Fabricator/installer is to provide commercial care and maintenance information, review maintenance procedures and warranty details with the Harbors Division Construction Engineer upon completion of project.

17.10 PAYMENT – Payment for Solid Surface Fabrications shall be made as described in Article X of these Specifications.

ARTICLE XVIII - JOINT SEALANTS

18.1 SUMMARY

A. Provide all sealants to completely close all joints indicated on the drawings or specified to be sealed to a watertight condition, including the following:

1. Interior joints.

2. Silicone sealant.

3. Acoustical sealant.

B. Related Work Specified Elsewhere:

1. Article XXV – PAINTING: Coordinate work.

18.2 SUBMITTALS

A. Product Data: Submit manufacturer's product data and specifications for type of sealant required for approval.

B. Shop Drawings: Submit color finish samples of each sealant for approval.

C. Guaranty: Submit guaranty as noted under item entitled "GUARANTY" hereinbelow.

18.3 GUARANTY

The Contractor shall submit a written guaranty on the sealant for a two (2) year period after the project acceptance date. The guaranty shall provide for the repair of all leaks as well as repair and replacement of sealant and damage to the building and/or its finishes at no cost to the Harbors Division.

18.4 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has specialized in installing joint sealants similar in material, design, and extent to those indicated for this Project and whose work has resulted in joint-sealant installations with a record of successful in-service performance.

B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

C. Preconstruction Compatibility and Adhesion Testing: Use manufacturers standard test methods to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.

18.5 PERFORMANCE REQUIREMENTS

Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

18.6 PRODUCT HANDLING

A. Delivery: Deliver sealants to the jobsite in sealed containers labeled to show the designated name, formula, or specification number, lot number, color, date of manufacture, shelf life, curing time, manufacturer's directions, and name of manufacturer.

B. Storage: Store and handle materials in compliance with manufacturer's written instructions to prevent their deterioration or damage due to moisture, high temperatures, contaminants, or other causes.

18.7 PROJECT CONDITIONS

A. Inspection: Examine joint surfaces and backing, and their anchorage to the structure, and condition under which joint sealer work is to be performed, and notify Contractor in writing of conditions detrimental to proper completion of the work and performance of sealers. Do not proceed with joint sealer work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

B. Weather Conditions: Do not proceed with installation of sealants under adverse weather conditions. Proceed with the work only when forecasted weather conditions are favorable for proper cure and development of high early bond strength.

18.8 MATERIALS

A. Sealant Backer Rod: Compressible rod stock of polyethylene foam, polyethylene-jacketed polyurethane foam, butyl rubber foam, neoprene foam or other flexible, permanent, durable, nonabsorptive material as recommended for compatibility with sealant by the sealant manufacturer to control the joint depth for sealant placement, to break bond of sealant at bottom of joint, to form optimum shape of sealant bead on back side, and to provide a highly compressible backer which will minimize the possibility of sealant extrusion when joint is compressed.

B. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure.

C. Primer for Sealants: Non-staining, as recommended by the sealant manufacturer.

D. Masking Tape: Non-staining, non-absorbent material compatible with joint sealants and surfaces adjacent to joints.

E. Sealants:

1. Sealant No. 1, At Interior Vertical and Overhead Joints: Non-Elastomeric Sealant; acrylic-emulsion type, conforming to ASTM C 834. Provide one of the following, or approved equal products of other manufacturers:

   a. AC-20 Acrylic Latex; Pecora Corp.
   b. Chem-Calk 600; Bostik Inc.
   c. Tremflex 834; Tremco.

2. Sealant No. 2, Silicone Sealant: Mildew-resistant, conforming to ASTM C 920; Type S; Grade NS; Class 25; Use NT, formulated with fungicide; intended for sealing interior joints between plumbing fixtures and wall surfaces. Provide one of the following or approved equal products of other manufacturers:

   A. 786 Mildew Resistant; Dow Corning Corp.
   B. 898 Silicone Sanitary Sealant; Pecora Corp.
   C. Tremsil 600 White; Tremco.

3. Sealant No. 3, Acoustical Sealant: Resilient, non-staining, non-shrinking, non-hardening, non-skinning, non-drying, non-sag interior sealant complying with ASTM C 834. Provide one of the following or approved equal:

   a. AC-20 FTR Acoustical and Insulation Sealant; Pecora Corp.
   b. SHEETROCK Acoustical Sealant; USG Corp.
   c. Tremflex 834; Tremco.

F. Bituminous Joint Filler:

1. Provide resilient and non-extruding type premolded bituminous composition of organic fiber or granulated cork, between 2 bituminous felt liners, complying with ASTM D 944 of D 1751, AASHTO M 33 or M 213, and (if fiber type) Fed. Spec. HH-F-341, Type III.

2. Provide one of the following products, or approved equal products of other manufacturers:

   a. "Elastite" Celotex
   b. "Tex-Mastic"; J.P. Petroleum Products
   c. "Corkfill"; W.R. Meadows

18.9 MANUFACTURER'S INSTRUCTIONS

Comply with manufacturer's printed instructions except where more stringent requirements are shown or specified, and except where manufacturer's technical representative directs otherwise.

18.10 EXAMINATION

Examine joints indicated to receive joint sealers, with Installer present, for compliance with requirements for joint configuration, installation tolerances and other conditions affecting joint sealer performance. Do not proceed with installation of joint sealers until unsatisfactory conditions have been corrected.

18.11 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealers to comply with recommendations of joint sealer manufacturers and the following requirements:

   1. Remove all foreign material from joint substrates which could interfere with adhesion of joint sealer, including dust; paints, except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer; oil; grease; water; and surface dirt.

   2. Clean concrete, masonry, and similar porous joint substrate surfaces, by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealers. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.

   3. Remove laitance and form release agents from concrete.

   4. Clean metal, glass, glazed surfaces of hard tile; and other nonporous surfaces by chemical cleaners or other means which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealers.

B. Joint Priming: Prime joint substrates where indicated or where recommended by joint sealer manufacturer based on preconstruction joint sealer-substrate tests or prior experience. Apply primer to comply with joint sealer manufacturer's recommendations. Confine primers to areas of joint sealer bond, do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

18.12 INSTALLATION OF JOINT SEALERS

A. General: Comply with joint sealer manufacturers' printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply. Do not apply sealants on wet surfaces.

B. Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications and conditions.

C. Latex Sealant Installation Standard: Comply with requirements of ASTM C 790 for use of latex sealants.

D. Acoustical Sealant Application Standard: Comply with recommendations of ASTM C 919 for use of joint sealants in acoustical applications.

E. Installation of Sealant Backings: Install sealant backings to comply with the following requirements:

1. Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths which allow optimum sealant movement capability.

    a. Do not leave gaps between ends of joint fillers.

    b. Do not stretch, twist, puncture, or tear joint fillers.

    c. Remove absorbent joint fillers which have become wet prior to sealant application and replace with dry material.

2. Install bond breaker tape between sealants and joint fillers, compression seals, or back of joints where adhesion of sealant to surfaces at back of joints would result in sealant failure.

3. Install compressible seals serving as sealant backings to comply with requirements indicated above for joint fillers.

F. Primer: Immediately prior to application of the sealant, clean out all loose particles from joints. Where recommended by sealant manufacturer, apply primer to joints in concrete, masonry units, wood, and other porous surfaces in accordance with compound manufacturer's instructions. Do not apply primer to exposed finish surfaces.

G. Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability.

H. Tooling of Non-sag Sealants: Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents which discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.

1. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

2. Provide flush joint configuration per Figure 5B in ASTM C 1193, where indicated.

18.13 JOINT SEALANT SCHEDULE

A. Sealant and Location: Install sealants indicated in joints fitting descriptions and locations as well as in location where sealant is typically applied and as shown on the drawings, including but not limited to the following locations.

B. Sealant No. 1:

1. Small voids between walls or partitions and adjacent casework, shelving, door frames, built-in or surface-mounted equipment and fixtures, and similar items.

2. Perimeter of frames at doors and windows which adjoin exposed interior concrete and masonry surfaces.

3. Interior locations, not otherwise indicated or specified, where small voids exist between materials specified to be painted.

C. Sealant No. 2:

1. Joints between plumbing fixtures and adjoining surfaces.

2. Joints occurring where substrates change.

D. Sealant No. 3:

1. Interior sealing of exposed joints.

2. Interior sealing of concealed construction joints.

18.14 CLEANING

Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

18.15 PROTECTION

Protect joint sealers during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of project acceptance. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealers immediately and reseal joints with new materials to produce joint sealer installations with repaired areas indistinguishable from original work.

18.16 PAYMENT – Payment for Joint Sealants shall not be paid for separately but shall be considered incidental to the items described in Article X of these Specifications.

ARTICLE XIX - BLANKET INSULATION

19.1 SUMMARY

A. Provide all insulation as indicated on the drawings and as specified herein, including the following:

1. Batt type sound attenuation insulation installed in interior stud walls.

B. Related Work Specified Elsewhere:

1. ARTICLE XIV - ROUGH CARPENTRY: Coordinate installations.

2. ARTICLE XXII - GYPSUM BOARD: Coordinate installations in wall.

19.2 SUBMITTALS

Product Data: Submit manufacturer's product data, specifications, and installation instructions for type of insulation required. Include data substantiating that materials comply with specified requirements.

19.3 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of building insulation through one source.

B. Fire-Test-Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.

1. Surface-Burning Characteristics: ASTM E 84.

2. Fire-Resistance Ratings: ASTM E 119.

3. Combustion Characteristics: ASTM E 136.

19.4 PRODUCT HANDLING

Protection from Deterioration: Do not allow insulation materials to become wet or soiled. Comply with manufacturer's recommendations for handling, storage, and protection during installation.

19.5 MATERIALS

A. General: Provide insulation materials that comply with requirements and with referenced standards.

B. Sound Attenuation Batt Insulation in Interior Stud Walls: Fiberglass batt, ASTM C 665, Type I, approximately 3-1/2 inch thick unless otherwise indicated to be thinner to match stud size.

19.6 INSPECTION

Installer shall examine surfaces and conditions under which batt insulation is to be installed and notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to installer.

19.7 INSTALLATION

A. General:

1. Comply with manufacturer's instructions for the particular conditions of installation in each case. If printed instructions are not available or do not apply to the project conditions, consult the manufacturer's technical representative for specific recommendations before proceeding with the work.

2. Extend insulation full thickness as shown over entire area to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation. Remove projections which interfere with placement.

3. Apply a single layer of insulation of the required thickness, unless otherwise shown or required to make up the total thickness.

B. Wall Insulation: Install insulation to fit tightly against studs. Carry insulation full height from floor to underside of structure unless otherwise indicated on the drawings. Size width of insulation to fit snug where studs are irregularly spaced. Butt ends tightly at joints.

C. Protection: Protect installed insulation from harmful weather exposure and physical damage where possible by not delaying installation of covering work or where not possible, by temporary covering or enclosure.

19.8 BLOCKING AROUND HEAT PRODUCING DEVICES

A. Install non-combustible blocking around heat producing devices to provide the following minimum clearances as described below.

B. Recessed lighting fixtures, including wiring compartments, ballasts, and other heat producing devices, unless these are certified by the manufacturer for installation surrounding by insulation, install 3-inches from outside face of fixtures and devices or as required by NFPA 70 and, if insulation is to be placed above fixture or device, 24-inches above fixture.

19.9 PAYMENT – Payment for Blanket Insulation shall not be paid for separately but shall be considered incidental to the items described in Article X of these Specifications.

ARTICLE XX – WOOD DOOR AND FRAME

20.1 SUMMARY

A. Provide all wood doors as indicated on the drawings and as specified herein.

B. Related Work Specified Elsewhere:

1. Article XXI – DOOR HARDWARE

2. Article XXV – PAINTING

20.2 SUBMITTALS

A. Submit in accordance with these Specifications.

B. Product Data:

1. Submit door manufacturer's product data and specifications for wood door, including other data as may be required to show compliance with specified requirements.

2. Submit details of core and edge construction.

C. Shop Drawings: Submit shop drawings indicating the location and size of each door, elevation of each kind of door, details of construction, location of hardware blocking, mortises and holes for hardware, and other pertinent data.

D. Samples: Submit corner sections of doors, approximately 8-inches by 10-inches with door faces and edgings representing typical range of color and grain for each species of veneer and solid lumber required.

E. Warranty: Submit warranty as noted under item entitled "WARRANTY" hereinbelow.

20.3 WARRANTY

A. Submit written warranty on door manufacturer's standard form signed by manufacturer, installer, and Contractor, agreeing to repair or replace defective doors which have warped (bow, cup, or twist) or that show telegraphing of core construction in face veneers, or do not conform to tolerance limitations of referenced quality standards at their own expense.

B. All solid core flush panel doors shall carry the manufacturer's "Standard Door Warranty" for solid core doors for two (2) years from the project acceptance date.

C. Where door manufacturer's standard warranty is less than 2 years, the Contractor shall provide the specified warranty.

20.4 QUALITY ASSURANCE

A. WDMA Quality Standard: ANSI/WDMA I.S.1-A "Architectural Wood Flush Doors", of Window and Door Manufacturers Association (WDMA).

B. WDMA Quality Marking: Mark each wood door with WDMA Wood Door Certification Hallmark certifying compliance with applicable requirements of ANSI/WDMA I.S.1-A Series. For manufacturers not participating in WDMA Hallmark Program, a certification of compliance may be substituted for marking of individual doors.

C. Factory seal all doors on all 6 sides using manufacturer's standard.

D. Source Limitations: Obtain each type of door through one source from a single manufacturer.

20.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Protect doors during transit, storage, and handling to prevent damage, soiling, and deterioration. Comply with requirements of referenced standards and recommendations of ANSI/WDMA I.S.1-A Section J-1 "Job Site Information", as well as with manufacturer's instructions.

B. Identify each door with individual opening numbers which correlate with designation system used on shop drawings for door, frames, and hardware, using temporary, removable or concealed markings.

20.6 PROJECT CONDITIONS

Do not deliver or install doors until building is enclosed, wet work is completed, and HVAC system is operating and will maintain temperature and relative humidity at occupancy level during the remainder of the construction period.

20.7 WOOD DOORS

Solid Core Flush Doors for Paint Finish:

1. Faces: Birch.

2. Grade: Custom.

3. Construction: Stave lumber or structural composite lumber, 5-ply or 7-ply.

20.8 ADHESIVES

Adhesives shall be in accordance with WDMA I.S.-1A, requirements for Type I Bond Doors (waterproof). Adhesives shall contain no formaldehydes.

20.9 FABRICATIONS

Fabricate doors and machine doors for hardware for sizes indicated with uniform clearances and bevels.

20.10 EXAMINATION

A. Examine doors and installed door frames before hanging doors.

1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.

2. Reject doors with defects.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

20.11 INSTALLATION

A. Doors shall be installed under Article XV – FINISH CARPENTRY.

B. Hardware for doors shall be furnished for installation under Article XXI – DOOR HARDWARE.

C. Manufacturer's Instructions: Install wood doors to comply with manufacturer's written instructions and of referenced quality standard and as indicated.

D. Job-Fit Doors: Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer. Machine doors for hardware. Seal cut surfaces after fitting and machining.

1. Fitting Clearances for Non-Rated Doors: Provide 1/8-inch at jambs and heads; 1/16-inch per leaf at meeting stiles for pairs of doors; and 1/8-inch from bottom of door to top of decorative floor finish or covering. Where

threshold is shown or scheduled, provide 1/4-inch clearance from bottom of door to top of threshold.

2. Bevel non-rated doors 1/8-inch in 2-inches at lock and hinge edges.

20.12 INSPECTION

A. Operation: Rehang or replace doors which do not swing or operate freely.

B. Finished Doors: Replace doors that are damaged or do not comply with requirements. Doors may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing.

20.13 PAYMENT – Payment for Wood Doors shall be made as described in Article X of these Specifications.

ARTICLE XXI - DOOR HARDWARE

21.1 SUMMARY

A. Section Includes**:**

1. Door hardware.

B. Related Work Specified Elsewhere**:**

1. ARTICLE XV - FINISH CARPENTRY: Door Hardware Installation

2. ARTICLE XX – WOOD DOOR AND FRAME

C. Specific Omissions**:** Hardware for the following is specified or indicated elsewhere.

1. Cabinets, including open wall shelving and locks.

D. Provide all materials, labor, equipment and tools necessary to complete finish hardware work for all doors whether specified or not.

E. Furnish and deliver to the building site, all finishing hardware required for all doors, etc., complete as indicated on the drawings and as specified herein.

F. It is the intent of these specifications to cover in general the class and character of all finish hardware required.

G. The hardware list specified hereinafter has been made for the convenience of the Contractor and covers in general the necessary hardware for doors, but all other doors, etc., shown on the plan and not covered by the general characterization shall be fitted with appropriate hardware of the same standards as the hardware described throughout these specifications. Contractor shall furnish hardware schedule as hereinafter specified.

21.2 REFERENCES

A. Use date of standard in effect as of Bid date.

1. American National Standards Institute – ANSI 156.18 – Materials and Finishes.

a. ICC/ANSI A117.1 - 1998 – Specifications for making buildings and facilities usable by physically handicapped people.

b. ANSI A156.18 Materials and Finishes

2. ADA – Americans with Disabilities Act

3. BHMA – Builders Hardware Manufacturers Association

4. DHI – Door and Hardware Institute

5. NFPA – National Fire Protection Association

   a. NFPA 80 – Fire Doors and Windows
   b. NFPA 105 – Smoke and Draft Control Door Assemblies
   c. NFPA 252 – Fire Tests of Door Assemblies

6. UL – Underwriters Laboratories

   a. UL10C – Positive Pressure Fire Tests of Door Assemblies.
   b. UL 305 – Panic Hardware

7. WHI – Warnock Hersey Incorporated

8. Local applicable codes

9. WI – Woodwork Institute

10. AWI – Architectural Woodwork Institute

11. NAAMM – National Association of Architectural Metal Manufacturers

B. Abbreviations

1. Manufacturers**:** see 26.8 of this section

2. Finishes**:** see 26.12 of this section.

21.3 SUBMITTALS & SUBSTITUTIONS

A. SUBMITTALS: Submit schedule as required. Organize vertically formatted schedule into "Hardware Sets" with index of doors and headings, indicating complete designations of every item required for each door or opening. Minimum 10pt font size. Include following information**:**

1. Product Data: Submit manufacturer's descriptive literature along with schedule for information only.

2. Schedule: Submit schedule of hardware in compliance with specifications and drawings. List each opening and hardware to be applied. State material, finish and manufacturer's number for each item. Required minimum types are listed under item entitled "HARDWARE SCHEDULE" hereinbelow.

3. Keying Schedule: Submit keying schedule for approval by the Harbors Division. Keying Schedule shall be submitted listed in D.H.I. document "Keying Terminology". Door designation listed in the Keying Schedule shall be same as those used on drawings and hardware schedule.

4. Warranty: Submit warranty as noted under paragraph entitled "WARRANTY" hereinbelow.

B. Bid and submit manufacturer's updated/improved item if scheduled item is discontinued.

C. Deviations**:** Highlight, encircle or otherwise identify deviations from "Schedule of Finish Hardware" on submittal with notations clearly designating those portions as deviating from this section.

D. If discrepancy between drawings and scheduled material in this section, bid the more expensive of the two choices, note the discrepancy in the submittal and request direction from the Construction Engineer for resolution.

E. Substitutions per Division 1. Include product data and indicate benefit to the Project. Furnish operating samples on request.

F. Items listed with no substitute manufacturers have been requested by Harbors Division to meet existing standard.

G. Furnish as-built/as-installed schedule with closeout documents, including keying schedule, manufacturers' installation, adjustment and maintenance information, and supplier's final inspection report.

21.4 QUALITY ASSURANCE

A. Qualifications:

1. Hardware supplier: direct factory contract supplier who employs a certified architectural hardware consultant (AHC), available at reasonable times during course of work for project hardware consultation to Harbors Division Construction Engineer and Contractor.

a. Responsible for detailing, scheduling and ordering of finish

hardware. Detailing implies that the submitted schedule of hardware is correct and complete for the intended function and performance of the openings.

B. Hardware: Free of defects, blemishes and excessive play. Obtain each kind of hardware (latch and locksets, exit devices, hinges and closers) from one manufacturer.

C. Exit Doors: Operable from inside with single motion without the use of a key or special knowledge or effort.

D. Fire-Rated Openings: NFPA 80 compliant. Hardware UL10C / IBC 2003 Section 715.4.1 (positive pressure) compliant for given type/size opening and degree of label. Provide proper latching hardware, non-flaming door closers, approved-bearing hinges, and resilient seals. Coordinate with wood door section for required intumescent seals. Furnish openings complete.

F. Furnish hardware items required to complete the work in accordance with specified performance level and design intent, complying with manufacturers' instructions and code requirements.

21.5 WARRANTY – All door hardware shall be supplied with a two (2) year written warranty from the manufacturer agreeing to repair or replace components of door hardware that fail in materials, workmanship, function and/or operation commencing from the project acceptance date at no cost to the State.

21.6 DELIVERY, STORAGE AND HANDLING

A. Delivery: coordinate delivery to appropriate locations (shop or field).

Permanent keys and cores: secured delivery direct to Harbors Division.

B. Acceptance at Site: Items individually packaged in manufacturers' original containers, complete with proper fasteners and related pieces. Clearly mark packages to indicate contents, locations in hardware schedule and door numbers.

C. Storage: Provide securely locked storage area for hardware, protect from moisture, sunlight, paint, chemicals, dust, excessive heat and cold, etc.

21.7 PROJECT CONDITIONS AND COORDINATION

A. Where exact types of hardware specified are not adaptable to finished shape or size of members requiring hardware, provide suitable types having as nearly as

practical the same operation and quality as type specified, subject to the Construction Engineer's approval.

B. Coordination: Coordinate hardware with other work. Furnish hardware items of proper design for use on doors and frames of the thickness, profile, swing, security and similar requirements indicated, as necessary for proper installation and function, regardless of omissions or conflicts in the information on the Contract Documents. Furnish related trades with the following information:

1. Location of embedded and attached items to concrete.

2. Location of wall-mounted hardware, including wall stops.

3. Location of finish floor materials and floor-mounted hardware.

4. At masonry construction, coordinate with the anchoring and hollow metal supplier prior to frame installation by placing a strip of insulation, wood, or foam, on the back of the hollow metal frame behind the rabbet section for continuous hinges, as well as at rim panic hardware strike locations, silencers, coordinators, and door closer arm locations. When the frame is grouted in place, the backing will allow drilling and tapping without dulling or breaking the installer's bits.

5. Coordinate: flush top rails of doors at outswinging exteriors, and throughout where adhesive-mounted seals occur.

6. Manufacturers' templates to door and frame fabricators.

C. Check Shop Drawings for doors and entrances to confirm that adequate provisions will be made for proper hardware installation.

D. Environmental considerations: segregate unused recyclable paper and paper product packaging, uninstalled metals, and plastics, and have these sent to a recycling center.

E. Prior to submittal, carefully inspect existing conditions to verify finish hardware required to complete Work, including sizes, quantities, existing hardware scheduled for re-use, and sill condition material. If conflict between the specified/scheduled hardware and existing conditions, submit request for direction from the Construction Engineer. Include date of jobsite visit in the submittal.

Submittals prepared without thorough jobsite visit by qualified hardware expert will be rejected as non-compliant.

21.8 MANUFACTURERS

A. Requirements for design, grade, function, finish, size, etc. is indicated in the HARDWARE SCHEDULE. Products are identified by using proprietary manufacturer's numbers to establish quality and functions. Approved equal products of other manufacturers are acceptable.

21.9 HINGING METHODS

A. Drawings typically depict doors at 90 degree, doors will actually swing to maximum allowable. Use wide-throw conventional or continuous or continuous hinges as needed up to 8 inches in width to allow door to stand parallel to wall for true 180-degree opening. Advise Construction Engineer if 8-inch width is insufficient.

B. Conform to manufacturer's published hinge selection standard for door dimensions, weight and frequency, and to hinge selection as scheduled. Where manufacturer's standard exceeds the scheduled product, furnish the heavier of the two choices, notify Construction Engineer of deviation from scheduled hardware.

C. Conventional Hinges: Steel or stainless steel pins and concealed bearings. Hinge open widths minimum, but of sufficient throw to permit maximum door swing.

1. Outswing exterior doors: non-ferrous with non-removable (NRP) pins and security studs.

3. Non-ferrous material exteriors and at doors subject to corrosive atmospheric conditions.

21.10 LOCKSETS, LATCHSETS, DEADBOLTS

A. Extra Heavy Duty Cylindrical Locks and Latches**:** as scheduled.

1. Chassis: cylindrical design, corrosion-resistant plated cold-rolled steel, through-bolted.

2. Locking Spindle: stainless steel, integrated spring and spindle design.

3. Latch Retractors: forged steel. Balance of inner parts: corrosion-resistant plated steel, or stainless steel.

4. Latchbolt: solid steel.

5. Backset: 2.75 inches typically, more or less as needed to accommodate

frame, door or other hardware.

6. Lever Trim: accessible design, independent operation, spring-cage supported, minimum 2.00 inches clearance from lever mid-point to door face.

7. Electric Operation: Manufacturer-installed continuous duty solenoid.

8. Strikes: 16 gage curved steel, bronze or brass with 1.00 inch deep box construction, lips of sufficient length to clear trim and protect clothing.

9. Lock Series and Design: Schlage ND series, "Rhodes" design.

10. Certifications:

    a. ANSI A ANSI A156.2, 1994, Series 4000, Grade 1.
    b. UL listed for A label and lesser class single doors up to 4 feet x 8 feet. 156.2, 1994, Series 4000, Grade 1.

21.11 OTHER HARDWARE

A. Kick Plates: Four beveled edges, .050 inches minimum thickness, height and width as scheduled. Sheet-metal screws of bronze or stainless steel to match other hardware.

B. Door Stops: Provide stops to protect walls, casework or other hardware.

1. Unless otherwise noted in Hardware Sets, provide floor type with appropriate fasteners. Where floor type cannot be used, provide wall type. If neither can be used, provide overhead type.

C. Seals: Inelastic, rigid back, not subject to stretching. Self-compensating for warp, thermal bow, door settling, and out-of-plumb. Adhesive warranted for life of installation.

D. Thresholds: As scheduled and per details. Comply with ICC/ANSI A117.1 Section 404.2.4 & 303. Substitute products**:** certify that the products equal or exceed specified material's thickness. Proposed substitutions**:** submit for approval.

1. Saddle Thresholds: 0.125 inches minimum thickness.

2. Exteriors: Seal perimeter to exclude water and vermin. Use sealant complying with requirements in Division 7 "Thermal and Moisture Protection". Minimum 0.25 inch diameter fasteners and lead expansion

shield anchors, or Red-Head #SFS-1420 (or approved equivalent) Flat Head Sleeve Anchors (SS/FHSL).

3. Fire-rated openings, 90-minutes or less duration: use thresholds to interrupt floor covering material under the door where that material has a critical radiant flux value less than 0.22 watts per square centimeter, per NFPA 253. Use threshold unit as scheduled. If none scheduled, request direction from the Construction Engineer.

4. Plastic plugs with wood or sheet metal screws are not an acceptable substitute for specified fastening methods.

5. Fasteners: Generally, exposed screws to be Phillips or Robertson drive. Pinned TORX drive at high security areas. Flat head sleeve anchors (FHSL) may be slotted drive. Sheet metal and wood screws**:** full-thread. Sleeve nuts**:** full length to prevent door compression.

E. Through-bolts: Do not use. Coordinate with wood doors; ensure provision of proper blocking to support wood screws for mounting panic hardware and door closers. Coordinate with metal doors and frames; ensure provision of proper reinforcement to support machine screws for mounting panic hardware and door closers.

Exception: surface-mounted overhead stops, holders, and friction stays.

F. Silencers: Interior hollow metal frames, 3 for single doors, 4 for pairs of doors. Leave no unfilled/uncovered pre-punched silencer holes.

Intent: door bears against silencers, seals make minimal contact with minimal compression – only enough to effect a seal.

21.12 FINISH

A. Generally: BHMA 626 Satin Chromium.

1. Areas using BHMA 626: furnish push-plates, pulls and protection plates of BHMA 630, Satin Stainless Steel, unless otherwise scheduled.

21.13 GENERAL CHARACTER

A. All hardware shall be of the best quality in construction, design and finish, and free from any defects. Any defective pieces shall be replaced by the Contractor at his own expense.

B. Hardware shall be of the manufacture, type, weight, function and quality as shown by factory numbers in the HARDWARE SCHEDULE herein or an approved equal.

C. Mortise Locks and Latches: In accordance with ANSI/BHMA A156.13.

D. Bored Locks and Latches: In accordance with ANSI/BHMA A156.2

E. Hinges: In accordance with ANSI/BHMA A156.1.

F. Closers: In accordance with ANSI/BHMA A156.4. Adjust door closers where provided to conform to ADAAG Section 404.2.8.1.

G. Cylinders: All cylinders shall be as manufactured by a single manufacturer.

H. Finish: In accordance with ANSI/BHMA A156.18. All hardware items shall be furnished in the finish as indicated in the HARDWARE SCHEDULE. Contractor shall replace all items with defects or blemishes at no additional cost to the State.

21.14 ADAAG REQUIREMENTS

A. Hardware:

1. All door hardware shall comply with the requirements of the Americans with Disability Act Accessibility Guidelines (ADAAG) Sections 404.1.

2. Operable hardware shall have a shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist to operate in compliance with ADAAG 309.4.

B. Accessible doors: Door required to be accessible by ADAAG 404.1 shall comply with requirements of ADAAG 404.2.9. The maximum force for pushing or pulling open a door shall be as follows: Interior Hinged Doors, 5 lbs.

These forces do not apply to the force required to retract the latch bolts, or disengage other devices that may hold the door in a closed position.

21.15 KEYING

A. Locks shall have four (4) keys each. Locks for the same rooms shall be keyed alike. During period of construction, all locks shall be operated by a special construction key. All keys shall be stamped “DO NOT DUPLICATE” at the point of manufacture. Proper certification of factory assembly of all locks and cylinders as well as factory master keying shall be furnished by the Contractor prior to final acceptance of this portion of the work.

B. Keying Schedule:

1. Keying system shall match existing or as directed by the Harbors Division. Revise deadlock as required to match existing at no additional cost to the State.

2. It shall be the responsibility of the hardware supplier or hardware manufacturer's representative to meet with the Engineer to review the keying requirements and establish the final keying arrangements.

3. Hardware Supplier shall submit keying schedule, along with hardware schedule, clearly showing how the State's final instructions on keying of locks have been fulfilled.

21.16 FASTENINGS

A. Furnish necessary screws, bolts, and other fastenings for proper application of hardware. Fastenings shall be of suitable size and type, and of sufficient length to secure hardware for heavy use. Fastenings must harmonize with the hardware as to material and finish. All fasteners shall be stainless steel.

B. Furnish necessary expansion shields, toggle bolts, machine or wood screws or other suitable approved anchoring devices where hardware is to be installed on concrete, masonry or other types of backing.

21.17 TEMPLATES – Furnish templates as required to the Contractor within seven (7) days after receipt of approved hardware schedule.

21.18 TOOLS AND INSTRUCTIONS – Furnish all tools and maintenance or installation instruction packed with the closers and locksets to the Harbors Division when the project is completed.

21.19 INSTALLATION

A. Install hardware per manufacturer's instructions and recommendations. Do not install surface-mounted items until finishes have been completed on substrate. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate for proper installation and operation. Remove and reinstall or replace work deemed defective by the Construction Engineer.

1. Gaskets: install jamb-applied gaskets before closers, overhead stops, rim strikes, etc; fasten hardware over and through these seals. Install sweeps

across bottoms of doors before astragals, cope sweeps around bottom pivots, trim astragals to tops of sweeps.

