REQUIREMENTS, SPECIFICATIONS AND PLANS TO CONSTRUCT

DIAMOND HEAD CRATER
M-TUNNEL REPAIRS
STATE OF HAWAI‘I
DEPARTMENT OF DEFENSE
JOB NO.: CA-1428-C

FOR THE:
STATE OF HAWAI‘I
DEPARTMENT OF DEFENSE

May 2016

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SECTION 01100 – SCOPE OF WORK & PROJECT REQUIREMENTS

PART 1 - GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Location: Diamond Head Crater
M-Tunnel No.: M-0.1, M-1, M-2, M-3, and M-5
Honolulu, Oahu, Hawai'i

B. The Work generally includes, but is not limited, to the following: ***Clearing and grubbing of vegetation above the tunnel crowns, application of herbicide to inhibit plant growth, sounding of the existing shotcrete finish to determine the limits of removal of loose and un-sound shotcrete, removal and disposal of loose and un-sound shotcrete, application of new shotcrete finish, restoration of existing concrete drainage swale, hazardous material abatement and disposal, and associated work. Refer to "Scope-of-Work" and balance of these specifications.***

1.02 M-Tunnel No. M-0.1, M-1, M-2. M-3 and M-5:

A. Vegetation above tunnel entrances.

1. Cut and remove vegetation growth along the crown of the tunnel within 5-feet from the edge of the existing shotcrete finish.

2. Apply herbicide to inhibit vegetation growth. Application of the herbicide shall be in accordance with the attached document titled "Requirements for Herbicide Application at Hawai'i Army National Guard (HIARNG) Facilities" dated October 1, 2013.

B. Drainage swales (M-Tunnel M-2 and M-3 only):

1. Remove broken and damaged sections of the existing drainage swale. Construct new concrete drainage swale to match the existing construction.

C. Shotcrete Finish

1. Remove and dispose of existing un-sound and loose shotcrete material, properly prepare the exposed surfaces to receive new shotcrete material, and apply new shotcrete material. Finish to match the texture of the adjacent existing shotcrete finish.

2. Refer to SECTION 628 – SHOTCRETE.

3. Refer to the following "plates" for the location and area of repairs:
   a. Plate 3.1: Tunnel No. M-0.1
   b. Plate 3.2: Tunnel No. M-1
   c. Plate 3.3: Tunnel No. M-2
   d. Plate 3.4: Tunnel No. M-3
   e. Plate 3.5: Tunnel No. M-5

4. The existing paint finish on the shotcrete has been confirmed to contain lead. Refer to SECTION 01715 – Existing Conditions – Asbestos / Lead / Hazardous Materials Survey.
   a. The Contractor shall perform all work, including the handling, disturbance, removal and disposal of lead containing paint material, in accordance with all applicable County, State and Federal ordinances, ordinances, codes, rules, laws and regulations.

   b. The Contractor shall prepare his Project Bid Price bid on the basis that the material to be disposed of is non-hazardous. However, prior to disposal, the Contractor shall perform a Toxicity Characteristic Leaching Procedure (TCLP) test to confirm that the material is non-hazardous. In the event the material is confirmed to be hazardous, the cost for disposal shall be in accordance with Variable Quantity Unit Price item no. 2.

1.03 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
   1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated and include incomplete sentences. Omission of words or phrases such as "the Contractor shall", "as shown on the drawings", "a", "an", and "the" are intentional. Omitted words and phrases shall be provided by inference to form complete sentences. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred, as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates. Where devices, or items, or parts thereof are referred to in the singular, it is intended that such reference shall apply to as many such devices, items or parts as are required to properly complete the Work.

   2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
      a. The words "shall", "shall be", or "shall comply with", depending on the context, are implied where a colon (:) is used within a sentence or phrase.

   3. Abbreviations and Acronyms for Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S.".

B. Terms
   1. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean directed by Project Contact Person, requested by Project Contact Person, and similar phrases.

2. Indicated: The term "indicated" refers to graphic representations, notes, or schedules on drawings or to other paragraphs or schedules in specifications and similar requirements in the Contract Documents. Terms such as "shown", "noted", "scheduled", and "specified" are used to help the user locate the reference.

3. Furnish: The term "furnish" means to supply and deliver to project site, ready for unloading, unpacking, assembly, and similar operations.

4. Install: The term "install" describes operations at project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

5. Provide: The terms "provide" or "provides" means to furnish and install, complete and ready for the intended use.

6. Installer: An installer is the Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-Subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

7. Submit: Terms such as "submit", "furnish", "provide", and "prepare" and similar phrases in the context of a submittal, means to submit to the Contracting Officer.

C. Industry Standards

1. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

2. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.

3. Conflicting Requirements: If compliance with 2 or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Contracting Officer for a decision before proceeding.

1.04 WORK SEQUENCE

A. The Work shall be conducted in a single construction sequence.

1. Repairs at two or more of the identified tunnels may be performed concurrently.

2. Work at M-Tunnel M-2 and M-3 shall be completed first.

3. Once started, the work on individual tunnels shall be performed expeditiously, until completed.

1.05 USE OF PREMISES AND WORK RESTRICTIONS

A. The Contractor is notified that the building will remain operational throughout the entire duration of the project. Therefore, all areas of the building, except those areas identified for the Contractor's use, shall remain accessible to the building occupants and authorized visitors throughout the duration of the project.

B. The continued operation of the building will restrict the Contractor's work. Therefore, to facilitate the prosecution and progress of the work, the Contractor shall work closely with the Civil Defense staff to coordinate their work schedule, operations and execution of the work. Where necessary, the Contractor shall modify his schedule and operations to conform to the requirements of the Civil Defense. No additional compensation or time will be made to the Contractor for failure to acknowledge and account for the accommodation of the Civil Defense requirements in his bid.

1. The Contractor shall consult with the Contracting Officer and Project Contact Person to review the site conditions, Civil Defense requirements, and other factors which in turn may be affected by the Contractor's execution of work.

2. The Contractor shall employ, insofar as possible, such methods and means of carrying out its work so as not to cause any interruptions or interference to the building's operations. Where the Contractor's operations would result in interruptions which would adversely impact the operations of the facility, the Contractor shall rearrange his schedule of Work accordingly. Such adjustments to the Contractor's schedule shall not entitle the Contractor to additional compensation.

3. Contractor shall schedule and perform the work in such a manner as to minimize inconvenience, hazards and disturbance upon the facility's occupants, and to ensure their safety.

C. Contractor's use of premises is restricted as follows. Also refer to SECTION 01500 – TEMPORARY FACILITIES AND CONTROLS for additional requirements.

1. Construction Times and Schedule:
   a. The Contractor's normal working hours are from 7:00 a.m. to 4:30 p.m. Monday through Friday, except State Holidays.

   b. Work outside of the Contractor's normal working hours will be allowed when coordinated in advance with the Contracting Officer.

2. Parking and Access Roads:
   a. Parking:
      1) The Contractor will be allowed to park their vehicles in areas adjacent to the M-Tunnels.

      2) The Contractor shall not park along the roadway outside of the chained gate, or in other areas not identified for use by the Contracting Officer. Such unauthorized vehicles will be subject to towing at the Contractor's expense.

3) Overnight parking is not allowed unless prior arrangements have been made with the Contracting Officer. Vehicles left overnight without authorization will be towed at the Contractor's expense.

b. Parking and Access Roads:
   1) Parking areas and access roads shall be kept free of dirt and debris.

   2) Provide, erect and maintain lights, barriers, signs, etc. when required to protect vehicles and pedestrians. Obey all signage, traffic markings, and traffic and safety regulations.

3. Sanitation:
   a. The Contractor shall provide their own toilet and wash facilities at no additional cost to the State.

4. Noise and Dust Control:
   a. In adjacent locations surrounding the project site, noise, dust and other disrupting activities, resulting from construction operations, are detrimental to the activities within the building and in Diamond Head Crater. Therefore, the Contractor shall monitor its construction activities and shall exercise precaution when using equipment and machinery to keep the noise and dust levels to an absolute minimum. Where possible, shop-fabricate assemblies to minimize the amount of work which will generate noise on site.

   b. To reduce loud disruptive noise levels, ensure mufflers and other devices are provided on equipment, internal combustion engines and compressors.

   c. Should the level of noise, in the opinion of the Project Contact Person, become excessive, the Contractor will be requested to take immediate action to cease operations giving rise to the unacceptable noise levels and to amend its methodology to allow the continued performance of work within acceptable noise levels.

5. Barricades, Boarding (barriers), Signs and Lighting:
   a. Erect temporary barricades and/or boarding (as appropriate), and post directional signs at construction limits to prevent unauthorized individuals from entering the construction areas.
      1) Adjust or extend the barricades and directional signs when directed by the Project Contact Person.

6. Storage of materials, equipment, etc.:
   a. On-site storage and staging is limited to the areas on the exterior and adjacent to the tunnels. This restricted and/or limited on-site storage areas may require the Contractor to provide off-site storage.
      1) Contractor tools, equipment, materials, etc.: Refer to "Security Provisions" below.

7. Waste disposal:

a. There are no solid waste containers on site. The Contractor shall arrange for construction debris and trash to be removed from project site weekly, or on an earlier basis if required.

b. Hazardous material waste shall be removed from the project site on a daily basis.

D. Security Provisions:

1. Rules and Regulations: Consult with the Project Contact Person at the pre-construction conference and become familiar with the rules and regulations of the Diamond Head Crater.

2. All movements of the Contractor along the access road, tunnel exterior and hillside are subject to control by the Project Contact Person and Dept. of Defense Security Staff. Upon entry, the Contractor shall restrict its movements to the immediate vicinity covered by the scope-of-work for this project. The Contractor shall not enter other areas unless the scope of work requires such entry and the Contractor is granted permission by the Project Contact Person.

3. Property Security: The Contractor shall be responsible for the security of his own property at the site, including construction equipment, materials, tools, vehicles and including all property of the sub-contractors, and their employees.

E. Daily Reporting: A responsible person, designated by the Contractor, shall contact the Project Contact Person on a weekly basis, to report their intended scope-of-work for the week.

F. Prohibition of Tobacco, Alcohol and Illegal substances:

1. Comply with the prohibition on the use of tobacco, alcohol beverages, and other illegal substances in and around State Facilities.

1.06 WORK UNDER OTHER CONTRACTS

A. Separate Contract:

1. The State may execute other separate contracts for certain construction at the project site that was not known at the time Offers were submitted. The Contractor will be kept advised of the scheduling and status of other projects if awarded.

2. The M-Tunnels are used for storage by various State Agencies and organizations. Access to the tunnels may be necessary on an intermittent basis. The

B. The Contractor shall cooperate fully with separate Contractors and State Agencies/organizations who use the tunnels for storage, so work on those contracts and access to the tunnels may be carried out smoothly, without interfering with or delaying work under this Contract. Access to the tunnels shall be accommodated at no additional cost to the State.

PART 2 – PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01270 - VARIABLE QUANTITIES UNIT PRICES

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements for unit prices.

1.02 DEFINITIONS

A. Unit price is an amount proposed by the Bidder (or Offeror), stated on the Bid Form, as a price per unit of measurement for materials or services included in the Total Lump Sum Bid Price.

1.03 RELATED DOCUMENTS

A. Variations in estimated quantities are governed by GENERAL CONDITIONS Section VARIATIONS IN ESTIMATED QUANTITIES.

B. Measurement and payment for unit price items are governed by the General Conditions.

1.04 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, coordination overhead, and profit.

B. List of Unit Prices: A list of unit prices is included at the end of this Section. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

1. The description of Variable Quantities Unit Price items is not intended to give a detailed description of all work required, as only principal features of such work are listed.

2. Detailed descriptions are given in the appropriate Specification Sections or Drawings named in the general description below.

C. Include Variable Quantities Unit Price costs on the Bid form.

D. All computations of the Variable Quantities Unit Prices shall use the unit prices noted in the Bid Form. Measurements will be to the nearest estimated unit quantity. Payment will be made for quantities actually installed at the applicable price, measured by the Offeror, concurred by the Project Contact Person, and acceptably completed.

E. The Variable Quantities Unit Prices are estimated quantities. Where the quantity of a pay item vary more than 15 percent above or below the estimated quantity stated in the contract, an adjustment in the contract price may be made upon demand by either the State or Contractor. The adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity.

F. Do not proceed with work exceeding the estimated quantities written in the Bid Form until receipt of written approval by the Project Contact Person.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 LIST OF VARIABLE QUANTITIES

A. Unit Price No. 1

Shotcrete Finish: Remove & dispose of existing loose and failing shotcrete (including hazardous materials abatement), prepare substrate, and install new shotcrete according to SECTION 628 - SHOTCRETE.

B. Unit Price No. 1

Disposal of demolished shotcrete material as hazardous waste.

END OF SECTION

SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
   1. General project coordination procedures.

   2. Project meetings.

1.02 PERFORMANCE AND COORDINATION

A. Contractor is in charge of the Work within the Project Contract Limits, and shall direct and schedule the Work. Include general supervision, management and control of the Work of this project, in addition to other areas more specifically noted throughout the Specifications. Final responsibility for performance, interface, and completion of the Work and the Project is the Contractor's.

B. The Contractor is responsible for jobsite Administration. Provide a competent superintendent on the job and provide an adequate staff to execute the Work. In addition, all workers shall dress appropriately and conduct themselves properly at all times. Loud abusive behavior, sexual harassment and misconduct will not be tolerated. Workers found in violation of the above shall be removed from the job site as directed by the Contracting Officer.

C. The State will hold the Contractor liable for all the acts of Subcontractors and shall deal only with the Prime Contractor in matters pertaining to other trades employed on the job.

D. Coordination: Provide project interface and coordination to properly and accurately bring together the several parts, components, systems, and assemblies as required to complete the Work pursuant to the GENERAL CONDITIONS and SPECIAL CONDITIONS.
   1. Provide interface and coordination of all trades, crafts and subcontracts. Ensure and make correct and accurate connections of abutting, adjoining, overlapping, and related work. Provide anchors, fasteners, accessories, appurtenances, and incidental items needed to complete the Work, fully, and correctly in accordance with the Contract Documents.

   2. Provide additional structural components, bracing, blocking, miscellaneous metal, backing, anchors, fasteners, and installation accessories required to properly anchor, fasten, or attach material, equipment, hardware, systems and assemblies to the structure.

   3. Provide drilling for trades to install their work.

4. Materials, equipment, component parts, accessories, incidental items, connections, and services required to complete the Work which are not provided by Subcontractors shall be provided by the Contractor.

5. Coordination: Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections,that depend on each other for proper installation, connection, and operation.

1.03 COOPERATION WITH OTHER CONTRACTORS

A. The State reserves the right at any time to contract for or otherwise perform other or additional work within the Project Contract Limits. The Contractor of this project shall to the extent ordered by the Contracting Officer, conduct its work so as not to interfere with or hinder the progress or completion of the work performed by the State or other Contractors.

1.04 COORDINATION WITH OTHER PRIME CONTRACTORS

A. Multiple prime Contractors performing work under separate agreements with the State may be present near the project location, adjacent to and abutting the Project Contract Limits. This Contractor shall coordinate activities, sequence of work, protective barriers and any and all areas of work interfacing with other Prime Contractor's work. Any damage to other Prime Contractor's Work committed by this Contractor (or its Subcontractor) shall be repaired promptly at no additional cost to the State.

B. Coordinate Subcontractors and keep them informed of any work from the other Projects that may affect the site or the Subcontractor's work. If the Contractor has any questions regarding its coordination responsibilities or needs clarification as to the impact in scheduling of its work and the work of other projects, this Contractor shall notify the Project Contact Person in writing.

C. Subject to approval by the Project Contact Person, this Contractor shall amend and schedule its work and operations to minimize disruptions to the work and operations of other projects.
   1. Relocate or remove and replace temporary barriers, fencing supports or bracing to allow work by others to proceed unimpeded. Do not remove required barriers supporting work until specified time or as approved by the Project Contact Person. This does not relieve the Contractor of the responsibility of proper coordination of the work. If directed by the Contracting Officer, leave in place any temporary barriers.

   2. Coordinate work that abuts or overlaps work of the other projects with the Project Contact Person and other Prime Contractors to mutual agreement so that work is 100 percent complete with continuity of all materials, systems and finishes.

   3. When directed by the Project Contact Person, provide access into the construction zone to allow the other project's Contractor(s) to perform their Work and work that must be interfaced.

4. Contractor shall adjust and coordinate its Work and operations as required by the other projects as part of the Work of this contract without additional cost or delay to the State.

D. Other Contracts: If known, they are listed in SECTION 01100 - PROJECT REQUIREMENTS.

1.05 SUBMITTALS

A. Photo Documentation: Prior to the start of jobsite work, the Contractor shall photo document the existing conditions at the site and file with the Project Contact Person one complete set of documents.

1.06 PROJECT MEETINGS AND TRAINING

A. General: Attend meetings and conferences as directed by the Project Contact Person at the job site, unless otherwise indicated.

B. Preconstruction Conference: Project Contact Person shall schedule a preconstruction conference before the start of construction, at a time convenient to the Project Contact Person, but no later than 3 days before the Project start date or jobsite start date whichever is later. Conference will be held at the Project site or another convenient location. The Project Contact Person shall conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: Project Contact Person; Facility Users; Contractor and its superintendent; major Subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.

2. Agenda: Items which will be discussed include, but are not limited, to the following:
   a. Tentative construction schedule.
   b. Phasing.
   c. Critical work sequencing and coordination.
   d. Designation of responsible personnel.
   e. Use of the premises.
   f. Responsibility for temporary facilities and controls.
   g. Parking availability.
   h. Work, and storage areas.
   i. Equipment deliveries and priorities.
   j. First aid.
   k. Security.

l. Progress cleaning.

m. Working hours.

D. Progress Meetings: Progress meetings will be conducted weekly, or at other intervals as determined by the Project Contact Person.

1. Attendees: In addition to Project Contact Person, each Contractor, Subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: The intent is to review and discuss items of significance that affect the status and progress of the Project.

   a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

   b. Review present and future needs of each entity present, including the following:

      1) Outstanding Requests for information (clarification).

      2) Interface requirements.

      3) Sequence of operations.

      4) Status of outstanding submittals.

      5) Deliveries.

      6) Access.

      8) Site utilization.

      9) Temporary facilities and controls.

      10) Work hours.

      11) Hazards and risks.

      12) Progress cleaning.

      13) Quality and work standards.

      14) Force Account work.

      15) Change Orders and Change Proposals.

16) Documentation of information for payment requests.

c. Corrective Action Plan: Contractor shall provide a plan of corrective action for any item which is delayed or expected to be delayed, then that item impacts the contractual dates.

3. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
   1. Contractor's Construction Schedule.
   2. Submittals Schedule.
   3. Schedule of Prices.
   4. Payment Application.

B. Related Sections include the following:
   1. SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION for preparing a combined Contractor's Construction Schedule.
   2. SECTION 01330 - SUBMITTAL PROCEDURES for submitting schedules and reports.

1.02 DEFINITIONS

A. Schedule of Prices: A statement furnished by Contractor allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Payment Applications.

1.03 SUBMITTALS

A. Required Submittals: Submit 8 sets of the list of the required submittals, by Specification Section, within 5 days after award of the contract or upon earlier written instructions from the Project Contact Person.
   1. The listing shall indicate and include the following:
      a. The number of copies required for submittal.
      b. Planned submittal date.
      c. Approval date required by the Contractor.
      d. A space where the "date of submittal" can be inserted.
      e. A space where the "date of approval" can be inserted.
      f. A space where an "action code" can be inserted.

B. Construction Schedule: Submit 7 sets of the Construction Schedule for review within 3 days after the award of the contract or upon earlier written instructions from the Contracting Officer.

C. Schedule of Prices: Submit 3 sets of the Schedule of Prices integrated with the Construction Schedule for review within 3 days after the award of the contract or upon earlier written instructions from the Project Contact Person.
   1. Use the Department's forms for Payment applications.

D. Payment Application: Submit the payment application at earliest possible date and no sooner than the last day of the month after all payroll affidavits, updated submittal registers, and schedules have been submitted.

1.04 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate Contractors.

B. Construction Schedule: Coordinate Contractor's Construction Schedule with the Schedule of Prices, Submittals Schedule, loaded monthly event activity, and other required schedules and reports.
   1. Secure time commitments for performing critical elements of the Work from parties involved.

   2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

C. Schedule of Prices: Coordinate preparation of the schedule with preparation of Contractor's Construction Schedule.
   1. Correlate line items in the Schedule of Prices with other required administrative forms and schedules, including the following:
      a. The Department's Payment Application form and the Construction Progress Report continuation sheet for the event cost estimate per time period.

      b. Submittals Schedule.

PART 2 - PRODUCTS

2.01 SUBMITTALS SCHEDULE

A. Comply with the GENERAL CONDITIONS "SHOP DRAWINGS AND OTHER SUBMITTALS" Article. Furnish required submittals specified in this Section and in the Technical Sections. Submittals include one or more of the following: shop drawings, color samples, material samples, technical data, material safety data information, schedules of materials, schedules of operations, guarantees, certifications, operating and maintenance manuals, and field posted as-built drawings.

B. Preparation: Furnish a schedule of submittals per Project Contact Person.
   1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Prices, and Contractor's Construction Schedule.

   2. The schedule shall accommodate a minimum of 3 calendar days for the State's review, as applicable for the Island the project is located.

   3. Prepare and submit an updated list to the Project Contact Person at monthly intervals or as directed by the Project Contact Person. The listing shall reflect all approvals received since the last update.

2.02 CONTRACTOR'S CONSTRUCTION SCHEDULE - GANTT CHART METHOD

A. The construction schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. The progress chart shall indicate the order in which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment).

B. Upon completion of the Project Contact Person's review, the Contractor shall amend the schedule as necessary to reflect the comments. If necessary, the Contractor shall participate in a meeting with the Project Contact Person to discuss the proposed schedule and changes required. Submit the revised schedule for review within 7 calendar days after receipt of the comments.

C. Use the reviewed schedule for planning, organizing and directing the work, for reporting progress, and for requesting payment for the work completed. Unless providing an update, do not make changes to the reviewed schedule without the Project Contact Person's approval.

D. If, in the opinion of the Project Contact Person, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve progress, including those that may be required by the Project Contact Person, without additional cost to the State. The Project Contact Person may require the Contractor to increase the number of shifts, overtime operations, days of work, or amount of construction plant, and to submit for approval any supplemental schedule or schedules in chart form as the Project Contact Person deems necessary to demonstrate how the approved rate of progress will be regained.

E. Update the construction schedule at monthly intervals or when directed by the Project Contact Person to revise the schedule. Reflect any changes occurring since the last update with each invoice for progress payment. Submit copies of the purchase orders and confirmation of the delivery dates as directed. The Project Contact Person's review of the updated schedule is to check that the updated schedule does not alter the construction performance period unless the period was revised through a change order or contract modification.

2.03 SCHEDULE OF PRICES

A. Furnish a schedule of prices per Project Contact Person.

B. Provide a breakdown of the Contract Sum in enough detail to facilitate developing and the continued evaluation of Payment Applications. Provide several line items for principal subcontract amounts, or for materials or equipment purchased or fabricated and stored, but not yet installed, where appropriate. Round amounts to nearest whole dollar; total shall equal the Contract Price.

C. Each item in the Schedule of Prices and Payment Application shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

2.04 PAYMENT APPLICATION

A. Use the Schedule of Prices as the Monthly Construction Progress Report. Each Payment Application shall be consistent with previous applications and

payments. The Project Contact Person shall determine the appropriateness of each payment application item.

B. Payment Application Times: The date for each progress payment is the last day of each month. The period covered by each Payment Application starts on the first day of the month or following the end of the preceding period and ends on the last day of the month.

C. Updating: Update the schedule of prices listed in the Payment application when Change Orders or Contract Modifications result in a change in the Contract Price.

D. Provide a separate line item for each part of the Work where Payment Application may include materials or equipment purchased or fabricated and stored, but not yet installed.

E. Differentiate between items stored on-site and items stored off-site. Include evidence of insurance or bonded warehousing if required.

F. Provide separate line items for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

G. Payment Application Forms: Use and submit copies of the Payment Application and Construction Progress forms provided by Department. Furnish 7 copies.

H. Application Preparation: Complete every entry on form. Execute by a person authorized to sign legal documents on behalf of the Contractor.
   1. Entries shall match data on the Schedule of Prices and Contractor's Construction Schedule. Use updated schedules if revisions were made. Include amounts of Change Orders and Contract Modifications issued before last day of construction period covered by application.

