SPECIFICATIONS AND PROPOSAL

FOR

DEMOLISH ROOFTOP STRUCTURES AT PIER 23

HONOLULU HARBOR, OAHU, HAWAII

JOB H. C. 10836

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION

NOTICE TO BIDDERS
Hawaii Revised Statutes (HRS),
Chapter 103D

The receiving of SEALED BIDS for DEMOLISH ROOFTOP STRUCTURES AT PIER 23, HONOLULU HARBOR, OAHU, HAWAII, JOB H.C. 10836, will begin as advertised in HIePRO. Bidders shall register and submit complete bids through HIePRO only. Refer to the following HIePRO link for important information on registering: https://hiepro.ehawaii.gov/welcome.html.

Plans, specifications, proposal, and other documents designated or incorporated by reference shall be available in HIePRO.

DEADLINE TO SUBMIT BIDS is March 7, 2024, at 2:00 p.m., Hawaii Standard Time (HST). **Bidders shall submit and upload the complete proposal to HIePRO prior to the bid opening date and time. Proposals received after said due date and time shall not be considered. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HIePRO. Do not include confidential and/or proprietary documents with the proposal. The record of each bidder and respective bid shall be open to public inspection. FAILURE TO UPLOAD THE PROPOSAL TO HIePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.**

The scope of work consists of demolishing the metal structures attached to the roof and walls of the concrete grain silos and demolishing the ground-level metal warehouse at Pier 23 at Honolulu Harbor. Demolition work will include removal of hazardous material. The estimated construction cost is between $4,000,000 and $5,000,000.

To be eligible for award, bidders shall possess a valid State of Hawaii General Engineering Contractor's "A" 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/.

A pre-bid conference is scheduled for February 15, 2024, at 9:00 a.m., HST. All prospective bidders or their representatives (employees) are encouraged to attend, but attendance is not mandatory. The pre-bid meeting will be conducted on Microsoft Teams. Contact Mr. Branden Sumida, Harbors Project Engineer, by email at branden.sumida@hawaii.gov, a minimum of 24-hours prior to the scheduled pre-bid meeting to receive the Teams meeting invitation. Anything said at the conference is for clarification purposes and any changes to the bid documents will be made by formal addendum and posted in HIePRO.

All Request for Information (RFI) questions and substitution requests shall be submitted via HIePRO **no later than February 22, 2024, at 2:00 p.m., HST** before bid opening. RFI questions received after the stated deadline will not be addressed. Verbal RFIs will not receive a response. All responses to RFI questions shall be issued by formal addendum and posted in HIePRO.

Apprenticeship Preference. A five percent bid adjustment for bidders that are party to apprenticeship agreements pursuant to HRS, §103-55.6, is applicable to this project.

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

Campaign Contributions by State and County Contractors. Contractors are hereby notified of the applicability of HRS, §11-355, 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.

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

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. Sumida by phone at (808) 587-1873 or by email as noted above.

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 of Transportation for Harbors

Posted on HIePRO: February 6, 2024

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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."

2. Section 1.3 Definitions: The definition for "Proposal (or Bid)" is amended by deleting it and replacing with the following:

   "PROPOSAL (OR BID) - The offer of a Bidder, on the prescribed HDOT form, submitted by the Bidder in response to a solicitation request, to perform the work required by the proposed contract documents, for the price quoted and within the time allotted."

3. Add the following to section 1.3 Definitions.

   "HAWAII ePROCUREMENT SYSTEM (HIePRO) - The State of Hawaii eProcurement System for issuing solicitations, receiving proposals and responses, and issuing notices of award."

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."

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:

"**Bidders shall submit and upload the complete proposal to HIePRO prior to the bid opening date and time. Proposals received after said due date and time shall not be considered.** Original (wet ink, hard copy) proposal documents are not required to be submitted. **Contract award shall be based on evaluation of proposals submitted and uploaded to HIePRO. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HIePRO. Do not include confidential and/or proprietary documents with the proposal.** The record of each bidder and respective bid shall be open to public inspection.

FAILURE TO UPLOAD THE COMPLETE PROPOSAL TO HIePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.

If there is a conflict between the specification document and the HIePRO solicitation, the specifications shall govern and control, unless otherwise specified."

3. 2.11 Bid Security is amended by deleting (a) and replacing it with:

"(a) Unless directed otherwise in the invitation for bids, each bid shall be accompanied by bid security which is intended to protect the Department against the failure or refusal of a bidder to execute the contract for the work bid or to supply the required performance and payment bonds. Bid security shall be in an amount equal to at least five percent of the base bid and additive alternates. Bid security shall be in one of the following forms:

(1) A deposit of legal tender;

(2) A valid surety bid bond, underwritten by a company licensed to issue bonds in the State of Hawaii; or

(3) A certificate of deposit; credit union share certificate; or cashier's, treasurer's, teller's, or official check drawn by or a certified check accepted by a bank, savings institution, or credit union insured by the Federal Deposit Insurance Corporation (FDIC) or the National Credit Union Administration (NCUA) and payable at sight or unconditionally assigned to the Department. These instruments may be utilized only to a

maximum of one hundred thousand dollars ($100,000.00). If the required amount totals over one hundred thousand dollars ($100,000.00), more than one instrument not exceeding one hundred thousand dollars ($100,000.00) each and issued by different financial institutions shall be accepted.

If bidder elects options (1) or (3) above for its bid security, said security shall be in its original form and shall be submitted before the bid deadline to the Contract Office, Department of Transportation, Aliiaimoku Hale, 869 Punchbowl Street, Room 105, Honolulu, Hawaii 96813. **Original surety bid bonds do <u>not</u> need to be submitted to the Contracts Office. Bidders are reminded that a copy of its bid bond shall be <u>included with its bid</u> submitted and uploaded to HIePRO.**"

4. <u>2.12 Pre-Opening Modification or Withdrawal of Bids</u> 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. <u>2.14 Public Opening of Bids</u> is amended by deleting 2.14 Public Opening of Bids in its entirety.

6. <u>2.20 Bid Evaluation and Award</u> 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. <u>ARTICLE VII – LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC</u>

1. <u>7.1 Insurance Requirements</u> 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 under this project includes furnishing of all labor, material, and equipment necessary to perform the demolition of the metal structures attached to the roof and walls of the concrete grain silos and steel warehouse at Pier 23, Honolulu Harbor, Oahu, Hawaii.

Bidders are advised to examine the existing conditions at the project site to familiarize themselves with the nature and extent of work involved. Appointments may be made with the State Harbors Maintenance Engineer for clarification of the work involved and the character and quality of materials specified.

10.2 SCOPE OF WORK – The major items of work to be done include, but are not limited to the following:

A. Mobilization and demobilization.

B. Submittal of best management plans including all submittal and documentations associated with removal and disposal of hazardous materials.

C. Removal and disposal of hazardous materials.

D. Demolition of the metal structures attached to the roof and walls of the concrete grain silos.

E. Demolition of the ground-level, metal warehouse and all attached metal structures.

F. Repair and waterproofing of the concrete silo roof.

G. Repair of spalls and delaminations at the exterior of the concrete grain silos.

10.3 CONTRACT DRAWINGS – The location and size of the repair area shown on the plan are approximate and are included for bidding purposes only. All structures and portions of structures shown on the plan are existing unless specifically noted. Existing conditions shown are based on the best available information. No guarantee is given that they are more than approximately correct.

10.4 WORK SCHEDULE – The work schedule and assignment of storage area(s) shall be discussed and coordinated with the Harbors Oahu District Manager and the Construction Engineer and shall be subject to their written approval. The contractor shall turn in a work schedule two (2) weeks prior to actual construction for approval by the Harbors Oahu District Manager and the Construction Engineer. The Contractor shall be responsible for maintaining the work and storage areas in neat and orderly condition.

Shipping and dock activities by tenants/users will take precedence over the Contractor's activities. Vessels call at various days of the week. An approximate vessel schedule for the project area can be found at hawaiiportcall.com. The exact scheduling of the work and restrictions on the Contractor's activities will be established at the pre-construction meeting.

Phasing and careful coordination of the work will be required to allow continuous use of the project area. The Contractor shall be responsible for coordination with all tenants/users of the area and the Harbors on a daily basis regarding scheduling of all work at no additional cost to the State.

The Contractor shall coordinate its work so as to minimize interference with the pier operations. All work shall be scheduled to minimize interference with any operations in the project area. Weekend work may be required.

The exact scheduling at sequencing of the work and restrictions on the Contractor's operation while working at the project site will be established at the pre-construction meeting. The Contractor shall attend the pre-construction meeting to coordinate its work with others and shall complete all work within the work schedule.

10.5 LIABILITY AND RESPONSIBILITY - The Contractor shall provide, erect and maintain warning signs, lights, barricades, fences, watchmen and/or 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 reasonable precautions for safety in its operations and to prevent injury to its employees and to others having lawful business at the job site.

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

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

The Contractor SHALL verify existing 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.

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

The Contractor shall submit a site specific BMP plan to the Harbors Construction Engineer for review and comment before work begins. The plan shall satisfy the 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 Construction Engineer. The Contractor shall revise the BMP plan – at no additional cost to the State - should it be determined by the Harbors Construction Engineer that the plan is insufficient to prevent pollution.

10.7 PERMITS - The Contractor will require permits for all welding and burning operations. The Contractor shall obtain the required work permit from the Harbors Oahu District Manager.

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

10.8 SUBMITTALS – The Contractor shall submit for review one (1) copy of the following items in PDF format.

A. Best Management Practices (BMP) Plan including removal of hazardous material in accordance with Article XII of these Technical Specifications.

B. Health and Safety Plan

C. Demolition and Removal Plan and Schedule

D. Removal and Disposal of Asbestos-Containing Materials as required by Article XIV of these specifications.

1. Notice

2. Work Plan

3. Documentation

4. Manufacturer’s Data

5. Respiratory Protection Program

6. Emergency Response and Evacuation Plan

E. Lead Paint Control Measures as required by Article XV of these specifications.

1. Work Plan

2. Documentation

3. Manufacturer’s Data

4. Respiratory Protection Program

5. Emergency Response and Evacuation Plan

6. Final Clearance Report

F. Removal and Disposal of Polychlorinated Biphenyls (PCBs) Ballasts and Mercury-Containing Material documentation in accordance with Article XVI of these specifications.

G. Concrete and Steel Repair Work as required by Article XVIII of these specifications.

1. Concrete Mix Design

2. Patching Compound for Form and Pour Repairs

3. Patching Compound for Vertical Surface and Underside Repairs

4. Reinforcing Steel

5. Reinforcing Steel Coating

6. Reinforcing Steel Shop Drawings

7. Structural Steel Shop Drawings

8. Epoxy for Grouting of Dowels

9. Curing Compound

10. Roof Hatch.

a. Shop Drawings

b. Product Data

c. Documentation

11. Expansion Joint Product Data

H. Fluid-Applied Roofing as required by Article XIX of these specifications.

1. Product Data

2. Shop Drawings

3. Installer’s Authorization

4. Manufacturer's Certification

5. VOC Certification

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

10.10 AS-BUILT DRAWINGS - The Contractor shall keep one (1) set of drawings at the job site and make all field changes thereon. After completion of the project, a PDF/A format digital file marked up with all the field changes shall be submitted to the Construction Engineer.

10.11 COMPLETION TIME - All work for 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 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 a specified portion of the work.

10.12 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.

Item 1 – Mobilization (Not to exceed 6% sum of all Items, excluding this Item). Payment shall be made at the lump sum price bid in the Proposal Schedule. Such payment described in Article XI of these Specifications shall include setting up all plant equipment and materials at the job site, providing temporary barricades as required for Harbor operations during construction, and all other incidental work required to complete this item.

Item 2 – Demolish Metal Structures Attached to Roof and Walls of Concrete Grain Silos. Payment shall be made at the lump sum price bid in the Proposal Schedule. Such payment shall include demolition and disposal of the metal structures attached to the roof and walls of the existing concrete grain silos, providing temporary barricades as required for Harbor operations during construction, and all other incidental work required to complete this item.

Item 3 – Demolish Ground-Level Metal Warehouse and Attached Metal Structures. Payment shall be made at the lump sum price bid in the Proposal Schedule. Such payment shall include demolition and disposal of the ground-level metal warehouse and all attached metal structures,

providing temporary barricades as required for Harbor operations during construction, and all other incidental work required to complete this item.

Item 4 – Removal and Disposal of Hazardous Material. Payment shall be made at the lump sum price bid in the Proposal Schedule. Such payment shall include full compensation for asbestos, lead containing paint, PCB and mercury mitigation and precautionary measures, removal and disposal of hazardous waste; submitting required documents related to hazardous material removal and disposal; furnishing labor, material, tools, equipment and all other incidental work required to complete this item.

Item 5 – Large Concrete Roof Penetration Repair. Payment shall be made at the unit cost price bid in the Proposal Schedule. Such payment shall include installing structural steel supports, corrugated metal decking, reinforcing, and concrete at silo roof penetrations; and all other incidental work required to complete this item.

Item 6 – Medium Concrete Roof Penetration Repair. Payment shall be made at the unit cost price bid in the Proposal Schedule. Such payment shall include installing formwork, reinforcing, and concrete infill at silo roof penetrations; removing formwork and patching holes used to support formwork; and all other incidental work required to complete this item.

Item 7 – Small Concrete Roof Penetration Repair. Payment shall be made at the unit cost price bid in the Proposal Schedule. Such payment shall include installing concrete screws and infill at silo roof penetrations, and all other incidental work required to complete this item.

Item 8 – Extra Small Concrete Roof Penetration Repair. Payment shall be made at the unit cost price bid in the Proposal Schedule. Such payment shall include chipping out concrete around silo roof penetrations, installing concrete infill at penetrations, and all other incidental work required to complete this item.

Item 9 – Concrete Wall Penetration Repair. Payment shall be made at the unit cost price bid in the Proposal Schedule. Such payment shall include installing reinforcing and concrete, as well as installing and removing associated formwork, at wall penetration at north tower atop silos; patching holes used to support formwork; and all other incidental work required to complete this item.

Item 10 – Top Surface Spall Repair. Payment shall be made at the unit price bid per square foot in the Proposal Schedule. Such payment shall include concrete removal work, preparing repair area, cleaning effective reinforcing steel to remain, applying reinforcing steel coating, placing concrete or patching compound, and all other incidental work required to complete this item.

Item 11 – Soffit Spall Repair. Payment shall be made at the unit price bid per square foot in the Proposal Schedule. Such payment shall include concrete removal work, preparing repair area, cleaning effective reinforcing steel to remain, applying reinforcing steel coating, installing and removing formwork, placing concrete or patching compound, patching holes used to support form work, and all other incidental work required to complete this item.

Item 12 – Vertical Spall Repair. Payment shall be made at the unit price bid per square foot in the Proposal Schedule. Such payment shall include concrete removal work, preparing repair area, cleaning effective reinforcing steel to remain, applying reinforcing steel coating, installing and removing formwork, placing concrete or patching compound, patching holes used to support form work, and all other incidental work required to complete this item.

Item 13 – Exposed Anchor Bolt Repair. Payment shall be made at the unit cost price bid in the Proposal Schedule. Such payment shall include removal of exposed anchor bolt, patching of concrete, and all other incidental work required to complete this item.

Item 14 – Replacement of Roof Hatch at North Tower atop Silos. Payment shall be made at the unit cost price bid in the Proposal Schedule. Such payment shall include removal of the existing hatch, installation of the replacement hatch, and all other incidental work required to complete this item.

Item 15 – Installation of Sloped Roof Overlay and Waterproofing System (Approx. 13,000 SF). Payment shall be made at the lump sum price bid in the Proposal Schedule. Such payment shall include surface preparation, installation of sloped roof overlay, installation of waterproofing system over silo roof surfaces as shown on the drawings, and all other incidental work required to complete this item.

Preparation of photographs of repairs will not be paid for directly but shall be considered incidental to the various contract items.

Repair quantities listed in the Proposal Schedule are increased from actual field quantities to account for growth in repair areas and additional repairs not shown in plans. Additional repairs may be present in project limits. No adjustment to the unit prices listed in the Proposal Schedule will be allowed due to difference between actual quantities and bid quantities.

ARTICLE XI – MOBILIZATION AND DEMOBILIZATION

11.1 GENERAL

A. Related Documents - The General Provision of the contract, including the General Provisions for Construction Projects (2016) and General Requirements of the Specifications, apply to the work specified in this Section.

B. General Requirements - Section 699 of "Hawaii Standard Specifications for Road and Bridge Construction, 2005," are hereby incorporated into and made a part of these specifications by reference unless otherwise modified hereinafter.

C. Mobilization - The Contractor shall mobilize and transport his construction plant and equipment including materials and supplies for operation to the site of work, construct temporary buildings and facilities as necessary, and assemble the equipment at the site as soon as possible after receipt of Notice to Proceed, subject to the provisions of the General Provisions.

D. Demobilization - The Contractor shall demobilize and transport his construction plant and equipment including materials, supplies and temporary buildings off the site as soon as possible after construction is completed. Demobilization shall include all cleanup required under this contract and as directed by the Engineer. Demobilization and final cleanup shall be completed prior to final acceptance.

E. Performance Bond

1. The Contractor shall file and pay for the performance and payment bonds according to Section 2.24 of the General Provisions, except that the value of the bonds shall equal one hundred percent (100%) of the amount of the contract basic bid amount plus one hundred percent (100%) of the amount of the extra work.

2. Payment for the Contractor's bond premium will be made as part of mobilization in accordance to the terms stated in Section 11.4 below.

11.2 MATERIALS (Not Applicable)

11.3 EXECUTION (Not Applicable)

11.4 MEASUREMENT AND PAYMENT

A. Method of Measurement

1. Mobilization shall not be measured for payment. The maximum bid allowed for "Mobilization" is an amount not to exceed six (6) percent of the sum of all items (excluding this item). If the proposal submitted by the

bidder indicates an amount in excess of the allowable maximum, the indicated amount or amounts shall be reduced to the allowable maximum; the "Total Amount for Comparison of Bids," in the proposal schedule shall be adjusted to reflect any such reduction. For the purposes of comparing bids and determining the contract price to be inserted in the contract awarded to the bidder, if any is so awarded, the "Total Amount for Comparison of Bids" adjusted in accordance with the foregoing shall be used and the bidder's proposal shall be deemed to have been submitted for the amounts as reduced and adjusted in accordance herewith."

2. Demobilization will not be measured for payment.

B. Basis of Payment

1. Mobilization will be paid for at the contract lump sum price under Mobilization. Partial payment will be made as follows:

   i. When 2 1/2 percent of the original contract amount is earned, 50 percent of the bid amount will be paid.

   ii. When 5 percent of the original contract amount is earned, 75 percent of the bid amount will be paid.

   iii. When 10 percent of the original contract amount is earned, 100 percent of the bid amount will be paid.

   iv. Nothing herein shall be construed to limit or preclude partial payments otherwise provided by the contract.

C. Payment for Mobilization 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, Stormwater Management Plan (SWMP) requirements, unless exempted, and are subject to Harbors Stormwater 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, Stormwater 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 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 Construction Engineer.

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

F. Alternate materials or methods to control, prevent, remove, and dispose of pollution are allowable if acceptable to the 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 Construction Engineer and address all comments by the Construction Engineer. After the Plan is accepted in writing by the Construction Engineer, the Contractor shall schedule a meeting with the 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 Construction Engineer prior to the start of work for review of compliance with this Article. A site-specific BMP Plan template is available online at https://hidot.hawaii.gov/harbors/malamaikeawakai/, under HDOT Harbors Construction and Post-Construction Programs – Documents and Forms.

   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 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-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.

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

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

f) Locations of all potential pollutant-generating activities.

g) Locations of stormwater control measures; and

h) 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 accepted Plan on-site or at an easily accessible location throughout the duration of the project. Revisions to the Plan shall be included with the original plan. The Contractor shall obtain written acceptance from the 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 12.4.A.2 – Temporary Water Pollution, Dust, and Erosion Control Submittals are completed and accepted in writing by the 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 stormwater 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 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 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 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 12.4.A.2.a.4) shall address any BMP concerns brought up by the Construction Engineer within 24 hours of notification, including weekends and holidays. Should the Contractor fail to satisfactorily address these concerns, the Construction Engineer reserves the right to employ outside assistance or use the Construction Engineer's own labor forces to provide necessary corrective measures. The Construction Engineer will charge the Contractor such incurred costs plus any associated project engineering costs. The 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 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 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, the Contractor shall 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 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 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 – DEMOLITION AND REMOVAL WORK

13.1 GENERAL

A. Work under this Article includes furnishing all labor, materials and equipment necessary to demolish the metal structures attached to the roof and walls of the concrete grain silos and to demolish the ground-level metal warehouse at Pier 23 at Honolulu Harbor.

B. In general, the work includes, but is not necessarily limited to, the following:

Demolition of the metal structures attached to the roof and walls of the concrete grain silos and metal warehouse. The existing concrete silos shall remain.

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

Section 202 Removal of Structures and Obstructions

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

D. Submit proposed demolition and removal procedures to the Construction Engineer before work is started. Procedures shall provide detailed description of methods and equipment to be used for each operation, and sequence of operations including tentative dates and times where demolition work will produce excessive noise levels.

13.2 MATERIALS

Not used

13.3 CONSTRUCTION METHODS

A. All work shall be executed in an orderly and careful manner with due consideration for all items to remain. The Contractor shall take precautions to prevent unnecessary damage to items indicated to remain. The Contractor shall repair any unnecessary damage to items indicated to remain at no cost to the State

B. Noise and Dust Control. The following noise and dust control measures are listed to reduce the negative impacts to the tenants of Honolulu Harbor during the construction activities.

1. The Contractor shall coordinate with the Construction Engineer the dates and times when demolition work will produce excessive sound levels. The Contractor shall schedule work around tenant operations or provide

other measures to minimize noise during construction activities when required.

2. The Contractor shall take appropriate action to check the spread of dust and to avoid the creation of nuisance in the surrounding area. Provide barriers, dust screens, tarpaulins or similar action to prevent damage to and dust from entering the adjacent structures. Comply with all dust regulations imposed by local air pollution agencies.

3. The Contractor shall obtain approval from the Construction Engineer for proposed noise and dust control measures to be implemented during the construction activities prior to placement.

C. Use of explosives will not be permitted.

D. Survey for Hazardous Areas. The Contractor shall survey the entire area around the project site to ensure that no hazardous vapors are present. The Contractor shall certify in writing that the project site shall be safe for hot work and free of hazardous vapor. No open flame, hot cutting, welding or other hot work will be permitted without the certification.

E. Hazardous Materials. Hazardous materials were found at the site. Following this Article is a hazardous materials survey report. Contractor shall follow all applicable laws, codes and regulations for containment, removal and disposal of hazardous materials. See Articles XIV, XV, XVI and XVII for additional information.

F. Contractor shall notify the Construction Engineer if existing utilities will not be in service during demolition work.

G. Removal and Disposal

1. Title of Materials. Title to all materials to be removed, except as specified otherwise, is vested in the Contractor upon approval by the Construction Engineer of the Contractor's demolition and removal procedures, and authorization to begin demolition. The State will not be responsible for the condition or loss of, or damage to, such property after notice to proceed.

2. Removed material shall be disposed of away from the project site in a lawful manner at no cost to the State. The Contractor will not be allowed to deposit removed material into trash dumpsters owned by the State or tenants.

3. Remove and transport debris and rubbish in a manner that will prevent spillage on pavements, streets or adjacent areas. Comply with Federal, State, and local hauling and disposal regulations.

H. Existing Utilities

1. All existing utilities to remain below the demolished structures shall be capped per applicable codes and regulations.

13.4 PAYMENT - Payment for demolition work shall as specified in Article X of these specifications.

ARTICLE XIV - REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING MATERIALS

14.1 GENERAL

A. The work shall include the handling, treatment, encapsulation, removal, demolition, storage, transportation, and/or disposal procedures of asbestos-containing material/presumed asbestos containing material (ACM/Assumed ACM) and waste, and incidental work, as required, in conjunction with the drawings.

B. The Contractor acknowledges that he alone is responsible for the asbestos work and for enforcing personnel protective requirements, and that this specification provides only minimum acceptable standards. The Contractor shall comply with all applicable federal, state, and local rules and regulations regarding asbestos.

C. The Contractor shall coordinate all work with the General Contractor and the Officer-in-Charge.

D. Refer to the "Letter Report, Limited Hazardous Materials Survey, State of Hawaii, Department of Transportation, Harbors Division, Demolish Storage Shed and Associated Structures at Pier 23, Honolulu Harbor, Oahu, Hawaii," 64 pages, dated October 2022, prepared by Element Environmental, LLC and appended at the end of the specifications. All quantities listed are estimates. Contractor shall verify all quantities, locations and accessibility. In general, black semi-fibrous tars and debris, gray semi-fibrous materials, and silver paint contain asbestos. Sampling confirmed (or presumed to contain) asbestos is present in the following materials:

1. Black tar and debris found in the silo door sealant contains 5% Chrysotile asbestos (approximate quantity of 500 square feet [SF]) on the First Floor, in the Storage Shed;

2. Black tar found in the building foundation/wall joint sealant contains 5% Chrysotile (approximate quantity of 300 linear feet [LF]) on the First Floor, at the Storage Shed exterior (and possibly interior);

3. Black tar found in the brittle air conditioning duct sealant contains 5% Chrysotile asbestos (approximate quantity of 100 LF) on the First Floor, at the Silo exterior (below the Hopper House);

4. Vent/Pipe roof penetrations mastic/sealant is assumed ACM (6 locations observed) of the Storage Shed Roof, inaccessible at the time of the field effort;

5. Black A/C unit vibration cloth is assumed ACM (1 location observed) at the First Floor exterior;

6. Gray, textured cementitious wall panels contain 10% Chrysotile asbestos (approximate quantity of 6,000 SF) on the Second Floor, in the Belt House;

7. Silver paint in the dark red, coarse textured roofing tar and asphalt paper contains less than 1% Chrysotile asbestos (approximate quantity of 5,000 SF) on the Second Floor exterior, top of Silos;

8. Black tar found in the door flashing caulking/sealant contains 5% Chrysotile asbestos (approximate quantity of 10 LF) on the Second Floor Belt House;

9. Black tar with silver paint found in the building foundation/wall joint sealant contains 5% Chrysotile asbestos (approximate quantity of 100 LF) in the Second Floor Hopper House; and

10. Black tar found in the window caulking contains 5% Chrysotile asbestos (approximate quantity of 200 LF) on the Second Floor Belt Corridor exterior.

14.2 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 rules and regulations, governing asbestos handling, treatment, encapsulation, removal, demolition, transportation, and/or disposal of asbestos, as required. The most recent edition of any relevant document shall be in effect. Where conflict or any inconsistency among requirements or with this specification exists, the more stringent requirements shall apply. All regulations shall govern these specifications, except that any more stringent specification or any specification providing greater protection against asbestos exposure, injury, loss, or liability shall control to the extent permitted by regulation. Any question regarding conflict or inconsistency between specifications and/or regulations should be referred to the Officer-in-Charge. Ignorance of the above requirements or of any applicable federal, state, and local rules and regulations resulting in additional cost to the Contractor shall not be paid by the Owner.