2. When hardware is to be attached to existing metal surface and insufficient reinforcement exists, use RivNuts, NutSerts or similar anchoring device for screws.

3. Use manufacturers' fasteners furnished with hardware items, or submit Request for Substitution with Construction Engineer.

4. Replace fasteners damaged by power-driven tools.

B. Locate floor stops no more than 4 inches from walls and not within paths of travel. See paragraph 22.10 regarding hinge widths, door should be well clear of point of wall reveal. Point of door contact no closer to the hinge edge than half the door width. Where situation is questionable or difficult, contact Construction Engineer direction.

C. Drill pilot holes for fasteners in wood doors and/or frames.

D. Lubricate and adjust existing hardware scheduled to remain.

E. Field-verify existing conditions and measurements prior to ordering hardware. Fill existing hardware cut outs not being used by the new hardware.

F. Where existing wall conditions will not allow door to swing using the scheduled hinges, provide wide-throw hinges and if needed, extended arms on closers.

G. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.

H. Fit face of all mortise parts snug and flush.

I. Operating parts shall move freely and smoothly without binding, sticking or excessive clearance.

J. Install latch and bolt to automatically engage into strike, whether activated by closer or manual push. In no case shall additional manual pressure be required to engage latch or bolt into strike.

K. Protect hardware from damage or marring of finish during construction. Replace all damaged or marred hardware at no additional cost.

L. Adjust closers to operate noiselessly and evenly and to conform to ADAAG requirements.

M. Mount hardware units at heights indicated in following applicable publications, except as specifically indicated or required to comply with governing regulations and except as otherwise directed by the Construction Engineer.

1. "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute.

2. "Recommended Locations for Architectural Hardware for Flush Wood Doors" By Door and Hardware Institute.

3. Americans with Disabilities Act Accessibility Guidelines (ADAAG), Section 404.1.

21.20 ADJUSTING

A. Adjust and check for proper operation and function. Replace units, which cannot be adjusted to operate freely and smoothly.

1. Hardware damaged by improper installation or adjustment methods: repair or replace to Harbors Division's satisfaction.

2. Adjust doors to fully latch with no more than 1 pound of pressure.

3. Adjust door closers for proper function.

B. Final inspection: Installer to provide letter to Harbors Division that upon completion installer has visited the Project and has accomplished the following:

1. Has re-adjusted hardware.

2. Has evaluated maintenance procedures and recommend changes or additions, and instructed Harbors Division's personnel.

3. Has identified items that have deteriorated or failed.

4. Has submitted written report identifying problems.

21.21 DEMONSTRATION

A. Demonstrate mechanical hardware and electrical hardware systems, including adjustment and maintenance procedures.

21.22 PROTECTION/CLEANING

A. Cover installed hardware, protect from paint, cleaning agents, weathering, carts/barrows, etc. Remove covering materials and clean hardware just prior to substantial completion.
B. Clean adjacent wall, frame and door surfaces soiled from installation / reinstallation process.

21.23 SCHEDULE OF FINISH HARDWARE

A. See door schedule in drawings for hardware set assignments.

HW GROUP – 001
(NEW ACCESSIBLE RESTROOM)

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	PRIVACY SET	ND40S RHO	626	SCH
1	EA	INDICATOR BOLT	E50 IN USE/VACANT	626	ARR
1	EA	SURFACE CLOSER	1461 RW/PA SRI	689	LCN
1	EA	WALL STOP	WS407CCV	630	IVE

Key to existing.

HW GROUP – 002
(INTERIOR ENTRY GATE)

3	EA	SPRING HINGE	3SP1 4.5 X 4.5 NRP	630	IVE

21.24 PAYMENT – Payment for Door Hardware shall not be paid for separately but shall be considered incidental to the items described in Article X of these specifications.

ARTICLE XXII - GYPSUM BOARD

22.1 SUMMARY

A. Provide all gypsum board where indicated on the drawings and as specified herein. Work shall include, but not be limited to, the following:

1. Interior gypsum boards.

2. Non-load bearing studs.

22.2 SUBMITTALS

A. Submit in accordance with these Specifications.

B. Product Data: Submit product data for each type of product specified. Include manufacturer's recommended installation instructions.

1. Fasteners

2. Joint treatment materials

3. Accessories

4. Cementitious backer units

22.3 QUALITY ASSURANCE

A. Industry Standard: Comply with applicable requirements of GA-216, "Application and Finishing of Gypsum Board", by the Gypsum Association, except where more detailed or more stringent requirements are indicated, including the recommendations of the manufacturer, and GA-214, "Recommended Specification: Levels of Gypsum Board Finish", by the Gypsum Association.

B. Fire Resistance: For walls and ceiling where indicated or requiring fire-resistance-rated gypsum board assemblies, comply with following requirements:

1. Fire-Resistance Ratings: As indicated by GA File Numbers in GA-600, "Fire Resistance Design Manual", or design designations in UL "Fire Resistance Directory" or in the listing of another testing and inspecting agency acceptable to authorities having jurisdiction.

2. Gypsum board assemblies indicated are identical to assemblies tested for fire resistance according to ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

22.4 PRODUCT HANDLING – Deliver gypsum board materials in sealed containers and bundles, fully identified with manufacturer's name, brand, type, and grade; store in a dry well ventilated space, protected from the weather, under cover, and off the ground. Stack gypsum panels flat to prevent sagging.

22.5 MATERIALS

A. Cementitious Backer Units: ANSI A118.9, Regular, 48 inches wide, thickness as indicated.

B. Joint Treatment Materials - ASTM C 475.

1. Embedding Compound: Specifically formulated and manufactured for use in embedding tape at gypsum board joints and completely compatible with tape, substrate and fasteners.

2. Finishing or Topping Compound: Specifically formulated and manufactured for use as a finishing compound.

3. All-Purpose Compound: Specifically formulated and manufactured to serve as both a taping and a finishing compound and compatible with tape, substrate and fasteners.

4. Joint Tape: Cross-laminated, tapered edge, reinforced paper, or special tape recommended by the manufacturer.

C. Wallboard Fasteners: ASTM C 1002. Type "S" steel drill screws. Use specially designed steel screws as recommended by the manufacturer of the gypsum board for the screw application of gypsum board to steel framing.

D. Non-Load Bearing Studs: ASTM C 645 “Non-Load (Axial) Bearing Studs, Runners (Track), and Rigid Furring Channels for Screw Application of Gypsum Board”. Studs shall be rolled formed channel of minimum 20 gauge galvanized steel, ASTM A 653 “Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot Dip Process”, G60 coating. Provide holes and notches for conduit or electrical wiring. Adjust stud to a heavier gauge where required by the manufacturer’s recommendations for stud wall heights.

E. PVC Trim Accessories: ASTM C 1047. Fabricate from plastic designed for its intended use. Flanges shall be free from dirt, grease, and other materials that may adversely affect the bond of joint treatment.

G. Water: Clean, fresh, and potable.

22.6 EXAMINATION – Verify that framing and furring are securely attached and of sizes and spacing to provide a suitable substrate to receive gypsum board. Verify that all blocking, headers and supports are in place to support plumbing fixtures and to receive soap dishes, grab bars, and similar items. Do not proceed with work until framing and furring are acceptable for application of gypsum board and unsatisfactory conditions have been corrected.

22.7 APPLICATION OF CEMENTITIOUS BACKER UNITS

A. Application: Apply cementitious backer units in accordance with ANSI A108.11.

B. Joint Treatment: ANSI A108.11.

22.8 INSTALLATION OF STEEL FRAMING, GENERAL

A. Steel Framing Installation Standard: Install steel framing to comply with ASTM C 754 requirements that apply to framing installation.

B. Install supplementary framing, blocking, and bracing at terminations in the work and for support of fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, and similar construction to comply with details indicated and with recommendations of gypsum board manufacturer, or if none available, with "Gypsum Construction Handbook" published by United States Gypsum Co.

22.9 INSTALLATION OF STEEL FRAMING FOR WALLS AND PARTITIONS AND SOFFIT FRAMING

A. Install runners (tracks) at floors, ceilings, and structural walls and columns where gypsum drywall stud system abuts other construction. Where studs are installed directly against exterior walls, install asphalt felt strips between studs and wall.

B. Install each steel framing and furring member so that fastening surface do not vary more than 1/8-inch from plane of faces of adjacent framing. Align plumb and square.

C. Extend partition framing full height to structural supports, unless otherwise indicated. Continue framing over frames for doors and openings to provide support for gypsum board.

D. Install steel studs and furring in sizes and at spacings indicated but not less than that required by referenced steel framing installation standard. For single layer construction, 16-inches on center, except as otherwise indicated.

E. Frame door openings to comply with details indicated, with GA-219 and with applicable published recommendations of gypsum board manufacturer. Attach vertical studs at jambs with screws either directly to frames or to jamb anchor clips

on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

F. Frame openings other than door openings to comply with details indicated, or if none indicated, in same manner as required for door openings.

22.10 PROTECTION – Provide final protection and maintain conditions, in a manner suitable to installer, which ensures gypsum drywall construction being without damage or deterioration at time of project acceptance.

22.11 PAYMENT – Payment for Gypsum Board shall be made as described in Article X of these Specifications.

ARTICLE XXIII – RESILIENT FLOORING

23.1 SUMMARY

A. Provide all resilient flooring as indicated on the drawings and specified herein.

23.2 SUBMITTALS

A. Submit in accordance with these Specifications.

B. Product Data: Submit product data for each type of product indicated. Include manufacturer's written data on physical characteristics, durability, and fade resistance. Include installation methods.

C. Shop Drawings: Submit shop drawings including plans and details showing the following:

1. Columns, doorways, walls or partitions, built-in cabinets, etc.

2. Type of subfloor.

3. Type of installation.

4. Type, color, and location of edge, transition, and other accessory strips.

5. Transition details to other flooring materials.

D. Samples: Submit sample for each of the following products and for each color and texture required. Label each sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings.

1. Luxury Vinyl Tile (LVT) Planks and Textile Composite Tiles: Full-size samples.

2. Exposed Edge Stripping and Accessory: 12-inch long samples.

3. Resilient Base: 6-inch long samples.

E. Product Schedule: Submit schedule using the same room and product designations indicated on Drawings.

F. Maintenance Data: Submit maintenance data to include the following:

1. Methods for maintaining carpet and resilient base, including cleaning and stain removal products and procedures and manufacturer's

recommended maintenance schedule.

2. Precautions for cleaning materials and methods that could be detrimental to carpet and resilient base.

G. Certificate: Submit certificate stating that the concrete slab was tested for moisture and alkalinity and that the flooring manufacturer's requirements have been met.

H. Warranty: Submit warranty as noted under paragraph entitled "WARRANTY" hereinbelow.

23.3 WARRANTY

A. Contractor's Warranty: Submit written warranty from the carpet laying contractor and countersigned by the Contractor, covering all materials and workmanship for a period of one year from the project acceptance date. The warranty shall cover the correction by the Contractor of any defects in materials or workmanship which occur during the period of warranty by the repairing or replacing with new material at his own expense.

B. Manufacturer's Warranty: Submit written warranty, signed by carpet manufacturer agreeing to replace carpet that does not comply with requirements or that fails within specified warranty period. Failures include, but are not limited to, more than 10 percent loss of face fiber, edge raveling, snags, runs, and delamination. The Surety shall not be liable beyond 2 years from the project acceptance date.

23.4 QUALITY ASSURANCE

A. Installer Qualifications: Carpet installer shall be an experienced certified carpet installer.

B. Fire-Test-Response Characteristics: Provide products with the critical radiant flux classification as determined by testing identical products per ASTM E 648 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

23.5 DELIVERY, STORAGE, AND HANDLING

General: Comply with CRI 104, Section 5, "Storage and Handling".

23.6 PROJECT CONDITIONS

A. General: Comply with CRI 104, Section 7, "Site Conditions; Temperature and Humidity".

B. Environmental Limitations: Do not install carpet until wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

C. Surface Condition: Do not install carpet over concrete slabs have being tested and concrete slabs have pH range recommended by carpet manufacturer.

23.7 EXTRA MATERIALS

Furnish extra materials described below, before installation begins, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

LVT Planks: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd.

Textile Composite Tiles: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd.

23.8 LVT PLANKS MATERIALS

LVT Planks: J+J Flooring

1. Make your Mark	V5012
2. Wear Layer	20 mil
3. Thickness	5mm Loose Lay
4. Finish/Coating	Enhanced UV Urethane w/Ceramic Bead
5. Pattern Repeat	Random
6. Dimensions	9”x48”
7. Standard Adhesive	Commercialon® LVT Adhesive
8. Backing Class	Commercial Grade
9. Commercial Traffic	Heavy Commercial
10. Colorways	1063 Shadow and 1066 Sapphire

23.9 TEXTILE COMPOSITE TILES MATERIALS

LVT Planks: Kinetex

1.	Tri-Plex II 1852	
2.	Construction	Textile Composite
3.	Backing	Polyester Felt Cushion
4.	Dye Method	Solution Dyed
5.	Wear Layer	Polyester – Applied Pattern
6.	Total Weight	4.5 oz. – 5.2 oz. / square foot
7.	Total Thickness	.205 inches
8.	Dimensions	24” x 24” modules
9.	Standard Adhesive	Kinetex Adhesive
8.	Optional Adhesive	Kinetex PreFix
10.	Colorway	2293 Dog Night

23.10 INSTALLATION ACCESSORIES

A. Resilient Base: Rubber, complying with ASTM F 1861, top set, 1/8-inch thick, 4-inch high. Rubber material shall be free from offensive odor and its color uniform throughout the thickness of base. Provide coved type wall base at resilient flooring.

B. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement based formulation provided by or recommended by resilient flooring manufacturer.

C. Adhesives: Water-resistant, mildew-resistant, nonstaining type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed resilient flooring and that is recommended by resilient flooring manufacturer.

D. Metal Edge Strips: Extruded aluminum with mill finish of width shown, of height required to protect exposed edge of resilient flooring, and of maximum lengths to minimize running joints.

E. Edge Guards: Vinyl or rubber type reducer strips and transition strip where shown

or required, as manufactured by Johnson Rubber Co., Mercer Plastic Co., Textile Rubber Co., Roppe, or equal.

23.11 EXAMINATION

A. General: Examine substrates, areas, and conditions for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting resilient flooring performance. Verify that substrates and conditions are satisfactory for resilient flooring installation and comply with requirements specified.

B. Subfloors: Verify that subfloors comply with ASTM F 710 and the following:

1. Substrates are dry and free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond. Determine adhesion and dryness characteristics by performing bond, moisture and alkalinity tests recommended by resilient flooring manufacturer. Where testing shows the moisture content or alkalinity is not within the floor manufacturer's requirements, provide remedial work, including floor sealing system or other means, to assure compliance with resilient flooring manufacturer.

2. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits.

3. Proceed with installation only after unsatisfactory conditions have been corrected.

23.12 PREPARATION

A. General:

1. Comply with CRI 104, Section 7.3, "Site Conditions; Floor Preparation", and carpet manufacturer's written installation instructions for preparing substrates indicated to receive resilient flooring installation.

2. Resilient flooring must be installed over properly prepared substrates that are suitable for the specific product and installation method selected. All cracks, holes, and flooring irregularities must be adequately repaired to ensure a smooth, finished appearance and prevent accelerated wear. Subfloors must be structurally sound and free of foreign substances that might compromise the carpet or its installation. Patching compounds must be suitable for the use application. They must be polymer-fortified and applied according to the patch manufacturer's instructions.

B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, and depressions in substrates.

C. Remove coatings, including curin compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet manufacturer.

D. Broom and vacuum clean substrates to be covered immediately before installing resilient flooring.

E. After cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust. Proceed with installation only after unsatisfactory conditions have been corrected.

F. Apply W.F. Taylor Primer 2025 or equal over existing flooring to remain.

23.13 INSTALLATION

A. Install resilient flooring in accordance with applicable CRI 104.

B. Resilient flooring

1. Method: As recommended in writing by manufacturer.

C. Comply with resilient flooring manufacturer's written recommendations for seam locations and direction of seams; maintain uniformity of direction and lay of pile. At doorways, center seams under the door in closed position.

1. Bevel adjoining border edges at seams.

2. Level adjoining border edges.

D. Cut and fit resilient flooring to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by resilient flooring manufacturer.

E. Extend resilient flooring into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.

F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, non- staining marking device.

G. Install pattern parallel to walls and borders.

H. Comply with requirements of ADAAG 302.2 Carpet and 303 Changes in Level.

23.14 CLEANING AND PROTECTION

A. Perform the following operations immediately after installing resilient flooring:

1. Remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by resilient flooring manufacturer.

2. Vacuum resilient flooring using commercial machine with face-beater element.

B. Protect installed resilient flooring to comply with CRI 104, Section 16, "Protection of Indoor Installations".

C. Protect resilient flooring against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by resilient flooring manufacturer.

23.15 PAYMENT – Payment for Resilient Flooring shall be made as described in Article X of these Specifications.

ARTICLE XXIV - CERAMIC TILE

24.1 GENERAL

A. Provide all materials, labor, equipment, and tools necessary to complete ceramic tile wall and floor tile where indicated and as specified herein.

B. Related Work Specified Elsewhere:

1. ARTICLE XVIII: JOINT SEALANTS: Sealant applications.

2. ARTICLE XXII: GYPSUM BOARD: Ceramic tile substrate materials.

24.2 SUBMITTALS

A. Product Data: Submit manufacturer's product literature for each type of tile, mortar, grout, and other products specified.

B. Samples: Submit samples of various ceramic tiles, grouts, accessories, and marble required for color and pattern selection. Samples shall be identified as to grade and manufacturer.

C. Certificate: Submit certificate before installation of ceramic tile, the Standard Form of Master Grade Certificate signed by the Contractor and Manufacturer stating grade and kind of tile. All packages of tile shall be delivered to the job in sealed cartons bearing grade seals in conformance with ANSI A137.1.

D. Guaranty: Submit guaranty as noted under item entitled "GUARANTY" herein below.

24.3 GUARANTY

Provide written guaranty for a minimum of two (2) years against defects resulting from the use of defective or inferior materials, equipment or workmanship from the project acceptance date. Defects shall include but not be limited to ceramic tile and grout that has delaminated from the substrate, popped-out, or fallen-off. Defective materials and workmanship shall be replaced at no cost to the State.

24.4 QUALITY ASSURANCE

C. Reference Standards: "Handbook for Ceramic Tile Installation" by the Tile Council of America.

B. ANSI Tile Installation Standard: Comply with parts of ANSI 108 series of tile

installation standards included under "American National Standard Specifications for the Installation of Ceramic Tile" that apply to type of setting and grouting materials and methods indicated.

C. TCA Installation Guidelines: TCA "Handbook for Ceramic Tile Installation", comply with TCA installation methods indicated.

24.5 MATERIALS

A. Ceramic Tiles: Standard grade, complying with ANSI A137.1.

1. Ceramic wall tile and trims shall be dust-pressed, non-vitreous body of sizes indicated or selected, with a slightly beveled modified straight edge and bright glazed finish from price range group 2.

2. All trim shapes shall be provided as detailed and/or as required. External corners shall be rounded convex. Internal vertical corners shall be square. Base tile shall be of sizes indicated or selected, sanitary coved base. Other shapes such as curbs, beads, shoes, round out corners and square in corners, etc., shall be provided to achieve a neat complete installation.

B. Latex-Portland Cement Mortar: ANSI A118.4.

C. Dry-Set Mortar: ANSI A118.1.

D. Commercial Portland Cement (Sanded) Grout: ANSI A118.6. Unsanded grout where joints are less than 1/8-inch.

E. Grout Sealer: Grout manufacturer's deep penetrating heavy-duty product for sealing grout joints that does not change color or appearance of grout.

F. Reinforcing Wire Mesh: ASTM A 185, 2x2 – 16/16, galvanized welded wire fabric.

G. Portland Cement: ASTM C 150, Type I.

H. Waterproof Admixture: Approved integral waterproof admixture.

I. Sand: ASTM C 144.

J. Hydrated Lime: ASTM C 206, Type S or ASTM C 207, Type S.

K. Water: Fresh, clean, and drinkable.

24.6 PREPARATION

A. Before any work is begun, the Ceramic Tile Installer shall inspect the walls on which tile work is to be applied. Such surface shall be sound, clean, free of oily film, and in proper condition; if not, the Installer should report defective conditions to the Contractor for corrective measures. Proceeding with tile work will imply acceptance of the surface by the Installer. Scratch coat or mortar setting beds shall not be applied until necessary grounds, hangers, anchors or other items to receive plumbing fixtures or other fittings of any kind which are to be secured against the tile surface have been installed properly. Coordinate work with other trades as necessary.

B. Remove all existing oily film, paint, epoxy coating, etc. as required for surface preparation as acceptable to ceramic tile installer.

24.7 INSTALLATION

A. Ceramic Tile, General:

1. Installation for ceramic tile shall be in accordance with applicable ANSI A108 series and the "Handbook for Ceramic Tile Installation" as published by the Tile Council of America.

2. Work shall be carefully laid out in an endeavor to center the tiles, to space them evenly, and to avoid cutting them. If cutting is necessary, all cut ends shall be rubbed smooth and even. Lay out tile lengthwise on walls so that no tile less than 1/2 size occurs. For height stated in feet and inches, maintain full courses to produce nearest attainable heights without cutting tile. All cutting and drilling shall be done without marring the surfaces and shall be done neatly to fit closely around pipes, fixtures and fittings so that cover plates will overlap cuts.

3. Joints in wall tile shall be aligned vertically and horizontally. Staggering of joints through openings will not be permitted.

B. Cement Mortar:

1. Mortar shall be freshly prepared and uniformly mixed in a drum-type batch mixer for at least 3 minutes in the following proportion by volume. No retempering of mortar will be permitted. Mortar that has reached its initial set shall be discarded.

2. For mortar setting bed on floors:

1 part	Portland cement
6 parts	damp sand

Waterproof admixture in accordance with manufacturer's specifications.

C. Grouting and Pointing of Joints: For ceramic tile, installation shall be in accordance with ANSI A108.10 – Installation of Grout in Tile Work. Joints shall be saturated with water and then grouted with a Commercial Portland Cement Grout mixed with an acrylic waterproofing admixture in accordance with the admixture manufacturer's specifications to a uniform creamy consistency. The grout shall be forced into the joints to the full depth. Take special care not to scratch glazed tile during this operation. Remove surplus grout before it has hardened and leave the face of the tile clean. Keep expansion and control joints free of grout.

D. Grout Sealer: Apply to all grout work per manufacturer's instructions and recommendations.

E. Cleaning: Upon completion of tile work, remove all rubbish, unused material, etc. and give the finished surface a thorough cleaning. Do not use acid solution on glazed tile work. Do not permit traffic on tile floors for 24 hours after laying. Thereafter permit no traffic unless floors are covered with heavy paper. Leave finished tile work clean and free from cracked, chipped or broken tile. Protect tile work and threshold until acceptance of project.

24.8 PAYMENT – Payment for Ceramic Tile shall not be paid for separately but shall be considered incidental to the items described in Article X of these Specifications.

ARTICLE XXV – PAINTING

25.1 SUMMARY

A. Provide painting and finishing of interior items and surfaces as called for in the drawings. Paint all new work whether scheduled or not, except as otherwise indicated. Surface preparation, priming, and coats of paint specified are in addition to shop-priming and surface treatment specified under other sections of the work and included in this section.

B. "Paint" as used herein means all coating systems materials, including primers, enamels, sealers, and fillers, and other applied materials whether used as prime, intermediate or finish coats, except as specifically noted herein.

C. Paint all new exposed surfaces and adjacent areas whether or not colors are designated in “schedules”. Where items or surfaces are not specifically mentioned, paint these the same as adjacent similar materials or areas. If color or finish is not designated, submit standard colors available for the materials systems specified for selection as per submittals.

25.2 SUBMITTALS

A. Schedule of Finishes: Submit painting finish schedule. The schedule shall indicate surface to be painted, manufacturer, product no., the spread rate which the proposed paint/coating will be applied that are necessary to achieve the final dry film thickness indicated under item entitled "SCHEDULE OF FINISHES" hereinbelow.

B. Color Samples:

1. Submit color finish samples for approval by the Harbors Division.

2. Submit, after the color finish sample has been approved, one set of color finish samples painted onto 8-1/2 inch x 11-inch cardboard. The cardboard shall be divided into 4 horizontal strips and painted as follows:

   a. Prime 3 strips starting from the bottom.
   b. 1st coat bottom 2 strips.
   c. 2nd coat bottom strip.

C. Schedule of Operations: Submit, before work on the project is commenced, work schedule showing his sequence of operations and dates.

D. Certifications: Submit asbestos-free, lead-free, zinc-chromate-free, strontium-chromate-free, cadmium-free, and mercury-free paint certificates.

Should the Contractor require additional copies for distribution to his suppliers and subcontractors, he shall include these additional copies along with his submittal.

E. Manufacturer's Product Data Sheets: Submit Manufacturer's Product Data Sheets for the primers, paints, coatings, solvents, sealing and patching materials, sealants, and caulking. Data sheets shall indicate thinning and mixing instructions, required film thickness (mil) and application instructions. Should the Contractor require additional copies for distribution to his suppliers and subcontractors, he shall include these additional copies along with his submittal.

F. Manufacturer's Material Safety Data Sheets: Submit Manufacturer's Material Safety Data Sheets for coatings, solvents, and other hazardous materials. Should the Contractor require additional copies for distribution to his suppliers and subcontractors, he shall include these additional copies along with his submittal.

G. Receipt of Delivery: Submit receipt signed by the user's representative, attesting to delivery of extra paint as required under paragraph entitled "Extra Paint" hereinbelow.

H. Warranty: Submit written warranty as noted under item entitled "WARRANTY" hereinbelow.

25.3 WARRANTY

A. The Contractor shall provide written warranty that the work performed under this section conforms to the contract requirements and is free of any defect of material or workmanship performed by the Contractor. Such warranty shall continue for a period of two (2) years from the project acceptance date during which period the Contractor shall remedy at his own expense any such failure to conform or any such defect.

B. The Contractor shall warrant a mildew free surface for a period of one year from the project acceptance date. Should mildew formation occur on surfaces painted under this project within the one year, the Contractor shall clean such surfaces at his own expense.

C. The Contractor shall guarantee that the work performed under this section conforms to the contract requirements and is free of any defect of material or workmanship performed by the Contractor. Such guarantee shall continue for a period of two (2) years from the project acceptance date during which period the Contractor shall remedy at his own expense any such failure to conform to any such defect.

D. Should the Contractor fail to remedy any failure or defect described in Paragraph A. above within 10 working days after receipt of notice thereof, the Harbors Division shall have the right to repair or otherwise remedy such failure or damage at the Contractor's expense.

25.4 INSPECTION AND APPROVALS

The Contractor shall obtain written approval from the Harbors Division Construction Engineer upon completion of each phase of work (phases of work are: surface preparation and spot prime, prime, first finish coat, second finish coat) before proceeding into the next phase of work. The Contractor shall give the Harbors Division Construction Engineer one day (24 hours minimum) advance notice of completion of any phase of work for a work area when he deviates from the previously submitted work schedule. The Contractor shall provide necessary access to areas to be inspected. Failure to obtain approval of any phase of work for a work area may result in redoing the operation at no cost to the STATE.

Right of Rejection: The Harbors Division Construction Engineer shall have the right to reject all work which is not in compliance with the plans and specifications. Rejected work shall be redone at no cost to the STATE.

In addition, the Harbors Division Construction Engineer shall have the right to require the immediate removal of any paint applicator who demonstrates negligence, lack of competence or repeated non-compliance with the contract requirements.

25.5 ANALYZING AND TESTING

A. All paints and their applied thickness shall be subject to testing whenever the Construction Engineer deems necessary to determine conformation to the requirements of these specifications. Should testing by a laboratory be required, the laboratory shall be selected by the Harbors Division and the cost of testing shall be borne by the Contractor. Should test results show that the paint is in compliance with this specification, the cost will also be borne by the Contractor.

B. All rejected material shall be removed from the job site immediately. Surfaces painted with the rejected material shall be redone at Contractor's own expense.

C. Where the required paint thickness is deficient, the affected surface(s) shall be recoated as necessary to provide the required paint thickness at Contractor's own expense.

25.6 PAINTING NOT INCLUDED

The following categories of work are not included as part of field applied paint and finish work.

1. Pre-Finished Items: Unless otherwise indicated, do not include painting for factory-finished or installer finished items such as (but not limited to) solid phenolic, plastic laminate, acoustic materials, high performance organic coated metal, finished mechanical and electrical equipment, including light fixtures, switchgear, and distribution cabinets, etc.

2. Finished Metal Surfaces: Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, and similar finished materials will not require finish painting, unless otherwise indicated.

3. Labels: Do not paint over any code-required labels, such as Underwriters' Laboratories, or any equipment identification, performance rating, name, or nomenclature plates.

25.7 GENERAL REQUIREMENTS

A. Inspection and Approvals: The Contractor shall obtain written approval from the Architect upon completion of each phase of work (phases of work are surface preparation and spot prime, prime, first finish coat, second finish coat) before proceeding into the next phase or work. The Contractor shall give the Architect one day (24 hours minimum) advance notice of completion of any phase of work for a work area when he deviates from the previously submitted work schedule noted under paragraph entitled "Schedule of Operations" hereinabove. The Contractor shall provide necessary access to areas to be inspected. Failure to obtain approval of any phase of work for a work area may result in redoing the operation at Contractor's own expense.

B. Right of Rejection: The Architect shall have the right to reject all work which is not in compliance with the plans and specifications. Rejected work shall be redone at Contractor's own expense. In addition, the Architect shall have the right to require the immediate removal of any paint applicator who demonstrates negligence, lack of competence or repeated non-compliance with the contract requirements.

25.8 SPECIAL REQUIREMENTS

A. Codes: The Contractor shall comply with the HIOSH codes and regulations (Occupational Safety and Health Law) and all pollution control regulations of the State Department of Health.

B. Protection

1. Persons:

a. The Contractor shall take all necessary precautions to protect public pedestrians, including tenants from injury.

b. The Contractor shall provide, erect and maintain safety barricades around scaffolds, hoists, and wherever Contractor's operations create hazardous conditions in order to properly protect the public and tenants.

2. Completed Work: The Contractor shall provide all necessary protection for wet paint surfaces.

3. Protective Covering and Enclosures: The Contractor shall provide and install protective covering over furniture, equipment, floor, and other areas that are not scheduled for treatment. Protective covering shall be clean sanitary drop cloth or plastic sheets. Paint applied to surfaces not scheduled for treatment shall be completely removed and surfaces shall be returned to their original condition.

4. Protection of Vehicles: The Contractor shall take all necessary precautions to protect vehicles. Spray painting is not allowed and no painting will be done on windy weather. The Contractor shall be responsible for any damages to vehicles caused by his or his employee's negligence.

5. Safeguarding of Property: The Contractor shall take whatever steps may be necessary to safeguard his work and also the property of the Harbors Division and other individuals in the vicinity of his work area during the execution of this Contract. He shall be responsible for and make good on any and all damages and for losses to work or property caused by his or his employee's negligence. Where the damaged property cannot be cleaned and restored to its original condition (i.e. prior to being damaged) it shall be replaced with a new product of equal quality. No proration or use of "used" products will be permitted.

6. Fire Safety: The Contractor shall direct his employees not to smoke in the vicinity and exercise precautions against fire at all times. Waste rags, plastic (polyester sheets), empty cans, etc. shall be removed from the site at the end of each day.

C. Storage Area for Materials:

1. No paint material, empty cans, paint brushes, and rollers may be stored in the building(s). They shall be stored in separate storage facilities away from the building(s).

2. The Contractor may furnish a job site storage facility. Such facility shall comply with the requirements of the local Fire Department. The storage area shall be kept clean and the facility shall be locked when not in use or when no visual supervision is possible.

