TABLE OF CONTENTS

ATTACHMENT 1: INTEGRATED MASTER SCHEDULE

RETURN TO TABLE OF CONTENTS

Navy Closure Task Force - Red Hill Integrated Master Schedule

12/15/2023

Line of Effort

2023 | 2024 | 2025 | 2026 | 2027 | 2028

FY2024 | FY2025 | FY2026 | FY2027 | FY2028 | FY2029

December | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December | January | February | March | April | May | June | July | August | September | October | November | December

NCTF-RH Milestones

- Closure Phase 3: Prepare
- Closure Phase 4: Implementation of Permanent Tank Closure
- 1/15 IOC
- 3/31 FOC
- 4/21
- 9/12 First Tank Pressure Washing Start
- 4/1 Pipeline Removal Start
- 12/30 Final Site Assessment Report Concurrence
- 6/1 All Tanks Cleaning Complete
- 9/30 Pipeline Removal Complete (Prelim.)
- 6/30 Facility Ancillary Equip. Removal Complete

JTF-RH Defuel

- 1/19 Unpacking
- 2/1
- 3/30 Phase 5B Residual Fuel Removal
- AFFF Conc. Drain
- 4/30 JTF-RH Stand Down

PACFLT

- 3/22

NCTF COM

- 3/18

NCTF DCOM

- DP: Tank Cleaning Standard
- 2/28
- 3/13 IPR-Start Tank Cleaning
- Regulator Resp. Letter Concur.
- DP: Condensation Inspection

TANK CLEANING

- 2/7
- 12/15 Regulator Response Letter Submit
- Tank Cleaning Test & Eval
- 1/31 Spill Ex. Plan Submit
- 2/20
- 2/23 Spill Ex. Plan Concur.
- Spill Exercise
- 3/27 Tanks 7&8 Cleaning Start
- Post condensation test 7&8
- 6/28 Tanks 7&8 Structural QV Report
- 7/25 Tanks 5&6 Cleaning Start
- Tanks 5&6 Structural QV Report
- Tanks 7&8 Inspection
- 11/21 Tanks 3&4 Cleaning Start
- Condensation Inspection
- Tanks 5&6 Inspection
- 2/1 Tanks 3&4 Structural QV Report
- 2/26 Tanks 2&20 Cleaning Start
- 3/21
- Tanks 2&20 Structural QV Report
- Tanks 3&4 Inspection
- 7/16 Tank 9&10 Cleaning Start
- Tanks 9&10 Structural QV Report
- Tanks 2&20 Inspection
- 11/10 Tanks 11&12 Cleaning Start
- Tanks 11&12 Structural QV Report
- Tanks 9&10 Inspection
- 3/11 Tanks 15&16 Cleaning Start
- Tanks 15&16 Structural QV Report
- Tanks 11&12 Inspection
- 7/10 Tanks 13&14 Verification Start
- 9/10 Tank 17&18 Verification Start
- Tanks 15&16 Inspection
- 11/10 Tanks 1&19 Verification Start
- 14 Tanks Cleaning Complete
- 12/2
- 3/1 Condensation Inspection
- 6/1 All Tanks Cleaning Complete

Main Tanks

- 3/27 Setup (3mo)
- QV Structural
- Boom Install & Load Test (2.5mo)
- Pressure Washing
- 10/12 Tanks Inspection
- 10/27 Tanks Cleaning Reports
- Tanks Cleaning Complete
- Tanks 7&8 Cleaning Start (Repeated for 7x Tank Pairs)
- 7/25 Setup (3mo)
- QV Structural
- Boom Install & Load Test (2.5mo)
- Pressure Washing
- 8/26 Tanks Inspection
- 9/12 Tanks Cleaning Reports
- Tanks Cleaning Complete
- Tanks 5&6 Cleaning Start (Repeated for 7x Tank Pairs)

Surge Tanks

- Surge Tank Fill Contract Award
- 8/26
- Tank 1 inspection
- Tank 2 inspection
- Tank 3 inspection
- Tank 4 inspection
- 4/23 Site Prep
- 5/19 Surge Tank 1 Cleaning Start
- 7/12 Surge Tank 2 Cleaning Start
- 8/31 Surge Tank 3 Cleaning Start
- 10/13 Surge Tank 4 Cleaning Start
- 12/3 Surge Tanks Cleaning Complete
- 8/27 Surge Tank Fill Complete

Sumps

- 4/30 Sumps Cleaning Start
- 10/27
- 11/13 Sumps Cleaned

PIPELINE DECONSTRUCTION AND DEFUELING

- Contracting Start RFP
- RFP
- 2/14 Draft Requirements Submit to RA
- 3/31 Pipeline Removal Design Contract Award
- Emissions & Stormwater Assessment
- Structural Assessment
- Lead & Asbestos Assessment
- Cutting Site Containment Plan
- Historical Cataloging
- Draft Work Plan Submit
- Revised Work Plan Submit
- 11/27 Work Plan Concur
- Abatement program(s) in place
- QA Assessment
- Spill Exercise
- 4/1 Pipeline Removal Start (Mobilization)
- Pipeline Venting Start First Section
- Note: LOE will be populated post-contract award w/ work plan
- 9/30 Pipeline Removal Complete (Prelim.)
- Defueling Completion Final Inspection
- 10/30
- 11/30 Pipeline Removal Complete

FACILITY CLOSURE DESIGN & EXECUTION (equipment other than tanks and pipeline)

- Contracting Start
- 1/29 Preliminary brief to RA
- 3/31 Closure Design Contract Award
- Design Development, Specs, Plans
- 5/30 Draft Suppl 4 Submit
- 6/30 RA Comments Rcvd
- 7/31 Final Suppl 4 Submit
- 9/1 Supplement 4 Concur
- 12/1 Facility Ancillary Equip. Removal Contract Award (Disposition of Appurtenances)
- 6/30 Facility Ancillary Equipment Removal Complete
- 7/28 Contract Complete

SITE ASSESSMENT

- 2/1 Scoping Session w/ RA
- 3/31 Scoping Session w/ RA
- 6/28 Scoping Session w/ RA
- Draft Work Plan (Suppl 3) Submit to RA
- 9/3 Revised Work Plan Submit to RA
- 10/3 Work Plan Concur
- 11/15 Contract Award Site Assessment Field Work
- 1/1 Start Field Work
- 12/31 Complete Field Work
- 9/30 Draft Site Assessment Report Submit to RA
- 12/1 Final Site Assessment Report Submit to RA
- 12/30 Final Site Assessment Report Concurrence

ENVIRONMENTAL REMEDIATION

- 2/1 Soil Vapor Extraction Pilot
- 6/30 Pilot Report Out

PLANS & OPERATIONS

- 12/15 Regulator Response Letter Submit
- Draft Work Plan (Suppl 3) Submit to RA
- Draft Pipeline Work Plan Submit
- Revised Work Plan (Suppl 3) Submit to RA
- Revised Pipeline Rem. Work Plan Submit
- Tanks 7&8 Rpt
- Tanks 5&6 Rpt
- Draft Suppl 4 Submit
- Tanks 3&4 Rpt
- Tanks 2&20 Rpt
- Tanks 9&10 Rpt
- Tanks 11&12 Rpt
- Surge Tank 1 Rpt
- Surge Tank 2 Rpt
- Surge Tank 3 Rpt
- Tanks 15&16 Rpt
- Surge Tank 4 Rpt
- Tanks 13&14 Rpt
- Tanks 17&18 Rpt
- Tanks 1&19 Rpt

STRATEGIC ENGAGEMENT & PUBLIC AFFAIRS

- 12/4 Joint Plesser
- CRI 1/23 DLNR CWRM
- CRI Open House
- 4/1 FTAC CRI NCTF-RH Assumes PA Website & App
- CRI
- Open House
- FTAC

FACILITY MAINTENANCE

QUALITY VALIDATION

- 2/23 Spill Exercise
- 5/2 (T) Monthly QV Report
- . . . . .etc.
- Pipeline Spill Exercise

DOH

- RA Response Letter Concur.
- 2/7
- 12/15 RA Response Letter Rcvd
- 1/31 Spill Ex. Plan Rcvd
- 2/20
- 2/23 Spill Ex. Plan Concur.
- Spill Exercise
- Tanks 7&8 Structural QV Report Rcvd
- Tanks 5&6 Structural QV Report Rcvd
- 11/12 Tanks 7&8 Inspection
- Tanks 7&8 Rpt
- Tanks 3&4 Structural QV Report Rcvd
- 2/26 Tanks 5&6 Inspection
- Tanks 5&6 Rpt
- Tanks 2&20 Structural QV Report Rcvd
- Tanks 3&4 Inspection
- Tanks 3&4 Rpt
- Tanks 9&10 Structural QV Report Rcvd
- Tanks 2&20 Inspection
- Tanks 2&20 Rpt
- Tanks 11&12 Structural QV Report Rcvd
- Tanks 9&10 Inspection
- Tanks 9&10 Rpt
- Tanks 15&16 Structural QV Report Rcvd
- Surge Tanks Cleaning Complete
- 12/3
- 3/1 Condensation Inspection
- Surge Tank 1 inspection
- Surge Tank 2 inspection
- Surge Tank 3 inspection
- Surge Tank 4 inspection
- Tanks 11&12 Inspection
- Tanks 11&12 Rpt
- Surge Tank 1 Rpt
- Surge Tank 2 Rpt
- Tanks 15&16 Inspection
- Surge Tank 3 Rpt
- Tanks 15&16 Rpt
- Surge Tank 4 Rpt
- Tanks 13&14 Rpt
- Tanks 17&18 Rpt
- Tanks 1&19 Rpt
- 6/1 All Tanks Cleaning Complete

Tank Cleaning

- Draft Requirements Received
- Review
- Environmental Assessments Received
- Draft Work Plan Rcvd
- Revised Work Plan Rcvd
- 11/27 Work Plan Concur
- QA Assessment
- Spill Exercise
- Abatement program(s) in place
- Note: LOE will be populated post-contract award w/ work plan
- 9/30 Pipeline Removal Complete (Prelim.)
- Defueling Completion Final Inspection
- 10/30
- 11/30 Pipeline Removal Complete

Pipeline Deconstruction and Defueling

- 1/29 Preliminary brief to RA
- Design Development, Specs, Plans
- 5/30 Draft Suppl 4 Rcvd
- 6/30 RA Comments
- 7/31 Final Suppl 4 Rcvd
- 9/1 Supplement 4 Concur
- 6/30 Facility Ancillary Equipment Removal Complete

Facility Closure Design & Execution

- 2/1 Scoping Session w/ RA
- 3/31 Scoping Session w/ RA
- 6/28 Scoping Session w/ RA
- Review
- Draft Work Plan (Suppl 3) Rcvd
- 9/3 Revised Work Plan Rcvd
- 10/3 Work Plan Concur
- 9/30 Draft Site Assessment Report Rcvd
- Review
- 12/1 Final Site Assessment Report Rcvd
- 12/30 Final Site Assessment Rpt Concur

Site Assessment

Environmental Remediation

EPA

- 11/15 Monthly Rpt
- 12/15 Monthly Rpt
- 1/15 Monthly Rpt
- 2/15 Monthly Rpt
- 3/15 Monthly Rpt
- 4/15 Monthly Rpt
- 5/15 Monthly Rpt
- 6/15 Monthly Rpt
- . . . . .etc.
- Surge Tanks Cleaning Complete
- RA Response Letter Concur.
- 2/7
- 12/15 RA Response Letter Rcvd
- 1/31 Spill Ex. Plan Rcvd
- 2/20
- 2/23 Spill Ex. Plan Concur.
- Spill Exercise
- Tanks 7&8 Structural QV Report Rcvd
- Tanks 5&6 Structural QV Report Rcvd
- 11/12 Tanks 7&8 Inspection
- Tanks 7&8 Rpt
- Tanks 3&4 Structural QV Report Rcvd
- 2/26 Tanks 5&6 Inspection
- Tanks 5&6 Rpt
- Tanks 2&20 Structural QV Report Rcvd
- Tanks 3&4 Inspection
- Tanks 3&4 Rpt
- Tanks 9&10 Structural QV Report Rcvd
- Tanks 2&20 Inspection
- Tanks 2&20 Rpt
- Tanks 11&12 Structural QV Report Rcvd
- Tanks 9&10 Inspection
- Tanks 9&10 Rpt
- Tanks 15&16 Structural QV Report Rcvd
- Surge Tank 1 inspection
- Surge Tank 2 inspection
- Surge Tank 3 inspection
- Surge Tank 4 inspection
- 12/3
- 3/1 Condensation Inspection
- Tanks 11&12 Inspection
- Tanks 11&12 Rpt
- Surge Tank 1 Rpt
- Surge Tank 2 Rpt
- Tanks 15&16 Inspection
- Surge Tank 3 Rpt
- Tanks 15&16 Rpt
- Surge Tank 4 Rpt
- Tanks 13&14 Rpt
- Tanks 17&18 Rpt
- Tanks 1&19 Rpt
- 6/1 All Tanks Cleaning Complete