Specific Statutory and Regulatory Requirements include, but are not limited to the following:

A. PL 99-519, Toxic Substances Control Act, Title II, Asbestos Hazard Emergency Response Act (AHERA)

B. 40 CFR 61, National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart A (General Provisions) and Subpart M (National Asbestos Standards)

C. 40 CFR Part 763 Appendix A to Subpart E, Interim Transmission Microscopy Analytical Methods - Mandatory and Non-mandatory – and mandatory Section to Determine Completion of Response Actions, October 30, 1987

D. 40 CFR Part 763, Asbestos Model Accreditation Plan [59 CFR 5236] (February 3, 1994)

E. 40 CFR Part 172, Transportation, Hazardous Materials Regulations

F. Occupational Safety and Health Administration (OSHA) 29 CFR 1926.1101, Asbestos

G. Chapter 12-145, 12-145.1**,** HIOSH Construction Standards, Asbestos

H. Chapter 12-206, HIOSH Health Standards, Asbestos

I. Chapter 16-77, Subchapter 19, DCCA Asbestos Contractors

J. Hawaii Revised Statutes, Sections 321-11(26), 321-13(a)(I) and 321-15

K. 29 CFR 1910.134, General Industry Standard for Respiratory Protection, OSHA, DOL

L. 29 CFR 1910.2, Access to Employee Exposure and Medical Records, OSHA, DOL

M. 29 CFR 1910.1200, Hazard Communication, OSHA, DOL

N. Guidance for Controlling Asbestos-Containing Materials in Buildings, (Purple Book), EPA

O. 29 CFR 1910.145, Specifications for Accident Prevention, Signs, and Tags, OSHA, DOL

P. American National Standards Institute, Inc. (ANSI) Z88.2-92 Practice for Respiratory Protection

Q. Hawaii Administrative Rules (HAR) 11-501, Asbestos Requirements

R. HAR 11-503, Fees for Asbestos Removal and Certifications

S. HAR 11-504, Asbestos Abatement Certification Program

14.3 DEFINITIONS

A. Abatement. Procedure to control fiber release from asbestos-containing building materials.

B. Air Monitoring. The process of measuring the fiber content of a specific, known, volume of air in a stated period of time. For this project, the most current version of National Institute for Occupational Safety and Health (NIOSH) 7400 shall be used for asbestos air monitoring.

C. Amended Water. Water to which a surfactant has been added to reduce water surface tension and thereby provide a more rapid penetration.

D. Asbestos. Naturally-occurring silicate mineral with long, thin fibrous crystals. Properties include insulating, flexible, average tensile strength, and resistance to fire, heat, and electrical and chemical damage.

E. Authorized Visitor. The Officer-in-Charge, his representatives, air monitoring personnel, or a representative of any regulatory or other agency having jurisdiction over the project.

F. Certified Industrial Hygienist. Person certified by the American Board of Industrial Hygiene. Person educated, trained, and certified in recognizing and evaluating work place hazards and stress (in this instance, asbestos abatement and related work), and expert in providing methods and means of removing or correcting such hazards and stresses within the work environment.

G. Competent Person. An employee specially trained in an EPA AHERA Supervisor training course, who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, and who has the authority to take prompt corrective measures to eliminate them. The duties of the competent person are defined in HIOSH 12-145.1 (29 CFR 1926.1101 (o)).

H. Contractor. Individual and/or legal entity and its subcontractors and employees of the contractor and subcontractor awarded the contract.

I. Control Area: An area where unwanted toxic or harmful substances exist.

J. Excursion Limit (EL). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to 29 CFR 1926.1101, or by an equivalent method.

K. Fixed Object. A unit of equipment or furniture in the work area which cannot be removed from the work area without dismantling.

L. High Efficiency Particulate Air (HEPA) Filter. A High Efficiency Particulate Air filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 micron in length.

M. High Efficiency Particulate Air (HEPA) Vacuum Equipment. Vacuuming equipment that utilizes a HEPA filter.

N. Holding Area. A secure area used for the storage of double-bagged ACM/Assumed ACM before removal from the project site to an approved disposal site.

O. Monitoring Specialist. Person under the supervision of the Contractor-hired Qualified Consultant who is trained in health and safety requirements for asbestos exposure and air monitoring.

P. Officer-in-Charge. Owner's representative for this project for work that pertains to ACM/Assumed ACM only.

Q. Permissible Exposure Limit (PEL). Maximum amount or concentration of a chemical that a worker may be exposed to under OSHA regulations. The PEL for asbestos is 0.1 fiber per cubic centimeter, as determined from an 8-hour time weighted average (TWA).

R. Personal Monitoring. Contractor's sampling of asbestos in air concentrations within the breathing zone of an employee to determine the 8-hour TWA. The samples shall be representative of the employee's work tasks. The breathing zone shall be considered an area within 12 inches of the nose or mouth of the employee.

S. Qualified Consultant. Independent third-party, not an employee of the Contractor or on the Contractor's payroll, who is hired by the Contractor and who is educated and trained in recognizing and evaluating work place hazards and providing guidance on the methods and means of removing or correcting such hazards within the work environment. For this contract, the work place hazards are work related to ACM/Assumed ACM removal and demolition.

T. Regulated Area or Work Area. An area established by the Contractor to demarcate areas where ACM/Assumed ACM removal from buildings is conducted, ACM/Assumed ACM removal (designated as Class I, II, or III asbestos work in 29 CFR 1926.1101) is conducted, and any adjoining area where debris and waste from such asbestos work accumulate; and a work area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limit. Requirements for regulated areas are set out in paragraph (e) of 29 CFR 1926.1101.

U. Surfactant. A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

V. Time Weighted Average (TWA). Average exposure to a contaminant or condition to which workers may be exposed without adverse effect over a period such as in an 8-hour day or 40-hour week.

14.4 SUBMITTALS

Submit prior to starting work for the asbestos disturbance work:

A. Notice. Not fewer than 10 working days before commencement of asbestos work, send "Notification of Demolition and Renovation" in accordance with 40 CFR

Part 61.145 of Subpart M, of the proposed asbestos abatement work with copies to the Officer-in-Charge and to the State of Hawaii Department of Health (DOH) Indoor and Radiological Health, Asbestos Section, Honolulu, Hawaii.

B. Work Plan. The Contractor shall submit for approval a site-specific Work Plan thoroughly describing in detail all work procedures and precautions to be taken, and illustrating locations for equipment to be used during the asbestos removal work. The plan must be written and signed by a State of Hawaii DOH-Certified Asbestos Project Designer. The plan shall include:

1. Work Methods and Procedures:

a. Sequence of work and performance schedule, in coordination with other trades. The detailed schedule shall include actual start and completion dates for each phase of the asbestos work and shall be prepared using bar graph method or Critical Path Method (CPM) showing project activities from beginning to completion and identifying any critical interfaces such as product delivery, coordination of various work items and with other trades, etc. The schedule shall be formulated on day/week basis. The schedule shall be updated weekly and 8 copies submitted to the Officer-in-Charge.

b. Work area preparation and setup, including the asbestos work control area, staging areas, entrances and exits to the work area, location of decontamination units, locations of ambient air sampling pumps, location of waste storage area, etc.

c. Sampling and documentation of existing conditions prior to construction.

d. Asbestos handling, treatment, encapsulation, removal, transportation, and disposal, as required.

e. Materials, equipment, and tools, including personal protective equipment, respirators, and cartridges/filters.

f. Air monitoring.

g. Decontamination procedures.

h. Cleanup and clearance.

i. Waste transportation and disposal.

C. Documentation (Certificates for all workers on the site should be submitted prior to asbestos work. No one is allowed in the controlled areas or allowed to handle wastes until these certificates are supplied.):

1. Contractor Qualifications: Current Contractor License (C-19) from the State Department of Commerce and Consumer Affairs (DCCA) and asbestos entity registration from the State of Hawaii DOH.

2. NESHAP Compliance: Compliance with the requirements of EPA's NESHAP regulation is required for this project.

3. Insurance: Proof of Workman's Compensation and General Liability Insurance, which covers lead, asbestos, and pollution.

4. Asbestos Training: Documentation of experience, assigned responsibilities during the project, and asbestos removal training, based on 29 CFR 1926.1101, HIOSH 12-145 and 12-145.1, and current EPA regulatory requirements.

5. Respiratory Protection: Written program and current documentation of training and fit-testing for all personnel who will enter the work area wearing negative-pressure respirators.

6. Medical Examination: Current clearance of comprehensive medical examination from a physician, including current Certificate of Respiratory Exam (pulmonary testing) and the ability to wear a respirator.

7. Qualified Consultant Qualifications: Name, address, telephone number, and certifications.

8. Testing Laboratory Qualifications: Name, address, telephone number, and certifications, including EPA National Voluntary Laboratory Accreditation Program (NVLAP) or the American Industrial Hygiene Association (AIHA).

9. Proposed Disposal Landfill Waste Acceptance: Name, address, telephone number, and type of waste accepted.

10. Waste Disposal/Shipment Record: Submit copies of all the waste disposal landfill's asbestos waste shipment records, trip tickets, and disposal receipts for all asbestos-containing waste materials removed from the work area.

11. Emergency Response and Evacuation Plan: Written program and training.

12. Rental Equipment: When rental equipment is used in asbestos work areas or to transport asbestos-contaminated waste, a written notification concerning intended use of the rental equipment must be provided to the rental agency with a copy submitted to the Officer-in-Charge.

D. Manufacturer's Data. Manufacturer's specifications, installation instructions and field test procedures for each material and all equipment related to asbestos handling and include other data as may be required to show compliance with these specifications and proposed uses, to include, but not limited to the following:

1. Personal protective equipment (e.g., clothing, etc.).

2. Respirators and Cartridges/Filters: NIOSH approvals.

3. HEPA Vacuums and Dust Collection Systems: Conform to ANSI Z9.2-2006, *Fundamentals Governing the Design and Operation of Local Exhaust Systems*.

4. Surfactant and Chemical Agents: including all laboratory data, mixing and application instructions.

5. Tapes and Adhesives: including all laboratory data.

6. Specialized tools

E. Respiratory Protection Program. Written program meeting the requirements of 29 CFR 1910.134(b)(d)(e).

F. Emergency Response and Evacuation Plan. To include consideration of fire explosion; toxic atmospheres; electrical hazards; slips, trips, and falls; confined spaces; and heat-related injury. In non-life threatening situations, the injured or incapacitated employee shall decontaminate following normal procedures, with assistance from co-workers if necessary, before exiting the work area to obtain proper medical treatment. In life threatening situations, worker decontamination shall take least priority after measures to stabilize the injured worker, remove the injured worker from the work area, and secure proper medical treatment.

14.5 PRODUCTS

The Contractor shall ensure that all materials and equipment used for this project are asbestos-free. Provide or fabricate suitable tools and equipment for the asbestos work procedures.

A. Plastic Sheeting. Minimum thickness is 6-mil polyethylene film.

B. Plastic Bags. Minimum thickness 6-mil polyethylene film labeled as specified hereinafter.

C. Tapes. Tape shall be capable of sealing joints of adjacent sheets of polyethylene and for attaching polyethylene sheets to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including the use of amended water. Silver cloth duct tape, minimum 2 inches wide; red or NATO orange tape, minimum 2 inches wide for exit arrows; and double faced foam tapes, by Nashua, 3-M, Arno, or approved substitute.

D. Adhesives. Adhesives shall be capable of sealing lapped sheets of polyethylene together or to finished or unfinished surfaces of dissimilar materials. Adhesives shall adhere under both dry and wet conditions. Use 3-M tapes #76, #77, or approved substitute.

E. Surfactant (Wetting Agent). 50 percent polyoxyethylene ester and 50 percent polyoxyethylene ether, or approved substitute, and shall be mixed with water to provide a concentration of one ounce, or more as needed, of surfactant to 5 gallons of water. (An approved substitute surfactant shall be understood to mean material with a surface tension of 29 dynes/cm as tested in its properly mixed concentration, using ASTM method D 1331-56 (R 1980), "Surface and Interfacial Tension of Solutions of Surface-Active Agents.")

F. Warning Labels and Signs. As required by OSHA regulations 29 CFR 1926.1101 and HIOSH 12-145.1. Labels for asbestos debris must also meet the requirements of HIOSH 12-145.1. The generator's name and address must be attached or included in bagged or wrapped asbestos debris.

G. Other Materials. Provide all other materials, such as, but not limited to lumber, plywood, nails, fasteners, metal studs, hardware, sealants, and caulking which may be required to properly prepare and complete this project.

H. Personnel Protection Equipment. The Contractor shall have all the required sets of coveralls required for this project on island prior to the start of work. There will be no time extension for the unavailability of coveralls or related equipment.

1. The Contractor acknowledges he alone is responsible for instruction and for enforcing personnel protection requirements and that these specifications provide only a minimum acceptable standard.

2. Provide workers with personally issued and marked respiratory equipment approved by NIOSH and accepted by OSHA and HIOSH. All work related to the removal, wrapping, and bagging of ACM/Assumed ACM shall be performed in NIOSH-approved half-face respirators equipped with HEPA cartridges.

3. Workers loading and unloading asbestos debris at the project site and landfill shall wear NIOSH-approved respirators that provide adequate respiratory protection.

4. No bearded or unshaven person(s) shall be allowed on site to perform asbestos work.

5. Provide workers with sufficient sets of disposable protective full body clothing consisting of material impenetrable by asbestos fibers and of the proper size for each individual to accommodate movement without tearing. Such clothing shall consist of full body coveralls, footwear, gloves and headgear. Provide hard hats as required by applicable safety regulations. Disposable clothing shall not be allowed to accumulate and shall be disposed of as asbestos-contaminated waste. Protective clothing shall be worn by all personnel within the work area from the start of the removal work until the work area has received its final clearance.

6. No visitors shall be allowed in work areas, except as authorized by the Officer-in-Charge. Provide authorized visitors with suitable disposable protective full body clothing consisting of asbestos-impenetrable material of the proper size to accommodate movement without tearing. Such clothing shall consist of full body coveralls, shoes with shoe covers, gloves, and headgear, including hard hats and insulated rubber boots when required. The Contractor shall include in his bid the expense of a total of 2 changes of clothing per day for each day of asbestos work for visitor's use. The quantity shall accumulate and may be used at any time during asbestos work at the discretion of the Officer-in-Charge.

7. Additional safety equipment (e.g., hardhats meeting the requirements of ANSI Z89.1-1981, eye protection meeting the requirements of ANSI Z87.1-1979, safety shoe covering meeting the requirements of ANSI Z41.1-1967, disposable PVC gloves), shall be provided to all workers and authorized visitors as needed.

I. Water Sprayer. Airless or a pressure sprayer for amended water application as applicable.

14.6 WORK AREA PREPARATION

A. Notice and Protection of Occupants. Post caution signs in and around the work area to comply with 29 CFR 1926.1101, HIOSH regulation 12-145.1, and all other federal, state, and local rules and regulations. Signs shall be posted at a distance sufficiently far enough away from the work area to permit the reader to take the necessary protective measures to avoid exposure.

B. Safeguarding of Property. Take all cautions necessary to ensure there is no asbestos contamination of areas not included in the work area. The Contractor shall take whatever steps may be necessary to safeguard his work and also the property of the Owner 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 caused by his or his employees' negligence. No structure will be loaded such that the weight of the load will endanger the structure.

C. Site Security. The Contractor shall be solely responsible for security of the work area and in proximity of Contractor's equipment and materials. Entry into the regulated area during disturbance of ACM/Assumed ACM is restricted to authorized, trained, and protected personnel. These may include the Contractor's employees, employees of subcontractors, the Officer-in-Charge and his representatives, State and local inspectors, and any other designated individuals. A list of authorized personnel shall be established prior to job start.

D. Entry Log shall be maintained of all personnel other than the Contractor's employees and agents who enter the work area while asbestos work is in progress until after final clearance is received. A sample form is provided in this Article.

The log shall contain the following information as a minimum and certified copies shall be submitted to the Officer-in-Charge weekly:

1. Date of visit

2. Visitor's name, employer, business address, and telephone number

3. Time of entry and exit from work area

4. Purpose of visit

5. Type of protective clothing and respirator worn

E. Product Handling. Deliver materials to the site in original packages, containers, or bags fully identified with manufacturer's name, brand, and lot number. Store materials in a dry well-ventilated space, under cover, off the ground, and away from surfaces subject to dampness or condensation as approved by the Officer-in-Charge. Material that becomes contaminated with asbestos shall be disposed of in accordance with applicable regulations. Replacement materials shall be stored outside the contaminated work area until asbestos work is completed.

F. Set Up the Decontamination Unit

G. Air Monitoring. Refer to Article XVII - AIR MONITORING.

14.7 REMOVAL OF ACM/ASSUMED ACM AND WASTE

During asbestos abatement work, acceptable industry standard dust control methods shall be used to control dust such as, set-up and erection of barriers; erection of decontamination units; and establishment of a "Regulated Area" for the isolation of the work area from the rest of the container yard, buildings, and surrounding areas. Existing domestic water service to the work area may be used during construction; the location of tie-in shall be approved by the Officer-in-Charge. Clean and adequately wet ACM/Assumed ACM in place with amended water during removal to control dust.

14.8 CLEANUP AND CLEARANCE

Cleaning shall include the pre-cleaning, wet wiping, and HEPA vacuuming of affected surfaces.

A. Should the contractor fail to commence work to clean up and make the work area asbestos free within one working day after the clean-up thereof has been requested by the Officer-in-Charge, and thereafter to expeditiously complete the said clean-up, the Officer-in-Charge may without further notice and without termination of contract, do the clean-up and deduct the cost thereof from the contract price.

B. Equipment Cleaning. All contaminated equipment and tools used for removal work shall be cleaned on-site by wet wiping.

C. Visual Clearance.

1. The Qualified Consultant shall visually inspect the affected surfaces for residual and accumulated dust before the eventual removal of the asbestos control area.

2. If the Qualified Consultant requests recleaning due to visual dust, the process shall be repeated until the clearance is obtained. The Contractor shall not remove the asbestos regulated area or roped-off perimeter and warning signs prior to the Officer-in-Charge's receipt of the Qualified Consultant's asbestos clearance certification. Any additional clearance inspection initiated by the Contractor or required due to failure of the first clearance inspection, shall be at the Contractor's expense.

D. Final Cleanup. Remove asbestos work signage. Signage applicable to job site safety and the performance of the remaining portions of the work shall remain as applicable. Completely remove all protective covering used to protect the work area. Dismantle the Decontamination Unit. Collect asbestos fragments, then bag and dispose of as asbestos waste.

14.9 HANDLING, ENCAPSULATION, REMOVAL, TRANSPORTATION, AND DISPOSAL OF ACM/ASSUMED ACM WASTE

A. Dispose of the removed ACM/Assumed ACM, and used protective clothing as asbestos-contaminated waste.

B. As the work progresses and waste is generated, the Contractor shall transport to the authorized pre-designated disposal site all waste generated periodically based on on-site storage capacity or at the end of the project, in accordance with EPA regulations, as approved by the Officer-in-Charge.

C. ACM/Assumed ACM and contaminated material shall be adequately wetted and double wrapped in 6 mil thick polyethylene or double-bagged (6 mil thick plastic bag) with OSHA label prescribed by the 29 CFR 1926.1101 (k)(8)(iii). The label shall state,

"DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST
AVOID CREATING DUST"

The outside of all containers shall be clean before leaving the work area. A label with the name of the waste generator and location from which the waste was generated shall be clearly indicated on the outside of the wrap or bag per the

November 20, 1990 NESHAP Revision, Final Rule, Waste Disposal Section describing marking, labeling, and offsite disposal requirements. Shipment records shall be maintained using forms described in this latest NESHAP Revision.

D. Vehicles used for transporting waste to the disposal sites shall bear warning signs and markings as described in the November 20, 1990 NESHAP Revision, Final Rule, Waste Disposal Section and have a completely enclosed, lockable storage compartment. Storage compartments shall be plastic and sealed with a minimum of one layer of 6 mil polyethylene sheeting on the sides and top and two layers of 6 mil polyethylene on the floor (bed). If allowed by HIOSH, waste materials, except those with sharp edges, properly double-bagged, may be transported to the disposal site without being placed in drums, if the transporting vehicle is prepared as specified above, subject to more stringent requirements by HIOSH. The compartments shall be thoroughly wet-cleaned and/or HEPA-vacuumed, following the disposal of each load at the disposal sites at an approved location with electrical power as required. At the conclusion of the asbestos work, or before transport vehicles are used for other purposes, the polyethylene sheeting shall be properly removed and disposed of as contaminated waste. After this has been accomplished, compartments shall once again be wet-cleaned and HEPA-vacuumed in order to eliminate all debris.

E. Workers unloading bags at the disposal sites shall be dressed in full body protective clothing and dual cartridge respirators with HEPA filters.

F. Waste disposal waste shipment record shall be properly completed to assure custody and disposal of all ACM/Assumed ACM and asbestos-contaminated waste at approved disposal sites. The waste disposal landfill Asbestos forms shall be kept on file as directed by the Officer-in-Charge with copies submitted to the Officer-in-Charge the next working day after each trip.

NOTE: PRIOR TO BID, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE THAT THE LANDFILL USED FOR DISPOSAL OF ASBESTOS-CONTAINING OR ASBESTOS-CONTAMINATED WASTE IS APPROVED FOR THAT PURPOSE. IF NOT APPROVED, THE CONTRACTOR SHALL DETERMINE AN ALTERNATE PROPER WASTE DISPOSAL METHOD.

G. Bagged and/or wrapped waste must be placed, not dropped, at the site of burial. Dumping of bags from the containers or truck will not be allowed. However, if it is acceptable to the landfill, if the bags are torn, the entire container may be buried.

H. The Contractor shall pay a waste disposal charge for the use of any landfills. All expenses for landfills shall be the complete responsibility of the Contractor. The Contractor shall give 24-hour advance notice of all deliveries to the landfill(s). Delivery time shall be as directed by the landfill operator.

14.10 PAYMENT

Payment for disposal of hazardous wastes will not be made separately, but shall be considered incidental to the other contract items. Project final payment will not be made until a signed copy of the manifest from the treatment or disposal facility certifying the amount of hazardous materials delivered is returned and a copy is furnished to the State.

ENTRY LOG

(Sample)

DATE _____

PROJECT _____

SUPT. _____

ALL PERSONNEL MUST SIGN-IN AND SIGN-OUT EACH TIME THEY ENTER AND EXIT THE WORK AREA. PLEASE PRINT CLEARLY.

NAME Name, Address*,Phone*	EMPLOYER	TIME IN	TIME OUT	PURPOSE OF VISIT*	TYPE OF PPE ISSUED**

*NOT required of Contractor's employees

** Type of PPE (Personal Protective Equipment) Issued to include list of protective clothing worn and type of respirator used (Type "C", half-face/dual cartridge, etc.)

ASBESTOS DISPOSAL FORM

(sample)

Date:_____

Owner or Operator of Landfill_____

Name_____

Address_____

City_____ State_____ Zip_____

Phone _____

Name of Landfill_____

Name_____

Address_____

City_____ State_____ Zip_____

Phone

Hauler_____

Approximate Volume of Asbestos Received_____

Type of Container(s) Used _____

Asbestos Container labeled? _____YES _____NO

I certify that the above statements are true and that the landfill has been approved for the disposal of asbestos. The delivered material will be covered within 6 inches (15 cm.) of non-asbestos material within 24 hours.

_____

Landfill Owner-Operator

ARTICLE XV - LEAD PAINT CONTROL MEASURES

15.1 GENERAL

A. The work shall include the handling, treatment, encapsulation, removal, demolition, transportation, and/or disposal procedures of lead-containing paints, lead-based paints, and painted materials located at the project site in conjunction with the demolition of buildings and infrastructure. The Contractor may use chemical strippers, HEPA vacuum shrouded tools, or manual scraping, or other techniques to remove lead-containing paint, if all work is performed in accordance with all applicable requirements for worker protection and environmental protection.

B. The Contractor acknowledges that he alone is responsible for the lead paint control work and for enforcing personnel protective requirements, and that this specification provides only minimum acceptable standards. The Contractor shall comply with all requirements of 29 CFR 1926.62, HIOSH 12-148.1, and all applicable Environmental Protection Agency (EPA) regulations regarding lead-containing paints and painted materials.

C. The Contractor shall coordinate all work with the General Contractor and the Officer-in-Charge.

D. Sampling confirmed that lead-based paint (LBP) and lead-containing paint (LCP) are present at the project site. Loose and flaky lead paint should be removed prior to demolition. In general, all paint is assumed to contain lead, and may contain cadmium and chromium.

E. Refer to the “Letter Report, Limited Hazardous Materials Survey, State of Hawaii, Department of Transportation, Harbors Division, Demolish Storage Shed and Associated Structures at Pier 23, Honolulu Harbor, Oahu, Hawaii," 64 pages, dated October 2022, prepared by Element Environmental, LLC and appended at the end of the specifications.

15.2 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, and codes governing lead paint handling, treatment, removal, demolition, transportation, and disposal of lead-containing paints and painted materials, as required. The most recent edition of any relevant document shall be in effect. Other specific Statutory and Regulatory Requirements include, but are not limited to the following:

A. Title 29 Code of Federal Regulations (CFR) Section 1926.62 Lead Exposure in Construction; Interim Final Rule.

B. Department of Labor and Industrial Relations, Department of Occupational Safety and Health: State of Hawaii (HIOSH), Occupational Safety and Health Standards; Title 12, Subtitle 8, Chapter 148.1 (also known as Chapter 12-148.1, Hawaii Administrative Rules (HAR), Lead Exposure in Construction).

C. Title 29 CFR Part 1910.134 Respiratory Protection.

D. Title 40 CFR Parts 249 - 262 Resource Conservation and Recovery Act (RCRA).

E. Title 49 CFR Parts 171-179 DOT Hazardous Materials Transportation.

15.3 DEFINITIONS

A. Action Level (AL). Employee exposure averaged over an 8-hour period, without regard to the use of respirators, to a particular airborne concentration. OSHA requirements become effective at this level. The AL for lead is 30 micrograms per cubic meter of air.

B. Air Monitoring. Process of measuring the content of a specific, known volume of air in a stated period of time. For this project, National Institute for Occupational Safety and Health (NIOSH) Method 7082 shall be used for lead air monitoring.

C. Authorized Visitor. The Officer-in-Charge, Qualified Consultant, their representatives, air monitoring personnel, or a representative of any regulatory or other agency having jurisdiction over the project.

D. Contractor. Individual and/or legal entity and its subcontractors and employees of the contractor and subcontractor awarded the contract

E. Control Area. An area where unwanted toxic or harmful substances exist.

F. High Efficiency Particulate Air (HEPA) Filter. Filter capable of trapping and retaining 99.97% of particulates greater than 0.3 micron in diameter.

G. Lead. Metallic lead, all inorganic lead compounds, and inorganic lead soaps. Excluded are all other organic lead compounds.

H. Lead-Based Paint. A paint or other surface coating containing lead equal to or in excess of 1.0 milligram per square centimeter of painted surface or 0.5 percent by weight.

I. Lead-Containing Paint. A paint or other surface coating containing measurable quantities of lead.

J. Monitoring Specialist. Person under the supervision of the Contractor-hired Qualified Consultant who is trained in health and safety requirements for lead exposure and air monitoring. The Monitoring Specialist should have at least two

(2) years of experience on similar lead projects, having experience in the sampling for employee and ambient air, and monitoring for compliance with applicable regulations and work plans.

K. Officer-in-Charge. Owner's representative for this project for work that pertains to lead-containing materials only.

L. Permissible Exposure Limit (PEL). Maximum amount or concentration of a chemical that a worker may be exposed to under OSHA regulations. The PEL for lead is 50 micrograms per cubic meter over an 8-hour time weighted average.

M. Personal Monitoring. Contractor's sampling of lead in air concentrations within the breathing zone of an employee to determine the 8-hour time weighted average. The samples shall be representative of the employee's work tasks. The breathing zone shall be considered an area within 12 inches of the nose or mouth of the employee.