D. Sequence of Operations: The sequence of operations shall divide the surfaces into work areas and present a schedule for:

1. Surface preparation and spot prime.

2. Prime coat.

3. First finish coat.

4. Second finish coat.

25.9 AREAS (SURFACES/STRUCTURES) TO BE PAINTED

Surfaces to be Painted:

1. Interior: Interior surfaces shall be painted as indicated on the plans unless specifically deleted in these specifications. Interior surfaces to be painted shall be those surfaces not exposed to weather in an area enclose by 4 walls. Also, a surface shall be considered an interior surface and painted as such whenever the color is that of the existing interior color. Extent of treatment for special items is as follows:

a. Steel doors and frames.

b. Fixed wood louvers.

c. Wood framing.

d. Concrete/concrete masonry.

e. All other miscellaneous items.

f. All areas damaged or exposed during construction.

25.10 OTHER INCIDENTAL WORK TO BE PERFORMED BY CONTRACTOR

A. Interior:

1. Unless otherwise specified, the Contractor is responsible for moving about all furniture and equipment to provide himself with sufficient working space. The Contractor shall protect these items and make good any damage to them at his own expense. After the painting of the room is completed, the Contractor shall replace all furniture and equipment to their original locations.

2. The Contractor shall carefully remove from surfaces to be painted framed and mounted pictures and charts, curtains, blinds, etc. and neatly store away. All items shall be returned to the same location after completion of painting.

3. All items on shelving and in cabinets to be painted will be removed by the user personnel prior to painting work.

B. Areas Inaccessible to Normal Painting: The Contractor shall remove and reinstall items as required to paint area(s) where indicated or required.

25.11 MATERIALS

A. Asbestos Prohibition: All paints shall be asbestos-free.

B. Lead Prohibition: All paints shall be lead-free.

C. Mercury Prohibition: All paint shall be mercury-free.

D. Chromate Prohibition: All paint shall be free of zinc-chromate and/or strontium-chromate.

E. Cadmium Prohibition: All paint shall be cadmium-free.

F. Material shall be equal in quality to that specified under the Schedule of Finishes and any given finish shall be as labeled by one manufacturer.

G. All materials shall be delivered to the job site in undamaged original containers bearing the manufacturer's label and shall be stored in such a manner as to prevent damage. All rejected materials shall be removed from the job site immediately.

H. Paints shall be as manufactured by Ace, Benjamin Moore, Cabot's, Carboline, Dupont, Dutch Boy, Glidden Professional, Olympic Stain, Pittsburg, Porter Inti., Pratt & Lambert, Rust-Oleum, Sherwin-Williams, Spectra-Tone, Thoro Systems, Tnemec, United Paint and Coatings, or approved equal.

I. Thinning of paint shall be done using material recommended by the manufacturer. Mix proprietary products according to manufacturer's printed specifications.

Compound thinner, mineral oil, kerosene, refined linseed oil, or gasoline shall not be used for thinning.

J. Except for metal primers all interior paint shall contain the maximum amount of mildewcide per gallon of paint permitted by the mildewcide manufacturer without adversely affecting the quality of the paint.

K. The supplier shall submit a signed certificate indicating the amounts of mildewcide added by both the paint manufacturer and the paint supplier.

25.12 SURFACE PREPARATION OF SURFACES

A. The painting contractor shall be wholly responsible for the finish of his work and shall not commence any part of it until surfaces are in proper condition. If painting contractor considers any surfaces unsuitable for proper finish of his work, he shall notify the Architect of this fact in writing and he shall not apply any material until the unsuitable surfaces have been made satisfactory. Major defects shall be restored by the proper trades. In general, follow the manufacturer's direction for surface preparation for the paint to be applied.

B. All knots or sappy spots shall be given one coat of shellac before painting. All necessary puttying of nail holes, cracks, and blemishes shall be done after priming coat has become hard and dry and before second coat is applied. On stain work, putty shall match color of finish.

C. Concrete and concrete masonry unit surfaces shall be cured and dry and shall be wire brushed clean to remove all dust and loose mortar, efflorescence, and laitance. Test for alkalinity level and provide remedy where alkalinity exceeds manufacturer's acceptable level.

D. Unprimed galvanized metal shall be cleaned with nonpetroleum-based solvents so surface is free of oil and surface contaminants.

E. All metal surfaces shall be made clean and free of any defects or condition that may produce unsatisfactory finish.

25.13 PAINT APPLICATION

A. General:

1. All work shall be done in a workmanlike manner by skilled and experienced mechanics and shall conform to the best painting practices.

2. All materials shall be applied in strict accordance with the manufacturer's

specifications, including spread rates, and the finished surfaces shall be free from runs, sags, drops, ridges, waves, laps, streaks, brush marks, and variations in color, texture, and finish (glossy or dull). The coverage shall be complete and each coat shall be so applied as to produce a film of uniform thickness. No paint shall be applied until the preceding coat is thoroughly dry and approved.

3. Any mixing shall be done outside the building.

B. Application: Paint application shall be by brush and roller only.

C. Colors: Each coat shall be tinted a different shade from the preceding coat. Colors shall match existing surfaces and/or adjacent surfaces. Where a color is not indicated, the color shall be selected by the Construction Engineer.

D. Finish Film Thickness: Apply primer, intermediate, and finish coats in dry film thickness, as scheduled unless recommended otherwise in writing by the manufacturer, for each coat and in accordance with the manufacturer's recommendations. Verify mil thickness by use of a suitable wet film gauge. Use a Tooke or other dry film gauge to test for total dry film thickness.

25.14 MISCELLANEOUS

A. Installation of Removed Items: After completion of final paint coat, removed items shall be reinstalled.

B. Clean-up:

1. During the progress of the work, all debris, empty crates, waste, drippings, etc. shall be removed by the Contractor and the grounds about the areas to be painted shall be left clean and orderly at the end of each work day.

2. Upon completion of the work, staging, scaffolding, containers, and all other debris shall be removed from the site. All painted splashed or spilled upon adjacent surfaces not requiring treatment (hardware, fixture, floor glass) shall be removed and the entire job left clean and acceptable.

3. Work to correct punchlist items shall be performed during non-business hours if the work will inconvenience the building occupants. Where necessary for access during non-business hours, the Contractor shall pay for custodial staff to gain entry and to secure the building.

C. Extra Paint: The Contractor shall provide extra paint in each of the different colors of interior and exterior paint used for all surfaces to the Harbors Division

upon completion of the project. The paint shall be in unopened one gallon cans and shall be in the quantities listed below:

1. Paint used in single room areas and in small areas, such as rooms and doors 1 gallon of each color.

2. Paint used over large areas, such as the interior and exterior of the building and in several rooms – 5 one gallon cans of each color.

25.15 SCHEDULE OF FINISHES

A. The Schedule of Finishes is made for the convenience of the Contractor and indicates the types and quality of finishes to be applied to the surfaces.

B. Any existing painted surfaces not specifically noted in the finish schedule shall be finished to match adjoining work.

C. Paint schedule is based on the products of Benjamin Moore catalog, unless otherwise called for and are so named to establish quality and standard of materials. Paint materials equal to those mentioned may be used provided they are acceptable to the Architect.

D. The painting schedule shall apply to new surfaces of designated materials, unless specified otherwise, in conformity with instructions of the paint products used.

E. The following schedule represents the general character of the paint systems necessary to complete the work. Provide additional comparable systems and sheens as required. At the option of the Architect, paint systems and sheens may be revised at Contractor's own expense.

25.16 INTERIOR PAINT SCHEDULE

A. Concrete:

Prime coat: N023 Fresh Start Multi-Purpose Latex Primer
1.2 mils DFT@400 sf/gal

2nd and
3rd coats: N539 Ultra Spec Interior Waterborne Semi-Gloss Finish
1.8 mils DFT@350-400 sf/gal/coat
or
N536 Ultra Spec Interior Waterborne Flat Finish
1.8 mils DFT@350-400 sf/gal/coat
or
N538 Ultra Spec Interior Waterborne Eggshell Finish
1.8 mils DFT@350-400 sf/gal/coat

B. Concrete Masonry:

Prime coat: 571 Ultra Spec Hi-Build Masonry Block Filler
8.5-11.4 mils DFT@75-100 sf/gal

2nd and
3rd coats: N539 Ultra Spec Interior Waterborne Semi-Gloss Finish
1.8 mils DFT@350-400 sf/gal/coat
or
N536 Ultra Spec Interior Waterborne Flat Finish
1.8 mils DFT@350-400 sf/gal/coat
or
N538 Ultra Spec Interior Waterborne Eggshell Finish
1.8 mils DFT@350-400 sf/gal/coat

C. Ferrous Metal:

Prime coat: HP04 Ultra Spec Acrylic Metal Primer
1.7-2.3 mils DFT@300-400 sf/gal

2nd and
3rd coats: N539 Ultra Spec Interior Waterborne Semi-Gloss Finish
1.8 mils DFT@350-400 sf/gal/coat
or
N536 Ultra Spec Interior Waterborne Flat Finish
1.8 mils DFT@350-400 sf/gal/coat
or
N538 Ultra Spec Interior Waterborne Eggshell Finish
1.8 mils DFT@350-400 sf/gal/coat

D. Galvanized Metal:

Prime coat: HP04 Ultra Spec Acrylic Metal Primer
1.7-2.3 mils DFT@300-400 sf/gal

2nd and
3rd coats: N539 Ultra Spec Interior Waterborne Semi-Gloss Finish
1.8 mils DFT@350-400 sf/gal/coat
or
N536 Ultra Spec Interior Waterborne Flat Finish
1.8 mils DFT@350-400 sf/gal/coat
or
N538 Ultra Spec Interior Waterborne Eggshell Finish
1.8 mils DFT@350-400 sf/gal/coat

E. Wood:

Prime coat: N023 Fresh Start Multi-Purpose Latex Primer
1.2 mils DFT@400 sf/gal

2nd and
3rd coats: N539 Ultra Spec Interior Waterborne Semi-Gloss Finish
1.8 mils DFT@350-400 sf/gal/coat
or
N536 Ultra Spec Interior Waterborne Flat Finish
1.8 mils DFT@350-400 sf/gal/coat
or
N538 Ultra Spec Interior Waterborne Eggshell Finish
1.8 mils DFT@350-400 sf/gal/coat

F. Gypsum Board:

Prime coat: 253 Super Spec Latex Primer Sealer
1.1 mils DFT@400-500 sf/gal

2nd and
3rd coats: N539 Ultra Spec Interior Waterborne Semi-Gloss Finish
1.8 mils DFT@350-400 sf/gal/coat
or
N536 Ultra Spec Interior Waterborne Flat Finish
1.8 mils DFT@350-400 sf/gal/coat
or
N538 Ultra Spec Interior Waterborne Eggshell Finish
1.8 mils DFT@350-400 sf/gal/coat

25.17 PAYMENT – Payment for Painting shall be made as described in Article X of these Specifications.

ARTICLE XXVI – TOILET ACCESSORIES

26.1 GENERAL

A. Provide all materials, labor, equipment and tools necessary to complete each type of toilet accessory work as indicated on the drawings and as specified herein. The types of toilet accessories required include the following:

1. Toilet Tissue Dispenser
2. Paper Towel Dispenser
3. Grab Bars
4. Towel Bars
5. Soap Dispenser
6. Mirror
7. Seat-Cover Dispenser
8. Shower Curtain & Rod
9. Barrier-free Roll-in Shower

B. Related Work Specified Elsewhere:

ARTICLE XV – FINISH CARPENTRY: Toilet accessory installations.

26.2 SUBMITTALS

A. Product Data: Submit manufacturer's current product data, specifications, and installation instructions for each toilet accessory.

B. Samples: Submit when requested, full-size samples of units for review of finishes. Acceptable samples will be returned and may be used in the work. Compliance with all other requirements is the exclusive responsibility of the Contractor.

26.3 QUALITY ASSURANCE

A. Inserts and Anchorages: Furnish inserts and anchoring devices for toilet accessories. Provide setting drawings, templates, instructions and directions for

installation of anchorage devices. Coordinate delivery with other work to avoid delay.

B. Products:

1. Provide products of the same manufacturer for each type of accessory unit and for units exposed in the same areas, wherever possible.

2. Coordinate for acceptable designs and finishes.

3. Stamped names of labels on exposed faces of units will not be permitted, except where otherwise specified.

4. Provide locks where specified. One key shall fit all locks of one brand.

C. Accessibility:

1. Toilet accessories required to comply with ADAAG 213.2 shall comply with ADAAG 213.3.

2. Controls and operating mechanisms required to be accessible by ADAAG 201.1 shall comply with ADAAG 309.4.

3. Dispensers required to be accessible by ADAAG 201.1 shall be installed within reach in compliance with ADAAG 309.1

26.4 MANUFACTURERS – Products of the following manufacturers or approved equal are acceptable provided they meet the materials, construction and the standard of quality specified.

A. Bradley Corp., Washroom Accessories Division.

B. Bobrick Washroom Equipment Co.

C. McKinney Co.

D. Aquarius Bathware

E. Wisconsin Bench Mfg.

26.5 MATERIALS

A. Stainless Steel: AISI, Type 302/304. Provide satin finish, unless otherwise specified.

B. Fasteners: Screws, bolts and other devices of same material as accessory unit, tamper and theft resistant when exposed, and of galvanized steel when concealed.

26.6 LIST OF TOILET ACCESSORIES (Refer to dwgs. for locations where indicated)

A. For convenience and to establish standards of quality and design, the following list of toilet accessories are items manufactured by Bobrick Washroom Equipment Co. Provide the minimum as noted unless otherwise indicated on the drawings.

B. Field match brand and model for new dispensers to existing dispensers installed in the existing restrooms. If a dispenser has been discontinued by manufacturer, coordinate with Harbors Division. Avoid installing dispensers which do not utilize the same refills as the existing dispensers.

C. Toilet Accessories:

1. Toilet Tissue Dispenser: Surface-Mounted Multi-Roll Toilet Tissue Dispenser, No. B-2888, at each water closet.

2. Paper Towel Dispenser: Surface-Mounted Paper Towel Dispenser, No. B-262, one in each restroom.

3. Grab Bars: B-5806 Series, both standard and custom fabricated, at each accessible water closet.

4. Towel Bars: B-674 Series, locations and sizes as indicated on the drawings.

5. Soap Dispensers: Surface-Mounted Soap Dispenser, No. B-2111, one per restroom.

6. Mirror: B-290 Series and B-293 Series, locations and sizes as indicated on the drawings.

7. Seat-Cover Dispenser: Surface-Mounted Toilet-Seat-Cover Dispenser, No. B-221, at each water closet.

8. Curtain Rod and Curtain: Heavy-Duty Shower Curtain Rod, B-6107x60, 60” length, Type 304 stainless steel, satin finish, 20-gauge, 1” diameter rods with 2 1/2” square flanges. Shower Curtain, 204-3 70”W x 2”H, opaque, matte white vinyl, .008” thick. Nickel-plated brass grommets along top at every 6”; hemmed bottom and sides. 204-1 Shower Curtain Hooks (12) each, Type 304 stainless steel.

D. Miscellaneous Items:

1. Concealed Anchor plate for Grab Bars: B-2562 series at each grab bar attachment to walls.

2. Barrier-free Roll-in Shower: 1363BFRF, ADA compliant, barrier-free shower, 36”W x 36”D x 75”H. one-piece, AcrylX, with 1-1/2” diameter L-shaped grab bar; white cushioned, L-shaped foldup seat; pressure mixing valve and hand-held shower; color: white. Product is based on Aquarius Bathware to establish the standard. Equal products of other manufacturers are acceptable.

26.7 INSPECTION – Installer must examine the areas and conditions under which toilet accessories are to be installed. Notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.

26.8 INSTALLATION

A. Use concealed fastenings wherever possible.

B. Provide anchors, bolts and other necessary fasteners, and attach accessories securely to walls and partitions in locations as shown or directed.

C. Install concealed mounting devices and fasteners fabricated of the same material as the accessories or of galvanized steel.

D. Install exposed mounting devices and fasteners finished to match the accessories.

E. Provide theft-resistant fasteners for all accessory mountings.

F. Secure toilet room accessories to adjacent walls and partitions complying with the manufacturer’s instructions for each item and each type of substrate construction.

26.9 PAYMENT – Payment for Toilet Accessories shall not be paid for separately but shall be considered incidental to the items described in Article X of these Specifications.

ARTICLE XXVII – MISCELLANEOUS SPECIALTIES

27.1 GENERAL

A. Provide all miscellaneous specialties items as indicated on the drawings and as specified herein, including the following:

1. Furniture.

2. Appliances.

B. Related Work Specified Elsewhere:

ARTICLE XXX – Electrical Work. Coordinate electrical requirements and installations.

27.2 SUBMITTALS

A. Product Data: Submit manufacturer's product data for each item.

B. Samples: Submit samples of furniture finishes and colors for selection.

27.3 QUALITY ASSURANCE

A. Manufacturers of the miscellaneous specialties shall have successfully produced specified products for at least the last 5 years.

B. Furnish inserts and anchoring devices which must be built into other work for installation. Coordinate delivery with other work to avoid delay.

27.4 DELIVERY AND STORAGE

Materials shall be delivered to the jobsite in original unopened containers marked with manufacturer's brand name and product model number. Handle and store materials carefully to prevent damage to materials.

27.5 MANUFACTURERS

Provide products of manufacturers listed in 27.6 FURNITURES and 27.7 APPLIANCES or approved equal.

27.6 FURNITURES

A. Task Chairs: Provide total of two (2) high-performance task chairs Manufacturer Haworth, Model: Zody Task; colors to be selected by Consultant.

Model Code: SZT-20-711MA5
Frame Finish: BK; Mesh Back Finish: MA-001; Seat Size: Adjustable;
Arm Type: 4D, w/ Lumbar; Caster Type: Std Plst Hrd Cstr; Seat Foam: MF;
Packing Type: Fully Assembled

B. Workstation Desk: Provide total of two (2) workstation desks; Manufacturer Haworth, Model: Compose Workstation Desk; colors to be selected by Consultant.
Compose Worksurface Support P Leg – Model: ZZFP-2400-PNEF; Qty: 2/stn
A steel base raceway cover conceals an 8" (203mm) high pathway for power and communication cabling. Panels to include a pre-wired, factory installed electrical distribution system and an in-line flexible power connector.
Worksurface Model:
WURA-2442-LJSA; Dim: 24”Dx42”W; Qty: 1/stn
WURA-2460-LJSA; Dim: 24”Dx42”W; Qty: 1/stn
Fabric Panel Model:
VZFF-4224-N3HBNR; Dim: 42”Hx24”W; Qty: 1/stn
VZFF-4230-NNBBNR; Dim: 42”Hx30”W; Qty: 2/stn
VZFF-4242-N3HHNR; Dim: 42”Hx42”W; Qty: 1/stn

C. Reception Counter: Provide one (1) reception workstation w/ panel mounted laminate transaction top and 42”H fabric panels; Manufacturer Haworth,
Worksurface Model: WURA-2472-LJSA; 24”Dx72”W; Qty:1
Transaction Top Model: WUTS-1236-LJSC; 12”Dx36”W; Qty:2
Fabric Panel Model:
Compose VZFF-4224-NNBBNR; 42”Hx24”W; Qty:1
Compose VZFF-4236-NNBBNR; 42”Hx36”W; Qty:2

D. 2-Door Cabinet: Provide two (2) Fixed Metal Storage Cabinet under reception counter; Manufacturer Haworth, Model: X Series JSPY-0236-SJA; Dim: 2’Hx36”W; Closed Cabinet, Two Doors, Painted Door Front, Painted Lock Bar,

E. Sneeze Guard: Provide one (1) freestanding clip screens without cut-outs; Manufacturer Lexan; 20”Hx42”W; Model: Y-1R3A4U2042B

F. Printer Desk: Provide one (1) panel mounted laminate worksurface with metal support leg and fabric panel; Manufacturer Haworth, Model: WURA-2448-LJSA; Dim: 24"Dx48”W;
Support Leg – Compose Worksurface Support P Leg; Steel 24”D; Model: ZZFP-2400-PNEF
Fabric Panel – 42”Hx48”W; Model: VZFF-4248-NNBBNR

G. Pedestal: Provide two (2) pedestals; Manufacturer Haworth, Model: X Series Storage JPMH-24-SJ; color to be selected by Consultant.

Type of Pedestal: Mobile – freestanding with dual wheel casters; front fixed casters and swivel casters in the back; Pedestal is 23”; Box/Box/File; Box Drawers – one molded ABS pencil tray and dividers; File Drawers – one molded plastic compressor, two reversible plastic file hangers and one left to right metal hanger on all file drawers. Dimensions: Box Drawer - 6"H x 20 ¼” * D, load capacity of 22 lbs. and 1,266 cubic inches of space; File Drawer - 12"H x 20 ¼” * D, load capacity of 44 lbs. and 2,595 cubic inches of space.

H. Lateral File: Provide one (1) lateral file; Manufacturer Haworth, Model: X Series JLPD-0536-SJ ; color to be selected by Consultant.

Case Construction: 16gauge-22gauge steel sheet metal; Pull Selection: Integral and J-pull, steel with powder-coat; Top Construction: File Tops, Individual File tops intended for use on a single lateral file;
Locking: Keyed, easily rekeyed in field, have master key option, chrome finish. Dimension: Proud Drawer Fronts – 18 ¾”, Inset Drawer Fronts – 18”; Widths – 35 7/8”; Lateral File & Drawer Height Configurations – 5 High – 63 ½”, 12” drawer heights; Lateral File Drawer Capacities (Interior Dim) – 12”x32 ½”, load capacity of 98lbs. and 5,776 cubic inches of usable space.

27.7 APPLIANCES

A. Top Freezer Refrigerator: Provide one (1) 20.5 Cu. Ft. top freezer refrigerator. Color: Stainless Steel. Manufacture: Frigidaire, Model: FRTD2021AS.

B. Microwave Oven: Provide one (1) 2.2 Cu. Ft. countertop microwave oven, 1,250-watt. Color: Stainless Steel. Manufacturer: Panasonic, Model: NN-SN96JS

27.8 SURFACE PREPARATION

Prior to installation of miscellaneous specialties to be installed, examine work in place to ensure that the conditions are satisfactory to the installer. Report in writing to the Contractor, any defects which may affect the proper installation.

Absence of such notification will be construed as acceptance of the work in place. Do not attempt installation until corrective measures are done to the satisfaction of the installer.

27.9 INSTALLATION

A. Miscellaneous items to be installed shall be installed consistent with current manufacturer's instructions and approved shop drawings.

B. Coordinate installation with work of other trades.

C. Set frames accurately in position and securely attach to supports with face panels plumb or level in relation to adjacent finish surfaces.

27.10 INSPECTION – Installer must examine the areas and conditions under which toilet accessories are to be installed. Notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.

27.11 INSTALLATION

A. Use concealed fastenings wherever possible.

B. Provide anchors, bolts and other necessary fasteners, and attach accessories securely to walls and partitions in locations as shown or directed.

C. Install concealed mounting devices and fasteners fabricated of the same material as the accessories or of galvanized steel.

D. Install exposed mounting devices and fasteners finished to match the accessories.

E. Provide theft-resistant fasteners for all accessory mountings.

F. Secure toilet room accessories to adjacent walls and partitions complying with the manufacturer’s instructions for each item and each type of substrate construction.

27.12 PAYMENT – Payment for Miscellaneous Specialties shall not be paid for separately but shall be considered incidental to the items described in Article X of these Specifications.

ARTICLE XXVIII – MECHANICAL WORK

28.1 DESCRIPTION OF WORK

A. Furnish and install a new variable refrigerant flow split-system air condition in the new Kalaeloa Barbers Point Harbor Agents' office. Provide training on use and operations of the equipment as required by the Harbors Division.

B. This section covers the furnishing, fabrication, delivery and installation of the air conditioning system complete, including but not limited to the following:

1. Proper installation of the new variable refrigerant flow split-system air conditioning and related appurtenances.

28.2 RELATED WORK SPECIFIED IN OTHER SECTIONS

A. Section XXV – PAINTING

B. Section XXX – ELECTRICAL WORK

28.3 CODES, STANDARDS, REGULATIONS

A. Installation of all work in this Section shall be made in accordance with State Department of Health Regulations, National Fire Protection Association, and the Uniform Building Code.

B. All applicable codes, regulations and ordinances of public bodies having jurisdiction are considered a part of these specifications; all work installed and materials provided must comply with the current edition of such codes, regulations and ordinances.

C. Present to the Construction Engineer certificates of inspection and approval from proper authorities.

28.4 CONTRACT DRAWINGS

A. Contract drawings are essentially diagrammatic, indicating general layout and approximate locations toward establishing the scope for uniform estimating basis for all bidders. They are not intended to be detailed construction working drawings. Equipment and piping arrangements shall fit into space allotted and shall allow adequate clearances for servicing and maintenance. Reasonable modifications to indicated locations and arrangement to suit job conditions shall

not constitute basis for requesting additional funds from the State.

B. Nameplate: Each major component of equipment shall have the manufacturer's name, address, and catalog number on a plate securely attached to the item of equipment.

C. Verification of Dimensions: The Contractor shall be responsible for the coordination and proper relation of this work to the building structure and to the work of all trades. The Contractor shall visit the premises and thoroughly familiarize himself with all details of the work and working conditions, to verify all dimensions in the field, and to advise the Engineer of any discrepancy before performing any work.

28.5 SHOP DRAWINGS AND MANUFACTURER'S PUBLISHED DATA

A. Submit as soon as practicable and within required days after award of contract and before installation of any materials or equipment is begun, Contractor shall submit complete list of materials and equipment together with names and addresses of manufacturers, catalog numbers, and trade names to the Construction Engineer for approval. No consideration shall be given to partial list submitted from time to time.

B. Approval of materials will be based on manufacturer's published rating. Any materials and equipment which are not in accordance with these specifications may be rejected.

C. Prior to start of any field work, required copies of to-scale shop drawings of mechanical equipment, piping, ductwork and controls shall be submitted for review. No work shall be started without approval of the Construction Engineer. Where apparatus and equipment have been indicated on the drawings, dimensions have been taken from typical equipment of the class indicated. The shop drawings shall show the details of construction and installation of the particular equipment furnished. The shop drawings shall be fully dimensioned to show that the equipment and connections thereto fit the space provided.

D. Contractor shall check the submittals and shop drawings and certify that they are correct and in compliance with the drawings and specifications.

28.6 AS-BUILT DRAWINGS

Upon completion of work, submit accurate field posted as-built drawings to the Construction Engineer. With these drawings, also submit operating instructions and other pertinent literature of fixtures and equipment incorporated into the project. Show exact locations and sizes, as actually installed, of air conditioning equipment, piping,

drains and controls of this record field posted “as-built” drawing.

28.7 SUBSTITUTION OF MATERIAL

A. Request for substitutions, complete with catalog data, shall be furnished to the Construction Engineer.

B. Design is based on equipment as described in drawings and by Equipment Schedule. Any changes in foundations, bases, connections, piping, controls, electrical equipment, specified and required by approved substitutions shall be made by Contractor at no additional cost to the State.

28.8 OMISSIONS

It is the intent of the plans and specifications to provide a complete installation. Should there be omissions, the Contractor shall call the attention of the Construction Engineer to such omissions in sixteen (16) days advance of the date of bid opening so that the necessary corrections can be made.

28.9 GUARANTEE AND CERTIFICATE

Contractor and Installer shall guarantee and certify in writing all work in this section for a period of one year after 30 days of trouble-free operation from date of project acceptance by the Construction Engineer. Should any equipment or material fail due to faulty workmanship or materials within this period, replace or repair that item at no cost to the State. Replacement of lost refrigerant and correction of undue noise or vibration is included in this guarantee. Contractor shall be responsible for all damages to any part of the premises during equipment installation work under this section.

28.10 MATERIALS

A. Split System Air Conditioning:

1. Air cooled condensing unit shall be hermetic inverter driven scroll compressor with accumulator, charging valve, crankcase heater, timer circuit, internal vibration isolation and thermal overload protection. Non-ferrous copper condenser coil with lanced or corrugated plate fins. Direct drive, variable speed, horizontal discharge propeller type condenser fan with permanently lubricated, totally enclosed and inherently protected motor. Provide Bygold PoluAl coating, or approved equal on the condenser coil. Galvanized steel unit casing,

bonderized and finished with a powder coated baked enamel.

2. The fan coil unit shall be as noted in equipment schedule.

3. Split system AC shall be Mitsubishi, Carrier, or approved equal.

4. Thermostat (T'STAT): Thermostat shall be wired, programable and capable of controlling the cooling system on a daily schedule to maintain different temperature set points at different time of the day, or approved equal. Coordinate final location for thermostat with Architect or Owner.

B. Condensate Drain Piping: The condensate drain piping shall be 3/4" diameter schedule 40 PVC. Piping shall terminate to a planter adjacent to the buildings.

28.11 COOPERATION WITH OTHER TRADES AND CONFLICT IN WORK

A. Contractor shall examine all drawings of proposed work and coordinate his work with other trades. Work conflicts shall be brought to the attention of the Engineer and work rearranged or modified in accordance with his decision.

B. If changes in indicated locations or arrangements of work are required, they shall be made by Contractor without additional charge to the State.

28.12 EQUIPMENT INSTALLATION

A. Install Split System AC unit in accordance with installation instructions provided by the manufacturer.

B. Necessary supports shall be provided for equipment, appurtenances and pipe, as required. These include frames or supports for air conditioners, and other similar type items requiring supports.

C. Perform the following field tests and inspections and prepare test reports:

1. After installing Split System AC unit completely, perform visual and mechanical check of the AC unit. Except for nameplate data, remove any manufacturer's marketing labels.

2. After electrical circuitry has been energized, start the unit to confirm motor rotation and unitoperation.

3. Test and adjust controls and safeties. Replace damaged and malfunctioning control and equipment.

4. Repair or replace malfunctioning unit and retest as specified above.

28.13 CLEANING AND ADJUSTING

A. Condensate drain line shall be leak tested. No leaks are allowed at any joints.

B. Equipment shall be wiped clean, with all traces of oil, debris, dirt, grime, or paint spots removed. Clean the inside of the AC unit and filter of oil, debris, dirt, grime, or other foreign material as necessary to ensure proper operation.

C. All surfaces damaged by this project's renovation work shall be repaired and restored to match the adjacent surfaces. Paint finishes shall be repainted with matching paint type color and sheen.

28.14 PAYMENT - Payment for Mechanical Work shall be made as described in Article X of these Specifications

ARTICLE XXIX – PLUMBING WORK

29.1 DESCRIPTION OF WORK

A. This section covers the furnishing, delivery, replacing and installation of the plumbing system complete, including but not limited to the following:

1. Domestic hot water piping and insulation and related appurtenances.

2. Domestic cold water piping and related appurtenances.

3. Instantaneous Tankless Electric Water Heater and related appurtenances.

4. Flush tank, faucets, sinks, showers and related appurtenances.

29.2 CODES, STANDARDS, REGULATIONS

A. Installation of all work in this Section shall be made in accordance with the Uniform Plumbing Code and International Building Code, including all amendments as adopted by the City and County of Hawaii.

B. All applicable codes, regulations and ordinances of public bodies having jurisdiction are considered a part of these specifications; all work installed, and materials provided must comply with the current edition of such codes, regulations and ordinances.

C. Present to the Construction Engineer certificates of inspection and acceptance from proper authorities.

29.3 CONTRACT DRAWINGS

A. Contract drawings are essentially diagrammatic, indicating general layout and approximate locations toward establishing the scope for uniform estimating basis for all bidders. They are not intended to be detailed construction working drawings. Equipment and piping arrangements shall fit into space allotted and shall allow adequate clearances for servicing and maintenance. Reasonable modifications to indicated locations and arrangement to suit job conditions shall not constitute basis for requesting additional funds from the State.