I. No payment will be made until the following are submitted each month:
   1. Monthly Estimate, 7 copies.
   2. Monthly Progress Report, 7 copies.
   3. Statement of Contract Time, 7 copies.
   4. Updated Submittal Register, 1 copy.
   5. Updated Progress Schedule, 1 copy.
   6. All Daily Reports, 1 copy.
   7. All Payroll Affidavits for work done, 1 copy.

J. Retainage: The Department will withhold retainage in compliance with the GENERAL CONDITIONS.

K. Transmittal: Submit the signed original and 6 copies of each Payment Application for processing.

2.05 CONTRACTOR DAILY PROGRESS REPORTS

A. The General Contractor and all Subcontractors shall keep a daily report of report events.

B. The form of the Contractor Daily Progress Report shall be as directed by the Project Contact Person.

C. Submit copies of the previous week's reports on Monday morning at 10:00 a.m.

D. Submit copies of the reports with the monthly payment request for the whole period since the last payment request submittal.

E. Deliver the reports in hard copy, by e-mail, or web based construction management as directed by the Project Contact Person.

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01330 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

A. Comply with the GENERAL CONDITIONS "Shop Drawings and Other Submittals" section and "Material Samples" section.

B. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.

C. Related Sections include the following:
   1. SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.

   2. SECTION 01770 - CLOSEOUT PROCEDURES for submitting warranties, project record documents and operation and maintenance manuals.

1.02 SUBMITTAL PROCEDURES

A. Coordinate Work and Submittals: Contractor shall certify the submittals were reviewed and coordinated.

B. Submittal Certification: Provide in MS Word when submitting electronically. Contracting Officer will provide an electronic copy of the Submittal Certification. Provide a reproduction (or stamp) of the "Submittal Certification" and furnish the required information with all submittals. Include the certification on:
   1. The title sheet of each shop drawing, or on

   2. The cover sheet of submittals in 8-1/2 inch x 11-inch format, or on

   3. One face of a cardstock tag (minimum size 3-inch x 6-inch) tied to each sample. On the sample tag, identify the sample to ensure sample can be matched to the tag if accidentally separated. The opposite face of the tag will be used by the Project Contact Person to receive, review, log stamp and include comments.

C. Variances: The Contractor shall request approval for a variance. Clearly note any proposed deviations or variances from the Specifications, Drawings, and other Contract Documents on the submittal and also in a separately written letter accompanying the submittal.

D. Submittal Certification Form (stamp or digital)

CONTRACTOR'S NAME: _____

PROJECT: _____

JOB NO: _____

As the General Contractor, we checked this submittal and we certify it is correct, complete, and in compliance with Contract Drawings and Specifications. All affected Contractors and suppliers are aware of, and will integrate this submittal into their own work.

SUBMITTAL NUMBER _____ DATE RECEIVED _____

REVISION NUMBER _____ DATE RECEIVED _____

SPECIFICATION SECTION NUMBER /PARAGRAPH NUMBER _____

DRAWING NUMBER _____

SUBCONTRACTOR'S NAME _____

SUPPLIER'S NAME _____

MANUFACTURER'S NAME _____

NOTE: DEVIATIONS FROM THE CONTRACT DOCUMENTS ARE PROPOSED AS FOLLOWS (Indicate "NONE" if there are no deviations)

_____

_____

_____

CERTIFIED BY	

Note: Form can be combined with Design Consultant's Review stamp. This is available from the Project Contact Person.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 SUBMITTAL REGISTER AND TRANSMITTAL FORM

A. Contractor shall use submittal register and transmittal forms as directed by the Project Contact Person.

B. The listing of required submittals within this Section is provided for the Contractor's convenience. Review the specification technical sections and prepare a comprehensive listing of required submittals. Furnish submittals to the Project Contact Person for review.

C. Contractor shall separate each submittal item by listing all submittals in the following groups with the items in each group sequentially listed by the specification section they come from:
   1. Administrative
   2. Data
   3. Tests
   4. Closing

D. Contractor shall separate all different types of data as separate line items all with the column requirements.

E. Contractor shall send monthly updates and reconciled copies electronically to the Project Contact Person and the Design Consultant in MS Word or MS Excel or other format as accepted by the Project Contact Person.

Section No. – Title	Shop Drawings & Diagrams	Samples	Certificates (Material, Treatment, Applicator, etc.)	Product Data, Manufacturer's Technical Literature	MSDS Sheets	Calculations	Reports (Testing, Maintenance, Inspection, etc.)	Test Plan	O & M Manual	Equipment or Fixture Listing	Schedules (Project Installation)	Maintenance Service Contract	Field Posted As-Built Drawings	Others	Guaranty or Warranty	Manufacturer's Guaranty or Warranty (Greater than one year)
01310 – Project Management and Coordination											■			■		
01320 – Construction Progress Documentation											■			■		
01330 – Submittal Procedures			■											■		
01500 – Temporary Facilities and Controls							■							■		
01700 – Execution Requirements														■		
01770 – Closeout Procedures	■								■				■	■	■	
Requirements for Herbicide Application at Hawaii Army National Guard Facilities			■	■	■									■		
628 – Shotcrete	■	■	■	■	■		■									

END OF SECTION

SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 SUMMARY

A. Requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.

B. Temporary utilities include but are not limited to, the following:
   1. Sanitary facilities, including toilets, wash facilities, and drinking water facilities.
   2. Electric power service.
   3. Lighting.
   4. Telephone service.

C. Support facilities include, but are not limited to, the following:
   1. Warning signs.
   2. Trash, refuse disposal.
   3. Construction aids and miscellaneous services and facilities.

D. Security and protection facilities and measures include, but are not limited to, the following:
   1. Environmental protection.
   2. Barricades, warning signs, and lights.

1.02 USE CHARGES

A. General: Cost or use charges for temporary facilities are not chargeable to the State and shall be included in the Contract Price. Allow other entities to use temporary services and facilities without cost, including, but not limited to, the following:
   1. Testing agencies.
   2. Project Contact Person and personnel of authorities having jurisdiction.

1.03 SUBMITTALS

A. Landfill Disposal Receipts: Submit copies of receipts issued by a landfill facility. Include receipts with Contractor Daily Progress Report.

1.04 QUALITY ASSURANCE

A. Standards: Comply with UBC Chapter 33, "Site Work, Demolition and Construction", ANSI A10.6, NECA's "Temporary Electrical Facilities", and NFPA 241, "Construction, Alteration, and Demolition Operations".
   1. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with trade regulations and union jurisdictions.
   2. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70, "National Electrical Code".
      a. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.05 PROJECT CONDITIONS

A. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:

1. Keep temporary services and facilities clean and neat.

2. Relocate temporary services and facilities as required by progress of the Work.

1.06 PREPARATION AND PROTECTION

A. Protection of Property: Continually maintain adequate protection of the Work from damage and protect all property, including but not limited to buildings, equipment, furniture, grounds, vegetation, material, utility systems located at and adjoining the job site. Repair, replace or pay the expense to repair damages resulting from Contractor's fault or negligence.

B. Before starting work to be applied to previously erected constructions, make a thorough and complete investigation of the recipient surfaces and determine their suitability to receive required additional construction and finishes. Make any repair that is required to properly prepare surfaces, and coordinate the Work to provide a suitable surface to receive following Work.

C. Commencing work by any trade implies acceptance of existing conditions and surfaces as satisfactory for the application of subsequent work, and full responsibility for finished results and assumption of warranty obligations under the Contract.

D. Protect existing work to prevent damage by vandals or the elements. Provide temporary protection. Use curtains, barricades, or other appropriate methods. Take positive measures to prevent breakage and damage to finishes.

E. Repairs and Replacements: Promptly replace and repair damages to the approval of the Project Contact Person. Additional time required to secure replacements and to make repairs does not justify a time extension.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by Contracting Officer. Provide materials suitable for use intended.

B. Plastic Enclosure Fence: Industry standard 4-feet high plastic fencing with metal (or wood) post supports at 10-feet on center connected with a top and bottom 12-gauge soft annealed galvanized tie wires securely connected to posts. Posts shall be capable of resisting a lateral load of 100 pounds measured at the top of the post.

2.02 EQUIPMENT

A. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA recommended classes for exposures. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

B. Self Contained Combination Toilet and Urinal Units: Single occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material. One quarter of, or at least one unit(s) shall contain a handwash sink with potable water storage.

C. Drinking Water Fixtures: Drinking water fountains or containerized, tap dispenser, bottled water drinking water units, or water cooler dispensing water at 45 - 55 degree F available at project site including paper cup supply.

D. Electrical Outlets: Properly configured, NEMA polarized outlets to prevent insertion of 110 to 120 V plugs into higher voltage outlets; equipped with ground fault circuit interrupters, reset button, and pilot light.

E. Power Distribution System Circuits: Where permitted and overhead and exposed for surveillance, wiring circuits, not exceeding 125 V ac, 20 A rating, and lighting circuits may be nonmetallic sheathed cable.

PART 3 - EXECUTION

3.01 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.

B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.02 TEMPORARY UTILITY INSTALLATION

A. General: Connect to existing service where directed by the Contracting Officer.

1. Provide adequate capacity at each stage of construction.

B. Water Service: There is no water service at the site. The Contractor shall be responsible to provide their own water service at no additional cost to the State.

C. Sanitary Facilities: Provide self-contained temporary toilets, wash facilities, and drinking water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.
Shield toilets to ensure privacy.

1. Provide separate facilities for male and female personnel.

2. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.

3. Wash Facilities: Install wash facilities supplied with potable water at convenient locations for personnel who handle materials that require wash up. Dispose of drainage properly. Supply cleaning compounds appropriate for each type of material handled.

4. Safety showers, eyewash fountains, and similar facilities: Provide where necessary for convenience, safety, and sanitation of personnel.

5. Locate toilets and drinking water fixtures so personnel need not walk more than 2 stories vertically or 200-feet horizontally to facilities.

D. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

E. Electric Power Service: There is no electrical service at the site. The Contractor shall be responsible to provide their own means of electrical service at no additional cost to the State.

F. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment. Protect wiring, in conduits or other, measures when exposed to possible damage or traffic areas.

G. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations and traffic conditions.

H. Telephone Service: Provide a portable wireless telephone with voice-mail or messaging service for superintendent's use in making and receiving telephone calls when at the construction site.

3.03 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Locate storage sheds and other temporary construction and support facilities for easy access as directed by the Project Contact Person.

2. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion.

B. Traffic Controls: Provide temporary traffic controls where necessary at junction of the access road fronting the tunnels with the roadway leading to the Diamond Head Crater entrance. Include warning signs for public traffic and "STOP" signs for entrance onto roads. Comply with requirements of authorities having jurisdiction.

C. Site Drainage:

1. Dispose of effluent water in a lawful manner that will not result in flooding Project or adjoining property nor endanger permanent Work or temporary facilities.

D. Project Sign and Temporary Sign(s):

1. Provide and install project identification sign and other signs as listed. Sign designs are attached to Part 3 of this Section:

a. Warning Sign

2. Install signs where directed by the Project Contact Person to inform public and persons seeking entrance to the Project. Do not permit installation of unauthorized signs.

3. Provide temporary signs to provide directional information to constructional personnel and visitors.

4. Construct signs with durable materials, properly supported or mounted, and visible.

E. Trash, Refuse Disposal:

1. Department of Health – Illegal Dumping Notice. See attachment to Part 3 of this section.

a. This Notice to be printed out on 8.5x11" paper.

b. This Notice to be posted at the job site field office and/or in locations visible to all contractors, subcontractors, suppliers, vendors, etc. throughout the duration of the project.

2. Illegal Dumping of solid waste could subject the Contractor to fines and could lead to felony prosecution in accordance with Chapter 342H, HRS. For more information, see the following web site:
http://www.hawaii.gov/health/environmental/waste/sw/pdf/Illdump.pdf

3. Provide waste collection containers in sizes adequate to handle waste from construction operations. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste.

4. Do not burn debris or waste materials on the project site.

5. Do not bury debris or waste material on the project site unless specifically allowed elsewhere in these specifications as backfill material.

6. Haul unusable debris and waste material to an appropriate off site dump area.
   a. Water down debris and waste materials during loading operations or provide other measures to prevent dust or other airborne contaminants.

7. Clean up shall include the collection of all waste paper and wrapping materials, cans, bottles, construction waste materials and other objectionable materials, and removal as required. Frequency of clean up shall coincide with rubbish producing events.

3.04 ENVIRONMENTAL CONTROLS

A. General: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

B. Dust Control:
   1. Prevent dust from becoming airborne at all times including non working hours, weekends and holidays in conformance with the State Department of Health, Administrative Rules, Title 11, Chapter 60.1 Air Pollution Control.

   2. Contractor is responsible for and shall determine the method of dust control. Subject to the Contractor's choice, the use of water or environmentally friendly chemicals may be used over surfaces that create airborne dust.

   3. Contractor is responsible for all damage claims due to their negligence to control dust.

C. Noise Control
   1. Keep noise within acceptable levels at all times in conformance with the State Department of Health, Administrative Rules, Title 11, Chapter 46 - Community Noise Control. Obtain and pay for the Community Noise Permit when construction equipment or other devices emit noise at levels exceeding the allowable limits.

   2. Ensure mufflers and other devises are provided on equipment, internal combustion engines and compressors to reduce loud disruptive noise levels and maintain equipment to reduce noise to acceptable levels.

   3. Unless specified elsewhere, do not start construction equipment that meet allowable noise limits prior to 6:45 A.M. or equipment exceeding allowable noise levels prior to 7:00 A.M.

3.05 VIOLATION OF ENVIRONMENTAL PROVISIONS

A. Violations of any of the above environmental control requirements or any other pollution control requirements; which may also be specified in the other Specifications sections, shall be resolved under the SUSPENSION and CORRECTIVE WORK Section of the GENERAL CONDITIONS.

3.06 BARRICADES AND ENCLOSURES

A. Barricades: Before construction operations begin, erect temporary construction barricade(s) to prevent unauthorized persons from entering the project area and to the extent required by the Project Contact Person.
   1. Maintain temporary construction barricade(s) throughout the duration of the Work. During the course of the project, the Project Contact Person may require additional

barricades be provided for the safety of the public. Contractor shall erect the additional barricade(s) at its own expense.

2. Construction
   a. Plastic fencing.

3.07 TEMPORARY FIRE PROTECTION

A. Install and maintain temporary fire protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
   1. Provide fire extinguishers, installed on walls on mounting brackets, visible and accessible from space being served, with sign mounted above.
      a. Class ABC dry chemical extinguishers or a combination of extinguishers of NFPA recommended classes for exposures.

      b. Locate fire extinguishers where convenient and effective for their intended purpose.

   2. Store combustible materials in containers in fire safe locations.

   3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways, and other access routes for firefighting. Prohibit smoking in hazardous fire exposure areas.

   4. Supervise welding operations, combustion type temporary heating units, and similar sources of fire ignition.

   5. Develop and supervise an overall fire prevention and first aid fire protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.08 OPERATION, TERMINATION, AND REMOVAL

A. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage caused by heat and similar elements.

B. Termination and Removal: Remove each temporary facility when need for its service has ended, or when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
   1. Materials and facilities that constitute temporary facilities are the property of Contractor. The Department reserves the right to take possession of Project identification signs.

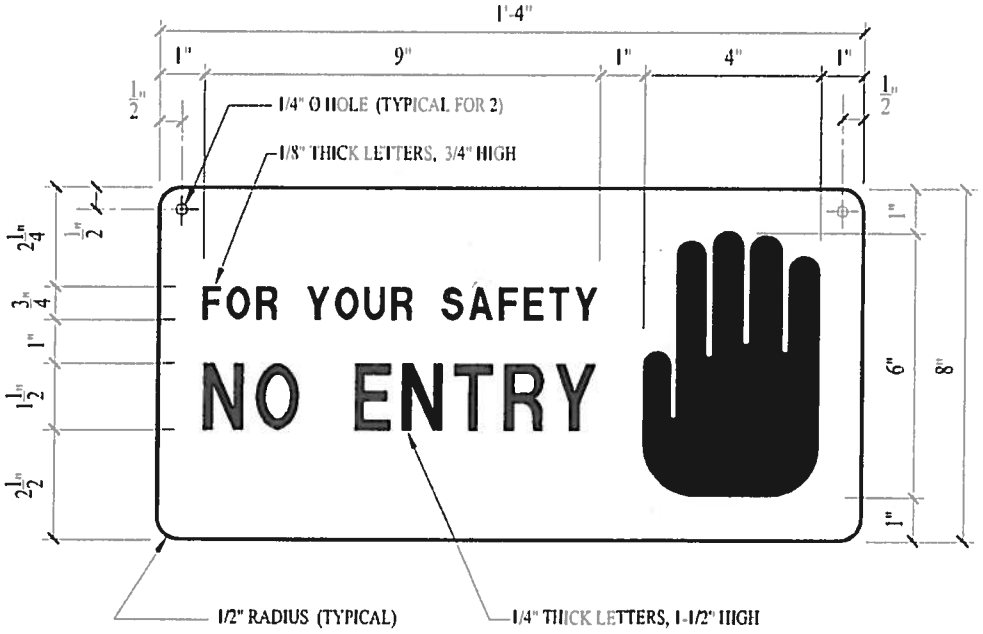
3.09 ATTACHMENTS

A. Warning Sign: Requirements for Warning Sign.

B. Department of Health – Illegal Dumping Notice

END OF SECTION

REQUIREMENTS FOR WARNING SIGN



1. General Requirements: Furnish all labor, materials and equipments necessary to construct and install warning signs as specified hereinafter.
2. Materials
   a. Backing: Backing shall be 6061-T6 aluminum 0.032-inch minimum thickness.
   b. Paint: Paint shall be satin finish, exterior grade or factory baked enamel or a combination thereof.
3. Colors: Signs shall have white background. Remaining items shall be similar to Rust-Oleum Federal Safety Red.
4. Requirements for Warning Sign: Message configuration and dimensions shall be in accordance with the attached illustration.
5. Installation
   a. Signs shall be located at 50-foot intervals around roped off work area or at all entrances in the case of interior work.
   b. Signs shall be attached to the rope barrier, rope barrier supports, individual sign supports or buildings. Do not use nails to attach signs to building(s).
6. Clean-up: Remove all signs upon completion of project. Repair any damages caused by sign mounting and removal.

DEPARTMENT OF HEALTH
ILLEGAL DUMPING NOTICE

The law requires you to dispose solid waste only at recycling or disposal facilities permitted by the Department of Health.

"Solid waste" includes municipal refuse, construction and demolition waste, household waste, tires, car batteries, derelict vehicles, green wastes, furniture, and appliances.

Illegal dumping of solid waste or allowing illegal disposal of solid waste on your property even if contractual or other arrangements are made could subject you to fines from $10,000 to $25,000 per occurrence and could lead to felony prosecution in accordance with Chapter 342H, HRS.

Contact the Department of Health, Solid Waste Section at 586-4226 to report illegal dumping activities or if you have further questions.

SECTION 01700 - EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes general procedural requirements governing execution of the Work including the following:
   1. Construction layout. Field engineering and surveying.
   2. General installation of products.
   3. Progress cleaning.
   4. Starting and adjusting.
   5. Protection of installed construction.
   6. Correction of the Work.

B. Related Sections
   1. SECTION 01770 - CLOSEOUT PROCEDURES.

1.02 SUBMITTALS

A. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

1.03 NOTIFICATION

A. Contact the Project Contact Person at least 3 working days prior to starting any onsite work.

1.04 PROJECT AND SITE CONDITIONS

A. Project Contract Limits (Contract Zone Limits) indicate only in general the limits of the work involved. Perform necessary and incidental work, which may fall outside of these demarcation lines. Confine construction activities within the Project Contract Limits and do not spread equipment and materials indiscriminately about the area.

B. Disruption of Utility and Air Conditioning Services: Disruptions to utility and air conditioning service will not be allowed.

D. Contractor's Operations - Provide means and methods to execute the Work and minimize interruption or interference to the facility's operations. Rearrange the construction schedule when construction activities result in interruptions that hamper the operations of the facilities.

E. Maintain safe passageway to and from the facility's occupied buildings, rooms and other occupied spaces for the using agency personnel and the public at all times.

F. Contractor, Subcontractor(s) and their employees will not be allowed to park in outside of the chained entry to the M-Tunnels. Subject to availability, the

Contracting Officer may designate areas outside of the Contract Zone Limits to be used by the Contractor. Restore any lawn area damaged by construction activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 EXAMINING THE SITE

A. Contractor and Subcontractors are expected to visit the site and make due allowances for difficulties and contingencies to be encountered. Compare contract documents with work in place. Become familiar, with existing conditions, the conditions to be encountered in performing the Work, and the requirements of the drawings and specifications.

B. Verify construction lines, grades, dimensions and elevations indicated on the drawings before any clearing, excavation or construction begins. Bring any discrepancy to the attention of the Project Contact Person, and make any change in accordance with the Project Contact Person's instruction.

C. Obtain all field measurements required for the accurate fabrication and installation of the Work included in this Contract. Verify governing dimensions and examine adjoining work on which the Contractor or Subcontractor's work is in any way dependent. Submit differences discovered during the verification work to the Project Contact Person for interpretations before proceeding with the associated work. Exact measurements are the Contractor's responsibility.

D. Furnish or obtain templates, patterns, and setting instructions as required for the installation of all Work. Verify dimensions in the field.

E. Contractor shall accept the site and the existing building in the condition that exists at the time access is granted to begin the Work. Verify existing conditions and dimensions shown and other dimensions not indicated but necessary to accomplish the Work.

F. Locate all general reference points and take action to prevent their destruction. Lay out work and be responsible for lines, elevations and measurements and the work executed. Exercise precautions to verify figures and conditions shown on drawings before layout of work.

3.02 SITE UTILITIES AND TONING

A. Cooperate, coordinate and schedule work to maintain construction progress, and accommodate the operations and work of the owners of underground or overhead utility lines or other property in removing or altering the lines or providing new services.

B. Contact all the various utility companies before the start of the work to ascertain any existing utilities and to develop a full understanding of the utility requirements with respect to this Project. Furnish the Project Contact Person with evidence that the utility companies were contacted.

C. Should the Contractor discover the existence and location of utilities in the contract drawings are not correct, do not disturb the utilities and immediately notify the Project Contact Person.

D. Do not disturb or modify any utilities encountered, whether shown or not on the Contract Drawings, unless otherwise instructed in the drawings and specifications or as directed by the Project Contact Person. Repair and restore to pre-damaged condition any utilities or any other property damaged by construction activities.

E. Transfer to "Field Posted As-Built" drawings the location(s) and depth(s) of new and existing utilities that differ from the Contract Drawings. Locate by azimuth and distance and depth(s) from fixed referenced points.

3.03 FIELD MEASUREMENTS

A. Take field measurements to fit and install the Work properly. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress.

B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

C. Review of Contract Documents and Field Conditions: Submit a Request For Information (RFI) immediately upon discovery of the need for clarification of the Contract Documents. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.04 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to existing conditions. If discrepancies are discovered, notify the Contracting Officer promptly.

B. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.

3.05 INSTALLATION

A. Install materials, items, fixtures required by the various Divisions and Sections of the Specifications in accordance with Contract Documents, by workers specially trained and skilled in performance of the particular type of work, to meet guarantee and regulatory agency requirements. Should the drawings or specifications be void of installation requirements, install the materials, items, and fixtures in accordance with the manufacturer's current specifications, recommendations, instructions and directions.

3.06 CUTTING AND PATCHING

A. Oversee cutting and patching of concrete, masonry, structural members and other materials where indicated on drawings and as required by job conditions. Unless noted elsewhere in the contract documents, do not cut or patch existing or new structural members without previously notifying the Project Contact Person.

B. Provide patch materials and workmanship of equal quality to that indicated on the drawings or specified for new work.

3.07 CLEANING

A. General: Clean the Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
   1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.

   2. Do not hold waste more than 7 days unless approved otherwise by the Project Contact Person.

   3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
   1. Remove liquid spills promptly.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use only cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

F. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

G. Clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

H. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period.

I. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.08 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions to provide proper temperature and relative humidity conditions.

3.09 CORRECTION OF THE WORK

A. Repair or replace defective construction. Restore damaged substrates and finishes. Repairing includes replacing defective parts, refinishing damaged surfaces, and touching up with matching materials.

B. Restore permanent facilities used or damaged during construction to their original condition.

END OF SECTION

SECTION 01715 - EXISTING CONDITIONS - ASBESTOS / LEAD / HAZARDOUS MATERIAL SURVEY

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes the results of the State's survey for Asbestos and Lead materials and is provided for the Contractor's information.

B. Related Sections include the following:
   1. SECTION 13282 - SUBSTRATES WITH LEAD CONTAINING PAINTS for requirements of all work which disturbs LCP. Also, refer to the drawings.