N. Qualified Consultant. Independent third-party, not an employee of the Contractor or on the Contractor's payroll, who is hired by the Contractor and who is educated and trained in recognizing and evaluating work place hazards and providing guidance on the methods and means of removing or correcting such hazards within the work environment. For this contract, the work place hazards are work related to lead-containing material removal and demolition. The Qualified Consultant should have at least five (5) years of experience on similar projects, having experience with managing wastes and hazardous wastes for construction and demolition projects, and being familiar with the applicable regulations pertaining to these activities.

O. Time Weighted Average (TWA). Average exposure to a contaminant or condition to which workers may be exposed without adverse effect over a period such as in an 8-hour day or 40-hour week.

15.4 SUBMITTALS

Submit in accordance with Submittal Procedures prior to starting work for the asbestos disturbance work:

A. Work Plan. The Contractor shall submit in accordance with Submittal Procedures prior to starting work a project work plan for the lead paint disturbance work, to include:

1. Work Methods and Procedures.

a. Sequence of work and performance schedule, in coordination with other trades.

b. Work area preparation and setup, including the lead work control area, staging areas, entrances and exits to the work area, location of decontamination units, locations of ambient air sampling pumps, location of waste storage area, etc.

c. Lead paint handling, treatment, removal, transportation, and disposal, as required.

d. Materials, equipment, and tools, including personal protective equipment, respirators, and cartridges/filters.

e. Air monitoring.

f. Decontamination procedures.

g. Cleanup and visual clearance.

h. Toxicity Characteristic Leaching Procedure (TCLP) sampling and analysis.

i. Waste transportation and disposal.

2. Documentation (Certificates for all workers on the site should be submitted prior to lead work. No one is allowed in the controlled areas or allowed to handle wastes until these certificates are supplied.).

   a. Insurance. Proof of Workman's Compensation and General Liability Insurance, which covers lead, asbestos, and pollution.

   b. Lead Training. Documentation of experience, assigned responsibilities during the project, and lead removal training, based on 29 CFR 1926.62, HIOSH 12-148.1, and current EPA regulatory requirements. In addition, each worker in the lead control area should have site-specific awareness training to inform them of the hazards of the site, the work plan provisions, and the means of protecting themselves.

   c. Respiratory Protection. Written program and current documentation of training and fit-testing for all personnel who will enter the work area wearing negative-pressure respirators.

   d. Medical Examination. Current clearance of comprehensive medical examination, including blood lead monitoring, ZPP testing, and the ability to wear a respirator.

   e. Qualified Consultant Qualifications. Name, address, telephone number, and certifications.

f. Testing Laboratory Qualifications. Name, address, telephone number, and certifications, including EPA National Lead Laboratory Accreditation Program (NLLAP) by either the American Association for Laboratory Accreditation (A2LA) or the American Industrial Hygiene Association (AIHA), and the Environmental Lead Proficiency Analytical Testing (ELPAT) Program.

g. Proposed Disposal Landfill Waste Acceptance. Name, address, telephone number, and type of waste accepted.

h. Emergency Response and Evacuation Plan. Written program and training.

3. Manufacturer's Data. Specifications, installation instructions, and field test procedures for each material and all equipment related to lead work, to include, but not limited to the following:

a. Personal protective equipment (e.g., clothing, etc.).

b. Respirators and Cartridges/Filters. NIOSH approvals.

c. Specialized tools, dust collection, vacuum systems, chemical agents, as applicable

4. Respiratory Protection Program. Written program meeting the requirements of 29 CFR 1910.134(b)(d)(e).

5. Emergency Response and Evacuation Plan. To include consideration of fire explosion; toxic atmospheres; electrical hazards; slips, trips, and falls; confined spaces; and heat-related injury. In non-life threatening situations, the injured or incapacitated employee shall decontaminate following normal procedures, with assistance from co-workers if necessary, before exiting the work area to obtain proper medical treatment. In life threatening situations, worker decontamination shall take least priority after measures to stabilize the injured worker, remove the injured worker from the work area, and secure proper medical treatment.

B. Final Clearance Report. The Contractor shall submit after completing work in accordance with Submittal Procedures a project final clearance report for the lead paint disturbance work, to include:

1. Statement signed by the Contractor that all lead disturbance and disposal was completed in compliance with federal, state, and local regulations, this specification, and the approved Work Plan.

2. Contractor license number, work duration, respiratory protection and decontamination procedures employed, employee exposure and ambient

air sample results, and results of the current Proficiency Analytical Testing (PAT) Program results for the laboratory conducting the air analysis.

3. Visual clearance certification received from the Qualified Consultant.

4. USEPA waste generator identification number (HI0000463752), material removed, total quantity of waste, and TCLP lead reports. All Hazardous Waste (HW) disposal-related documentation (e.g., Uniform Hazardous Waste Manifests, waste profile sheets, etc.) should be provided to the Officer-in-Charge for review prior to any HW leaving the project site. Copies of related manifests shall be provided to HAR-EE for record-keeping.

5. Waste shipping and disposal manifests of all waste material signed and accepted by the waste disposal facility, to include names and addresses of the Contractor, the Transporter, the Facility, and information on the type and number of waste containers.

6. Visitor/Worker Entry Log. The daily log of all personnel who enter the work area while lead disturbance operations are in progress and until final clearance is received. The log shall include, as a minimum: date of visit/worker entry; Visitor/Worker's name, employer, business address, and telephone number; time of entry and exit from work area; purpose of visit; type of protective clothing and respirator worn; and certificate of release signed and filed with the contractor.

15.5 PRODUCTS

A. Respirators and Cartridges/Filters. Use appropriate respirators and cartridges/filters, which meet all requirements of OSHA 29 CFR 1926.62 and HIOSH 12-148.1.

B. Personal Protective Clothing. Use appropriate personal protective clothing (disposable coveralls/suits, boots, gloves, eye protection, etc.) as required by OSHA 29 CFR 1926.62 and HIOSH 12-148.1.

C. Paint Removal Materials. Use appropriate tools, containment systems, chemical agents, vacuum systems, and environmental protection materials to fully collect and contain all lead-containing residues from the area during handling of paint coatings.

15.6 WORK AREA PREPARATION

A. Notice and Protection of Occupants: Inform occupants of the lead distrubance work. Protect occupants, spaces, and surrounding area from possible contamination.

B. Lead Work. During lead disturbance work, acceptable industry standard dust control methods shall be used to control dust such as, providing dust screens; setting up the decontamination unit; using negative pressure enclosures; remove paint using manual methods, or chemical strippers; and using HEPA vacuum shrouded tools, as applicable. Seal any penetrations to the affected work area with 6-mil polyethylene plastic sheeting and duct tape, if necessary. Separate the work area from non-work areas using two layers of 6-mil poly sheeting, if necessary. Completely contain and control all paint debris from leaving the work area.

C. Daily Cleanup. High Efficiency Particulate Air (HEPA) vacuum and wet clean surfaces and surrounding ground within the work area daily. Do not allow lead-painted/coated debris, paint chips, and dust to accumulate. Restrict 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.

15.7 AIR MONITORING

Refer to Article XVII - AIR MONITORING.

15.8 CLEANUP AND CLEARANCE

A. Waste Segregation. During the course of the work, the Contractor shall separate non-hazardous waste material (e.g., plastic sheeting, disposable tools, disposable protective suits, etc.) from potentially hazardous waste material (e.g., lead paint chips, debris, trash, etc.). The lead-containing waste must be placed in UN-approved (49 CFR 178) and appropriately labeled containers. The containers with lead-containing waste shall be removed from the immediate work area and shall be stored onsite for TCLP testing.

B. Final Cleanup. When the lead work has been completed, the area will be cleaned of all visible lead paint contamination by vacuuming with a HEPA-filtered vacuum cleaner followed by wet mopping, where applicable.

C. Visual Clearance.

1. The Qualified Consultant shall visually inspect the affected surfaces for residual lead paint chips and accumulated dust before the eventual removal of the lead control area.

2. If the Qualified Consultant requests recleaning due to visual dust or residual paint chips, the process will be repeated until the clearance is obtained. The Contractor shall not remove the lead control area or roped-off perimeter and warning signs prior to the Officer-in-Charge’s receipt of the Qualified Consultant's lead clearance certification. Any additional

clearance inspection initiated by the Contractor or required due to failure of the first clearance inspection, shall be at the Contractor's expense.

3. Once clearance is obtained, dismantle the decontamination unit.

D. Toxicity Characteristic Leaching Procedure (TCLP) Sampling and Analysis for waste disposal.

1. The Contractor shall be responsible for collecting representative samples of different waste streams and analyzing the samples for eight RCRA metals by TCLP analysis. The TCLP test result must be compared to the EPA limits (40 CFR 261.24), to determine if the demolition debris can be disposed of at a local landfill and/or metal recycling company approved for such purposes.

2. The Contractor shall be responsible for obtaining waste disposal approval from the landfill.

E. Waste Transportation and Disposal

1. Hazardous Waste. If any wastes are found to be classified as a hazardous waste, the owner will be notified within 24 hours and all hazardous wastes labeled, stored, and secured in accordance with applicable regulations.

   Local waste landfill facilities do not accept RCRA hazardous waste. All hazardous waste must be disposed of at an EPA-approved U.S. mainland RCRA hazardous waste disposal facility. All hazardous waste must be removed from the project site within 90 days of the waste being created for disposal.

2. Non-hazardous Waste. Non-hazardous lead waste and debris may be disposed of at the local waste landfill facility that is State-approved to accept such waste.

   a. Notify Non-hazardous Waste Landfill Operator: The Contractor shall advise the Non-hazardous Waste landfill operator, at least 24 hours prior to transportation, of the material to be delivered.

   b. Provide the Non-hazardous Waste Landfill Operator with applicable TCLP results, which indicate that the waste material is non-hazardous.

   c. If the TCLP results indicate that the wastes are hazardous waste, the Contractor, within three (3) days, shall securely store, label, and handle the materials in accordance with EPA regulations for hazardous waste. The Qualified Consultant shall ensure that the hazardous waste regulations are being followed for these wastes.

15.9 PAYMENT

Payment for disposal of hazardous wastes will not be made separately, but shall be considered incidental to the other contract items. Project final payment will not be made until a signed copy of the manifest from the treatment or disposal facility certifying the amount of hazardous materials delivered is returned and a copy is furnished to the State.

ARTICLE XVI - REMOVAL AND DISPOSAL OF POLYCHLORINATED BIPHENYLS (PCBs) BALLASTS AND MERCURY-CONTAINING MATERIAL

16.1 DESCRIPTION

A. The work covered by this section includes the removal of PCB light ballasts and mercury-containing material that may be encountered during the demolition work. A limited inspection for PCB-containing fluorescent light ballasts was conducted (see attached report prepared by E2). During the course of any light fixture work, should the Contractor observe any ballasts which do not contain a "No PCBs" label, such ballasts shall be removed and disposed of as PCB waste. The Contractor shall be responsible for the incidental procedures and equipment required to protect workers and occupants of the area from contact with PCBs and mercury.

B. The Contractor shall perform his work in accordance with 29 CFR 1910.145, 29 CFR 1910.1200, 40 CFR 761, 49 CFR 171 to 173, 49 CFR 176 to 178, and the requirements specified herein.

1. The Contractor shall possess necessary permits, State license, and insurance in conjunction with PCB and mercury removal, transportation, hauling, and disposal, and furnish timely notification of such actions required by State authorities.

2. All fluorescent light fixtures are assumed to contain mercury-containing lamps. All electrical cabinets are assumed to contain small amounts of mercury. Fluorescent light fixtures also may contain PCB-containing light ballasts. Furnish all labor, materials, and equipment necessary to carry out the safe removal and disposal of PCB ballasts, mercury-containing light tubes, and other mercury containing materials in compliance with all applicable federal and state rules and regulations. The light fixtures and electrical cabinets identified in the drawings are scheduled for replacement.

3. The Contractor shall be solely responsible for complying with any and all regulations concerning employees' safety and health and shall perform all work in accordance with applicable federal and state rules and regulations. Where conflict or any inconsistency among requirements or with these specifications exists, the more stringent requirements shall apply.

16.2 SUBMITTALS

Contractor to provide all documentation referenced in this part to Harbors Engineering for review and acceptance prior to starting work. Documentation shall include, but not be limited to, the following areas:

A. Special personnel skills and qualification of the contractor.

B. Documentation for Instruction. Each Worker and Supervisor shall submit current training certificates applicable for removing PCB and mercury containing equipment.

C. PCB and Mercury Removal Plan. Submit a detailed job-specific plan of the work procedures to be used in the identification, removal, and disposal of PCB and mercury containing materials. The plan shall also include interface of trades, sequencing of PCB and mercury related work, disposal plan, respirators, protective equipment, and a detailed description of the method to be employed in order to control pollution.

D. PCB and Mercury Disposal Plan. The PCB and Mercury Disposal Plan shall comply with applicable requirements of federal, state, and local PCB and mercury-containing waste regulations and address:

1. Identification of PCB and mercury waste associated with the work.

2. Estimated quantities of waste to be generated and disposed.

3. Names and qualifications of each contractor that will be transporting, storing, treating, disposing of the waste (PCB waste shall be required to be incinerated and mercury containing material to be sent to an EPA approved disposal or recycling facility). Include the facilities location and a 24-hour point of contact. Furnish two (2) copies of EPA, state, and local PCB waste permit applications, permits, and EPA Identification number (HI0000463752).

4. Names and qualifications (experience and training) of personnel who will be working on-site with PCB and mercury waste.

5. List of waste handling equipment to be used in performing the work, to include cleaning, volume reduction, and transport equipment.

6. Spill prevention, containment, and cleanup contingency measures to be implemented.

7. Work plan and schedule for PCB and mercury waste containment, removal, and disposal. Waste shall be containerized daily.

E. Proposed schedule of work. Notify the Officer-In-Charge in writing, five (5) working days prior to the start of work under this section.

16.3 POST-WORK SUBMITTALS

The following shall be submitted at the completion of the work under this section.

A. The project name, Abatement Contractor, Abatement Contractor license number, EPA waste generator number, work duration, material removed, respiratory protection employed, waste manifest signed by the waste disposal facility, total quantity of waste.

B. Certification of the Abatement Contractor's employees.

C. All completed and signed waste disposal manifests including chain-of custody forms, and receipts for hazardous and non-hazardous waste. Waste disposal manifests for hazardous waste shall include an EPA Identification Number HI0000463752.

16.4 CLEAN-UP

Clean surfaces within the PCB and mercury control area daily. Do not allow PCB or mercury material, debris and dust to accumulate. The Contractor shall clean or re-clean areas showing dust or residual PCB or mercury material.

16.5 PAYMENT

Payment for disposal of hazardous wastes will not be made separately, but shall be considered incidental to the other contract items. Project final payment will not be made until a signed copy of the manifest from the treatment or disposal facility certifying the amount of hazardous materials delivered is returned and a copy is furnished to the State.

ARTICLE XVII - AIR MONITORING

17.1 DESCRIPTION

A. The Contractor shall employ or subcontract all testing and air monitoring to personnel qualified to provide such monitoring for the purpose of:

1. Verification of compliance with the specifications listed in

a. ARTICLE XIV - REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING MATERIALS; and

b. ARTICLE XV - LEAD PAINT CONTROL MEASURES.

2. Ensuring that the State's legally required documentation is collected,

3. Providing engineering controls during the project.

B. The testing/air monitoring requirements shall conform to all applicable Federal, State and local regulations and shall be incorporated into this Section. Testing/air monitoring requirements shall comply with EPA, OSHA, HIOSH and the Final Response to Asbestos Hazard Emergency Response Act (AHERA).

17.2 ABATEMENT CONTRACTOR'S RESPONSIBILITIES

A. The Abatement Contractor shall be responsible for providing the personal monitoring and necessary records for all of the Abatement Contractor's employees as required by OSHA (29 CFR 1926.1101) (for asbestos) and (29 CFR 1926.62) (for lead), Hawaii State Law (12-145) (for asbestos) (12-148.1 and HAR 11-41) (for lead) and all other applicable Federal, State, and local laws governing this abatement project.

B. The Abatement Contractor shall obtain the legally required reports for air monitoring as part of the Contract. All air monitoring reports shall include all field data, laboratory reports, test results and other pertinent information about the daily work activities.

C. Monitoring information developed by the Qualified industrial hygienist's activities while under contract with the State shall be for the use of the State. The information will be available and offered to the Abatement Contractor when developed, but not thereafter, and shall not waive the Abatement Contractor's obligations stated elsewhere in this Section.

D. Air monitoring and testing which becomes necessary in order to follow up on work by the Abatement Contractor, which is rejected as not conforming to the requirements, shall be the responsibility of the Qualified industrial hygienist. Full

cost of such additional monitoring and testing shall be borne by the Abatement Contractor, and shall be deducted from the final contract payment.

E. Personal air monitoring that is part of the Qualified Consultant's scope of work shall be accommodated by the Abatement Contractor and shall not be assumed to be the monitoring required of the Abatement Contractor by law or regulation.

F. The Abatement Contractor shall be responsible for the proper, required notification to the EPA and State of Hawaii Department of Health.

17.3 VISUAL INSPECTION

A. The Qualified industrial hygienist employed or subcontracted by the Contractor shall conduct visual inspections of the work areas where asbestos and lead removal and disposal work is being conducted.

1. Asbestos-Containing Materials (ACM). The Qualified Consultant will conduct visual inspections of the work area prior to, during, and after asbestos removal operations to ensure general cleanliness of the work area. The Qualified Consultant will also conduct a final visual clearance of the work area.

2. Lead-Based Paint. The Qualified Consultant will conduct visual inspections of the work area prior to, during, and after lead removal operations to ensure general cleanliness of the work area. The Qualified Consultant will also conduct a final visual inspection of the work area prior to the opening of the work area to other trades and personnel.

3. Fluorescent Light Ballasts and Lamps. The Qualified Consultant will conduct visual inspections of the work area during and after removal operations to ensure general cleanliness of the work area. The Qualified Consultant will also conduct a final visual inspection of the work area prior to the opening of the work area to other trades and personnel.

17.4 TESTING/AIR MONITORING

A. The Qualified Consultant will ensure that the applicable specifications are being followed using the methods and requirements of the applicable scope of work.

B. The Qualified Consultant shall have the authority to implement engineering control measures during the project and stop work if deemed necessary.

C. Asbestos and lead air monitoring shall be performed to detect airborne fiber and dust concentrations in and outside the work area for the duration of the project. An adequate amount of samples of from each of the following locations shall be

collected daily (downwind or outside of the work area, upwind of the work area, and in the work area (not including blanks).

D. The Abatement Contractor shall be responsible for daily personal air samples that shall be collected on a minimum of two (2) personnel or 25% of the workers performing lead and asbestos removal work for the duration of the project.

E. Air monitoring shall be performed by a qualified industrial hygienist or personnel under the direct supervision of one. The monitoring personnel must be able to prove proficiency in AIHA/NIOSH PAT program and EPA's RTI program, or equivalent. Payment to the testing laboratory shall be by the State.

F. All work performed by the Qualified industrial hygienist shall be under the supervision of a Certified Industrial Hygienist (CIH).

G. Throughout the entire removal and cleaning operations, air monitoring shall be conducted to ensure that the Abatement Contractor is complying with this specification, EPA, HUD and OSHA regulations and any applicable state and local government regulations.

H. Asbestos air monitoring and testing will be conducted according to the method prescribed by OSHA 29 CFR 1926.1101 (f); HIOSH 12-145.1; NIOSH 7400 method or approved substitute per OSHA Revisions 15 August 1994; and the Asbestos Hazard Emergency Act (AHERA) 40 CFR part 763, Asbestos Containing Materials in Schools. Asbestos in air samples (environmental and occupational) shall be analyzed by NIOSH Method 582 or equivalent.

I. Lead air monitoring and testing will be conducted according to the method prescribed by OHSA 29 CFR 1926.62; HIOSH 12-148.1; and HAR 11-41. Lead in air samples shall be analyzed by NIOSH Method 7082 FAAS or equivalent.

J. Following the removal of ACM, LBP, and/or PCB and mercury the Qualified Consultant together with the Abatement Contractor’s representative, will conduct a visual inspection of the work area. The work area shall be free of visible material or debris generated during the removal process. Also, all generated waste shall be properly packaged, labeled, and secured following each removal period or shift. The Abatement Contractor shall re-clean the work area if the Qualified Consultant does not accept that the area is visually clean. Subsequent cleaning operations due to failure of the visually acceptance shall be the responsibility of the Abatement Contractor. No change orders will be allowed.

K. The final visual clearance inspection shall only be conducted when the work area is visually clean of debris, waste material, tools, and all other foreign materials.

17.5 PAYMENT

Payment for disposal of hazardous wastes will not be made separately, but shall be considered incidental to the other contract items. Project final payment will not be made until a signed copy of the manifest from the treatment or disposal facility certifying the amount of hazardous materials delivered is returned and a copy is furnished to the State.

ARTICLE XVIII – CONCRETE AND METAL REPAIR WORK

18.1 GENERAL

A. Work under this Article includes furnishing all labor, materials and equipment necessary to repair existing concrete penetrations and spalled concrete at the rooftop, walls, and base of the concrete silos.

B. In general, the work includes, but is not necessarily limited to the following:

1. Repairing penetrations at the roof of the concrete silos including, but not necessarily limited to, the following:

    a. Installing structural steel supports and corrugated metal decking at large silo roof penetrations.

    b. Installing and removing formwork at medium silo roof penetrations.

    c. Installing reinforcing and placing concrete infill at large and medium silo roof penetrations.

    d. Installing concrete screws and placing concrete infill at small silo roof penetrations.

    e. Chipping out surrounding concrete and placing concrete infill at extra small silo roof penetrations.

    f. Installing reinforcing and placing concrete infill at concrete wall opening at north tower atop silos.

    g. Installing and removing formwork at concrete wall opening at north tower atop silos.

    h. Replacing metal roof hatch at top of north tower atop silos.

2. Repairing spalling and delamination at the concrete silos including, but not necessarily limited to, the following:

    a. Sounding concrete silo and tower walls and roofs to determine extent of concrete spall repairs.

    b. Removing concrete surrounding reinforcing steel in spall repair areas.

    c. Preparing concrete repair areas.

d. Cleaning exposed, existing reinforcing steel and applying reinforcing steel coating.

e. Installing and removing formwork at spall repair areas.

f. Placing concrete or patching compound at spall repair areas.

3. Reroofing concrete silos and north tower atop silos.

a. Removing existing built-up roofing, flashing and other coverings down to bare concrete substrate.

b. Installing a sloped overlay at footprint of demolished steel shed atop silos.

c. Installing a waterproofing system.

4. Temporarily supporting existing utilities and related appurtenances as required.

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

Section 503 Concrete Structures
Section 601 Structural Concrete
Section 602 Reinforcing Steel
Section 711 Concrete Curing Materials and Admixtures

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

18.2 MATERIALS

A. Concrete.

1. Concrete shall be Class f'c = 5,000 psi conforming to Section 601 "Structural Concrete" of the Standard Specifications.

2. Maximum aggregate size shall be 3/8 inches and shall be coordinated with concrete preparation procedures for spall repairs.

3. Admixture. Admixture to be used in the concrete shall be approved by the Construction Engineer and shall conform to Section 711 of the Standard Specifications. Contractor shall strictly adhere to the manufacturer's recommendations regarding the use of admixtures including storage, transportation and method of mixing. When freezing or very high temperatures are a concern during shipping and storage, MCI 2005NS-AL shall be used when recommended by the manufacturer or supplier.

CORTEC MCI 2005NS migrating corrosion inhibiting admixture manufactured by Cortec Corporation and silica fume shall be added at the following rates and as recommended by the manufacturer.

CORTEC MCI 2005NS: 1.5 pints per cubic yard of concrete

To combat climate change and reduce the concrete carbon footprint, supplementary cementitious material(s) shall be used to reduce the cement content in the concrete for this project. The following supplementary cementitious material shall be substituted for cement by weight at the following rate and as recommended by the concrete supplier.

Fly Ash: 20% of cement by weight

Silica Fume: 10% of cement by weight

4. The maximum water to cementitious materials ratio shall be 0.40 and the mix water shall be reduced as necessary to account for the admixture.

5. Reinforcing Steel. New reinforcing steel shall be ASTM A615 Grade 60.

6. Reinforcing Steel Anti-Corrosion Coating. Anti-corrosion coating with a minimum 7 day open time for reinforcing steel shall be Sika Armatec 110 Epocem by Sika, or approved equal.

7. Epoxy Grout. Epoxy for grouting of dowels shall be Set 3G by Simpson Strong-Tie or approved equal.

8. Patching Compound.

   a. For form and pour repairs, patching compound shall be Sikacrete 211 SCC Plus by Sika or approved equal.

   b. For repairing vertical repairs in lifts, patching compound shall be Sikaquick VOH with Latex R by Sika or approved equal.

9. Repair Mortar for Sloped Overlay. For sloped overlay, repair mortar shall be Sikaquick VOH with Latex R by Sika or approved equal.

10. Curing Compound for concrete repairs shall be acceptable to the Harbors Construction Engineer.

11. Forms shall conform to Section 503.03.C “Forms” of the Standard Specifications.

12. Snap ties and inserts shall be plastic or stainless steel. All loose reinforcing steel shall be secured with ties at all intersections with adjacent reinforcing steel.

B. Structural Steel and Steel Deck.

1. Structural Steel. Structural steel shall conform to ASTM A36 unless otherwise noted.

2. Anchor Bolts. Anchor bolts shall conform to ASTM F1554, Grade 36, unless otherwise noted.

3. Welding Electrodes. Welding electrodes shall be E70xx.

4. All structural steel shall be hot-dipped galvanized.

5. Cold Galvanizing Compound. Cold galvanizing compound for coating field welds shall be ZRC Cold Galvanizing Compound or approved equal.

6. Steel Deck. Steel deck shall conform to ASTM A653 SS, Grade 50, with G60 (G90) galvanized coating.

7. Deck Fasteners. Deck fasteners shall be Hilti X-ENP-19 L15 powder actuated deck fasteners as manufactured by Hilti or approved equal.

C. Roof Hatch.

1. Type and Size. Security, BRHS, single-leaf metal lid, 36 by 30 inches by Babcock-Davis or approved equal.

2. Loads. Minimum 40-lbf/sq. ft. external live load with a maximum deflection of 1/150 of the span and 20-lbf/sq. ft. internal uplift load.

3. Hatch Material.

   a. Cover. 1/4 inch aluminum

   b. Curb. 1/4 inch aluminum 12 inch high single wall curb, with integral counterflashing. Mounting flange continuous around base of frame.

      Fabricate curbs to minimum height of 12 inches above roofing surface unless otherwise indicated.

4. Finish. TGIC Polyester powder coat paint.

5. Color. Red Oxide.

6. Hardware. Type 316 stainless steel.

a. Hinge/Spring Assembly. Zinc plated steel Tamper-proof hinge contained within hinge/spring assembly with compression springs contained within telescope tubes.

b. Hold Open Device. Automatic zinc plated steel hold open arm with red vinyl grip handle.

c. Latch. Zinc plated steel spring-type slam latch with inside and outside operating turn handles and padlock hasp provisions.

7. Gasket. Extruded EPDM adhesive back seal, continuous around cover.

D. Expansion Joint. Expansion joint shall be RoofJoint by Sika Emseal or approved equal.

1. System shall be comprised of: 1.) a heat weldable, Nitrile PVC or TPV thermoplastic extrusion with dual-level flange and, 2.) manufacturer supplied termination bar and anchors and, 3.) factory welded downturn transition in the RoofJoint gland that is sealed at a ship lapped 45-degree angle to mate with an interlocking factory-fabricated RoofJoint/SEISMIC COLORSEAL transition piece.