Tank Cleaning

- Draft Requirements Received
- Review
- Environmental Assessments Received
- Draft Work Plan Rcvd
- Revised Work Plan Rcvd
- 11/27 Work Plan Concur
- QA Assessment
- Spill Exercise
- Abatement program(s) in place
- Note: LOE will be populated post-contract award w/ work plan
- 9/30 Pipeline Removal Complete (Prelim.)
- Defueling Completion Final Inspection
- 10/30
- 11/30 Pipeline Removal Complete

Pipeline Deconstruction and Defueling

- 1/29 Preliminary brief to RA
- Design Development, Specs, Plans
- 5/30 Draft Suppl 4 Rcvd
- 6/30 RA Comments
- 7/31 Final Suppl 4 Rcvd
- 9/1 Supplement 4 Concur
- 6/30 Facility Ancillary Equipment Removal Complete

Facility Closure Design & Execution

- 2/1 Scoping Session w/ RA
- 3/31 Scoping Session w/ RA
- 6/28 Scoping Session w/ RA
- Review
- Draft Work Plan (Suppl 3) Rcvd
- 9/3 Revised Work Plan Received
- 10/3 Work Plan Concur
- 9/30 Draft Site Assessment Report Rcvd
- Review
- 12/1 Final Site Assessment Report Rcvd
- 12/30 Final Site Assessment Rpt Concur

Site Assessment

Environmental Remediation

Notes

Note 1. Tank cleaning QV is a structural quality verification (center tower and catwalk)

Deliverable | Deliverable Received | Milestone | Major Milestone | IPR | Decision Point | Exercise

Coordination | Navy Closure Task Force | Hawaii Department of Health | Environmental Protection Agency | Date Range | Complete

ATTACHMENT 2A: NAVY RESPONSE TO HAWAII DEPARTMENT OF HEALTH CONCERNS REGARDING RED HILL CLOSURE

RETURN TO TABLE OF CONTENTS

Attachment 2A
Responses to DOH Concerns Regarding Red Hill Closure

I. Description of the sequence and process in which the tanks and pipelines are planned to be cleaned

The Integrated Master Schedule (IMS) dated 15 December 2023 (Attachment 1) provides shows the process and order of tank cleaning, and in summary the following sequence and process is planned for tank cleaning:

- Sludge removal from the tank bottom
- Pressure washing with Simple Green solution
- Pressure washing with clean water
- Drying the tank interior by forced air ventilation

How will the tanks be verified as clean?

The NCTF proposes to verify the tanks as clean by the process indicated below. This method applies to the 14 main tanks to be cleaned under the Clean Fuel Storage Tanks for Closure (N3943020D2225-N3943023F4645) contract, the six main tanks that have been cleaned previously, the surge tanks, and the sumps. In researching potential methods, the NCTF reviewed references found in Hawaii Administrative Rules Title 11, Department of Health Chapter 11-280.1-75, including American Petroleum Institute (API) Recommended Practice 1604, API Standard 2015, and API Standard 2016. The NCTF intends to apply the practices found in these references when cleaning the tanks.

As pressure washing proceeds, APTIM Quality Control (QC), NCTF Quality Assurance (QA), and third party Quality Validation (QV) personnel will visually inspect the tank walls to confirm removal of the residual. If necessary, pressure washing will be repeated until QC, QA, and QV concur that the residual fuel has been removed. Both DOH and EPA will have the opportunity to inspect the interior surfaces of each tank and a copy of the quality validation report will be submitted to both DOH and EPA for review and concurrence.

For each tank and sump, QC, QA, and QV will document the following cleaning activities as complete:

- Sludge removal from the tank bottom
- Pressure washing with Simple Green solution
- Pressure washing with clean water
- Drying the tank interior by forced air ventilation

In the absence of state and federal regulatory drivers, the NCTF is willing to take an additional step to verify the tanks as clean. The NCTF proposes rinsate sampling and comparison to the environmental action levels (EALs) for DOH and EPA consideration.

When will the surge tanks be cleaned?

The IMS dated 15 December 2023 indicates the surge tanks will be cleaned during the period of May through December 2026. To protect the aquifer, the NCTF has placed a priority on cleaning the main tanks because they are inland of the Underground Injection Control (UIC) Line, where the underlying aquifer is a drinking water source. The surge tanks are located seaward of the UIC Line and the

aquifer in this area is not considered to be a drinking water source.

We have not received a work plan detailing how and when the pipes will be cleaned.
The NCTF first proposed the removal of the pipelines is Closure Supplement 2. The NCTF will submit the draft work plan submittal for pipeline removal to DOH and EPA in August 2024 in accordance with the IMS dated 15 December 2023. The NCTF estimates this contract will be awarded in March 2024. NCTF would like to work with DOH to understand what would be considered an acceptable process for cleaning the pipelines in advance of this submission.

The NCTF proposes to remove the final remaining estimated 4,000 gallons of residual fuel that remain in pipeline sags or adjacent to valves during pipeline removal. The NCTF is proposing to clean the pipelines by 1) using forced air to remove as much residual fuel as possible by evaporation and 2) establishing spill containment at the downstream end to capture any small amounts of fuel that may remain in the pipe. The NCTF will conduct spill exercises to ensure there will not be a release of fuel to the environment. NCTF will submit the draft spill plan as part of the draft work plan DOH and EPA for review and comment in August 2024 as shown on the IMS dated 15 December 2023.

The pipeline removal process is expected to start at Tank 20 and proceed down the tunnel segment by segment in relatively short sections from the tank gallery to the Underground Pump House.

All removed pieces of pipe will be recycled as scrap metal, in accordance with applicable federal, state, and local laws and regulations.

We also look forward to learning how the Navy will address the few thousand gallons of fuel remaining in sagged or flat portions of the pipes.
As described in the 14 November 2023 Defueling Plan Supplement 3, the estimated 4,000 gallons of residual fuel remaining in sagged or flat portions of the pipelines will need to be removed during the pipeline removal process. The NCTF will address this residual fuel during the pipeline removal process, which will ensure the complete removal of residual fuel from the facility. Spill containment will be in place at the downstream end of each segment prior to beginning pipe cutting. The pipeline removal contract will require the contractor to develop a work plan and spill response plan, including a spill response drill, to prevent any release to the environment during the removal process. Prior to beginning the work, the NCTF will submit these plans to DOH for review and concurrence.

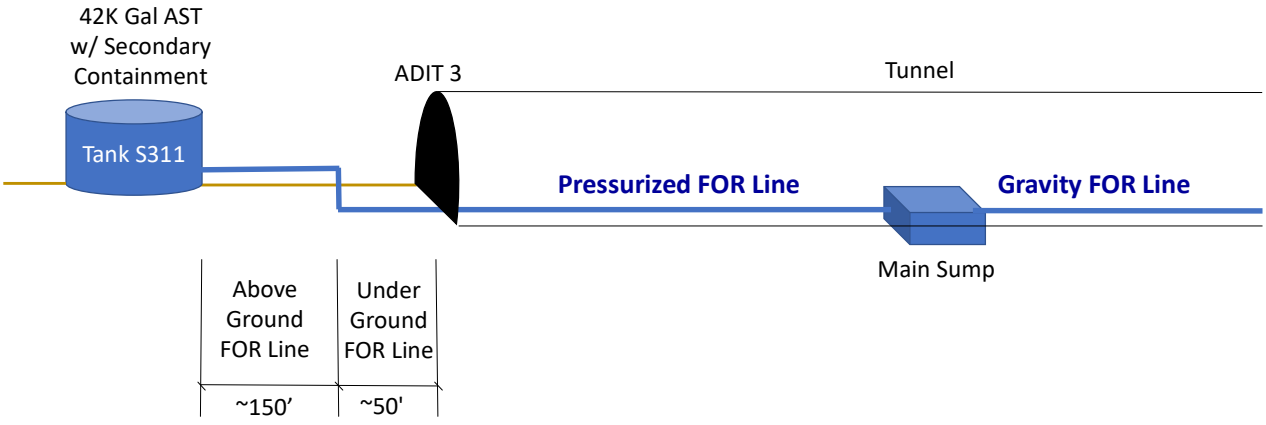
The Navy should also explain how it will safely remove and clean aqueous film forming foam remaining in pipes in the lower access tunnel.
The NCTF and JTF-RH will safely drain the remaining aqueous film forming foam (AFFF) concentrate between the check valve inside Adit 6 and the five mixing closets in the lower tank gallery in the lower access tunnel. Pipes will initially be drained in early 2024 and later removed.

II. Infrastructure and procedures needed to ensure the FOR (fuel oil reclamation) line's integrity to remove rinsate from the main fuel tanks during cleaning .

The JTF-RH have performed FOR system inspections and tightness testing to demonstrate the integrity of the FOR system. Documentation of each test or repair is referenced in the following paragraphs.

In 2022, the Navy replaced the above ground FOR piping between Adit 3 and Tank S311. The piping welds were successfully radiographed prior to returning the pipeline to service. Additionally the pipeline between the exit point at Adit 3 (where pipeline transitions from exposed inside the tunnel to buried) was successfully leak tested in January of 2023. Additional successful leak testing of the segment of piping between the exit point at Adit 3 and Tank S311 was conducted on 17 August 2023 (Repair No. 128, Repair ID FOR.059). The test results are documented in the report entitled "2023 Second Annual Leak Detection Testing Report of 51 Sections of Petroleum Pipelines, Joint Base Pearl Harbor-Hickam, Hawaii," dated 06 October 2023. On 16 October 2023, the Fleet Logistics Command (FLC) Pearl Harbor and JTF-RH provided the test results to EPA and DOH as part of the Annual Bulk Pipeline Leak Detection Testing Report. JTF-RH forwarded to DOH and EPA the documentation for both the radiography results and the leak test results in quality validation report dated 03 August 2023 for Repair No. 128.

In January 2023, the Navy completed an internal borescope inspection on the 50 foot underground segment of FOR piping (see the following figure). The 30 January 2023 inspection report is entitled "Borescope Inspection Report, Fuel Transfer Infrastructure Assessment: Buried FOR Piping Internal Inspection ADIT 3 Entrance, Red Hill Bulk Storage Facility, Hawaii." The inspection identified no Defuel Mandatory Repairs or Long Term Repairs that needed to be completed prior to defueling the facility and the piping was suitable for service until the next inspection is due in ten years.



Additional testing of the FOR line between the Main Sump and Adit 3 is currently scheduled for January of 2024 in accordance with the IMS dated 15 December 2023. Results of the inspection will be provided by JTF-RH once available.

Rinsate wastewater will drain continuously through the tank's low point drain into the FOR system during the tank cleaning process. This prevents rinsate from accumulating in the

bottom of the tank, such that there will be no buildup of pressure (head) inside the bottom of the tank. During pressure washing of the surge tanks, APTIM will not use the Underground Pump House (UGPH) FOR system, but instead will use a vacuum truck and diaphragm pump to remove the rinsate.

APTIM will use the FOR system only if the FOR system inspections and tests indicate that the rinsate will be contained completely to reduce the risk of a release from the FOR system into the environment.

NCTF will utilize the same best management practices as JTF-RH to reduce the risk of introducing surfactant or rinsate to the environment. This includes installing rubber matting or socks around monitoring wells and installing barriers to minimize migration of any release.

III. Method of permanent closure and associated design.

In January 2024, NCTF will brief DOH and EPA on the proposed disposition of ancillary systems in the Red Hill facility. In parallel, NCTF plans to submit a basis of design report (BODR) to propose the final disposition of ancillary systems in the Red Hill facility. If DOH and EPA are willing to provide written concurrence to the proposed approach following the brief in January 2024, NCTF will proceed directly to design and forego development of a formal report.

We ask that the Navy provide an updated master schedule that addresses all EO requirements, review times, and associated items on the critical path.

The IMS dated 15 December 2023 addresses all EO requirements, regulatory review times, and associated tasks on the critical path. The IMS outlines a comprehensive approach to closure that incorporates five major lines of effort:

1. Tank Cleaning
2. Pipeline Deconstruction and Defueling
3. Facility Closure Design/Execution
4. Site Assessment
5. Environmental Remediation

In addition, the IMS identifies the activities and milestones associated with quality validation, safety, strategic engagement, public affairs, and regulatory oversight.

IV. Ultimate disposition of associated piping.

The NCTF plans to send the removed sections of pipe off site for recycling in accordance with applicable environmental laws and regulations. As described in Defueling Plan Supplement 3, the NCTF and the JTF-RH will dispose of the residual fuel contents of the pipelines in accordance with applicable environmental laws and regulations. The pipeline removal contractor will prepare a work plan and waste management plan, and the NCTF will submit these plans to DOH and EPA for review and concurrence.