   2. SECTION 13283 - LEAD-BASED PAINT CONTROL MEASURES for requirements of all work which disturbs the LCP. Also refer to the drawings.

1.02 LEAD CONTAINING PAINT

A. Inform employees, Subcontractors and all other persons engaged in the project that lead containing paints (LCP) is present in the existing building(s) and at the job site. Follow the requirements of Title 12 (Department of Labor and Industrial Relations), Subtitle 8 (Division of Occupational Safety and Health), Chapter 148 (Lead Exposure in Construction), Hawaii Administrative Rules.

B. Review the attached lead testing data which identify locations LCP was found. Lead testing was for design purposes only, and the results do not satisfy any of the requirements of Chapter 12-148.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 SURVEY attached:

A. Assessment of Building Materials Prior to Renovation Process at Department of Defense Diamond Head Crater – Mule Tunnel #3 and Building #306, prepared by Ohana Environmental Construction, Inc. dated October 23, 2013 (42-pages).

B. Letter Report (Amendment #1), Additional Sample Collection for Asbestos, Lead, Benzene, Building 306, Building 306A, Mule Tunnel #3, Soil Pile, prepared by Ohana Environmental Construction, Inc. dated November 15, 2013 (24-pages).

END OF SECTION

'Ohana Environmental Construction, Inc.

ENVIRONMENTAL HEALTH & SAFETY
Commercial · Industrial · Residential

ASSESSMENT OF BUILDING MATERIALS PRIOR TO RENOVATIONS PROCESS AT DEPARTMENT OF DEFENSE DIAMOND HEAD CRATER - MULE TUNNEL # 3 AND BUILDING # 306

PREPARED FOR:

DEPARTMENT OF DEFENSE – HAWAII ARMY NATIONAL GUARD
FACILITY MANAGEMENT OFFICE
3949 DIAMOND HEAD ROAD
BUILDING 306A, ROOM 238
HONOLULU, HAWAII 96816-4495

PREPARED BY:

OHANA ENVIRONMENTAL CONSTRUCTION, INC.
2968 UALENA STREET
HONOLULU, HAWAII 96819

OCTOBER 23, 2013

EXECUTIVE SUMMARY

Mr. Travis Ichisita of Department of Defense – Hawaii Army National Guard, retained Ohana Environmental Construction, Inc. to conduct a limited assessment of suspect asbestos-containing materials and lead-containing paint on the property, located at Department of Defense – Diamond Head Crater - Mule Tunnel # 3 - Entry -exterior only, and Building 306 - Room #116, Room # 202, and Room # 215A, located at 3949 Diamond Head Road, Honolulu, Oahu, Hawaii.

The purpose of this project was to conduct a limited asbestos, and lead assessment prior to renovation.

This project included a walk-through survey of the subject locations and collection and analysis of bulk samples of suspect asbestos-containing materials, and lead-containing paint.

INTRODUCTION

Mr. Travis Ichisita of Department of Defense – Hawaii Army National Guard; retained Ohana Environmental Construction, Inc. to conduct a limited assessment of suspect asbestos-containing materials and lead-containing paint on the property located at the Department of Defense – Diamond Head Crater Mule Tunnel # 3 and Building 306 - Room # 116, Room # 202, and Room # 215A.

On October 14, 2013, Mr. Earl Shook Jr. and Mr. Danny L. Guieb conducted a walk-through assessment of the property. During the walk-through assessment Mr. Shook performed a visual inspection of the property.

When materials suspected of containing lead or asbestos were found, Mr. Guieb collected a representative bulk samples from each homogeneous material, where it was accessible to collect said samples as recommended by the United States Environmental Protection Agency (USEPA).

Bulk samples were sent to Galson Laboratories Pacific Rim, located at 3615 Harding Avenue, Suite # 308, Honolulu, Hawaii 96816. The asbestos samples were analyzed for asbestos content using the Environmental Protection Agency (EPA) recommended standard method of Polarized Light Microscopy (PLM) for determining asbestos fibers in building materials. EPA Method 7282 for Lead by FAAS, total in paint.

DESCRIPTION OF ASBESTOS ASSESSMENT:

Certain materials are commonly known to contain asbestos, Ohana Environmental Construction, Inc. searches for these materials in each building we inspect:

* ***Thermal Insulation***

- Pipe Insulation
- Fittings
- Elbows
- Joints
- Duct Insulation
- Heat Shields

* ***Surfacing Materials***

- Fireproofing
- Acoustical plaster
- Decorative plaster
- Spray-applied insulation

* ***Miscellaneous Materials***

- Resilient floor tiles
- Resilient sheet flooring
- Ceiling tiles / panels
- Cementitious materials (transite)
- Wall joint compound
- Sink undercoating
- Vibration dampening materials in ducts

Although we search for this material, the list does not imply that the building we inspected during this assessment contained each of these materials.

RESULTS OF ASBESTOS ASSESSMENT:

Our assessment resulted in the collection of suspect (ACM) **asbestos containing material** for testing. Ohana Environmental identified and sampled the following material:

Mule Tunnel # 3:

Location:

Entry

- Hard Plaster

Building 306:

Location:

Room # 116
- 12" X 12" Floor tiles / Mastic
- Cove base / Mastic

Room # 116
-Drywall/Joint Compound

Room # 202
- 12" x 12' Floor Tiles / Mastic
- Cove base / Mastic

Room # 215A
-12" x 12" Floor Tiles / Mastic

Lead-Based Paint and Lead-Containing Paint

OECI collected 1 paint sample from Mule Tunnel # 3 Entry door in the subject properties.

** Sampled paint were identified as lead-based paint (LBP).

The paint samples were prepared in accordance with EPA 600/R-93/200 Method and then analyzed for total lead by (EPA SW846 7420 Method). The results are expressed in milligrams per kilograms (mg/kg) or parts per million (PPM). Conversion from either mg/kg or PPM to percent by weight is accomplished by multiplication of the number by a factor of 10,000. LBP is defined by HUD, Section 24 Code of Federal Regulations (CFR) Part 38 and Section 40 CFR Part 745, as paint consisting of 0.5% or greater of lead by weight. However, for occupational safety and health, paint is considered to contain lead if results show any concentration of lead above the laboratory detection limit.

Conclusion:

The asbestos-containing materials, lead-containing paint materials are in good to fair condition. If the building is scheduled for renovation or demolition, and the renovation or demolition will disturbed the material in such a way as to create asbestos-containing materials to be airborne, lead dust, then the asbestos, lead based-containing materials should be removed by a qualified abatement contractor under controlled conditions and under supervision of an independent industrial hygiene professional.

LIMITATIONS:

The information and opinions rendered in this report are exclusively for the use of Department of Defense – Hawaii Army National Guard. Ohana Environmental Construction, Inc. will not distribute this report without your written consent as may be required by law or court order. The information and opinions expressed in this report are given in response to our limited assignment and should be evaluated and implemented only in light of the assignment. We accept the responsibility for the competent performance of our duties in executing the assignment and preparing this report in accordance within the normal standards of our profession but disclaim any responsibility for consequential damages.

This report prepared by:

Danny L. Guieb
AHERA Building Inspector, Certificate No. ABIRH 042813-03
Expiration Date: 04-27-2014
Lead Inspector, Certificate No. PB0129
Expiration Date: 04-06-2016

Reviewed by:
Earl E. Shook Jr.
President

List of space surveyed for Asbestos

Location: Department of Defense –Diamond Head Crater-Mule # 3 Tunnel
Building # 306

Address: Department of Defense - Hawaii Army National Guard
3949 Diamond Head Road
Honolulu, Oahu, Hawaii

Inspection Date: 10-15-2013

Building Name:	Space	ACBM	Comments
DOD – Mule Tunnel #3	Exterior - Entry	No	Good to Fair condition
Building # 306	Room # 116	Yes	Good Condition
	Room # 202	Yes	Good Condition
	Room # 215 A	Yes	Good Condition

ACBM: Asbestos Containing Building Material

LEAD SAMPLE RESULTS

Building Name	***Component***	***Location***	***Substrate***	***Condition***	***Lead Content***
Mule Tunnel # 3	Entry Door	Exterior	Metal	Fair	**48,000 mg/kg**

< = Less than the Method of Reporting Limit (MRL)

Certificate Of Training

In recognition of attendance and passing of exam

DANNY GUIEB

3194

The above person has completed the requisite training course for asbestos accreditation under TSCA Title II, Asbestos Model Accreditation Plan and the provider is accredited to provide training within the

State of Hawaii. #T-0108

And/or as listed below

ASBESTOS BUILDING INSPECTOR REFRESHER

Course Dates 28th. April, 2013= Expires 27th. of April, 2014

Exam & Completion Date April 28,2013

NEIC of HAWAII

Home Office: 16049 N. 164th. Lane Surprise , Arizona 85388— Phone 623-810-8651

Certificate ABIRH042813-03 .

Training Director= Rodger D. Sandlin

State of Hawai'i
Asbestos Certification

Training Course Exp. Dates

W	n/a	MP	04/27/14
CS	04/28/14	PD	05/03/14
INS	04/27/14	PM	n/a

Guieb
Danny L.
Ohana Environmental Construction, Inc
HIASB-0033
State Exp. Date 07/24/2014

W= Worker
CS= Cont./Sup.
INS= Inspector
PD Project Designer
MP= Mgmt Planner
PM- Project Man tor

STATE OF HAWAI'I

DEPARTMENT OF HEALTH

Lead-Based Paint Activities Certification

THIS IS TO CERTIFY THAT

Danny L. Guieb

has fulfilled the requirements of Chapter 11-41 Hawaii Administrative Rules and the Toxic Substance Control Act (TSCA) Section 402(a)(2), and has received certification to conduct lead-based paint activities in Hawaii pursuant to §11-41-4, HAR in the following discipline:

Inspector

This certification is valid from the date of issuance and expires on APRIL 6, 2016.

Date of Issue: MARCH 14, 2013
Certification #: PB-0129

NON-TRANSFERABLE

FOR DIRECTOR OF HEALTH

REVOCABLE FOR CAUSE

GLOBETECK GROUP, INC

534 Ohohia Street, Suite #B Honolulu, Hawaii 96819 - PHONE (808) 833-5787 - FAX (808) 833-5987
SITE http://www.globeteckgroup.com

is pleased to announce that

Danny L. Guieb

91-200 Hoowehi Place Ewa Beach, HI 96706

has attended and successfully completed EPA Accredited Lead Inspector Refresher Training Course in accordance with 40 CFR 745.

EPA Accredited Lead Inspector Refresher Training Certificate

Certificate Number: GGI-LIR0032412-01G
Training Date : March 4, 2013
Examination Date: March 4, 2013

CERTIFIED HAZARDOUS MATERIALS MANAGER
MOHAMMAD ROUF
91
EXPIRES JUL 31, 2013

MOHAMMAD ROUF, MPH, CHMM
Training Director
Honolulu, Hawaii

List of space surveyed for Asbestos

Location: Department of Defense - Diamond Head Crater-Mule # 3 Tunnel
Building # 306

Address: Department of Defense - Hawaii Army National Guard
3949 Diamond Head Road
Honolulu, Oahu, Hawaii

Inspection Date: 10-15-2013

Building Name:	Space	ACBM	Comments
DOD – Mule Tunnel #3	Exterior - Entry	No	Good to Fair condition
Building # 306	Room # 116	Yes	Good Condition
	Room # 202	Yes	Good Condition
	Room # 215 A	Yes	Good Condition

ACBM: Asbestos Containing Building Material

LEAD SAMPLE RESULTS

Building Name	***Component***	***Location***	***Substrate***	***Condition***	***Lead Content***
Mule Tunnel # 3	Entry Door	Exterior	Metal	Fair	**48,000 mg/kg**

< = Less than the Method of Reporting Limit (MRL)

LABORATORY ANALYSIS REPORT

Galson Laboratories
Pacific Rim
ANALYTICAL REPORT

Friday, October 18, 2013

3615 Harding Avenue, Ste. 308, Honolulu, Hawaii 96816
VOICE: (808) 432-5227
www.galsonlabs.com/pacific-rim/

Mr. Earl Shook
Ohana Environmental Construction, Inc.
2968 Ualena Street

Honolulu HI 96813

Phone Number: (808) 836-6955
Facsimile: (808) 836-3833
Email: earl-oeci@hawaii.rr.com

Galson Job No: 20133942
Your Project: DOD-Hawaii Army National Guard - Diamond Head Center - Mule Tunnel M3

Bulk Asbestos Determination

Sample No.	Your Sample Description	Asbestos Present?	Type	%v/v	Other Fibrous	% v/v	Matrix	% v/v	Date Received	Date Analyzed
20131016059	#1 Hard Plaster - Exterior, 10-15-13		NONE DETECTED		Cellulose (undulose extinction)	< 2	Calcite + quartz + binder + aggregate + other	> 98	10/16/2013	10/18/2013
Layer	Whole Sample Basis									
Comments	Grey/white plaster material with aggregate, brown powdery material and brown paint-like material.									
20131016060	#2 Hard Plaster - Exterior, 10-15-13		NONE DETECTED		Cellulose (undulose extinction)	< 3	Calcite + quartz + binder + aggregate + other	> 97	10/16/2013	10/18/2013
Layer	Whole Sample Basis									
Comments	Grey plaster material with aggregate, brown/black powdery material and brown paint-like material.									
20131016061	#3 Hard Plaster - Exterior, 10-15-13		NONE DETECTED		Cellulose (undulose extinction)	< 3	Calcite + quartz + binder + aggregate + other	> 97	10/16/2013	10/18/2013
Layer	Whole Sample Basis									
Comments	Grey plaster material with aggregate, brown/black powdery material and brown paint-like material									

Galson Laboratories Pacific Rim is a NIST NVLAP ACCREDITED LABORATORY (NVLAP Lab Code 200655-0). Galson Laboratories Pacific Rim is an ANALYTICAL FACILITY ACCREDITED in accordance with the recognized ISO/ IEC 17025:2005.

Mr. Earl Shook
Ohana Environmental Construction, Inc.
2968 Uaiena Street

Honolulu HI 96813

Phone Number: (808) 836-6955
Facsimile: (808) 836-3833
Email: earl-oeci@hawaii.rr.com

Galson Job No: 20133942
Your Project: DOD-Hawaii Army National Guard - Diamond Head Center - Mule Tunnel M3

General Comments
The bulk samples analyses subject of this analytical report were conducted in general accordance with the procedures outlined in the United States Environmental Protection Agency's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020, Dec. 1982) and/ or "Method for Determination of Asbestos in bulk Building Materials" (EPA-600/R-93-116, July 1993). The analysis of each bulk sample relates only to the material examined, and may or may not represent the overall composition of its original source. Floor tile and other resinously bound materials, when analyzed by the EPA methods referenced above may yield false negative results because of limitations in separating closely bound fibers and in detecting fibers of small length and diameter. Alternative methods of identification, including Transmission Electron Microscopy (TEM) may or may not be applicable and suffer from serious analytical limitations of their own including a lack of standardized or accredited methodology. We utilize calibrated visual area estimation on a routine basis and do not conduct point counting unless specifically requested to do so. Estimated error for the visual determinations presented are 50% relative (1 to 5%); 25% relative (6 to 25%) and 20% (>26% v/v). Whole sample percentage results are estimated on the basis of the relative "volume" of each readily discernable layer. We will not separate layers which in our opinion are not readily discernable. This report is not to be duplicated except in full without the expressed written permission of Galson. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Governement. Unless otherwise indicated, the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions
None Detected = asbestos was not observed in the sample.
Tr = Trace (<1%), i.e., asbestos WAS detected BELOW our quantifiable limits of 1.0%. Gravimetric reduction and point counting, where applicable, are recommended to improve accuracy.
> This testing result is greater than the numerical value listed.
< This testing result is less than the numerical value listed.

Ms. Jennifer Hsu Liao
Laboratory Manager

Galson Laboratories
Pacific Rim
ANALYTICAL REPORT

Friday, October 18, 2013

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Email: earl-oecl@hawaii.rr.com

Honolulu HI 96813

Galson Job No: 20133942

Your Project: DOD-Hawaii Army National Guard - Diamond Head Center - Mule Tunnel M3

Lead, total (paint chips)

NIOSH **Method:** 7082 LEAD by FAAS

Sample No.	Your Sample Description	Sample Type	Results	Units	Date Submitted	Date Analyzed
20131016062	#4 Paint - Door, 10-15-13	UNK	48000	mg/kg	10/16/2013	10/18/2013
Comments	MRL = 40 mg/kg					

All Quality Control data are acceptable unless otherwise noted.

General Comments
All analysts participate in interlaboratory quality control testing to continuously document proficiency. The samples analyses subject of this analytical report were conducted in general accordance with the procedures associated with the" analytical method" referenced above. Modifications to this methodology may have been made based upon the analyst's professional judgment and / or sample matrix effects encountered. The analysis of sample relates only to the sample analyzed, and may or may not be representative of the original source of the material submitted for our analysis. This report is not to be duplicated except in full without the expressed written permission of Galson. This report should not be construed as an endorsement for a product or a service by the AIHA or any affiliated organizations. Sample and associated sampling / collection data is reported as provided by client. Concentration and TWA values have been calculated based on information supplied by the client that the laboratory cannot verify. Results have not been corrected for blank determinations unless noted in remarks. Unless otherwise indicated the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions
UNK = sample submitted for this evaluation / analysis.
DUP = duplicate sample analysis of the UNK sample.
REP = replicate sample analysis which is a second preparation of the UNK sample analysis.
> This testing result is greater than the numerical value listed.
< This testing result is less than the numerical value listed.
ND = NOT DETECTED which means the analyte, if present below our stated detection limit/ level.
RPD = Relative Percent Deviation [unk-dup]/ave(unk,dup)*100.
# = Analytical methods marked with an "#" are not within our AIHA Scope of Accreditation.
MRL = Method Reporting Limit.

Ms. Jennifer Hsu Liao
Laboratory Manager

Galson Laboratories Pacific Rim, is an AIHA CAPT, IHLAP, ELLAP and EMLAP ACCREDITED LABORATORY (Accreditation No. 101812) in the scope of work listed on the AIHA website (www.aiha.org). Galson Laboratories Pacific Rim is an ANALYTICAL FACILITY ACCREDITED in accordance with the recognized ISO/ IEC 17025:2005.

GALSON LABORATORIES

3815 Harding Avenue
Suite 308
Honolulu, HI 96816
PH: 808-735-0422
FAX: 808-735-0047
www.galsonlabs.com

☐ New Client?

Report To*: Earl Shook Jr.
Company: Ohana Environmental Construction, Inc.
Address*: 2968 Ualena Street
Honolulu, HI 96819
Phone / Cell No.*: 808-836-6955
Send Report To: earl-oeci@hawaii.rr.com /cc:danny-oeci@hawaii.rr.com
Email Add. / Fax No. / Verbal
LAB USE ONLY Client Account No.:

Invoice To*: Nani Alexander
Company: Same
Address*:
Phone / Cell No.*:
Purchase Order No.:
Email Invoice To:

Need Results By*:
- ☐ 5 Working Days
- ☐ 4 Working Days
- ☐ 72 hour
- ☐ 48 hour
- ☐ 24 Hour
- ☐ Rush (6 hours)
- ☐ Immediate (4 hrs or less)

Site/Project Name: DOD-Hawaii Army National Guard - Diamond Head Crater - Mule Tunnel M3
Client Project No.:
Sampled By:
Comments / Special Instructions:

LAB USE ONLY
Lab Report No.: 20133942

Sample Identification*	Date Sampled* (mm/dd/yy)	Sample Description	Collection Medium	Sample Volume*	Analysis Requested*	Method Reference	Lab ID
#1	10-15-13	Hard Plaster - Exterior			PLM		20131016059
#2	"	"			"		20131016060
#3	"	"			"		20131016061
#4	"	Paint - Door			Lead		20131016062

Relinquished By (Print and Sign)	Date/Time	Received By (Print and Sign)	Date/Time
Danny L. Gaskins [signature]	10-25-13 1:38 pm	Sophia DeNola [signature]	10-16-13A11:36 RCVD

Please document sample description in space provided (ie: paint chips, concrete, specific sample collection location, etc.)
If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the Comment section.
For a 24 hour TAT request, results for samples relinquished prior to 9am will be available by 5pm on relinquish date. For samples submitted after 9am, TAT begins at time of sample receipt.
All samples submitted are subject to Galson Laboratories Pacific Rim terms and conditions.
*Required fields, failure to complete these fields may result in a delay in your samples being processed.

CUH D/B

Galson Laboratories
Pacific Rim
ANALYTICAL REPORT

Friday, October 18, 2013

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Honolulu HI 96813

Phone Number: (808) 836-6955
Facsimile: (808) 836-3833
Email: earl-oeci@hawaii.rr.com

Galson Job No: 20133941
Your Project: DOD-Hawaii Army National Guard - Building 306 - 3949 Diamond Head Road

Bulk Asbestos Determination

Sample No.	Your Sample Description	Asbestos Present?	Type	%v/v	Other Fibrous	% v/v	Matrix	% v/v	Date Received	Date Analyzed
20131016044	#1 12"x 12 Floor tiles/mastic-Rm. # 116, 10-15-13		NONE DETECTED		None detected	< 1	Calcite + binder + quartz + vinyl	> 99	10/16/2013	10/18/2013
Layer	Floor tile									
Comments	Gray floor tile with brown mastic. Gray floor tile.									
20131016044	#1 12"x 12 Floor tiles/mastic-Rm. # 116, 10-15-13		NONE DETECTED		Cellulose (undulose extinction)	< 10	Calcite + binder + polymeric	> 90	10/16/2013	10/18/2013
Layer	Mastic									
Comments	Gray floor tile with brown mastic. Brown mastic.									
20131016045	#2 12"x 12 Floor tiles/mastic-Rm. # 116, 10-15-13		NONE DETECTED		None detected	< 1	Calcite + binder + quartz + vinyl	> 99	10/16/2013	10/18/2013
Layer	Floor tile									
Comments	Gray floor tile with brown mastic. Gray floor tile.									
20131016045	#2 12"x 12 Floor tiles/mastic-Rm. # 116, 10-15-13		NONE DETECTED		Cellulose (undulose extinction)	< 10	Calcite + binder + polymeric	> 90	10/16/2013	10/18/2013
Layer	Mastic									
Comments	Gray floor tile with brown mastic. Brown mastic.									

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Galson Job No: 20133941
Your Project: DOD-Hawaii Army National Guard - Building 306 - 3949 Diamond Head Road

Bulk Asbestos Determination

Sample No.	Your Sample Description	Asbestos Present?	Type	%v/v	Other Fibrous	% v/v	Matrix	% v/v	Date Received	Date Analyzed
20131016046	#3 12"x 12 Floor tiles/mastic- Rm. # 116, 10-15-13		NONE DETECTED		None detected	< 1	Calcite + binder + quartz + vinyl	> 99	10/16/2013	10/18/2013
Layer	Floor tile									
Comments	Gray floor tile with brown mastic. Gray floor tile.									
20131016046	#3 12"x 12 Floor tiles/mastic- Rm. # 116, 10-15-13		NONE DETECTED		Cellulose (undulose extinction)	< 10	Calcite + binder + polymeric	> 90	10/16/2013	10/18/2013
Layer	Mastic									
Comments	Gray floor tile with brown mastic. Brown mastic.									
20131016047	#4 Cove base/mastic- Rm. # 116, 10-15-13		NONE DETECTED		None detected	< 1	Calcite + binder + quartz + vinyl + paint	> 99	10/16/2013	10/18/2013
Layer	Covebase									
Comments	Dark green covebase with white paint and brown mastic. Dark green covebase with white paint.									
20131016047	#4 Cove base/mastic- Rm. # 116, 10-15-13	Yes	Chrysotile	2	Cellulose (undulose extinction)	< 2	Calcite + binder + polymeric	> 96	10/16/2013	10/18/2013
Layer	Mastic									
Comments	Dark green covebase with white paint and brown mastic. Brown mastic.									
20131016048	#5 Cove base/mastic- Rm. # 116, 10-15-13		NONE DETECTED		None detected	< 1	Calcite + binder + quartz + vinyl + paint	> 99	10/16/2013	10/18/2013
Layer	Covebase									
Comments	Dark green covebase with white paint and brown / tan mastic and small amount of white spackle. Dark green covebase with white paint.									