2. Final selection of the extrusion size to be coordinated between manufacturer, designer, and contractor(s) in consideration of expected movements as a product of structural design and expected temperature variations, taking into account as-built joint-gap sizes and temperatures at expected installation time. Width of joint-gaps at time of casting or cutting to be adjusted, if necessary, from baseline temperature used and specified by designer in determining system suitability.

3. Manufacturer's Checklist must be completed by expansion joint subcontractor and returned to manufacturer at time of ordering material.

18.3 CONSTRUCTION METHODS

A. Concrete Work.

1. Concrete construction shall conform to the American Concrete Institute (ACI) ACI SPEC-301-20 and ACI PRC-546-14.

2. Surface preparation for spall repair work shall follow the International Concrete Repair Institute (ICRI) Guideline No. 310.R-2008. The sizes, locations and types of repair work specified on the drawings are intended to be approximate only. The actual amount and type of repair work to be done shall be determined after completion of the removal work. Removal and surface preparation shall be performed in the order listed below.

a. All visible loose and deteriorated concrete shall be removed with suitable pneumatic or hand tools until only sound concrete remains.

b. Such chipped areas and adjoining areas shall be further sounded by tapping with a light hammer. Areas emitting a hollow sound indicating unsound and delaminated concrete with voids shall be further chipped to sound concrete and beyond the extent of the corroded reinforcing.

c. Partially exposed reinforcing steel or steel exposed during the concrete chipping process shall be fully exposed throughout their length within the repair area. There shall be a minimum of 3/4 inch of clear distance between the reinforcing steel and the chipped surface of the existing concrete for placing patching compound or concrete.

d. The edges of the repair shall be saw-cut and chipped as necessary to attain a minimum repair material depth of 3/4 inch and to prevent featheredge conditions.

e. The existing concrete in the repair areas shall be chipped to approximate rectangular dimensions to facilitate the repair work.

f. The patch area shall be cleaned of all dust and debris just prior to patching with high pressure, oil-free compressed air with appropriate PPE's and containment.

3. Live Load Limitation. Any element being repaired shall not be subjected to live loads during the period starting from the removal of existing concrete until the repair concrete has been allowed to cure for 7 days or obtained a minimum compressive strength of f'c=4,000 psi.

4. Fabricating and Placing Reinforcement. Fabricate and place new steel reinforcement according to CRSI's "Manual of Standard Practice." Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials.

5. Cleaning Reinforcing Steel. All exposed concrete and reinforcing steel in the repair area shall be needle gunned to remove all scale, loose rust, debris and other bond-inhibiting materials. Any areas not patched more than 48 hours after cleaning shall be recleaned.

6. The Contractor shall survey the entire area around the project site to ensure that no hazardous vapors are present. The Contractor shall certify in writing that the project site shall be safe for hot work and free of hazardous vapor. No open flame, hot cutting, welding or other hot work will be permitted without the certification.

7. Reinforcing Steel Coating. All exposed steel shall be liberally coated with anti-corrosion coating per manufacturer's recommendations.

8. Epoxy Grouting. Blow holes completely clean of all concrete debris to allow for adequate bonding of the epoxy. The holes shall be filled with epoxy gel before inserting and turning the supplemental reinforcement to displace the grout.

9. Formwork. Formwork shall be installed in accordance with Section 503.03.C - "Forms" of the Standard Specifications. The exact method of formwork requires the Construction Engineer's approval. Forms shall be designed to provide a minimum of three (3) inches of concrete cover over all reinforcing steel, unless noted otherwise. All edges of concrete repairs shall be chamfered and existing joints shall be maintained.

10. Placing Concrete. Concrete shall be placed in accordance with Section 503.03 - "Construction" of the Standard Specifications. All repair surfaces including forms shall be thoroughly washed with clean water and remain in a saturated surface dry condition prior to placing concrete. Surfaces shall be clean and free of loose and other bond-inhibiting materials. The repair concrete shall be vibrated, rodded or tamped during placement to consolidate the pour and fill all corners of the patch or form and beneath the reinforcing. As an alternate self-consolidating concrete maybe used. There shall be no cold joints in the field of the repair.

11. Patching Compound. Patching compound shall be used only to fill minor spalls and voids and to fill minor depressions such as those caused by the installation of expansion anchors used for formwork support. The Contractor shall follow the manufacturer's recommendations for mixing and placing patching compound, including application of a slurry coat to prime the substrate and application of the repair material in lifts.

12. Finish. Concrete finish shall be Class I - Ordinary Surface Finish as specified in Section 503.03.M.1 of the Standard Specifications. Provide smooth finish on pier decks for all holes patched. Cementitous compound used to patch holes shall be finished to the level of the concrete surface. Remaining void in asphalt topping pavement shall be filled with asphalt to match existing elevation and composition.

13. Formwork Removal. Formwork for all repairs shall not be removed for a minimum of 24 hours and until concrete has obtained a minimum compressive strength of f'c = 4,000 psi.

14. Concrete Curing. Concrete repairs on the underside of the pier shall be cured a minimum 7 days by leaving the forms in place or covering the surface with a curing compound approved by and acceptable to the Harbors Construction Engineer.

15. Identifying Repairs. Identify all repair work with paint. The color and marking for identification shall be a minimum 6 inch in height and black stenciling unless otherwise directed by the Harbors Construction Engineer.

16. Photographs. The Contractor shall provide digital photographs of underside spall repairs to the Harbors Construction Engineer for their review. Photos shall be in color and taken with a digital camera having a 6.0 mega pixel resolution or higher. Each photo shall be identified with the time, date, and location referenced to the plans.

    The Contractor shall provide one set of photos per 200 square feet of spall repairs. A set of photos shall contain at least two photos for each of the procedures listed below.

    a. Existing condition of concrete repair.

    b. After all removal of existing concrete has been completed, including spalled and delaminated concrete, concrete surrounding reinforcing steel in repair areas, and sawcut and chipped out concrete at the perimeter of the repair.

    c. After cleaning of the reinforcing steel.

    d. After replacing severely corroded steel with weld spliced reinforcing steel.

    e. After installing replacement reinforcing steel.

    f. After applying reinforcing steel coating.

    g. After formwork has been installed.

    h. After forms have been removed, or concrete has cured for at least 3 days.

    The photos shall be taken on the same day that the procedure has been completed and shall clearly represent typical details of the completed procedure. The photos shall also be emailed to the Harbors Construction Engineer on the same day that the photos were taken. Additionally, one set of 4" x 6" sized prints shall be delivered to the Construction Engineer at the completion of the project.

17. Defective Work. After forms have been removed, the repaired area shall be tested by tapping with a hammer. Any "hollow" sound emitted shall indicate the presence of voids and shall be sufficient cause for removal of repair work and reconstruction. The method of repairing defects shall be subject to the approval of the Construction Engineer. All defects shall be corrected by the Contractor at no additional cost to the State.

B. Structural Steel and Steel Deck.

1. Fabrication and Erection. Fabrication and erection of structural steel shall conform to the American Institute of Steel Construction Manual of Steel Construction, Fifteenth Edition.

2. Welds. Welds and welding procedures shall conform to the structural welding code AWS D1.1 of the American Welding Society.

3. Welding shall be performed by welders prequalified for welding procedures to be used.

4. All field welds and existing steel surfaces exposed during demolition shall be coated with galvanizing compound.

5. Installation. The steel deck, corrugated metal roofing and siding shall be installed in accordance with the drawing or per written instructions by the manufacturer for prefabricated hardware.

C. Aluminum Roof Hatch.

1. Coordination.

a. Coordinate layout and installation of roof accessories with roofing membrane and base flashing and interfacing and adjoining construction to provide a watertight installation.

b. Coordinate dimensions with rough-in information.

2. Submittals.

a. Shop Drawings. Indicate configuration and dimension of components, adjacent construction, required clearances and tolerances, and other affected Work.

1) Hatch Units: Show types, elevations, thickness of metals, and full-size profiles.

2) Hardware: Show materials, finishes, locations of fasteners, types of fasteners, locations and types of operating hardware, and details of installation.

3) General: Show connections of units and hardware to other Work. Include schedules showing location of each type and size of unit.

b. Product Data.

1) Manufacturer’s technical data for each type of hatch assembly, including setting drawings, templates, finish requirements, and details of anchorage devices.

2) Include complete schedule, types, locations, construction details, finishes, latching or locking provisions, and other pertinent data.

c. Provide manufacturer's standard warranty.

d. Manufacturer's Installation Instructions and Operation & Maintenance. Indicate installation, operation and maintenance requirements and rough-in dimensions.

2. Quality Assurance. Regulatory Requirements.

a. OSHA 29 CFR 1910.23 Guarding floor and wall openings and holes.

b. OSHA 29 CDR 1919.29 Fall protection systems and falling object protection-criteria and practices.

c. OSHA 29 CFR 1926.502 Fall protection systems criteria.

d. International Building Code (IBC) Section 1013.6 Roof Access.

e. International Building Code (IBC) Section 1009.11 Means of Egress, Stairways, Stairway to Roof.

f. International Building Code for venting requirements.

3. Delivery, Storage, and Handling.

a. Deliver materials to Project site ready use.

b. Exercise proper care in handling of Work so as not to disrupt finished surfaces.

c. Store materials under cover in a dry and clean location off the ground.

4. Warranty. Provide manufacturer's standard 5 year warranty. Roof hatches and smoke vents shall be free from manufacturing defects in materials and fabrication for a period of 5 years from the date of shipment. Should a product fail to function in normal use within this period, manufacturer shall furnish a replacement or new part at manufacturer’s discretion.

5. Examination.

a. Verification of Conditions. Examine areas and conditions under which Work is to be performed and identify conditions detrimental to proper or timely completion.

b. Verify that deck, curbs, roof membrane, base flashing, and other items affecting Work of this Section are in place and positioned correctly.

c. Verify tolerances and correct improper condition.

d. Identify conditions detrimental to providing proper quality and timely completions of work.

e. Do not proceed with installation until detrimental conditions have been corrected.

6. Installation.

a. Comply with manufacturer's recommendations.

b. Coordinate installation of components of this Section with installation of roofing membrane and base flashing.

c. Coordinate installation of sealant and roofing cement with Work of this Section to ensure water tightness.

d. Securely anchor roof accessories in compliance with manufacturer's instructions.

e. Set units plumb, level, and true to line without warp or rack. Separate metal from incompatible metal or corrosive substrates, including wood, by coating concealed surfaces, at locations of contact, with bituminous coating or providing other permanent separation.

f. Flange Seals. Unless otherwise indicated, set flanges of accessory units in a thick bed of roofing cement to form a seal

7. Adjusting.

a. Adjust movable parts for smooth operation

b. Operational Units. Test-operate units with operable components. Clean and lubricate joints and hardware. Adjust for proper operation.

8. Cleaning. Clean exposed surfaces per manufacturer's written instructions. Touch up damaged metal coatings.

D. Expansion Joint.

1. Fabrication.

a. Include details and manufacturing drawings indicating profiles of each type of expansion joint cover assembly, splice joints between sections, joinery with other types, special end conditions, fasteners, and relationship to adjoining work and finishes with specific reference to tie-in with deck waterproofing system through integration with expansion joint system dual-level flange.

b. Directional changes and terminations into vertical plane surfaces (walls, parapets, ends of decks, etc) as well as to transition the material through curbs or other in-slab plane changes to be provided by factory-manufactured assemblies that preserve continuity of seal. Transitions between RoofJoint and any other of Manufacturer's joint systems in the vertical plane to be executed according to Manufacturer's details and to be warranted as watertight.

2. Product Delivery, Storage and Handling. Deliver products to site in Manufacturer's original, intact, labeled containers. Handle and protect as necessary to prevent damage or deterioration during shipment, handling and storage. Store in accordance with manufacturer's installation instructions.

3. Quality Assurance.

a. The General Contractor will conduct a pre-construction meeting with all parties and trades involved in the treatment of work at and around expansion joints including, but not limited to, concrete and waterproofing. All superintendents and foremen with responsibility for oversight and setting of the joint gap must attend this meeting. The General Contractor is responsible to coordinate and schedule all trades and ensure that all subcontractors understand their responsibilities in relation to expansion joints and that their work cannot impede anticipated structural movement at the expansion joints, or compromise the achievement of watertighness or life safety at expansion joints in any way.

b. Warranty. Manufacturer's standard warranty shall apply.

4. Preparation of the Work Area.

a. The contractor shall provide properly formed and prepared expansion joint openings constructed to the exact dimensions and elevations shown on manufacturer's standard system drawings or as shown on the contract drawings. Deviations from these dimensions

will not be allowed without the written consent of the engineer of record.

b. The contractor shall clean the joint opening of all contaminants immediately prior to installation of expansion joint system. Repair spalled, irregular or unsound joint surfaces using accepted industry practices for repair of the substrates in question. Remove protruding roughness to ensure joint sides are smooth. Refer to Manufacturers Installation Guide for detailed step-by-step instructions.

c. System to be installed by qualified sub-contractors only according to detailed published installation procedures and/or in accordance with job-specific installation instructions of manufacturer's field technician. The applicator must be the same contractor as will be installing the deck waterproofing system. Bids must include for presence of paid-for manufacturer's field technician to be present during initial preparation, inspection, and material installation.

5. Clean and Protect. Protect the system and its components during construction. Subsequent damage to the expansion joint system will be repaired at the general contractor's expense. After work is complete, clean exposed surfaces with a suitable cleaner that will not harm or attack the finish.

18.4 PAYMENT - Payment for concrete and metal repair work shall be made as described in Article X of these Specifications

ARTICLE XIX – FLUID-APPLIED ROOFING

19.1 GENERAL

A. Work to be done under this Article includes preparing and coating all concrete roof surfaces of the silos with a protected cold-fluid-applied polyurethane roofing/waterproofing system, as shown on the project drawings.

B. Work included in this Article must be completed by a valid State of Hawaii Specialty Contractor licensed "C-42" Roofing Contractor. The "C-42" Roofing Contractor must be listed on page P-4 of the Proposal at the time of bidding.

C. Performance Requirements.

1. Cold fluid applied polyurethane protected roofing/waterproofing system is intended to perform as a continuous barrier against liquid water and to flash or discharge to the exterior incidental water. Membrane system is expected to remain exposed and shall accommodate movements of building materials as required with accessory sealant materials at such locations such as, changes in substrate, perimeter conditions and penetrations.

2. Installed roofing/waterproofing membrane system shall not permit the passage of water and will withstand the design pressures calculated in accordance with the most current revision of ASCE 7.

3. Manufacturer shall provide all primary roofing/waterproofing materials that are physically and chemically compatible when installed in accordance with manufacturers current application requirements.

D. Submittals. Contractor to provide all documentation referenced in this part to Harbors Engineering for review and acceptance prior to starting work. Documentation shall include, but not be limited to, the following areas:

1. Product Data. For each product.

2. Shop Drawings. Manufacturer's standard details and shop drawings for the specified system.

3. Installer's Authorization. Installer shall provide written documentation from the manufacturer of their authorization to install the system, and eligibility to obtain the warranty specified in this section.

4. Manufacturer's Certification. Certification showing full time quality control of production facilities and that each batch of material is tested to ensure conformance with the manufacturer's published physical properties.

5. VOC Certification. Manufacturer's certification that all roofing/waterproofing system products meet current Volatile Organic Compound (VOC) regulations as established by the State in which they are being installed; and stating total VOC content, in grams per liter, for all system components (i.e. primers, adhesives, coatings, etc.).

E. Quality Assurance.

1. Manufacturer's Qualifications. Manufacturer shall demonstrate qualifications to supply materials of this section by certifying the following:

   a. Membrane Manufacturer shall show evidence that the specified membrane has been manufactured by the same organization or direct affiliate for fifteen years.

   b. Membrane Manufacturer shall have available an in-house technical staff to assist the contractor when necessary in the application of the products and site review of the assembly.

2. Installer's Qualifications. The Contractor shall demonstrate qualifications to perform the Work of this Section by submitting certification or license by the roofing/waterproofing membrane manufacturer as a trained and authorized applicator of the product the installer intends to use.

3. Source Limitations. All components listed in this section shall be provided by a single manufacturer or approved by the primary roofing/waterproofing manufacturer.

4. Materials Compatibility. All materials included in the roofing/waterproofing assembly, as well as associated materials adhered to/applied beneath the roofing/waterproofing membrane shall have been tested and verified to be compatible. Include written testing documentation and test reports if requested by the Harbors Construction Engineer.

5. Final Inspection. Manufacturer's representative shall provide to the Harbors Construction Engineer a comprehensive site visit report after the completion of the roofing/waterproofing system

6. Applicable Regulations. Comply with local code and requirements of authorities having jurisdiction. Do not exceed VOC regulations as established by the State in which they are being installed, including total VOC content, in grams per liter, for all system components (i.e. primers, adhesives, coatings, and similar items).

7. Roofing Terminology. Refer to ASTM D1079 and the glossary of the National Roofing Contractors Association (NRCA) Roofing and

Waterproofing Manual for definitions of roofing terms related to this section.

F. Pre-Installation Conference. Prior to scheduled commencement of the roofing installation and associated work, conduct a meeting at the project site with the installer, Harbors Construction Engineer/consultant, owner, manufacturer's representative and any other persons directly involved with the performance of the Work. The Installer shall record conference discussions and to include decisions and agreements reached (or disagreements) and furnish copies of recorded discussions to each attending party. The main purpose of this meeting is to review foreseeable methods and procedures related to the Work.

G. Delivery, Storage, Handling.

1. Deliver all roofing/waterproofing materials to the site in original containers, with factory seals intact.

2. Store all pail goods in their original undamaged containers in a clean, dry location within their specified temperature range.

3. Do not expose materials to moisture in any form before, during, or after delivery to the site. Reject delivery of materials that show evidence of contact with moisture.

4. Remove manufacturer supplied plastic covers from materials provided with such. Use "breathable" type covers such as canvas tarpaulins to allow venting and protection from weather and moisture. Cover and protect materials at the end of each workday. Do not remove any protective tarpaulins until immediately before the material will be installed.

5. Materials shall be stored above 55°F (12.6°C) a minimum of 24 hours prior to application.

H. Project Conditions.

1. Weather. Proceed with roofing/waterproofing only when existing and forecasted weather conditions permit. Membrane application can proceed when precipitation is imminent. Sikalastic RoofPro is capable of curing in immersion immediately after application. Visual marks in the form of pock marks may occur if uncured membrane is exposed to heavy rainfall, but is not considered a limiting factor in the performance of the roofing membrane. Ambient temperatures shall be above 36°F (2°C) when applying the roofing/waterproofing system.

2. All surfaces to receive the roofing/waterproofing membrane shall be free from visible water, dew, frost, snow and ice. Application of

roofing/waterproofing membrane shall be conducted in well-ventilated areas.

3. Roofing Membrane.

   a. Roofing/waterproofing membrane is not intended to be exposed or in contact with a constant temperature below -22°F (-30°C) or in excess of 176°F (80°C). See technical data sheets for limitations, i.e., hot pipes and vents or direct steam venting.

   b. Specified roofing/waterproofing membrane is non-flammable and VOC compliant. Consult container, packaging labels and Material Safety Data Sheets (MSDS) for specific safety information.

   c. Specified roofing/waterproofing membrane is resistant to gasoline, paraffin, fuel oil, mineral spirits, and moderate solutions of acids and alkalis, acid rain and detergents. Some low molecular weight alcohols can soften. Any exposure to foreign materials or chemical discharges shall be presented to membrane manufacturer for evaluation to determine any impact on the waterproof membrane assembly performance prior to warranty issuance.

4. Contractor shall ensure adequate protection during installation of the roofing/waterproofing system.

5. Specified roofing/waterproofing membrane may be used as a temporary roofing/waterproofing barrier when applied at a wet film thickness of 15-20 mils to a properly prepared deck. When the specified roofing/waterproofing membrane is used as a temporary roofing/waterproofing barrier the roofing/waterproofing membrane does not need to be removed prior to installation of the finished roofing/waterproofing system

I. Warranty. Provide manufacturer's standard warranty. Materials warranty shall be for a minimum of one year starting at the date of Substantial Completion. System warranty shall be for 25 years in accordance with specified system.

19.2_PRODUCTS

A. Fluid-Applied Membrane System, 25 Year Warranty. Sikalastic RoofPro 25, Sika Fleece 170 or approved equal:

1. Base Layer. Sikalastic 641 Lo-VOC, 66 mils wet film thickness, 24 sf/gal coverage rate approx. or approved equal.

2. Top Layer. Sikalastic 641 Lo-VOC, 34 mils wet film thickness; 47 sf/gal coverage rate approx. or approved equal.

B. Membranes and Coatings.

1. Base embedment coat with Fleece reinforcement shall be Sikalastic 641 Lo-VOC by Sika Corp, a single component, cold, fluid applied, moisture triggered, aliphatic, polyurethane base coat membrane, or approved equal.

2. Topcoat with Fleece reinforcement shall be Sikalastic 641 Lo-VOC by Sika Corp, a single component, cold, fluid applied, moisture triggered, aliphatic, polyurethane topcoat membrane, or approved equal.

3. Base coat and top coat membranes shall be low in VOC's, and be a one component elastomeric polyurethane membrane that may be brush or roller applied. Membrane shall have the following physical properties and conforms to ASTM D7311-07: Standard Specification for Liquid Applied, Single Component, Moisture-Triggered, Aliphatic Polyurethanes used in Roofing.

4. Liquid Property Requirements.

a. Sikalastic 641 Lo-VOC:

1) VOC Content, ASTM D-2369-81: < 50 g/l

2) Volume Solids, ASTM D2697: 89% minimum.

3) Weight Solids: ASTM D1644: 92% minimum.

4) Sag Resistance, ASTM D4400: No sag at 700 micrometers (0.028 in. / 28 mil)

b. Film Physical Property Requirements.

1) Tensile Strength (Tension): ASTM D412: Minimum 1.86 MPa (270lb/in2)

2) Elongation: ASTM D412: MIN 200%.

3) Accelerated Weathering FL/UV – 5000 Hours, ASTM G 154, No cracking or checking.

4) Water Vapor Transmission, Permeability / Permeance: ASTM E96: Maximum 8.5 gms/m2/ day (0.033 perm-inches).

5) Flexibility – Mandrel Bend, ASTM D522: Pass, no cracking or flaking.

6) Tear Resistance, ASTM D625: Minimum 5.8 kN/m (33 lbf/in)

7) Indentation Hardness, ASTM D2240: 82 Durometer Units (+/- 5 units)

8) Dynamic Puncture Resistance, ASTM D5635: Minimum 15 joules (357 ft.poundals)

9) Static Puncture Resistance, ASTM D5602: Minimum 20.7 kg. (45.5 lbs.)

B. Membrane Reinforcement.

1. Reinforcement for the roofing/waterproofing membrane system shall be Sika Fleece by Sika Corp., a non-woven, needle-punched polyester fleece specifically designed to provide greater impact resistance and greater resistance to excessive thermal and structural movement while maintaining elasticity and membrane film integrity, or approved equal.

2. Supplemental reinforcement of the roofing/waterproofing membrane system shall be Sika Flexitape Heavy by Sika Corp, a nylon mesh specifically designed for local reinforcement of the roofing/waterproofing membrane at structural cracks, expansion joints and transitions between dissimilar materials, or approved equal.

C. Fillet Bead and Penetration Sealant.

1. Sealant for fillet bead applications and membrane penetrations shall be Sikaflex 11FC by Sika Corp., a one-part polyurethane sealant suitable for fillet bead transition compound to be applied prior to the installation of the membrane system at changes in substrate direction, sealing reglet terminations, cracks in the substrate and penetrations of the roof /waterproofing system, or approved equal.

2. Exposed finish sealant shall be Sikaflex Hyflex 150 LM by Sika Corp., a one-part low modules hybrid sealant suitable for finishing terminations at saw cuts and all UV exposed sealant terminations, or approved equal. Also suitable for fillet bead transition, changes in substrate direct, cracks in the substrate and penetrations of the roof before installation of the RoofPro membrane system.

D. Primers.

1. Primer for concrete and roof cover boards shall be Sika Concrete Primer by Sika Corp., a two component, rapid curing, high solids, solvent based polyurea primer designed for sealing cementitious and gypsum based substrates or Sika Concrete Primer Lo-VOC by Sika Corp., a single component, rapid curing, high solids, moisture cured primer designed for sealing cementitious and gypsum based substrates, or approved equal.

2. Water based primer for roof cover boards shall be Sika Bonding Primer by Sika Corp., a fastdrying, two-component, water-based, adducted polyamide epoxy primer, or approved equal.

3. Epoxy primer for green concrete shall be Sikalastic DTE Primer by Sika Corp., a two-component, solvent free, epoxy primer specifically designed to be applied to damp or new concrete susceptible to high moisture drive prior to the application of roofing/waterproofing systems, or approved equal.

4. Metal primer shall be Sikalastic EP Primer/Sealer by Sika Corp., a two-component, cycloaliphatic, amine cured material with a high level of corrosion resistance for metal, modified bitumen surfaces, and chemically treated wood, or approved equal.

E. Concrete Repair and Patching. Cementitious repair mortar to repair bug holes, spalled areas, and other non-structural surface defects, to fill uneven areas and birdbaths, or to repitch decks shall be SikaQuick 1000 by Sika Corp., a two component, polymer-modified, Portland cement, fast-setting, trowel-grade mortar, or approved equal.

19.3_CONSTRUCTION METHODS

A. Examination.

1. Verify that surfaces and conditions are ready to accept the Work of this section. Notify Harbors Construction Engineer in writing of any discrepancies. Commencement of the Work in an area shall indicate Installer's acceptance of the substrate.

2. Surfaces shall be sound, dry, clean and free of oil, grease, dirt, excess mortar or other contaminants. Fill voids, gaps and spalled areas in substrate to provide an even plane.

B. Surface Preparation.

1. Verify that the deck is clean and smooth, free of depressions, waves, or projections, and properly sloped to drains, valleys, eaves, scuppers or gutters. Verify that all roof openings or penetrations through the roof are secured back to solid blocking. Ensure all preparatory Work is complete prior to applying membrane.

2. All surfaces shall be blown clean using an best methods to remove any remaining loose debris.

3. All cracks and voids greater than 0.040 inches shall be routed and caulked with a polyurethane sealant. Allow to cure per roof /waterproofing

membrane manufacturer's technical data sheets prior to over-coating with the specified roof /waterproofing membrane system.

4. At all inside corners, gaps or voids at the juncture of the deck and penetrations apply a minimum 3/4 inch fillet bead of polyurethane sealant and allow to cure per roof /waterproofing membrane manufacturer's technical data sheets prior to installing the roof /waterproofing membrane system.

5. At all moving cracks, moving joints between dissimilar materials, and similar conditions, create a minimum 1 inch wide bond break utilizing bond breaker tape, centered over the crack or joint.

6. Membrane terminations shall be established prior to project start-up and documented in shop drawings. Terminations shall occur in raked-out mortar joints, saw cut terminations or under installed counter-flashing materials.