B. Verification of Dimensions: The Contractor shall be responsible for the coordination and proper relation of this work to the building structure and to the work of all trades. The Contractor shall visit the premises and thoroughly familiarize himself with all details of the work and working conditions, to verify all dimensions in the field, and to advise the Construction Engineer of any discrepancy before performing any work.

29.4 MATERIALS

A. Piping and Accessories: All materials shall be new, of equal or better quality of materials specified, and approved by the Construction Engineer. For ease of maintenance and parts replacement, select equipment from a single manufacturer as much as possible.

1. Above Grade Domestic Water Piping: Piping shall be Type "L" seamless rigid copper tubing conforming to ASTM B88 with wrought copper or cast copper alloy solder type fittings conforming to ANSI B16.22 or ANSI B16.18. Solder shall be 95-5 tin-antimony or approved equal.

2. Ball Valve: 125 psi SWP, full port ball valve, bronze two-piece body, stainless steel ball, virgin PTFE seat, screwed ends, stainless steel lever handle with integral stop. Assembly shall be certified lead-free per NSF/ANSI 61.

3. Pipe Support: Products of Anvil, Superstrut, B-Line, Erico, or approved equal. Hangers, supports, and accessories used shall be applied in accordance with the manufacturer's recommendation for type of service and application. All supports, rods, and accessories shall be galvanized. In addition, supports for copper pipe shall be plastic coated.

4. All hot water supply lines except small fixture branches shall be insulated with Owens Corning Fiberglass 25ASJ/SSL insulation with an embossed vapor barrier laminate sealed with pressure adhesive tape. Insulation thickness shall conform to IECC 2015 Table C403.2.10. Fitting and valve shall be insulated with segments of insulation coated with fitting mastic, then applied over fiberglass reinforcing cloth and coated with another coating of fitting mastic. Apply in accordance with manufacturer’s recommendations by skilled mechanics. Flame spread rating not to exceed 25 and smoke development rating not to exceed 50.

B. Plumbing Fixtures:

1. All exposed piping at fixtures and equipment shall be chrome plated.

2. All plumbing accessories shall be commercial-grade quality. Trap assemblies shall be of heavy gauge chrome-plated brass. Fixture valves with plastic stems will not be accepted.

3. Electric Water Heater: Electric water heater, 50 gal, 4.5 KW, 240V, 1 phase. Rheem XE40M06ST45U1 or approved equal. See drawings for equipment schedule.

4. New Water Closet: Kohler Highcligg model K-3999. Two piece, 1.28 GPF, elongated bowl, floor mounted, floor outlet, or approved equal. Provide Kohler Cachet model K-7671 elongated toilet seat w/ cover, quite close.

5. New Lavatory: Kohler Greenwich model K-2031 wall mount bathroom sink with single faucet hole, vitreous china, concealed arm carrier bathroom sink, finish white. Provide Kohler Cloralais model K-15199-4NDRA-CP faucet, stationary spout, les drain and lift rod, vandal resistant aerator, 0.5 GPM mx, finish polished chrome or approved equal.

6. New Sink: Elkay lusterstone model ELUHAD211550PD, stainless steel, 23-1/2" X 19-1/4" X 4-7/8" single bowl, undermount, rear center drain. Provide Elkay Harmony single hole kitchen faucet model LKH4301, pull down spray, forward only lever handle, finish lustrous steel.

7. Accessible Shower: Aquatic pre-fab shower model 3636BFSC, acrylic surface, center drain 41" X 37" x 83-1/2" overall dimension, integral dome, finish white. Fixture and fixture installation shall be in accordance with 2010 ADAAG paragraph 608 requirements.

8. New Emergency Eyewash: Guardian equipment eye wash fountain model G1814, wall mount, stainless steel bowl, chrome plated brass stay open ball valve. Spray heads with integral "flip-top" dust covers, filers and 1.6 GPM flow control offices mounted on chrome plated brass eyewash assembly. Unit shall include ANSI compliant sign.

29.5 PIPE INSTALLATION

A. Concrete slabs disrupted under this project's scope of work shall be repaired to match existing adjacent surface, including sloping or other definable features.

B. Openings in pipes, drains, fittings, apparatus and equipment shall be sealed or securely plugged during erection, to prevent accumulating obstructions in

same.

C. Piping except where specifically shown otherwise shall be concealed in walls, utility chases, partitions, ceiling spaces and roof spaces. Piping shall be installed to maintain headroom and keep passageways and access openings clear. Where necessary, piping shall offset to maintain the required clearances to coincide with structural features of building.

D. Escutcheons shall be installed around all exposed pipe passing through a finished floor, wall, or ceiling. Escutcheons shall be of sufficient outside diameter to cover the sleeve opening and shall fit snugly around the pipe.

29.6 PIPE SUPPORTS, HANGERS, INSERT

A. Install hangers and supports for all pipe work to provide for expansion and contraction, prevent vibration and maintain required grading by proper adjustment. Supports, hangers, bolts, nuts, and washers shall be galvanized unless otherwise specified. Supports for copper pipe shall be additionally coated with plastic.

B. Support horizontal overhead pipes with clevis hangers, rods inserts, clamps, on suspension suitable for type of building construction.

C. Support horizontal pipes which are close to floor with pipe rest and floor flange or pipe roll stand on piers.

D. Support horizontal pipes from walls with "J" hooks, or hangers suspended from wall brackets.

29.7 VALVES AND FAUCET INSTALLATION

A. Furnish, install and properly connect all touchless valves and faucet to their corresponding plumbing fixtures herein specified.

B. Adjust equipment, touchless valves, and faucet to operate properly and clean all fixtures just prior to final inspection.

C. Each valves and faucet shall be installed at the corresponding fixture location shown on architectural drawings, or as directed.

29.8 DISINFECTING

A. All domestic cold and hot water lines shall be thoroughly flushed and drained after installation. Sterilization shall be accomplished by opening taps at the end of all

branches, and slowly filling the system adding liquid chlorine, or hypochlorite solution, to the water until water flowing from all branches indicates not less than 50 P.P.M. residual chlorine; the system allowed to stand for not less than twenty-four (24) hours, [200 PPM for 3 hours] with all valves opened and closed several times during this period; then drained and thoroughly flushed until all traces of chlorine are eliminated (less than 0.2 P.P.M.) Certificate shall be submitted to the Harbors Division. The Contractor shall be responsible for the proper disposal of chlorinated water to safeguard public health and environment in accordance with applicable Department of Health requirements.

29.9 CLEANUP AND REPAIRS

A. Debris shall not be allowed as a result of this work. Upon completion of this work, remove all debris and excess materials, tools, etc., resulting from this work from the jobsite and leave the locations of this work broom-clean and in acceptable manner as approved by the State.

B. This Contractor shall clean all equipment set by him of oil, grease, stains, etc. All plates, trims, etc., shall be polished.

C. All surfaces damaged by this project's renovation work shall be repaired and restored to match the existing adjacent surfaces. Painted finishes shall be repainted with matching paint type of identical color and sheen. Tiled surfaces shall be replaced with new tiles and grout that are identical to the existing.

D. All equipment piping, and lines shall be thoroughly cleaned before leaving the work.

29.10 PAINTING

All exposed piping and piping supports shall be painted to match existing adjacent color and texture, refer to Article XXV - PAINTING for requirements.

29.11 PAYMENT - Payment for Plumbing Work shall be made as described in Article X of these Specifications

ARTICLE XXX - ELECTRICAL WORK

30.1 GENERAL

A. Work under this Article consists of the furnishing and installation of electrical work, including but is not necessarily limited to, the following:

1. Complete electrical system wiring including wiring devices, overcurrent protection devices and branch circuiting.

2. Luminaires, lighting controls, and related appurtenances.

3. Testing.

4. Immediately report and pay for damages to existing equipment and facilities.

B. Special Conditions:

1. Contractor shall arrange for Harbors Division inspection and acceptance of new work.

2. The entire installation shall be done in strict accordance with local ordinances; National Electrical Code; applicable regulations of the National Board of Fire Underwriters; specifications of ANSI, NEMA, UL, and IPCEA; and regulations of the City and County of Honolulu.

3. In the event of conflict between pertinent codes and regulations, and the requirements of the referenced standards, or those indicated in the Specifications and on Drawings, the provisions of the more stringent shall govern.

C. Coordination:

1. Refer to all project Drawings and to all sections of the project Specifications. Coordinate and fit all work accordingly so that all electrical outlets and equipment will be properly located and readily accessible. The Drawings indicate the relation of wiring and connections and must not be scaled for exact locations. Verify all construction dimensions at the project and make changes necessary to conform to the building as constructed. Work improperly installed due to lack of construction verification shall be corrected at the Contractor’s expense.

2. Cut, break, drill and patch as required to install electrical system. Repair any surface damaged or marred by notching, drilling or any other process necessary for installation of electrical work. Patch any damaged surfaces to match the existing surface.

3. During pricing and construction, Contractor shall coordinate his work with other trades to avoid omissions and overlapping of responsibilities.

30.2 SUBMITTALS

A. Submit in accordance with these Specifications.

B. Product Data:

1. Luminaires and drivers.

2. Safety switches.

3. Wiring devices.

4. Occupancy sensors.

30.3 MATERIALS

A. Materials shall be new and those items listed by the Underwriters' Laboratories shall bear "UL" label of approval.

B. Electrical equipment shall be supplied through the manufacturer's designated representative by a local distributor.

C. Proof of compliance shall be furnished when shop drawings are submitted.

D. Where two or more similar type items are furnished, all shall be of the same manufacture, e.g., safety switches shall be of the same manufacturer unless otherwise noted.

E. Raceways:

1. Rigid Steel Conduit: Rigid steel, zinc-coated inside and outside, for use with threaded fittings. ANSI C80.1.

2. Electrical Metal Tubing (EMT). Thin walled steel tubing, zinc-coated. ANSI C80.3.

3. Flexible Metal Conduit: Flexible steel conduit; zinc-coated inside and outside, smooth inside walls, liquid-tight with factory fittings. Provide bushings with bonding jumper lugs for flexible conduit in excess of six feet in length. UL 360.

F. Boxes:

1. Outlet and Small Junction Boxes: Nominal 4 inches square, 2 1/8 inches minimum depth exclusive of plaster ring, pressed steel, galvanized for

corrosion protection. Surface mounted boxes and boxes exposed to the weather shall be cast aluminum, type FD, prime painted and enamel finished with neoprene gasketed covers, threaded hubs for conduit connections and stainless steel screws.

2. Extension Rings for Outlet Boxes: Pressed steel, zinc-coated for corrosion protection.

G. Conductors:

1. Solid or stranded copper, sizes according to American Wire Gauge as shown on Drawings and #12 AWG minimum unless otherwise indicated. Stranded conductors only for #8 AWG and larger. All wiring shall be color-coded.

2. Branch Circuits: Type THWN.

3. Conductors for Equipment Connection: Stranded flexible type.

H. Wiring Devices:

1. General: Ratings and NEMA arrangement types as indicated. Drawings show minimum application ratings, specification describes nominal ratings.

2. Duplex Convenience Receptacles: Ivory unless otherwise indicated, 20A, 125V, specification grade, grounding type, unless otherwise noted.

3. Other Receptacles: Specification grade, ratings and NEMA configurations as indicated.

4. Ground Fault Circuit Interrupters: Receptacle type similar to duplex convenience receptacle except 20A and UL listed per UL 943 with 6 milliampere ground fault sensing circuit with test and reset buttons.

I. Device Plates:

1. Stainless steel Type 302, gangs as required for flush mounted devices. Cast aluminum covers with stainless steel screws for surface mounted devices.

2. For Exterior Use: Weatherproof flip-open cover, cast aluminum with factory finish, with cable opening and neoprene gaskets for plug-in equipment in outdoor or wet applications when receptacle is in use per NEC 406.8. Cover shall be pad-lockable and capable of closing with a plug cap connected to the receptacle.

J. Safety Switches:

1. Safety switches shall be heavy-duty grade, horsepower rated and sized as indicated or as to match branch circuit overcurrent device rating.

2. Enclosures for switches shall be NEMA 1 for interior locations and NEMA 4X stainless steel, Type 316 for exterior locations.

K. Circuit Breakers.

1. Circuit breakers, unless otherwise shown, shall be molded case, toggle mechanism operated, with no-fuse ambient-compensated thermal-magnetic overload automatic trip units for overcurrent and short-circuit protection, and contacts rated to interrupt short-circuit currents as specified on Drawings. Multi-pole breakers shall have single, common operating handle for all poles. Toggle positions "ON", "OFF" and "TRIPPED" and breaker rating engraved or embossed on body and visible without removing enclosure cover.

2. Circuit breakers installed in existing panelboards shall be of a manufacture compatible with the panelboard.

3. Provide updated, typewritten panelboard directories for all panelboards modified by the Contract.

L. Luminaires.

1. Provide lighting fixtures specifically engineered for LED light sources and drivers. Use of linear or screw-base retrofit LED light sources is not acceptable. LED lighting fixtures shall carry a minimum manufacturer's warranty of 5 years. The Surety shall not be held liable beyond two (2) years of the project acceptance date.

2. LED Light Sources:

a. Correlated Color Temperature (CCT) shall be in accordance with NEMA ANSLG C78.377: Nominal CCT: 4000 degrees K, unless otherwise specified.

b. Color Rendering Index (CRI) shall be greater than or equal to 80 unless otherwise indicated.

c. Color Consistency: Manufacturer shall utilize a maximum 4-step MacAdam ellipse binning tolerance for color consistency of LEDs used in luminaires.

3. LED Luminaire Power Supply Units (Drivers):

   a. UL 1310. LED Power Supply Units (Drivers) shall meet the following requirements:
   b. Minimum efficiency shall be 85 percent.

   c. Shall be rated to operate between ambient temperatures of minus 22 degrees F and 104 degrees F.

   d. Shall be designed to operate on the voltage system to which they are connected, typically ranging from 120V to 277V nominal.

   e. Operating frequency shall be: 60 Hz.

   f. Power Factor (PF) shall be greater than or equal to 0.90.

   g. Total Harmonic Distortion (THD) current shall be less than or equal to 20 percent.

   h. Shall be mounted integral to luminaire. Remote mounting of power supply is not allowed unless noted.

   i. Power supplies in luminaires shall be UL listed with a sound rating of "A".

   j. Shall be equipped with over-temperature protection circuit that turns light source off until normal operating temperature is achieved.

4. A warranty must be provided for full replacement of LED luminaires, due to any failure for a period of 5 years. The warranty shall provide for the repair or replacement of the luminaire and LED power components (LED driver, light source thermal control device and surge protector).

M. Occupancy Sensors:

1. Occupancy sensors shall be designed to operate on the voltage indicated. Sensors shall have circuitry that only allows load switching at or near zero current crossing of supply voltage. Occupancy sensor mounting as indicated. Sensor shall have an LED occupant detection indicator. Sensor shall have adjustable sensitivity and adjustable delayed-off time range of 5 minutes to 15 minutes.

2. Ultrasonic sensor shall be crystal controlled and shall not cause detection interference between adjacent sensors.

3. Infrared sensors shall have a daylight filter. Sensor shall have a fresnel lens that is applicable to space to be controlled.

4. Ultrasonic/Infrared Combination Sensor: Occupancy detection to turn lights on requires both ultrasonic and infrared sensor detection. Lights shall remain on if either the ultrasonic or infrared sensor detects movement. Infrared sensor shall have lens selected for indicated usage and daylight filter to prevent short wavelength infrared interference. Ultrasonic sensor frequency shall be crystal controlled. Provide on-off manual switch on cover.

5. Wallbox sensors shall provide a nominal range of coverage of 900 square feet when mounted at 4 feet above the floor with a 180 degree field of view. Sensor shall have minor motion coverage of 15 feet wide by 15 feet deep.

N. Hardware, Supports, Backing, Etc.:

1. Provide all hardware, supports, backing and other accessories necessary to install electrical equipment. Wood materials shall be treated against termites, iron or steel materials shall be galvanized for corrosion protection, and non-ferrous materials shall be brass or bronze.

2. Bolts, nuts, washers, and screws used for exterior use shall be high quality stainless steel or brass.

30.4 CONSTRUCTION METHODS

A. Raceways:

1. Use conduits with approved coupling and connectors. All cuts square, using saw. Ream the ends. Bends made with approved tools. Reject flattened or crushed conduit. No running thread. Bushing and two locknuts at connection to boxes and enclosures.

2. All raceways shall be blown and swabbed after installation to remove any water then immediately sealed to prevent water infiltration during construction. Raceways must remain sealed except when pulling conductors. If water is discovered during the warranty period the Contractor shall remove water from raceways and associated boxes at no additional cost to the State.

3. Surface mounted conduit runs to be parallel and/or perpendicular to architectural and structural elements. Unless otherwise indicated, galvanized rigid steel conduit up to 7 feet above finished floor or for outdoor

installations including on the underside of covered walkways and crawl spaces. EMT permitted for exposed, indoor installation above 7 feet.

4. Minimum conduit diameter shall be 3/4-inch trade size.

5. Raceway penetrations through walls and raceway terminations shall be watertight and fire rated as necessary and be caulked, sealed and made with materials approved for that purpose.

B. Boxes:

1. Plumb and securely fasten.

2. Remove all debris from interior.

C. Conductors:

1. Lubricants: Non-wax type, chemically neutral to insulation and sheath. Mechanical means for pulling to be torque-limiting type and not be used for #2 AWG and smaller wires.

2. Remove all sharp points that can pierce tape. Reinsulate according to wire manufacturer's directions. Make splices within boxes in accessible locations.

3. Clean all raceways, boxes, and enclosures before pulling wires and cables. Form neatly in enclosures for minimum of cross-overs.

D. Miscellaneous Details:

1. Provide necessary foundations, supports, backing, etc., for all raceways and equipment. Attach to wood and steel by screws or bolts. Attach to concrete by expansion anchors. Powder charge driven studs and anchors shall not be used.

2. Clean all surfaces of enclosures and equipment.

3. Close all unused knockout holes.

4. All surface-mounted boxes, enclosures, and exposed raceways shall be painted to match the color of surrounding areas. Do not paint over nameplates. Safety switches shall not be painted.

E. Identification.

1. All safety switches and junction boxes with dimension larger than 6 inches shall be provided with plastic plate identifying itself and its use.

2. Plastic plate shall be laminated black and white, engraved 1/4 inch high lettering to expose black layer. Plate shall be riveted to cover and located directly below device handle or top side of door.

F. Grounding:

1. Ground metallic enclosures, raceways and electrical equipment according to requirements of National Electrical Code, Article 250.

2. Ground connections to equipment, raceways, motors, and other metallic parts directly exposed to ungrounded conductors by insulated conductors, No. 12 minimum, AWG copper, NEC Type TW, green insulation. Provide insulated ground wires within raceways. Run equipment ground wires together with circuit conductors.

G. Connections to Equipment Provided by Other Trades:

1. Electrical Contractor shall provide conduit, wiring and all electrical connections from building wiring to equipment, including all switches, motor protection devices, as specified by other trades.

2. Electrical Contractor shall ascertain from other trades furnishing equipment, the exact size and type of all equipment, the exact locations of such equipment and the proper point where electrical connections should be brought through the floors or walls, as the case may be. Locations shown are diagrammatic only; correct locations shall be the full responsibility of the Electrical Contractor.

3. Examine Architectural, Mechanical and other Drawings and Specifications for information concerning equipment and control apparatus and diagrams.

4. Provide and install safety switches as necessary for such equipment.

5. All control devices and control wiring shall be provided as described in the installation manuals of equipment and/or the Drawings and Specifications of other trades and disciplines.

H. Testing:

1. Upon completion of this portion of work, and prior to its acceptance by the State, make all required tests. Any deficiencies found shall be rectified and

work affected by such deficiencies shall be completely retested at Contractor's expense. Written notification of all proposed tests shall be provided to the Construction Engineer a minimum of seven (7) days prior to the date of the test.

2. Demonstrate operation of electrical systems. Provide labor, apparatus and equipment for systems' demonstrations. The various tests shall be under the direction of the Construction Engineer.

3. A visual inspection of all electrical equipment, to check for foreign material, tightness or wiring and connection, proper grounding, etc. shall be made prior to actual testing.

30.5 PAYMENT - Payment for Electrical Work shall be made as described in Article X of these Specifications.

ARTICLE XXXI – LEAD-CONTAINING PAINT CONTROL MEASURES

31.1 GENERAL - This Section specifies the requirements for protection of workers, prevention of contamination of adjacent areas, performing lead-abatement, post-abatement cleaning, pre-disposal testing of removed materials, and appropriate disposal of removed materials.

31.2 DESCRIPTION

A. The Contractor shall ensure all work is in compliance with all applicable Federal, State and local laws and regulations concerning lead, including all incidental and pertinent operations during the renovation of structures located at the facility.

B. Three (3) paint samples collected at various locations contain detectable concentrations of lead ranging from 5 to 30 mg/kg and are considered Lead-Containing Paint (LCP). See attached "Letter Report: Limited Hazardous Materials Survey for Interior Renovation of Harbors Agent's Office, Barbers Point Harbor, Kalaeloa, Oahu, Hawaii" prepared by Element Environmental, LLC.

C. The Contractor shall furnish all labor, materials, and equipment necessary to complete the safe removal, transportation, and disposal of lead-containing paint in specified steel members.

D. The work specified herein shall include the preparation of work areas and removal, transportation, and disposal procedures. All work shall be performed as required of lead-containing and lead-contaminated materials by persons trained, knowledgeable and qualified in the techniques of handling and disposing of lead-containing paint and lead-contaminated materials and in the subsequent cleaning of lead-contaminated areas. Workers shall be EPA certified lead workers and capable and willing to perform the work of this contract.

E. This Specification covers the requirements and procedures for limiting occupational and environmental exposure to lead during removal of existing LCP steel member at the facility.

F. In performing the removal and disposal of components with lead-containing paint, all possible safeguards, precautions, and protective measures should be utilized to prevent exposure of any individual to lead particulates.

G. Debris and waste resulting from removal work, except as otherwise specified, shall become the property of the Contractor. The Contractor shall be required to separate removal debris, steel components and miscellaneous metal elements and recycle them as scrap metal.

H. The Contractor shall conduct TCLP tests for lead of a representative sample of the debris waste stream of each structure and of any lead-contaminated chips or debris generated through abatement to determine whether the waste is hazardous or non-hazardous.

31.3 REFERENCES

A. The publications listed below form a part of this Specifications to the extent referenced. The publications are referred to in the text by the basic designation only, and include but are not limited to, the following:

B. CODE OF FEDERAL REGUALTIONS (CFR)

29 CFR 1926.21	Safety Training and Education
29 CFR 1926.33	Access to Employee Exposure and Medical Record
29 CFR 1926.55	Gases, Vapors, Fumes, Dusts, and Mists
29 CFR 1926.59	Hazard Communication
29 CFR 1926.62	Lead Exposure in Construction
29 CFR 1926.65	Hazard Waste Operations and Emergency Response
29 CFR 1926.103	Respiratory Protection
40 CFR 260	Hazardous Waste Management Systems: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Generators of Hazardous Waste
40 CFR 263	Transporters of Hazardous Waste
40 CFR 264	Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities.
40 CFR 265	Interim Status Standard for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 268	Land Disposal Restriction
40 CFR 745	Lead Requirements for Lead-Based Paint Activities
40 CFR 172	Hazardous Materials, Tables, and Hazardous Materials Communications Regulations
40 CFR 178	Shipping Container Specifications

C. HAWAII OCCUPATIONAL SAFETY AND HEALTH DIVISION (HIOSH)

12-114.2	Personal Protective Equipment
12-121.2	Fall Protection
12-122.2	Materials Handling, Storage, Use and Disposal
12-148.1	Lead
12-151	Hazardous Waste Operations and Emergency Response
12-202.33.1	Lead

D. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI ZP.2	(1979; R 1991) Fundamentals Governing the Design and Operation of Local Exhaust Systems
ANSI Z88.2	(1992) Respiratory Protection

E. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HUD)

HUD Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing

F. UNDERWRITERS LABORATORIES INC. (UL)

(1990) High-Efficiency, Particulate, Air Filter Units

31.4 DEFINITIONS

A. Action Level: Employee exposure, without regard to use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air averaged over an 8-hour period.

B. Area Sampling: Sampling of lead concentrations within the lead control area and inside the physical boundaries which is representative of the airborne lead concentrations but is not collected in the breathing zone of personnel (approximately 1.5 to 1.8 meters above the floor).

C. Authorized Visitor: The State's authorized representative, inspector, air-monitoring personnel, or a representative of any regulatory or other agency having jurisdiction over the project.

D. Competent Person: As used in this section, refers to a person employed by the Contractor who is trained in the recognition and control of lead hazards in accordance with current Federal, State, and local regulations, has the authority to take prompt corrective actions to control the lead hazards and is and EPA or DOH certified lead inspector or risk assessor.

E. Contaminated Area: An area where unwanted toxic or harmful substance exists.

F. Contractor: For this project, the Contractor is that individual, or entity under Contract to the General Contractor to perform the herein listed work.

G. EPA: United States Environmental Protection Agency

H. High Efficiency Particulate Air (HEPA) Filter: HEPA filtered vacuuming equipment with a filter system capable of collecting and retaining lead-contaminated particulate. A high efficiency particulate filter demonstrates at least 99.97 percent efficiency against 0.0 micron or larger size particles.

I. Lead: Metallic lead, inorganic lead compounds, and organic lead soaps. Excludes other forms of organic lead compounds.

J. Lead-Based Paint (PBP): Protective or decorative coating which contains at least 1.0 mg/cm2 of lead by area or at least 0.5% (5,000 mg/kg) of lead by weight.

K. Lead Containing Paint (LCP): Protective or decorative coating which contains any detectable quantity of lead; includes Lead-Based Paint.

L. Lead Control Area: A temporary area of structure or containment, sometimes equipped with HEPA filtered local exhaust that prevents the spread of lead dust or debris. Usually, critical barriers and physical boundaries are employed to isolate the lead control area and to prevent migration of lead contamination and unauthorized entry of personnel.

M. Monitoring Specialist: A person who performs air monitoring and inspection during abatement work under the direction of the Owner's authorized representative.

N. OSHA: United States Department of Labor, Occupational Safety and Health Administration.

O. Permissible Exposure Limit (PEL): 50 micrograms per cubic meter of air as an 8-hour time weighted average as determined by 29 CFR 1926.62. If an employee is exposed for more or less than 8 hours in a workday, the PEL shall be determined by the following formula:

PEL (micrograms per cubic meter of air) = 400/# hours worked per day

P. Personal Sampling: Sampling of airborne lead concentrations within the breathing zone of an employee to determine the 8-hour time weighted average concentration in accordance with 29 CFR 1926.62. Samples shall be representative of the employees work tasks. The breathing zone shall be considered an area within 12 inches of the nose or mouth of an employee.

Q. Physical Boundary: Area physically roped or partitioned off around lead control area to limit unauthorized entry of personnel.

R. Qualified Testing Laboratory

1. Environmental and Work Area Monitoring Laboratory-The testing Laboratory employed by Owner's authorized representative to perform analysis of environmental and work area air monitoring samples and report concentrations of airborne lead.

   The laboratory shall be accredited under the EPA's National Lead Laboratory Accreditation Program (NLLAP) by the American Industrial Hygiene Association's (AIHA's) Environmental Lead Laboratory Accreditation Program (ELLAP) and successfully participating in the Environmental Lead Proficiency Analytical Testing (ELPAT) program for each lead matrix analyzed by the laboratory. The laboratory shall fulfill all requirements of accreditation for analyzing lead in air. Laboratory personnel performing the work shall have been judged proficient in the analysis of lead in the applicable parameter by successful participation within the last year in HIHA's ELPAT.

2. Personal Air Monitoring Laboratory- The testing laboratory utilized by the air monitoring firm retained by the Contractor to perform analysis of personal air monitoring samples and report airborne concentrations of lead. Collection of the Contractor's OSHA personal air samples will be performed by a firm independent of the Contractor, at the Contractor's expense.

   The laboratory shall be accredited under the EPA's National Lead Laboratory Accreditation Program (NLLAP) by the American Industrial Hygiene Association's (AIHA's) Environmental Lead Laboratory Accreditation Program (ELLAP) and successfully participating in the Environmental Lead Proficiency Analytical Testing (ELPAT) program for each lead matrix analyzed by the laboratory. The laboratory shall fulfill all

requirements of accreditation for analyzing lead in air, Laboratory personnel performing the work shall have been judged proficient in the analysis of lead in air by successful participation within the last year in AIHA's ELPAT.

3. Toxicity Characteristic Leaching Procedure (TCLP) Testing Laboratory- The testing laboratory employed by the Contractor to perform TCLP tests of a representative sample of the debris waste stream of each structure and of any lead-contaminated chips or debris generated through abatement to determine whether or not the waste is hazardous or non-hazardous. The laboratory shall be experienced in and analyze TCLP samples using the EPA Method 1311/6010.

S. State: The State of Hawaii ("Owner")

31.5 QUALITY ASSURANCE

A. State's authorized representative's responsibilities:

1. Review and approve Contractor personnel training.

2. Review and approve Contractor's Work Procedure Plan for conformance to the applicable reference standards.

3. Inspect work for conformance to the Contractor's approved Work Procedure Plan.

4. Schedule and conduct required air monitoring, inspection, and reporting.

5. Monitor work to verify that work is performed at all times in accordance with the requirements of this Specification.

6. Monitor work to verify that adequate control is being maintained at all times of hazardous exposure to employees and to the environment.

7. Perform area air monitoring during lead abatement activities.

8. Be onsite during worksite preparation and cleaning, be available by telephone, pager or answering service at all other times during the work and able to be present at the work site in no more than 2 hours.

9. After final cleanup, verify that the lead control area is free of any visible lead paint chip debris, waste or dust and that final area air clearance samples have.

B. Safety and Health Compliance

1. In addition to the detailed requirements of this Specification, the Contractor shall comply with laws, ordinances, rules, and regulations of Federal, State and local authorities regarding removing, handling, storing, transporting, and disposing of lead materials.

2. Comply with the applicable requirements of the current issue of 29 CFR 1926.62, HIOSH 12-148.1, and HIOSH 12-202-33.

3. Where requirements of this Specification and the referenced documents vary, the most stringent requirement shall apply.

C. Pre-Construction Conference

1. The State's authorized representative shall meet with the Contractor to discuss in detail the work procedures, precautions and area and personal air monitoring to be employed. If rental equipment is to be used during lead- containing paint handling and disposal, notify the rental agency in writing concerning the intended use of the equipment. Submit a copy of the written notification to the State's authorized representative.

31.6 CONTRACTOR'S RESPONSIBILITIES

A. The Contractor acknowledges that it alone is responsible for the instruction of personnel in and enforcement of personal protection requirements. The Contractor shall comply with all requirements of 29 CFR 1926.62 and HIOSH 12-148.1. The Contractor shall also be responsible for complying with all applicable EPA regulations in regard to lead-containing materials

1. Respirators: Use appropriate respirators and filters which meet all Requirements of OSHA 29 CFR 1926.62 and HIOSH 12-148.1.

2. Protective Clothing: Use appropriate personal protective clothing (disposable suits, eye protection, gloves, etc.) as required by OSHA 29 CFR 1926.62 and HIOSH 12-148.1.

31.7 REQUIREMENTS

A. Notification: The Contractor shall notify the State's authorized representative 15 days prior to the start of any abatement, renovation or demolition work involving LCP painted materials. When required, notify the Department of Health a minimum of 10 working days prior to disturbance of any lead-containing paint.

B. Certification: The Contractor shall use only EPA certified Lead Workers or Supervisors to perform all work that involves lead-containing or lead-contaminated materials.

C. Training: The Contractor shall be solely responsible for complying with all OSHA29 CFR 1926.62 and HIOSH 12-148.1 requirements to train each employee. Training shall include, but not be limited to, the hazards of lead, safety and health precautions, and the use and requirements for protective clothing, equipment, and respirators.