Mr. Earl Shook
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2968 Ualena Street

Honolulu HI 96813

Phone Number: (808) 836-6955
Facsimile: (808) 836-3833
Email: earl-oecl@hawaii.rr.com

Galson Job No: 20133941
Your Project: DOD-Hawaii Army National Guard - Building 306 - 3949 Diamond Head Road

Bulk Asbestos Determination

Sample No.	Your Sample Description	Asbestos Present?	Type	%v/v	Other Fibrous	% v/v	Matrix	% v/v	Date Received	Date Analyzed
20131016048	#5 Cove base/mastic- Rm. # 116, 10-15-13	Yes	Chrysotile	2	Cellulose (undulose extinction)	< 2	Calcite + binder + polymeric + elastomeric	> 96	10/16/2013	10/18/2013
Layer	Mastic/Spackle									
Comments	Dark green covebase with white paint and brown / tan mastic and small amount of white spackle. Brown / tan mastic / white spackle.									
20131016049	#6 Cove base/mastic- Rm. # 116, 10-15-13		NONE DETECTED		None detected	< 1	Calcite + binder + quartz + vinyl	> 99	10/16/2013	10/18/2013
Layer	Covebase									
Comments	Dark green covebase with tan mastic. Dark green covebase.									
20131016049	#6 Cove base/mastic- Rm. # 116, 10-15-13		NONE DETECTED		None detected	< 1	Elastomeric	> 99	10/16/2013	10/18/2013
Layer	Mastic									
Comments	Dark green covebase with tan mastic. Tan mastic.									
20131016050	#7 Drywall/Joint Compound- Rm. # 116, 10-15-13		NONE DETECTED		Cellulose (undulose extinction) + fibrous glass (amorphous)	< 20	Calcite + binder + quartz + gypsum	> 80	10/16/2013	10/18/2013
Layer	Gypsum / paper									
Comments	White joint compound with off-white paint and white gypsum with brown paper. White gypsum with brown paper.									
20131016050	#7 Drywall/Joint Compound- Rm. # 116, 10-15-13		NONE DETECTED		Cellulose (undulose extinction)	< 4	Calcite + binder + quartz + paint	> 96	10/16/2013	10/18/2013
Layer	Joint compound / paint									
Comments	White joint compound with off-white paint and white gypsum with brown paper. White joint compound with off-white paint.									

Mr. Earl Shook
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2968 Ualena Street

Honolulu HI 96813

Phone Number: (808) 836-6955
Facsimile: (808) 836-3833
Email: earl-oeci@hawaii.rr.com

Galson Job No: 20133941
Your Project: DOD-Hawaii Army National Guard - Building 306 - 3949 Diamond Head Road

Bulk Asbestos Determination

Sample No.	Your Sample Description	Asbestos Present?	Type	%v/v	Other Fibrous	% v/v	Matrix	% v/v	Date Received	Date Analyzed
20131016051	#8 Drywall/Joint Compound-Rm. # 116, 10-15-13		NONE DETECTED		Cellulose (undulose extinction) + fibrous glass (amorphous)	< 20	Calcite + binder + quartz + gypsum	> 80	10/16/2013	10/18/2013
Layer	Gypsum / paper									
Comments	White joint compound with off-white paint and white gypsum with brown paper.									
	White gypsum with brown paper.									
20131016051	#8 Drywall/Joint Compound-Rm. # 116, 10-15-13		NONE DETECTED		Cellulose (undulose extinction)	< 4	Calcite + binder + quartz + paint	> 96	10/16/2013	10/18/2013
Layer	Joint compound / paint									
Comments	White joint compound with off-white paint and white gypsum with brown paper.									
	White joint compound with off-white paint.									
20131016052	#9 12" x 12" Floor tiles/mastic-Rm. # 202 -Storage, 10-15-13		NONE DETECTED		Cellulose (undulose extinction)	< 1	Calcite + binder + quartz + vinyl	> 99	10/16/2013	10/18/2013
Layer	Floor tile									
Comments	Beige / gray floor tile with black / yellow mastic.									
	Beige / gray floor tile.									
20131016052	#9 12" x 12" Floor tiles/mastic-Rm. # 202 -Storage, 10-15-13	Yes	Chrysotile	3	Cellulose (undulose extinction)	< 3	Calcite + binder + polymeric + asphaltic tar + inorganic filler	> 94	10/16/2013	10/18/2013
Layer	Mastic									
Comments	Beige / gray floor tile with black / yellow mastic.									
	Black / yellow mastic.									
20131016053	#10 12" x 12" Floor tiles/mastic-Rm. # 202 -Storage, 10-15-13		NONE DETECTED		Cellulose (undulose extinction)	< 1	Calcite + binder + quartz + vinyl	> 99	10/16/2013	10/18/2013
Layer	Floor tile									
Comments	Beige / gray floor tile with black / yellow mastic.									
	Beige / gray floor tile.									

Mr. Earl Shook
Ohana Environmental Construction, Inc.
2968 Ualena Street

Honolulu HI 96813

Phone Number: (808) 836-6955
Facsimile: (808) 836-3833
Email: earl-oeci@hawaii.rr.com

Galson Job No: 20133941
Your Project: DOD-Hawaii Army National Guard - Building 306 - 3949 Diamond Head Road

Bulk Asbestos Determination

Sample No.	Your Sample Description	Asbestos Present?	Type	%v/v	Other Fibrous	% v/v	Matrix	% v/v	Date Received	Date Analyzed
20131016053	#10 12" x 12" Floor tiles/mastic- Rm. # 202 -Storage, 10-15-13	Yes	Chrysotile	2	Cellulose (undulose extinction)	< 3	Calcite + binder + polymeric + asphaltic tar + inorganic filler	> 95	10/16/2013	10/18/2013
Layer	Mastic									
Comments	Beige / gray floor tile with black / yellow mastic. Black / yellow mastic.									
20131016054	#11 12" x 12" Floor tiles/mastic- Rm. # 202 -Storage, 10-15-13		NONE DETECTED		Cellulose (undulose extinction)	< 1	Calcite + binder + quartz + vinyl	> 99	10/16/2013	10/18/2013
Layer	Floor tile									
Comments	Beige / gray floor tile with black / yellow mastic. Beige / gray floor tile.									
20131016054	#11 12" x 12" Floor tiles/mastic- Rm. # 202 -Storage, 10-15-13	Yes	Chrysotile	2	Cellulose (undulose extinction)	< 3	Calcite + binder + polymeric + asphaltic tar + inorganic filler	> 95	10/16/2013	10/18/2013
Layer	Mastic									
Comments	Beige / gray floor tile with black / yellow mastic. Black / yellow mastic.									
20131016055	#12 Cove base/mastic- Rm. # 202-Storage, 10-15-13		NONE DETECTED		None detected	< 1	Calcite + binder + quartz + vinyl	> 99	10/16/2013	10/18/2013
Layer	Whole Sample Basis									
Comments	Brown covebase.									
20131016056	#13 Cove base/mastic- Rm. # 202-Storage, 10-15-13		NONE DETECTED		None detected	< 1	Calcite + binder + quartz + vinyl	> 99	10/16/2013	10/18/2013
Layer	Covebase									
Comments	Brown covebase with yellow mastic. Brown covebase.									

Galson Laboratories Pacific Rim is a NIST NVLAP ACCREDITED LABORATORY (NVLAP Lab Code 200655-0). Galson Laboratories Pacific Rim is an ANALYTICAL FACILITY ACCREDITED in accordance with the recognized ISO/ IEC 17025:2005.

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Phone Number: (808) 836-6955
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Galson Job No: 20133941
Your Project: DOD-Hawaii Army National Guard - Building 306 - 3949 Diamond Head Road

Bulk Asbestos Determination

Sample No.	Your Sample Description	Asbestos Present?	Type	%v/v	Other Fibrous	% v/v	Matrix	% v/v	Date Received	Date Analyzed
20131016056	#13 Cove base/mastic- Rm. # 202-Storage, 10-15-13		NONE DETECTED		None detected	< 1	Polymeric	> 99	10/16/2013	10/18/2013
Layer	Mastic									
Comments	Brown covebase with yellow mastic. Yellow mastic.									
20131016057	#14 Cove base/mastic- Rm. # 202-Storage, 10-15-13		NONE DETECTED		None detected	< 1	Calcite + binder + quartz + vinyl	> 99	10/16/2013	10/18/2013
Layer	Whole Sample Basis									
Comments	Brown covebase.									
20131016058	#15 12"x 12 Floor tiles/mastic- Rm. # 215 A, 10-15-13		NONE DETECTED		Cellulose (undulose extinction)	< 1	Calcite + binder + quartz + vinyl	> 99	10/16/2013	10/18/2013
Layer	Floor tile									
Comments	Brown floor tile with black mastic. Brown floor tile.									
20131016058	#15 12"x 12 Floor tiles/mastic- Rm. # 215 A, 10-15-13	Yes	Chrysotile	5	Cellulose (undulose extinction)	< 5	Calcite + binder + asphaltic tar + inorganic filler	> 90	10/16/2013	10/18/2013
Layer	Mastic									
Comments	Brown floor tile with black mastic. Black mastic.									

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Email: earl-oecl@hawaii.rr.com

Galson Job No: 20133941

Your Project: DOD-Hawaii Army National Guard - Building 306 - 3949 Diamond Head Road

General Comments

The bulk samples analyses subject of this analytical report were conducted in general accordance with the procedures outlined in the United States Environmental Protection Agency's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020, Dec. 1982) and/ or "Method for Determination of Asbestos in bulk Building Materials" (EPA-600/R-93-116, July 1993). The analysis of each bulk sample relates only to the material examined, and may or may not represent the overall composition of its original source. Floor tile and other resinously bound materials, when analyzed by the EPA methods referenced above may yield false negative results because of limitations in separating closely bound fibers and in detecting fibers of small length and diameter. Alternative methods of identification, including Transmission Electron Microscopy (TEM) may or may not be applicable and suffer from serious analytical limitations of their own including a lack of standardized or accredited methodology. We utilize calibrated visual area estimation on a routine basis and do not conduct point counting unless specifically requested to do so. Estimated error for the visual determinations presented are 50% relative (1 to 5%); 25% relative (6 to 25%) and 20% (>26% v/v). Whole sample percentage results are estimated on the basis of the relative "volume" of each readily discernable layer. We will not separate layers which in our opinion are not readily discernable. This report is not to be duplicated except in full without the expressed written permission of Galson. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Governement. Unless otherwise indicated, the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions

None Detected = asbestos was not observed in the sample.
Tr = Trace (<1%), i.e., asbestos WAS detected BELOW our quantifiable limits of 1.0%. Gravimetric reduction and point counting, where applicable, are recommended to improve accuracy.
> This testing result is greater than the numerical value listed.
< This testing result is less than the numerical value listed.

Ms. Jennifer Hsu Liao
Laboratory Manager

GALSON LABORATORIES

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Suite 308
Honolulu, HI 96816
PH: 808-735-0422
FAX: 808-735-0047
www.galsonlabs.com

☐ New Client?

Report To*: Earl Shook Jr.
Company: Ohana Environmental Construction, Inc.
Address*: 2968 Ualena Street
Honolulu, HI 96819
Phone / Cell No.*: 808-836-6955
Send Report To: earl-oeci@hawaii.rr.com /cc:danny-oeci@hawaii.rr.com
Email Add. / Fax No. / Verbal:
LAB USE ONLY Client Account No:

Invoice To*: Nani Alexander
Company: Same
Address*:
Phone / Cell No.*:
Purchase Order No.:
Email Invoice To:

Need Results By*:
- ☐ 5 Working Days
- ☐ 4 Working Days
- ☐ 72 hour
- ☐ 48 hour
- ☐ 24 Hour
- ☐ Rush (6 hours)
- ☐ Immediate (4 hrs or less

Site/Project Name: DOD-Hawaii Army National Guard - Building 306- 3949 Diamond Head Road
Client Project No.:
Sampled By:
Comments / Special Instructions:

LAB USE ONLY
Lab Report No.: 20133941

Sample Identification*	Date Sampled* (mm/dd/yy)	Sample Description	Collection Medium	Sample Volume*	Analysis Requested*	Method Reference	Lab ID
#1	10-15-13	12"x 12 Floor tiles/mastic- Rm. # 116			PLM		20131016044
#2	"	"			"		20131016045
#3	"	"			"		20131016046
#4	"	Cove base/mastic- Rm. # 116			"		20131016047
#5	"	"			"		20131016048
#6	"	"			"		20131016049
#7	"	Drywall/Joint Compound- Rm. # 116			"		20131016050
#8	"	"			"		20131016051
#9	"	12" x 12" Floor tiles/mastic- Rm. # 202 -Storage			"		20131016052
#10	"	"			"		20131016053
#11	"	"			"		20131016054

Relinquished By (Print and Sign)	Date/Time	Received By (Print and Sign)	Date/Time
Danny L. Gusch danny gusch	10/15/13 1:35 pm	Sophia DeNola SQ	10-16-13A11:36 RCVD

Please document sample description in space provided (ie: paint chips, concrete, specific sample collection location, etc.)
If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the Comment section.
For a 24 hour TAT request, results for samples relinquished prior to 9am will be available by 5pm on relinquish date. For samples submitted after 9am, TAT begins at time of sample receipt.
All samples submitted are subject to Galson Laboratories Pacific Rim terms and conditions.
*Required fields, failure to complete these fields may result in a delay in your samples being processed.

CCH D/B

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Honolulu, HI 96816
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FAX: 808-735-0047
www.galsonlabs.com

☐ New Client?

Report To*: Earl Shook Jr.
Company: Ohana Environmental Construction, Inc.
Address*: 2968 Ualena Street
Honolulu, Hi 96819
Phone / Cell No.*: 808-838-6955
Send Report To: earl-oeci@hawaii.rr.com /cc:danny-oeci@hawaii.rr.com
Email Add. / Fax No. / Verbal:
LAB USE ONLY Client Account No.:

Invoice To*: Nani Alexander
Company: Same
Address*:
Phone / Cell No.*:
Purchase Order No.:
Email Invoice To:

Need Results By*:
- ☐ 5 Working Days
- ☐ 4 Working Days
- ☐ 72 hour
- ☐ 48 hour
- ☐ 24 Hour
- ☐ Rush (6 hours)
- ☐ Immediate (4 hrs or less

Site/Project Name: DOD-Hawaii Army National Guard - Building 308- 3949 Diamond Head Road
Client Project No.:
Sampled By:
Comments / Special Instructions:

LAB USE ONLY
Lab Report No.: 20133941

Sample Identification*	Date Sampled* (mm/dd/yy)	Sample Description	Collection Medium	Sample Volume*	Analysis Requested*	Method Reference	Lab ID
#12	10-15-13	Cove base/mastic- Rm. # 202-Storage			PLM		20131016055
#13	"	"			"		20131016056
#14	"	"			"		20131016057
#15	"	12' x12' Floor tiles/mastic - Rm. # 215 A -Storage			"		20131016058

Relinquished By (Print and Sign)	Date/Time	Received By (Print and Sign)	Date/Time
Danny L. Guest danny L. guest	10/15/13 1:35pm	Sophia DeNola SD	10-16-13A11:36 RCVD

Please document sample description in space provided (ie: paint chips, concrete, specific sample collection location, etc.)
If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the Comment section.
For a 24 hour TAT request, results for samples relinquished prior to 8am will be available by 5pm on relinquish date. For samples submitted after 8am, TAT begins at time of sample receipt.
All samples submitted are subject to Galson Laboratories Pacific Rim terms and conditions.
*Required fields, failure to complete these fields may result in a delay in your samples being processed.

CCH D/B

LABORATORY CERTIFICATES

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200655-0

Galson Laboratories Pacific Rim

Honolulu, HI

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2013-04-01 through 2014-03-31

Effective dates

For the National Institute of Standards and Technology

AIHA

Laboratory Accreditation Programs, LLC

AIHA Laboratory Accreditation Programs, LLC

a l t t

Galson Laboratories Pacific Rim

3615 Harding Avenue, Suite 308, Honolulu, HI 96816

Laboratory ID: 101812

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

✓ INDUSTRIAL HYGIENE	Accreditation Expires: 10 01/2014
✓ ENVIRONMENTAL LEAD	Accreditation Expires: 10/01/2014
✓ ENVIRONMENTAL MICROBIOLOGY	Accreditation Expires: 10/01/2014
☐ FOOD	Accreditation Expires:
✓ UNIQUE SCOPES	Accreditation Expires: 10 01/2014

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Larry S. Pierce
Chairperson, Analytical Accreditation Board

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 13: 05 12/2013

AIHA

Laboratory Accreditation Programs, LLC

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

Galson Laboratories Pacific Rim
3615 Harding Avenue, Suite 308, Honolulu, HI 96816

Laboratory ID: **101812**
Issue Date: 04/25/2013

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 03/24/2000

IHLAP Scope Category	Field of Testing (FoT)	Technology sub-type/ Detector	Published Reference Method/Title of In-house Method	Method Description or Analyte *(for internal methods only)*
Chromatography Core	Gas Chromatography	GC/FID	NIOSH 1003	
			NIOSH 1022	
			NIOSH 1300	
			NIOSH 1400	
			NIOSH 1450	
			NIOSH 1457	
			NIOSH 1501	
			NIOSH 2000	
Spectrometry Core	Atomic Absorption	FAA	NIOSH 7024 Modified	
			NIOSH 7030 Modified	
			NIOSH 7048 Modified	
			NIOSH 7082	
	UV/VIS (Colorimetric)		NIOSH 7600	
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)		NIOSH 7400	
Miscellaneous Core	Gravimetric		NIOSH 0500	
			NIOSH 0600	
Compressed/Breathing Air Testing	Gas Chromatography	GC/ FID	ANSI-CGA G7.1-2004	
			SOP Analysis of Methane/Ethane in gas samples	
		GC/TCD	ANSI-CGA G7.1-2004	
			SOP Analysis of CO2 in gas samples	

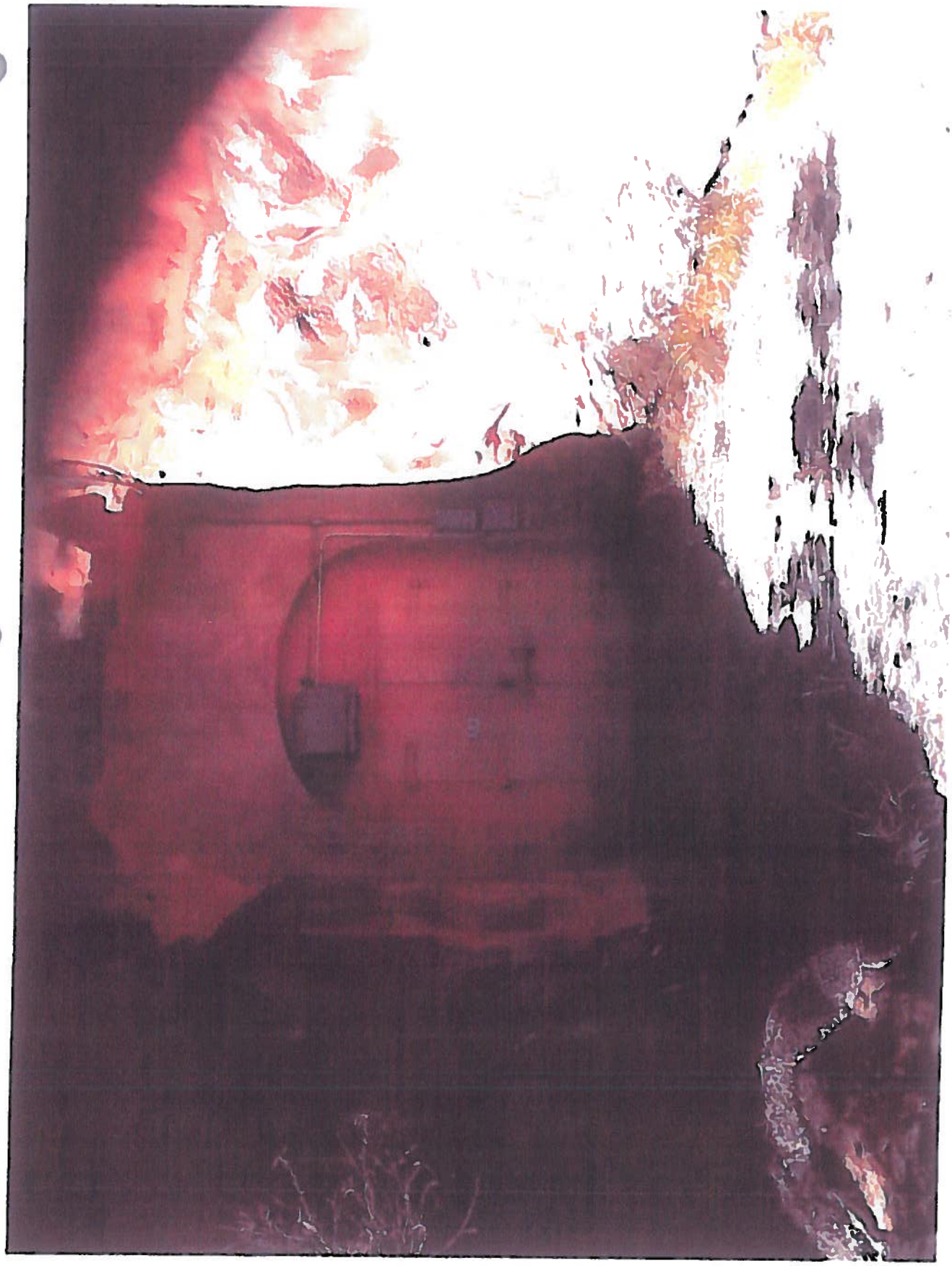
AIHA

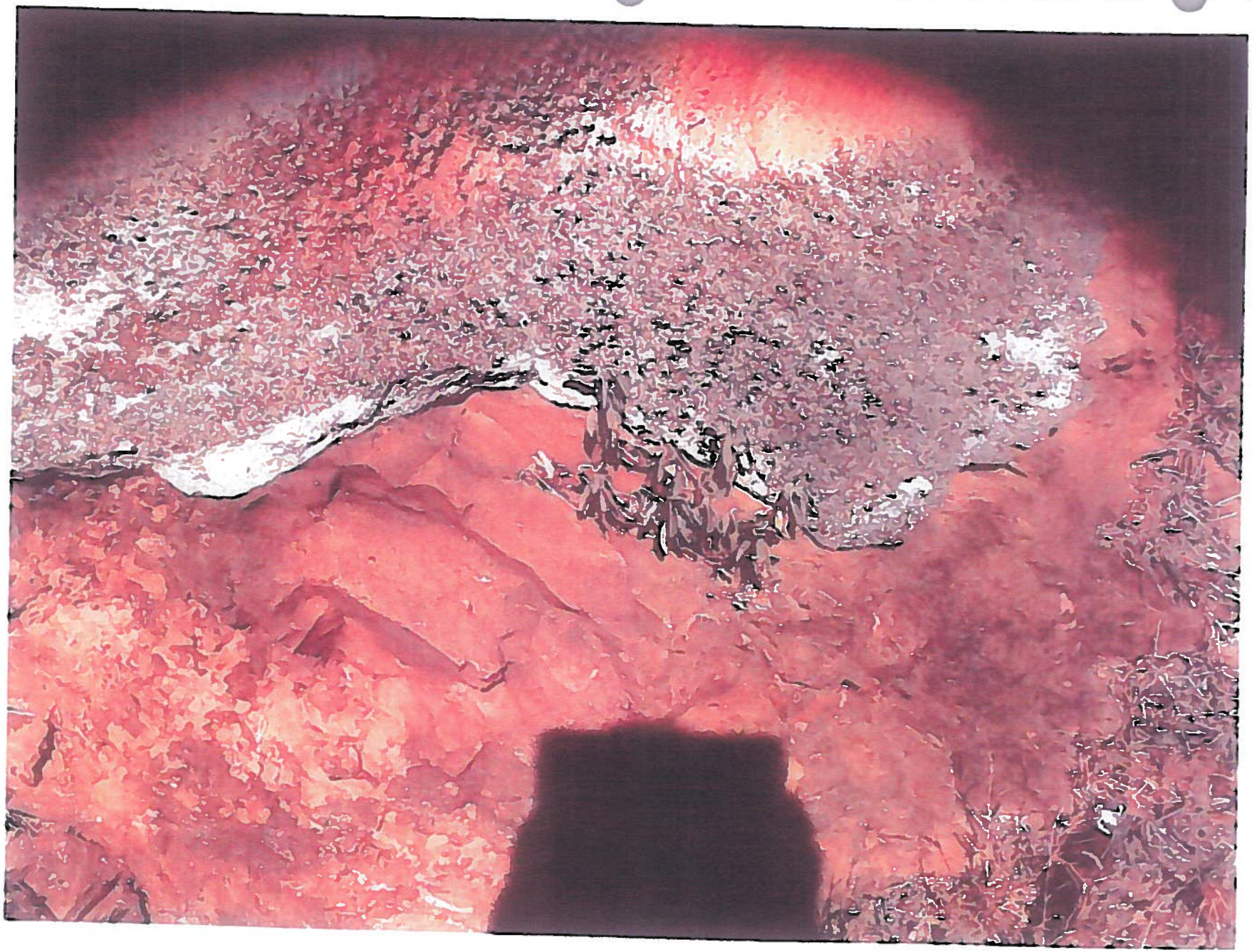
Laboratory Accreditation Programs, LLC

IHLAP Scope Category	Field of Testing (FoT)	Technology sub-type/ Detector	Published Reference Method/Title of In-house Method	Method Description or Analyte *(for internal methods only)*
Compressed/Breathing Air Testing	Gas Chromatography	GC/TCD	SOP Analysis of O2 and N2 in gas samples	
	Gravimetric		CGA G-7.1-1997, Oil and Water (condensed), SOP Oil Mist & Particulate	
	Infrared		ANSI-CGA G7.1-2004	
			SOP Analysis of CO and THC as Methane in gas samples	

A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaccreditedlabs.org

PHOTOS





116

202
203
ALPHA

215A

'Ohana • Environmental • Construction, Inc.