7. Use tape lines to achieve a straight edge detail. Remove tape while application is still wet for clean lines.

C. Substrate Preparation.

1. Structural Concrete.

a. Acceptable concrete substrates are limited to poured in place concrete decks.

b. Minimum deck thickness for structural concrete is 4 inches (10.2 cm).

c. Concrete surface to be light broom finish or equivalent.

d. Curing agents shall be checked for compatibility with specified roofing/waterproofing materials. Most curing agents shall be completely removed from the substrate by grinding, scarifying, or other mechanical means.

e. Concrete surfaces shall be low-pressure (5,000 psi or less) power-washed in accordance with ICRI Guideline No. 03732: Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays to remove all dirt, debris or surface contamination that would compromise bonding of the specified roofing/waterproofing membrane system. Remove oil or grease with solvents, or detergent and water. Rinse surface clean of remaining cleaning agents.

f. Do not apply on substrates with moisture content greater than 4% by weight, measured by Tramex Concrete Moisture Encounter meter.

g. Application to Damp (moisture content greater than 4%) Concrete: Sikalastic® GDC Primer can be applied to damp concrete as soon as surface water has dissipated after rainfall or other sources of water have ceased.

h. Application to Green Concrete: Sikalastic® GDC Primer can be applied to horizontal concrete surfaces 48 hours after concrete pour (or when concrete is walkable) and vertical surfaces 24 hours after forms are removed.

i. Minimum substrate compressive strength > 3000 psi. at the time Sikalastic® GDC Primer is applied

2. Metal Surfaces. Exposed drain bowls, pipes, and other metal surfaces shall be cleaned by power tool cleaning (SSPC SP-3) to remove corrosion deposits back to a clean, bright metal followed by a solvent wipe prior to application of the specified primer.

D. Priming.

1. Concrete.

a. Mix and apply specified primer for concrete/masonry/wood surfaces by brush or roller at the application rate shown on the technical data sheet. Porous, rough or absorbent surfaces will decrease coverage rates.

b. Allow to cure and dry in accordance with manufacturer's technical data sheets.

2. Metal.

a. Apply specified primer for metal surfaces to clean and prepared drain bowls and other metal surfaces by brush or roller at the application rate shown on the technical data sheet to achieve an overall wet film thickness of 6-8 mils. High porosity and roughness of the substrate will decrease coverage rates.

b. Allow to cure and dry in accordance with manufacturer's technical data sheets.

E. Membrane Reinforcement.

1. Reinforcement of Cracks and Base/Curb Flashing Transitions.

a. For all locations where the specified membrane system is to be applied directly to the substrate surface, provide reinforcement of cracks and joints prior to applying the specified membrane system.

b. For all moving cracks and joints, create a minimum 1 inch wide bond break centered over the crack or joint by applying bond break tape centered over each crack or joint.

c. For all non-moving cracks and joints, rout and seal with Sikaflex polyurethane sealant.

d. For all horizontal-to-vertical transitions, provide a ¾" x ¾" Sikaflex polyurethane sealant cant.

e. Apply a minimum of a 3 inch wide strip of Sika Joint Tape SA directly, or alternatively Flexitape Heavy membrane reinforcement into a bed of liquid roofing/waterproofing membrane. Back roll reinforcement to fully embed reinforcement into the wet liquid polyurethane membrane. Add more liquid membrane as needed to fully embed the reinforcement.

f. Ensure reinforcement is not in tension during embedment.

F. Cold Fluid Applied Membrane Application.

1. Install roofing/waterproofing membrane system in accordance with current technical data sheets and in accordance with Section 19.2.

2. Apply base embedment coat to horizontal deck and vertical wall surfaces by brush or with 1/2 inch – 3/4 inch nap roller to achieve a continuous and uniform minimum wet film thicknesses as specified in Section 19.2. For fleece applications, approximately 2/3 of the total resin shall be applied as the base embedment coat.

3. Immediately lay specified conformable reinforcement into the wet base embedment resin coat. Fleece reinforcement is typically precut at flashings only before application.

4. Apply pressure to the membrane reinforcement with a roller to fully embed and saturate the membrane reinforcement into liquid roofing/waterproofing material. Remove air pockets from under the membrane by rolling them out.

5. Apply additional liquid material as required to ensure the membrane reinforcement is fully embedded and has conformed to the substrate without tenting or visible pinholes.

6. Overlap sheets of Fleece membrane reinforcement 3 inches at side laps and 6 inches at end laps.

7. Extend membrane reinforcement vertically at adjacent wall surfaces in accordance with project details and specifications.

8. When using polyester fleece reinforcement, immediately apply the resin top coat wet-on-wet.

9. Apply topcoat by nap roller or brush to achieve a continuous and uniform minimum wet film thickness as specified in Section 19.2.

10. Install all flashings in accordance with manufacturer's construction details.

G. Parapet and Wall Flashings.

1. Clean, prepare and prime flashing substrate surfaces ready to receive membrane flashing applications.

2. All parapet, wall, and curb flashings shall be provided with a sealant cant with Flexitape reinforcement prior to flashing application. Terminate roofing/waterproofing membrane system at raked-out mortar joints, termination saw cut joint, or under installed counter-flashing materials. Seal all mortar joints and saw cut joints with Sikaflex polyurethane sealant.

3. Install metal counter flashings in accordance with details.

H. Drip Edges and Other Metal Flanged Flashing.

1. Clean, prepare and prime metal flange surfaces ready to receive membrane flashing applications.

2. Metal flanges are typically encapsulated between two membrane layers, usually by providing membrane flashing as a stripping ply over the metal flange, with the field or flashing membrane extending beneath the metal flange. It is also acceptable to install the stripping ply under the metal flange and extend the field or flashing membrane over the metal flange.

3. For direct to substrate membrane applications where the roof / waterproofing membrane is applied directly to the structural deck, metal flanges shall be mechanically fastened through the first membrane layer to the structural deck.

I. Roof Drains.

1. Clean, prepare and prime surfaces ready to receive membrane applications. Block drain bowl opening to avoid roofing/waterproofing material from entering the drainage system.

2. Remove strainer baskets and clamping rings from the drain bowl assembly. Temporarily replace the bolts back into assembly to avoid miss-alignment of connections after membrane applications are completed.

3. Extend the liquid roofing/ waterproofing material and membrane reinforcement directly into the throat of the prepared drain.

4. Remove drain blocks and allow the roofing/waterproofing system to fully cure dry prior to re-connecting the drain bowl assembly.

J. Roof Penetrations.

1. Clean, prepare and prime surfaces ready to receive membrane flashing applications. Ensure that penetrations are secured to prevent movement.

2. Penetration flashings typically consist of two components. A vertical flashing component extends up the penetration and is finger cut at the bottom so that it can be extended horizontally onto the deck/substrate. A horizontal flashing component covers all of the tears/finger cuts and extends vertically up the penetration. The intent is to achieve a 2-3 inch overlap of the two flashing components.

K. Expansion Joints.

1. Clean, prepare and prime surfaces ready to receive membrane flashing applications.

2. Expansion joints shall be sealed with a compressible filler such as batt insulation to prevent condensation and to provide support for the flashing bellows.

3. Expansion joint flashings typically consist of four components. An initial reinforced membrane cradle of 6” wide Flexitape Heavy or Fleece is installed first, followed by a compressible foam rod under 25% compression, extending equally above and below the membrane level. A second reinforced membrane layer is installed over the foam rod to create a bellows. A third reinforced membrane layer is installed over the bellows. It is acceptable to use the flashing or roof / waterproofing membrane as the final layer.

L. Application of Penetration Sealant. Seal reglet-based membrane terminations, heads of exposed mechanical fasteners, around penetrations, duct work, electrical and other apparatus extending through the roofing/waterproofing membrane with specified penetration sealant.

M. Flood Test.

1. Upon the completion of the roofing/waterproofing membrane system and associated terminations the contractor shall flood test the system. Provide temporary stops and plugs for the roof drains within the test area. Flood test with a minimum 2 inches of water for no less than 24 hours.

2. Repair and retest the system for no less than 24 hours, report all deficiencies to the Harbors Construction Engineer. Remove temporary stops and plugs. No other Work is to proceed without prior direction from the Harbors Construction Engineer.

N. Roof Protection.

1. Protect roofing/waterproofing Work from other trades until completion.

2. Stage materials in such a manner that avoids foot traffic over completed roof areas.

3. Provide temporary walkways and platforms to protect completed Work from traffic and point loading during the application process.

4. Provide temporary membrane tie-ins and water-stops at the end of each workday and remove prior to commencement of Work the following day.

19.4_CLEAN-UP

A. Work areas are to be kept clean, clear and free of debris at all times.

B. Do not allow trash, waste, and/or debris to collect on the roof deck area. Trash, waste, and/or debris shall be removed from the roof on a daily basis.

C. All tools and unused materials shall be collected at the end of each workday and stored properly off of the finished roof surface and protected from exposure to the elements.

D. Dispose of or recycle all trash and excess material in a manner conforming to current EPA regulations and local laws.

E. Properly clean the finished roof surface after completion, and make sure the drains and gutters are not clogged.

F. Clean and restore all damaged surfaces to their original condition.

19.5_PAYMENT - Payment for the membrane roofing system shall be made as specified in Article X of these specifications.

VISITOR'S RELEASE, COVENANT NOT TO SUE AND INDEMNITY AGREEMENT

(Pre-Bid Conference Site Visit)

The Department of Transportation, Harbors, (DOTH) conducting Pre- Bid Conference Site Visit at its project job site for JOB S10836 – DEMOLISH ROOFTOP STRUCTURES AT PIER 23, HONOLULU HARBOR, HAWAII. In connection with its preparations, it is allowing certain persons to access the project site, this site is not open and accessible to the general public. I,_____ wish to enter project site premises and use lift equipment to access the permitted rooftop of Pier 23 Silo Structures (all, collectively, the Pre-Bid Visit). I understand that there are hazards associated with the Pre-Bid Visit, including but not limited to hazards associated with or arising from:

- Property conditions (including real property, improvements, facilities, vehicles and/or equipment) such as trip hazards, slip hazards, and fixtures or improvements that require adjustment;
- Malfunctions of systems or equipment;
- The presence of materials or supplies; or
- Other participants' unfamiliarity with the Project Job Site.

I acknowledge that the foregoing is not an exhaustive list, but are examples only.

I am aware of and understand the range and magnitude of the hazards that I may encounter in connection with the Pre-Bid Visit. I knowingly, freely, and voluntarily accept any and all risks of bodily injury, property damage, permanent disability, and death arising from the Pre-Bid Visit.

In consideration of being allowed to participate in the Pre-Bid Visit, I hereby irrevocably, unconditionally, and to the fullest extent permitted by law, release and forever discharge the DOTH, its officers, directors, employees, and agents, and the DOTH's consultants, contractors and subcontractors, and their respective officers, directors, employees and agents (collectively, "Releasees") from, covenant not to sue any Releasee for, and waive, any claims and causes of action (including, without limitation, claims for property damage, personal injury, bodily injury, aggravation of pre- existing injuries or conditions, or death) and all liabilities, damages, costs, expenses, and losses arising therefrom (including, but not limited to, attorneys' fees and costs), sustained or caused during the Pre-Bid Visit, except those injuries which are caused solely by the gross negligence or willful misconduct of the Releasees. In addition, I hereby agree to hold harmless, indemnify and defend the Releasees from and against all damages, costs, expenses, attorneys' fees, losses, injuries and any and all other claims and causes of action of any type whatsoever arising from my acts and omissions, except those injuries which are caused solely by the gross negligence or willful misconduct of the Releasees.

I agree to obey all posted signs and instructions, and all instructions or directions issued by DOTH personnel during the Pre-Bid Visit. Failure to do so may result in my removal from the Pre-Bid Visit.

I expressly agree that this Agreement is intended to be as broad and inclusive as permitted by the laws of the State of Hawai'i and that this Agreement shall be governed by and interpreted in accordance with the laws of the State of Hawai'i. In the event that any clause, term, or provision of this Agreement shall be declared or adjudicated void or invalid, it shall in no manner affect the other clauses, terms, and provisions hereof, which shall remain in full force and effect as if the clause, term, or provision so declared or adjudicated invalid was not originally a part hereof.

I HAVE CAREFULLY READ THIS VISITOR'S RELEASE, COVENANT NOT TO SUE INDEMNITY AGREEMENT, AND I FULLY UNDERSTAND ITS CONTENTS. I CERTIFY THAT I AM AT LEAST 18 YEARS OF AGE. I AM AWARE THAT THIS IS A RELEASE OF LIABILITY, AND THAT I AM GIVING UP SUBSTANTIAL RIGHTS BY SIGNING IT. I AM EXECUTING THIS AGREEMENT FOR MYSELF, MY SPOUSE, HEIRS, REPRESENTATIVES, SUCCESSORS AND ASSIGNS, OR ON BEHALF OF A MINOR OR INCAPACITATED PERSON. I AM FULLY COMPETENT, AND I AM SIGNING THIS DOCUMENT OF MY OWN FREE WILL.

Print Name: _____

Signature: _____ **Date:** _____

Parent/Legal Guardian (Minor/Ward): _____

Address: _____

Final Report

Limited Hazardous Materials Survey

State of Hawaii, Department of Transportation, Harbors Division
Demolish Storage Shed and Associated Structures at Pier 23
Honolulu Harbor, Oahu, Hawaii

October 2022

PREPARED FOR:
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PREPARED BY:
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October 7, 2022

Mr. Grant Okunaga, P.E.
MKE Associates, LLC
Aiea Commercial Center
99-205 Moanalua Road, Suite 205
Aiea, Hawaii 96701

Subject: **Letter Report: Draft Limited Hazardous Materials Survey**
H.C. 10836 Demolish Storage Shed and Associated Structures at Pier 23
Honolulu Harbor, Oahu, Hawaii

Dear Mr. Okunaga:

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 hazardous materials within the Storage Shed and Associated Structures at Pier 23 in Honolulu Harbor, Oahu, Hawaii (hereinafter referred to as *the project site*). On May 23, 2022, E2 was contracted by MKE Associates, LLC (MKE), who is contracted by the State of Hawaii, Department of Transportation, Harbors Division (HDOT-HAR). The contents of this report are generally based on E2's accepted proposal dated March 25, 2022. E2 conducted fieldwork on July 1, 2022. Site access was granted by HDOT-HAR. MKE procured man-lifts and an operator for the inspectors to access both the lower Shed roof and upper Silo roof.

The hazardous materials survey included sampling and testing of suspect asbestos-containing materials (ACM) and lead-painted surfaces. The survey was limited to samples that could be collected from only readily observable and safely accessible materials. A visual inventory of fluorescent light fixtures with suspect polychlorinated biphenyl (PCB)-containing ballasts and suspect mercury-containing lamps was also conducted. 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 buildings were surveyed.

1.0 BACKGROUND

The shed demolition will include the metal structures and elements attached to the concrete grain silos, including the roofing, siding and wall framing, columns, trusses, purlins, ladder, catwalk, railings, equipment, utilities, pipes, conveyor belt utility, concrete curb, concrete pedestals, and walls between the silos. Only the concrete silos and north tower will remain. Concrete spalls will also be repaired.

As-built drawings and previous hazardous materials survey reports were not available.

2.0 ASBESTOS SURVEY

The 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. Homogeneous Areas (HAs), which are suspect ACM that appear uniform in color, texture, and function, were identified. The asbestos inspectors (Daniel Amato [HIASB-4628], 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) Carson, California, who analyzed the bulk samples, is registered with the HDOH, Indoor and Radiological Health Branch, Asbestos Section. SGS is accredited by the American Industrial Hygiene Association (AIHA) under the Industrial Hygiene Laboratory Accreditation Program (IHLAP) for asbestos/fiber microscopy core, and the National Voluntary Laboratory Accreditation Program (NVLAP) 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, Appendix E, Subpart E, 40 CFR 763, 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. Table 1 below presents confirmed, trace, and assumed asbestos results. The complete analytical laboratory reports provided in the Appendices also indicate percent of other fibrous components, if any.

Table 1: Confirmed, Trace, and Assumed Asbestos Bulk Sample Results Summary

HA ID	Sample or HA Locations	Inspector Material Description (laboratory description)	Approximate Quantity	Total % Asbestos
First Floor				
P23SS-M-01	Storage Shed	Silo door sealant (black) (Black Semi-Fibrous Tar with Debris)	~500 SF	5% Chrysotile
P23SS-M-02	Storage Shed Exterior	Building foundation/wall sealant (black) (Black Semi-Fibrous Tar)	~300 LF	5% Chrysotile
P23SS-M-03 (sample C only)	Silo exterior (below Hopper House)	Air conditioning duct sealant (white, brittle) (Black Semi-Fibrous Tar)	~100 LF	5% Chrysotile
P23SS-AM-01	Storage Shed Roof	Mastic at Vent/Pipe Roof Penetrations (inaccessible)	~6 vents	Assumed
P23SS-AM-02	Exterior	A/C Unit Vibration Cloth (black)	~1 vibration cloth	Assumed
Second Floor				
P23SS-W-02	Belt House	Cementitious wall panels (gray, textured) (Grey Semi-Fibrous Material)	~6,000 SF	10% Chrysotile
P23SS-R-01 (sample B only)	Belt Corridor Exterior (above Silos)	Roofing material (tar and asphalt paper, dark red, coarse texture) (Silver Paint)	~5,000 SF	<1% Chrysotile

HA ID	Sample or HA Locations	Inspector Material Description (laboratory description)	Approximate Quantity	Total % Asbestos
P23SS-M-04	Belt House	Door flashing caulking/sealant (white, brittle over black) (Black Semi-Fibrous Tar)	~10 LF	5% Chrysotile
P23SS-M-05 (sample C only)	Hopper House	Building foundation/wall sealant (black, hard) (Black Semi-Fibrous Tar with Silver Paint)	~100 LF	5% Chrysotile
P23SS-M-06 (sample C only)	Belt Corridor Exterior (above Silos)	Window caulking (white, brittle with black fabric) (Black Semi-Fibrous Tar)	~200 LF	5% Chrysotile

Notes:
W = wall, M = miscellaneous, R = roofing, AM = assumed miscellaneous
LF = linear feet, SF = square feet
ACM = asbestos content greater than 1%

Inaccessible and/or hidden suspect materials not sampled during this field effort, or uncovered during the demolition work, should be assumed ACM and managed as such until sampled and proven otherwise. ACM that will be encountered and/or generated during future demolition 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, 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 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. The lead paint survey consisted of the collection of paint samples of various building components. The paint inspectors (Daniel Amato [PB-1148], Bernice Balete [PB-0449], and Austin Lutey [PB-0440]) are certified by 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). Samples were analyzed for total lead, cadmium, and chromium, by Inductively Coupled Plasma (ICP), 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. Table 2 below presents confirmed LBP results. The majority of painted surfaces were found in intact condition. The complete analytical laboratory reports are provided in the Appendices.

Table 2: Confirmed Lead-Based Paint Sample Results Summary

Sample ID	Material Location	Condition	Material Description	Total Lead (mg/kg)
P23SS -P06	Silo	Poor	Pale pink textured concrete wall	15,000
P23SS -P11	Belt Corridor exterior	Fair	Yellow-brown (red) corrugated metal walls	30,000
P23SS -P16	Belt Corridor exterior (above Silos)	Poor	Yellow (white) metal pipe	47,000
P23SS -P18	Exterior Hoper #2	Fair	Green metal hoppers	39,000

Notes:
P = paint
%w/w = percent lead weight over sample weight
LBP = lead content > or = 0.5% or 5,000 mg/kg

Loose and flaky lead paint should be removed prior to demolition. 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 the Hawaii Occupational Safety and Health Division (HIOSH) 12-148.1. Appropriate worker protection measures for lead should be taken during the demolition work to limit lead exposure of personnel and releases to the environment.

Metal debris 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.

4.0 CANEC SURVEY

E2 did not observe suspect canec ceiling or wall panels in the building during the field effort.

Inaccessible and/or hidden suspect materials not sampled during this field effort should be presumed arsenic-containing until sampled and proven otherwise. Prior to demolition, arsenic-containing canec should be removed whole, segregated, wrapped in plastic or placed in plastic bags during transportation and disposed of similarly to asbestos at a permitted landfill facility. Canec building materials are exempt from State laws requiring a hazardous waste determination to be made prior to disposal. As a result of this exemption, testing canec for arsenic content or leaching characteristics is not required by the State for disposal. The exemption applies whenever canec building materials are segregated from other building materials and disposed of separately. When canec is mixed with other building demolition waste, the combined waste could be subject to hazardous waste determination before disposal. The permitted landfill should be notified prior to disposal of canec materials so the canec can be appropriately segregated or handled in a manner to prevent landfill employees from being exposed during their operations.

5.0 FLUORESCENT LIGHT FIXTURE VISUAL INVENTORY

The Toxic Substances Control Act (TSCA) banned the production of PCBs in 1976 in the U.S. In fluorescent light fixtures, PCBs are usually found in ballasts either within small capacitors or in the form of a black tar like compound. The following guidelines are used to determine if the ballasts contain PCBs:

- All ballasts manufactured before July 1, 1978 are assumed to contain PCBs;
- Ballasts manufactured after July 1, 1978 that do not contain PCBs should be labeled "No PCBs" by the manufacturer in accordance with the federal regulations; and
- If a ballast is not labeled "No PCBs", it is best to assume that it contains PCBs.

Inspectors conducted a visual inventory for suspect PCBs in fluorescent light fixture ballasts and the accompanying mercury-containing fluorescent tubes or compact fluorescent light (CFL) bulbs (Table 3). E2 did not attempt to open many of the fluorescent light fixtures due to safety concerns.

Table 3: Fluorescent Light Fixture Visual Inventory

Location	Estimated Quantities
Storage Shed	~8 fixtures
Hopper House	~20 fixtures
Belt Corridor	~19 fixtures
Belt House	~8 fixtures

Note: Assume 1 ballast and 1 bulb per fixture.

The fluorescent light lamps containing mercury shall be removed before demolition and disposed as Universal Waste. If a ballast is not labeled "No PCBs", it is assumed to contain PCBs. PCB debris encountered and/or generated at the project site will require proper handling, removal, and/or disposal in accordance with OSHA PCB Standards 29 CFR 1910.1000 and 40 CFR 761. Appropriate worker protection measures should be taken during the demolition work to limit PCBs and mercury exposure of personnel and releases to the environment. In general, materials containing 50 mg/kg or greater PCBs are regulated under TSCA.

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

Attachments:
Appendix A Tables
Appendix B Figures
Appendix C Photographs
Appendix D Laboratory Reports

APPENDIX A

Tables

Pier 23 Storage Shed and Associated Structures
Honolulu Harbor, Oahu, Hawaii

Asbestos Data Summary Table

Limited Hazardous Materials Survey
Survey Date: July 2022

Homogeneous Area	Material Type	Material Description	Friable	Condition	Sample ID	Sample Location	Layer (% of Combined Sample)	Asbestos %
P23SS-F-01	Miscellaneous	Concrete building foundation/floor	NF	Intact	P23SS-F-01A	Storage Shed	1 Grey Cementitious Material (100%)	ND
					P23SS-F-01B	Storage Shed	1 Grey Cementitious Material (100%)	ND
					P23SS-F-01C	Storage Shed	1 Grey Cementitious Material (100%)	ND
P23SS-W-01	Surfacing	Textured wall skim coat	NF	Intact	P23SS-W-01A	Silo Exterior	1 Paints/Coatings (100%)	ND
					P23SS-W-01B	Silo Exterior	1 Grey Cementitious Material (90%)	ND
							2 Paints/Coatings (10%)	ND
					P23SS-W-01C	Silo Exterior	1 Paints/Coatings (100%)	ND
					P23SS-W-01D	Silo Exterior	1 Grey Cementitious Material (40%)	ND
							2 Paints/Coatings (60%)	ND
					P23SS-W-01E	Silo Exterior	1 Grey Cementitious Material (90%)	ND
							2 Paints/Coatings (10%)	ND
					P23SS-W-01F	Silo Exterior	1 Grey Cementitious Material (30%)	ND
							2 Paints/Coatings (70%)	ND
					P23SS-W-01G	Silo Exterior	1 Grey Cementitious Material (65%)	ND
							2 Paints/Coatings (35%)	ND
P23SS-W-02	**Miscellaneous**	**Cementitious wall panels (gray, textured)**	**NF**	**Intact**	**P23SS-W-02A**	**Belt House**	**1 Grey Semi-Fibrous Material (98%)**	**10% Chrysotile**
							2 Paint (2%)	ND
					P23SS-W-02B	**Belt House**	**1 Grey Semi-Fibrous Material (98%)**	**10% Chrysotile**
							2 Paint (2%)	ND
					P23SS-W-02C	**Belt House**	**1 Grey Semi-Fibrous Material (98%)**	**10% Chrysotile**
							2 Paint (2%)	ND
P23SS-W-03	Miscellaneous	Cementitious wall panels over wire mesh (gray)	NF	Intact	P23SS-W-03A	Electric Panel Room in Belt House	1 Grey Cementitious Material (100%)	ND
					P23SS-W-03B	Electric Panel Room in Belt House	1 Grey Cementitious Material (100%)	ND
					P23SS-W-03C	Electric Panel Room in Belt House	1 Grey Cementitious Material (100%)	ND
P23SS-M-01	**Miscellaneous**	**Silo door sealant (black)**	**NF**	**Intact**	**P23SS-M-01A**	**Storage Shed**	**1 Black Semi-Fibrous Tar with Debris (100%)**	**5% Chrysotile**
					P23SS-M-01B	**Storage Shed**	**1 Black Semi-Fibrous Tar with Debris (100%)**	**5% Chrysotile**
					P23SS-M-01C	**Storage Shed**	**1 Black Semi-Fibrous Tar with Debris (100%)**	**5% Chrysotile**
P23SS-M-02	**Miscellaneous**	**Building foundation/wall sealant (black)**	**NF**	**Damaged**	**P23SS-M-02A**	**Storage Shed Exterior**	**1 Black Semi-Fibrous Tar (100%)**	**5% Chrysotile**
					P23SS-M-02B	**Storage Shed Exterior**	**1 Black Semi-Fibrous Tar (100%)**	**5% Chrysotile**
					P23SS-M-02C	**Storage Shed Exterior**	**1 Black Semi-Fibrous Tar (100%)**	**5% Chrysotile**
P23SS-M-03	**Miscellaneous**	**Air conditioning duct sealant (white, brittle)**	**NF**	**Damaged**	P23SS-M-03A	Silo exterior (below Hopper House)	1 White Non-Fibrous Material (95%)	ND
							2 Black Woven Material with Tar (5%)	ND
					P23SS-M-03B	Silo exterior (below Hopper House)	1 White Non-Fibrous Material (100%)	ND
					P23SS-M-03C	**Silo exterior (below Hopper House)**	**1 Black Semi-Fibrous Tar (98%)**	**5% Chrysotile**
							2 Paint (2%)	ND
P23SS-M-04	**Miscellaneous**	**Door flashing caulking/sealant (white, brittle over black)**	**NF**	**Damaged**	**P23SS-M-04A**	**Belt House**	**1 Black Semi-Fibrous Tar (35%)**	**5% Chrysotile**
							2 White Non-Fibrous Material (65%)	ND
					P23SS-M-04B	**Belt House**	**1 Black Semi-Fibrous Tar (35%)**	**5% Chrysotile**
							2 White Non-Fibrous Material (65%)	ND
					P23SS-M-04C	**Belt House**	**1 Black Semi-Fibrous Tar (35%)**	**5% Chrysotile**
							2 White Non-Fibrous Material (65%)	ND
P23SS-M-05	**Miscellaneous**	**Window sealant (black, hard)**	**NF**	**Damaged**	P23SS-M-05A	Belt Corridor	1 Black Semi-Fibrous Tar (100%)	ND
					P23SS-M-05B	Belt Corridor	1 Black Semi-Fibrous Tar (100%)	ND
					P23SS-M-05C	**Hopper House**	**1 Black Semi-Fibrous Tar w/ Silver Paint**	**5% Chrysotile**
P23SS-M-06	**Miscellaneous**	**Window caulking (white, brittle with black fabric)**	**NF**	**Significantly Damaged**	P23SS-M-06A	Belt Corridor Exterior (above Silos)	1 Black Tar with Woven Mat'l (95%)	ND
							2 Paint (5%)	ND
					P23SS-M-06B	Belt Corridor Exterior (above Silos)	1 Black Non-Fibrous Material (2%)	ND
							2 White Non-Fibrous Material (93%)	ND
							3 Paint (5%)	ND
					P23SS-M-06C	**Belt Corridor Exterior (above Silos)**	**1 Black Semi-Fibrous Tar (45%)**	**5% Chrysotile**
							2 White Non-Fibrous Material (55%)	ND