V. Site assessment in connection with the Facility's permanent closure—Why will the site assessment plan not be provided until June 2024?

The NCTF has been working systematically with our contractor (AECOM) since July of 2023 to

prepare the Site Assessment Work Plan. The NCTF is currently planning on three scoping meetings with DOH and EPA during the first quarter of 2024 to ensure our expectations best align on the requirements for the site assessment. The site assessment will inform the requirements under HAR 11-280.1-65 for investigations for any necessary soil and groundwater cleanup. NCTF looks forward to collaboration with EPA and DOH to further accelerate this schedule to prioritize the area with the highest environmental concern (e.g. the Red Hill Bulk Fuel Storage Facility).

ATTACHMENT 2B: NAVY RESPONSE TO HAWAII DEPARTMENT OF HEALTH COMMENTS REGARDING RED HILL TANK CLEANING PLAN

RETURN TO TABLE OF CONTENTS

Attachment 2B

Response to DOH 15 November 2023 Letter Enclosure Comments on the Project Work Plan, Clean Red Hill Tanks JBPHH, Hawaii (Work Plan), dated September 2023

Project Work Plan, Clean Red Hill Tanks JBPHH, Hawaii (Work Plan), dated September 2023

General Comments

1. ***Tank cleaning verification: We understand the U.S. Department of the Navy (Navy) is still developing a tank cleaning verification method and will update the Work Plan once the method is finalized. Therefore, the Hawai'i Department of Health (DOH) will not comment on the verification component of the Work Plan at this time. Based on Tank Closure Plan – Supplement 1 (Supplement 1), we understand the revised Work Plan will reflect that all surge tanks and main tanks – including those that have already undergone clean inspect repair (CIR) – will be verified as clean and re-cleaned if verification fails.***
   Both sumps, the four surge tanks, and twenty main tanks will be verified as clean. If verification fails for any of the six tanks that have already undergone clean inspect repair (CIR), the NCTF will re-clean the tank. The NCTF will inspect the six tanks emptied prior to 2021 (Tanks 1, 13, 14, 17, 18 and 19) and subsequently perform any necessary cleaning under a future contract action in accordance with the timelines shown in the IMS dated 15 December 2023.

2. ***Cleaning solution: Based on meetings with the NCTF, we understand an approximate 3% solution of Simple Green is being proposed. Please confirm the cleaning solution and submit the associated safety data sheet, as the Work Plan does not specify a concentration or a specification.***
   Simple Green SDS is included in the work plan in Appendix C of the Work Plan (Attachment 7). Composition/Information on Ingredients can be found in Section 3 of the SDS. Physical and Chemical Properties can be found in Section 9. APTIM has confirmed they will utilize a cleaning solution that will not exceed 3% Simple Green by volume and that they intend to use the general formula (Simple Green All Purpose Cleaner). Based on past discussions, NCTF understands DOH and EPA support the use of Simple Green as the industry standard approach to tank cleaning.

3. ***Repairs: Section 3 Drawings and Specifications on page 6 states "[d]esign work is not anticipated under this task order." However, design and execution of repairs and enhancements are mentioned throughout the Work Plan. For example, "finished product" number 10 that APTIM Federal Services LLC (APTIM). APTIM is expected to provide on page 7 is "[d]esign and install a lockable steel manway door…."***

   a. ***Will designs be provided to the DOH for review?***
      The NCTF will provide the shop drawings of the lockable steel door to DOH for review upon receipt from APTIM. The repairs to the center tower and catwalk have been historically minor in nature and are only required following inspection to confirm these structures will successfully pass load testing necessary for worker safety while cleaning the tanks. The NCTF will provide results of the initial and

final inspections signed by a professional structural engineer indicating the catwalk and center tower has adequate capacity to support the equipment and personnel necessary to clean the tanks.

b. ***Will necessary repairs/enhancements follow the same quality validation process established with the Joint Task Force – Red Hill for defueling?***
The NCTF will use a similar quality validation process as the one established by the JTF-RH.

c. ***What repairs/enhancements are anticipated for cleaning, other than on the tower?***
Other than repairs to the central tower, the only potential repairs would be to the catwalks. Overall, the purpose of the repairs is to successfully pass load testing and keep workers safe while cleaning the tanks.

4. ***Work Plan quantifications: Several quantifications are mentioned throughout the Work Plan, such as "up to two passes" or "up to 3000 gallons." Is a mechanism in place, such as unit process or contract options, so that work can continue uninterrupted if more (or less) work is needed?***
The NCTF has a contract vehicle in place to allow the work to continue uninterrupted. Specifically, if actual quantities do not match APTIM's estimates, the NCTF will issue a contract modification to address any deviations, and this contract modification process will not delay work in the field.

5. ***Final Results: Include the requirement to provide the DOH a copy of the final cleaning report, including verification that the infrastructure covered under this Work Plan are clean.***
The NCTF will provide the final cleaning report to DOH and EPA including verification that the internal surfaces of the Red Hill tanks, surge tanks and sumps are clean in accordance with the prescribed standards.

<u>Specific Comments</u>

6. ***Page 1, Section 1.1 Project Summary: States APTIM will perform this work "with the assumptions and exclusions included in Appendix A." Appendix A is redacted. Please provide an unredacted version of Appendix A, as this information could be important to determine what will and will not be covered under the cleaning contract.***
Appendix A has been redacted in accordance with Federal Acquisition Regulations (FAR) due to procurement sensitivity. It is worth noting Appendix A only affects payment for work and does not affect the actual work to be completed. If the assumptions and exclusions in Appendix A are incorrect, APTIM will still perform the work required and any additional payment will be negotiated through the NCTF contracting process in accordance with the FAR. On 20 October, 2023, the NCTF, EPA and DOH agreed this document would be removed from the submittal.

7. ***Page 4, Section 2 Project Sequence and Schedule: Please submit a separate high-quality version of the schedule, as we are unable to read all of the text on page 4.***
JTF-RH Repair and Maintenance Director provided an electronic copy of APTIM's most

recent schedule in PDF format to DOH and EPA by email on 13 December 2023.

Also, add the following items that appear to be missing:

a. When the surge tanks will be cleaned.
The requested information is shown on the IMS dated 15 December 2023. Surge tank cleaning is scheduled to take place between May 2026 and December 2026.

b. When the sumps will be cleaned. The Project Summary on page 1 states this Work Plan includes the main sump and sump 7.
The requested information is shown on the IMS dated 15 December 2023. Sump cleaning is scheduled to take place in October and November of 2026.

c. When the tanks, including those that have undergone CIR, will be verified as clean. Include sufficient time for regulatory review.
The current schedule shown on the IMS dated 15 December 2023 proposes to allow one day for DOH and EPA staff to inspect each tank for cleanliness. If the inspection is satisfactory, NCTF will request approval from EPA and DOH staff on the day of the inspection to allow APTIM to begin demobilizing the next day to immediately begin relocating booms and baskets into the next tank. This will allow the cleaning process to proceed without delay. NCTF will provide the required closure report for the cleaned tank to DOH within thirty days as required by HAR 11-280.1. If the inspection fails, NCTF will continue to oversee tank cleaning until it can pass the cleanliness inspection. We recognize there will be a need for coordination between NCTF and DOH and EPA staff to conduct these inspections. Please confirm if one day per tank is sufficient time to complete internal inspections of each tank.

d. "Field pre-cleaning construction activities" and "[d]ucting fabrication and installation" scheduled to begin in September 2023 (page 4).
JTF-RH Repair and Maintenance Director provided an electronic copy of APTIM's most recent schedule in PDF format to DOH and EPA by email on 13 December 2023. This schedule includes project milestones titled Construction Site Set-up which addresses field pre-cleaning construction activities required for overall site mobilization and a separate project milestone for Procurement to procure and deliver duct work. Additionally, each tank will require mobilization/set up and boom installation to take place before cleaning can begin. Those milestones are included for each tank on APTIM's schedule.

e. The eleven items on page 7 for which "APTIM will provide a finished product meeting the specific tasks listed…."
JTF-RH Repair and Maintenance Director provided an electronic copy of APTIM's most recent schedule in PDF format to DOH and EPA by email on 13 December 2023. Items 2 and 4 are not currently in the scope of work for this contract. However, NCTF plans to have the diffusers disconnected and inventory gauge array removed prior to exiting the first tank to avoid the need to re-enter the tank a second time. NCTF has verified that all other work is included on APTIM's schedule.

1. Repair tower and catwalk to be safe for personnel entry IAW EM 385-1-1.
2. Disconnect diffusers.
3. Disconnect tank from pipeline systems.
4. Remove inventory gauge array.
5. Remove liquid and residue.
6. Install liner access system.
7. Pressure wash all surfaces in accordance with Section 33 01 50.55 to enhance product removal while minimizing water.
8. Move air until atmosphere is measured to have vapor/combustible levels safe for personnel entry.
9. Secure vent, nozzles, pipelines.
10. Fabricate and install a lockable steel manway door that can be secured to prevent access for each of the 14 tanks at Red Hill.
11. (Sump Pits) Wash surfaces to enhance product removal while minimizing water.

f. "[M]obilization and construction of the degassing/venting system in 2023," which is identified as "a critical component to ensure the project timeline can be met" (page 9).

JTF-RH Repair and Maintenance Director provided an electronic copy of APTIM's most recent schedule in PDF format to DOH and EPA by email on 13 December 2023. Mobilization and installation of ventilation (referred to as degassing on the schedule provided) is included on this schedule.

g. Any other long lead items that could delay cleaning.

There are currently no other long lead items that could delay cleaning.

h. Anticipated repairs/enhancements and regulatory review times.

JTF-RH Repair and Maintenance Director provided an electronic copy of APTIM's most recent schedule in PDF format to DOH and EPA by email on 13 December 2023. This schedule includes twenty days to successfully pass the structural inspection (including initial inspection to identify repairs, complete repairs and complete final inspection). One day per tank has been proposed for DOH and EPA to complete final cleaning visual inspection.

i. All items listed in Section 4.1.3 Permitting, Passes, and Notification Requirements.

The NCTF is providing the following comments on items falling in the category for permitting, passes and notification requirements:

1. APTIM will be responsible for issuing confined space entry permits when necessary. Confined space entry permits are issued by a qualified Competent person who has been trained in accordance with OSHA confined space requirements. Due to the reoccurring frequency, this has not been included on the schedule.
2. Hot work permits will be obtained through Federal Fire Department as necessary on a case-by-case basis depending upon repair requirements in each tank. This has not been included on the schedule because it is only required when necessary.
3. APTIM received a letter of consent from DOH Clean Air Branch dated October

4, 2023 indicating a permit is not required to ventilate the tanks and authorizing storage of material in the upper access tunnel.

4. APTIM received an air permit for generator use from DOH Clean Air Branch dated October 25, 2023.

8. ***Page 7, Section 4 Methodology and Execution Strategy: Please provide details on how the tank will be disconnected from the system (item 1).***
   Each tank will be physically disconnected from the pipeline prior to pipeline removal. Both ends of each nozzle connected to the fuel pipeline will be capped with a bolted blind flange to prevent anything from entering inside the nozzle from inside the tank or exiting the nozzle from outside the tank in the tank gallery within the lower access tunnel.

9. ***Page 8, Section 4.1.1 Post Award Kickoff Meeting: Did this meeting occur as scheduled on October 4, 2023? If so, please provide the DOH a copy of the meeting agenda and minutes. If the meeting has not occurred, when is it scheduled? May the DOH participate?***
   The post-award kickoff meeting was conducted on 04 October 2023. A copy of the agenda and minutes is included as Attachment 3 Names of personnel listed in the minutes have been redacted in accordance with the NCTF's Personally Identifiable Information (PII) policy.

10. ***Page 8, Section 4.1.2 Pre-Construction Meeting: What testing activities are anticipated for preconstruction?***
    No testing activities are anticipated for preconstruction. APTIM confirmed this is a generic statement that is included in every work plan but is not applicable for this project.

11. ***Page 8, Section 4.1.3 Permitting, Passes, and Notification Requirements: The third item is a "[l]etter of consent from the Department of Health (DOH) for storage of material in the upper tunnel." It is unclear why our consent is needed for this, and no letter has been requested. What type of "material" is being referred to?***
    NCTF asked APTIM to confirm with DOH Clean Air Branch that authorization was not required to begin storing ventilation materials (e.g. ductwork) and equipment (e.g. blowers) in the upper access tunnel as part of the site mobilization. The Clean Air Branch confirmed a non-covered source permit was not required in a letter to APTIM dated October 4, 2023 and ventilation equipment and materials could be stored in the upper access tunnel.