ENVIRONMENTAL HEALTH & SAFETY
Commercial • Industrial • Residential

November 15, 2013

Hawaii Army National Guard
3949 Diamond Head Road
Honolulu, Hawaii 96816

Attn: Mr. Travis Ichishita

Subject Letter Report (Amendment #1)
Additional Sample collection for Asbestos, Lead, Benzene
Building 306, Building 306A, Mule Tunnel # 3, Soil Pile

Dear Mr. Ichishita:

The purpose of this letter report is to document the additional sampling activities recently completed by Ohana Environmental Construction, Inc. in Building 306 , room # 201, room # 204, Building 306 Alpha, room #228, Mule Tunnel # 3, and soil pile. The sampling activities were limited to areas that may or will be affected during renovation.

Scope of Work:

OECI collected 8 additional bulk asbestos samples from building 306, rooms 201 & 204, building 306 Alpha, room 228.

Samples were submitted to Galson Laboratories for analysis by Polarized Light Microscopy (PLM) to determine asbestos type and content in accordance with the National Institute for Occupational Safety and Health (NIOSH) Method -600/R-93/116.

OECI collected 3 paint chip samples from building 306 room # 201 & 204, and Mule tunnel entry (hard plaster wall).

Samples were submitted to Galson Laboratories for analysis for lead via Method 7000B.

Provided this letter report documenting OECI methodologies and findings.

2968 Ualena St. • Honolulu, Hawaii 96819 • Telephone: (808) 836-6955 • Fax: (808) 836-3833
License No. C-20571

Activities:

Asbestos:
On November 6, 2013 OECI's personnel collected 6 samples of suspect materials form building 306 rooms 201 and building 306 Alpha room 228 . These samples were collected in accordance with EPA guidelines and recommendations.

The samples were properly logged and recorded following strict chain of custody procedure and submitted to Galson Laboratories for PLM analysis in accordance with EPA method 600/R-93/116. Galson Laboratories is accredited for bulk asbestos analysis through successful participation in the National Voluntary Lab Accreditation Program (NVLAP).

Lead Paint:
On November 6, 2013 OECI personnel collected 3 paint chip samples from suspect painted material in building 306 rooms 201 & 204, and Mule tunnel #3 entry (hard plaster) for total lead analysis. These samples was collected in accordance with EPA guidelines and recommendations.

The samples was properly logged and recorded following strict chain of custody procedure and submitted to Galson Laboratories for analysis in accordance with EPA method 7000B.

Soil:
On November 6, 2013 OECI personnel collected one soil sample from soil pile with in the subject property.

The sample was properly logged an recorded following strict chain of custody procedure and submitted to Environmental Services Network for analysis for aromatic volatile organics by EPA 8260 and Quantitative analyses for TPH fuel scan (C5-C40) by EPA 8015 mod.

Results:

Asbestos:

None of the samples contained levels of asbestos above the regulatory limit of 1%.

Lead Paint:

Laboratory results indicated that one of the sampled painted surfaces **did not** contain lead in excess of the EPA/United States Department of Urban Development (HUD) guideline of 5,000 mg/kg defining lead based paint (LBP).

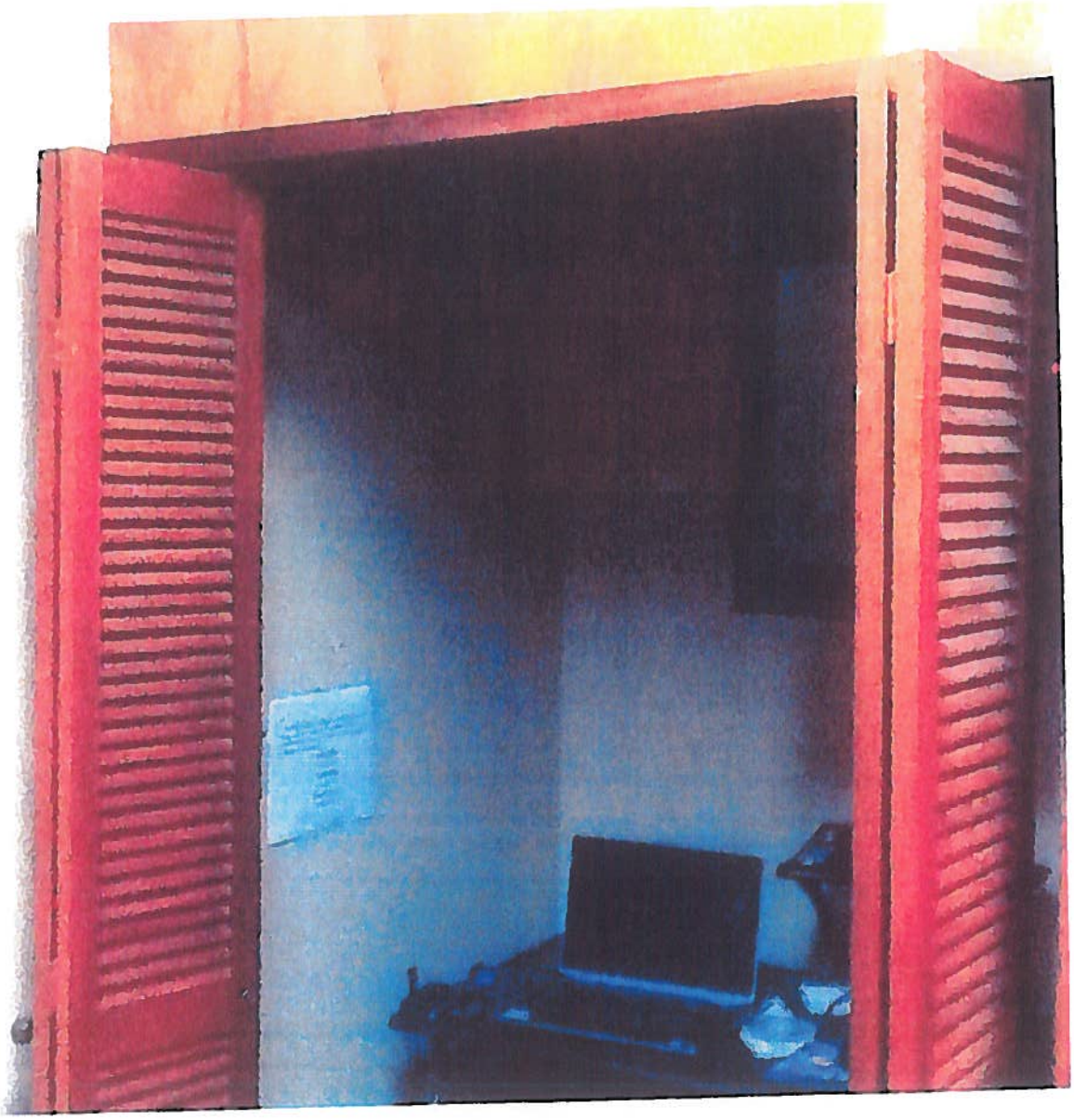
One of the sampled painted surfaces **did** contained lead in excess of the EPA/United States Department of Urban Development (HUD) guideline of 5,000 mg/kg.

Soil:
Laboratory result indicated that sampled soil **did not** contain benzene.

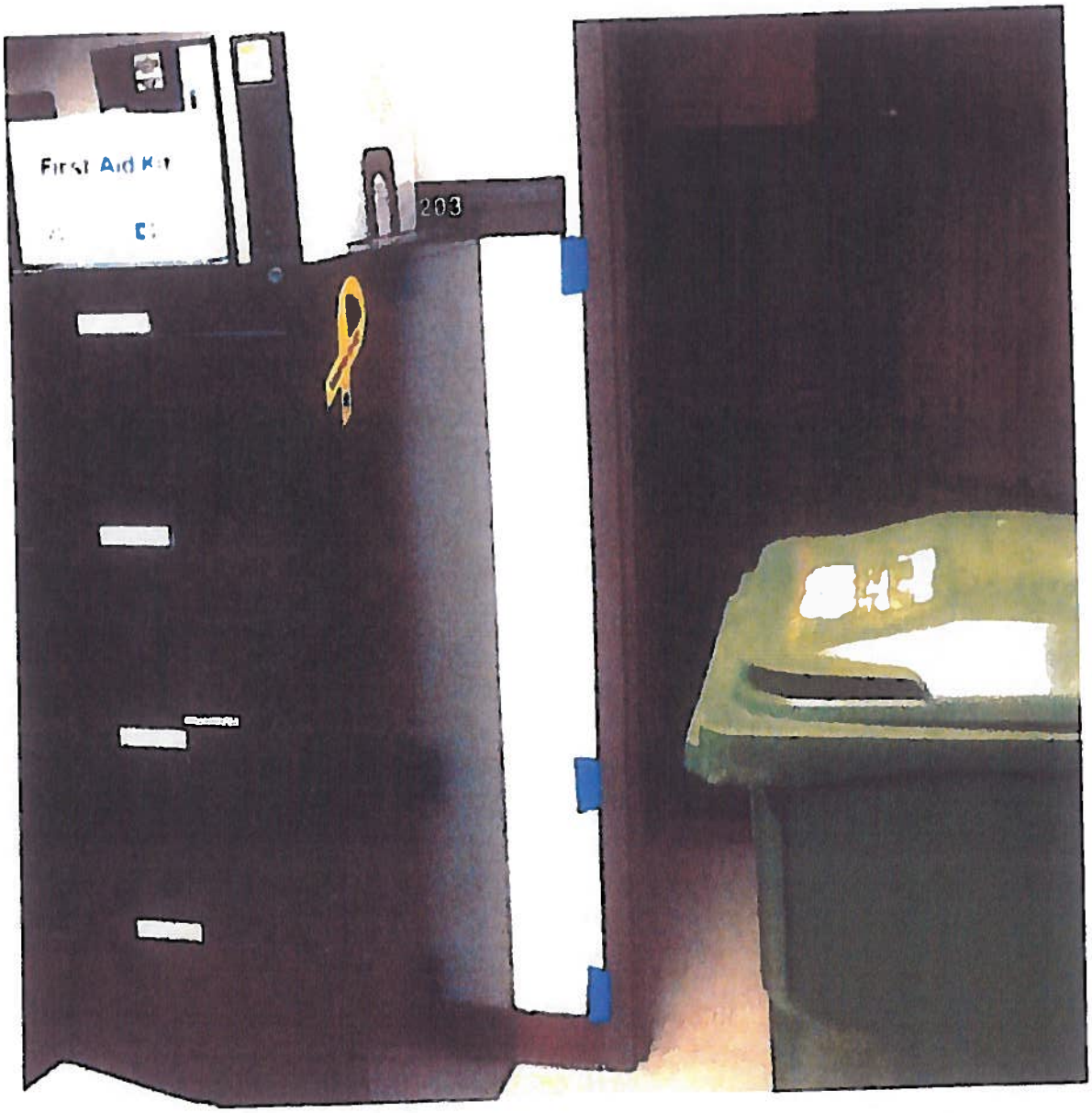
Limitations:

The information and opinions rendered in this report are exclusively for the use of DOD-Hawaii Army National Guard. OECI will not distribute this report without your written consent as may be required by law or court order. The information and opinions expressed in this report are given in response to our limited assignment and should be evaluated and implemented only in light of the assignment. We accept the responsibility of the competent performance of our duties in executing the assignment and preparing this report in accordance within the normal standards of our profession but disclaim any responsibility for consequential damages.

Earl Shook Jr._____
President



BUILDING 306 - ROOM 201



BUILDING 306 - ROOM 204

203

Galson Laboratories
Pacific Rim
ANALYTICAL REPORT

Tuesday, November 12, 2013

3615 Harding Avenue, Ste. 308, Honolulu, Hawaii 96816
VOICE: (888) 432-5227
www.galsonlabs.com/pacific-rim/

Mr. Earl Shook
Ohana Environmental Construction, Inc.
2968 Ualena Street

Honolulu HI 96813

Phone Number: (808) 836-6955
Facsimile: (808) 836-3833
Email: earl-oeci@hawaii.rr.com

Galson Job No: 20134353
Your Project: HARNG - Building 306 11/06/13

Bulk Asbestos Determination

Sample No.	Your Sample Description	Asbestos Present?	Type	%v/v	Other Fibrous	% v/v	Matrix	% v/v	Date Received	Date Analyzed
20131107053	#1 Room 201 - Drywall/Joint Compound 11/06/13		NONE DETECTED		Cellulose (undulose extinction) + synthetic fibers (undulose extinction)	< 6	Calcite + binder + quartz + gypsum	> 94	11/7/2013	11/11/2013
Layer	Gypsum / paper									
Comments	Off-white paint with beige spackle, white joint compound material and white gypsum material with brown paper. White gypsum material with brown paper.									
20131107053	#1 Room 201 - Drywall/Joint Compound 11/06/13		NONE DETECTED		Cellulose (undulose extinction)	< 2	Calcite + binder + quartz + paint	> 98	11/7/2013	11/11/2013
Layer	Paint / spackle / joint compound									
Comments	Off-white paint with beige spackle, white joint compound material and white gypsum material with brown paper. Off-white paint with beige spackle and white joint compound material.									
20131107054	#2 Room 201 - Drywall/Joint Compound 11/06/13		NONE DETECTED		Cellulose (undulose extinction) + synthetic fibers (undulose extinction)	< 6	Calcite + binder + quartz + gypsum	> 94	11/7/2013	11/11/2013
Layer	Gypsum / papers									
Comments	Off-white paint with beige spackle, white joint compound material and white gypsum material with brown/grey papers. White gypsum material with brown/grey papers.									

Galson Laboratories Pacific Rim is a NIST NVLAP ACCREDITED LABORATORY (NVLAP Lab Code 200655-0). Galson Laboratories Pacific Rim is an ANALYTICAL FACILITY ACCREDITED in accordance with the recognized ISO/ IEC 17025:2005.

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2968 Ualena Street

Honolulu HI 96813

Phone Number: (808) 836-6955
Facsimile: (808) 836-3833
Email: earl-oeci@hawaii.rr.com

Galson Job No: 20134353
Your Project: HARNG - Building 306 11/06/13

Bulk Asbestos Determination

Sample No.	Your Sample Description	Asbestos Present?	Type	%v/v	Other Fibrous	% v/v	Matrix	% v/v	Date Received	Date Analyzed
20131107054	#2 Room 201 - Drywall/Joint Compound 11/06/13		NONE DETECTED		Cellulose (undulose extinction)	< 2	Calcite + binder + quartz + paint	> 98	11/7/2013	11/11/2013
Layer	Paint / spackle / joint compound									
Comments	Off-white paint with beige spackle, white joint compound material and white gypsum material with brown/grey papers. Off-white paint with beige spackle and white joint compound material.									
20131107055	#3 Room 201 - Drywall/Joint Compound 11/06/13		NONE DETECTED		Cellulose (undulose extinction) + synthetic fibers (undulose extinction)	< 6	Calcite + binder + quartz + gypsum	> 94	11/7/2013	11/11/2013
Layer	Gypsum / paper									
Comments	Off-white paint with beige spackle, white joint compound material and white gypsum material with brown paper. White gypsum material with brown paper.									
20131107055	#3 Room 201 - Drywall/Joint Compound 11/06/13		NONE DETECTED		Cellulose (undulose extinction)	< 2	Calcite + binder + quartz + paint	> 98	11/7/2013	11/11/2013
Layer	Paint / spackle / joint compound									
Comments	Off-white paint with beige spackle, white joint compound material and white gypsum material with brown paper. Off-white paint with beige spackle and white joint compound material.									
20131107057	#5 Room 204 Closet - Drywall/Joint Compound 11/06/13		NONE DETECTED		Cellulose (undulose extinction) + synthetic fibers (undulose extinction)	< 8	Calcite + binder + quartz + gypsum	> 92	11/7/2013	11/11/2013
Layer	Gypsum / papers									
Comments	Beige paint with white joint compound material and white gypsum material with brown/grey papers. White gypsum material with brown/grey papers.									

Mr. Earl Shook
Ohana Environmental Construction, Inc.
2968 Ualena Street

Honolulu HI 96813

Phone Number: (808) 836-6955
Facsimile: (808) 836-3833
Email: earl-oeci@hawaii.rr.com

Galson Job No: 20134353
Your Project: HARNG - Building 306 11/06/13

Bulk Asbestos Determination

Sample No.	Your Sample Description	Asbestos Present?	Type	%v/v	Other Fibrous	% v/v	Matrix	% v/v	Date Received	Date Analyzed
20131107057	#5 Room 204 Closet - Drywall/Joint Compound 11/06/13		NONE DETECTED		None Detected	< 1	Calcite + binder + quartz + paint	> 99	11/7/2013	11/11/2013
Layer	Paint / joint compound									
Comments	Beige paint with white joint compound material and white gypsum material with brown/grey papers. Beige paint with white joint compound material									
20131107058	#6 Room 204 Closet - Drywall/Joint Compound 11/06/13		NONE DETECTED		Cellulose (undulose extinction) + synthetic fibers (undulose extinction)	< 4	Calcite + binder + quartz + gypsum + mica	> 96	11/7/2013	11/11/2013
Layer	Gypsum / paper									
Comments	Beige paint with beige spackle material and white gypsum material with brown paper. White gypsum material with brown paper.									
20131107058	#6 Room 204 Closet - Drywall/Joint Compound 11/06/13		NONE DETECTED		Cellulose (undulose extinction)	< 3	Calcite + binder + quartz + paint	> 97	11/7/2013	11/11/2013
Layer	Paint / spackle material									
Comments	Beige paint with beige spackle material and white gypsum material with brown paper. Beige paint with beige spackle material.									
20131107059	#7Room 204 Closet - Drywall/Joint Compound 11/06/13		NONE DETECTED		Cellulose (undulose extinction) + synthetic fibers (undulose extinction)	< 5	Calcite + binder + quartz + gypsum + mica	> 95	11/7/2013	11/11/2013
Layer	Gypsum / paper									
Comments	Beige paint with beige spackle material and white gypsum material with brown paper. White gypsum material with brown paper.									

Mr. Earl Shook
Ohana Environmental Construction, Inc.
2968 Ualena Street

Honolulu HI 96813

Phone Number: (808) 836-6955
Facsimile: (808) 836-3833
Email: earl-oecl@hawaii.rr.com

Galson Job No: 20134353
Your Project: HARNG - Building 306 11/06/13

Bulk Asbestos Determination

Sample No.	Your Sample Description	Asbestos Present?	Type	%v/v	Other Fibrous	% v/v	Matrix	% v/v	Date Received	Date Analyzed
20131107059	#7Room 204 Closet - Drywall/Joint Compound 11/06/13		NONE DETECTED		Cellulose (undulose extinction) + synthetic fibers (undulose extinction)	< 6	Calcite + binder + quartz + paint	> 94	11/7/2013	11/11/2013
Layer	Paint / spackle material									

Comments: Beige paint with beige spackle material and white gypsum material with brown paper.
Beige paint with beige spackle material.

General Comments
The bulk samples analyses subject of this analytical report were conducted in general accordance with the procedures outlined in the United States Environmental Protection Agency's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020, Dec. 1982) and/ or "Method for Determination of Asbestos in bulk Building Materials" (EPA-600/R-93-116, July 1993). The analysis of each bulk sample relates only to the material examined, and may or may not represent the overall composition of its original source. Floor tile and other resinously bound materials, when analyzed by the EPA methods referenced above may yield false negative results because of limitations in separating closely bound fibers and in detecting fibers of small length and diameter. Alternative methods of identification, including Transmission Electron Microscopy (TEM) may or may not be applicable and suffer from serious analytical limitations of their own including a lack of standardized or accredited methodology. We utilize calibrated visual area estimation on a routine basis and do not conduct point counting unless specifically requested to do so. Estimated error for the visual determinations presented are 50% relative (1 to 5%); 25% relative (6 to 25%) and 20% (>26% v/v). Whole sample percentage results are estimated on the basis of the relative "volume" of each readily discernable layer. We will not separate layers which in our opinion are not readily discernable. This report is not to be duplicated except in full without the expressed written permission of Galson. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Governement. Unless otherwise indicated, the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions
None Detected = asbestos was not observed in the sample.
Tr = Trace (<1%), i.e., asbestos WAS detected BELOW our quantifiable limits of 1.0%. Gravimetric reduction and point counting, where applicable, are recommended to improve accuracy.
> This testing result is greater than the numerical value listed.
< This testing result is less than the numerical value listed.

Ms. Eva Skogsberg
Section Supervisor Microbiology and Organics

Galson Laboratories
Pacific Rim
ANALYTICAL REPORT

Tuesday, November 12, 2013

3615 Harding Avenue, Sta. 308, Honolulu, Hawaii 96816
VOICE: (888) 432-5227
www.galsonlabs.com/pacific-rim/

Mr. Earl Shook
Ohana Environmental Construction, Inc.
2968 Ualena Street

Honolulu HI 96813

Phone Number: (808) 836-6955
Facsimile: (808) 836-3833
Email: earl-oecl@hawaii.rr.com

Galson Job No: 20134353
Your Project: HARNG - Building 306 11/06/13

Lead, total (paint chips)

NIOSH **Method:** 7082 LEAD by FAAS

Sample No.	Your Sample Description	Sample Type	Results	Units	Date Submitted	Date Analyzed
20131107056	#4 Room 201 - Paint 11/06/13	UNK	93	mg/kg	11/7/2013	11/11/2013
Comments	MRL = 38 mg/kg					
20131107060	#8 Room 204 - Paint 11/06/13	UNK	49	mg/kg	11/7/2013	11/11/2013
Comments	MRL = 39 mg/kg					

All Quality Control data are acceptable unless otherwise noted.

General Comments
All analysts participate in interlaboratory quality control testing to continuously document proficiency. The samples analyses subject of this analytical report were conducted in general accordance with the procedures associated with the" analytical method" referenced above. Modifications to this methodology may have been made based upon the analyst's professional judgment and / or sample matrix effects encountered. The analysis of sampl relates only to the sample analyzed, and may or may not be representative of the original source of the material submitted for our analysis. This report is not to be duplicated except in full without the expressed written permission of Galson. This report should not be construed as an endorsement for a product or a service by the AIHA or any affiliated organizations. Sample and associated sampling / collection data is reported as provided by client. Concentration and TWA values have been calculated based on information supplied by the client that the laboratory cannot verify. Results have not been corrected for blank determinations unless noted in remarks. Unless otherwise indicated the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions
UNK = sample submitted for this evaluation / analysis.
DUP = duplicate sample analysis of the UNK sample.
REP = replicate sample analysis which is a second preparation of the UNK sample analysis.
> This testing result is greater than the numerical value listed.
< This testing result is less than the numerical value listed.
ND = NOT DETECTED which means the analyte, if present below our stated detection limit/ level.
RPD = Relative Percent Deviation [unk-dup]/ave(unk,dup)*100.
# = Analytical methods marked with an "#" are not within our AIHA Scope of Accreditation.
MRL = Method Reporting Limit.

Ms. Eva Skogsberg
Section Supervisor Microbiology and Organics

Galson Laboratories Pacific Rim, is an AIHA CAPT, IHLAP, ELLAP and EMLAP ACCREDITED LABORATORY (Accreditation No. 101812) in the scope of work listed on the AIHA website (www.aiha.org). Galson Laboratories Pacific Rim is an ANALYTICAL FACILITY ACCREDITED in accordance with the recognized ISO/ IEC 17025:2005.

GALSON LABORATORIES

3615 Harding Avenue
Suite 308
Honolulu, HI 96816
PH: 808-735-0422
FAX: 808-735-0047
www.galsonlabs.com

☐ New Client?