Asbestos Data Summary Table

Homogeneous Area	Material Type	Material Description	Friable	Condition	Sample ID	Sample Location	Layer (% of Combined Sample)	Asbestos %
P23SS-M-07	Miscellaneous	Grain feeder conveyor belt (black, rubberized, fire-resistant)	NF	Intact	P23SS-M-07A	Belt Corridor	1 Black Semi-Fibrous Material (100%)	ND
					P23SS-M-07B	Belt Corridor	1 Black Semi-Fibrous Material (100%)	ND
					P23SS-M-07C	Belt Corridor	1 Black Semi-Fibrous Material (100%)	ND
P23SS-M-08	Miscellaneous	Man-lift belt (black, rubberized)	NF	Intact	P23SS-M-08A	Belt House (from ground up)	1 Tan Semi-Fibrous Material (95%)	ND
							2 Paint (5%)	ND
					P23SS-M-08B	Belt House (from ground up)	1 Tan Semi-Fibrous Material (95%)	ND
							2 Paint (5%)	ND
					P23SS-M-08C	Belt House (from ground up)	1 Tan Semi-Fibrous Material (95%)	ND
							2 Paint (5%)	ND
P23SS-R-01	Miscellaneous	Roofing material (tar and asphalt paper, dark red, coarse texture)	NF	Intact	P23SS-R-01A	Belt Corridor Exterior (above Silos)	1 Stones (5%)	ND
							2 Grey Non-Fibrous Material (10%)	ND
							3 Stones (5%)	ND
							4 Black Tars (35%)	ND
							5 Black Felts (45%)	ND
					P23SS-R-01B	Belt Corridor Exterior (above Silos)	1 Stones (5%)	ND
							2 Grey Non-Fibrous Material (10%)	ND
							3 Stones (5%)	ND
							4 Silver Paint (2%)	<1% Chrysotile
							5 Black Tars (33%)	ND
							6 Black Felts (45%)	ND
					P23SS-R-01C	Belt Corridor Exterior (above Silos)	1 Stones (5%)	ND
							2 Grey Non-Fibrous Material (10%)	ND
							3 Stones (5%)	ND
							4 Black Tars (35%)	ND
							5 Black Felts (45%)	ND
P23SS-R-02	Miscellaneous	Roof coating (black, rubberized over white fibrous strands and black sealant)	NF	Damaged	P23SS-R-02A	Belt Corridor Exterior (above Silos)	1 Black Tar (35%)	ND
							2 Black Felt (65%)	ND
					P23SS-R-02B	Belt Corridor Exterior (above Silos)	1 Silver Paint (2%)	ND
							2 Black Tar (33%)	ND
							3 Black Felt (65%)	ND
					P23SS-R-02C	Belt Corridor Exterior (above Silos)	1 Black Tar (35%)	ND
							2 Black Felt (65%)	ND
P23SS-R-03	Miscellaneous	Roofing tar and paper remnants (black, coarse)	NF	Intact	P23SS-R-03A	Storage Shed	1 Stones (3%)	ND
							2 Black Tar (15%)	ND
							3 Black Felt (82%)	ND
					P23SS-R-03B	Storage Shed	1 Stones (3%)	ND
							2 Black Tar (15%)	ND
							3 Black Felt (82%)	ND
					P23SS-R-03C	Storage Shed	1 Stones (3%)	ND
							2 Black Tar (15%)	ND
							3 Black Felt (82%)	ND

F = floors, W = walls, M = miscellaneous, R = roof
Asbestos-Containing Materials (ACM) = asbestos content > or = 1%
Materials Containing Trace Asbestos Concentration = detectable asbestos content <1%
Non-Asbestos-Containing Materials = no detectable asbestos content

Pier 23 Storage Shed and Associated Structures
Honolulu Harbor, Oahu, Hawaii

Lead Data Summary Table

Limited Hazardous Materials Survey
Survey Date: July 2022

Sample ID	Sample Location	Sample Description	Condition	Result (wt%)
P23SS-P01	Storage Shed	Yellow metal bollard	Poor	0.0046
P23SS-P02	Storage Shed	Dull yellow (blue) corrugated metal wall	Poor	0.045
P23SS-P03	Storage Shed	Red metal door frame	Poor	0.0079
P23SS-P04	Silo	Dark yellow textured concrete wall	Poor	0.050
P23SS-P05	Silo	Red textured concrete wall	Poor	0.018
P23SS-P06	Silo	Pale pink textured concrete wall	Poor	1.5
P23SS-P07	Silo	Yellow metal vent louvers	Poor	0.074
P23SS-P08	Silo	Yellow (red) metal rail	Poor	0.0012
P23SS-P09	Silo	Brown metal pipe	Poor	0.0071
P23SS-P10	Silo Exterior (below Hopper House)	Brown metal A/C duct	Poor	0.036
P23SS-P11	Belt Corridor exterior	Yellow-brown (red) corrugated metal walls	Fair	3.0
P23SS-P12	Belt Corridor exterior (above Silos)	Red (red) metal pipes	Poor	0.0049
P23SS-P13	Belt Corridor exterior (above Silos)	Red (red) metal vents	Poor	0.0034
P23SS-P14	Utility Truss	Yellow metal utility truss	Poor	0.18
P23SS-P15	Belt House	Gray metal frame/railings	Poor	0.19
P23SS-P16	Belt Corridor exterior (above Silos)	Yellow (white) metal pipe	Poor	4.7
P23SS-P17	Belt House	Blue metal duct	Poor	0.014
P23SS-P18	Exterior Hopper #2	Green metal hoppers	Fair	3.9
P23SS-P19	Exterior (above Silos)	Yellow metal rails	Poor	0.089

Lead-Based Paint (LBP) = lead content > or = 5,000 mg/kg
Lead-Containing Paint (LCP) = detectable lead content < 5,000 mg/kg=
Non-Lead-Containing Paint = no detectable lead content

Pier 23 Storage Shed and Associated Structures
Honolulu Harbor, Oahu, Hawaii

Cadmium Data Summary Table

Limited Hazardous Materials Survey
Survey Date: July 2022

Sample ID	Sample Location	Sample Description	Condition	Result (mg/kg)
P23SS-P01	Storage Shed	Yellow metal bollard	Poor	0.0004
P23SS-P02	Storage Shed	Dull yellow (blue) corrugated metal wall	Poor	0.0058
P23SS-P03	Storage Shed	Red metal door frame	Poor	ND
P23SS-P04	Silo	Dark yellow textured concrete wall	Poor	ND
P23SS-P05	Silo	Red textured concrete wall	Poor	ND
P23SS-P06	Silo	Pale pink textured concrete wall	Poor	0.0009
P23SS-P07	Silo	Yellow metal vent louvers	Poor	0.0015
P23SS-P08	Silo	Yellow (red) metal rail	Poor	ND
P23SS-P09	Silo	Brown metal pipe	Poor	ND
P23SS-P10	Silo Exterior (below Hopper House)	Brown metal A/C duct	Poor	ND
P23SS-P11	Belt Corridor exterior	Yellow-brown (red) corrugated metal walls	Fair	ND
P23SS-P12	Belt Corridor exterior (above Silos)	Red (red) metal pipes	Poor	ND
P23SS-P13	Belt Corridor exterior (above Silos)	Red (red) metal vents	Poor	ND
P23SS-P14	Utility Truss	Yellow metal utility truss	Poor	ND
P23SS-P15	Belt House	Gray metal frame/railings	Poor	0.013
P23SS-P16	Belt Corridor exterior (above Silos)	Yellow (white) metal pipe	Poor	ND
P23SS-P17	Belt House	Blue metal duct	Poor	0.014
P23SS-P18	Exterior Hopper #2	Green metal hoppers	Fair	0.0004
P23SS-P19	Exterior (above Silos)	Yellow metal rails	Poor	0.0024

Cadmium-Containing Materials = detectable cadmium content
Non-Cadmium-Containing Materials = no detectable cadmium content

Pier 23 Storage Shed and Associated Structures
Honolulu Harbor, Oahu, Hawaii

Chromium Data Summary Table

Limited Hazardous Materials Survey
Survey Date: July 2022

Sample ID	Sample Location	Sample Description	Condition	Result (mg/kg)
P23SS-P01	Storage Shed	Yellow metal bollard	Poor	ND
P23SS-P02	Storage Shed	Dull yellow (blue) corrugated metal wall	Poor	0.012
P23SS-P03	Storage Shed	Red metal door frame	Poor	0.023
P23SS-P04	Silo	Dark yellow textured concrete wall	Poor	0.0023
P23SS-P05	Silo	Red textured concrete wall	Poor	0.0027
P23SS-P06	Silo	Pale pink textured concrete wall	Poor	0.0024
P23SS-P07	Silo	Yellow metal vent louvers	Poor	0.0053
P23SS-P08	Silo	Yellow (red) metal rail	Poor	ND
P23SS-P09	Silo	Brown metal pipe	Poor	ND
P23SS-P10	Silo Exterior (below Hopper House)	Brown metal A/C duct	Poor	0.0008
P23SS-P11	Belt Corridor exterior	Yellow-brown (red) corrugated metal walls	Fair	0.10
P23SS-P12	Belt Corridor exterior (above Silos)	Red (red) metal pipes	Poor	0.0006
P23SS-P13	Belt Corridor exterior (above Silos)	Red (red) metal vents	Poor	ND
P23SS-P14	Utility Truss	Yellow metal utility truss	Poor	0.0093
P23SS-P15	Belt House	Gray metal frame/railings	Poor	0.011
P23SS-P16	Belt Corridor exterior (above Silos)	Yellow (white) metal pipe	Poor	0.0012
P23SS-P17	Belt House	Blue metal duct	Poor	0.004
P23SS-P18	Exterior Hopper #2	Green metal hoppers	Fair	0.054
P23SS-P19	Exterior (above Silos)	Yellow metal rails	Poor	ND

Chromium-Containing Materials = detectable chromium content
Non-Chromium-Containing Materials = no detectable chromium content

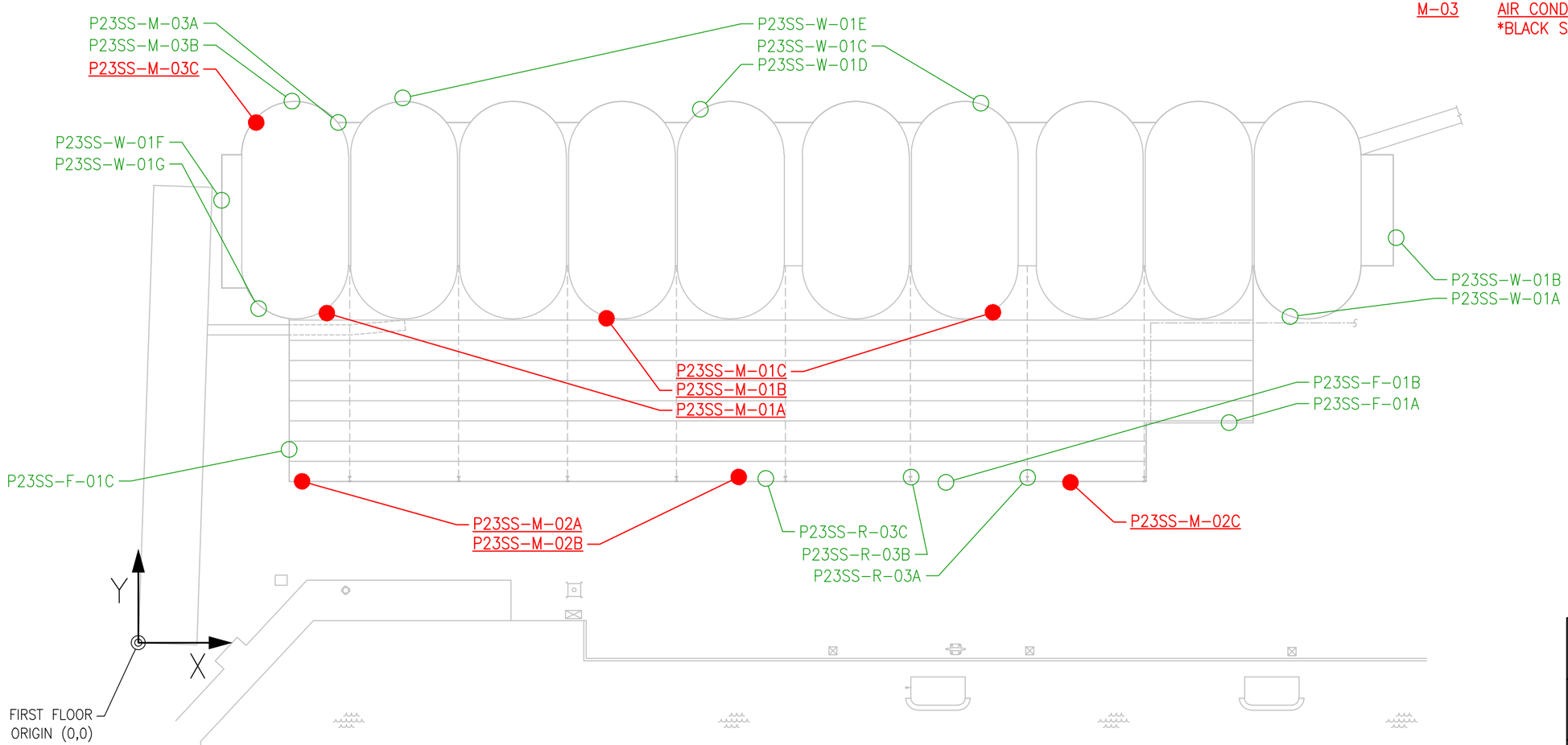
APPENDIX B

Figures

TRUE NORTH
SCALE: 1"=30'

HOMOGENEOUS AREAS

F-01	CONCRETE BUILDING FOUNDATION/FLOOR
W-01	TEXTURED WALL SKIM COAT
R-03	ROOFING TAR AND PAPER REMNANTS (BLACK, COARSE)
M-01	SILO DOOR SEALANT (BLACK) *BLACK SEMI-FIBROUS TAR WITH DEBRIS
M-02	BUILDING FOUNDATION/WALL SEALANT (BLACK) *BLACK SEMI-FIBROUS TAR
M-03	AIR CONDITIONING DUCT SEALANT (WHITE, BRITTLE) *BLACK SEMI-FIBROUS TAR



30' 0 30' 60'
SCALE: 1"=30'

SAMPLE LOCATIONS
- NEGATIVE ASBESTOS
- POSITIVE ASBESTOS

GROUND FLOOR & SHED ROOF

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PROJECT TITLE:
DEMOLISH STORAGE SHED AND ASSOCIATED STRUCTURES AT PIER 23, HONOLULU HARBOR

FIGURE TITLE:
PIER 23 STORAGE SHED AND ASSOCIATED STRUCTURES, GROUND FLOOR & SHED ROOF, ASBESTOS SAMPLE RESULTS AND APPROXIMATE LOCATIONS

SURVEY DATE:
JULY 1, 2022

FIGURE NO.:
A-1

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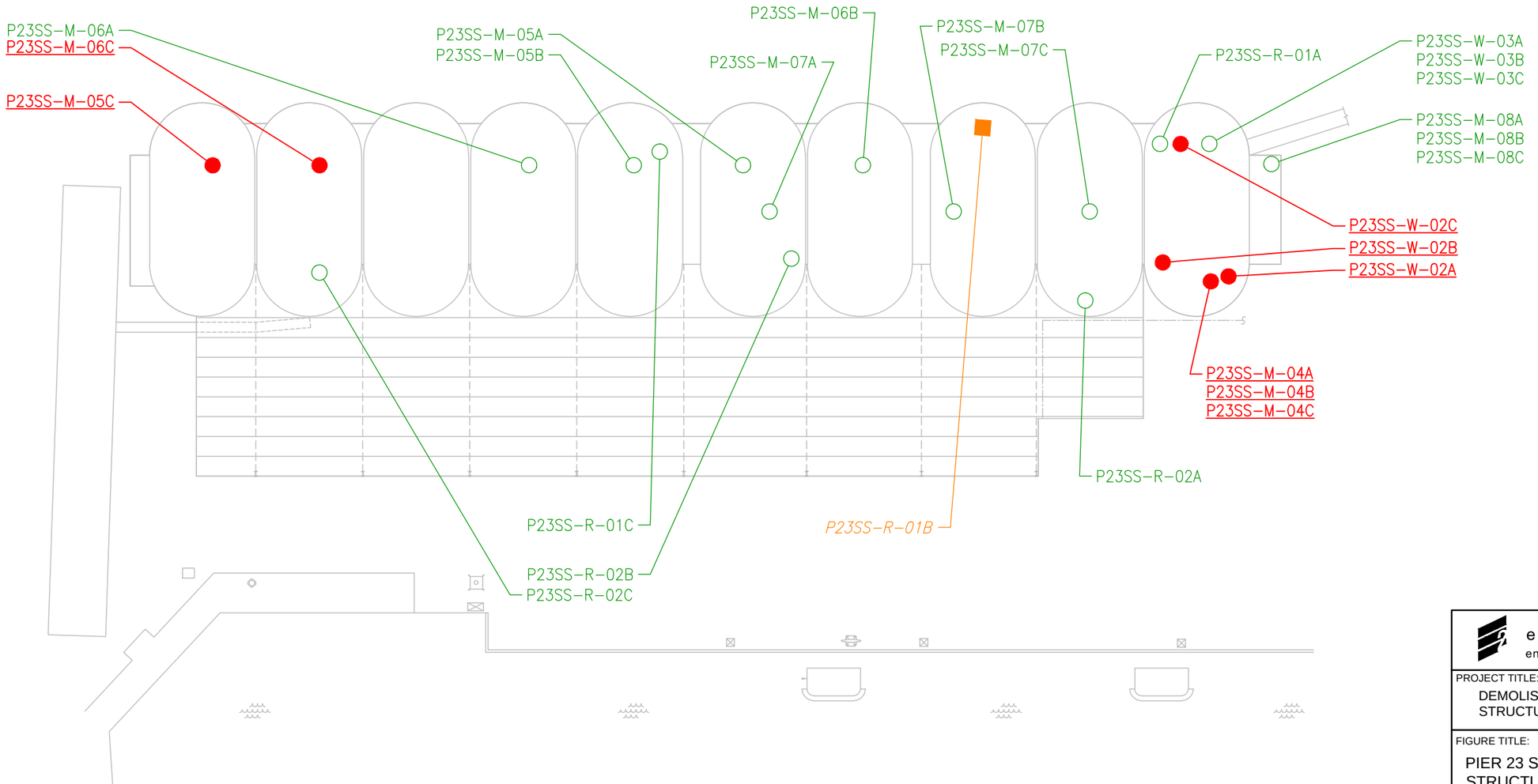
TRUE NORTH
SCALE: 1"=30'

HOMOGENEOUS AREAS

M-04	DOOR FLASHING CAULKING/SEALANT (WHITE, BRITTLE OVER BLACK) *BLACK SEMI-FIBROUS TAR	R-01	ROOFING MATERIAL (TAR AND ASPHALT PAPER, DARK RED, COARSE TEXTURE) *SILVER PAINT
M-05	WINDOW SEALANT (BLACK, HARD) *BLACK SEMI-FIBROUS TAR WITH SILVER PAINT	R-02	ROOF COATING (BLACK, RUBBERIZED OVER WHITE FIBROUS STRANDS AND BLACK SEALANT)
M-06	WINDOW CAULKING (WHITE, BRITTLE WITH BLACK FABRIC) *BLACK SEMI-FIBROUS TAR	W-02	CEMENTITIOUS WALL PANELS (GRAY, TEXTURED) *GRAY SEMI-FIBROUS MATERIAL
M-07	GRAIN FEEDER CONVEYOR BELT (BLACK, RUBBERIZED, FIRE-RESISTANT)	W-03	CEMENTITIOUS WALL PANELS OVER WIRE MESH (GRAY)
M-08	MAN-LIFT BELT (BLACK, RUBBERIZED)		



SAMPLE LOCATIONS

- NEGATIVE ASBESTOS
- POSITIVE ASBESTOS
- TRACE ASBESTOS

30' 0 30' 60'

SCALE: 1"=30'

SILO ROOF

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PROJECT TITLE:
DEMOLISH STORAGE SHED AND ASSOCIATED STRUCTURES AT PIER 23, HONOLULU HARBOR

FIGURE TITLE:
PIER 23 STORAGE SHED AND ASSOCIATED STRUCTURES - SILO ROOF, ASBESTOS SAMPLE RESULTS AND APPROXIMATE LOCATIONS

SURVEY DATE:
JULY 1, 2022

FIGURE NO.:
A-2

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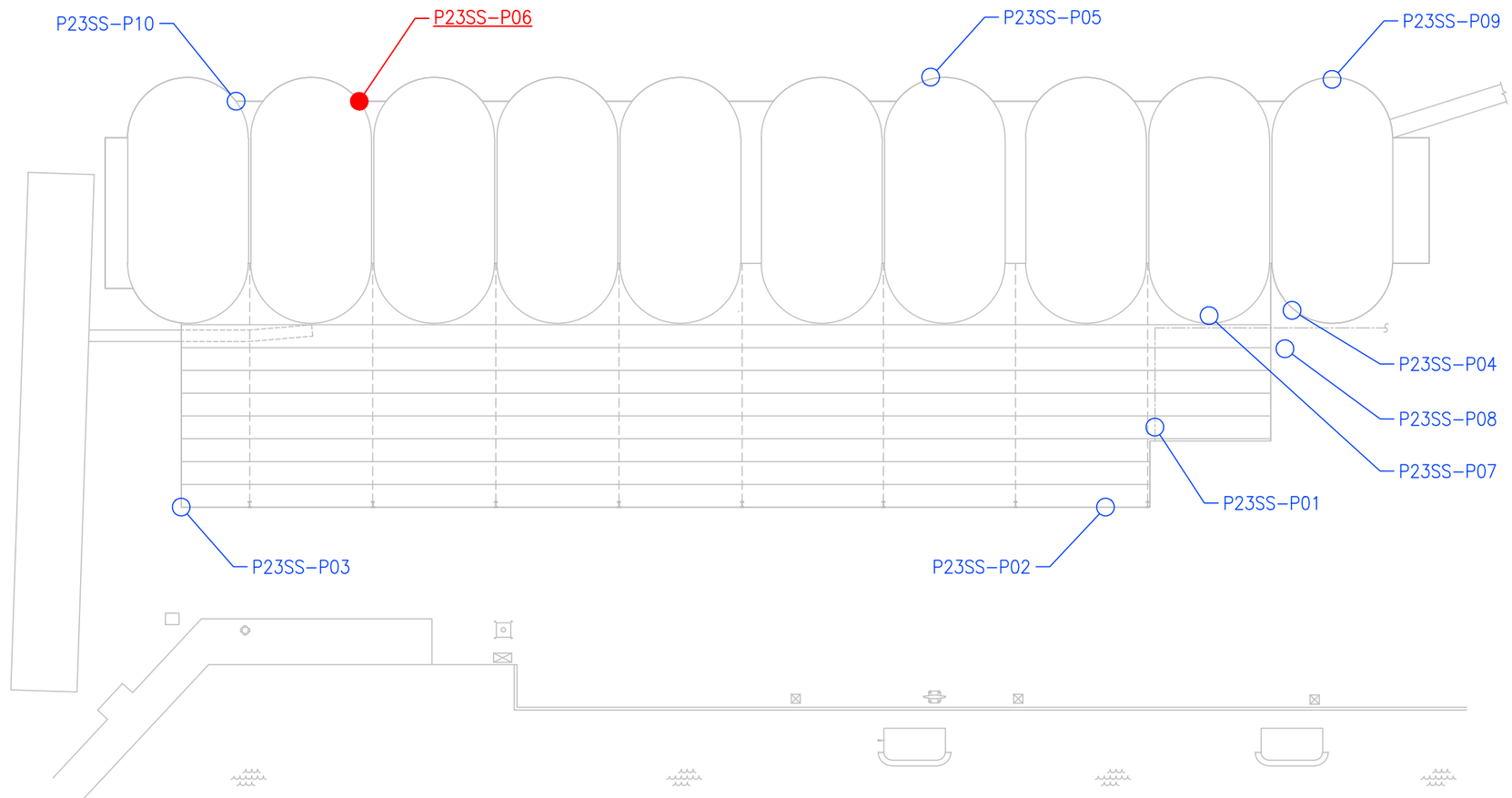
TRUE NORTH
SCALE: 1"=30'

PAINT SAMPLES

P01	YELLOW METAL BOLLARD	P06	PALE PINK TEXTURED CONCRETE WALL
P02	DULL YELLOW (BLUE) CORRUGATED METAL WALL	P07	YELLOW METAL VENT LOUVERS
P03	RED METAL DOOR FRAME	P08	YELLOW (RED) METAL RAIL
P04	DARK YELLOW TEXTURED CONCRETE WALL	P09	BROWN METAL PIPE
P05	RED TEXTURED CONCRETE WALL	P10	BROWN METAL A/C DUCT



SAMPLE LOCATIONS
- NEGATIVE LEAD
- POSITIVE LBP
- POSITIVE LCP

30' 0 30' 60'
SCALE: 1"=30'

GROUND FLOOR & SHED ROOF

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environmental · engineering · water resources

PROJECT TITLE:
DEMOLISH STORAGE SHED AND ASSOCIATED STRUCTURES AT PIER 23, HONOLULU HARBOR

FIGURE TITLE:
PIER 23 STORAGE SHED AND ASSOCIATED STRUCTURES - GROUND FLOOR & SHED ROOF, PAINT LEAD SAMPLES RESULTS AND APPROXIMATE LOCATIONS