D. Medical Examinations: Before exposure to lead-contaminated dust, the Contractor shall provide its employees with a comprehensive medical examination as required by 29 CFR 1926.62 and HIOSH 12-202-33. The examinations will not be required if records show that Contractor's employees have been examined as required by 29 CFR 1926.62 within the last year.

E. Respiratory Protection Program: The Contractor shall establish and implement a Respiratory Protection Program as required by ANSI A88.2, 29 CFR 1910.134, 29 CFR 1926.62, and HIOSH 12-148.1.

F. Hazard Communication Program: The Contractor shall establish and implement a Hazard Communication Program as required by 29 CFR 1926.59.

G. Safety Program: Contractor shall establish and implement a Health and Safety Plan which meets the specifications of 29 CFR 1926 Subparts C. and D. Applicable Standards and Guidelines: All work under this contract, and any other trade work conducted with the project, shall be done in strict accordance with all applicable Federal, State, and local regulations, standards, documents, and codes governing the preparation, removal, renovation, treatment, transportation and disposal of lead-containing and lead-contaminated materials. The most recent edition of any relevant regulation, standard, document, or code shall be applicable.

H. The Contractor shall examine and have at all times at its office (one copy) and in View at each job site (one copy) the following materials:

1. State of Hawaii Department of Labor and Industrial Relations, Occupational Safety and Health Standards, Part 8, Section 12-148.1;

2. Department of Housing and Housing and Urban Development, Office of Public and Indian Housing; Lead Paint Guidelines;

3. Title 29 Code of Federal Regulations Part 1926.62; Safety and Health Standards;

4. Title 29 Code of Federal Regulations Part 1910.134; Respiratory Protection
5. Title 40 Code of Federal Regulations Part 261: Identification and Listing of Hazardous Waste;

6. Title 40 Code of Federal Regulations Part 262; Standards Applicable to Generators of Hazardous Waste;

7. Title 40 Code of Federal Regulations Part 263: Hazardous Waste Transporters;
8. Title 40 Code of Federal Regulations Part 745; Lead; Requirement for Lead-

9. Copies of any other applicable Federal, State and local regulations, standards, Documents and codes.

10. Copies of the procedures to be followed during medical emergencies, including phone numbers of the nearest hospital or other emergency medical facility, which shall be posted by the telephone.

11. Copies of the Contractor's Respiratory Protection Program, Hazardous Communication Program, Safety Program, and Work Procedure Plan;

12. Copies of Material Safety Data Sheets for all chemicals used;

13. Copies of the Contractor's Competent Person's qualifications and employee EPA Lead Worker/Supervisor Certificates; and

14. Copies of Personal Air Monitoring results.

31.8 CONTRACTOR USE OF PREMISES

A. General: The Contractor shall cooperate fully with the State during project Execution to minimize conflict.

B. Pollution Control: The Contractor shall not contaminate the air, water, soil, or other items with hazardous materials such as cleaning solutions, lead- containing paint or lead-contaminated debris and wastes, etc. The Contractor shall immediately clean the contaminated area and dispose of the waste in compliance with all Federal, State, and local laws, ordinances, rules and regulations at its own expense.

C. Use of Site:

1. Confine operations at the site to the areas permitted under the contract. Portions of the site beyond areas on which work is indicated are not to be

disturbed. Conform to site rules and regulations affecting work while at the project site.

2. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage to the areas authorized by the Owner's authorized representative

31.9 COMMENCEMENT OF WORK

A. Each time work that calls for the disturbance of lead-containing paint is to begin in a new work area, the Contractor shall not commence work unless the following requirements have been met.

1. Submittals: All submittals, notifications, posting and permits must be provided and be satisfactory to the Construction Engineer.

2. Equipment: All equipment required for the work such as removal, clean up and disposal must be on hand.

31.10 SUBMITTALS

A. Manufacturer's Catalog Data: Submit copies of manufacturer's specifications, installation instructions and field test materials for all chemicals and equipment related to lead-containing and lead-contaminated materials, including any other data that may be required to demonstrate compliance with these Specifications and proposed uses. This includes, but is not limited to, data for vacuum filters and respirators.

B. Material Safety Data Sheets: Submit copies of the Material Safety Data Sheets for all chemicals used.

C. Notifications: When required, provide the Hawaii State Department of Health written notice of any on-site project activity involving the disturbance of lead-containing paint as early as possible but at least 10 working days prior to commencement or work. Submit a copy of the written notification to the State's authorized representative.

D. Respiratory Protection Program: Submit no later than 10 consecutive working days from notice of award, a copy of the Contractor's Respiratory Protection Program prepared in accordance with all applicable laws. The Contractor shall also submit fit test records on all employees to be used on this project who may be required to wear a respirator. Hazard Communication Program: Submit no later than 10 consecutive working days from notice of award, a copy of the Contractor's Hazard Communication Program prepared in accordance with all applicable laws.

E. Safety Program: Submit no later than 10 consecutive working days from notice of award, a copy of the Contractor's Health and Safety Plan prepared in accordance with all applicable laws.

F. Work Procedure Plan: Submit no later than 10 consecutive working days from notice of award, a copy of the Contractor's Work Procedure Plan. The following are required components of a Work Procedure Plan:

1. A sketch showing the location, size, and details of lead control areas, signage, security, decontamination, and support areas including eating, drinking, smoking and restroom areas;

2. Procedures, interface of trades, sequencing of lead-related work, respirators, protective equipment.

3. A detailed description of the methods of control of the work to ensure that airborne lead concentrations of 30 micrograms per cubic meter of air are not exceeded.

4. Work plan and schedule for waste containment and disposal including daily cleanup and disposal of stray paint chips and paint dust.

5. List of waste handling equipment to be used in performing the work, to include cleaning volume reduction, and transport equipment.

6. Names and qualifications (experience and training) of personnel who will be working on-site with hazardous wastes.

7. Estimated quantities of wastes to be generated and disposed of as well as a description of the methods used to identify hazardous wastes encountered with the work.

8. Spill prevention, containment, and cleanup contingency measure to be implemented.

9. Description of procedures to stop work in the event that area monitoring, and laboratory analysis indicate air concentrations of lead in excess of the action level, and

10. Methods to eliminate runoff of the water used to minimize dust created by renovation work, and collection and disposal plan for wastewater and paint debris.

G. Rental Equipment: When rental equipment is to be used during lead-containing paint handling and disposal, a written notification concerning intended use of the rental equipment must be provided to the rental agency with a copy submitted to the State's authorized representative.

H. HEPA Vacuums: Submit no later than 10 consecutive working days from notice of award, manufacturer's certification that vacuums conform to ANSI Z9.2-79, Fundamentals Governing the Design and Operation of Local Exhaust Systems as applicable to this project.

I. Contractor's Competent Person's Qualifications: The Contractor shall submit no later than 10 consecutive working days from notice of award, the Contractor's Competent Person's name, contact information, valid qualifications, and current certification of completion of the EPA Lead Inspector/Assessor course.

J. Certification of medical examinations: Contractor shall submit documentation from a physician that all employees or agents who may be exposed to airborne lead-containing dust of fumes have been medically monitored to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. In addition, the Contractor shall document that its personnel have received medical monitoring as required in the HIOSH lead standard (12-148.1).

K. Employee EPA Lead Worker/Supervisor Certifications: Submit no later than 10 consecutive working days from notice of award, documentation that each and every individual, including foreman, supervisors, other company personnel or agents, and any other individual who may be exposed to airborne lead dust and who may be responsible for any aspects of lead-containing paint removal activities which may occur, has currently attended and passed the EPA Lead Worker and/or EPA Lead Supervisor course, whichever is relevant to that worker's responsibilities. These courses shall be EPA-approved or approved by a State Accreditation Program in the most current listing of the Federal Register. No worker shall be allowed in the lead control area if they are found to have an expired accreditation certificate. The Contractor shall be responsible for keeping the documentation up to date and submitting subsequent documentation to the State's authorized representative before any additional employee or individual, not currently on the list, is allowed within the lead control area.

L. Employee training certifications: Submit documentation within 10 consecutive calendar days of award, satisfactory to the State's authorized representative, that the Contractor's employees, including foreman, supervisors and any other company personnel or agents who may be exposed to airborne lead dust or who may be responsible for any aspects of lead-containing paint removal activities, have received training in accordance with OSHA 29 CFR 1926.62 and the HIOSH lead standard (12-148.1). Training shall include, but not limited to, the dangers of lead exposure, respirator use and decontamination procedures.

M. Laboratory Qualifications

1. Personal Air Monitoring Laboratory- Submit name, address, and telephone numbers of testing laboratory responsible for analysis of personal air monitoring samples and reporting concentrations of airborne lead.

The laboratory shall be accredited under the EPA's National Lead Laboratory Accreditation Program (NLLALP) by the American Industrial Hygiene Association's (AIHA's) Environmental Lead Laboratory Accreditation Program (ELLAP) and successfully participating in the

Environmental Lead Proficiency Analytical Testing (ELPAT) program for each lead matrix analyzed by the laboratory. The laboratory shall fulfill all requirements of accreditation for analyzing lead in air. Laboratory personnel performing the work shall have been judged proficient in the analysis of lead in air by successful participation within the last year in AIHA's ELPAT.

2. TCLP Testing Laboratory - Submit name, address, and telephone number of testing laboratory responsible for TCLP analysis.

The laboratory shall be experienced in and analyze TCLP samples using the EPA Method 1311/6010.

N. Personal Air Monitoring Results: Submit test results to the State's authorized Representative and the affected Contractor's employees within three (3) working days of collection, signed by the testing laboratory employee performing the analysis and the Contractor's Competent Person. Test results for the first two full days of initial personal air monitoring shall be submitted to the State's authorized representative within 48 hours after completion of sampling.

O. TCLP Results: Submit test results to the State's authorized representative within three (3) working days of collection, signed by the testing laboratory employee performing the analysis and the Contractor's Competent Person.

P. Log Lead Disturbance Work: Complete and submit a daily log of all lead disturbance work performed.

31.11 EQUIPMENT AND MATERIALS

A. Respirator: Select respirators approved by the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services. Respirators shall comply with the requirements of29 CFR 1926.62 and HIOSH 12-148.1. For this project, respirators shall be worn at all times throughout the renovation or as deemed necessary by the Contractor's Competent Person.

B. Protective Clothing: Furnish personnel exposed to lead dust with appropriate personal protective equipment as required by 29 CFR 1926.62 and HIOSH 12-148.1. For this project, respirators shall be worn at all times throughout the

renovation or as deemed necessary by the Contractor's Competent Person.

C. Chemicals: Submit applicable Material Safety Data Sheet for all chemicals used on this project. use the least toxic product approved by the State's authorized representative.

31.12 POTENTIAL LEAD HAZARDS

A. The disturbance or dislocation of lead-containing materials may cause lead-containing dust to be released into the atmosphere, thereby creating a potential health hazard to the workers and the general public. Apprise all workers, supervisory personnel, subcontractors, consultants, and authorized visitors who will be at the job site of the seriousness of the hazard and of proper work procedures which must be followed.

B. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise, function in the immediate vicinity of any identified lead-containing materials, take appropriate continuous measures as necessary to protect all workers and the general public from the potential hazard of exposure to respirable airborne lead dust. Such measures shall include the procedures and methods described in the regulations of applicable Federal, State, and local agencies.

31.13 LEAD-CONTAINING MATERIAL

A. Spot remove lead-containing paint only as necessary for the safe renovation of LCP painted structures. Use wet methods or HEPA vacuum attached mechanical equipment to remove lead-containing paint.

B. LCP painted structure exist at the site as shown on the project drawing.

31.14 LEAD CONTROL AREA REQUIREMENTS

A. Boundary Requirement

1. Establish a lead control area to contain renovation operations by demarcating a boundary around the structure to be demolished or renovated in accordance with the Contractor's approved Work Procedure Plan. The lead control area shall be isolated by physical boundaries, such as temporary fencing, boundary tape and rope, to prevent unauthorized entry of personnel. If the work practice relating to lead-containing paint will create airborne dust, create a full containment with critical barriers, HEPA filtered exhaust, negative pressure enclosure and decontamination facilities.

2. Post Warning and Danger signs in accordance with CFR 1926.62 and HIOSH 12-148.1. Signs shall be placed at all approaches to lead control area and at the boundary of the lead control area. Signs shall be posted at all locations where airborne lead concentrations may exceed ambient background levels. Locale signs at such a distance that personnel may read the sign and take necessary measures to avoid exposure. In addition, post signs with "Authorized Entry Only, Lead Control Area" and "PPE Required" at every entry point.

B. Personal Protection Requirement

1. No one will be permitted in the lead control area unless they have been given appropriate training, Personal Protective Equipment (PPE) and medical examinations. PPE is required for all employees and persons within the lead control area.

2. Eating, drinking, smoking and application of cosmetics shall be permitted only in areas designated by the Contractor, approved by the Owner's authorized representative, and which are free of dust generated by the renovation. Eating, drinking, smoking and application of cosmetics are not permitted in the lead control area.

3. Where eyes may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes shall be provided within the work area.

C. Environmental Protection Requirements

1. Ensure airborne lead levels outside the lead control area are below the Action Level.

2. Perform work without damage to our contamination of the areas adjacent to locations where lead-containing or lead-contaminated material will be disturbed as a result of renovation activities. If any part of the work area is damaged or contaminated during the disturbance of lead paint, restore the damaged or contaminated area to its original condition or better, as determined by the State's authorized representative.

3. Drainage inlets, downspouts, and all entrances to underground utilities which lie within, or provide drainage for, a lead control area shall be sealed until that lead control area has been cleaned, visually inspected and cleared.

D. Exist Procedures

1. Whenever personnel exist the lead control area, they shall perform the following procedures and shall not leave the workplace wearing any clothing or other equipment worn in the lead control area. Personnel shall;

a. Vacuum themselves off with HEPA-filtered equipment, using UL-

586 labeled HEPA filters,

b. Remove protective clothing in the designated changing area within the lead control area and place them in an approved impermeable disposal bag,

c. Wash their hands and faces in the designated changing area before exiting to the designated clean area outside of lead control area; and

d. Prevent migration of mud, dust and/or debris carried on work boots, clothing, or equipment from the renovation site into areas beyond the lead control area.

31.15 RENOVATION INVOLVING LEAD-CONTAINING PAINT

A. Perform lead work as specified herein. Use procedures and equipment required to limit occupational exposure and environmental contamination with lead when renovation is performed in accordance with 29 CFR 1926.62 and as specified herein.

B. Disturbance of lead-containing paint as a result of renovation activities shall be kept to minimum. Water spray, vacuuming and other engineering controls shall be used to minimize airborne lead dust. Care shall be taken to avoid pulverizing, scraping, or crumbling lead painted debris.

C. Dispose of all lead-containing paint and associated waste in compliance with all Federal, State, and local requirements.

D. Clean as needed, all floor surfaces adjacent to the lead control area using a HEPA filtered vacuum.

E. Use 6-mil polyethylene sheeting to cover ground underneath the work area.

F. Use 6-mil polyethylene sheeting to cover any surfaces and equipment that will not be painted, disturbed, or utilized during disturbance of lead-containing paint. After completion of work, the Contractor shall repair all damage from fastening and sealing and remove all adhesive residue from surfaces at no additional cost to the State.

G. Manual or power sanding, grinding, abrasive or sand blasting of interior and exterior painted surfaces is not permitted. Select paint removal processes (describe in the Work Procedure Plan) to minimize contamination of work areas with lead-contaminated dust or other lead-contaminated debris/waste.

H. Open flame burning or torching of lead-containing paint is prohibited.

I. The use of hat guns or hot knives which reach temperatures above 650 degrees Fahrenheit, on surfaces containing lead-containing paint, is prohibited.

J. Use of vacuum equipment with HEPA filters in areas containing lead-containing paint is prohibited.

K. The use of chemical paint strippers containing methylene chloride is prohibited.

L. Control of Airborne Lead Level - The Contractor shall control the lead level outside of the work boundary to less than the action level at all times.

M. Control of Visible Emissions - The Contractor shall control lead dust emissions from the project site so that no visible lead dust emissions leave the project work areas during renovation work. Wet methods or other engineering controls shall be sued to control the emission of dust and/or debris from the renovation site in accordance with all applicable Federal, State and local regulations. Emissions in excess of the above shall be cause for immediate shut down of the project until corrective measures are implemented.

N. Control of Water Runoff - Water used to control emissions of dust from the renovation activities shall not be allowed to flow uncontrolled from a lead control area to any adjacent area or to enter the sanitary or storm water sewer system. All water runoff from lead control areas shall pass through a filter berm to remove particulate matter prior to discharge to water sewer system. The Contractor shall use only sufficient water to adequately control dust. Under no conditions shall wastewater be disposed of in storm drains or dumped on the ground.

O. Perform renovation involving lead containing paint as indicated in Federal, State, and local regulations. The worksite preparation (barriers or containments) shall be job dependent.

31.16 WORK PROCEDURE

A. Perform renovation work in accordance with approved Work Procedure Plan. Use procedures and equipment required to limit occupational exposure and environmental contamination with lead when renovation work is performed in accordance with 29 CFR 1926.62 and as specified herein. Dispose of all material containing lead and associated waste in compliance with Federal, State and local requirements.

31.17 SITE MONITORING AND RESULTS

A. Personal air monitoring shall be performed by a Competent Person employed by the Contractor.

1. The Contractor's Competent Person shall perform initial personal air monitoring to determine employee exposure during renovation work. During initial personal monitoring, the first two full days of work (two 8-hour shifts), all workers shall be provided with a minimum of air-purifying half-mask respirators and disposable protective clothing.

2. Personal monitoring samples shall be taken on at least 25% of the employees or a minimum of 2 employees, whichever is greater, or a representative sample of employees with the greatest potential for exposure as determined by the State's authorized representative during each work shift.

3. At the end of the period of initial determination all results shall be submitted to a laboratory for analysis by NIOSH Method 7082.

4. Results from the first two full days (two 8-hour work shifts) of initial air monitoring, signed by the testing lab employee performing the analysis and the Competent Person, shall be provided to the State's authorized representative within 48 hours after completion of sampling. Results of initial air monitoring shall be used by the Contractor's Competent Person to determine appropriate worker protection requirements for similar work activities. Determination shall be submitted to State's authorized representative within 48 hours.

5. Regardless of initial air monitoring results, continue personal air monitoring during the entire renovation operations.

6. If the personal air monitoring tests covering a period of two full workdays (two 8-hour work shifts) show airborne lead concentrations below the action level, the Contractor's Competent Person may determine that the use of HEPA-filtered air purifying respirators is not required. Other elements of protective clothing shall continue to be worn throughout the renovation operation.

7. If exposure to lead at or in excess of 30 micrograms per cubic meter of air as an 8-hour time weighted average is indicated, the Contractor's Competent Person will immediately notify the Contractor and State's authorized representative. The Contractor will provide and required all persons exposed to this concentration of airborne lead dust to wear, at a minimum, half mask air purifying respirators with HEPA filters. In addition, the Contractor's work procedures will be immediately reviewed by the State's authorized representative and the Contractor and modifications in the Contractor's work performance shall be implemented to lower the concentration of airborne lead.

8. Results of air monitoring shall be submitted to the State's authorized representative within three (3) working days of collection, signed by the testing lab employee who performed the analysis and the Competent Person.

B. Environmental and work area air monitoring of airborne lead concentrations shall be performed by the Contractor in accordance with 29 CFR 1926.62 and as specified herein.

1. The Contractor shall collect area air samples outside the work area prior to the start of work in order to establish the background level of lead in the air. The samples shall be analyzed by the Environmental and Work Areal Monitoring Laboratory for the airborne concentration of lead. This concentration shall be the background level.

2. The Contractor shall perform area air monitoring during the entire renovation operation.

3. Sufficient area air monitoring shall be conducted at the border of the lead control area to ensure unprotected personnel are not exposed to lead concentrations above 30 micrograms per cubic meter of air at all times. As a minimum, conduct area monitoring daily during each shift in which renovation operations are performed in areas immediately adjacent to the lead control area. At least one sample on each shift shall be taken on the downwind side of the lead control area.

4. If the outside boundary of the lead control area is determined to have air lead levels above the background levels, the Contractor shall be required to adequately correct the conditions causing the increased lead levels. Any work necessary to correct the condition will be completed by the Contractor at no additional cost to the State.

5. If the outside boundary of the lead control area is determined to have air lead levels at or above 30 micrograms per cubic meter of air, the Contractor shall immediately stop work and correct the conditions causing the increased level.

6. Renovated work shall resume only when approval is given by the State's authorized representative.

31.18 CLEAN-UP

A. Clean surfaces and surrounding ground within the lead control area daily. Do not allow paint chips, dust, and debris to accumulate.

B. Restrict and minimize the spread of dust and debris. Keep waste from being distributed over the general area. Do not dry sweep or use compressed air to clean the area.

C. When the operation has been completed, the area will be cleaned of all visible lead paint contamination. The State's authorized representative will visually inspect the affected areas for residual lead paint chips and the Contractor shall re-clean areas showing residual paint chips and debris.

D. If re-cleaning is required, the State's authorized representative will visually inspect for lead debris after the re-cleaning. This process will be repeated until the State's authorized representative deems the area free of visible paint chips and debris.

E. Do not remove the lead control area barriers or roped-off perimeter and warning signs prior to the State's receipt of the Contractor's lead clearance certification.

31.19 WASTE-CHARACTERIZATION

A. TCLP testing of the gross solid renovation debris shall be performed by the Contractor to characterize the debris as either non-hazardous or hazardous waste. Metal items to be demolished and removed shall be recycled.

B. The Contractor shall not concentrate, treat, or intermix wastes from outside this project with the debris and wastes generated by this project.

C. For lead-containing paint wastes generated by renovation operations, including used disposal PPE, lead paint chips and waste from paint stripping operations, TCLP testing of the waste shall be provided and paid for by the Contractor as specified herein.

D. All TCLP test samples shall be collected by the Contractor in accordance with SW 846, "Test methods for Evaluating Solid Waste - Physical/Chemical Methods."

E. All TCLP test samples shall be analyzed for lead concentration using EPA Method 1311/6010 by the TCLP Testing Laboratory.

F. Submit results of TCLP test to the State's authorized representative within 3 working days of collection, signed by the testing lab employee performing the analysis and the Contractor's Competent Person.

31.20 DISPOSAL

A. Disposal of Non-Hazardous Painted Construction Debris (TCLP for Lead Not Exceeding EPA Limit of 5.0 Milligrams per Liter).

1. Remove non-hazardous lead waste including debris, scraps, waste materials, rubbish, and trash from the site and dispose of such waste at a landfill approved for such purposes.

2. The Contractor shall submit to the State's authorized representative documentation that the lead-containing waste materials removed from the work area has been accepted by the landfill owner.

B. Disposal of Hazardous Painted Construction Debris (TCLP for Lead Exceeding EPA Limit of 5.0 Milligrams per Liter).

1. Collect lead-contaminated wastes, scraps, debris and any other lead-contaminated materials and place into U.S. Department of Transportation approved and appropriately labeled containers.

2. Store lead wastes and debris in U.S. Department of Transportation approved containers in an interim area assigned by the State's authorized representative at the site. All hazardous wastes shall be removed from the site to an EPA approved disposal facility within 90 days of the removal work (as applicable).

3. Handle, store, transport, and dispose of lead or lead-contaminated waste in accordance with 40 CFR 261, 40 CFR 262, 40 CFR 264, and 40 CFR 265. Comply with land disposal restriction notification requirements as required by 40 CFR 268.

4. The Contractor shall submit to the State's authorized representative documentation that the lead-containing waste material removed from the work area has been accepted by the landfill owner.

31.21 CERTIFICATION

A. The Contractor or its authorized representative shall certify in writing that the regions both inside and outside of the lead control area have airborne lead concentrations below the background level, that the respiratory protection for the employees was adequate, and that the work procedures were performed in accordance with 29 CFR 1926.62 and this Specification.

B. Upon inspection and approval of the area by the State's authorized representative, the Contractor shall certify that there were no visible accumulations of lead-contaminated paint, dust and debris remaining on the work site.

C. The Contractor shall not remove the lead control area boundary and warning signs prior to the submittal and approval by the State's authorized representative of the Contractor's certification that there were no visible accumulations of lead contaminated paint, dust and debris remaining on the work site.

D. The Contractor shall re-clean areas showing residual paint chips, debris, or wastes. Chips, debris, and wastes shall be disposed of properly, in accordance with this Specification and all applicable Federal, State, and local regulations

31.22 PAYMENT - Payment for Lead-Containing Paint Control Measures shall be made as described in Article X of these Specifications. The final payment will not be made until a signed copy of the manifest from the treatment or disposal facility certifying the amount of lead contaminated material delivered is submitted to the State's authorized representative.

Letter Report

Limited Hazardous Materials Survey

Interior Renovation of Harbors Agent's Office
Barbers Point Harbor
Kalaeloa, Oahu, Hawaii

January 2023

PREPARED FOR:
State of Hawaii
Department of Transportation
Harbors Division
Oahu, Hawaii

UNDER SUBCONTRACT WITH:
Ushijima Architects, Inc.
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Honolulu. Hawaii 96826

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PREPARED BY:
Element Environmental, LLC
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January 13, 2023

Mr. Todd Hata, AIA, LEED-AP, Associate Architect
Ushijima Architects, Inc.
2226 Young Street, Suite A
Honolulu, Hawaii 96826

Subject: **Letter Report: Limited Hazardous Materials Survey**
State of Hawaii Department of Transportation, Harbors Division (HDOT-HAR)
Interior Renovation of Harbor Agent's Office
Barbers Point Harbor, Kalaeloa, Oahu, Hawaii

Dear Mr. Hata:

Element Environmental, LLC (E2) is pleased to submit this Limited Hazardous Materials Survey letter report describing the targeted activities completed to evaluate the presence/absence of select hazardous materials within the State of Hawaii Department of Transportation, Harbors Division (HDOT-HAR) Harbor Agent's Office (HAO) building located at Barbers Point Harbor, Kalaeloa, Oahu, Hawaii (hereinafter referred to as *the project site*). The renovation will include the removal of the water closet, lavatory, shower, solar water heater, mop sink, and window air conditioner. The Office roofing and exterior, Comfort Station, and Carport were not included in the survey. The contents of this report are based on E2's accepted proposal dated June 21, 2022 and agreement with Ushijima Architects, Inc. (UAI). E2 conducted fieldwork on November 18, 2022. Site access was granted by HDOT-HAR through coordination with UAI.

The limited hazardous materials survey included sampling and testing of suspect asbestos-containing materials (ACM) and lead in paint; and visual inventory for polychlorinated biphenyls (PCBs) and mercury in fluorescent light fixtures that may be disturbed during the renovation. (Renovation drawings do not indicate the lighting will be disturbed.) The survey was limited to samples that could be collected from only readily observable and safely accessible materials. Invasive inspections, such as opening up wall cavities or the destruction of materials to access hidden materials, were not performed. Inspectors did not enter confined spaces, or any areas deemed to present a risk to health and safety. Only construction materials incorporated into the structure of the building were surveyed.

Data tables, sample location figures, and sample photographs are provided in Appendices A, B, and C, respectively. Complete analytical laboratory reports are provided in Appendix D.

1.0 RECORD DRAWINGS

E2 performed a review of available record drawings provided by the HDOT-HAR. A summary of findings that may be pertinent to the limited hazardous materials survey is provided below.

- *Record Drawings for Job Number H.D. 1802, Modification to Barbers Point Harbor Office, Oahu, Barbers Point, Hawaii* (March 1992; 2 pages). The drawings depict the addition of a Carport adjacent to the Office. The Carport has a composition shingle roof with 30# felt underlay and four double 4' fluorescent light fixtures.

- *Record Drawings for Job Number H.C. 1897, Repaint Exterior of Harbors Agents Office, Comfort Station & Carport, Barbers Point, Hawaii* (April 1995; 2 pages). The drawings depict items to remain unpainted and items to be cleaned and painted, including exterior siding, trim, louvers, door, underside of exterior roofing, wood sheathing, fascia, gutters, concrete masonry unit (CMU) walls and columns, and all previously painted surfaces. Type of paint was not specified.

2.0 ASBESTOS SURVEY

The limited asbestos survey was conducted in general accordance with U.S. Environmental Protection Agency (EPA) 40 Code of Federal Regulations (CFR) 763 Asbestos and Hawaii Department of Health (HDOH), Hawaii Administrative Rules (HAR) 11-501 Asbestos Requirements. The asbestos survey consisted of the collection of bulk samples from observed accessible suspect building components that may be disturbed during the renovation. Homogeneous Areas (HAs), which are suspect ACM that appear uniform in color, texture, and function, were identified. The asbestos inspectors (Bernice Balete [HIASB-0449] and Austin Lutey [HIASB-3199]) are certified in accordance with the inspector training requirements of the Asbestos Hazard Emergency Response Act (AHERA) and the HDOH Asbestos Inspector Certification Program HAR 11-504. E2 is a HDOH-registered asbestos entity (#A-0120).

SGS Forensic Laboratories (SGS) located in Carson, California, who analyzed the bulk samples, is registered with the HDOH, Indoor and Radiological Health Branch, Asbestos Section (#L-06-002). SGS is accredited by the American Industrial Hygiene Association (AIHA, #101629) under the Industrial Hygiene Laboratory Accreditation Program (IHLAP) for asbestos/fiber microscopy core, and the National Voluntary Laboratory Accreditation Program (NVLAP, #101459-1) for bulk asbestos fiber analysis. Samples were analyzed by polarized light microscopy (PLM) with dispersion staining, in accordance with EPA Interim Method for the Determination of Asbestos in Bulk Samples, 40 CFR 763, Appendix E to Subpart E and EPA Method 600/R-93-116, Visual Area Estimation, for standard building materials.

Results were compared to the standard presence/absence criteria for asbestos, i.e., materials containing over 1% asbestos are considered ACM. No asbestos was detected in the 20 samples collected from the following six (6) HAs.

- Vinyl Floor Tile/Mastic (12" light gray/yellow)
- Ceramic Shower Tile/Grout/Mortar (2" speckled brown and 4" light gray)
- Gypsum Wallboard/Joint Compound
- Mop Sink Caulking (white)
- Vinyl Base/Mastic (4" gray/yellow)
- Miscellaneous Caulking (white)

Inaccessible and/or hidden suspect materials not sampled during this field effort, or uncovered during the renovation, should be assumed ACM and managed as such until sampled and proven otherwise. ACM that will be encountered and/or generated during future renovation at the project site will require proper handling, removal, and/or disposal by trained workers in accordance with the Occupational Safety and Health Administration (OSHA) Asbestos Standard 29 CFR 1926.1101, Hawaii Occupational Safety and Health (HIOSH) rules and regulations, EPA National Emission Standard for Asbestos 40 CFR 61 Subpart M, and 40 CFR 763 Asbestos. At least ten (10) working days before demolition or disturbance of friable asbestos above reportable quantities, a “Notification of Demolition and Renovation” must be sent to the HDOH. The proposed landfill should be consulted as to their requirements and procedures for the disposal of ACM at their facility.

3.0 LEAD PAINT SURVEY

The limited paint survey was conducted in general accordance with U.S. Department of Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint (LBP) Hazards in Housing and HAR Chapter 11-41. Seven (7) paint chip samples (in intact condition) were collected from various painted building components that may be disturbed during the renovation. The paint inspectors (Bernice Balete [PB-0449] and Austin Lutey [PB-0440]) are certified in accordance with the HDOH Lead Activities Inspector Certification Program. E2 is a HDOH-registered LBP activities entity (#PBF-0032).

SGS Carson, California, who analyzed the paint chip samples, is accredited by the AIHA under the Environmental Laboratory Accreditation Program (ELAP, #1366). Samples were analyzed for total lead, cadmium, and chromium by Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES), in accordance with EPA Methods 3050B/6010B.