Report To*: Earl E. Shook Jr.
Company: Ohana Environmental Construction, Inc.
Address*: 2968 Ualena Street
Honolulu, Hawaii 96819
Phone / Cell No.*: 808-836-6955
Send Report To: earl-oeci@hawaii.rr.com cc: danny-oeci@hawaii.rr.com
Email Add. / Fax No. / Verbal:
LAB USE ONLY Client Account No.:

Invoice To*: Nani Alexander
Company: Same
Address*:
Phone / Cell No.*:
Purchase Order No.:
Email Invoice To:

Need Results By*:
- ☐ 5 Working Days
- ☐ 4 Working Days
- ☐ 72 hour
- ☐ 48 hour
- ☐ 24 Hour
- ☐ Rush (6 hours)
- ☐ Immediate (4 hrs or less)

Site/Project Name: HARNG- Building 306
Client Project No.:
Sampled By:
Comments / Special Instructions:

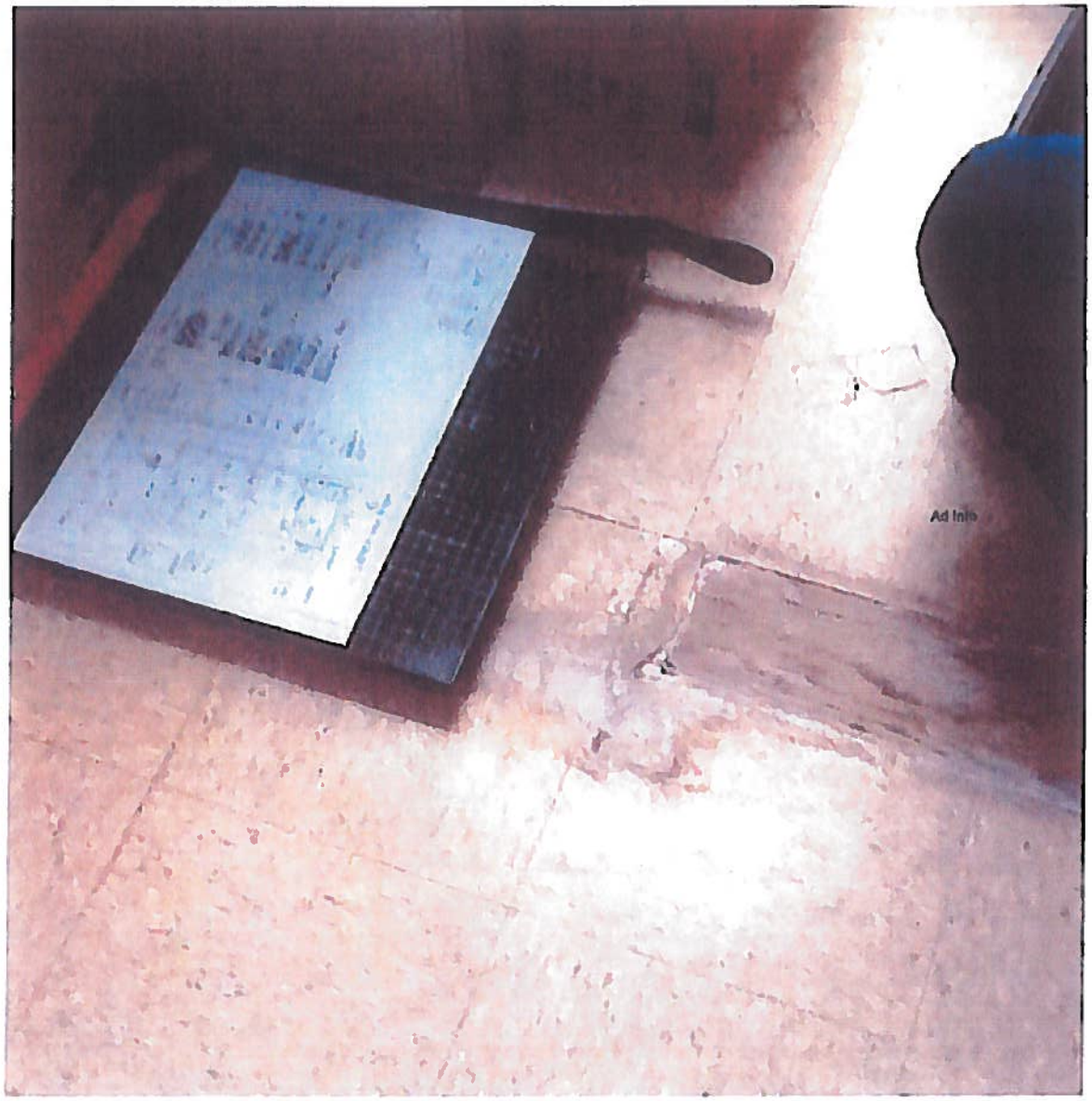
LAB USE ONLY
Lab Report No.: 20134353

Sample Identification*	Date Sampled* (mm/dd/yy)	Sample Description	Collection Medium	Sample Volume*	Analysis Requested*	Method Reference	Lab ID
#1	11-6-13	Room 201 - Drywall/Joint Compound			PLM		20131107053
#2	"	"			"		20131107054
#3	"	"			"		20131107055
#4	"	Room 201 - Paint			Lead		20131107056
#5	"	Room 204 Closet - Drywall/joint compound			PLM		20131107057
#6	"	"			"		20131107058
#7	"	"			"		20131107059
#8	"	Room 204 - Paint			Lead		20131107060

Relinquished By (Print and Sign)	Date/Time	Received By (Print and Sign)	Date/Time
Danny L. Guleb *danny L guleb*	11-6-13 2:42 PM	Sophia DeNola SD	07Nov13 1024

Please document sample description in space provided (ie: paint chips, concrete, specific sample collection location, etc.)
If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the Comment section.
For a 24 hour TAT request, results for samples relinquished prior to 9am will be available by 5pm on relinquish date. For samples submitted after 9am, TAT begins at time of sample receipt.
All samples submitted are subject to Galson Laboratories Pacific Rim terms and conditions.
*Required fields, failure to complete these fields may result in a delay in your samples being processed.

CCH DIB



BUILDING 306 ALPHA - ROOM 228

Galson Laboratories
Pacific Rim
ANALYTICAL REPORT

Tuesday, November 12, 2013

3615 Harding Avenue, Ste. 308, Honolulu, Hawaii 96816
VOICE: (888) 432-5227
www.galsonlabs.com/pacific-rim/

Mr. Earl Shook
Ohana Environmental Construction, Inc.
2968 Ualena Street

Honolulu HI 96813

Phone Number: (808) 836-6955
Facsimile: (808) 836-3833
Email: earl-oeci@hawaii.rr.com

Galson Job No: 20134354
Your Project: HARNG - Building 306 - Alpha - Engineering Office 11/06/13

Bulk Asbestos Determination

Sample No.	Your Sample Description	Asbestos Present?	Type	%v/v	Other Fibrous	% v/v	Matrix	% v/v	Date Received	Date Analyzed
20131107061	#1 Room 228 - Floor Tile/Mastic 11/06/13		NONE DETECTED		None detected	< 1	Calcite + quartz + binder + vinyl	> 99	11/7/2013	11/11/2013
Layer	Floor tile									
Comments	Off-white vinyl floor tile with clear mastic material, grey powdery material, debris, brown/yellow mastic material, brown wood fibers, white powdery material and black specks. Off-white vinyl floor tile									
20131107061	#1 Room 228 - Floor Tile/Mastic 11/06/13		NONE DETECTED		Cellulose (undulose extinction) + synthetic fibers (undulose extinction)	< 10	Calcite + quartz + polymeric binder + other	> 90	11/7/2013	11/11/2013
Layer	Mastic / powdery material (1) / debris									
Comments	Off-white vinyl floor tile with clear mastic material, grey powdery material, debris, brown/yellow mastic material, brown wood fibers, white powdery material and black specks. Clear mastic material with grey powdery material and debris.									

Galson Laboratories Pacific Rim is a NIST NVLAP ACCREDITED LABORATORY (NVLAP Lab Code 200655-0). Galson Laboratories Pacific Rim is an ANALYTICAL FACILITY ACCREDITED in accordance with the recognized ISO/ IEC 17025:2005.

Mr. Earl Shook
Ohana Environmental Construction, Inc.
2968 Ualena Street

Honolulu HI 96813

Phone Number: (808) 836-6955
Facsimile: (808) 836-3833
Email: earl-oecl@hawaii.rr.com

Galson Job No: 20134354
Your Project: HARNG - Building 306 - Alpha - Engineering Office 11/06/13

Bulk Asbestos Determination

Sample No.	Your Sample Description	Asbestos Present?	Type	%v/v	Other Fibrous	% v/v	Matrix	% v/v	Date Received	Date Analyzed
20131107061	#1 Room 228 - Floor Tile/Mastic 11/06/13		NONE DETECTED		Cellulose / wood fibers (undulose extinction) + synthetic fibers (undulose extinction)	< 40	Calcite + quartz + binder + other	> 60	11/7/2013	11/11/2013
Layer	Mastics (2) / wood / powdery material (2)									

Comments: Off-white vinyl floor tile with clear mastic material, grey powdery material, debris, brown/yellow mastic material, brown wood fibers, white powdery material and black specks.
Brown/yellow mastic material with brown wood fibers, white powdery material and black specks.

General Comments
The bulk samples analyses subject of this analytical report were conducted in general accordance with the procedures outlined in the United States Environmental Protection Agency's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020, Dec. 1982) and/ or "Method for Determination of Asbestos in bulk Building Materials" (EPA-600/R-93-116, July 1993). The analysis of each bulk sample relates only to the material examined, and may or may not represent the overall composition of its original source. Floor tile and other resinously bound materials, when analyzed by the EPA methods referenced above may yield false negative results because of limitations in separating closely bound fibers and in detecting fibers of small length and diameter. Alternative methods of identification, including Transmission Electron Microscopy (TEM) may or may not be applicable and suffer from serious analytical limitations of their own including a lack of standardized or accredited methodology. We utilize calibrated visual area estimation on a routine basis and do not conduct point counting unless specifically requested to do so. Estimated error for the visual determinations presented are 50% relative (1 to 5%); 25% relative (6 to 25%) and 20% (>26% v/v). Whole sample percentage results are estimated on the basis of the relative "volume" of each readily discernable layer. We will not separate layers which in our opinion are not readily discernable. This report is not to be duplicated except in full without the expressed written permission of Galson. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Governement. Unless otherwise indicated, the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions
None Detected = asbestos was not observed in the sample.
Tr = Trace (<1%), i.e., asbestos WAS detected BELOW our quantifiable limits of 1.0%. Gravimetric reduction and point counting, where applicable, are recommended to improve accuracy.
> This testing result is greater than the numerical value listed.
< This testing result is less than the numerical value listed.

Ms. Eva Skogsberg
Section Supervisor Microbiology and Organics

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GALSON LABORATORIES

3615 Harding Avenue
Suite 309
Honolulu, HI 96816
PH: 808-735-0422
FAX: 808-735-0047
www.galsonlabs.com

☐ New Client?

Report To*: Earl E. Shook Jr.
Company: Ohana Environmental Construction, Inc.
Address*: 2968 Ualena Street
Honolulu, Hawaii 96819
Phone / Cell No.*: 808-836-6955
Send Report To: earl-oeci@hawaii.rr.com cc: danny-oeci@hawaii.rr.com
Email Add. / Fax No. / Verbal:
LAB USE ONLY Client Account No.:

Invoice To*: Nani Alexander
Company: Same
Address*:
Phone / Cell No.*:
Purchase Order No.:
Email Invoice To:

Need Results By*:

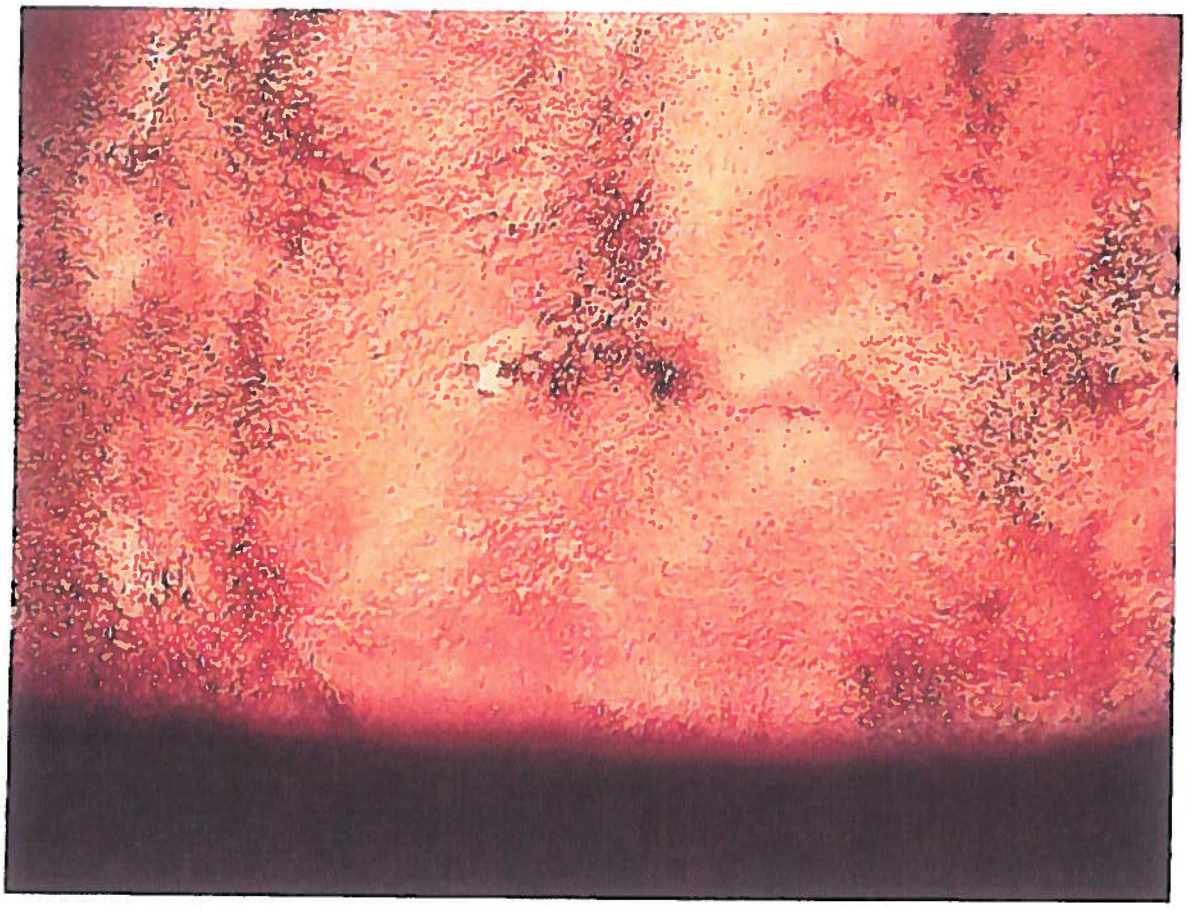
- ☐ 5 Working Days
- ☐ 4 Working Days
- ☒ 72 hour
- ☐ 48 hour
- ☐ 24 Hour
- ☐ Rush (6 hours)
- ☐ Immediate (4 hrs or less

Site/Project Name: HARNG- Building 306 - Alpha - Engineering Office
Client Project No.:
Sampled By:
Comments / Special Instructions:

Sample Identification*	Date Sampled* (mm/dd/yy)	Sample Description	Collection Medium	Sample Volume*	Analysis Requested*	Method Reference
#1	11-6-13	Room 228 - Floor Tile / Mastic			PLM	

Relinquished By (Print and Sign)	Date/Time	Received By (Print and Sign)
Danny L. Guleb *Danny L. Guleb*	11-6-13 2:48 PM	Sophia DeNoto *SDN*

Please document sample description in space provided (ex: paint chips, concrete, specific sample collection location, etc.)
If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the Comment section.
For a 24 hour TAT request, results for samples relinquished prior to 9am will be available by 5pm on relinquish date. For samples submitted after 9am, TAT begins at time of sample
All samples submitted are subject to Galson Laboratories Pacific Rim terms and conditions.
*Required fields, failure to complete these fields may result in a delay in your samples being processed.



MULE TUNNEL # 3 - HARD PLASTER

Galson Laboratories
Pacific Rim
ANALYTICAL REPORT

Monday, November 11, 2013

3615 Harding Avenue, Ste. 308, Honolulu, Hawaii 96816
VOICE: (888) 432-5227
www.galsonlabs.com/pacific-rim/

Mr. Earl Shook
Ohana Environmental Construction, Inc.
2968 Ualena Street

Honolulu HI 96813

Phone Number: (808) 836-6955
Facsimile: (808) 836-3833
Email: earl-oeci@hawaii.rr.com

Galson Job No: 20134355
Your Project: HARNG - Mule Tunnel #3 11/06/13

Lead, total (paint chips)

NIOSH **Method:** 7082 LEAD by FAAS

Sample No.	Your Sample Description	Sample Type	Results	Units	Date Submitted	Date Analyzed
20131107062	#1 Tunnel Entry Plaster - Paint	UNK	7800	mg/kg	11/7/2013	11/7/2013
Comments	MRL = 39 mg/kg, analyzed as whole sample basis.					

All Quality Control data are acceptable unless otherwise noted.

General Comments
All analysts participate in interlaboratory quality control testing to continuously document proficiency. The samples analyses subject of this analytical report were conducted in general accordance with the procedures associated with the" analytical method" referenced above. Modifications to this methodology may have been made based upon the analyst's professional judgment and / or sample matrix effects encountered. The analysis of sample relates only to the sample analyzed, and may or may not be representative of the original source of the material submitted for our analysis. This report is not to be duplicated except in full without the expressed written permission of Galson. This report should not be construed as an endorsement for a product or a service by the AIHA or any affiliated organizations. Sample and associated sampling / collection data is reported as provided by client. Concentration and TWA values have been calculated based on information supplied by the client that the laboratory cannot verify. Results have not been corrected for blank determinations unless noted in remarks. Unless otherwise indicated the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions
UNK = sample submitted for this evaluation / analysis.
DUP = duplicate sample analysis of the UNK sample.
REP = replicate sample analysis which is a second preparation of the UNK sample analysis.
> This testing result is greater than the numerical value listed.
< This testing result is less than the numerical value listed.
ND = NOT DETECTED which means the analyte, if present below our stated detection limit/ level.
RPD = Relative Percent Deviation [unk-dup]/ave(unk,dup)*100.
# = Analytical methods marked with an "#" are not within our AIHA Scope of Accreditation.
MRL = Method Reporting Limit.

Ms. Jennifer Hsu Liao
Laboratory Manager

Galson Laboratories Pacific Rim, is an AIHA CAPT, IHLAP, ELLAP and EMLAP ACCREDITED LABORATORY (Accreditation No. 101812) in the scope of work listed on the AIHA website (www.aiha.org). Galson Laboratories Pacific Rim is an ANALYTICAL FACILITY ACCREDITED in accordance with the recognized ISO/ IEC 17025:2005.

GALSON LABORATORIES

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☐ New Client?

Report To*: Earl E. Shook Jr.
Company: Ohana Environmental Construction, Inc.
Address*: 2968 Ualena Street
Honolulu, Hawaii 96819
Phone / Cell No.*: 808-836-6955
Send Report To: earl-oeci@hawaii.rr.com cc: danny-oeci@hawaii.rr.com
Email Add. / Fax No. / Verbal
LAB USE ONLY Client Account No.:

Invoice To*: Nani Alexander
Company: Same
Address*:
Phone / Cell No.*:
Purchase Order No.:
Email Invoice To:

Need Results By*:
- ☐ 5 Working Days
- ☐ 4 Working Days
- ☐ 72 hour
- ☐ 48 hour
- ☐ 24 Hour
- ☐ Rush (6 hours)
- ☐ Immediate (4 hrs or less)

Site/Project Name: HARNG- Mule Tunnel # 3
Client Project No.:
Sampled By:
Comments / Special Instructions:

LAB USE ONLY
Lab Report No.: 20134355

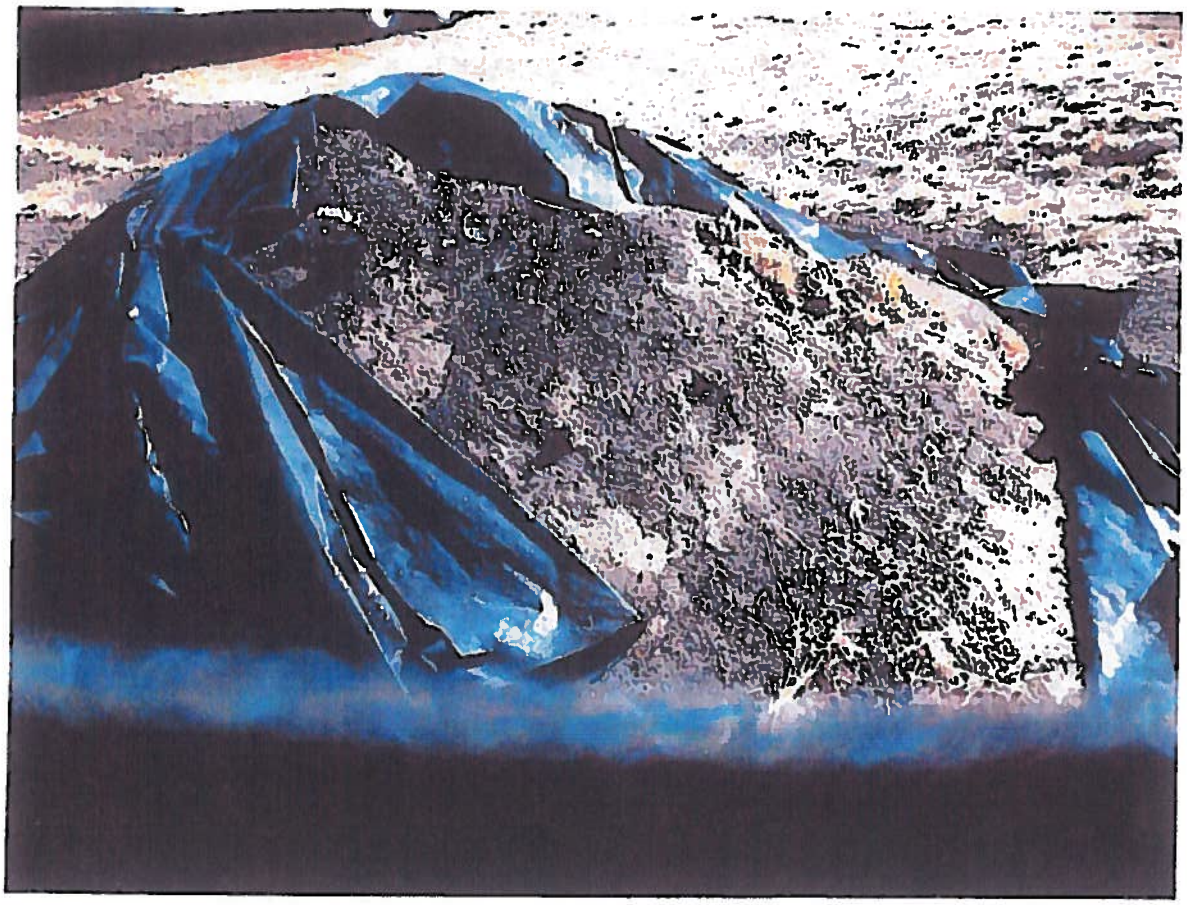
Sample Identification*	Date Sampled* (mm/dd/yy)	Sample Description	Collection Medium	Sample Volume*	Analysis Requested*	Method Reference	Lab ID
#1	11-6-13	Tunnel Entry Plaster - Paint	BULK	/	Lead		20131107062

Relinquished By (Print and Sign)	Date/Time	Received By (Print and Sign)	Date/Time
Danny L. Guieb *danny l guieb*	11-6-13 2:51 PM	Sophia DeNole SD	07Nov13 1024

Please document sample description in space provided (ie: paint chips, concrete, specific sample collection location, etc.)
If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the Comment section.
For a 24 hour TAT request, results for samples relinquished prior to 9am will be available by 5pm on relinquish date. For samples submitted after 9am, TAT begins at time of sample receipt.
All samples submitted are subject to Galson Laboratories Pacific Rim terms and conditions.
*Required fields, failure to complete these fields may result in a delay in your samples being processed.