12. ***Page 11, Section 4.2 Field Activities:***
    a. ***For item 1d, where will the additional concrete pads be placed?***
       In the revised Project Work Plan dated December 2023, APTIM has provided a general map showing the proposed location of the additional concrete pads. See Figure 4-1B in the Project Work Plan (Attachment 4) for locations of additional paved parking and concrete pad.

    b. ***For item 3, what piping will be disconnected, and how will it be done?***
       Each tank will be physically disconnected from the pipeline prior to pipeline removal. Both ends of each nozzle connected to the fuel pipeline will be capped

with a bolted blind flange to prevent anything from entering inside the nozzle from inside the tank or exiting the nozzle from outside the tank in the tank gallery within the lower access tunnel.

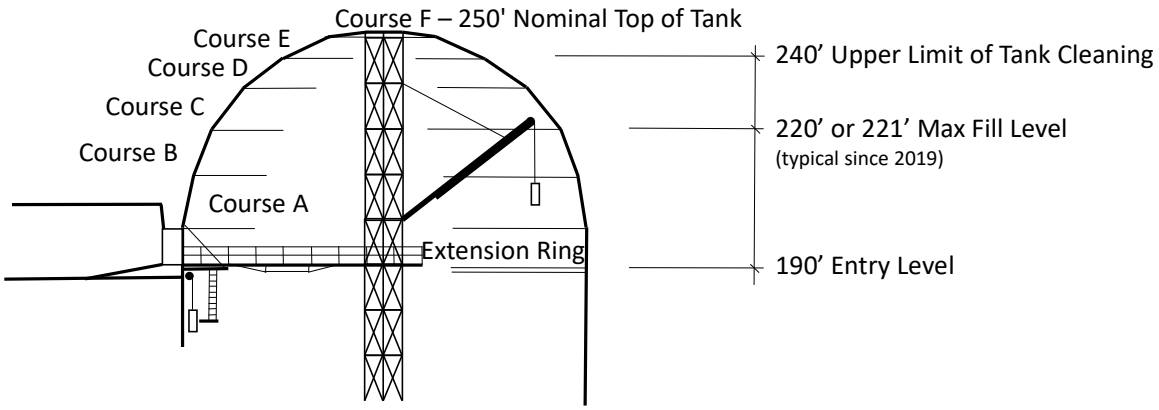
c. ***For item 5, how will the water and floating fuel be removed, and to where? Is this included in the 36,000 gallons of wastewater expected for cleaning?***
Water and floating fuel will be removed using the FOR system pipeline where it will be discharged to the main sump and pumped into the FOR Tank, S311. The 36,000 gallons of wash water is included in this estimate.

d. ***For item 11, what is the hot work certificate needed for?***
Hot work may be required for welding associated with any minor repairs to the center tower or catwalk.

e. ***For item 14, is the lockable steel door the temporary door mentioned in item 4, or will a new door be designed and installed?***
A new door will be fabricated and installed once the tank has been confirmed to be clean. The Navy Closure Task Force (NCTF) will submit the shop drawing to EPA prior to fabrication.

13. ***Page 13, Section 4.2.1.2 Access Equipment: How will areas of the dome not accessible by the boom and suspended scaffold baskets be accessed?***
During the 26 October 2023 Closure Technical Working Group Meeting between DOH, EPA, and NCTF, the NCTF indicated that APTIM's scaffold boom system can allow the pressure washing to reach within approximately 10 feet (measured vertically) of the top of each tank (see the following figure). APTIM has indicated this access system cannot access the top ten feet of the upper dome.

Based on the most recent available records for fuel levels in the tanks, the pressure washing level will be approximately 20 feet higher than the recent fuel level. This is the most practicable approach for cleaning the vast majority of the tank without unnecessarily exposing workers to safety risks. The following figure shows the layout of the courses of steel plates in the upper dome as well as the recent maximum fill level and the maximum limit of tank cleaning



14. ***Page 15, Section 4.2.4.1 RHBFUSF [Red Hill Bulk Fuel Underground Storage Facility] Tanks: For tank degassing, what is the minimum negative pressure expected in the system and tanks?***
    Degassing refers to ventilating until the atmosphere can be certified by a marine chemist/industrial hygienist to allow personnel entry for safe working conditions. Air will be forced inside from the lower access tunnel and exhausted through the ductwork in the upper access tunnel. This is the same processed APTIM has used for the previous tanks they have cleaned as part of the clean, inspect and repair process (Tanks 5, 13, 14, 17, 18). Based on past experiences, APTIM will use best management practices from prior CIR projects to minimize the potential to develop excessive negative pressures inside the tanks and ventilation system.

15. ***Page 18, Section 4.2.4.1 RHBFUSF Tanks: States "[c]leaning will be performed by power washing of all internal structures from the suspended scaffolding, as appropriate." How will the pressure cleaner get onto the suspended scaffold? What is the pressure cleaner's power source? Are there any concerns about the pressure cleaner's electrical cord (if needed) or water hose reaching the suspended scaffold or getting tangled/caught on other objects?***
    APTIM will continue to implement the same proven method for cleaning the Red Hill tanks as it has utilized for cleaning Tanks 5, 13, 14, 17, and 18. The pressure washer will be located inside the alcove near the tank being cleaned with a long hose reaching to the basket for personnel to utilize to clean the tank. The pressure washer will be powered from portable generators located outside the facility near Adit 6. APTIM has refined this procedure during the CIR process for Tanks 5, 13, 14, 17, and 18 and there are no concerns with extending the pressure washer hose or the electrical cord or getting tangled or caught on other objects.

16. ***Page 19, Section 4.2.4.1 RHBFUSF Tanks: States "[t]he FOR [fuel oil reclamation] line in the tank gallery will be used to transport rinsate from each RHBFUSF tank to Tank 311...." As discussed in our cover letter, the DOH's May 6, 2022 Emergency Order (EO) requires the Closure Plan to contain "the infrastructure and procedures needed to perform the work and ensure pipeline integrity before the cleaning process…." Please provide documentation of integrity for the portion of the FOR line to be used. In our September 8, 2023 letter to the NCTF, we concurred with the concept of using the FOR line to remove rinsate from the tanks with the understanding that the NCTF will assess the portion of the FOR line from pipe support 101 to Adit 3.***
    Please see the response to DOH Overarching Comments in Section II of Attachment 2A.

17. ***Page 19, Section 4.2.4.1 RHBFUSF Tanks: States "APTIM will complete cleaning of tank 311 prior to use to ensure the tank is clean and in good working order for use as a rinsate holding tank." Please confirm whether this is accurate, as the Navy's response to our Supplement 1 comment 25 states "[r]insate from the bulk fuel tanks will mix with contents in Tank S311." There is also no description in the Work Plan of how tank 311 would be cleaned, and it is not listed in the project schedule on page 4. If tank 311 will be cleaned, explain:***
    a. ***How and when it will be cleaned to hold rinsate,***
       APTIM has indicated they plan to clean Tank S311 prior to beginning tank cleaning

to remove any existing contaminants and confirm they are only responsible for disposing of fluids that enter the tank as a result of tank cleaning. This is expected to be only a cursory cleaning for APTIM to confirm they are not responsible for disposing of prior waste streams.

b. ***How and when it will be cleaned for closure***
Tank S311 will be cleaned after all other tanks and sumps are cleaned at Red Hill. Tank S311 will be cleaned using the same process as will be used to clean the surge tanks.

c. ***While it may not be part of APTIM's scope, we are also missing information on FOR line cleaning.***
The NCTF is proposing to triple rinse the pipeline after tank cleaning is complete to adequately clean the FOR pipeline.

18. ***Page 19, Section 4.2.4.1 RHBFUSF Tanks: States "[t]he fluid level of Tank 311 will be monitored via a level gauge to ensure that the tank is not overfilled…." Is the tank gauge a local gauge? How often will it be monitored to prevent overfilling?***
Tank S311 is equipped with a high-level alarm that is monitored from the control room by the control room operator which is manned 24 hours a day and seven days a week. Additionally, Tank S311 is equipped with a concrete pad and berm to provide secondary containment. The NCTF will also ensure that tank is visually checked once per shift by the roving watches.

19. ***Page 20, Section 4.2.4.1 RHBFUSF Tanks: The last paragraph of this section provides a definition of "clean" that only applies to the tanks. What is the definition of "clean" for the sumps included in this Work Plan?***
The definition of clean for sumps is the same as that described for tanks (free from oily residue).

20. ***Appendix D, High Pressure Cleaner Cut Sheet:***
    a. ***Page 8, Cleaning Tips: The Work Plan states the pressure cleaner will be used at a distance of 2-4 feet in the main tanks and surge tanks. However, the cut sheet Cleaning Tips recommends a distance of 1 foot. Are there any concerns about using the cleaner at a further distance?***
    APTIM will continue to implement the same proven method for cleaning the Red Hill tanks as it has utilized for cleaning Tanks 5, 13, 14, 17, and 18. APTIM has indicated they will utilize the pressure washer at a distance necessary to obtain the maximum cleaning efficiency while balancing the need to prevent coating from delaminating from the interior surfaces of the tanks.

    b. ***Page 11, Preventative Maintenance: Who will ensure the equipment used by APTIM is up to date on preventative maintenance?***
    APTIM is responsible for all aspects of quality control (QC), including preventative maintenance for their equipment. The NCTF will provide oversight as part of the quality assurance (QA) process.

Environmental Protection Plan (EPP), Clean Red Hill Tanks, JBPHH, Hawaii, dated January 2024

Specific Comments

21. ***Page 1, Section 1.1 General Overview and Purpose: States "[n]o residual fuel is expected to be encountered other than minor accumulations trapped within the gravity-fed system." Roughly how much fuel is expected to be trapped and where?***
The NCTF estimates approximately 4,000 gallons of residual fuel will remain in various locations throughout the eleven miles of pipeline that will need to be captured during the pipeline removal process (approximately the distance from Pearl Harbor to Diamond Head). Exact locations of residual fuel will be identified when the pipeline is being removed. The estimated 4,000 gallons of residual fuel will be removed during the pipeline removal project by the pipeline removal contractor. Please see IMS dated 15 December 2023 for the schedule of the pipeline removal project. The pipeline removal contract will require spill containment to capture any fuel from each segment of pipeline as it is being removed.

22. ***Page 1, Section 1.2 Separate Plans: Please explain what the Dirt and Dust Control Plan is and what information it contains, if any, related to tank cleaning.***
The Dirt and Dust Control Plan provides dust suppression measures for the areas external to the facility, such as roadways and laydown areas for delivery and storage of tank cleaning supplies and equipment.

23. ***Page 1, Section 1.3 Environmental Manager Personnel: States "[a] letter signed by an officer of the firm appointing the Environmental Managers is included as Attachment 1 of this EPP." There is no letter in Attachment 1.***
The letter is now included in EPP (Attachment 5). However, to protect the identity of the Environmental Managers, the letter has been redacted in accordance with the Navy's Personally Identifiable Information (PII) policy.

24. ***Page 2, Section 1.4 Operating Procedures: Please provide the "forms, guidelines, checklists, policies, and procedures" used for this EPP.***
The APTIM Management System (AMS) consist of internal working documents used to develop the EPP and are not intended to be released outside of the company. The three documents listed in the EPP are examples of the types of tools used by APTIM to develop the EPP. The EPP is a stand-alone document.

25. ***Pages 2 and 3, Section 1.5 Communication and Training: Provide more details on training. The training, as described, does not seem sufficient for spill response and cleanup.***
APTIM personnel are trained IAW requirements outlined by OSHA 29 CFR 1910.120 / 1926.65 and the contract specifications. Training of onsite personnel is conducted by these individuals and any response cleanup is overseen by trained personnel holding current certifications. Certifications are provided in the appendix of the EPP. Four APTIM personnel (Environmental Managers) as detailed in EPP have current HAZWOPER certifications demonstrating proficiency in providing spill response involving hazardous

substances (fuel, rinsate, sludge, etc.). Aligning with 1910.120(e)(7), workers on site will be trained (by APTIM) to a site-specific response level with regard to their task during response cleanup. This is the same training provided to APTIM personnel for past CIR projects and the recent pipeline repair project. A spill response drill is tentatively schedule for the end of February or early March timeframe to demonstrate proficiency in spill response. EPA and DOH are invited to witness this spill response exercise.

26. Page 3, Section 1.5 Communication and Training: States "[e]nvironmental training certifications are presented in Attachment 2 of this document." There are no certificates in Attachment 2.

APTIM has included the environmental training certificates. However, to protect the identity of contractor personnel, the certifications have been redacted in accordance with the Navy's Personally Identifiable Information (PII) policy.

27. Pages 5 and 6, Section 2.0 Management of Natural Resources: Add drinking water and groundwater resources to this section.

As requested, APTIM has addressed concerns in Section 2.8, which has been revised to state "Drinking Water and Groundwater Resources".

28. Page 10, Section 4.4.1.4 Management of Stormwater Runoff: What best management practices are anticipated?

Where appropriate, roof drain down-spouts at office trailers are employed to divert roof run-off away from areas with potential pollutants. APTIM also added best management practices for material storage areas.