Results were compared to standard presence/absence criteria for lead, i.e., paint containing 0.5% or more by weight or 5,000 milligrams per kilogram (mg/kg) or more of total lead were considered LBP. Paint with any detectable amount of lead is considered lead-containing paint (LCP). Both LBP and LCP are worker protection issues. Three (3) paint samples contain detectable concentrations of lead ranging from 5 to 30 mg/kg and are considered LCP. There may be some background concentrations of lead in soil, concrete, and metal components. For comparison, the U.S. Consumer Product Safety Improvement Act, 16 CFR 1303.101 allows no more than 100 ppm [mg/kg] of total lead content in accessible parts of children's products. The other four (4) paint samples are non-detect (ND) for lead above the respective laboratory reporting limits.

Lead paint/debris that will be encountered and/or generated at the project site will require proper handling, removal, and/or disposal in accordance with OSHA Lead in Construction Standard 29 CFR 1926.62 and HIOSH rules and regulations. Appropriate worker protection measures for lead should be taken during the renovation to limit lead exposure of personnel and releases to the environment.

Metal debris (with intact paint) should be recycled when possible to decrease the amount of waste taken to the landfill and to possibly minimize the likelihood of the Toxicity Characteristic Leaching Procedure (TCLP) samples exceeding leaching criteria, 40 CFR 261 Identification and Listing of Hazardous Waste. A representative TCLP sample(s) of the remaining waste stream(s) will need to be collected and analyzed prior to landfill acceptance. The landfill should be consulted as to their requirements and procedures for the disposal of lead-contaminated waste and debris at their facility.

We appreciate the opportunity to have worked with you on this project. Should you have any questions or require additional information related to this project, please do not hesitate to call me at (808) 864-3952.

Sincerely,

Ryan Yamauchi, P.E.
President
Hawaii Asbestos Inspector HIASB-2905
Hawaii LBP Inspector and Risk Assessor PB-0117

APPENDIX A

Tables

HDOT Harbor's Agent's Office
Barbers Point Harbor, Kalaeloa, Oahu, Hawaii

Asbestos Sample Data

Limited Hazardous Materials Survey
November 18, 2022

Homogeneous Area	Material Type	Material Description	Friable	Condition	SampleID	Sample Location	Layer (% of Combined Sample)	Asbestos %
KBPH-HAO-F-01	Miscellaneous	Vinyl Floor Tile/Mastic (12" light gray/yellow)	NF	Intact	KBPH-HAO-F-01A	Mop Sink Room	1 Beige Tile (96%)	ND
							2 Tan Mastic (2%)	ND
							3 Off-White Joint Compound (2%)	ND
					KBPH-HAO-F-01B	Shower Room	1 Beige Tile (98%)	ND
							2 Tan Mastic (2%)	ND
					KBPH-HAO-F-01C	Water Closet	1 Beige Tile (98%)	ND
							2 Tan Mastic (2%)	ND
KBPH-HAO-F-02	Miscellaneous	Ceramic Shower Floor/Base Tile/Grout/Mortar (2" speckled brown and 4" light gray)	NF	Intact	KBPH-HAO-F-02A	Shower	1 White Ceramic Tile (70%)	ND
							2 Grey Grout (15%)	ND
							3 White Mortar (15%)	ND
					KBPH-HAO-F-02B	Shower	1 White Ceramic Tile (70%)	ND
							2 Grey Grout (15%)	ND
							3 White Mortar (15%)	ND
					KBPH-HAO-F-02C	Shower	1 White Ceramic Tile (70%)	ND
							2 Grey Grout (15%)	ND
							3 White Mortar (15%)	ND
KBPH-HAO-W-01	Miscellaneous	Gypsum Wallboard/Joint Compound	NF	Intact	KBPH-HAO-W-01A	Mop Sink Room	1 Pink Drywall (73%)	ND
							2 Brown Drywall (10%)	ND
							3 White Joint Compound (15%)	ND
							4 Paint (2%)	ND
					KBPH-HAO-W-01B	Office	1 Pink Drywall (83%)	ND
							2 White Joint Compound (15%)	ND
							3 Paint (2%)	ND
					KBPH-HAO-W-01C	Water Closet	1 Pink Drywall (63%)	ND
							2 White Joint Compound (15%)	ND
							3 Drywall Tape (5%)	ND
							4 White Joint Compound (15%)	ND
							5 Paint (2%)	ND
KBPH-HAO-M-01	Miscellaneous	Mop Sink Caulking (white)	NF	Damaged	KBPH-HAO-M-01A	Mop Sink Room	1 Beige Caulk (100%)	ND
					KBPH-HAO-M-01B	Mop Sink Room	1 Beige Caulk (100%)	ND
					KBPH-HAO-M-01C	Mop Sink Room	1 Beige Caulk (100%)	ND
KBPH-HAO-M-02	Miscellaneous	Vinyl Base/Mastic (4" gray/yellow)	NF	Intact	KBPH-HAO-M-02A	Mop Sink Room	1 Beige Non-Fibrous Material (98%)	ND
							2 Off-White Mastic (2%)	ND
					KBPH-HAO-M-02B	Mop Sink Room	1 Beige Non-Fibrous Material (98%)	ND
							2 Off-White Mastic (2%)	ND
					KBPH-HAO-M-02C	Shower Room	1 Beige Non-Fibrous Material (98%)	ND
							2 Off-White Mastic (2%)	ND
KBPH-HAO-M-03	Miscellaneous	Miscellaneous Caulking (white)	NF	Intact	KBPH-HAO-M-03A	Water Closet	1 White Non-Fibrous Material (100%)	ND
					KBPH-HAO-M-03B	Water Closet	1 White Non-Fibrous Material (100%)	ND
					KBPH-HAO-M-03C	Office	1 White Non-Fibrous Material (100%)	ND
					KBPH-HAO-M-03D	Mop Sink Room	1 White Non-Fibrous Material (100%)	ND
					KBPH-HAO-M-03E	Office	1 White Non-Fibrous Material (100%)	ND

HDOT Harbor Agent's Office
Barbers Point Harbor, Kalaeloa, Oahu, Hawaii

Metals in Paint Chip Samples

Limited Hazardous Materials Survey
November 18, 2022

Sample ID	Material Description	Location	Condition	Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)
KBPH-HAO-P01	Light beige wood wall	Water Heater Shack	intact	30	< 8	7
KBPH-HAO-P02	Light orange wood trim	Exterior Window A/C Unit	intact	9	< 30	20
KBPH-HAO-P03	Light yellow gypsum wallboard	Mop Sink Room	intact	< 30	< 30	< 20
KBPH-HAO-P04	Light yellow wood trim	Interior Window A/C Unit	intact	< 20	< 20	< 10
KBPH-HAO-P05	Light yellow gypsum wallboard	Water Closet	intact	< 20	< 10	< 8
KBPH-HAO-P06	Yellow gypsum wallboard	Shower Room	intact	5	< 4	3
KBPH-HAO-P07	Brown door frame	Water Closet	intact	< 30	< 20	< 20

APPENDIX B

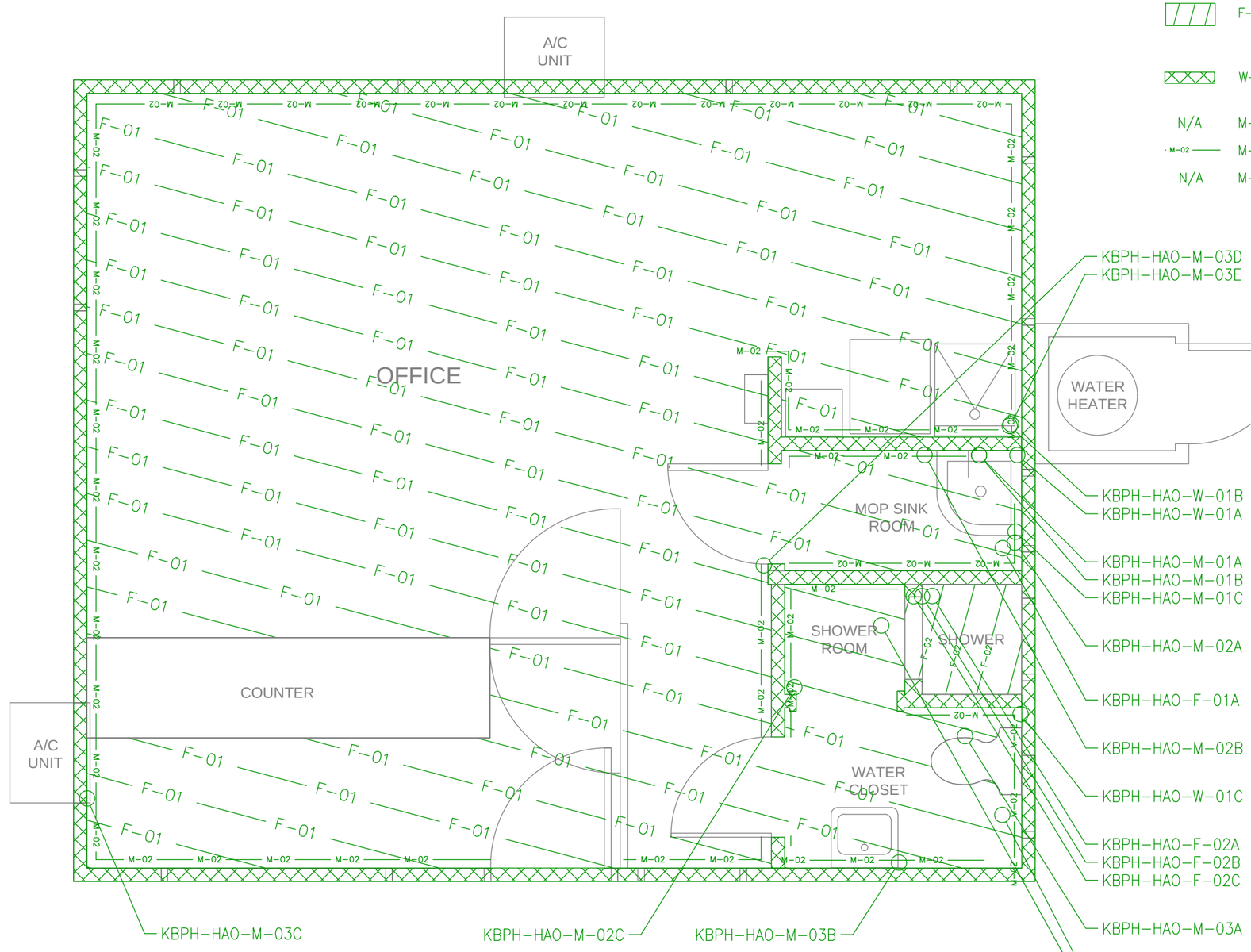
Figures

TRUE NORTH
SCALE: 1"=3'

HOMOGENEOUS AREAS

*FOR HOMOGENEOUS AREAS WITH NO SYMBOL, SEE SAMPLE LOCATIONS.

	F-01	VINYL FLOOR TILE/MASTIC (12" LIGHT GRAY/YELLOW)
	F-02	CERAMIC FLOOR/BASE TILE/GROUT/MORTAR (2" SPECKLED BROWN AND 4" LIGHT GRAY)
	W-01	GYPSUM WALLBOARD/JOINT COMPOUND
N/A	M-01	MOP SINK CAULKING (WHITE, BRITTLE)
M-02	M-02	VINYL BASE/MASTIC (4" GRAY/YELLOW)
N/A	M-03	MISCELLANEOUS CAULKING (WHITE)



3' 0 3' 6'

SCALE: 1"=3'

SAMPLE LOCATIONS

○ NEGATIVE ASBESTOS

element environmental llc
environmental · engineering · water resources

PROJECT TITLE:
LIMITED HAZARDOUS MATERIALS SURVEY
INTERIOR RENOVATION OF HDOT-HAR
HARBOR AGENT'S OFFICE, KALAELOA, OAHU, HAWAII

FIGURE TITLE:
HDOT-HAR HARBOR AGENT'S OFFICE ASBESTOS SAMPLE RESULTS AND APPROXIMATE LOCATIONS

SURVEY DATE:
NOVEMBER 18, 2022

FIGURE NO.:
1

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KHAO HazMat.dwg

TRUE NORTH
SCALE: 1"=3'

PAINT SAMPLES

P01 WATER HEATER SHACK, LIGHT BEIGE WOOD WALL

P02 EXTERIOR WINDOW A/C UNIT, LIGHT ORANGE WOOD TRIM

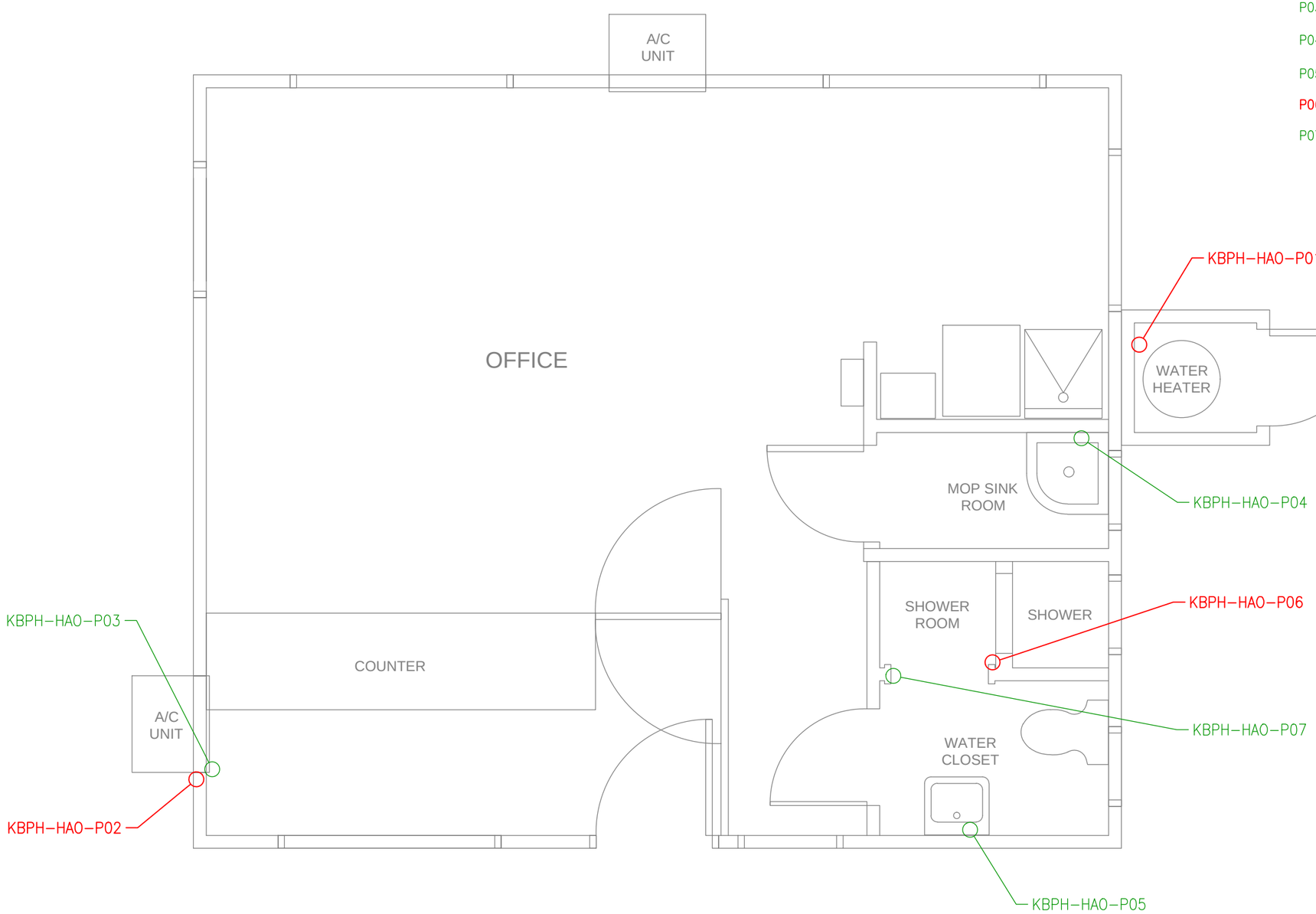
P03 MOP SINK ROOM, LIGHT YELLOW GYPSUM WALLBOARD

P04 INTERIOR WINDOW A/C UNIT, LIGHT YELLOW WOOD TRIM

P05 WATER CLOSET, LIGHT YELLOW GYPSUM WALLBOARD

P06 SHOWER ROOM, YELLOW GYPSUM WALLBOARD

P07 WATER CLOSET, BROWN DOOR FRAME



3' 0 3' 6'

SCALE: 1"=3'

SAMPLE LOCATIONS

NEGATIVE LEAD

POSITIVE LCP

element environmental llc
environmental · engineering · water resources

PROJECT TITLE:
LIMITED HAZARDOUS MATERIALS SURVEY
INTERIOR RENOVATION OF HDOT-HAR
HARBOR AGENT'S OFFICE, KALAELOA, OAHU, HAWAII

FIGURE TITLE:
HDOT-HAR HARBOR AGENT'S OFFICE
PAINT CHIP SAMPLE RESULTS AND
APPROXIMATE LOCATIONS

SURVEY DATE:
NOVEMBER 18, 2022

FIGURE NO.:
2

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APPENDIX C

Photographs

HDOT Harbor Agent's Office, Barbers Point Harbor,
Kalaeloa, Oahu, Hawaii (November 18, 2022)

Photo 1 - KBPH-F-01A (Close-up)
[AL\DSCN8385.JPG]

Photo 2 - KBPH-F-01A (Panoramic)
[AL\DSCN8386.JPG]

Photo 3 - KBPH-F-01B (Close-up)
[AL\DSCN8387.JPG]

Photo 4 - KBPH-F-01B (Panoramic)
[AL\DSCN8388.JPG]

Photo 5 - KBPH-F-01C (Close-up)
[AL\DSCN8389.JPG]

Photo 6 - KBPH-F-01C (Panoramic)
[AL\DSCN8390.JPG]

HDOT Harbor Agent's Office, Barbers Point Harbor,
Kalaeloa, Oahu, Hawaii (November 18, 2022)

Photo 7 - KBPH-F-02A (Close-up)
[AL\DSCN8370.JPG]

Photo 8 - KBPH-F-02ABC (Panoramic)
[AL\DSCN8377.JPG]

Photo 9 - KBPH-F-02B (Close-up)
[AL\DSCN8374.JPG]

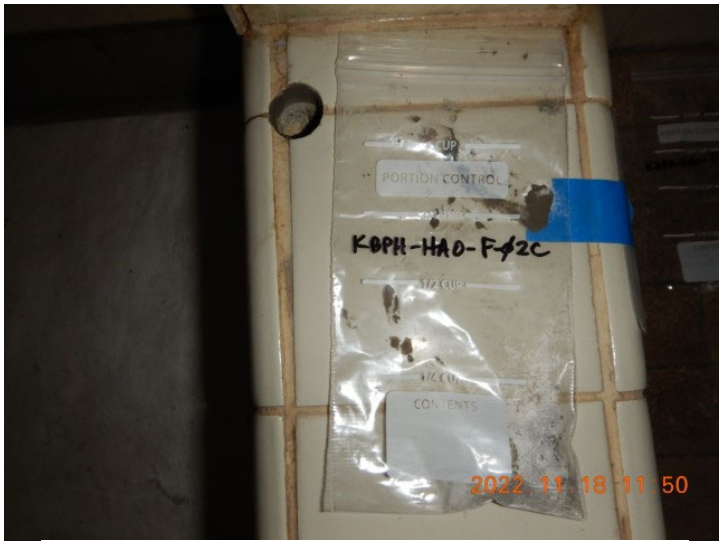

Photo 10 - KBPH-F-02C (Close-up)
[AL\DSCN8371.JPG]

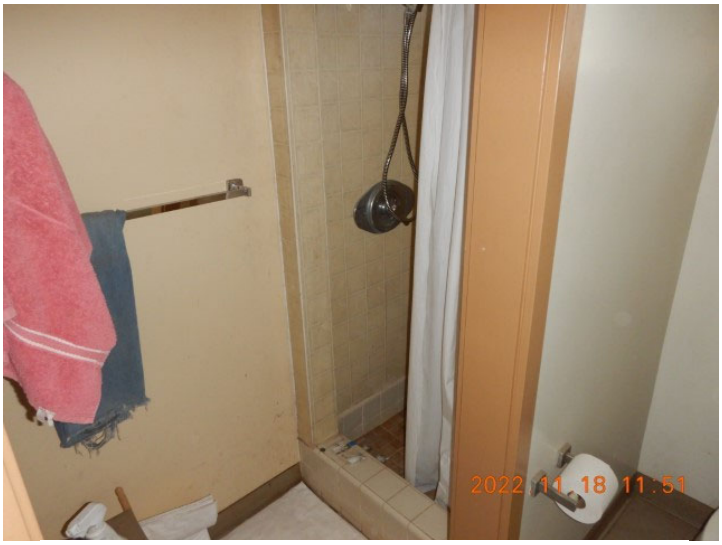

Photo 11 - KBPH-F-02C (Panoramic)
[AL\DSCN8373.JPG]

HDOT Harbor Agent's Office, Barbers Point Harbor,
Kalaeloa, Oahu, Hawaii (November 18, 2022)

Photo 12 - KBPH-W-01A (Close-up)
[AL\DSCN8378.JPG]

Photo 13 - KBPH-W-01A (Panoramic)
[AL\DSCN8379.JPG]

Photo 14 - KBPH-W-01B (Close-up)
[AL\DSCN8380.JPG]

Photo 15 - KBPH-W-01B (Panoramic)
[AL\DSCN8381.JPG]

Photo 16 - KBPH-W-01C (Close-up)
[AL\DSCN8382.JPG]

Photo 17 - KBPH-W-01C (Panoramic)
[AL\DSCN8383.JPG]

HDOT Harbor Agent's Office, Barbers Point Harbor,
Kalaeloa, Oahu, Hawaii (November 18, 2022)

Photo 18 - KBPH-M-01A (Close-up)
[BB\DSCN0026.JPG]

Photo 19 - KBPH-M-01ABC (Panoramic)
[BB\DSCN0029.JPG]

Photo 20 - KBPH-M-01B (Close-up)
[BB\DSCN0027.JPG]

Photo 21 - KBPH-M-01C (Close-up)
[BB\DSCN0028.JPG]

HDOT Harbor Agent's Office, Barbers Point Harbor,
Kalaeloa, Oahu, Hawaii (November 18, 2022)

Photo 22 - KBPH-M-02A (Close-up)
[AL\DSCN8391.JPG]

Photo 23 - KBPH-M-02AB (Panoramic)
[AL\DSCN8393.JPG]

Photo 24 - KBPH-M-02B (Close-up)
[AL\DSCN8392.JPG]

Photo 25 - KBPH-M-02C (Close-up)
[AL\DSCN8395.JPG]

Photo 26 - KBPH-M-02C (Panoramic)
[AL\DSCN8396.JPG]

HDOT Harbor Agent's Office, Barbers Point Harbor,
Kalaeloa, Oahu, Hawaii (November 18, 2022)

Photo 27 - KBPH-M-03A (Close-up)
[BB\DSCN0020.JPG]

Photo 28 - KBPH-M-03A (Panoramic)
[BB\DSCN0021.JPG]

Photo 29 - KBPH-M-03B (Close-up)
[BB\DSCN0024.JPG]

Photo 30 - KBPH-M-03B (Panoramic)
[BB\DSCN0025.JPG]

Photo 31 - KBPH-M-03C (Close-up)
[BB\DSCN0022.JPG]

Photo 32 - KBPH-M-03C (Panoramic)
[BB\DSCN0023.JPG]

HDOT Harbor Agent's Office, Barbers Point Harbor,
Kalaeloa, Oahu, Hawaii (November 18, 2022)

Photo 33 - KBPH-M-03D (Close-up)
[BB\DSCN0030.JPG]

Photo 34 - KBPH-M-03D (Panoramic)
[BB\DSCN0031.JPG]

Photo 35 - KBPH-M-03E (Close-up)
[BB\DSCN0032.JPG]

Photo 36 - KBPH-M-03E (Panoramic)
[BB\DSCN0033.JPG]

HDOT Harbor Agent's Office, Barbers Point Harbor,
Kalaeloa, Oahu, Hawaii (November 18, 2022)

Photo 37 - KBPH-P-01 (Close-up)
[BB\DSCN0006.JPG]

Photo 38 - KBPH-P-01 (Panoramic)
[BB\DSCN0007.JPG]

Photo 39 - KBPH-P-02 (Close-up)
[AL\DSCN8368.JPG]

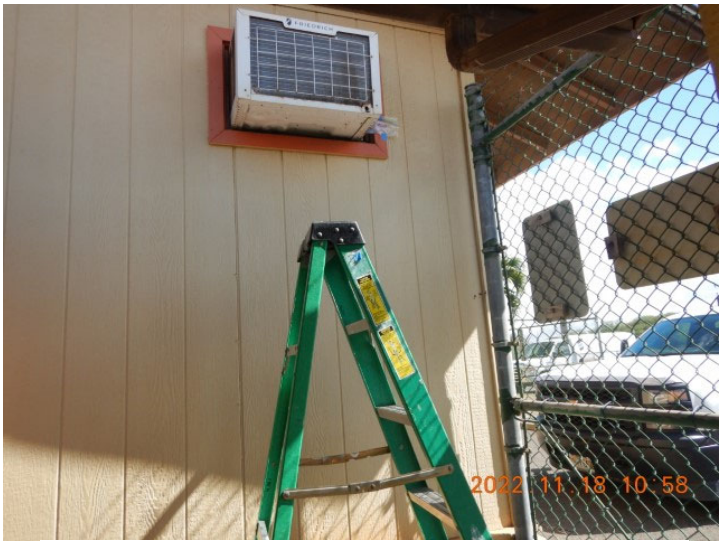

Photo 40 - KBPH-P-02 (Panoramic)
[AL\DSCN8369.JPG]

Photo 41 - KBPH-P-03 (Close-up)
[BB\DSCN0014.JPG]

Photo 42 - KBPH-P-03 (Panoramic)
[BB\DSCN0015.JPG]

HDOT Harbor Agent's Office, Barbers Point Harbor,
Kalaeloa, Oahu, Hawaii (November 18, 2022)

Photo 43 - KBPH-P-04 (Close-up)
[BB\DSCN0008.JPG]

Photo 44 - KBPH-P-04 (Panoramic)
[BB\DSCN0009.JPG]

Photo 45 - KBPH-P-05 (Close-up)
[BB\DSCN0012.JPG]

Photo 46 - KBPH-P-05 (Panoramic)
[BB\DSCN0013.JPG]

Photo 47 - KBPH-P-06 (Close-up)
[BB\DSCN0018.JPG]

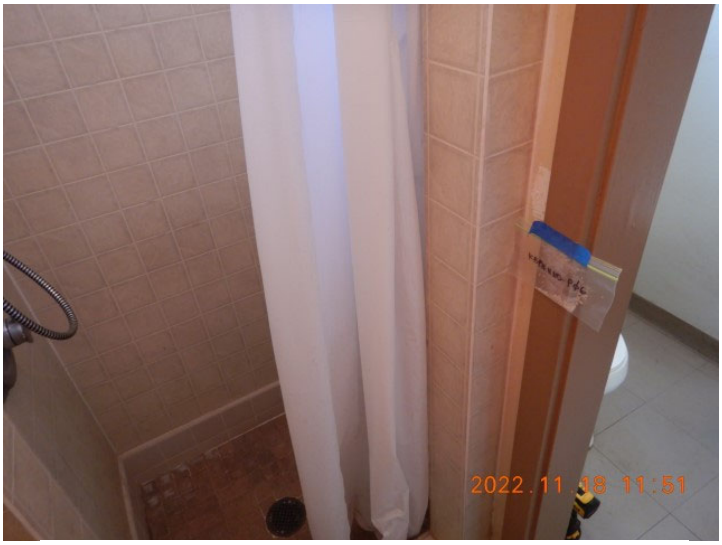

Photo 48 - KBPH-P-06 (Panoramic)
[BB\DSCN0019.JPG]

HDOT Harbor Agent's Office, Barbers Point Harbor,
Kalaeloa, Oahu, Hawaii (November 18, 2022)

Photo 49 - KBPH-P-07 (Close-up)
[BB\DSCN0010.JPG]

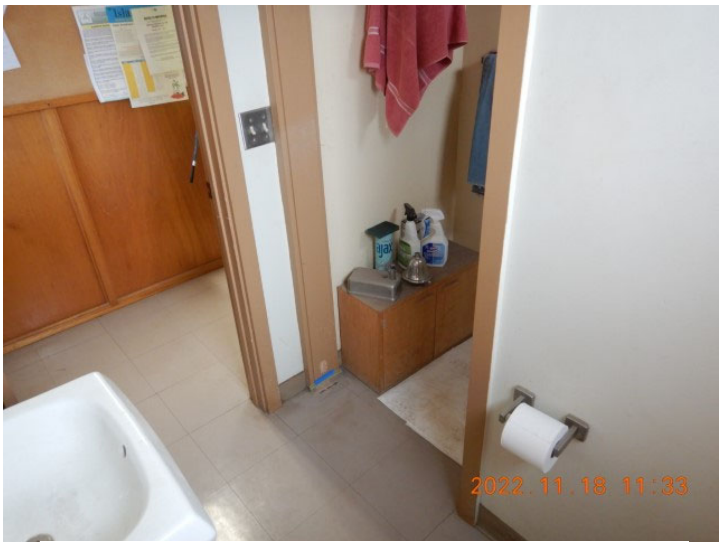

Photo 50 - KBPH-P-07 (Panoramic)
[BB\DSCN0011.JPG]

APPENDIX D

Laboratory Reports

SGS FORENSIC LABORATORIES

Final Report

Bulk Asbestos Analysis

(EPA Method 40CFR, Part 763, Appendix E to Subpart E and EPA 600/R-93-116, Visual Area Estimation)
NVLAP Lab Code: 101459-1

Element Environmental, LLC
Bernice Balete
98-030 Hekaha Street
Unit 9
Aiea, HI 96701

Client ID: L1617
Report Number: B341476
Date Received: 12/01/22
Date Analyzed: 12/08/22
Date Printed: 12/08/22
First Reported: 12/08/22

Job ID/Site: 220051; S10846 Harbor Agent`s Office; Kalaeloa, Oahu, HI

SGSFL Job ID: L1617
Total Samples Submitted: 20
Total Samples Analyzed: 20

Date(s) Collected: 11/18/2022

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
KBPH-HAO-F-01A	51619259						
Layer: Beige Tile			**ND**				
Layer: Tan Mastic			**ND**				
Layer: Off-White Joint Compound			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
KBPH-HAO-F-01B	51619260						
Layer: Beige Tile			**ND**				
Layer: Tan Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
KBPH-HAO-F-01C	51619261						
Layer: Beige Tile			**ND**				
Layer: Tan Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
KBPH-HAO-F-02A	51619262						
Layer: White Ceramic Tile			**ND**				
Layer: Grey Grout			**ND**				
Layer: White Mortar			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
KBPH-HAO-F-02B	51619263						
Layer: White Ceramic Tile			**ND**				
Layer: Grey Grout			**ND**				
Layer: White Mortar			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					