CCH DIB

Page: 1 of 1



SOIL PILE

Environmental Services Network

November 7, 2013

Earl Shook
Ohana Environmental Construction, Inc.
2968 Ualena Street
Honolulu, HI 96819

SUBJECT: DATA REPORT – Hawaii Army National Guard Diamond Head Parking Lot Dirt Pile

ESN Project # D1311070476

Mr. Shook:

Please find enclosed a data report for the samples analyzed from the above referenced project for Ohana Environmental Construction, Inc. The samples were received intact. Applicable detection limits, QA/QC data, and any issues encountered during analysis are included in the report.

The following tests were conducted:

- Analyses for aromatic volatile organics by EPA 8260.
- Quantitative analyses for TPH fuel scan (C5-C40) by EPA 8015 mod.

ESN appreciates the opportunity to have provided analytical services to Ohana Environmental Construction, Inc on this project. If you have any further questions relating to the data or report, please do not hesitate to contact us.

Sincerely,

Karen Carvallo
Operations Manager

ESN Pacific
2020-B Kahai Street
Honolulu, HI 96819

Ph: (808) 847-0067
esn@esnpacific.com

ESN PACIFIC'S CHAIN-OF-CUSTODY RECORD

CLIENT: Ohana Environmental Construction, Inc.
ADDRESS: 2968 Ualena Street, Honolulu, Hawaii 96819
PHONE: 808-836-6955 FAX: 808-836-3838
EMAIL: earl-oaci@hawaii.rr.com
CLIENT PROJECT #: HARNG Soil Sample D/H. Project Manager: Earl Shook

TAT (circle one): 24-hr. 48-hr. 5-day xxx
DATE:
PAGE 1 OF 1
ESN PROJECT # D1311070476
LOCATION/PROJECT NAME: Hawaii Army National Guard Dimmers Head Parking Lot Dirt Piles
COLLECTOR: Danny Guleb 11-06-23013

	Sample ID#	Depth	Time	Sample Type	Container Type	8260 HVOC ext 50357 Y N	8260 VOC ext 50357 Y N	8260 BTEX ext 50357 Y N	8260 MtBE ext 50357 Y N	8015 Fuel Scan only	8015 TPH-Gas ext 50357	8015 TPH-Diesel	8015 TPH-Oil	8081 Chlor. Pesticides	8082 PCB	8270 PAH DOH-4	8270 PAH EPA-15	8270 SVOC	1010 Flash Point (Ignitability)	RCRA 8 Metals	Total Metals	TCLP	Hexane			Mi Sample Prep	Comments	# of Containers
1	D-128	8"	10:30	dirt	jar						x	x	x										X					
2																												
3																												
4																												
5																												
6																												
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20																												

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
Danny Guleb	11/7/13 9:10 am	Kan Carallo	11-7-13 907
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE RECEIPT:
TOTAL # OF CONTAINERS 3
COC SEALS Y / N / NA
SEALS INTACT Y / N / NA
RECEIVED TEMP: 15°C

LABORATORY NOTES:

SAMPLE DISPOSAL INSTRUCTIONS: X ESN @ $5.00/sample or ___ Return to Client

ESN NORTHWEST CHEMISTRY LABORATORY

Ohana Environmental Construction, Inc
HAWAII ARMY NATIONAL GUARD PROJECT
ESN Project #D1311070476
Hawaii

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Fuel Scan Analysis of Soil by Method 8015 Modified

Sample Number	Date Prepared	Date Analyzed	Gasoline-Surrogate Recovery (%)	Diesel-Surrogate Recovery (%)	Gasoline Range Organics (mg/kg)	Diesel Range Organics (mg/kg)	Lube Oil Range Organics (mg/kg)
Method Blank	11/11/2013	11/11/2013	108	77	nd	nd	nd
LCS	11/11/2013	11/11/2013	104	80	134%	80%	—
D-126	11/11/2013	11/11/2013	103	58	nd	nd	nd
D-126 Duplicate	11/11/2013	11/11/2013	96	66	nd	nd	nd
Reporting Limits					20	50	100

"—" Indicates not tested for component.
"nd" Indicates not detected at listed detection limits.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

ESN NORTHWEST CHEMISTRY LABORATORY

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Ohana Environmental Construction, Inc
HAWAII ARMY NATIONAL GUARD PROJECT
ESN Project #D1311070476
Hawaii

Analyses of Benzene (EPA Method 8260) in Soil

Sample Number	Date Prepared	Date Analyzed	Benzene (mg/kg)	Surrogate Recovery (%)
Method Blank	11/11/2013	11/11/2013	nd	114
LCS	11/11/2013	11/11/2013	85%	113
D-126	11/11/2013	11/11/2013	nd	108
Method Detection Limits			0.02	

"nd" indicates not detected at the listed detection limits.
"int" indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (4-Bromofluorobenzene) & LCS : 65% TO 135%

SECTION 01770 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout, including the following:
   1. Project Record Documents.

B. Related documents include the following:
   1. SECTION 01700 - EXECUTION REQUIREMENTS.

1.02 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting a Final Inspection to determine Substantial Completion, complete the following items in addition to requirements of Article 7 of the GENERAL CONDITIONS.
   1. Submit certifications, and similar documents.

   2. Terminate and remove temporary facilities from Project site, along with construction tools, and similar elements.

   3. Complete final cleaning requirements, including touch up painting.

   4. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

1.03 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit 2 copies of any updated and action taken list. In addition to requirements of GENERAL CONDITIONS Article 7 PROSECUTION AND PROGRESS, include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
   1. Organize items applying to each space by major elements.

   2. Include the following information at the top of each page:
      a. Project Name and Title.
      b. Job No.
      c. Date and page number.
      d. Name of Contractor.

1.05 PROJECT RECORD DOCUMENTS AND REQUIREMENTS

A. General:
   1. Definition: "Project Record Documents", including Record Drawings, shall fulfill the requirements of "Field-Posted As-Built Drawings" listed in the GENERAL CONDITIONS.

   2. Do not use Project Record Documents for daily construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Project Contact Person's reference during normal working hours. Maintain these documents as specified in paragraph entitled "Record Drawings" hereinafter.

3. The Designer, under contract with the State, will update the drawings to show all addendum, PCD, and sketch changes. The Project Contact Person will transmit these drawings to the Contractor who will make all "red-line" corrections to these drawings to record the changes depicted on the Contractor's Field Posted Record ("As-Builts") by accepted drafting practices as approved by the Project Contact Person.

4. Where the recorded changes depicted on the Contractor's Field Posted Record ("As-Builts") are in the form of shop drawings, the Contractor shall provide those shop drawings in the same material and size as the drawings transmitted to the Contractor. The new drawing sheets shall be titled and numbered to conform to the construction drawings and clearly indicate what information they supercede in the actual construction drawings. For example a new drawing that replaces drawing M-3, could be numbered M3a.

5. The Contractor shall bring to the attention of the Project Contact Person any discrepancy between the changes made by the Designer and those depicted on addendum, PCD, and sketch changes. The Project Contact Person will resolve any conflicts.

6. Submit final Record Documents (Field Posted Record Drawings) within 10 days after the Final Inspection Date but no later than the Contract Completion Date, unless the GENERAL CONDITIONS require an earlier submittal date.

7. The Contractor shall guarantee the accuracy of its final Record Documents. The State will hold the Contractor liable for costs the State incurs as a result of inaccuracies in the Contractor's Record Documents.

8. Prepare and submit construction photographs and electronic files, damage or settlement surveys, property surveys, and similar final record information as required by the Project Contact Person.

B. Record Drawings:
   1. Maintain a duplicate full-size set of Field Posted Record ("As-Builts") Drawings at the job site. Clearly and accurately record all deviations from alignments, elevations and dimensions, which are stipulated on the drawings and for changes directed by the Project Contact Person that deviate from the drawings.

   2. Record changes immediately after they are constructed in place and where applicable, refer to the authorizing document (Field Order, Change Order, or Contract Modification). Use red pencil to record changes. Make Field Posted Record Drawings available to the Project Contact Person at any time so that its clarity and accuracy can be monitored.
      a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.

      b. Accurately record information in an understandable drawing technique.

      c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

d. Mark the contract drawings or the shop drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on contract drawings.

e. Mark important additional information that was either shown schematically or omitted from original Drawings.

f. Locate concealed building utilities by dimension from bench marks or permanent structures. Locate site utilities by dimensions, azimuth and lengths from bench marks or permanent structures.

g. Note field order numbers, Change Order numbers, Contract Modification numbers, Alternate numbers, post-construction drawing numbers (PCD) and similar identification (RFI numbers) where applicable.

h. The Contractor shall initial each deviation and each revision marking.

3. Use the final updated Contract Drawing set plus applicable shop drawings for making the final Field Posted Record Drawings submittal.

4. Certify drawing accuracy and completeness. Label and sign the record drawings.

5. Label the title sheet and on all sheets in the margin space to the right of the sheet number, written from the bottom upward, with the title "FIELD POSTED RECORD DRAWINGS" and certification information as shown below. Provide a signature line and company name line for each subcontractor that will also certify the respective drawing. Adjust size to fit margin space.

FIELD POSTED RECORD DRAWINGS	Certified By: _____ [Contractor's Company Name]	Date: _____

6. Revise the Drawing Index and label the set "FIELD POSTED RECORD DRAWINGS". Include the label "A COMPLETE SET CONTAINS [_____] SHEETS" in the margin at the bottom right corner of each sheet. Quantify the total number of sheets comprising the set.

7. If the Project Contact Person determines a drawing does not accurately record a deviation or omits relevant information, the State will correct any FIELD POSTED RECORD DRAWINGS sheet. Contractor will be charged for the State's cost to correct the error or omission.

8. Use the final Field Posted Record Drawings sheets to create one electronic version of the set. The set shall be recorded in Adobe Acrobat PDF (Portable Document Format). Create a single indexed, bookmarked PDF file of the entire set of drawings and record on the CD. Submit one set of the final Field Posted Record Drawings sheets and the complete electronic CD set(s).

1.06 WARRANTIES

A. Submittal Time: Submit written manufacturer's warranties at request of the Project Contact Person for designated portions of the Work where commencement of warranties other than Project Acceptance date is indicated.

B. Organize manufacturer's warranty documents into an orderly sequence based on the table of contents of the Specifications.
   1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2 inch x 11-inch paper.

   2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer and prime contractor.

   3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES", Project Name and Title, Job Number, and name of Contractor.

   4. Use the final submittal of the warranties to create an electronic Adobe Acrobat PDF (Portable Document Format) version of the bound warranty documents files. Each sheet shall be separately scanned, at 600 DPI or better into a PDF file, indexed and recorded on a recordable compact disc (CD).

D. Provide 2 sets of manufacturer's warranties that exceed one year and one CD as part of the closing document submittals. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 – PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 FINAL CLEANING

A. General: Provide final cleaning. In addition to requirements of Article 7 of the GENERAL CONDITIONS conduct cleaning and waste-removal operations to comply with local laws and ordinances and federal and local environmental and antipollution regulations.

B. Cleaning: Complete the following cleaning operations before requesting final inspection for entire Project or for a portion of Project:
   1. Clean Project site and areas disturbed by construction activities, of rubbish, waste material, litter, and other foreign substances.

   2. Remove tools, construction equipment, machinery, and surplus material from Project site.

   3. Clean exposed surface finishes to a dirt-free condition, free of stains, films, and similar foreign substances.

   4. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored.

   5. Leave Project clean and ready for occupancy.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the State's property. Do not discharge volatile, harmful, or dangerous materials into drainage and sewer systems or onto State property. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

REQUIREMENTS FOR HERBICIDE APPLICATIONS AT HAWAI'I ARMY NATIONAL GUARD (HIARNG) FACILITIES

October 1, 2013

1. **AUTHORITY.** Army Regulation 200-1(Ch. 5 – Pest Management), Department of Defense Instruction (DoDI) 4150.7, the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), and Hawaii Pesticides Law (Hawai'i Revised Statute §149A).

2. **REFERENCES.** Hawai'i Army National Guard Integrated Pest Management Plan, December, 2007.

3. **PURPOSE.** The Hawai'i Army National Guard (HIARNG) Integrated Pest Management Plan (IPMP) outlines the requirements to control pests that could interfere with the military mission, damage real property, increase maintenance costs, and expose personnel to diseases. In accordance with this goal, the utilization of integrated pest management (IPM) is the judicious use of both non-chemical and chemical controls to suppress or prevent pests from exceeding an acceptable population or damage threshold.

4. **GENERAL INFORMATION.** Federal agencies are mandated by Public Law (Section 136r-1 of title 7, United States Code) to use Integrated Pest Management (IPM). The Contractor shall use best management practices and recognized industry standards for managing pests and all herbicide applications. The Contractor shall be responsible for complying with all federal, DoD, Army, state, and local laws, including but not limited to DoDI 4150.07, PL 91-190 the National Environmental Policy Act of 1969, PL 92-516, the Federal Insecticide, Fungicide and Rodenticide Act of 1972, as amended and AR 200-1. This includes, at a minimum:

   - Judiciously using herbicide products, formulations and application methods that present the lowest potential hazard to human health, non-target animals and the environment.
   - Recording and reporting all herbicide operations including surveillance, inspections, non-chemical and chemical control on appropriate forms.

5. **MAJOR WORK TASKS.** The Contractor shall provide IPM services, use best management practices, and recognized industry standards to suppress, control, and prevent a variety of pests at various facilities. The purpose of utilizing an IPM approach is to establish an environmentally sound and effective IPM program from adversely affecting Army installation operations. This includes, at a minimum:
   - Responsibility for complying with all Army policies, federal, state, and local laws.
   - Thoroughly inspecting all areas of the facility/facilities suspected of pest infestation(s).
   - Using appropriate non-chemical technologies to control pests, where possible.
   - Judiciously using herbicide products, formulations and application methods that present the lowest potential hazard to human health, non-target animals and the environment.
   - Recording and reporting all integrated pest management operations including surveillance, inspections, and chemical control on appropriate forms.

6. DETAILED WORK TASKS.

6.1. EXPERTISE AND NECESSARY PERSONNEL. The Contractor and all Contractor personnel shall understand IPM principles and practices and be capable of implementing them. The Contractor shall have the background and experience to be capable of identifying pests and knowledgeable about pest life cycles, habits and the conditions that affect pest populations.

6.2. LICENSING AND CERTIFICATION.

6.2.1. LICENSING. The Contractor shall possess a business license issued by the State of Hawai'i to provide pest control services.

6.2.2. CERTIFICATION. All Contract personnel applying herbicides shall have current and possess commercial certification by the State of Hawai'i Department of Agriculture in the appropriate EPA-approved State categories (see Attachment 1) for the work requirements of the contract. The Contractor shall provide proof of certification upon award of contract to the Pest Management Coordinator (PMC) prior to start of project. All contract personnel who apply herbicides shall have full commercial certification. Neither private applicator certification nor registered technician certification are acceptable.

6.3. VEHICLES. Vehicles shall be clearly identifiable and secured at all times to prevent unauthorized access. All herbicides carried on vehicles shall be stored in a locked compartment separate from the cab of the vehicle. Vehicles shall be equipped with a fire extinguisher, emergency wash water, a portable emergency eye wash and a portable spill and decontamination kit. Vehicles shall be marked as required by Hawai'i state law.

6.4. EQUIPMENT. Equipment shall be in good operating condition, free of visible deterioration, shall not leak, and shall be calibrated to apply herbicides in accordance with the product label. Equipment that has failed shall be replaced and/or repaired prior to resuming operations. Proof of calibration may be requested. The Contractor must clearly and plainly mark all herbicide application equipment with the company's and/or organization's name, a point-of-contact, and phone number. The Contractor shall ensure that all labeling is legible and updated accordingly. The Contractor shall assume responsibility for all Contractor-owned equipment or other items.

6.5. HERBICIDES. The Contractor shall procure, handle, store, and apply herbicides in strict accordance with the EPA registered label. Only certified applicators shall operate herbicide application equipment. All herbicides shall be used in accordance with Army policies, federal, State of Hawai'i, and local laws. Herbicides approved for use at HIARNG facilities are listed in Attachment 2. The Contractor shall not deviate from the approved herbicies list without prior approval from the PMC. During the term of the contract, the Contractor shall submit to the PMC all requests (product trade name, and EPA registration # located on the label) for the use of any additional herbicides not listed on approved herbicides list (Attachment 2) prior to use. The PMC will submit the

request for review and approval by the designated DoD-certified Pest Management Consultant prior to use. The Contractor shall ensure that all herbicides proposed for use are EPA registered and registered with the State of Hawai'i. The Contractor shall maintain a binder containing labels and MSDSs for all herbicides used, and have it readily available for inspection at all times.

6.5.1. STORAGE, MIXING, AND DISPOSAL.

6.5.1.1. HERBICIDE STORAGE. The Contractor shall not store herbicides on Government property. All herbicides shall be stored off Government property, or inside of the secured Contractor vehicle(s).

6.5.1.2. HERBICIDE MIXING. Herbicides may be mixed on the installation only at an approved designated location or locations. An air gap must be present between the formulation tank and fill hose during all herbicide mixing operations that use potable water. In addition, there must be a backflow prevention device installed on all hoses when filling formulation tanks with potable water. If contractor mixes pesticides away from a hardstand mixing area they must use a portable mixing pad.

6.5.1.3. HERBICIDE DISPOSAL. All herbicides, rinse water, and containers shall be disposed of in accordance with label directions. Contractor shall dispose of any herbicides, herbicide containers, herbicide residue, herbicide rinse water, or any herbicide contaminated article at an authorized disposal area off of Government property.

6.6. HERBICIDE SPILLS. The Contractor shall immediately report all spills of hazardous materials to the HIARNG Facility/Unit Environmental Officer (EO) and contact the HIARNG Emergency Line at (808) 672-1013. Spills shall be managed in accordance with the installation's Spill Prevention Control and Countermeasure Plan and Installation Spill Contingency Plan. Contractor shall be financially responsible for the clean-up of any spills. The Contractor shall have on-hand spill containment equipment and materials necessary to contain spills of herbicides and other pest control materials and supplies that are on the installation.

6.7. PERSONAL PROTECTIVE EQUIPMENT. The Contractor shall provide Personal Protective Equipment (PPE) to each of their pest control applicators. This equipment shall include, at a minimum, the PPE required by the applicable herbicide labels and MSDSs.

6.8. OCCUPIED SPACES. Liquid or aerosol herbicides shall not be applied in occupied spaces when people are present. Dust herbicide formulations shall not be applied in occupied spaces if the dust can be carried by air currents to people.

6.9. RECORDS AND REPORTS.

6.9.1. PEST MANAGEMENT RECORDS. The Contractor shall prepare, submit, and maintain daily pest management records and reports for each pest management

service provided to include surveillance, non-chemical controls and herbicide applications. Records shall be accurate and complete. Records shall be reported on DD Form 1532-1 (see Attachment 3). All pest management records shall be submitted electronically (e-mail attachment) or mailed to the PMC monthly. Records rejected by the PMC due to inadequate or incorrect information shall be corrected and returned to the PMC by the Contractor within 10 business days.

6.9.2. **DD FORM 1532-1.** All contractor personnel who apply herbicides shall report each herbicide application daily on DD Form 1532-1.

6.9.3. **REPORTS OF CONDITIONS CONDUCIVE TO PEST INFESTATION.** When the Contractor notices a condition that is promoting or is conducive to pest infestations they shall submit a report describing findings and recommendations to correct these conditions. The Contractor shall report these deficiencies to the PMC within one business day after citing conditions. Report must be legible and can be done electronically or hand-written.

6.10. **ADVANCED NOTIFICATION.** The Environmental PMC and Facility Manager (or designated representative) must be notified when contractor activities will take place.

6.11. **HISTORICAL BUILDING PEST MANAGEMENT.** The Contractor shall provide a report of pest issues of historical buildings and/or sites to the HIARNG Environmental PMC prior to treatment. Some methods of pest control may not be suitable for historic structures or sites, and thus must be consulted upon on a case-by case basis.

7. POINT OF CONTACT (POC).

7.1. Craig Blaisdell, Pest Management Coordinator, Hawaii Army National Guard, Environmental Office, 1304 Kekuanaoa St., Hilo, Hawaii 97620; craig.p.blaisdell.nfg@mail.mil; (808) 672-1278, FAX (808) 844-6653

7.2. HIARNG Environmental Office Emergency Line for Spills; (808) 672-1013

Attachment 1. Commercial Pesticide Applicator Certification Categories

EPA Category*	State Equivalent Category
2: Forest Pest Control	2: Forest Pest Control
3: Turf and Ornamental Pest Control	3: Turf and Ornamental Pest Control
5: Aquatic Pest Control	5: Aquatic Pest Control
6: Right-of-Way Pest Control	6: Right-of-Way Pest Control
7: Industrial, Institutional, Structural and Health Related Pest Control	7: (b) Termite (c) General (d) Industrial and Institutional (f) Specialty
8: Public Health Pest Control	

*Certification categories are from Section 171.3 of FIFRA; Commercial Standards.

Attachment 2. HIARNG Approved Herbicides List

APPROVED HERBICIDES LIST FOR HIARNG

HIARNG IPMP - APPENDIX M Updated: 1 October 2013

EPA #	Trade Name	Active Ingredient	% Active Ingredient	Signal Word	Restricted Use Pesticide (RUP)
432-886	Ronstar G	oxadiazon	2.0	Warning	
432-1266	Revolver Herbicide	foramsulfuron	2.34	Caution	
524-475	Round Up Pro	glyphosate	41.0	Caution	
524-517	Ranger Pro	glyphosate	41.0	Caution	
524-579	Round Up Pro Max	glyphosate	48.7	Caution	
1812-362	Karmex DF	diuron	80.0	Caution	
2217-833	Speed Zone Broadleaf Herbicide for Turf	carfentrazone-ethyl	0.62	Caution	
		2,4-D, 2-ethylhexyl ester	28.57		
		mecoprop-p acid	5.88		
		dicamba acid	1.71		
62719-37	Garlon 3A	triclopyr	44.4	Danger	
62719-37	Element 3A	triclopyr	44.4	Danger	
62719-40	Garlon 4 Specially Herbicide	triclopyr	44.4	Caution	
62719-40	Element 4 Specially Herbicide	triclopyr	61.6	Caution	
62719-519	Milestone	aminopyralid	40.6	Caution	
62719-527	Garlon 4 Ultra	triclopyr	60.45	Caution	
62719-537	Milestone VM	aminopyralid	40.6	Caution	

1) Pesticides not listed must be approved by NGB Pest Management Consultant prior to application / purchase. Please submit requests (pesticide trade name and EPA Registration Number) to the HIARNG Environmental Pest Management Coordinator (Craig Blasdell 672-1278)

Attachment 3. DD Form 1532-1

BUILDING/AREA	SIZE	TYPE OF CONSTRUCTION	USE DESIGNATION

Date	Units Serviced	Work Origin	Unit of Measure	Target Pest	Control Operation	If Pesticide is Used				Labor Time	Applicator Initials
						Name	EPA Reg	% Conc	Amount		

DD Form 1532-1 PEST MANAGEMENT MAINTENANCE RECORD

MEASUREMENT UNITS
MSF = 1 000 square feet
MCF = 1,000 cubic feet
LFF = Linear feet
AC = Acres

ORIGIN OF WORK
SW = Scheduled work
WR = Work request
SC = Service or trouble call
R = Routine inspection

TYPE OF CONSTRUCTION
CO = Concrete
BL = Block
BV = Brick veneer
ST = Steel, sheet metal
WO = Wood
OT = Other

"SECTION 628 – SHOTCRETE

628.01 Description. This work includes furnishing all materials and labor required for shotcrete repairs shown on the Plans. The work also includes any prepatory removing and disposing of existing loose and failing shotcrete sections to receive new shotcrete.