29. Page 13, Section 5.2 Control and Disposal of Solid and Sanitary Waste:

a. Item 5 states "[o]nce 55 gallons of HW is exceeded...." Please confirm that individual drums will not be filled to 55 gallons, as headspace is needed.

Individual drums will not be filled to 55 gallons, and proper headspace will be provided. APTIM will manage containers in accordance with appropriate federal, state, and local regulations.

b. For item 7, please refer to where "the proper facility for disposal" is identified.

Proposed disposal facilities are identified in Table 4 of the Waste Management Plan.

30. Page 17, Section 6.3 Spill Diversion and Containment Measures: States "the project will evaluate the use of diversion barriers to create spill ways to direct the release away from critical infrastructure such as sumps or drains." When will this evaluation occur? Please provide the DOH a copy of the results.

APTIM will evaluate the use of diversion barriers prior to any activities involving liquid movement. These evaluations will be part of the Concept of Operations (CONOPs) developed for major evolutions and will be provided to DOH and EPA as requested. Many diversion barriers are already in place.

31. Pages 17-19, Section 6.4 Sources of Spills, Table 3 Spill Severity Matrix:

a. Does the "Severity" value impact the level of spill response?

Severity refers to the effect upon the environment should a release occur, and spill

response will be commensurate with the severity and potential impact.

b. ***For the "Line-breaking" source, identify the approximate potential quantity for each fuel type or rinsate, and re-evaluate the severity level(s) based on those quantities.***
Residual fuel is not expected for the tank cleaning contract. All standpipes and laterals will be drained by JTF-RH prior to beginning tank cleaning. Table 3 in the EPP contains estimated quantities of potential sources during tank cleaning and the assessed severity levels. APTIM will establish spill containment prior to breaking the connection in the pipeline to minimize the risk of a release of fuel into the lower access tunnel.

32. Page 19, Section 6.5 Pollution-Specific Response Procedures in Case of Spill:

The second paragraph states, "[i]f the spill area contains drainage systems, block off access to the drain ways to prevent hazardous material from transferring to unknown or distant locations." Can the "drainage systems" be blocked before cleaning to prevent this from happening?
The NCTF will utilize the same types of controls inside the facility that JTF-RH has used in the past to reduce the risk of any unlikely release to the environment. This includes rubber matting, drainage socks and sealing floor penetrations as well as other best management practices utilized by JTF-RH.

33. Page 21, Section 6.7 Locations and Inspection Requirement of Response Kits:

In the second sentence of the last paragraph, change "deal" to "seal."
The EPP has been corrected as noted.

34. Attachment 4, APTIM Red Hill Contingency Plan

a. ***PDF page 43, 2.0 Site Orientation, Figure 2.1: What is "CAA"?***
"CAA" refers to Central Accumulation Area, which is defined in EPA regulations.

b. ***PDF page 45, 3.0 APTIM Red Hill Emergency Action Committee, Figure 3 APTIM EAC Communication and Authority Structure:***

i. ***When would the DOH be informed of a spill and associated response?***
NCTF will utilize a similar call notification process used by JTF-RH. The call notification process is found in the Red Hill Spill Response Plan.

ii. ***It is unclear if the NCTF or APTIM is the Emergency Coordinator (Incident Commander).***
NCTF will assume the role of Incident Commander in the same manner as JTF-RH in accordance with the Red Hill Spill Response Plan.

c. ***PDF page 46, 4.0 Emergency Communications:***

i. ***The second paragraph mentions 1 to 3 horn blasts, but only explains what 3 horn blasts mean. What do 1 and 2 horn blasts mean? Where are the***

small portable airhorns located and will they be audible for all of the workers?
One and two air horn blasts are not currently defined in the contingency plan but may be assigned by the SSHO in the future for specific work activities. Air horns are located at each active project site and are loud to warn personnel in the impacted area.

ii. ***Are APTIM's radios compatible and integrated with the NCTF's current radio system, so that APTIM can contact the NCTF's Control Room?***
The APTIM radios are not compatible with the NCTF's current radio system. If communication with the NCTF is needed, APTIM will use the phones located in the tunnels to contact the control room operator. This is the same procedure that APTIM has used on other projects at Red Hill, including repairs performed for the JTF-RH. Additionally, DOD rovers as well as construction managers or engineering technicians on site carry radios to communicate with the control room operator when necessary.

d. ***PDF page 47, Section 5.0 Company Vehicle Operation: Is the use of two-way radios also prohibited while operating company vehicles?***
Yes, vehicle operator use of a two-way radio is prohibited on Navy property unless there is an emergency.

e. ***PDF pages 49 and 50, Section 7.0 Hazardous Spills or Release:***
   i. ***Paragraph 5 states "[s]pills and harmful releases severity level shall be determined, and respective actions put into effect." What are the levels of severity and their respective actions?***
   Please refer to EPP Section 6.4 for the definitions of severity levels. The respective actions are detailed in the remaining chapters of Section 6.

   ii. ***For bullet 3, what training is completed by personnel who are "trained to deal with" hazardous substance spills?***
   APTIM personnel are trained IAW requirements outlined by OSHA 29 CFR 1910.120 / 1926.65 and the contract specifications. Training of onsite personnel is conducted by these individuals and any spill response cleanup is managed only by trained personnel holding current certifications. Certifications are provided in the appendix of the EPP. Four APTIM personnel (Environmental Managers) as detailed in EPP have current HAZWOPER certifications demonstrating proficiency in providing spill response involving hazardous substances (fuel, rinsate, sludge, etc.). Aligning with 1910.120(e)(7), workers (subcontractors) on site will be trained (by APTIM) to a (site-specific) response level with regard to their task during response cleanup. This is the same training provided to APTIM personnel for past CIR projects and the recent pipeline repair project. A spill response drill is tentatively schedule for the end of February or early March timeframe to demonstrate proficiency in spill response. EPA and DOH are invited to witness this spill response exercise.

iii. ***For bullet 4, what are the qualifications of "qualified personnel?"***
The definition of qualified personnel found in Section 01 35 26 - Government safety Requirements enables the contractor to utilize extensive knowledge, training and experience to successfully demonstrate their ability to solve or resolve problems related to spill response for each particular project. APTIM personnel are trained IAW requirements outlined by OSHA 29 CFR 1910.120 / 1926.65 and the contract specifications. Training of onsite personnel is conducted by these individuals and any response cleanup is managed only by trained personnel holding current certifications. Certifications are provided in the appendix of the EPP. Four APTIM personnel (Environmental Managers) as detailed in EPP have current HAZWOPER certifications demonstrating proficiency in providing spill response involving hazardous substances (fuel, rinsate, sludge, etc.). Aligning with 1910.120(e)(7), workers (subcontractors) on site will be trained (by APTIM) to a (site-specific) response level with regard to their task during response cleanup. This is the same training provided to APTIM personnel for past CIR projects and the recent pipeline repair project.

iv. ***Who will notify the National Resource Center, DOH, and Honolulu Local Emergency Response Committee; and when?***
NCTF will notify the National Response Center, DOH and the Honolulu Local Emergency Response Committee in the same manner as JTF-RH in accordance with the Red Hill Spill Response Plan.

v. ***Include an example of "emergency notification signage."***
As requested, an example is provided in Attachment 4 of the Red Hill Contingency Plan prepared by APTIM.

f. PDF page 51, Section 8.0 Fire and Explosion:

i. ***Does "local fire authorities" refer to the Honolulu or Federal fire department?***
The "local fire authorities" refers to the Federal Fire Department.

ii. ***States, "[i]f installed, the manual pull fire alarm reporting system should be activated." Check if one has been installed and update the plan.***
The manual pull fire alarm system is in place throughout the facility, and the plan has been updated as requested.

g. PDF page 52, Section 9.0 Emergency Notification-Sounding the Alarm:

i. ***How will the "accountability check" of workers be done?***
Please see section 10.3 of the Contingency Plan.

ii. ***How will workers in the tanks be notified of a fire and requirement to evacuate?***
Please see section 9.1 of the Contingency Plan.

iii. ***How long does it take a worker to exit a tank?***
APTIM estimates that it would take a worker up to five minutes to exit a tank, depending on the worker's location in the tank.

h. PDF page 55, Section 11.0 Coordination with Local Emergency Agencies:

i. ***If all 9-1-1 calls from the facility are routed to the Regional Dispatch Center, how will the Honolulu Fire Department be contacted?***
The Federal Fire Department is the primary responder and will make additional notifications to the Honolulu Fire Department and others as necessary.

ii. ***The phone number 800-424-8802 is not a hotline for spill support.***
The phone number has been corrected.

iii. ***Clarify whether "fuel" in this context includes sludge, rinsate, etc.***
In this context, the term "fuel" includes sludge and rinsate.

iv. ***In addition to the Red Hill Pump House, notification must also be given to the Hawaii Emergency Response Commission and Local Emergency Planning Committee.***
APTIM and the NCTF will follow the local, federal, and state reporting procedures as required by the HEER office.

i. PDF page 57, Section 13.1 Fire Extinguishers: What type(s) of fire extinguishers would be used?
The fire extinguishers have an ABC rating.

j. PDF page 60, Section 15.2 Self-Rescue:

i. ***Where is the "site specific Rescue Plan"? Does it state that Federal Fire will be notified?***
APTIM will maintain the site specific Rescue Plan onsite as an internal living document. The Rescue Plan does state that Federal Fire will be notified. The site specific Rescue Plan is present at each location where work is being conducted and is maintained by the SSHO.

ii. ***Where is the rescue equipment stored?***
APTIM stores the rescue equipment at readily accessible locations at all active jobsites as has been done for prior APTIM projects at Red Hill.

k. PDF page 61, Section 16.0 Critique of Response: When was the last drill? May we receive a copy of the critiques?
The last drill was a rescue drill in 2022 and was conducted internally by APTIM and was not provided to the NCTF as it was not a contract requirement. As such, the NCTF does not have this information and APTIM is not required by contract to provide it. However, this information will be provided for all future drills.

l. PDF page 63, Attachment 1.1: Where is the assembly point for people exiting Adit 6?
Workers will use the primary or secondary assembly areas as stated in Section 10.2 of the Contingency Plan. Workers exiting Adit 6 can be seen from Adit 5.

m. PDF page 64, Attachment 1.2: Include a map of all 20 tanks. It seems unlikely that people at Tank 1 would have to exit Adit 6. Where is the assembly point for people exiting Adit 3? Have the people exercised the exit using the ladderwell (how long will they take to climb to the upper tunnel)?
A map of all 20 tanks is included as requested. As stated in Attachment 2.1, "Primary exit location determined based upon current location in lower tunnel." The distance between Adit 6 and Adit 3 from Tank 1 is comparable. Exit routes will be determined based upon the location of the hazard. For example, if the hazard location is near Adit 3, personnel will not use Adit 3, even if it is the nearest exit. Personnel exiting Adit 3 will report via radio or phone as described in Section 10.2. The ladder well has been used before. The average time for workers to climb the ladder well is approximately 10 minutes.

Waste Management Plan, Clean Red Hill Tanks, JBPHH, Hawaii, dated January 2024

Specific Comments

35. Page 4, Table 2 Summary of Anticipated Waste Streams: Please explain how:

a. 1 cubic yard of ordinary trash per tank was calculated.
This is an estimate based on APTIM's past tank cleaning projects at Red Hill.

b. 5 cubic yards of scrap metal per tank was calculated.
This is an estimate based on APTIM's past tank cleaning projects at Red Hill.

36. Page 15, Table 5 Less Than 90-Day Central Accumulation Area Requirements: States "secondary containment for all containers…must be capable of containing…the entire volume of the largest container, plus freeboard for rainwater accumulations" (bullet eleven; emphasis added). Please clarify, as page 13 states "[a]n uncovered area also has to have the capacity to hold 13 inches of rainfall in addition to holding…110 percent the volume of the largest container" (emphasis added).
The 13 inches of rainfall is based on EPA guidelines of "sufficient rainfall," defined as 24 hours of a 25-year storm. Hawaii's estimate (NOAA) for this scenario is 12.8 inches. However, APTIM has conservatively assumed 13 inches.

Response to 26 July 2023 DOH Comments on Closure Supplement 2, dated September 29, 2023

General Comments

37. Several responses mention submitting a Site Assessment Plan (i.e., Supplement 3) in June 2024. As stated in our cover letter, we are concerned about this extended timeline, as the NCTF should have already completed an evaluation of existing data in August 2023 and

an analysis of data gaps in September 2023, according to the existing closure schedule from February 2023. Please provide this background information to the DOH, so that we can assess the NCTF's progress on this EO requirement. Our expectation is that the Site Assessment Plan will define the data quality objectives and proposed activities that will be taken to fully characterize the nature and extent of contamination that will lead to an evaluation of remedial options and the implementation of corrective actions, from the former underground storage tank system, including past releases, as required by Chapter 11-280.1, Hawaii Administrative Rules.