SURVEY DATE: JULY 1, 2022

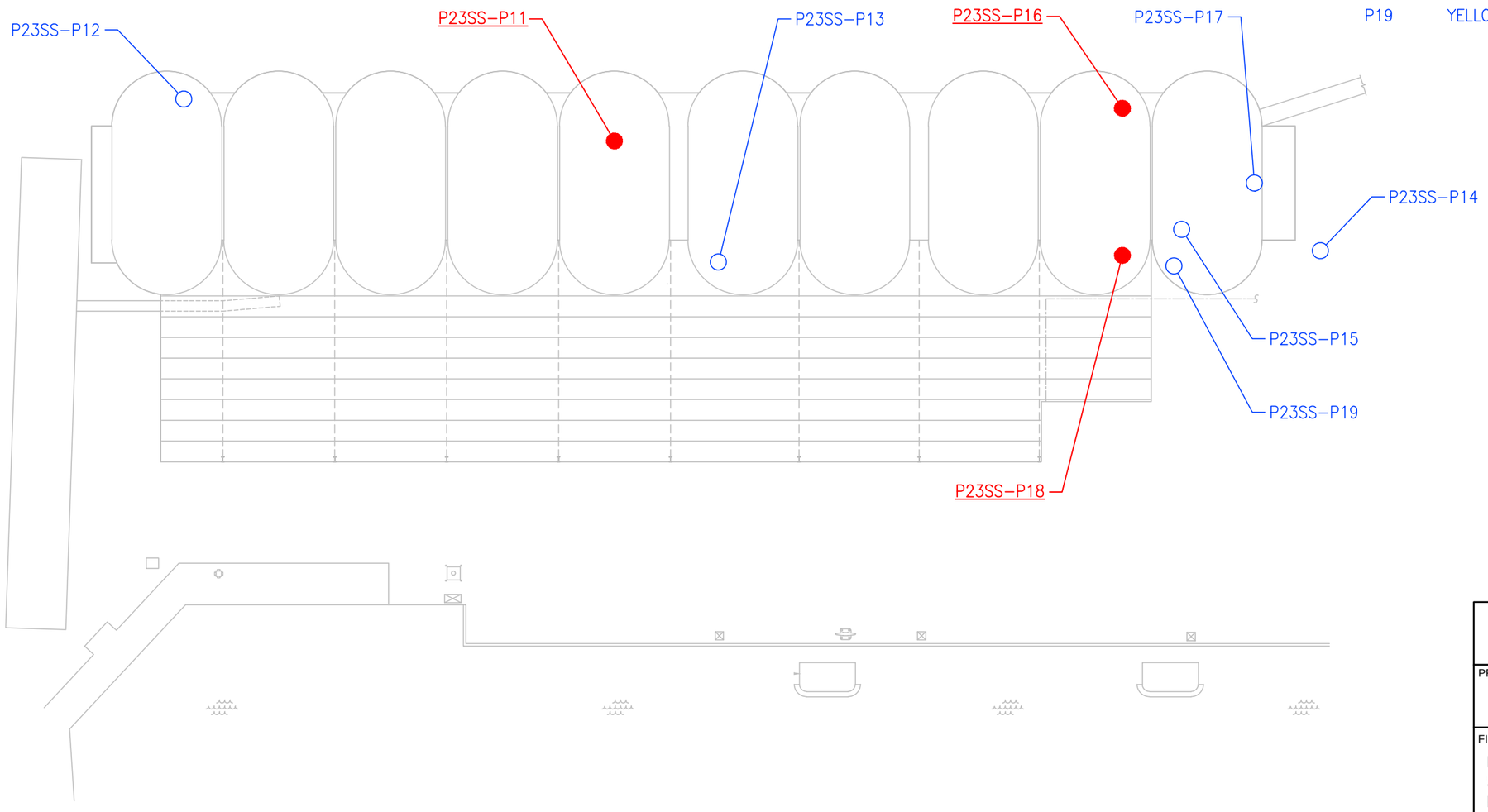
FIGURE NO.: P-1

220030_figures.dwg - BBALETE - 10/7/2022 8:42:00 PM

TRUE NORTH
SCALE: 1"=30'

PAINT SAMPLES

P11	YELLOW–BROWN (RED) CORRUGATED METAL WALLS
P12	RED (RED) METAL PIPES
P13	RED (RED) METAL VENTS
P14	YELLOW METAL UTILITY TRUSS
P15	GRAY METAL FRAME/RAILINGS
P16	YELLOW (WHITE) METAL PIPE
P17	BLUE METAL DUCT
P18	GREEN METAL HOPPERS
P19	YELLOW METAL RAILS



SAMPLE LOCATIONS

- NEGATIVE LEAD
- POSITIVE LCP
- POSITIVE LBP

30' 0 30' 60'

SCALE: 1"=30'

SILO ROOF

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PROJECT TITLE:
DEMOLISH STORAGE SHED AND ASSOCIATED STRUCTURES AT PIER 23, HONOLULU HARBOR

FIGURE TITLE:
PIER 23 STORAGE SHED AND ASSOCIATED STRUCTURES - SILO ROOF,
PAINT SAMPLE LEAD RESULTS AND APPROXIMATE LOCATIONS

SURVEY DATE: JULY 1, 2022

FIGURE NO.: P-2

220030_figures.dwg - BBALETE - 10/7/2022 8:41:49 PM

APPENDIX C

Photographs

Pier 23 Storage Shed and Associated
Structures, Honolulu Harbor, Oahu, Hawaii
July 1, 2022

Photo 1 - P23SS-F-01A (Close-up)
[BB\DSCN9182.JPG]

Photo 2 - P23SS-F-01A (Panoramic)
[BB\DSCN9183.JPG]

Photo 3 - P23SS-F-01B (Close-up)
[BB\DSCN9184.JPG]

Photo 4 - P23SS-F-01B (Panoramic)
[BB\DSCN9185.JPG]

Photo 5 - P23SS-F-01C (Close-up)
[BB\DSCN9186.JPG]

Photo 6 - P23SS-F-01C (Panoramic)
[BB\DSCN9187.JPG]

Photo 7 - P23SS-W-01A (Close-up)
[BB\DSCN9215.JPG]

Photo 8 - P23SS-W-01A (Panoramic)
[BB\DSCN9216.JPG]

Photo 9 - P23SS-W-01B (Close-up)
[BB\DSCN9217.JPG]

Photo 10 - P23SS-W-01B (Panoramic)
[BB\DSCN9218.JPG]

Photo 11 - P23SS-W-01C (Close-up)
[BB\DSCN9223.JPG]

Photo 12 - P23SS-W-01C (Panoramic)
[BB\DSCN9224.JPG]

Pier 23 Storage Shed and Associated
Structures, Honolulu Harbor, Oahu, Hawaii
July 1, 2022

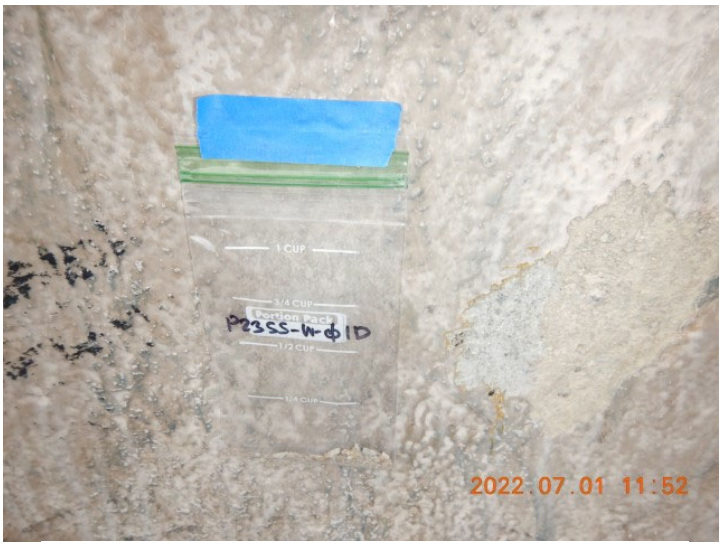

Photo 13 - P23SS-W-01D (Close-up)
[BB\DSCN9225.JPG]

Photo 14 - P23SS-W-01D (Panoramic)
[BB\DSCN9226.JPG]

Photo 15 - P23SS-W-01E (Close-up)
[BB\DSCN9227.JPG]

Photo 16 - P23SS-W-01E (Panoramic)
[BB\DSCN9228.JPG]

Photo 17 - P23SS-W-01F (Close-up)
[BB\DSCN9231.JPG]

Photo 18 - P23SS-W-01F (Panoramic)
[BB\DSCN9232.JPG]

Pier 23 Storage Shed and Associated
Structures, Honolulu Harbor, Oahu, Hawaii
July 1, 2022

Photo 19 - P23SS-W-01G (Close-up)
[BB\DSCN9233.JPG]

Photo 20 - P23SS-W-01G (Panoramic)
[BB\DSCN9234.JPG]

Pier 23 Storage Shed and Associated
Structures, Honolulu Harbor, Oahu, Hawaii
July 1, 2022

Photo 21 - P23SS-W-02A (Close-up)
[AL\DSCN6955.JPG]

Photo 22 - P23SS-W-02A (Panoramic)
[AL\DSCN6957.JPG]

Photo 23 - P23SS-W-02B (Close-up)
[AL\DSCN6958.JPG]

Photo 24 - P23SS-W-02B (Panoramic)
[AL\DSCN6960.JPG]

Photo 25 - P23SS-W-02C (Close-up)
[AL\DSCN6963.JPG]

Photo 26 - P23SS-W-02C (Panoramic)
[AL\DSCN6965.JPG]

Photo 27 - P23SS-W-03A (Close-up)
[AL\DSCN7034.JPG]

Photo 28 - P23SS-W-03A (Panoramic)
[AL\DSCN7036.JPG]

Photo 29 - P23SS-W-03B (Close-up)
[AL\DSCN7037.JPG]

Photo 30 - P23SS-W-03B (Panoramic)
[AL\DSCN7038.JPG]

Photo 31 - P23SS-W-03C (Close-up)
[AL\DSCN7039.JPG]

Photo 32 - P23SS-W-03C (Panoramic)
[AL\DSCN7042.JPG]

Pier 23 Storage Shed and Associated
Structures, Honolulu Harbor, Oahu, Hawaii
July 1, 2022

Photo 33 - P23SS-M-01A (Close-up)
[BB\DSCN9172.JPG]

Photo 34 - P23SS-M-01A (Panoramic)
[BB\DSCN9173.JPG]

Photo 35 - P23SS-M-01B (Close-up)
[BB\DSCN9174.JPG]

Photo 36 - P23SS-M-01B (Panoramic)
[BB\DSCN9175.JPG]

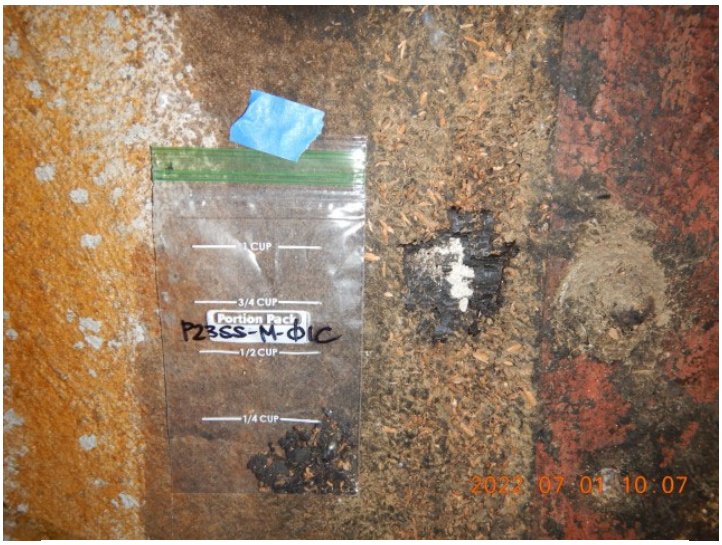

Photo 37 - P23SS-M-01C (Close-up)
[BB\DSCN9176.JPG]

Photo 38 - P23SS-M-01C (Panoramic)
[BB\DSCN9179.JPG]

Pier 23 Storage Shed and Associated
Structures, Honolulu Harbor, Oahu, Hawaii
July 1, 2022

Photo 39 - P23SS-M-02A (Close-up)
[BB\DSCN9188.JPG]

Photo 40 - P23SS-M-02A (Panoramic)
[BB\DSCN9189.JPG]

Photo 41 - P23SS-M-02B (Close-up)
[BB\DSCN9190.JPG]

Photo 42 - P23SS-M-02B (Panoramic)
[BB\DSCN9191.JPG]

Photo 43 - P23SS-M-02C (Close-up)
[BB\DSCN9194.JPG]

Photo 44 - P23SS-M-02C (Panoramic)
[BB\DSCN9195.JPG]

Photo 45 - P23SS-M-03A (Close-up)
[BB\DSCN9196.JPG]

Photo 46 - P23SS-M-03A (Panoramic)
[BB\DSCN9197.JPG]

Photo 47 - P23SS-M-03B (Close-up)
[BB\DSCN9198.JPG]

Photo 48 - P23SS-M-03B (Panoramic)
[BB\DSCN9199.JPG]

Photo 49 - P23SS-M-03C (Close-up)
[BB\DSCN9200.JPG]

Photo 50 - P23SS-M-03C (Panoramic)
[BB\DSCN9202.JPG]

Photo 51 - P23SS-M-04A (Close-up)
[AL\DSCN6966.JPG]

Photo 52 - P23SS-M-04A (Panoramic)
[AL\DSCN6967.JPG]

Photo 53 - P23SS-M-04B (Close-up)
[AL\DSCN6968.JPG]

Photo 54 - P23SS-M-04B (Panoramic)
[AL\DSCN6969.JPG]

Photo 55 - P23SS-M-04C (Close-up)
[AL\DSCN6971.JPG]

Photo 56 - P23SS-M-04C (Panoramic)
[AL\DSCN6972.JPG]

Photo 57 - P23SS-M-05A (Close-up)
[AL\DSCN6942.JPG]

Photo 58 - P23SS-M-05A (Panoramic)
[AL\DSCN6943.JPG]

Photo 59 - P23SS-M-05B (Close-up)
[AL\DSCN6944.JPG]

Photo 60 - P23SS-M-05B (Panoramic)
[AL\DSCN6945.JPG]

Photo 61 - P23SS-M-05C (Close-up)
[AL\DSCN6946.JPG]

Photo 62 - P23SS-M-05C (Panoramic)
[AL\DSCN6947.JPG]

Pier 23 Storage Shed and Associated
Structures, Honolulu Harbor, Oahu, Hawaii
July 1, 2022

Photo 63 - P23SS-M-06A (Close-up)
[AL\DSCN6976.JPG]

Photo 64 - P23SS-M-06A (Panoramic)
[AL\DSCN6977.JPG]

Photo 65 - P23SS-M-06B (Close-up)
[AL\DSCN6973.JPG]

Photo 66 - P23SS-M-06B (Panoramic)
[AL\DSCN6974.JPG]

Photo 67 - P23SS-M-06C (Close-up)
[AL\DSCN6979.JPG]

Photo 68 - P23SS-M-06C (Panoramic)
[AL\DSCN6981.JPG]

Photo 69 - P23SS-M-07A (Close-up)
[AL\DSCN7024.JPG]

Photo 70 - P23SS-M-07A (Panoramic)
[AL\DSCN7025.JPG]

Photo 71 - P23SS-M-07B (Close-up)
[AL\DSCN7027.JPG]

Photo 72 - P23SS-M-07B (Panoramic)
[AL\DSCN7029.JPG]

Photo 73 - P23SS-M-07C (Close-up)
[AL\DSCN7032.JPG]

Photo 74 - P23SS-M-07C (Panoramic)
[AL\DSCN7033.JPG]

Photo 75 - P23SS-M-08A (Close-up)
[BB\DSCN9252.JPG]

Photo 76 - P23SS-M-08ABC (Panoramic)
[BB\DSCN9255.JPG]

Photo 77 - P23SS-M-08B (Panoramic)
[BB\DSCN9253.JPG]

Photo 78 - P23SS-M-08C (Close-up)
[BB\DSCN9254.JPG]

Pier 23 Storage Shed and Associated
Structures, Honolulu Harbor, Oahu, Hawaii
July 1, 2022

Photo 79 - P23SS-R-01A (Close-up)
[DA\DSCN1968.JPG]

Photo 80 - P23SS-R-01A (Panoramic)
[DA\DSCN1969.JPG]

Photo 81 - P23SS-R-01B (Close-up)
[AL\DSCN6938.JPG]

Photo 82 - P23SS-R-01B (Panoramic)
[AL\DSCN6939.JPG]

Photo 83 - P23SS-R-01C (Close-up)
[AL\DSCN6940.JPG]

Photo 84 - P23SS-R-01C (Panoramic)
[AL\DSCN6941.JPG]

Pier 23 Storage Shed and Associated
Structures, Honolulu Harbor, Oahu, Hawaii
July 1, 2022

Photo 85 - P23SS-R-02A (Close-up)
[BB\DSCN9242.JPG]

Photo 86 - P23SS-R-02A (Panoramic)
[BB\DSCN9243.JPG]

Photo 87 - P23SS-R-02B (Close-up)
[BB\DSCN9244.JPG]

Photo 88 - P23SS-R-02B (Panoramic)
[BB\DSCN9245.JPG]

Photo 89 - P23SS-R-02C (Close-up)
[BB\DSCN9246.JPG]

Photo 90 - P23SS-R-02C (Panoramic)
[BB\DSCN9247.JPG]

Pier 23 Storage Shed and Associated
Structures, Honolulu Harbor, Oahu, Hawaii
July 1, 2022

Photo 91 - P23SS-R-03A (Close-up)
[AL\DSCN7057.JPG]

Photo 92 - P23SS-R-03A (Panoramic)
[AL\DSCN7058.JPG]

Photo 93 - P23SS-R-03B (Close-up)
[AL\DSCN7059.JPG]

Photo 94 - P23SS-R-03B (Panoramic)
[AL\DSCN7060.JPG]

Photo 95 - P23SS-R-03C (Close-up)
[AL\DSCN7061.JPG]

Photo 96 - P23SS-R-03C (Panoramic)
[AL\DSCN7063.JPG]

Pier 23 Storage Shed and Associated
Structures, Honolulu Harbor, Oahu, Hawaii
July 1, 2022

Photo 97 - P23SS-P01 (Close-up)
[BB\DSCN9203.JPG]

Photo 98 - P23SS-P01 (Panoramic)
[BB\DSCN9204.JPG]

Photo 99 - P23SS-P02 (Close-up)
[BB\DSCN9205.JPG]

Photo 100 - P23SS-P02 (Panoramic)
[BB\DSCN9206.JPG]

Photo 101 - P23SS-P03 (Close-up)
[BB\DSCN9209.JPG]

Photo 102 - P23SS-P03 (Panoramic)
[BB\DSCN9210.JPG]

Pier 23 Storage Shed and Associated
Structures, Honolulu Harbor, Oahu, Hawaii
July 1, 2022

Photo 103 - P23SS-P04 (Close-up)
[BB\DSCN9213.JPG]

Photo 104 - P23SS-P04 (Panoramic)
[BB\DSCN9214.JPG]

Photo 105 - P23SS-P05 (Close-up)
[BB\DSCN9221.JPG]

Photo 106 - P23SS-P05 (Panoramic)
[BB\DSCN9222.JPG]

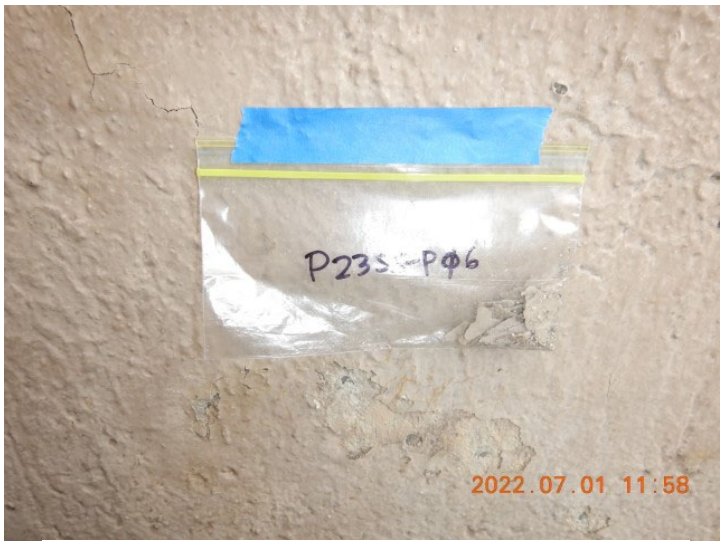

Photo 107 - P23SS-P06 (Close-up)
[BB\DSCN9229.JPG]

Photo 108 - P23SS-P06 (Panoramic)
[BB\DSCN9230.JPG]

Photo 109 - P23SS-P07 (Close-up)
[BB\DSCN9207.JPG]

Photo 110 - P23SS-P07 (Panoramic)
[BB\DSCN9208.JPG]

Photo 111 - P23SS-P08 (Close-up)
[BB\DSCN9211.JPG]

Photo 112 - P23SS-P08 (Panoramic)
[BB\DSCN9212.JPG]

Photo 113 - P23SS-P09 (Close-up)
[BB\DSCN9219.JPG]

Photo 114 - P23SS-P09 (Panoramic)
[BB\DSCN9220.JPG]

Photo 115 - P23SS-P10 (Close-up)
[BB\DSCN9235.JPG]

Photo 116 - P23SS-P10 (Panoramic)
[BB\DSCN9236.JPG]

Photo 117 - P23SS-P11 (Close-up)
[AL\DSCN6926.JPG]

Photo 118 - P23SS-P11 (Panoramic)
[AL\DSCN6927.JPG]

Photo 119 - P23SS-P12 (Close-up)
[AL\DSCN6928.JPG]

Photo 120 - P23SS-P12 (Panoramic)
[AL\DSCN6930.JPG]

Pier 23 Storage Shed and Associated
Structures, Honolulu Harbor, Oahu, Hawaii
July 1, 2022

Photo 121 - P23SS-P13 (Close-up)
[AL\DSCN6948.JPG]

Photo 122 - P23SS-P13 (Panoramic)
[AL\DSCN6949.JPG]

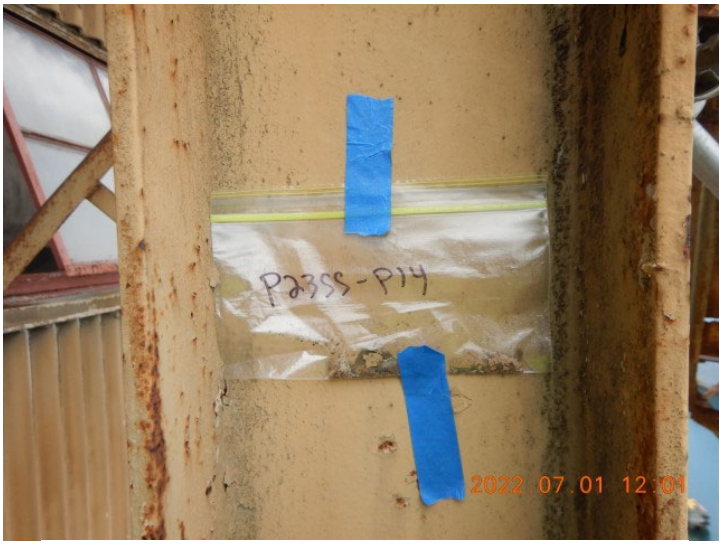

Photo 123 - P23SS-P14 (Close-up)
[AL\DSCN6950.JPG]

Photo 124 - P23SS-P14 (Panoramic)
[AL\DSCN6951.JPG]

Photo 125 - P23SS-P15 (Close-up)
[AL\DSCN6961.JPG]

Photo 126 - P23SS-P15 (Panoramic)
[AL\DSCN6962.JPG]

Photo 127 - P23SS-P16 (Close-up)
[AL\DSCN6935.JPG]

Photo 128 - P23SS-P16 (Panoramic)
[AL\DSCN6937.JPG]

Photo 129 - P23SS-P17 (Close-up)
[AL\DSCN6983.JPG]

Photo 130 - P23SS-P17 (Panoramic)
[AL\DSCN6984.JPG]

Photo 131 - P23SS-P18 (Close-up)
[AL\DSCN7021.JPG]

Photo 132 - P23SS-P18 (Panoramic)
[AL\DSCN7022.JPG]

Pier 23 Storage Shed and Associated
Structures, Honolulu Harbor, Oahu, Hawaii
July 1, 2022

Photo 133 - P23SS-P19 (Close-up)
[AL\DSCN7044.JPG]

Photo 134 - P23SS-P19 (Panoramic)
[AL\DSCN7045.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: B335842
Date Received: 07/18/22
Date Analyzed: 07/25/22
Date Printed: 07/25/22
First Reported: 07/25/22

Job ID/Site: 220030; Pier 23 Storage Shed and Associated Structures, Honolulu Harbor, Oahu, Hawaii
Date(s) Collected: 07/01/2022

SGSFL Job ID: L1617
Total Samples Submitted: 49
Total Samples Analyzed: 49

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
P23SS-F-01A	51569654						
Layer: Grey Cementitious Material			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
P23SS-F-01B	51569655						
Layer: Grey Cementitious Material			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
P23SS-F-01C	51569656						
Layer: Grey Cementitious Material			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
P23SS-W-01A	51569657						
Layer: Paints/Coatings			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace) Comment: No skimcoat was detected in the sample.							
P23SS-W-01B	51569658						
Layer: Grey Cementitious Material			**ND**				
Layer: Paints/Coatings			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace) Comment: No skimcoat was detected in the sample.							
P23SS-W-01C	51569659						
Layer: Paints/Coatings			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace) Comment: No skimcoat was detected in the sample.							