628.02 Materials. All materials for shotcrete shall conform to the following requirements:

MATERIALS	REQUIREMENTS
Cement	AASHTO M85/ASTM C150, Type I, II, III, or V
Coarse Aggregate	AASHTO M80, Class B for quality
Water	Clean and Potable. AASHTO M157/ASTM C1141
Chemical Admixtures Accelerator	Fluid type, applied at nozzle, meeting requirements of AASHTO M194/ASTM C494/ASTM C1141
Air-Entraining Agent	AASHTO M154/ASTM C260
Water-reducer and Superplasticizer	AASHTO M194/ASTM C494 Type A, C, D, E, F or G
Retarders and Mineral Admixtures	AASHTO M194/ASTM C494 Type B or D
Shrinkage Reducing Admixture	ASTM C494, Type S
Fly Ash	AASHTO M295/ASTM C618 Type F or C, cement replacement up to 35 percent by weight of cement
Silica Fume	ASTM C1240, 90 percent minimum silicon dioxide solids content, not to exceed 12 percent by weight of cement
Reinforcing Bars for Shotcrete Facing	AASHTO M31/ASTM A615, Grade 60, deformed
Bearing Plates	AASHTO M183/ASTM A36
Nuts	AASHTO M291, grade B, hexagonal, fitted with beveled washer or spherical seat to provide uniform bearing
Curing Compounds	AASHTO M148, Type 1D or Type 2
Prepackaged Shotcrete	ASTM C928
Migrating Corrosion Inhibitor	Amine carboxylate based, MCI 2005NS or approved equal

MATERIALS	REQUIREMENTS
Synthetic Macro Fiber Reinforcement	ASTM C1116-03, Strux 85/50 or accepted equal
Geocomposite Drain Strip	Miradrain 6000, Amerdrain 500 or approved equal
Film Protection	Polyethylene films per AASHTO M-171
PVC Drain Pipe	ASTM 1785 Schedule 40 PVC, solid and perforated wall, cell classification 12454-B or 12354-C, wall thickness SDR 35, with solvent weld or elastomeric gasket joints

Shotcrete mix design shall include 128 ounces of shrinkage reducing admixture per cubic yard. Water to cementitious materials ratio shall not exceed 0.45. The Contractor shall use a curing agent for a thorough cure of the shotcrete. Fiber shall be added at a dosage of 5 lbs of Strux 85/50 per cubic yard or a dosage of an accepted equivalent fiber that will give an Average Residual Strength of 200 psi as tested by ASTM C1609.

Materials shall be delivered, stored and handled to prevent contamination, segregation, corrosion or damage. Store liquid admixtures to prevent evaporation and freezing.

628.03 Construction Submittals. No shotcreting shall be performed until the following submittals are accepted by the State's Engineer.

The qualifications of the shotcrete Contractor shall conform to the minimum experience requirements below.

The shotcrete Contractor shall provide a project reference list verifying the successful construction completion of at least three (3) shotcrete projects of similar magnitude and difficulty over the past three (3) years. A brief description of each project with the owner's name and current phone number shall be included.

The shotcrete Contractor's nozzleman shall be competent operator with a minimum of 3 years shotcrete experience on similar size and type projects. The nozzleman shall be certified by the American Concrete Institute (ACI). The nozzleman shall maintain certification at all times while work is being performed for the emergency shotcrete repairs.

The State reserves the right to reject non-qualified subcontractor, based on review qualification submittals and, at their opinion, review of past work and references.

At least 30 days before the planned start of shotcrete placement, submit 8 copies of the following information, in writing, to the Project Contact Person and State's Engineer for review and acceptance:

(A) Written documentation of the shotcrete Contractor's qualifications

Written documentation of the nozzlemen's qualifications, including proof of ACI certification

(B) Proposed methods of shotcrete placement and of controlling and maintaining facing alignment and location and shotcrete thickness.

(C) Shotcrete mix design including:

(1) Type of Portland cement.

(2) Aggregate source and gradation.

(3) Proportion of mix by weight and water-cement ratio, 0.45 maximum.

(4) Proposed admixtures, manufacturer, dosage, and technical literature.

(5) Previous strength test results for the proposed shotcrete mix completed within one year of the start of shotcreting may be submitted for initial verification of the required compressive strengths at start of production work.

(D) A written statement of independent site evaluation, including subsurface conditions and appearance of adjacent natural rocky slope in the vicinity of the repair areas.

(E) Test Panels: Test panels shall represent a small section of the proposed shotcrete. The Contractor shall furnish unreinforced test panels, at least 18 by 18 inches square and 6 inches thick, prior to the production works. The test panel shall be stored on site and used as a visual reference throughout the construction.

Three core samples with 3-inch diameter shall be retrieved from the test panel 7 days after of placement. The cores shall be inspected for delamination, sand pockets, and tested for unconfined compressive strength. If the unconfined compressive strength (7-day) is less than 3,000 psi, the Contractor shall revise the concrete mix design and prepare another test panel for approval and testing at no additional cost to the State.

628.04 Construction Requirements

(A) General. Use either the dry mix or the wet mix process of shotcreting as follows:

(1) Dry Mix Process.

(a) Mix the cement and damp fine aggregates thoroughly.

(b) Feed the cement-fine aggregate mixture into a special mechanical feeder(gun) or other accepted delivery equipment.

(c) Meter the mixture into a delivery hose by a feed well or distributor.

(d) Convey this mixture by compressed air through the delivery hose to a special nozzle. Fit the nozzle with a perforated manifold that the Contractor can introduce the water under pressure and intimately mix with the other ingredients.

(e) Jet the mortar from the nozzle at high velocity onto the surface that the Contractor will shotcrete.

(2) Wet Mix Process.

(a) Mix the ingredients specified in Subsection 628.04(A)(1)-Dry Mix Process including water thoroughly.

(b) Introduce the mortar into the chamber of the delivery equipment.

(c) Meter the mortar into the delivery hose and convey the mortar by compressed air or other means to a nozzle.

(d) Inject additional air at the nozzle to increase the velocity and improve the gunning pattern.

(e) Jet the mortar from the nozzle at high velocity onto the surface that the Contractor will shotcrete.

(B) Equipment. Submit the equipment that will be used on the project for acceptance by the Project Contact Person and State's Engineer. Operate the equipment according to the manufacturer's recommendations. Submit the manufacturer's specifications and operating instructions to the Project Contact Person and State's Engineer.

The Contractor may do proportioning of the mortar ingredients, except water, either volumetrically or by weight. Apply the water as specified above. The State [~~Engineer~~] will not permit batches requiring

fractional sacks unless the Contractor weighs the cement. Use the batches of the mixture within the time requirements specified in Section 601 – Structural Concrete.

(1) Dry Mix Process. Mix the ingredients thoroughly with mixing equipment so the Contractor can coat the fine aggregate particles with cement. Provide mixing equipment for the continuous application of the mortar.

The moisture content of the fine aggregate shall be such that the fine aggregate-cement mixture shall flow at a uniform rate (without slugs) through the delivery hose. The optimum moisture content shall depend on the delivery equipment used, but shall be between 3% and 6%.

Discharge the fine aggregate-cement mixture into the delivery hose under close control. Deliver a continuous, smooth stream of uniformly mixed material at the proper velocity to the discharge nozzle.

Equip the discharge nozzle with a manually operated water injection system (water ring) for directing and even distribution of water through the fine aggregate-cement mixture. The water valve shall be readily adjustable in varying the quantity of water, and shall be convenient to the person handling the nozzle.

Deliver a conical discharge stream of uniform appearance. Distortion of this stream or nonuniform appearance shall be cause to stop the work until the Contractor has corrected the situation.

Maintain a supply of clean air adequate for providing sufficient nozzle velocity for parts of the work and for the simultaneous operation of a blow pipe for clearing away rebound.

The water pressure at the discharge nozzle shall be greater than the operating air pressure to assure that the water shall intimately mix with the other materials. If the water line pressure is inadequate, use a water pump to increase and get the required pressure. The water pressure shall be non-pulsating.

(2) Wet Mix Process. The wet mix delivery equipment shall be of a design and size that has produced good results in similar work. The wet mix process shall have the capacity to deliver the pre-mixed materials accurately, uniformly and continuously through the delivery hose. Follow the manufacturer's recommendations as to:

(a) the type and size of nozzle,

(b) cleaning the equipment,

(c) inspecting the equipment and

(d) maintaining the equipment.

The air compressor shall conform to Subsection 628.04(B)(1) – Dry Mix Process.

(C) Qualification. The shotcrete Contractor shall be capable of performing the work specified herein and shall have the following minimum experience requirements below.

The workers handling the nozzle employed for the work shall be competent operators with at least two years of experience in this type of work. The person handling the nozzle may be an apprentice with at least 6 months of experience. The foreman in charge shall have at least two years of experience handling the nozzle.

(D) Alignment Control. Surfaces that the Contractor will shotcrete shall conform to the dimensions shown in the contract or ordered by the Engineer. The surfaces shall not contain free moisture but shall be sufficiently damp to prevent absorption. Install adequate ground wires as guides to establish the thickness and surfaces of the shotcrete build-up. The wires shall be taut and true to line at all times during the operation.

(E) Surface Preparation. Prior to starting the repair construction, the Contractor shall verify and delineate the repair sections by visually examining and sounding the concrete surface with a hammer or by other approved method. The repair sections shall be clearly marked on the shotcrete facing with spray paint for the State Engineer's inspection and concurrence.

The Contractor shall remove concrete in the identified repair sections using shallow saw cut, pneumatic hammer, and/or chisels as appropriate. The exposed concrete surface and/or fractured rock surface shall be abrasive blasted to remove loose or weakened material/debris that could prevent or reduce shotcrete bond, prior to applying shotcrete. The edges of the patch shall be square to the thickness of the patch with no feathering of edges. Long, narrow patching areas or sections of a patch shall be avoided. The repair areas shall be saturated with clean water the day before applying shotcrete, and kept moist until the shotcrete placement.

The time between removal of shotcrete section and applying shotcrete shall not exceed 5 days. If the time allowance exceeds 5 days, the Contractor shall prepare the surface as the above, before applying shotcrete.

Clean the face of the excavation and other surfaces to be shotcreted of loose materials, mud, rebound, overspray, or other foreign matter that could prevent or reduce shotcrete bond. Protect adjacent surfaces for overspray during shooting. Avoid loosening, cracking, or shattering the ground during excavation and cleaning. Remove any surface material which is so loosened or damaged to a sufficient depth to provide a base that is suitable to receive the shotcrete. Remove material that loosens as the shotcrete is applied. Cost of additional shotcrete is incidental to the work. Divert water flow and remove standing water so that the shotcrete placement will not be detrimentally affected by standing water.

(F) Gunning. Apply the shotcrete from the lower part of the area upwards to prevent accumulation of rebound. Orient nozzle at a distance and approximately perpendicular to the working face so that rebound will be minimal and compaction will be maximized. The rebound shall be removed by blowing and raking off, to avoid sand pockets in the shotcrete.

The nozzleman shall maintain the water amount at a practicable minimum, so the mix properly adheres to the repair area. Water content shall not become high enough to cause the mix to sag or fall from vertical or inclined surfaces, or to separate in horizontal layers.

Allow each layer ample time to set. Each layer shall be free of rebound material before applying the next layer. If final set has taken place, wet down the area before the next application.

Approximately 72 hours after completing the shotcrete placement, the Contractor shall thoroughly test the surface with a hammer, to verify the repair section soundness, in the presence of the Engineer. Unsound portions shall be removed and replaced prior to the final inspection of the work at no additional compensation from the State.

If high winds prevent the person handling the nozzle from making proper application of the mortar or if rain occurs causing washing out of the cement or sloughing of the mortar, the State's Engineer will suspend gunning.

(G) Rebound. Remove rebound. The State's Engineer will not allow rebound to become a part of the work.

(H) Construction Joints. Form construction joints by tampering to a thin edge over a distance of about 12 inches. Clean the construction joint thoroughly and wet the construction joint before the subsequent application of shotcrete.

(I) Finishing. The surface finish of the repair section shall be the natural finish as applied, similar to the existing adjacent shotcrete. The

joint between the repair section and the existing shotcrete shall be finished with proper floats and steel trowels. The Contractor shall check for sags, bridging, and other deficiencies as soon as the shotcrete is placed. Round the exposed edges with an edging tool.

(J) Film Curing. Film curing with polyethylene sheeting may be used to supplement water curing on shotcrete that will be covered later with additional shotcrete or concrete. Spray the shotcrete surface with water immediately prior to installation of the polyethylene sheeting. Polethylene sheeting shall completely cover the surfaces. Overlap the sheeting edges for proper sealing and anchorage. Joints between sheets shall be sealed. Promptly repair any tears, holes, and other damage. Anchor sheeting as necessary to prevent billowing.

(K) Shotcrete Curing. Shotcrete shall be cured for 7 days after installation. Curing method and materials shall be accepted by the State's Engineer before application. All curing compounds applied to the shotcrete surface shall be removed by pressure washing with water.

The State's Engineer may require additional core samples be taken from the repair section, to verify the 7-day compressive strength. If the results of the 7-day compressive strength exceed 3,000 psi, the State will pay the cost of coring and testing, otherwise, the Contractor shall pay the cost. The Contractor shall submit a correction plan for approval and implementation to meet the design requirement at no additional cost to the State. The core holes should be patched using the same concrete mix as the repair section.

628.05 Method of Measurement and Basis of Payment.

(A) Refer to Offer Form (refer to page OF-3, NOTE items 2 and 3). The prices includes full compensation for providing proper shotcrete facing alignment and thickness control; furnishing and installing admixtures, test panels, all sampling, testing, and reporting required; and furnishing labor, materials, tools, equipment, and incidentals necessary to complete the work.

(B) The State will <u>not</u> measure shotcrete required to complete the job within the area noted on Plates 3.1 through 3.5. The 6-inch presumed thickness of the existing shotcrete material is a conservative estimate based on the varying thickness of existing material found at cracked and spalled conditions. Therefore, the cost of materials and work necessary to fill voids created by irregularities in the underlying rock or required due to excavation over-break or inadvertent excavation shall be included in the Contractor's cost.

(C) Additional work and material beyond the area/limits noted on Plates 3.1 through 3.5, shall be addressed and paid for as a Variable Quantity

Unit Price item. Refer to the Offer Form and General Conditions, Section 4.7 Variations in Estimated Quantities.

(D) Full compensation for shotcrete of the test panel shall be considered as included in the contract lump sum price paid for Shotcrete and no separate payment will be made therefore.

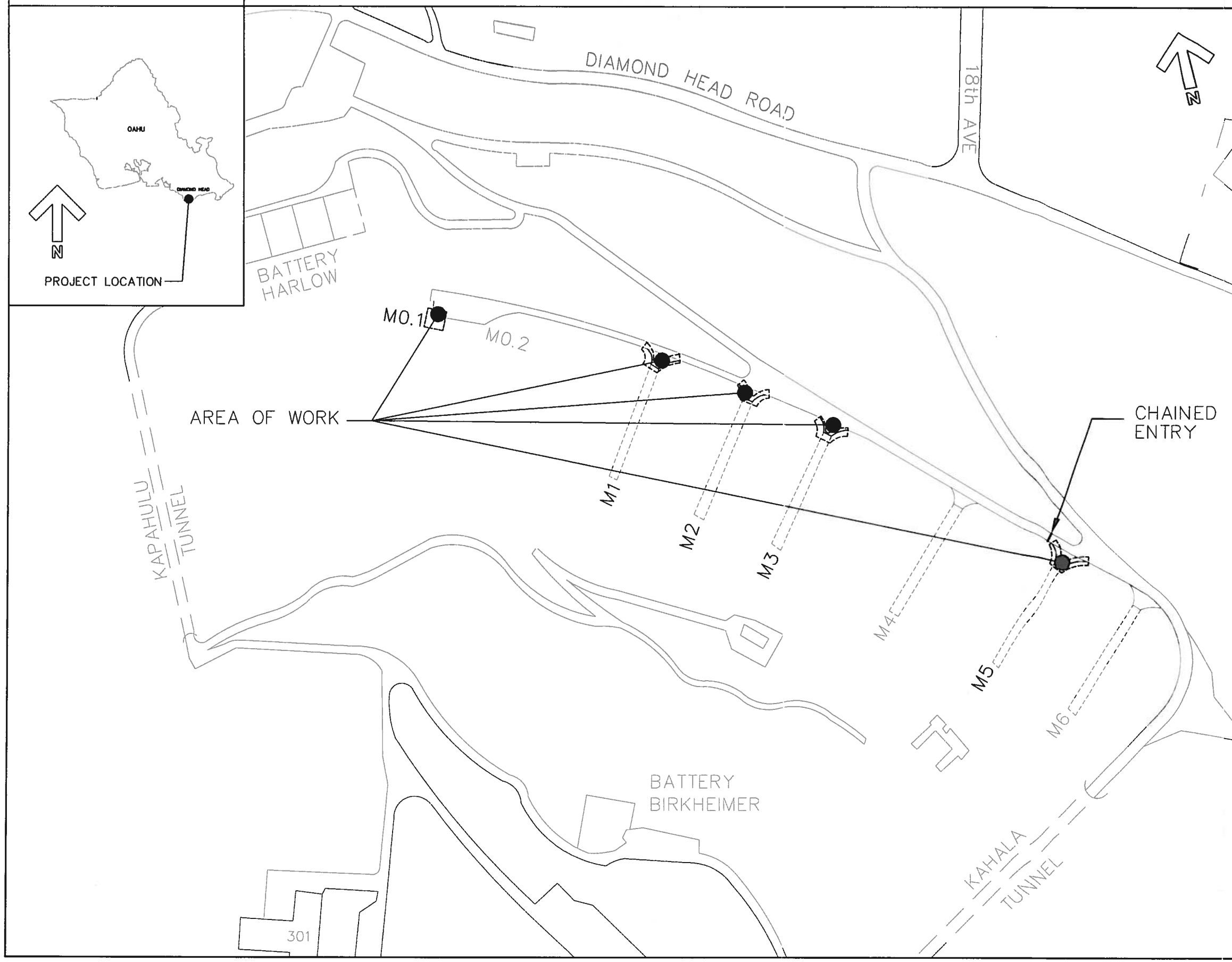
END OF SECTION 628

LOCATION MAP

SCALE: NOT TO SCALE

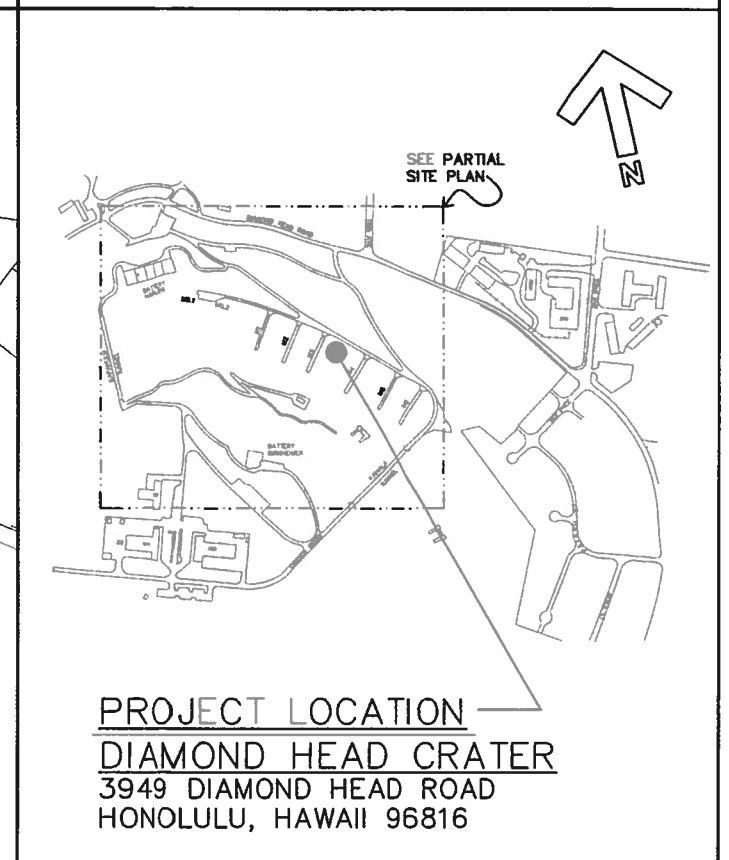
PARTIAL SITE PLAN

SCALE: 1"=200'-0"



VICINITY MAP

SCALE: NOT TO SCALE



DRAWING INDEX

SHEET #	SHEET TITLE
A-1	TITLE SHEET, LOCATION MAP, VICINITY MAP & PARTIAL SITE PLAN
PLATE 3.1	TUNNEL NO. M-0.1
PLATE 3.2	TUNNEL NO. M-1
PLATE 3.3	TUNNEL NO. M-2
PLATE 3.4	TUNNEL NO. M-3
PLATE 3.5	TUNNEL NO. M-5

REVISION NO.	DESCRIPTION	DATE	BY	CHK'D

DEPARTMENT OF DEFENSE
STATE OF HAWAI'I

DESIGNED:

PLANS OFFICER:

ENGINEER:

DIAMOND HEAD CRATER,
M-TUNNEL REPAIRS
TMK: 3-1-42:006

TITLE SHEET, LOCATION MAP, VICINITY MAP & PARTIAL SITE PLAN

APPROVED:

APPROVED:

DATE: 3 MAR 14

WORK ORDER NO: H007

SCALE: AS NOTED

DRAWING NO. A-1

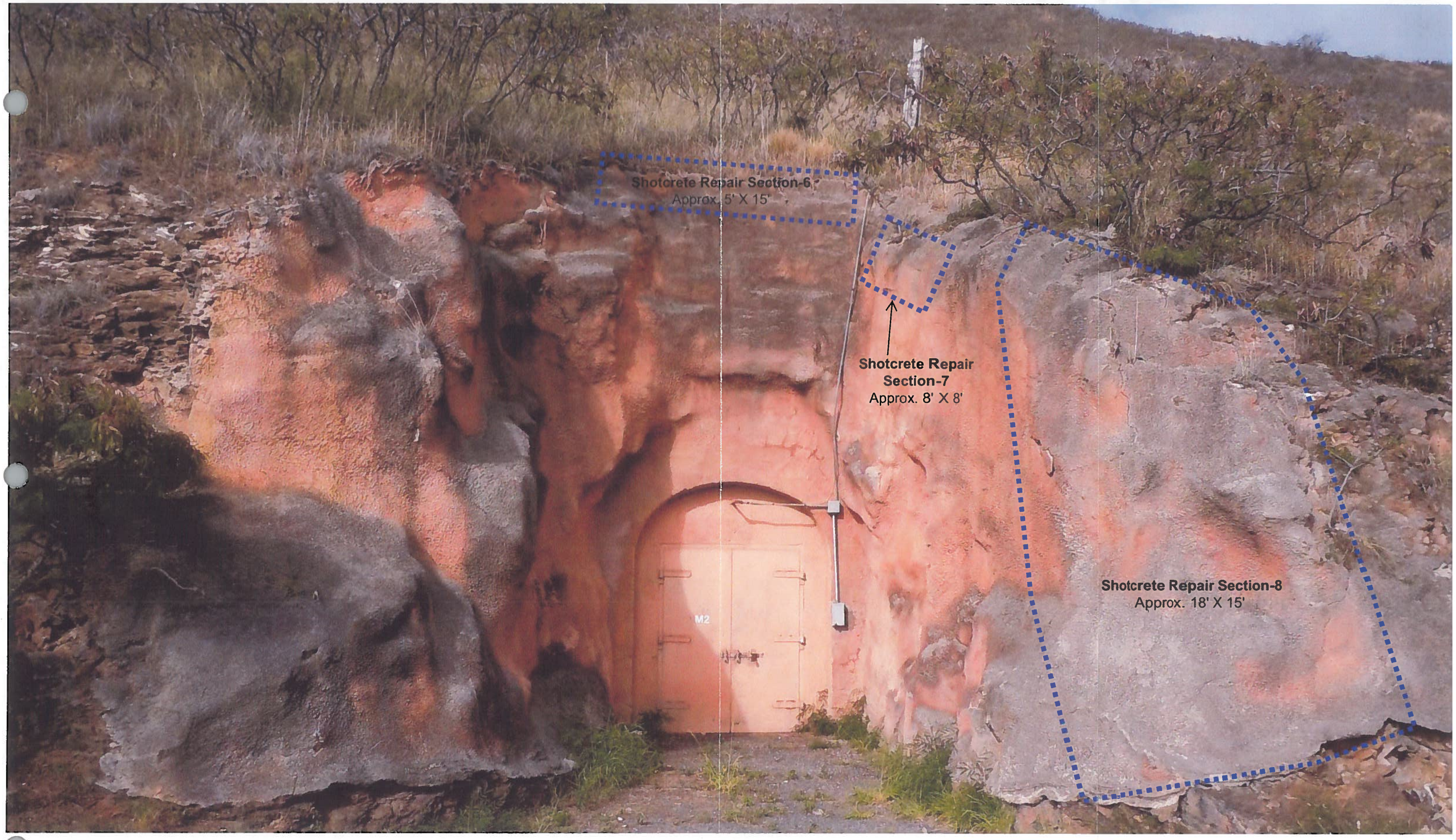
SHEET: 1 OF

- Approximate Shotcrete Repair Section

PHOTO SITE PLAN (TUNNEL NO. M-0.1)

- Approximate Shotcrete Repair Section

PHOTO SITE PLAN (TUNNEL NO. M-1)



- Approximate Shotcrete Repair Section

PHOTO SITE PLAN (TUNNEL NO. M-2)

- Approximate Shotcrete Repair Section

PHOTO SITE PLAN (TUNNEL NO. M-3)

- Approximate Shotcrete Repair Section

PHOTO SITE PLAN (TUNNEL NO. M-5)