The NCTF is proposing the schedule shown on the IMS (Attachment 1). However, we welcome opportunities to accelerate the schedule based on agreed upon priorities between the NCTF, DOH and EPA. The NCTF is currently planning on three scoping meetings during the first quarter of 2024.

Specific Comments

38. ***Comment 6: States, "[t]he NCTF has begun preliminary planning efforts for pipeline removal and will continue to move forward once we receive regulatory approval." What regulatory approval is needed to continue planning efforts? According to the NCTF's September 29, 2023 cover letter, the NCTF has yet to determine when it will complete a closure design that clearly identifies "closure-in-place." As stated in our September 8, 2023 concurrence-in-concept, the DOH is supportive of removing the three fuel pipelines, however we do not have a design plan to approve. The Navy should proceed with its planning efforts to complete the closure plan for the DOH's review and approval.***

    The NCTF intended to convey the idea that we will move forward with the field work for pipeline removal upon receipt of regulatory approval. In the meantime, the NCTF has been moving forward with its planning efforts for pipeline removal, and we will provide draft associated plans for DOH review by August 2024 in accordance with the IMS dated 15 December 2023.

39. ***Comment 7.a: The Work Plan does not describe how fuel remaining in the surge tank nozzles would be addressed. If it would be addressed by the tank cleaning contractor, add the surge tank nozzles to the Work Plan. If it would be addressed by someone else, who would that be?***

    The surge tank nozzles will be drained by the routine maintenance and minor repair contractor, POND, as part of residual fuel draining of the surge lines.

40. ***Comment 10.b: States the 1,600 gallons of water from Tank 1 was tested and determined to be non-hazardous. However, the Navy's response to comment 10 states, "[f]urther investigation would be needed to determine the source of the water in Tank 1." Has this been determined from the testing conducted? Please provide the findings of the investigation and submit the analytical data from the water in Tank 1.***

    The testing completed on the water discovered in Tank 1 has not helped to identify the source. As requested, the analytical results of the sample of the water from Tank 1 is included as Attachment 7. Tank 1 is not currently accessible. The IMS dated 15 December 2023 shows that Tank 1 will not be accessible until February of 2027. NCTF will begin an investigation into the source of the water once Tank 1 is accessible.

ATTACHMENT 3:POST AWARD KICKOFF MEETING AGENDA - CLEAN RED HILL TANKS - REDACTED

RETURN TO TABLE OF CONTENTS

PII – This information is exempt from disclosure under 5 U.S.C. § 552(b)(6), which protects personally identifiable information.

POST AWARD KICKOFF (PAK) MEETING

***CLEAN RED HILL TANKS*, JOINT BASE PEARL HARBOR-HICKAM, HAWAII**

Contract No. N39430-20-D-2225 Task Order N3943020F4645

Date/Time: Wednesday 4 October 2023 @ 0830 HST (Partnering Meeting to Follow)
Location: Pearl 2 Meeting Room; Pearl Country Club; 98-535 Kaonohi St, Aiea, HI 96701
Conference Call #: 469-270-0551 Passcode: 655121170#

Personnel Invited (Highlighted Names Attended):

NAVFAC HI/JTF

[redacted]

CLOSURE TEAM

[redacted]

NAVFAC EXWC

[redacted]

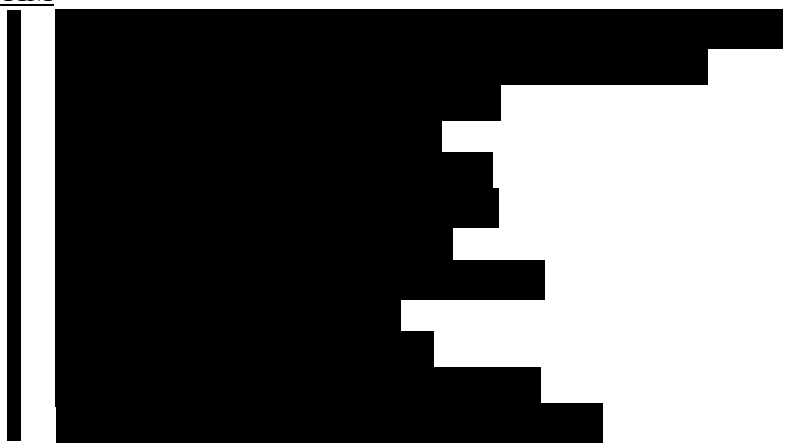
NAVSUP FLC-PH

[redacted]

DLA Installation Support

[redacted]

APTIM



AGENDA

Team Introductions

Introduction/Meeting Purpose: The objective of this Post Award Kick-off (PAK) meeting is to discuss the planned **pre-construction activities** up to mobilization, and to facilitate general discussion of overall tank cleaning activities.

Agenda Items

The following items will be discussed as part of this PAK Meeting:

- Introduction
- Project Scope Summary
- Communications / Org Chart / Roles and Responsibilities
- Preconstruction (Division 1) Submittals
- Badging, Permits, Entry Authorization, & Notification Requirements
- Health and Safety
- Environmental
- Open Discussion

1. Project Scope Summary

The primary objectives of this Project Program are to clean 14 bulk storage tanks, four surge tanks, and two sumps at the Red Hill Bulk Fuel Storage Facility (RHBFSF) tank farm. This scope of work includes but is not limited to: mobilization and installation of infrastructure, installation of ventilation systems for tank de-gassing/tank ventilation, installation of tank access systems, sludge/debris removal, and cleaning of the interior surfaces and appurtenances in each tank.

2. Communications

- Contractual Submittals and Correspondences sent to ACQ/CM/ET
- Pre-Construction Meeting planned for prior to mobilization
- All communications with the KTR must be done through COR/KO
- Only the KO can direct changes in scope

3. Critical Division 1 Submittals

- Approved Submittals
  - Waste Management Plan
  - Environmental Protection Plan, Spill Response Plan (official transmittal forthcoming)
- Received Government Comments—Work Plan

4. Summary Level Schedule Overview

NOTE: Dates and major milestones have been revised and will be provided in DOH response.

Pre-Construction Milestones:

10 Dec 2024	All Pre-Construction Submittals approved.
15 Jan 2024	All Ventilation System components installed/tested
19 Jan 2024	All Access Systems in place and tested

Major Milestones for Tank Cleaning:

19 Jan 2024	Transition from Defueling to Closure
Sep 2026	Cleaning complete
Dec 2026	Documentation and demobilization complete

Milestones for cleaning the first two tanks:

Early FEB 2024	Complete Disconnect pipelines from tank nozzles
Early FEB 2024	Begin initial degassing / tank ventilation
Mid-FEB 2024	Complete Flood tank bottoms to float flowable sludge into the FOR line
Late FEB 2024	Complete Remove 8-ft manway/install temporary entry door
Early MAR 2024	Complete Install tank lighting
Mid-MAR 2024	Complete Install center tower access system
Late MAR 2024	Complete Remove non-flowable sludge from tank bottoms
Late MAR 2024	Complete Structural Inspection center tower & catwalk
Early MAY 2024	Complete Perform center tower & catwalk repairs for boom installation
Mid-JUN 2024	Complete Install booms and baskets for tank shell access
Late JUN 2024	Complete Set up pressure washing system (electrical, pumps, sprayers)
Early AUG 2024	Complete Pressure wash tanks
Mid-AUG 2024	Complete Clean and dry tank bottoms

5. Badging, Permitting, Entry Authorization, and Notification Requirements

Badging / Entry Authorization

- Master Access List
- Red Hill Badges
  New Applicants, OF306 Form, Contractor Request Form for SF 85
  Renewal Spreadsheet
- DBIDS
- Photo Permits

Notification Requirements

- Daily Activity Correspondence to NAVFAC ACQ/COR/CM/ET
- Accidents/Incidents – prompt notification to NAVFAC COR/KO/ET via phone with email correspondence to follow
- Release of contaminants to the environment - immediate notification to NAVFAC COR/CM/KO/ET via phone with email correspondence to follow
- Construction shutdown due to facility operations notification received from NAVFAC COR/KO
- Normal work hours at the Red Hill Complex: 0600 to 1630. APTIM can request extended hours or weekend work when necessary for work.
    - Off hour request will be granted on a case-by-case via phone with NAVFAC COR/KO
    - Weekend Work must be submitted by Thursday morning for approval

6. Health and Safety

Complete details of all health and safety (H&S) provisions are included in the project APP. APP prepared IAW EM-385-1-1, OSHA, and APTIM Guidelines. All project activities will be performed in compliance with the current safety requirements.

- Safety Orientation - All project personnel including subcontractor's personnel shall attend a safety orientation meeting prior to working on the project site. To include the following elements:
    - Review and sign-off of the Final APP
    - SSHO to review all Activity Hazard Analyses (AHAs) applicable to project start up (additional AHAs will be reviewed prior to starting that activity)
    - Review and approval of all APTIM and subcontractor H&S training and certifications by the Project HSM.

- Site-Specific Training – Performed in conjunction with Safety orientation or on an as-needed basis. Topics to include HAZCOM, Confined Space, Fall Protection, etc

- Daily Safety Tailgate Meeting – Conducted by the SSHO every day prior to work. To include review of H&S associated with planned activities. Based around the JSA/AHA concept.

- Personal Protective Equipment (PPE)
    - The EM-385 requirements for PPE will be followed.
    - Varies for each feature of work – detailed in the APP and AHAs.
    - Subcontractors responsible for providing their own PPE
    - All personnel in Level C must have annual respirator fit test (otherwise Project HSM to perform)

- Monthly Safety Submittals
    - Contractor Safety Evaluation Checklist to be submitted with the monthly invoice

- Emergency Response
    - 9-1-1 (when calling 911, need to indicate that you are located on base)
    - First responder – Naval Base Fire Dept

7. Environmental

- Waste Management
- APTIM Environmental Managers will be as designated by Environmental Protection Plan, (Richard Lewis, Maura Mastriani, Austin White) and the onsite HSEM.
  - Atmosphere air monitoring will be performed by APTIM's SSHO to ensure safe confined space entry procedures and welding conditions per Marine Chemist Certificates and Fed Fire Hot Work Permit; Outside 3rd party monitoring may be required for lead monitoring if applicable.
  - DOH determination of permit requirements – application submitted for generator emissions; no permit required for degassing/ventilation systems

8. Open Discussion

- Tunnel Access
- Confined Space Entry Procedures and Fall Protection Certifications for all visitors

ATTACHMENT 4B: PROJECT WORK PLAN - REDACTED

RETURN TO TABLE OF CONTENTS

Naval Facilities Engineering Systems Command

DECEMBER 2023

PROJECT WORK PLAN
Clean Red Hill Tanks JBPHH, Hawaii
Joint Base Pearl Harbor-Hickam Oahu, Hawaii

Naval Facilities Engineering [redacted]

[redacted]

Revision 0

Submitted by:

[redacted]

Table of Contents

List of Tables

List of Figures

List of Appendices

Acronyms and Abbreviations

API	American Petroleum Institute
APP	Accident Prevention Plan
CM	Construction Manager
CMC	Certified Marine Chemist
CO	Contracting Officer
CQCP	Construction Quality Control Plan
DOR	Designer of Record
DQCP	Design Quality Control Plan
EPP	Environmental Protection Plan
ET	Engineering Technician
FEAD	Facilities, Engineering, & Acquisition Division
FOR	Fuel Oil Recovery
IAW	in accordance with
JBPHH	Joint Base Pearl Harbor-Hickam
LEL	Lower Explosive Limit
NACE	National Association of Corrosion Engineers
NAVFAC EXWC	Naval Facilities Engineering and Expeditionary Warfare Center
NAVFAC HI	Naval Facilities Engineering Command, Hawaii
Navy	U.S. Department of the Navy
NDE	Nondestructive Examination
NWGLDE	National Work Group on Leak Detection Evaluations
NTR	Navy Technical Representative
OSHA	Occupational Safety and Health Administration
PAK	Post Award Kickoff
PCS	Pacific Commercial Services
PM	Project Manager
QC	Quality Control
RFP	Request for Proposal
RHBFUSF	Red Hill Bulk Fuel Underground Storage Facility
RP	Recommended Practice
SOW	Statement of Work
SSHO	Site Safety & Health Officer
SSWP	Site Specific Work Plan
TO	Task Order
UFC	Unified Facilities Criteria
UFGS	Unified Facility Guide Specifications
VOC	Volatile Organic Compound
WP	Work Plan

1 Introduction

1.1 Project Summary

[redacted] will perform this work under Task Order [redacted] Contract No. [redacted] entitled, Naval Facilities Engineering and Expeditionary Warfare Center (NAVFAC EXWC) "Clean Red Hill Tanks Joint Base Pearl Harbor Hickam, Hawaii", dated May 23, 2023.