20535 South Belshaw Avenue, Carson, CA 90746 / Telephone: (310) 763-2374 (888) 813-9417 / Fax: (310) 763-4450

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
P23SS-W-01D	51569660						
Layer: Grey Cementitious Material			**ND**				
Layer: Paints/Coatings			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
Comment: No skimcoat was detected in the sample.							
P23SS-W-01E	51569661						
Layer: Grey Cementitious Material			**ND**				
Layer: Paints/Coatings			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
Comment: No skimcoat was detected in the sample.							
P23SS-W-01F	51569662						
Layer: Grey Cementitious Material			**ND**				
Layer: Paints/Coatings			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
Comment: No skimcoat was detected in the sample.							
P23SS-W-01G	51569663						
Layer: Grey Cementitious Material			**ND**				
Layer: Paints/Coatings			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
Comment: No skimcoat was detected in the sample.							
P23SS-W-02A	51569664						
Layer: Grey Semi-Fibrous Material		Chrysotile	**10 %**				
Layer: Paint			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
P23SS-W-02B	51569665						
Layer: Grey Semi-Fibrous Material		Chrysotile	**10 %**				
Layer: Paint			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
P23SS-W-02C	51569666						
Layer: Grey Semi-Fibrous Material		Chrysotile	**10 %**				
Layer: Paint			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
P23SS-W-03A	51569667						
Layer: Grey Cementitious Material			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							

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Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
P23SS-W-03B	51569668						
Layer: Grey Cementitious Material			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
P23SS-W-03C	51569669						
Layer: Grey Cementitious Material			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
P23SS-R-01A	51569670						
Layer: Stones			**ND**				
Layer: Grey Non-Fibrous Material			**ND**				
Layer: Stones			**ND**				
Layer: Black Tars			**ND**				
Layer: Black Felts			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (15 %) Fibrous Glass (Trace) Synthetic (30 %)							
P23SS-R-01B	51569671						
Layer: Stones			**ND**				
Layer: Grey Non-Fibrous Material			**ND**				
Layer: Stones			**ND**				
Layer: Silver Paint		Chrysotile	**Trace**				
Layer: Black Tars			**ND**				
Layer: Black Felts			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (15 %) Fibrous Glass (Trace) Synthetic (30 %)							
Comment: This comment applies to the Silver Paint layer only: Insufficient material for additional analyses.							
P23SS-R-01C	51569672						
Layer: Stones			**ND**				
Layer: Grey Non-Fibrous Material			**ND**				
Layer: Stones			**ND**				
Layer: Black Tars			**ND**				
Layer: Black Felts			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (15 %) Fibrous Glass (Trace) Synthetic (30 %)							
P23SS-R-02A	51569673						
Layer: Black Tar			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (2 %) Fibrous Glass (2 %) Synthetic (60 %)							

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Report Number: B335842

Client Name: Element Environmental, LLC **Date Printed:** 07/25/22

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
P23SS-R-02B	51569674						
Layer: Silver Paint			**ND**				
Layer: Black Tar			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (2 %) Fibrous Glass (2 %) Synthetic (60 %)							
P23SS-R-02C	51569675						
Layer: Black Tar			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (2 %) Fibrous Glass (2 %) Synthetic (60 %)							
P23SS-R-03A	51569676						
Layer: Stones			**ND**				
Layer: Black Tar			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (2 %) Fibrous Glass (80 %)							
P23SS-R-03B	51569677						
Layer: Stones			**ND**				
Layer: Black Tar			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (2 %) Fibrous Glass (80 %)							
P23SS-R-03C	51569678						
Layer: Stones			**ND**				
Layer: Black Tar			**ND**				
Layer: Black Felt			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (2 %) Fibrous Glass (80 %)							
P23SS-M-01A	51569679						
Layer: Black Semi-Fibrous Tar with Debris		Chrysotile	**5 %**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (2 %) Synthetic (Trace)							
P23SS-M-01B	51569680						
Layer: Black Semi-Fibrous Tar with Debris		Chrysotile	**5 %**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (2 %) Synthetic (Trace)							
P23SS-M-01C	51569681						
Layer: Black Semi-Fibrous Tar with Debris		Chrysotile	**5 %**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (2 %) Synthetic (Trace)							

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Report Number: B335842

Client Name: Element Environmental, LLC **Date Printed:** 07/25/22

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
P23SS-M-02A	51569682						
Layer: Black Semi-Fibrous Tar		Chrysotile	**5 %**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (2 %) Synthetic (Trace)							
P23SS-M-02B	51569683						
Layer: Black Semi-Fibrous Tar		Chrysotile	**5 %**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (2 %) Synthetic (Trace)							
P23SS-M-02C	51569684						
Layer: Black Semi-Fibrous Tar		Chrysotile	**5 %**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (2 %) Synthetic (Trace)							
P23SS-M-03A	51569685						
Layer: White Non-Fibrous Material			**ND**				
Layer: Black Woven Material with Tar			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace) Fibrous Glass (3 %)							
P23SS-M-03B	51569686						
Layer: White Non-Fibrous Material			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace) Fibrous Glass (3 %)							
P23SS-M-03C	51569687						
Layer: Black Semi-Fibrous Tar		Chrysotile	**5 %**				
Layer: Paint			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (2 %) Synthetic (Trace)							
P23SS-M-04A	51569688						
Layer: Black Semi-Fibrous Tar		Chrysotile	**5 %**				
Layer: White Non-Fibrous Material			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace) Synthetic (Trace)							
P23SS-M-04B	51569689						
Layer: Black Semi-Fibrous Tar		Chrysotile	**5 %**				
Layer: White Non-Fibrous Material			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace) Synthetic (Trace)							
P23SS-M-04C	51569690						
Layer: Black Semi-Fibrous Tar		Chrysotile	**5 %**				
Layer: White Non-Fibrous Material			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace) Synthetic (Trace)							

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Report Number: B335842

Client Name: Element Environmental, LLC **Date Printed:** 07/25/22

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
P23SS-M-05A	51569691						
Layer: Black Semi-Fibrous Tar			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (5 %)							
P23SS-M-05B	51569692						
Layer: Black Semi-Fibrous Tar			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (5 %)							
P23SS-M-05C	51569693						
Layer: Black Semi-Fibrous Tar w/ SIlver Paint		Chrysotile	**5 %**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (2 %) Synthetic (Trace)							
P23SS-M-06A	51569694						
Layer: Black Tar with Woven Mat'l			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
P23SS-M-06B	51569695						
Layer: Black Non-Fibrous Material			**ND**				
Layer: White Non-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace)							
P23SS-M-06C	51569696						
Layer: Black Semi-Fibrous Tar		Chrysotile	**5 %**				
Layer: White Non-Fibrous Material			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace) Synthetic (Trace)							
P23SS-M-07A	51569697						
Layer: Black Semi-Fibrous Material			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace) Synthetic (10 %)							
P23SS-M-07B	51569698						
Layer: Black Semi-Fibrous Material			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace) Synthetic (10 %)							
P23SS-M-07C	51569699						
Layer: Black Semi-Fibrous Material			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace) Synthetic (10 %)							

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Report Number: B335842

Client Name: Element Environmental, LLC **Date Printed:** 07/25/22

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
P23SS-M-08A	51569700						
Layer: Tan Semi-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace) Synthetic (20 %)							
P23SS-M-08B	51569701						
Layer: Tan Semi-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace) Synthetic (20 %)							
P23SS-M-08C	51569702						
Layer: Tan Semi-Fibrous Material			**ND**				
Layer: Paint			**ND**				
Total Composite Values of Non-Asbestos Fibrous Components: Cellulose (Trace) Synthetic (20 %)							

Tiffani Ludd, Laboratory Supervisor, Carson Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

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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#: 220030	Date: 7/15/2022
Turn Around Time: Same Day / 1Day / 2Day / 3Day / 4Day / 5Day (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: Pier 23 Storage Shed and Associated Structures	☐ IAQ Particle Identification (PLM LAB) ☐ PLM Opaques/Soot ☐ Particle Identification (TEM LAB) ☐ Special Project
Site Location: Honolulu Harbor, Oahu, Hawaii	☐ Metals Analysis Matrix: Method: Analytes:
Comments: **See attached asbestos COC 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: DA, BB, AL Date/Time: 7/1/2022 Shipped Via: ☒ Fed Ex ☐ UPS ☐ US Mail ☐ Courier ☐ Drop Off ☐ Other:

Relinquished By: Bernice Balete Date / Time: 7/16/2022 @ 1200	Relinquished By: Date / Time:	Relinquished By: Date / Time:
Received By: Date / Time: 7/16/22 9:20 FIE Condition Acceptable? ☒ Yes ☐ No 5838	Received By: Date / Time: Condition Acceptable? ☐ Yes ☐ No	Received By: Date / Time: Condition Acceptable? ☐ Yes ☐ No

Pier 23 Storage Shed & Silos, Honolulu Harbor
Bulk Samples COC Table

Sample ID	Sample Date	Floor	Sample Location	Sample Description
P23SS-F-01A	7/1/2022	1	Storage Shed	Concrete building foundation/floor
P23SS-F-01B	7/1/2022	1	Storage Shed	Concrete building foundation/floor
P23SS-F-01C	7/1/2022	1	Storage Shed	Concrete building foundation/floor
P23SS-W-01A	7/1/2022	1	Silo Exterior	Textured wall skim coat
P23SS-W-01B	7/1/2022	1	Silo Exterior	Textured wall skim coat
P23SS-W-01C	7/1/2022	1	Silo Exterior	Textured wall skim coat
P23SS-W-01D	7/1/2022	1	Silo Exterior	Textured wall skim coat
P23SS-W-01E	7/1/2022	1	Silo Exterior	Textured wall skim coat
P23SS-W-01F	7/1/2022	1	Silo Exterior	Textured wall skim coat
P23SS-W-01G	7/1/2022	1	Silo Exterior	Textured wall skim coat
P23SS-W-02A	7/1/2022	2	Belt House	Cementitious wall panels (gray, textured)
P23SS-W-02B	7/1/2022	2	Belt House	Cementitious wall panels (gray, textured)
P23SS-W-02C	7/1/2022	2	Belt House	Cementitious wall panels (gray, textured)
P23SS-W-03A	7/1/2022	2	Electric Panel Room in Belt House	Cementitious wall panels over wire mesh (gray)
P23SS-W-03B	7/1/2022	2	Electric Panel Room in Belt House	Cementitious wall panels over wire mesh (gray)
P23SS-W-03C	7/1/2022	2	Electric Panel Room in Belt House	Cementitious wall panels over wire mesh (gray)
P23SS-R-01A	7/1/2022	2	Belt Corridor Exterior (above Silos)	Roofing material (tar and asphalt paper, dark red, coarse texture)
P23SS-R-01B	7/1/2022	2	Belt Corridor Exterior (above Silos)	Roofing material (tar and asphalt paper, dark red, coarse texture)
P23SS-R-01C	7/1/2022	2	Belt Corridor Exterior (above Silos)	Roofing material (tar and asphalt paper, dark red, coarse texture)
P23SS-R-02A	7/1/2022	2	Belt Corridor Exterior (above Silos)	Roof coating (black, rubberized over white fibrous strands and black sealant)
P23SS-R-02B	7/1/2022	2	Belt Corridor Exterior (above Silos)	Roof coating (black, rubberized over white fibrous strands and black sealant)
P23SS-R-02C	7/1/2022	2	Belt Corridor Exterior (above Silos)	Roof coating (black, rubberized over white fibrous strands and black sealant)
P23SS-R-03A	7/1/2022	1	Storage Shed	Roofing tar and paper remnants (black, coarse)
P23SS-R-03B	7/1/2022	1	Storage Shed	Roofing tar and paper remnants (black, coarse)
P23SS-R-03C	7/1/2022	1	Storage Shed	Roofing tar and paper remnants (black, coarse)
P23SS-M-01A	7/1/2022	1	Storage Shed	Silo door sealant (black)
P23SS-M-01B	7/1/2022	1	Storage Shed	Silo door sealant (black)
P23SS-M-01C	7/1/2022	1	Storage Shed	Silo door sealant (black)
P23SS-M-02A	7/1/2022	1	Storage Shed Exterior	Building foundation/wall sealant (black)
P23SS-M-02B	7/1/2022	1	Storage Shed Exterior	Building foundation/wall sealant (black)
P23SS-M-02C	7/1/2022	1	Storage Shed Exterior	Building foundation/wall sealant (black)
P23SS-M-03A	7/1/2022	1	Silo exterior (below Hopper House)	Air conditioning duct sealant (white, brittle)
P23SS-M-03B	7/1/2022	1	Silo exterior (below Hopper House)	Air conditioning duct sealant (white, brittle)
P23SS-M-03C	7/1/2022	1	Silo exterior (below Hopper House)	Air conditioning duct sealant (white, brittle)
P23SS-M-04A	7/1/2022	2	Belt House	Door flashing caulking/sealant (white, brittle over black)
P23SS-M-04B	7/1/2022	2	Belt House	Door flashing caulking/sealant (white, brittle over black)
P23SS-M-04C	7/1/2022	2	Belt House	Door flashing caulking/sealant (white, brittle over black)
P23SS-M-05A	7/1/2022	2	Belt Corridor	Window sealant (black, hard)
P23SS-M-05B	7/1/2022	2	Belt Corridor	Door sealant (black, hard)
P23SS-M-05C	7/1/2022	2	Hopper House	Flashing sealant (black, hard)
P23SS-M-06A	7/1/2022	2	Belt Corridor Exterior (above Silos)	Window caulking (white, brittle with black fabric)
P23SS-M-06B	7/1/2022	2	Belt Corridor Exterior (above Silos)	Window caulking (white, brittle with black fabric)
P23SS-M-06C	7/1/2022	2	Belt Corridor Exterior (above Silos)	Window caulking (white, brittle with black fabric)
P23SS-M-07A	7/1/2022	2	Belt Corridor	Grain feeder conveyor belt (black, rubberized, fire-resistant)
P23SS-M-07B	7/1/2022	2	Belt Corridor	Grain feeder conveyor belt (black, rubberized, fire-resistant)
P23SS-M-07C	7/1/2022	2	Belt Corridor	Grain feeder conveyor belt (black, rubberized, fire-resistant)
P23SS-M-08A	7/1/2022	2	Belt House (from ground up)	Man-lift belt (black, rubberized)
P23SS-M-08B	7/1/2022	2	Belt House (from ground up)	Man-lift belt (black, rubberized)
P23SS-M-08C	7/1/2022	2	Belt House (from ground up)	Man-lift belt (black, rubberized)

SGS FORENSIC LABORATORIES

Metals Analysis of Paints

(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: M243614
Date Received: 07/18/22
Date Analyzed: 07/26/22
Date Printed: 07/26/22
First Reported: 07/26/22

Job ID / Site: 220030; Pier 23 Storage Shed and Associated Structures, Honolulu Harbor, Oahu, Hawaii
SGSFL Job ID: L1617

Date(s) Collected: 07/01/22
Total Samples Submitted: 19
Total Samples Analyzed: 19

Sample Number	Lab Number	Analyte	Result	Result Units	Reporting Limit*	Method Reference
P23SS-P01	LM225165	Cd	0.0004	wt%	0.0002	EPA 3050B/6010B
		Cr	< 0.0005	wt%	0.0005	EPA 3050B/6010B
		Pb	0.0046	wt%	0.0003	EPA 3050B/6010B
P23SS-P02	LM225166	Cd	0.0058	wt%	0.0003	EPA 3050B/6010B
		Cr	0.012	wt%	0.0006	EPA 3050B/6010B
		Pb	0.045	wt%	0.0003	EPA 3050B/6010B
P23SS-P03	LM225167	Cd	< 0.0002	wt%	0.0002	EPA 3050B/6010B
		Cr	0.023	wt%	0.0005	EPA 3050B/6010B
		Pb	0.0079	wt%	0.0003	EPA 3050B/6010B
P23SS-P04	LM225168	Cd	< 0.0002	wt%	0.0002	EPA 3050B/6010B
		Cr	0.0023	wt%	0.0005	EPA 3050B/6010B
		Pb	0.050	wt%	0.0003	EPA 3050B/6010B
P23SS-P05	LM225169	Cd	< 0.0002	wt%	0.0002	EPA 3050B/6010B
		Cr	0.0027	wt%	0.0005	EPA 3050B/6010B
		Pb	0.018	wt%	0.0003	EPA 3050B/6010B
P23SS-P06	LM225170	Cd	0.0009	wt%	0.0002	EPA 3050B/6010B
		Cr	0.0024	wt%	0.0005	EPA 3050B/6010B
		Pb	1.5	wt%	0.003	EPA 3050B/6010B
P23SS-P07	LM225171	Cd	0.0015	wt%	0.0002	EPA 3050B/6010B
		Cr	0.0053	wt%	0.0005	EPA 3050B/6010B
		Pb	0.074	wt%	0.0003	EPA 3050B/6010B
P23SS-P08	LM225172	Cd	< 0.0002	wt%	0.0002	EPA 3050B/6010B
		Cr	< 0.0005	wt%	0.0005	EPA 3050B/6010B
		Pb	0.0012	wt%	0.0003	EPA 3050B/6010B
P23SS-P09	LM225173	Cd	< 0.0002	wt%	0.0002	EPA 3050B/6010B
		Cr	< 0.0005	wt%	0.0005	EPA 3050B/6010B
		Pb	0.0071	wt%	0.0003	EPA 3050B/6010B
P23SS-P10	LM225174	Cd	< 0.0003	wt%	0.0003	EPA 3050B/6010B
		Cr	0.0008	wt%	0.0006	EPA 3050B/6010B
		Pb	0.036	wt%	0.0003	EPA 3050B/6010B

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SGS FORENSIC LABORATORIES

Metals Analysis of Paints

(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: M243614
Date Received: 07/18/22
Date Analyzed: 07/26/22
Date Printed: 07/26/22
First Reported: 07/26/22

Job ID / Site: 220030; Pier 23 Storage Shed and Associated Structures, Honolulu Harbor, Oahu, Hawaii
SGSFL Job ID: L1617

Date(s) Collected: 07/01/22
Total Samples Submitted: 19
Total Samples Analyzed: 19

Sample Number	Lab Number	Analyte	Result	Result Units	Reporting Limit*	Method Reference
P23SS-P11	LM225175	Cd	< 0.0002	wt%	0.0002	EPA 3050B/6010B
		Cr	0.10	wt%	0.01	EPA 3050B/6010B
		Pb	3.0	wt%	0.005	EPA 3050B/6010B
P23SS-P12	LM225176	Cd	< 0.0002	wt%	0.0002	EPA 3050B/6010B
		Cr	0.0006	wt%	0.0005	EPA 3050B/6010B
		Pb	0.0049	wt%	0.0003	EPA 3050B/6010B
P23SS-P13	LM225177	Cd	< 0.0003	wt%	0.0003	EPA 3050B/6010B
		Cr	< 0.0006	wt%	0.0006	EPA 3050B/6010B
		Pb	0.0034	wt%	0.0003	EPA 3050B/6010B
P23SS-P14	LM225178	Cd	< 0.0003	wt%	0.0003	EPA 3050B/6010B
		Cr	0.0093	wt%	0.0006	EPA 3050B/6010B
		Pb	0.18	wt%	0.0003	EPA 3050B/6010B
P23SS-P15	LM225179	Cd	0.013	wt%	0.0003	EPA 3050B/6010B
		Cr	0.011	wt%	0.0007	EPA 3050B/6010B
		Pb	0.19	wt%	0.0004	EPA 3050B/6010B
P23SS-P16	LM225180	Cd	< 0.0003	wt%	0.0003	EPA 3050B/6010B
		Cr	0.0012	wt%	0.0006	EPA 3050B/6010B
		Pb	4.7	wt%	0.02	EPA 3050B/6010B
P23SS-P17	LM225181	Cd	0.014	wt%	0.0005	EPA 3050B/6010B
		Cr	0.004	wt%	0.002	EPA 3050B/6010B
		Pb	0.014	wt%	0.0006	EPA 3050B/6010B
P23SS-P18	LM225182	Cd	0.0004	wt%	0.0003	EPA 3050B/6010B
		Cr	0.054	wt%	0.0006	EPA 3050B/6010B
		Pb	3.9	wt%	0.03	EPA 3050B/6010B
P23SS-P19	LM225183	Cd	0.0024	wt%	0.0003	EPA 3050B/6010B
		Cr	< 0.0006	wt%	0.0006	EPA 3050B/6010B
		Pb	0.089	wt%	0.0003	EPA 3050B/6010B

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SGS FORENSIC LABORATORIES

Metals Analysis of Paints

(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: M243614
Date Received: 07/18/22
Date Analyzed: 07/26/22
Date Printed: 07/26/22
First Reported: 07/26/22

Job ID / Site: 220030; Pier 23 Storage Shed and Associated Structures, Honolulu Harbor, Oahu, Hawaii
Date(s) Collected: 07/01/22

SGSFL Job ID: L1617
Total Samples Submitted: 19
Total Samples Analyzed: 19

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

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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#: 220030	Date: 7/15/2022
Turn Around Time: Same Day / 1Day / 2Day / 3Day / 4Day / 5Day (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: Pier 23 Storage Shed and Associated Structures	☐ IAQ Particle Identification (PLM LAB) ☐ PLM Opaques/Soot ☐ Particle Identification (TEM LAB) ☐ Special Project
Site Location: Honolulu Harbor, Oahu, Hawaii	☒ Metals Analysis Matrix: Paint Chip Method: 3050B/7000B Analytes: Lead, Cadmium, Chromium
Comments: **See attached paint chip COC 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: DA, BB, AL Date/Time: 7/1/2022 Shipped Via: ☒ Fed Ex ☐ UPS ☐ US Mail ☐ Courier ☐ Drop Off ☐ Other:

Relinquished By: Bernice Balete Date / Time: 7/16/2022 @ 1200	Relinquished By: Date / Time:	Relinquished By: Date / Time:
Received By: Date / Time: 71822 0920HE Condition Acceptable? ☒ Yes ☐ No	Received By: Date / Time: Condition Acceptable? ☐ Yes ☐ No	Received By: Date / Time: Condition Acceptable? ☐ Yes ☐ No

Pier 23 Storage Shed & Silos, Honolulu Harbor
Paint Chip Samples COC Table

Sample ID	Sample Date	Floor	Sample Location	Sample Description
P23SS-P01	7/15/2022	1	Storage Shed	Yellow metal bollard
P23SS-P02	7/15/2022	1	Storage Shed	Dull yellow (blue) corrugated metal wall
P23SS-P03	7/15/2022	1	Storage Shed	Red metal door frame
P23SS-P04	7/15/2022	1	Silo	Dark yellow textured concrete wall
P23SS-P05	7/15/2022	1	Silo	Red textured concrete wall
P23SS-P06	7/15/2022	1	Silo	Pale pink textured concrete wall
P23SS-P07	7/15/2022	1	Silo	Yellow metal vent louvers
P23SS-P08	7/15/2022	1	Silo	Yellow (red) metal rail
P23SS-P09	7/15/2022	1	Silo	Brown metal pipe
P23SS-P10	7/15/2022	1	Silo Exterior (below Hopper House)	Brown metal A/C duct
P23SS-P11	7/15/2022	2	Belt Corridor exterior	Yellow-brown (red) corrugated metal walls
P23SS-P12	7/15/2022	2	Belt Corridor exterior (above Silos)	Red (red) metal pipes
P23SS-P13	7/15/2022	2	Belt Corridor exterior (above Silos)	Red (red) metal vents
P23SS-P14	7/15/2022	2	Utility Truss	Yellow metal utility truss
P23SS-P15	7/15/2022	2	Belt House	Gray metal frame/railings
P23SS-P16	7/15/2022	2	Belt Corridor exterior (above Silos)	Yellow (white) metal pipe
P23SS-P17	7/15/2022	2	Belt House	Blue metal duct
P23SS-P18	7/15/2022	2	Exterior Hopper #2	Green metal hoppers
P23SS-P19	7/15/2022	2	Exterior (above Silos)	Yellow metal rails

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]

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

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HONOLULU, HAWAII

PROPOSAL

PROPOSAL TO THE STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS

PROJECT:	DEMOLISH ROOFTOP STRUCTURES AT PIER 23, HONOLULU HARBOR, OAHU, HAWAII
JOB NO:	H. C. 10836
CONTRACT TIME:	All work shall be completed within THREE HUNDRED SIXTY (360) CALENDAR DAYS from the date indicated in the Notice to Proceed from the Department.
LIQUIDATED DAMAGES:	FOUR HUNDRED FIFTY AND NO/100 DOLLARS ($450.00) for each and every calendar day which the Contractor has delayed the completion of this project.
DESIGN PROJECT MANAGER:	MR. BRANDEN SUMIDA DEPARTMENT OF TRANSPORTATION HARBORS HALE AWA MOKU 79 S. NIMITZ HIGHWAY HONOLULU, HAWAII 96813 PHONE: (808) 587-1873 EMAIL: branden.sumida@hawaii.gov
ELECTRONIC SUBMITTAL:	**Bidders shall submit and upload the complete proposal to HIePRO prior to the bid opening date and time. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HIePRO. Bidders shall refer to SPECIAL PROVISIONS 2.8 PREPARATION AND DELIVERY OF BID for complete details. FAILURE TO UPLOAD THE COMPLETE PROPOSAL TO HIePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.**

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,

_____.
(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.

DEMOLISH ROOFTOP STRUCTURES AT PIER 23,

HONOLULU HARBOR, OAHU, HAWAII

JOB H. C. 10836

PROPOSAL SCHEDULE

Item No.	Item Description	Approximate Quantity (a)	Unit	Unit Price (b)	Amount Bid (a x b)
1	Mobilization (Not to exceed 6% sum of all Items, excluding this Item)	L.S.	L.S.	L.S.	$ _____
2	Demolish Metal Structures Attached to Roof and Walls of Concrete Grain Silos	L.S.	L.S.	L.S.	$ _____
3	Demolish Ground-Level Metal Warehouse and Attached Metal Structures	L.S.	L.S.	L.S.	$ _____
4	Removal and Disposal of Hazardous Material	L.S.	L.S.	L.S.	$ _____
5	Large Concrete Roof Penetration Repair	1	EA.	$ _____	$ _____
6	Medium Concrete Roof Penetration Repair	100	EA.	$ _____	$ _____
7	Small Concrete Roof Penetration Repair	50	EA.	$ _____	$ _____
8	Extra Small Concrete Roof Penetration Repair	50	EA.	$ _____	$ _____
9	Concrete Wall Penetration Repair	1	EA.	$ _____	$ _____
10	Top Surface Spall Repair	150	S.F.	$ _____	$ _____
11	Soffit Spall Repair	10	S.F.	$ _____	$ _____
12	Vertical Spall Repair	10	S.F.	$ _____	$ _____
13	Exposed Anchor Bolt Repair	700	EA.	$ _____	$ _____
14	Replacement of Roof Hatch at North Tower atop Silos	1	EA.	$ _____	$ _____
15	Install Sloped Roof Overlay and Waterproofing System (Approx. 13,000 SF)	L.S.	L.S.	L.S.	$ _____
		TOTAL AMOUNT FOR COMPARISON OF BIDS			$ _____

NOTES:

1. Bidders shall submit and upload the complete proposal to HIePRO prior to the bid opening date and time. Proposals received after said due date and time shall not be considered. Original (wet ink, hard copy) proposal documents are not required to be submitted. **Contract award shall be based on evaluation of proposals submitted and uploaded to HIePRO. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HIePRO. Do not include confidential and/or proprietary documents with the proposal. The record of each bidder and respective bid shall be open to public inspection.**

FAILURE TO UPLOAD THE COMPLETE PROPOSAL TO HIePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.

If there is a conflict between the specification document and the HIePRO solicitation, the specifications shall govern and control, unless otherwise specified.

2. Bid shall include all Federal, State, County and other applicable taxes and fees.

3. The TOTAL AMOUNT FOR COMPARISON OF BIDS shall be used to determine the lowest responsible bidder.

4. Bidders shall complete all unit prices and amounts. Failure to do so shall be grounds for rejection of bid.

5. If a discrepancy occurs between unit bid price and the bid price, the unit bid price shall govern.

6. 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.

7. Submission of 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 the plans and specifications.

8. No additional compensation will be paid by the State for losses, including overhead and profit, resulting from reduced scope of work.

9. Contract time shall remain the same whether or not the overall scope of work is decreased.

SURETY BID BOND

Bond No. .....

KNOW TO ALL BY THESE PRESENTS:

That we,_____
(full name or legal title of offerer)

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:

CONTRACT

THIS AGREEMENT, made this day of _____, by and between the STATE OF HAWAII, by its Director of Transportation, hereinafter referred to as "STATE", and «CONTRACTOR», «STATE_OF_INCORPORATON», whose business/post office address is «ADDRESS», hereinafter referred to as CONTRACTOR";

WITNESSETH: That for and in consideration of the payments hereinafter mentioned, the CONTRACTOR hereby covenants and agrees with the STATE to complete in place, furnish and pay for all labor and materials necessary for "«PROJECT_NAME_AND_NO»", or such a part thereof as shall be required by the STATE, the total amount of which labor, material and construction shall be computed at the unit and/or lump sum prices set forth in the attached proposal schedule and shall be the sum of «BASIC»----DOLLARS ($«BASIC_NUMERIC») as follows:

TOTAL AMOUNT FOR COMPARISON OF BIDS……$«BASIC_NUMERIC»

which sum shall be provided from State funds, all in accordance with the specifications, the special provisions, if any, the notice to bidders, the instructions to bidders, the proposal and plans for «PROJECT_NO_ONLY», and any supplements thereto, on file in the office of the Director of Transportation. These documents, together with all alterations, amendments, and additions thereto and deductions therefrom, are attached hereto or incorporated herein by reference and made a part of this contract.

The CONTRACTOR hereby covenants and agrees to complete such construction within «WORKING_DAYS» from the date indicated in the Notice to Proceed from the State subject, however, to such extensions as may be provided for in writing under the specifications.

For and in consideration of the covenants, undertakings and agreements of the CONTRACTOR herein set forth and upon the full and faithful performance thereof by the CONTRACTOR, the STATE hereby agrees to pay the CONTRACTOR the sum of «BASIC»---DOLLARS ($«BASIC_NUMERIC») in lawful money, but not more than such part of the same as is actually earned according to the STATE's determination of the actual quantities of work performed and materials furnished by the CONTRACTOR at the unit or lump sum prices set forth in the attached proposal schedule. Such payment, including any extras, shall be made, subject to such additions or deductions hereto or hereafter made in the manner and at the time prescribed in the specifications and this contract.

An additional sum of «EXTRAS»-----DOLLARS ($«EXTRA_NUMERIC») is hereby provided for extra work.

All words used herein in the singular shall extend to and include the plural. All words used in the plural shall extend to and include the singular. The use of any gender shall extend to and include all genders.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be duly executed the day and year first above written.

STATE OF HAWAII

_____
Director of Transportation

«CONTRACTOR» (Seal)

_____
Signature

_____
Print name

_____
Print Title

_____
Date

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