20535 South Belshaw Avenue, Carson, CA 90746 / Telephone: (310) 763-2374 (888) 813-9417 / Fax: (310) 763-4450

Report Number: B341476

Client Name: Element Environmental, LLC **Date Printed:** 12/08/22

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
KBPH-HAO-F-02C	51619264						
Layer: White Ceramic Tile			**ND**				
Layer: Grey Grout			**ND**				
Layer: White Mortar			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
KBPH-HAO-W-01A	51619265						
Layer: Pink Drywall			**ND**				
Layer: Brown Drywall			**ND**				
Layer: White Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %) Fibrous Glass (2 %)		**Asbestos (ND)**					
KBPH-HAO-W-01B	51619266						
Layer: Pink Drywall			**ND**				
Layer: White Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %) Fibrous Glass (2 %)		**Asbestos (ND)**					
KBPH-HAO-W-01C	51619267						
Layer: Pink Drywall			**ND**				
Layer: White Joint Compound			**ND**				
Layer: Drywall Tape			**ND**				
Layer: White Joint Compound			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Fibrous Components: Cellulose (20 %) Fibrous Glass (2 %)		**Asbestos (ND)**					
KBPH-HAO-M-01A	51619268						
Layer: Beige Caulk			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
KBPH-HAO-M-01B	51619269						
Layer: Beige Caulk			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
KBPH-HAO-M-01C	51619270						
Layer: Beige Caulk			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					

20535 South Belshaw Avenue, Carson, CA 90746 / Telephone: (310) 763-2374 (888) 813-9417 / Fax: (310) 763-4450

Report Number: B341476

Client Name: Element Environmental, LLC **Date Printed:** 12/08/22

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
KBPH-HAO-M-02A	51619271						
Layer: Beige Non-Fibrous Material			**ND**				
Layer: Off-White Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
KBPH-HAO-M-02B	51619272						
Layer: Beige Non-Fibrous Material			**ND**				
Layer: Off-White Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
KBPH-HAO-M-02C	51619273						
Layer: Beige Non-Fibrous Material			**ND**				
Layer: Off-White Mastic			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
KBPH-HAO-M-03A	51619274						
Layer: White Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
KBPH-HAO-M-03B	51619275						
Layer: White Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
KBPH-HAO-M-03C	51619276						
Layer: White Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
KBPH-HAO-M-03D	51619277						
Layer: White Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					
KBPH-HAO-M-03E	51619278						
Layer: White Non-Fibrous Material			**ND**				
Total Composite Values of Fibrous Components: Cellulose (Trace)		**Asbestos (ND)**					

20535 South Belshaw Avenue, Carson, CA 90746 / Telephone: (310) 763-2374 (888) 813-9417 / Fax: (310) 763-4450

Report Number: B341476

Client Name: Element Environmental, LLC **Date Printed:** 12/08/22

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer

Tiffani Ludd, Laboratory Supervisor, Carson Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

20535 South Belshaw Avenue, Carson, CA 90746 / Telephone: (310) 763-2374 (888) 813-9417 / Fax: (310) 763-4450

SGS FORENSIC LABORATORIES

Analysis Request Form (COC)

Client Name & Address: Client No.: L1617

Element Environmental, LLC
98-030 Hekaha Street, Unit 9
Aiea, Hawaii 96701

PO / Job#: 220051 Date: 11/28/2022

Turn Around Time: Same Day / 1Day / 2Day / 3Day / 4Day / 5Day

☐ PCM: ☐ NIOSH 7400A / ☐ NIOSH 7400B ☐ Rotometer

☒ PLM: ☒ Standard / ☐ Point Count 400 - 1000 / ☐ CARB 435

Contact: Bernice Balete Phone: (808) 389-4792

E-mail: bbalete@e2hi.com

☐ TEM Air: ☐ AHERA / ☐ Yamate2 / ☐ NIOSH 7402
☐ TEM Bulk: ☐ Quantitative / ☐ Qualitative / ☐ Chatfield
☐ TEM Water: ☐ Potable / ☐ Non-Potable / ☐ Weight %
☐ TEM Dust: ☐ D5755 (microvac) / ☐ D6480 (wipe)

Site Name: S10846 Harbor Agent's Office

☐ IAQ Particle Identification (PLM LAB) ☐ PLM Opaques/Soot
☐ Particle Identification (TEM LAB) ☐ Special Project

Site Location: Kalaeloa, Oahu, HI

☐ Metals Analysis Matrix: Method:
Analytes:

Comments: **See attached asbestos table for sample information.**

☐ Silica in Air ☐ w/Gravimetry
☐ Quartz Only

Sample ID	Date / Time	Sample Location / Description	FOR AIR SAMPLES ONLY				Sample Area / Air Volume
			Type	Time On/Off	Avg LPM	Total Time	
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				

Sampled By: AL,BB Date/Time: 11/18/22 Shipped Via: ☒ Fed Ex ☐ UPS ☐ US Mail ☐ Courier ☐ Drop Off ☐ Other:

Relinquished By: Bernice Balete	Relinquished By:	Relinquished By:
Date / Time: 11/30/2022 @ 1400	Date / Time:	Date / Time:
Received By:	Received By:	Received By:
Date / Time: 12/01/22 09:35AM FE	Date / Time:	Date / Time:
Condition Acceptable? ☐ Yes ☐ No	Condition Acceptable? ☐ Yes ☐ No	Condition Acceptable? ☐ Yes ☐ No

Bulk Samples, Harbor Agent's Office, Kalaeloa

Sample ID	Sample Date	Sample Location	Sample Description
KBPH-HAO-F-01A	11/18/2022	Mop Sink Room	Vinyl Floor Tile (12" light gray/yellow)
KBPH-HAO-F-01B	11/18/2022	Shower Room	Vinyl Floor Tile (12" light gray/yellow)
KBPH-HAO-F-01C	11/18/2022	Water Closet	Vinyl Floor Tile (12" light gray/yellow)
KBPH-HAO-F-02A	11/18/2022	Shower	Ceramic Floor Tile/Grout/Mortar (2" speckled brown)
KBPH-HAO-F-02B	11/18/2022	Shower	Ceramic Base Tile/Grout/Mortar (4" light gray)
KBPH-HAO-F-02C	11/18/2022	Shower	Ceramic Base Tile/Grout/Mortar (4" light gray)
KBPH-HAO-W-01A	11/18/2022	Mop Sink Room	Gypsum Wallboard/Joint Compound
KBPH-HAO-W-01B	11/18/2022	Office	Gypsum Wallboard/Joint Compound
KBPH-HAO-W-01C	11/18/2022	Water Closet	Gypsum Wallboard/Joint Compound
KBPH-HAO-M-01A	11/18/2022	Mop Sink Room	Mop Sink Caulking (white)
KBPH-HAO-M-01B	11/18/2022	Mop Sink Room	Mop Sink Caulking (white)
KBPH-HAO-M-01C	11/18/2022	Mop Sink Room	Mop Sink Caulking (white)
KBPH-HAO-M-02A	11/18/2022	Mop Sink Room	Vinyl Base/Mastic (4" gray/yellow)
KBPH-HAO-M-02B	11/18/2022	Mop Sink Room	Vinyl Base/Mastic (4" gray/yellow)
KBPH-HAO-M-02C	11/18/2022	Shower Room	Vinyl Base/Mastic (4" gray/yellow)
KBPH-HAO-M-03A	11/18/2022	Water Closet	Sink Caulking (white)
KBPH-HAO-M-03B	11/18/2022	Water Closet	Toilet Caulking (white)
KBPH-HAO-M-03C	11/18/2022	Office	Window A/C Caulking (white)
KBPH-HAO-M-03D	11/18/2022	Mop Sink Room	Door Caulking (white)
KBPH-HAO-M-03E	11/18/2022	Office	Deep Sink Caulking (white)

SGS FORENSIC LABORATORIES

Metals Analysis of Bulks - TTLC

(AIHA-LAP, LLC Accreditation, Lab ID #101629)

Element Environmental, LLC
Bernice Balete
98-030 Hekaha Street
Unit 9
Aiea, HI 96701

Client ID: L1617
Report Number: M247060
Date Received: 12/01/22
Date Analyzed: 12/06/22
Date Printed: 12/06/22
First Reported: 12/06/22

Job ID / Site: 220051; S10846 Harbor Agent`s Office, Kalaeloa Oahu, HI
Date(s) Collected: 11/18/2022

SGSFL Job ID: L1617
Total Samples Submitted: 7
Total Samples Analyzed: 7

Sample Number	Lab Number	Analyte	Result	Result Units	Reporting Limit*	Method Reference
KBPH-HAO-P01	LM239127	Cd	< 8	mg/kg	8	EPA 3050B/6010B
		Cr	7	mg/kg	6	EPA 3050B/6010B
		Pb	30	mg/kg	30	EPA 3050B/6010B
KBPH-HAO-P02	LM239128	Cd	< 30	mg/kg	30	EPA 3050B/6010B
		Cr	20	mg/kg	20	EPA 3050B/6010B
		Pb	9	mg/kg	9	EPA 3050B/6010B
KBPH-HAO-P03	LM239129	Cd	< 30	mg/kg	30	EPA 3050B/6010B
		Cr	< 20	mg/kg	20	EPA 3050B/6010B
		Pb	< 30	mg/kg	30	EPA 3050B/6010B
KBPH-HAO-P04	LM239130	Cd	< 20	mg/kg	20	EPA 3050B/6010B
		Cr	< 10	mg/kg	10	EPA 3050B/6010B
		Pb	< 20	mg/kg	20	EPA 3050B/6010B
KBPH-HAO-P05	LM239131	Cd	< 10	mg/kg	10	EPA 3050B/6010B
		Cr	< 8	mg/kg	8	EPA 3050B/6010B
		Pb	< 20	mg/kg	20	EPA 3050B/6010B
KBPH-HAO-P06	LM239132	Cd	< 4	mg/kg	4	EPA 3050B/6010B
		Cr	3	mg/kg	3	EPA 3050B/6010B
		Pb	5	mg/kg	5	EPA 3050B/6010B
KBPH-HAO-P07	LM239133	Cd	< 20	mg/kg	20	EPA 3050B/6010B
		Cr	< 20	mg/kg	20	EPA 3050B/6010B
		Pb	< 30	mg/kg	30	EPA 3050B/6010B

20535 South Belshaw Avenue, Carson, CA 90746 / Telephone: (310) 763-2374 (888) 813-9417 / Fax: (310) 763-4450

SGS FORENSIC LABORATORIES

Metals Analysis of Bulks - TTLC

(AIHA-LAP, LLC Accreditation, Lab ID #101629)

Element Environmental, LLC
Bernice Balete
98-030 Hekaha Street
Unit 9
Aiea, HI 96701

Client ID: L1617
Report Number: M247060
Date Received: 12/01/22
Date Analyzed: 12/06/22
Date Printed: 12/06/22
First Reported: 12/06/22

Job ID / Site: 220051; S10846 Harbor Agent`s Office, Kalaeloa Oahu, HI
Date(s) Collected: 11/18/2022

SGSFL Job ID: L1617
Total Samples Submitted: 7
Total Samples Analyzed: 7

Sample Number	Lab Number	Analyte	Result	Result Units	Reporting Limit*	Method Reference

* The Reporting Limit represents the lowest amount of analyte that the laboratory can confidently detect in the sample, and is not a regulatory level. The Units for the Reporting Limit are the same as the Units for the Final Results.

Beatriz Hinojosa, Laboratory Supervisor, Carson Laboratory

20535 South Belshaw Avenue, Carson, CA 90746 / Telephone: (310) 763-2374 (888) 813-9417 / Fax: (310) 763-4450

SGS FORENSIC LABORATORIES

Analysis Request Form (COC)

Client Name & Address: Element Environmental, LLC 98-030 Hekaha Street, Unit 9 Aiea, Hawaii 96701	Client No.: L1617
PO / Job#: 220051	Date: 11/28/2022
Turn Around Time: Same Day / 1Day / 2Day / 3Day / 4Day / 5Day	
☐ PCM: ☐ NIOSH 7400A / ☐ NIOSH 7400B ☐ Rotometer	
☐ PLM: ☐ Standard / ☐ Point Count 400 - 1000 / ☐ CARB 435	
Contact: Bernice Balete	Phone: (808) 389-4792
E-mail: bbalete@e2hi.com	☐ TEM Air: ☐ AHERA / ☐ Yamate2 / ☐ NIOSH 7402 ☐ TEM Bulk: ☐ Quantitative / ☐ Qualitative / ☐ Chatfield ☐ TEM Water: ☐ Potable / ☐ Non-Potable / ☐ Weight % ☐ TEM Microvac: ☐ Qual / ☐ D5755(str/area) / ☐ D5756(str/mass)
Site Name: S10846 Harbor Agent's Office	☐ IAQ Particle Identification (PLM LAB) ☐ PLM Opaques/Soot ☐ Particle Identification (TEM LAB) ☐ Special Project
Site Location: Kalaeloa, Oahu, HI	☒ Metals Analysis Matrix: Paint Chip Method: EPA 3050B/7000B Analytes: Lead, Cadmium, Chromium, Mercury, PCB
Comments: **See attached paint chip table for sample information.**	☐ Silica in Air ☐ w/Gravimetry ☐ Quartz Only

Sample ID	Date / Time	Sample Location / Description	FOR AIR SAMPLES ONLY				Sample Area / Air Volume
			Type	Time On/Off	Avg LPM	Total Time	
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				

Sampled By: BB,AL Date/Time: 11/18/22 Shipped Via: ☒ Fed Ex ☐ UPS ☐ US Mail ☐ Courier ☐ Drop Off ☐ Other:

Relinquished By: Bernice Balete Date / Time: 11/30/2022 @ 1400	Relinquished By: Date / Time:	Relinquished By: Date / Time:
Received By: Date / Time: 12/01/22 09:35AM FE Condition Acceptable? ☐ Yes ☐ No	Received By: Date / Time: Condition Acceptable? ☐ Yes ☐ No	Received By: Date / Time: Condition Acceptable? ☐ Yes ☐ No

Sample ID	Sample Date	Sample Location	Sample Description
KBPH-HAO-P01	11/18/2022	Water Heater Shack	Light beige wood wall
KBPH-HAO-P02	11/18/2022	Exterior Window A/C Unit	Light orange wood trim
KBPH-HAO-P03	11/18/2022	Mop Sink Room	Light yellow gypsum wallboard
KBPH-HAO-P04	11/18/2022	Interior Window A/C Unit	Light yellow wood trim
KBPH-HAO-P05	11/18/2022	Water Closet	Light yellow gypsum wallboard
KBPH-HAO-P06	11/18/2022	Shower Room	Yellow gypsum wallboard
KBPH-HAO-P07	11/18/2022	Water Closet	Brown door frame

ARTICLE XXXII - MATERIAL SUBMITTALS AND SHOP DRAWINGS

32.1 GENERAL - This Article consists of a list of materials and shop drawings required for this project. As soon as possible after award of the contract, the Contractor shall submit for approval, the required material submittals and shop drawings to the Harbors Division Construction Engineer at 79 S. Nimitz Highway, Honolulu, Hawaii 96813. The Material Submittals and Shop Drawings submitted by the Contractor shall include all items listed below. Material Submittals and Shop Drawings not submitted as a complete package will not be reviewed by the Harbors Division and will be sent back as a non-submittal. The Contractor shall promptly order its materials after approval of its submittals.

32.2 MATERIAL SUBMITTALS - The Contractor shall submit for review and approval digital copies of manufacturer's specifications for the following items and items identified in the individual Articles:

A. Proof of valid TWIC and MARSEC (if required) credential cards for all Contractor and Sub- Contractor workers.

B. Painting.

1. Schedule of Paint Finishes
2. Painting Schedule of Operations
3. Painting Guarantee
4. Paint Certifications
5. Paint Product Data Sheets
6. Paint Manufacturers' Material Safety Data Sheets

C. Mechanical Work.

1. Manufacturer's Published Data
2. Shop Drawings
3. Design Data
4. Guaranty and Certificate
5. Maintenance Service Contract
6. Operations and Maintenance Manual

7. As-Built Drawings

8. Fire Alarm System Documentation

D. Electrical Work. Product Data.

E. Removal and Disposal of Miscellaneous Hazardous Materials.

1. Manufacturer's Catalog Data

2. Material Safety Data Sheets

3. Notifications

4. Respiratory Protection Program

5. Hazard Communication (HAZCOM) Program

6. Safety Program

7. Work Procedure Plan

8. Rental Equipment

9. HEPA Vacuums

10. Contractor’s Competent Person’s Qualifications

11. Certification of Medical Examinations

12. Employee EPA Lead Worker/Supervisor Certifications

13. Employee Training Certifications

14. Laboratory Qualifications

15. TLCP Testing Laboratory

16. Personal Air Monitoring Results

17. TLCP Results

18. Lead Disturbance Work Log

32.3 PAYMENT - Payment for Material Submittals and Shop Drawings shall not be made separately but shall be considered incidental to the items described in Article X of these Specifications.

ARTICLE XXXIII - PROJECT PHOTOGRAPHS

Photo 1: Entry to existing restroom.

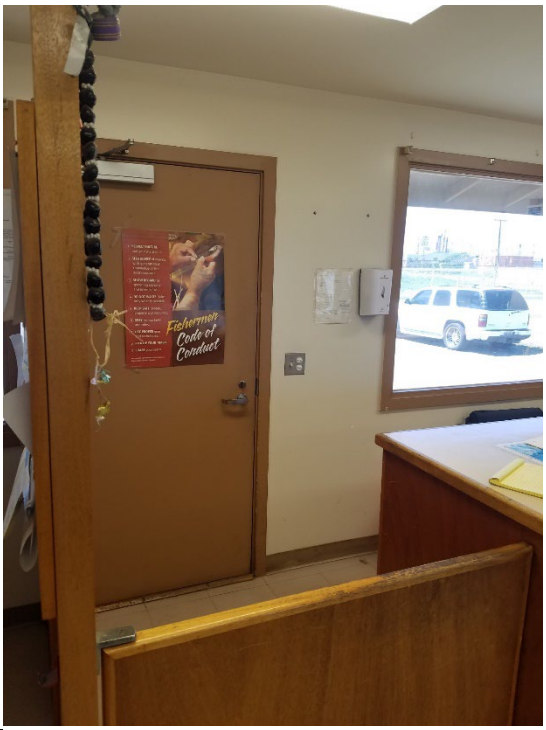

Photo 2: Entry door to office & gate.

Photo 3: Reception counter- public side.

Photo 4: Reception counter - public side.

Photo 5: Reception counter- office side.

Photo 6: Reception counter - office side.

Photo 7: Gate - office side.

Photo 8: Entry doors to janitor/electoral closet and restroom; entry gate.

Photo 9: Reception counter - office side.

Photo 10: Reception counter - office side.

Photo 11: Office ceiling facing kitchenette.

Photo 12: Office ceiling facing janitor/electoral closet and restroom.


Photo 13: Office ceiling facing entry.

Photo 14: Office ceiling facing entry.

Photo 15: Office ceiling facing entry.

Photo 16: Office – existing refrigerator.

Photo 17: Office.

Photo 18: Office.

Photo 19: Office.

Photo 20: Office.

Photo 21: Office.

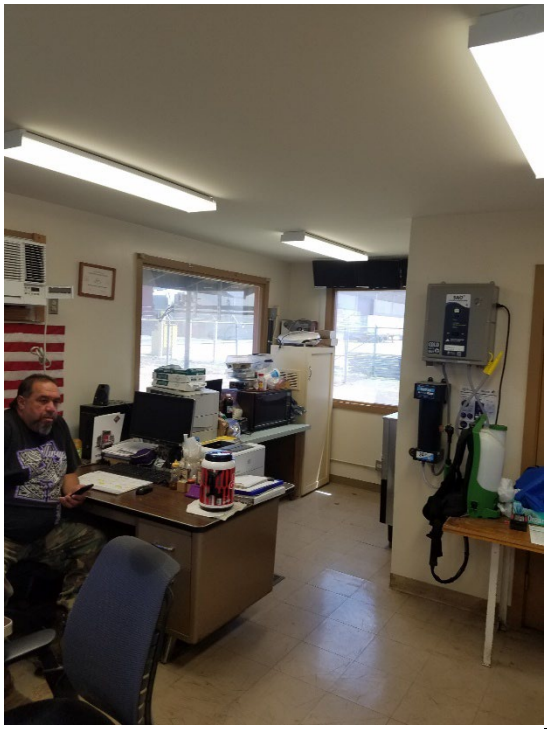

Photo 22: Office.

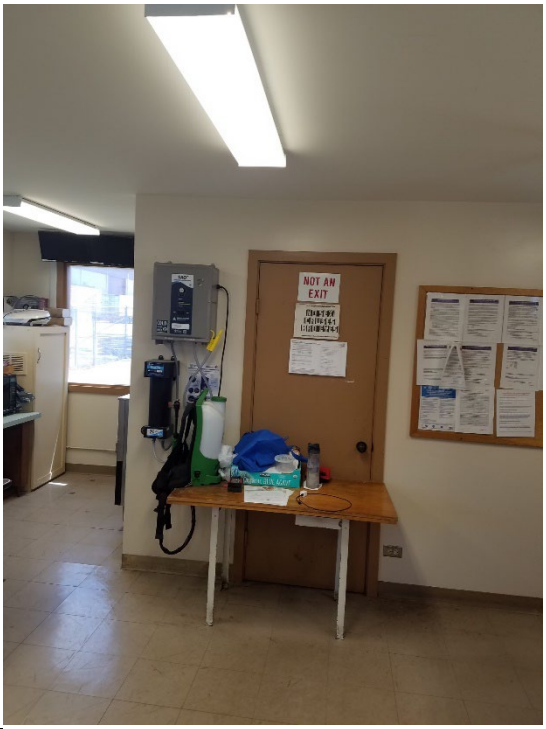

Photo 23: Office.

Photo 24: Office.

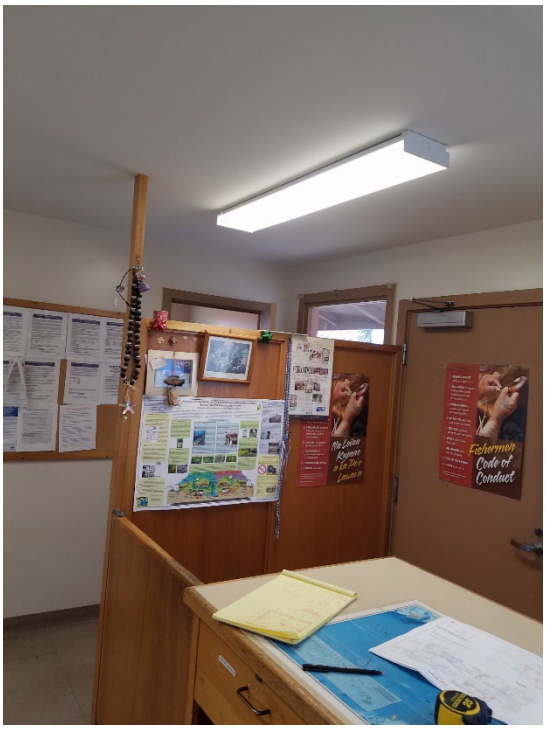

Photo 25: Partial height partition to be removed.


Photo 26: 1 of 2 existing through wall window air conditioners to be removed.

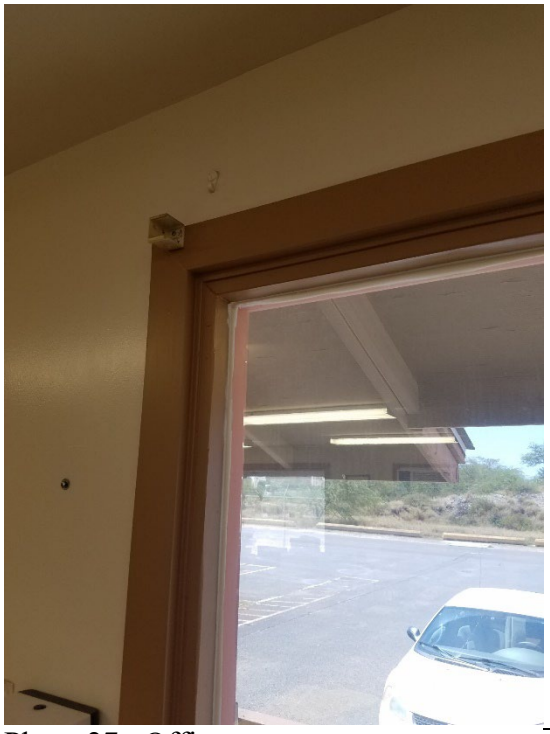

Photo 27: Office.

Photo 28: Existing disinfecting equipment to be relocated.

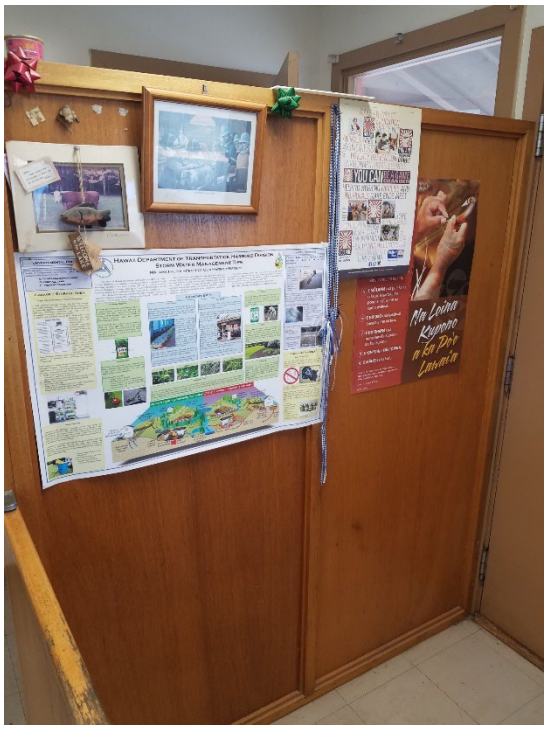

Photo 29: Existing partial height partition to be removed.

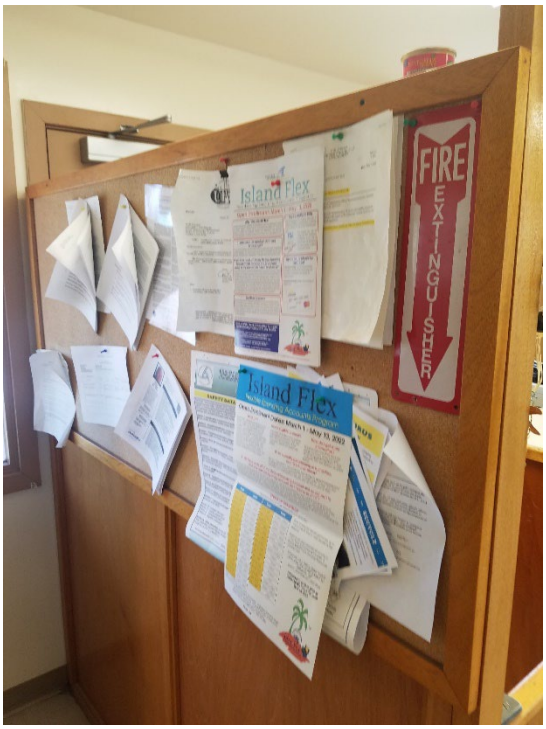

Photo 30: Existing partial height partition to be removed.

Photo 31: Existing kitchenette & equipment cabinet.

Photo 32: Existing kitchenette & equipment cabinet.

Photo 33: Existing kitchenette & disinfecting equipment to be relocated.

Photo 34: Existing security surveillance camera flat screen monitors to remain.

Photo 35: Existing \scullery sink and ice maker.

Photo 36: Existing wall mounted upper cabinets.

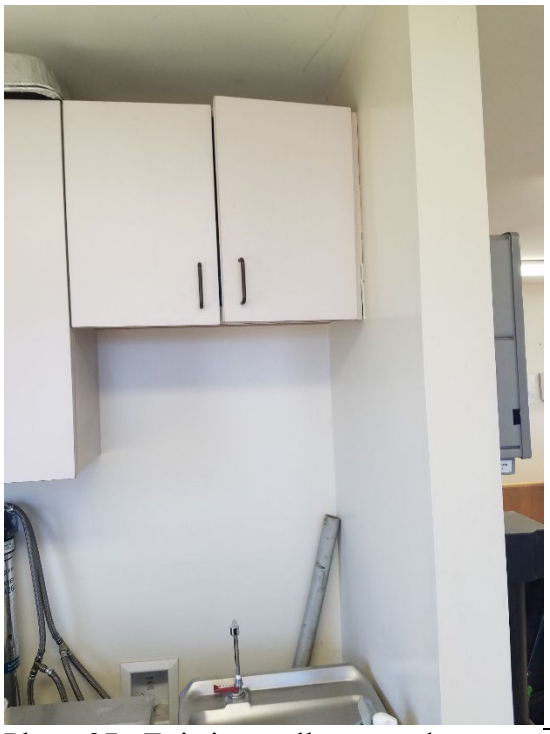

Photo 37: Existing wall mounted upper cabinets.

Photo 38: Existing drinking fountain.

Photo 39: Existing water heater closet.

Photo 40: Existing water heater closet.

Photo 41: Existing lavatory and mirror.

Photo 42: Existing water closet.

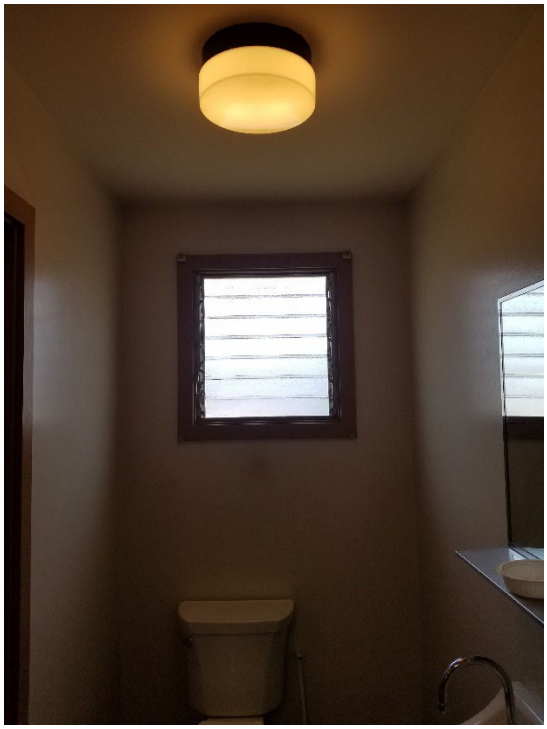

Photo 43: Existing water closet & ceiling light fixture.

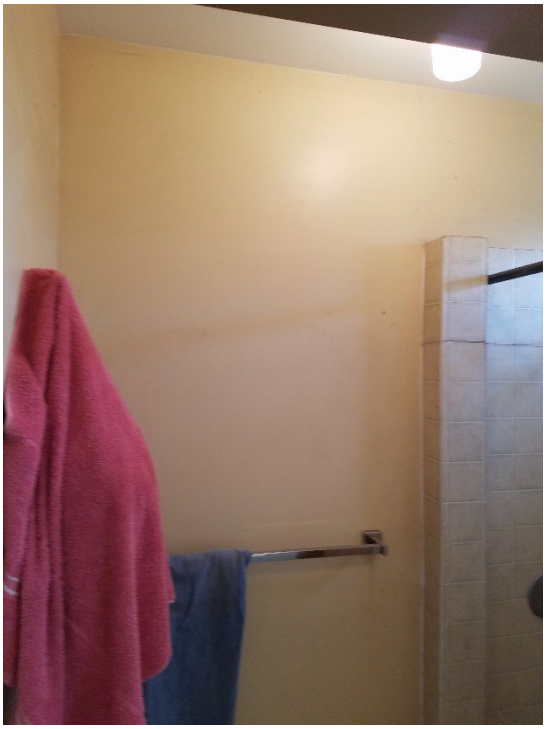

Photo 44: Outside existing shower.