This Work Plan (WP) describes the technical and project management efforts, field work procedures, general requirements, materials, equipment, and sequence/schedule to complete cleaning of 14 tanks at Red Hill and four surge tanks at Joint Base Pearl Harbor-Hickam (JBPHH). The objective of this project is to clean 14 tanks at Red Hill, four surge tanks, and the main sump and sump 7 at Joint Base Pear Harbor-Hickam (JBPHH) as part of the de-commissioning effort of the fuel facility.

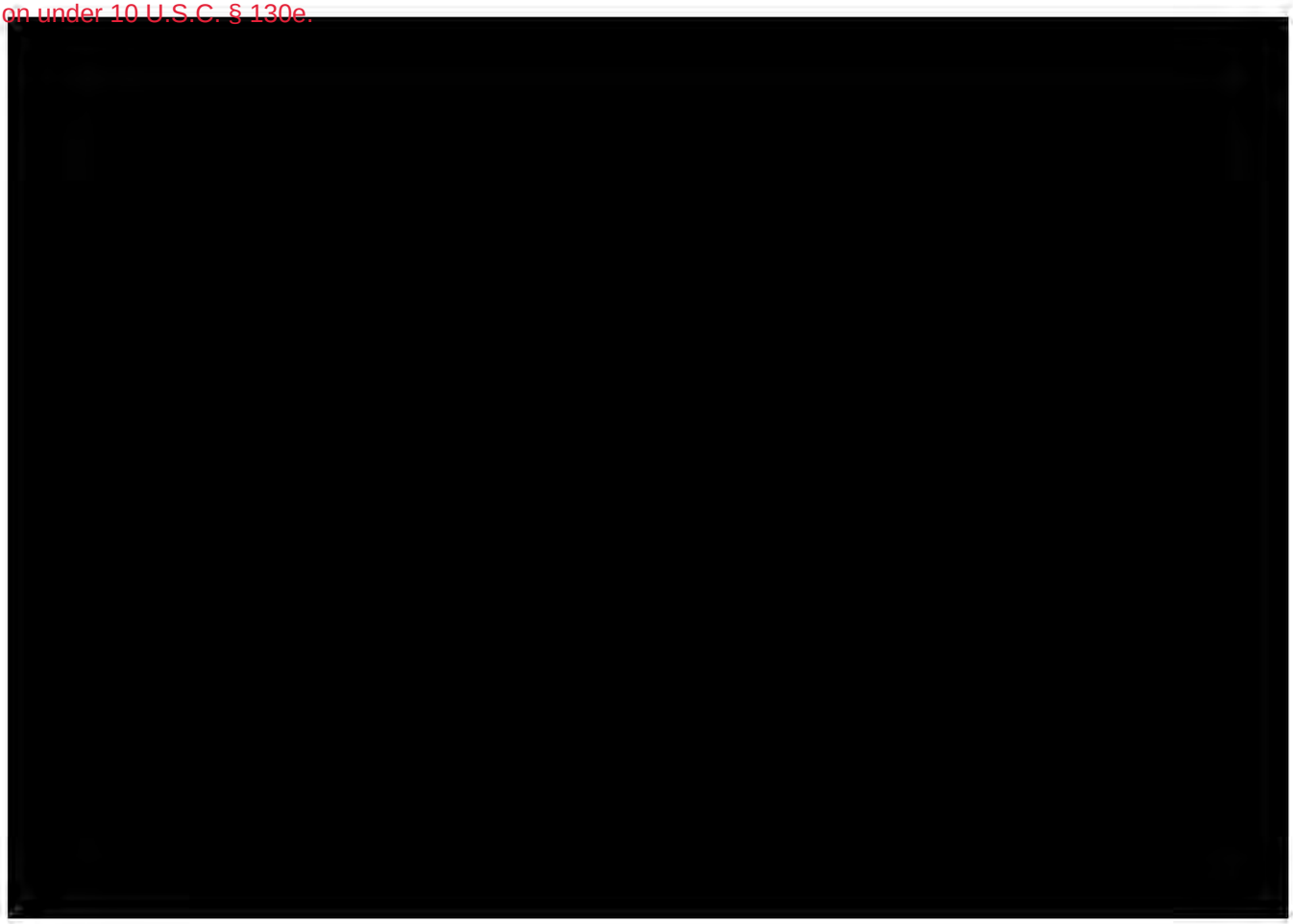
1.2 Project Background

The Red Hill Bulk Fuel Underground Storage Tank Facility (RHBFUSF) tanks were mined in-place below a homogeneous basalt ridge located between Moanalua Valley and Halawa Valley on the island of Oahu. Construction was completed in September 1943. Access to the tanks is provided through a single upper access tunnel 190 feet above each tank bottom, and a lower access tunnel just below the tank bottom. The lower tunnel extends about three miles to an underground pump house at Pearl Harbor. These unique tanks were mined-in-place to provide protection from aerial attack. The depth from the top of the 250-feet tall tanks to the surface varies from approximately 110- to approximately 175-feet. The fuel tanks vent to atmosphere. The shell (lower dome, floor, barrel, and upper dome) is lined with butt-welded carbon steel, nominal 1/4-inch thickness (except for a portion at the bottom of each tank which is lined with ½-inch thick steel shell or liner plates). The tank liner is enclosed within layers of reinforced concrete, grout, gunite, and consolidation grout. At the top of the tank (the upper dome), thickness of this concrete varies from 2-feet at the top to 8-feet at the base. Through the middle section of the tank (also known as the barrel region) concrete ranges in thickness from 2.5-feet at the top to 4-feet at the bottom. At the bottom of the tank (the lower dome), a massive plug of reinforced concrete, in some places 18-feet thick, was placed beneath the tank to brace the center tower. No petroleum tank construction standard was in existence for this work due to the unique location requirements. The Government has no material specifications or standards for the existing carbon steel plate.

1.3 Project Location

The RHBFUSF tanks are located within the Red Hill Fuel Facility on a ridgeline on the southeast side of the Halawa Valley containing an array of twenty bulk fuel storage tanks, in which is what is called the tank gallery. Tank 1 is the nearest of any tank to Adit 4, an entrance into the facility to the upper tunnel and Tanks 15 & 16 are tanks located closest to ADIT 5. A location map is provided in **Figure 1-1** below. The four surge tanks are located on JPBHH proper, just East of ADIT 1. See **Figure 1-2** below.

Procurement sensitive and proprietary information – This information is exempt from disclosure under 5. U.S.C. § 552(b)(4) because it contains proprietary and procurement sensitive information.
DCRIT determination for RH – This information is exempt from disclosure under 5 U.S.C. § 552(b)(3) because it meets the requirements for exemption under 10 U.S.C. § 130e.



2 Project Sequence and Schedule

[redacted] anticipates completing all project activities by December 2026, within the period of performance for [redacted] The government has stated that the tanks will be available for entry and de-gassing to prepare for cleaning on January 22, 2024. The below excerpt from the project schedule indicates the currently proposed tank sequence for the cleaning. This sequencing is subject to change as plans and layout for de-gassing throughout the tank gallery is finalized with the [redacted].

[redacted]

Activity ID	Activity Name	Orig Dur	Rem Dur	Act Dur	% Cmplt	Start	Finish	Total Float	Successors
Total		867	867	0		30-Jun-23	20-Dec-26	0	
Red Hill Tank Cleaning		867	867	0		30-Jun-23	20-Dec-26	0	
CAWD	Contract Award	0	0	0	0%	30-Jun-23		13	PAK010, SS0100, PC0120, PC0130, PC0100, PC0110, PDR, PC0160, PC0190, PC0220, PC0250, PC0280, PC0310, PC0340, PC0370, PC0400, PC0430, PC0460, PC0490, PC0570
PAK010	PAK Meeting	1	1	0	0%	21-Sep-23*	21-Sep-23	68	PRECON
PRECON	PreConstruction Meeting	1	1	0	0%	08-Jan-24*	08-Jan-24	17	TK16-0100
CAWD10	Construction Duration (WDAY)	655	655	0	0%	16-Jan-24	26-Aug-26	28	TK02-0420
PCD	Project Completion Date	1	1	0	0%	01-Dec-26	01-Dec-26	13	CCD
PDR	Project Duration (CDAY)	1251	1251	0	0%	30-Jun-23	01-Dec-26	17	PCD
CCD	Contract Completion Date	0	0	0	0%		20-Dec-26*	0	
Project Milestones		647	647	0		16-Jan-24	14-Aug-26	85	
W0000016	Tank 16 Duration	174	174	0	0%	16-Jan-24	25-Sep-24	82	TK16-0420
W0000012	Tank 12 Duration	174	174	0	0%	16-Jan-24	25-Sep-24	82	TK12-0420
PMS1010	1st 9 Month Progress Milestone	0	0	0	0%		30-Sep-24*	0	PMS1020
W0000015	Tank 15 Duration	174	174	0	0%	09-May-24	24-Jan-25	82	TK15-0420
W0000011	Tank 11 Duration	174	174	0	0%	09-May-24	24-Jan-25	82	TK11-0420
W0000010	Tank 10 Duration	174	174	0	0%	10-Sep-24	20-May-25	82	TK10-0420
W0000008	Tank 08 Duration	174	174	0	0%	10-Sep-24	20-May-25	82	TK08-0420
PMS1020	2nd 9 Month Progress Milestone	0	0	0	0%		27-Jun-25	268	PMS1030
W0000009	Tank 9 Duration	174	174	0	0%	08-Jan-25	15-Sep-25	82	TK09-0420
W0000007	Tank 7 Duration	174	174	0	0%	08-Jan-25	15-Sep-25	82	TK07-0420
W0000006	Tank 6 Duration	174	174	0	0%	05-May-25	13-Jan-26	209	TK06-0420
W0000004	Tank 4 Duration	174	174	0	0%	05-May-25	13-Jan-26	209	TK04-0420
PMS1030	3rd 9 Month Progress Milestone	0	0	0	0%		24-Mar-26	268	PCD
W0000005	Tank 5 Duration	174	174	0	0%	28-Aug-25	08-May-26	128	TK05-0420
W0000003	Tank 3 Duration	174	174	0	0%	28-Aug-25	08-May-26	128	TK03-0420
W0000020	Tank 20 Duration	161	161	0	0%	26-Dec-25	14-Aug-26	13	TK20-0350

Remaining Level of Effort | Remaining Work | Actual Level of Effort | Critical Remaining Work | Actual Work | Milestone

Page 1 of 29

[redacted]

NAVFAC

[redacted] began submitting the required preconstructions plans and administrative contract submittals in August 2023. The Post Award Kickoff (PAK) Meeting is scheduled to be held on October 4th, 2023. All planning documents will be completed and accepted to support successful achievement of milestones detailed by the project schedule.

Construction submittals will be completed and accepted with materials, supplies, and equipment being procured during this timeframe as applicable. Field pre-cleaning construction activities are anticipated to commence in mid-late September 2023, with actual tank entry activities to commence in January 2024. It is anticipated that the tanks will be drained and handed over to [redacted] by January 22, 2024. Ducting fabrication and installation will begin mid-late September and will be completed by January 22, 2024. Mobilization of equipment, additional trailer offices,

storage connexes, and ducting will need to occur prior to January 2024 to meet the December 2026 completion deadline. The [redacted] team realizes that scheduling is a crucial aspect in the completion of this project and will maintain a critical path schedule showing the planned and actual progress of work at the site. All on-site work will be coordinated to minimize any impact to base and facility operations.

3 Drawings and Specifications

Design work is not anticipated under this task order.

4 Methodology and Execution Strategy

This section presents the methodology and execution strategy for completing the required work, including coordination and logistics, quality control (QC), site preparation, equipment/material storage and security, mobilization/demobilization, applicable permitting, hazardous material control, etc. The services to be provided by the Government are identified.

The project activities will be coordinated with Government and subcontractors according to the Project Baseline Schedule which will be updated monthly. Refer to **6.0 Subcontractors**, for further details on the subcontractors that will be employed on this project.

Quality will be maintained by working closely with subcontractors to test and inspect their work based on the definable features of work (DFOW) listed below. Most importantly, safety will be maintained through compliance with the Accident Prevention Plan (APP) in addition to health and safety documents. The strictest requirements of the UFGS or API shall apply to cleaning activities.

DFOW:

1. Mobilization of Construction Facilities and Site Management & LOTO.
2. Tank Ventilation, Entry and Access
3. Tank Cleaning
4. Return-to-Operator Following Cleaning
5. Demobilization and Waste Handling

Project activities will be implemented in three phases: pre-construction activities, field activities, and post-construction activities. [redacted] will provide a finished product meeting the specific tasks listed below:

1. Disconnect tank from pipeline systems.
2. Move air until atmosphere is measured to have vapor/combustible levels safe for personnel entry.
3. Repair tower and catwalk to be safe for personnel entry per IAW EM 385-1-1.
4. Disconnect diffusers.
5. Remove inventory gauge array.
6. Remove liquid and residue.
7. Install liner access system.
8. Pressure wash all surfaces in accordance with Section 33 01 50.55 to enhance product removal while minimizing water.
9. Secure vent, nozzles, pipelines.
10. Design and install a lockable steel manway door that can be secured to prevent access for each of the 14 tanks at Red Hill.
11. (Sump Pits) Wash surfaces to enhance product removal while minimizing water.