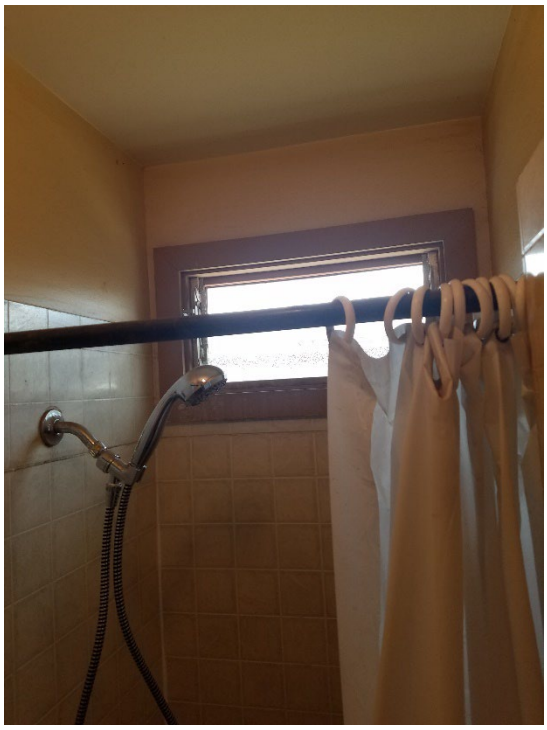

Photo 45: Existing handheld shower.

Photo 46: Existing shoer curb.

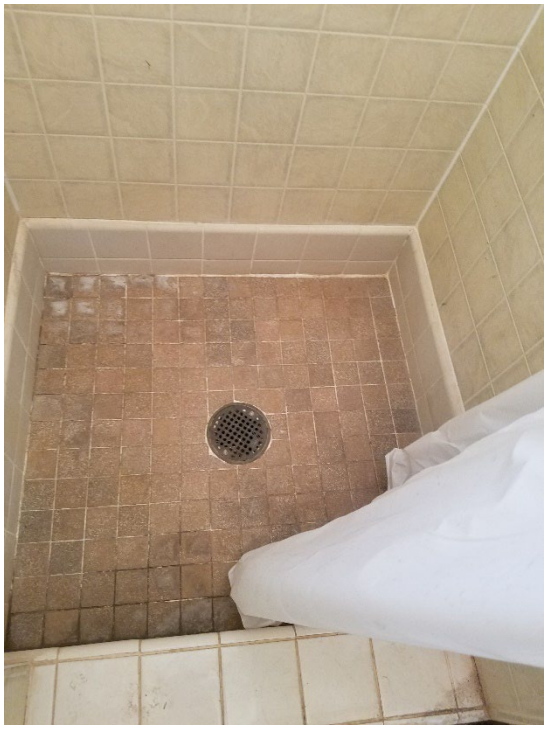

Photo 47: Existing shower drain.

Photo 48: Existing shower mixing valve.

Photo 40: Existing shower at wall.

Photo 41: Existing lavatory.

Photo 42: Existing janitor/electrical closet.

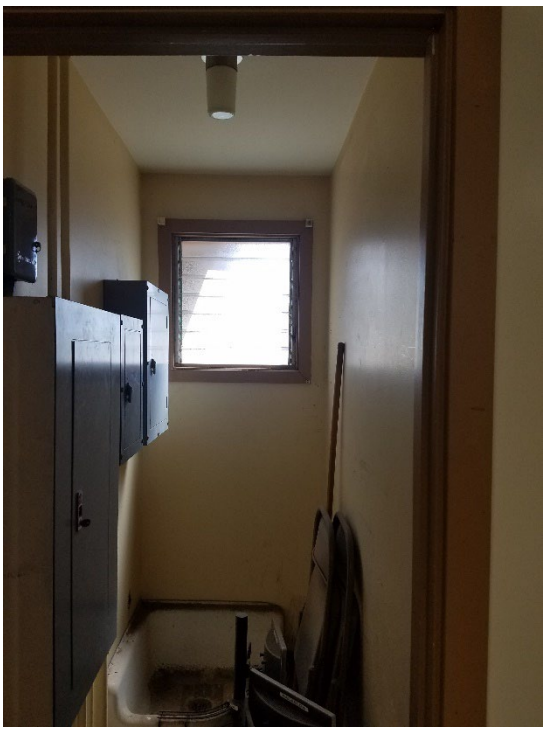

Photo 43: Existing janitor/electrical closet.

Photo 44: Existing janitor/electrical closet.

Photo 45: Existing janitor/electrical closet.

Photo 46: Existing radio equipment to be relocated.

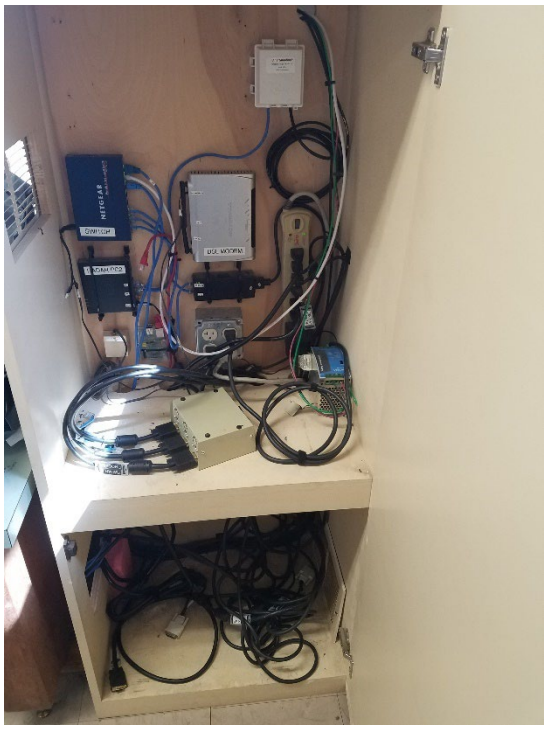

Photo 47: Existing equipment cabinet.

Photo 48: Existing equipment cabinet.

Termination of Work on Failure to Pay Wages

- If the contracting agency finds that any laborer or mechanic employed on the job site by the contractor or any subcontractor has not been paid prevailing wages or overtime, the contracting agency may, by written notice to the contractor, terminate the contractor's or subcontractor's right to proceed with the work or with the part of the work in which the required wages or overtime compensation have not been paid. The contracting agency may complete this work by contract or otherwise, and the contractor or contractor's sureties shall be liable to the contracting agency for any excess costs incurred. [§104-4, HRS]

Apprentices

- Apprentice wage rates apply to contractors who are a party to a bona fide apprenticeship program which has been registered with the DLIR. In order to be paid apprentice rates, apprentices must be parties to an agreement either registered with or recognized as a USDOL nationally approved apprenticeship program by the DLIR, Workforce Development Division, (808) 586-8877, and the apprentice must be individually registered by name with the DLIR. [§12-22-6(1) and (2), HAR]

- The number of apprentices on any public work in relation to the number of journeyworkers in the same craft classification as the apprentices employed by the same employer on the same public work may not exceed the ratio allowed under the apprenticeship standards registered with or recognized by the DLIR. A registered or recognized apprentice receiving the journeyworker rate will not be considered a journeyworker for the purpose of meeting the ratio requirement. [§12-22-6(3), HAR]

Enforcement

- To ensure compliance with the law, DLIR and the contracting agency will conduct investigations of contractors and subcontractors. If a contractor or subcontractor violates the law, the penalties are: [§104-24, HRS]

  - First Violation — Equal to 25% of back wages found due or $250 per offense up to $2,500, whichever is greater.
  - Second Violation — Equal to amount of back wages found due or $500 for each offense up to $5,000, whichever is greater.
  - Third Violation — Equal to two times the amount of back wages found due or $1,000 for each offense up to $10,000, whichever is greater; and
    Suspension from doing any new work on any public work of a governmental contracting agency for three years.

  ▪ A violation would be deemed a second violation if it occurs within two years of the **first notification of violation**, and a third violation if it occurs within three years of **the second notification of violation**. [§104-24, HRS; §12-22-25(b), HAR]

  ▪ **Suspension**: For a first or second violation, the department shall immediately suspend a contractor who fails to pay wages or penalties until all wages and penalties are paid in full. For a third violation, the department shall penalize and suspend the contractor as described above, **except that if the contractor continues to violate the law, then the department shall immediately suspend the contractor for a mandatory three years. The contractor shall remain suspended until all wages and penalties are paid in full.** [§§104-24, 104-25, HRS]

- **Suspension**: Any contractor who fails to make payroll records accessible or provide requested information within 10 days, or fails to keep or falsifies any required record, shall be assessed a penalty including suspension as provided in Section 104-22(b) and 104-25(a)(3), HRS. [§104-3(c), HRS; §12-22-26, HAR]

- If any contractor interferes with or delays any investigation, the contracting agency shall withhold further payments until the delay has ceased. Interference or delay includes failure to provide requested records or information within ten days, failure to allow employees to be interviewed during working hours on the job, and falsification of payroll records. The department shall assess a penalty of $10,000 per project, and $1,000 per day thereafter, for interference or delay. [§104-22(b), HRS; §12-22-26, HAR]

- Failure by the contracting agency to include in the provisions of the contract or specifications the requirements of Chapter 104, HRS, relating to coverage and the payment of prevailing wages and overtime, is not a defense of the contractor or subcontractor for noncompliance with the requirements of this chapter. [§104-2(f), HRS]

For additional information, visit the department's website at *http://labor.hawaii.gov/wsd*
or contact any of the following DLIR offices:

Oahu (Wage Standards Division).....(808) 586-8777
Hawaii Island .....(808) 974-6464
Maui and Kauai.....(808) 243-5322

Requirements of Chapter 104, HRS
Wages and Hours of Employees on Public Works Law

Chapter 104, HRS, applies to every public works construction project over $2,000, regardless of the method of procurement or financing (purchase order, voucher, bid, contract, lease arrangement, warranty, SPRB).

Rate of Wages for Laborers and Mechanics

- Minimum prevailing wages (basic hourly rate plus fringe benefits), as determined by the Director of Labor and Industrial Relations and published in wage rate schedules, shall be paid to the various classes of laborers and mechanics working on the job site. [§104-2(a), (b), Hawaii Revised Statutes (HRS)]

- If the Director of Labor determines that prevailing wages have increased during the performance of a public works contract, the rate of pay of laborers and mechanics shall be raised accordingly. [§104-2(a) and (b), HRS; §12-22-3(d) Hawaii Administrative Rules (HAR)]

Overtime

- Laborers and mechanics working on a Saturday, Sunday, or a legal holiday of the State or more than eight hours a day on any other day shall be paid overtime compensation at not less than one and one-half times the basic hourly rate plus the cost of fringe benefits for all hours worked. If the Director of Labor determines that a prevailing wage is defined by a collective bargaining agreement, the overtime compensation shall be at the rates set by the applicable collective bargaining agreement [§§104-1, 104-2(c), HRS; §12-22-4.1, HAR]

Weekly Pay

- Laborers and mechanics employed on the job site shall be paid their full wages at least once a week, without deduction or rebate, except for legal deductions, within five working days after the cutoff date. [§104-2(d), HRS]

Posting of Wage Rate Schedules

- Wage rate schedules with the notes for prevailing wages and special overtime rates, shall be posted by the contractor in a prominent and easily accessible place at the job site. A copy of the entire wage rate schedule shall be given to each laborer and mechanic employed under the contract, except when the employee is covered by a collective bargaining agreement. [§104-2(d), HRS]

Withholding of Accrued Payments

- If necessary, the contracting agency may withhold accrued payments to the contractor to pay to laborers and mechanics employed by the contractor or subcontractor on the job site any difference between the wages required by the public works contract or specifications and the wages received. [§104-2(e), HRS]

Certified Weekly Payrolls and Payroll Records

- A certified copy of all payrolls shall be submitted weekly to the contracting agency. [§104-3(a), HRS; §12-22-10, HAR]

- The contractor is responsible for the submission of certified copies of the payrolls of all subcontractors. The certification shall affirm that the payrolls are correct and complete, that the wage rates listed are not less than the applicable rates contained in the applicable wage rate schedule, and that the classifications for each laborer or mechanic conform with the work the laborer or mechanic performed. [§104-3(a), HRS; §12-22-10, HAR]

- Payroll records shall be maintained by the contractor and subcontractors for three years after completion of construction. The records shall contain: [§104-3(b), HRS; §12-22-10, HAR]
  - the name and home address of each employee
  - the last four digits of social security number
  - a copy of the apprentice's registration with DLIR
  - the employee's correct classification
  - rate of pay (basic hourly rate + fringe benefits)
  - itemized list of fringe benefits paid
  - daily and weekly hours worked
  - weekly straight time and overtime earnings
  - amount and type of deductions
  - total net wages paid
  - date of payment

- Records shall be made available for examination by the contracting agency, the Department of Labor and Industrial Relations (DLIR), or any of its authorized representatives, who may also interview employees during working hours on the job. [§§104-3(c), 104-22(a), HRS; §12-22-10, HAR]

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

PROPOSAL

PROPOSAL TO THE STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION

PROJECT:	REPAIR HARBOR AGENT'S OFFICE AT KALAELOA BARBERS POINT HARBOR, OAHU, HAWAII
PROJECT NO:	S10846
COMPLETION TIME:	ONE HUNDRED EIGHTY (180) calendar days from the date indicated in the Notice to Proceed from the Department.
LIQUIDATED DAMAGES:	TWO HUNDRED TWENTY-FIVE DOLLARS ($225.00) for each and every calendar day which the Contractor has delayed the completion of this project.
ELECTRONIC SUBMITTAL:	The Proposal and supporting documents shall be uploaded through the State of Hawaii eProcurement System (HIePRO).
DESIGN PROJECT MANAGER:	MR. BRANDEN SUMIDA DEPARTMENT OF TRANSPORTATION HARBORS DIVISION HALE AWA MOKU 79 S. NIMITZ HIGHWAY HONOLULU, HAWAII 96813 PHONE: (808) 587-1873 EMAIL: branden.sumida@hawaii.gov

Director of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Sir:

The undersigned Bidder declares the following:

1. It has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal.

2. It has not been assisted or represented on this matter by any individual who has, in a State capacity, been involved in the subject matter of this contract within the past two years.

3. It has not and will not, either directly or indirectly offered or given a gratuity (i.e. an entertainment or gift) to any State or County employee to obtain a contract or favorable treatment under a contract.

The undersigned Bidder further agrees to the following:

1. If this proposal is accepted, it shall execute a contract with the Department to provide all necessary labor, machinery, tools, equipment, apparatus and any other means of construction, to do all the work and to furnish all the materials specified in the contract in the manner and within the time therein prescribed in the contract, and that it shall accept in full payment therefore the sum of the unit and/or lump sum prices as set forth in the attached proposal schedule for the actual quantities of work performed and materials furnished and furnish satisfactory security in accordance with Section 103D-324, Hawaii Revised Statutes, within 10 days after the award of the contract or within such time as the Director of Transportation may allow after the undersigned has received the contract documents for execution, and is fully aware that non-compliance with the aforementioned terms will result in the forfeiture of the full amount of the bid guarantee required under Section 103D-323, Hawaii Revised Statutes.

2. That the quantities given in the attached proposal schedule are approximate only and are intended principally to serve as a guide in determining and comparing the bids.

3. That the Department does not either expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work, or to omit portions of the work, as may be deemed necessary or advisable by the Director of Transportation, and that all increased or decreased quantities of work shall be performed at the unit prices set forth in the attached proposal schedule except as provided for in the specifications.

4. In case of a discrepancy between unit prices and the totals in said Proposal Schedule, the unit prices shall prevail.

5. Agrees to begin work within 10 working days after the date of notification to commence with the work, which date is in the notice to proceed, and shall finish the entire project within the time prescribed.

6. The Director of Transportation reserves the right to reject any or all bids and to waive any defects when in the Director's opinion such rejections or waiver will be for the best interest of the public.

The Bidder acknowledges receipt of and certifies that it has completely examined the following listed items: the Hawaii Department of Transportation, Air and Water Transportation Facilities Division General Provisions for Construction Projects dated 2016, the Notice to Bidders, the Special Provisions, if any, the Technical Provisions, the Proposal, the Contract and Bond Forms, and the Project Plans.

In accordance with Section 103D-323, Hawaii Revised Statutes, this proposal is accompanied with a bid security in the amount of 5% of the total amount bid, in the form checked below. (Check applicable bid security submitted with bid.)

_____ Surety Bid Bond (Use standard form),

_____ Cash,

_____ Cashier's Check,

_____ Certified Check, or

_____ _____.
(Fill in other acceptable security.)

The undersigned Bidder acknowledges receipt of any addendum issued by the Department by recording in the space below the date of receipt.

Addendum No. 1 _____ Addendum No. 3 _____

Addendum No. 2 _____ Addendum No. 4 _____

In accordance with Section 103D-302, Hawaii Revised Statutes, the undersigned as Bidder, has listed the name of each person or firm, who will be engaged by the Bidder on the project as a Subcontractor or Joint Contractor and the nature of work to be done by each. The Bidder must adequately and unambiguously disclose the unique nature and scope of the work to be performed by each Subcontractor or Joint Contractor. For each listed firm, the Bidder declares the respective firm is a Subcontractor or Joint Contractor and is subject to evaluation as a Subcontractor or Joint Contractor. It is understood that failure to comply with the aforementioned requirements may be cause for rejection of the bid submitted.

Name of Subcontractor	Nature and Scope of Work
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

Name of Joint Contractor	Nature and Scope of Work
1.	
2.	
3.	

("None" or if left blank indicates no Subcontractor or Joint Contractor; if more space is needed, attach additional sheets.)

The undersigned hereby certifies that the bid prices contained in the attached proposal schedule have been carefully checked and are submitted as correct and final.

This declaration is made with the understanding that the undersigned is subject to the penalty of perjury under the laws of the United States and is in violation of the Hawaii Penal Code, Section 710-1063, unsworn falsification to authorities, of the Hawaii Revised Statutes, for knowingly rendering a false declaration.

_____
Bidder (Company Name)

By_____
Authorized Signature

_____
Print Name and Title

_____

_____
Business Address

_____ _____
Business Telephone Email

_____
Date

_____
Contact Person (If different from above)

Phone:_____ Email:_____

NOTE:

If Bidder is a CORPORATION, the legal name of the corporation shall be set forth above, the corporate seal affixed, together with the signature(s) of the officer(s) authorized to sign contracts for the corporation. Please attach to this page current (not more than six months old) evidence of the authority of the officer(s) to sign for the corporation.

If Bidder is a PARTNERSHIP, the true name of the partnership shall be set forth above, with the signature(s) of the general partner(s). Please attach to this page current (not more than six months old) evidence of the authority of the partner authorized to sign for the partnership.

If Bidder is an INDIVIDUAL, the bidder's signature shall be placed above.

If signature is by an agent, other than an officer of a corporation or a partner of a partnership, a POWER OF ATTORNEY must be on file with the Department before opening bids or submitted with the bid. Otherwise, the Department may reject the bid as irregular and unauthorized.

PREFERENCES

Bidders agree that preferences shall be taken into consideration to determine the low bidder in accordance with said Sections and the rules promulgated, however, the award of contract will be in the amount of the bid offered exclusive of any preferences.

A. HAWAII PRODUCTS PREFERENCE

In accordance with ACT 174, SLH 2022, effective June 27, 2022, Hawaii Products Preference shall not apply to solicitations for public works construction. Therefore, the Hawaii Products Preference shall not apply to this project.

B. APPRENTICESHIP PROGRAMS PREFERENCE

In accordance with ACT 17, SLH 2009 – Apprenticeship Program, a 5% bid adjustment for bidders that are parties to apprenticeship agreements pursuant to Hawaii Revised Statutes (HRS) Section 103-55.6 may be applied to the bidder's price for evaluation purposes.

Any bidder seeking this preference must be a party to an apprenticeship agreement registered with the Department of Labor and Industrial Relations at the time the offer is made for each apprenticeable trade the bidder will employ to construct the public works projects for which the offer is being made.

The bidder is responsible for complying with all submission requirements for registration of its apprenticeship program before requesting the preference.

( ) Yes, I wish to be considered for the Apprenticeship Programs Preference. I have included Certification Form(s) 1 with my bid.

C. RECYCLED PRODUCT PREFERENCE

Recycled product preference shall not apply to this proposal.

REPAIR HARBOR AGENT'S OFFICE AT

KALAELOA BARBERS POINT HARBOR, OAHU, HAWAII

JOB S10846

PROPOSAL SCHEDULE

Item No.	Item Description	Approximate Quantity (a)	Unit	Unit Price (b)	Amount Bid (a x b)
1	Mobilization & Demobilization	Lump Sum	Lump Sum	Lump Sum	$ _____
2	Selective Demolition	Lump Sum	Lump Sum	Lump Sum	$ _____
3	Interior Renovation	Lump Sum	Lump Sum	Lump Sum	$ _____
4	Mechanical Work	Lump Sum	Lump Sum	Lump Sum	$ _____
5	Plumbing Work	Lump Sum	Lump Sum	Lump Sum	$ _____
6	Electrical Work	Lump Sum	Lump Sum	Lump Sum	$ _____
7	Lead-Containing Paint Control Measures	Lump Sum	Lump Sum	Lump Sum	$ _____
TOTAL AMOUNT FOR COMPARISON OF BIDS……$ _____					

NOTES:

Bid shall include all Federal, State, County and other applicable taxes and fees.

The TOTAL AMOUNT FOR COMPARISON OF BIDS will be used to determine the lowest responsible bidder.

Bidders must complete all unit prices and amounts. Failure to do so may be grounds for rejection of bid.

If a discrepancy occurs between unit bid price and the bid price, the unit bid price shall govern. If the lowest TOTAL AMOUNT FOR COMPARISON OF BIDS exceeds the funds available for this project, the State reserves the right to negotiate with the lowest responsible bidder as permitted under Section 103D-302, Hawaii Revised Statutes, as amended, to reduce the scope of work and award a contract therefor.

Submission of a Proposal is a warranty that the bidder has made an examination of the project site and is fully aware of all conditions to be encountered in performing the work and the requirements of these Plans and Specifications.

No additional compensation will be paid by the State for losses, including overhead and profit, resulting from reduced scope of work.

Contract time shall remain the same whether or not the overall scope of work is decreased.

Completed Proposal file shall be uploaded into HIePRO prior to bid opening date and time. All other required confidential or proprietary documents shall be uploaded separately.

SURETY BID BOND

Bond No. _____

KNOW TO ALL BY THESE PRESENTS:

That we, _____
(full name or legal title of offeror)

as Offeror, hereinafter called the Principal, and

_____
(name of bonding company)

as Surety, hereinafter called Surety, a corporation authorized to transact business as a Surety in the State of Hawaii, are held and firmly bound unto

_____
(State/county entity)

as Owner, hereinafter called Owner, in the penal sum of

_____
(required amount of bid security)

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

WHEREAS:

The Principal has submitted an offer for

_____
(project by number and brief description)

NOW, THEREFORE:

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

Signed this _____ day of _____, _____

_____
Name of Principal (Offeror) (Seal)

_____
Signature

_____
Title

_____
Name of Surety (Seal)

_____
Signature

_____
Title

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HONOLULU, HAWAII

SAMPLE FORMS

Contents:

PERFORMANCE BOND (SURETY)
(6/21/07)

KNOW TO ALL BY THESE PRESENTS:

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

as Contractor, hereinafter called Principal, and _____

_____
(Name and Street Address of Bonding Company)

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

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

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

WHEREAS, the above-bound Principal has signed a Contract with Obligee on _____, for the following project:_____
_____
_____
_____
_____
_____
hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

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

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

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

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

Signed this _____ day of _____, _____.

(Seal) _____
Name of Principal (Contractor)

* _____
Signature

_____
Title

(Seal) _____
Name of Surety

* _____
Signature

_____
Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

PERFORMANCE BOND

KNOW TO ALL BY THESE PRESENTS:

That we, _____
(full legal name and street address of Contractor)

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

_____
(State/County entity)

its successors and assigns, as Obligee, hereinafter called Obligee, in the amount

_____DOLLARS $_____),
(Dollar amount of Contract)

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

☐ **Legal Tender;**

☐ **Share Certificate** unconditionally assigned to or made payable at sight to _____
Description:_____;

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

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

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

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

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

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

WHEREAS:

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

_____

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

NOW THEREFORE,

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

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

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

Signed and sealed this _____ day of _____, _____.

(Seal)_____
Name of Contractor

_____
Signature*

_____
Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

LABOR AND MATERIAL PAYMENT BOND (SURETY)
(6/21/07)

KNOW TO ALL BY THESE PRESENTS:

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

as Contractor, hereinafter called Principal, and _____

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

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

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

WHEREAS, the above-bound Principal has signed Contract with the Obligee on _____ for the following project:_____
_____
_____
_____
_____
hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

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

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

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

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

Signed this _____ day of _____, _____.

(Seal) _____
Name of Principal (Contractor)

* _____
Signature

_____
Title

(Seal) _____
Name of Surety

* _____
Signature

_____
Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

LABOR AND MATERIAL PAYMENT BOND

KNOW TO ALL BY THESE PRESENTS:

That we, _____
(full legal name and street address of Contractor)

as Contractor, hereinafter called Contractor, is held and firmly bound unto _____
(State/County entity)

its successors and assigns, as Obligee, hereinafter called Obligee, in the amount

_____DOLLARS ($_____)
(Dollar amount of Contract)

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

☐ **Legal Tender;**

☐ **Share Certificate** unconditionally assigned to or made payable at sight to_____
Description:_____

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

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

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

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

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

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

WHEREAS:

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

_____

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

NOW THEREFORE,

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

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

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

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

Signed this _____ day of _____, _____.

(Seal)_____
Name of Contractor

_____
Signature*

_____
Title

ALL SIGNATURES MUST BE ACKNOWLEDGED BY A NOTARY PUBLIC

CHAPTER 104, HRS COMPLIANCE CERTIFICATE

The undersigned bidder does hereby certify to the following:

1. Individuals engaged in the performance of the contract on the job site shall be paid:

A. Not less than the wages that the director of labor and industrial relations shall have determined to be prevailing for corresponding classes of laborers and mechanics employed on public works projects; and

B. Overtime compensation at one and one-half times the basic hourly rate plus fringe benefits for hours worked on Saturday, Sunday, or a legal holiday of the State or in excess of eight hours on any other day.

2. All applicable laws of the federal and state governments relating to workers' compensation, unemployment compensation, payment of wages, and safety shall be fully complied with.

DATED at Honolulu, Hawaii, this _____ day of _____, 20___.

«CONTRACTOR»
Name of Corporation, Partnership, or Individual

Signature and Title of Signer

Notary Seal
NOTARY ACKNOWLEDGEMENT

Subscribed and sworn before me this
_____day of_____
Notary signature_____
Notary public, State of _____
My Commission Expires:_____

Notary Seal
NOTARY CERTIFICATION

Doc. Date: _____ #Pages: ____
Notary Name: _____ _____Circuit
Doc. Description: _____

_____
Notary signature_____
Date _____

PROVISIONS TO BE INCLUDED IN CONSTRUCTION PROCUREMENT SOLICITATIONS

1. Definitions for terms used in HRS Chapter 103B as amended by Act 192, SLH 2011:

   a. "Contract" means contracts for construction under 103D, HRS.

   b. "Contractor" has the same meaning as in Section 103D-104, HRS, provided that "contractor" includes a subcontractor where applicable.

   c. "Construction" has the same meaning as in Section 103D-104, HRS.

   d. "General Contractor" means any person having a construction contract with a governmental body.

   e. "Procurement Officer" has the same meaning as in Section 103D-104, HRS.

   f. "Resident" means a person who is physically present in the State of Hawai'i at the time the person claims to have established the person's domicile in the State of Hawai'i and shows the person's intent is to make Hawai'i the person's primary residence.

   g. "Shortage trade" means a construction trade in which there is a shortage of Hawai'i residents qualified to work in the trade as determined by the Department of Labor and Industrial Relations.

2. HRS Chapter 103B as amended by Act 192, SLH 2011–Employment of State Residents Requirements:

   a. A Contractor awarded a contract shall ensure that Hawai'i residents comprise not less than 80% of the workforce employed to perform the contract work on the project. The 80% requirement shall be determined by dividing the total number of hours worked on the contract by Hawai'i residents, by the total number of hours worked on the contract by all employees of the Contractor in the performance of the contract. The hours worked by any Subcontractor of the Contractor shall count towards the calculation for this section. The hours worked by employees within shortage trades, as determined by the Department of Labor and Industrial Relations (DLIR), shall not be included in the calculation for this section.

EXHIBIT 1

b. Prior to award of a contract, an Offeror/Bidder may withdraw an offer/bid without penalty if the Offeror/Bidder finds that it is unable to comply with HRS Chapter 103B as amended by Act 192, SLH 2011.

c. Prior to starting any construction work, the Contractor shall submit the subcontract dollar amount for each of its Subcontractors.

d. The requirements of this section shall apply to any subcontract of $50,000 or more in connection with the Contractor; that is, such Subcontractors must also ensure that Hawai'i residents comprise not less than 80% of the Subcontractor's workforce used to perform the subcontract.

e. The Contractor and any Subcontractor whose subcontract is $50,000 or more shall comply with the requirements of HRS Chapter 103B as amended by Act 192, SLH 2011.

1) Certification of compliance shall be made in writing under oath by an officer of the General Contractor and applicable Subcontractors and submitted with the final payment request.

2) The certification of compliance shall be made under oath by an officer of the company by completing a "Certification of Compliance for Employment of State Residents" form and executing the Certificate before a licensed notary public.

3) In addition to the certification of compliance as indicated above, the Contractor and Subcontractors shall maintain records such as certified payrolls for laborers and mechanics who performed work at the site and time sheets for all other employees who performed work on the project. These records shall include the names, addresses and number of hours worked on the project by all employees of the Contractor and Subcontractor who performed work on the project to validate compliance with HRS Chapter 103B as amended by Act 192, SLH 2011. The Contractor and Subcontractors shall retain these records and provide access to the State for a minimum period of four (4) years after the final payment, except that if any litigation, claim, negotiation, investigation, audit or other action involving the records has been started before the expiration of the four-year period, the Contractor and Subcontractors shall retain the records until completion of the action and resolution of all issues that arise from it, or until the end of the four-year period, whichever occurs later. Furthermore, it shall be the Contractor's responsibility to enforce compliance with this provision by any Subcontractor.

f. A General Contractor or applicable Subcontractor who fails to comply with this section shall be subject to any of the following sanctions:

1) With respect to the General Contractor, withholding of payment on the contract until the Contractor or its Subcontractor complies with HRS Chapter 103B as amended by Act 192, SLH 2011.

2) Proceedings for debarment or suspension of the Contractor or Subcontractor under Hawai'i Revised Statues §103D-702.

3. Conflict with Federal Law: This section shall not apply if the application of this section is in conflict with any federal law, or if the application of this section will disqualify the State from receiving Federal funds or aid.

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

Project Title: _____

Agency Project No: _____

Contract No.: _____

As required by Hawai'i Revised Statutes Chapter103B, as amended by Act 192, Session Laws of Hawaii 2011–Employment of State Residents on Construction Procurement Contracts, I hereby certify under oath, that I am an officer of _____ and
(Name of Contractor or Subcontractor Company)
for the Project Contract indicated above, _____ was in
(Name of Contractor or Subcontractor Company)
compliance with HRS Chapter 103B, as amended by Act 192, SLH 2011, by employing a workforce of which not less than eighty percent are Hawai'i residents, as calculated according to the formula in the solicitation, to perform this Contract.

☐ I am an officer of the **Contractor** for this contract.

☐ I am an officer of a **Subcontractor** for this contract.

CORPORATE SEAL

_____
(Name of Company)

_____
(Signature)

_____
(Print Name)

_____
(Print Title)

Subscribed and sworn to me before this
_____ day of _____, 2011.

_____
Notary Public, 1st Circuit, State of Hawai'i
My commission expires: _____

Doc. Date: _____ # of Pages_____ 1st Circuit
Notary Name: _____
Doc. Description: _____
_____
_____

_____
Notary Signature Date
NOTARY CERTIFICATION

EXHIBIT 2