The following subsections describe the methods used to execute the before mentioned specific tasks:

4.1 Pre-Construction Activities

The pre-construction phase will consist of a Post Award Kickoff (PAK) meeting, preconstruction planning and submittals, a preconstruction meeting, coordinating, and obtaining required applicable permits before commencing field work, and mobilization/site preparation. These activities are further discussed in the following subsections.

4.1.1 Post Award Kickoff Meeting

The PAK meeting is tentatively scheduled to be held on early October 4th, 2023 and will serve to integrate the contract personnel and all client representatives into the project team. The meeting discussions will include concerns, policies and procedures, and clear lines of communication and points of contact to be established. The meeting will also serve to establish expected schedule constraints and expected levels of communication between [redacted], NAVFAC HI, and facility personnel as it pertains to future operations and projects scope at Red Hill Fuels Facility which will occur during the contract timeframe.

4.1.2 Pre-Construction Meeting

A preconstruction meeting will be held as is necessary prior to performing repair or testing activities. The purpose of this meeting will be to review work steps, sequences, communication, and information with all involved parties. In addition, an objective will be to develop a mutual understanding relative to the scope, applicable permits, safety, site access, schedule and execution of the work, anticipated quality assurance/QC information/procedures, and final inspection and acceptance process prior to the performance of on-site activities.

4.1.3 Permitting, Passes, and Notification Requirements

The following items are necessary and will be/have been obtained as needed to perform the work:

- Confined Space Entry Permit(s)
- Hot Work Permit(s)
- Letter of consent from the Department of Health (DOH) for storage of material in the upper tunnel
- Air Permit for generator use from the DOH
- Letters of clarification for tank degassing (permit required vs no permit required) from the DOH

4.1.3.1 Base Work Clearance and Entry Authorizations

[redacted] employees and their contractors will obtain base access through the DBIDs program. [redacted] will work with base security to obtain Red Hill Tunnel access badges. [redacted] will also work to ensure personnel are on the JTF list for the front gate at Red Hill.

4.1.3.2 Hot Work Permit

A safe for hot work certificate from a certified marine chemist will be obtained after each tank is degassed to a level suitable for hot work. [redacted] shall obtain a Hot Work Permit from the Federal Fire Department whenever doing hot work, in addition to the marine chemist certification.

4.1.3.3 Confined Space Entry Permit

A confined space entry permit will be authorized by [redacted] confined space entry supervisor prior to tank entry.

4.1.4 Mobilization and Site Preparation General Activities

[redacted] will conduct necessary mobilization activities such that field activities may take place in a timely manner. In general, mobilization activities include moving resources such as supplies, equipment, subcontractors, and personnel to the site, establishing utilities (power, compressed air, ducting for degassing and ventilation). Completing mobilization and construction of the degassing/ventilation system in 2023 will be a critical component to ensure the project timeline can be met. [redacted] existing laydown areas will continue to be used for management and coordination of work and materials for activities at the 14 RHBFUSF and four surge tanks. See Figure 4-1 for the General Site Layout at Red Hill and location of temporary facilities, Access and Haul Routes, Site Trailers, dumpsters, sanitary facilities, parking areas, etc.

[redacted] also has a laydown area just East of ADIT 1 which will be utilized for cleaning of the four surge tanks.

The existing and proposed general site layout for Red Hill and the Surge Tank area can be found in Figures 4-1 and 4-2, respectively.

Procurement sensitive and proprietary information – This information is exempt from disclosure under 5. U.S.C. § 552(b)(4) because it contains proprietary and procurement sensitive information.
DCRIT determination for RH – This information is exempt from disclosure under 5 U.S.C. § 552(b)(3) because it meets the requirements for exemption under 10 U.S.C. § 130e.

Figure 4-1A General Site Layout Red Hill

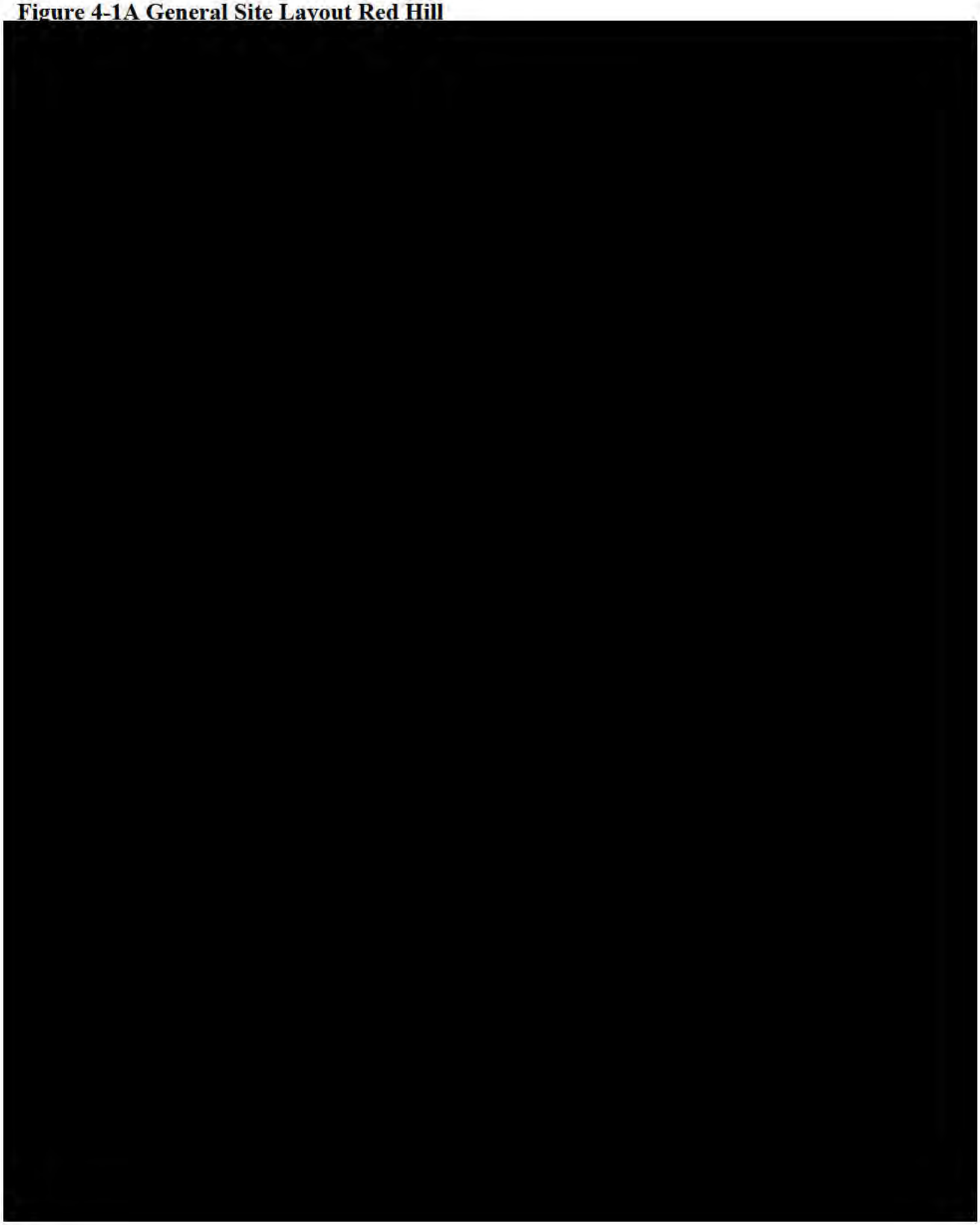


Figure 4-2 General Site Layout Surge Tanks

4.2 Field Activities

Field work for this TO will be performed for each tank in the following general sequence:

1. Mobilization & Site Setup: includes installation of temporary utilities such as power, compressed air, degassing/ventilation system, and installation of davit system for 8-foot manway removal. Actions include, but are not limited to, the following:
    a) Bringing in additional office trailers, storage connexes, and trailers for hygiene.
    b) Core holes through ADIT 4 and select bulkheads to facilitate ducting installation.
    c) Fabricating and installation of the ducting for degassing/ventilation in the upper tunnel.
    d) Placing concrete pads for parking for additional personnel.
    e) Placing concrete pads and installation of degassing/ventilation fan at ADIT 4.
    f) Staging additional generator and back-up compressor at ADIT 4.
    g) Personnel and equipment will be moved to/from the tunnels via golf carts, taylor dunn carts, and electric bikes (if approved). [redacted]s train will be utilized to move material throughout the tunnel system.

h) Staging and assembling booms, cables, airlines, hydraulic oil storage tanks for booms, mobile offices for SSHO's, power boxes, and power cables in the upper and lower tunnels.

2. Verification of Lock Out Tag Out (LOTO) locations and conditions.
3. Disconnect piping in the tank gallery and install fans and ducting for degassing/ventilation.
4. Open tank 32-inch manways for degassing and 8-foot diameter hatch after degassing to evaluate interior atmosphere, replace with temporary lockable entry during the active work phase.
5. Pump in water to float out residual fuel in the tank.
6. Initial Tank Setup: Install lifelines on catwalk and initial tank lighting, install spider buggy for center tower.
7. Structural inspection and condition assessment of catwalk and center tower.
8. Install tank lighting system and perform catwalk and tower repairs.
9. Removal of sludge.
10. Installation of booms with suspended scaffolds.
11. Perform tank cleaning and obtain safe for hot work certificate from the certified marine chemist.
12. Final government inspections and completion of certification report and other required closeout documentation.
13. Removal of booms and suspended scaffolds.
14. Close tank with the new lockable steel door which will not be airtight.

Tasks identified in the following sections describe in general terms the methods to be used to complete the field work in support of this TO.

4.2.1 Tank Access

The unique design of each of the Red Hill underground storage tanks represents a special design challenge to provide safe access to all areas of the tank interior. All work associated with tank access and ventilation will be performed by [redacted]. Applicable guidance that will be followed for this work will include API Standard 2015: Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks, and API Recommended Practice 2016: Guidelines and Procedures for Entering and Cleaning Petroleum Storage Tanks. A central structural tower is located at the center of each tank. There is also a catwalk from the 8-foot diameter hatch at the spring line that extends horizontally to the central structural tower.

The surge tanks will be accessed via a manway on the side of the tank. These tanks will not require a critical lift plan and can be cleaned from the tank bottom.

4.2.1.1 Central Tower & Catwalk Inspection

[redacted] will conduct a structural inspection of the catwalk and central structural tower to certify them safe to use by workers for the RHBFUSF. [redacted] will be inspecting, per tank:

- Center Tower Frame (1)
- Spider Hoist Assembly (1)
- Catwalk Bridge (1) & Working Platform(s)
- Boom with Suspended Scaffold System (2)

A Spider Staging ST-17 air driven Industrial Basket or equivalent will be load tested and then used to lower the inspector down the center structural tower. The designs and details for the anchorage for the Spider basket system and the fall arrest safety lines are the same as has been utilized by [redacted] in Tanks 5, 13, 14, 17 and 18.

After [redacted] completes their inspection [redacted] will review the inspection report and evaluate their recommendations and make repairs as required per the SOW.

Inspection is not expected for the surge tanks since these tanks are only 20 foot tall and can be cleaned from the floor of the tank.

4.2.1.2 Access Equipment

For the purposes of interior access and the awarded SOW, the steel shell is comprised of three general areas. Each of these areas have unique challenges as it pertains to access. [redacted] plans to utilize similar means of access as has been used in other Tanks at Red Hill.

Lower Dome

The bottom hemispherical shape from the shell bottom cylinder transition joint to bottom of tank is called the Lower Dome. The lower 45-degree arc surface can be accessed with the use of flexible ladders and/or the boom and suspended scaffolds. All workers will have safety harnesses connected to independent lifelines via cable grabs connected to compliant anchors.

Barrel & Extension Ring

The vertical shell cylinder is called the Barrel. Tank 1 has a transition plate at the top of barrel that is called the Extension Ring. It is expected that tanks of similar vintage (Tanks 2, 3, & 4) will have construction similar to Tank 1. [redacted] plans to traverse areas of the barrel and Extension Ring via boom and suspended scaffold baskets.

Upper Dome

The hemispherical dome section between the top of the Extension Ring and the top of the tank is called the Upper Dome. All areas up of the upper dome, up to course "D", will be accessible via boom and suspended scaffold baskets.

No specialty access equipment is required for the surge tanks. The surge tanks mirror traditional cut & cover tanks.

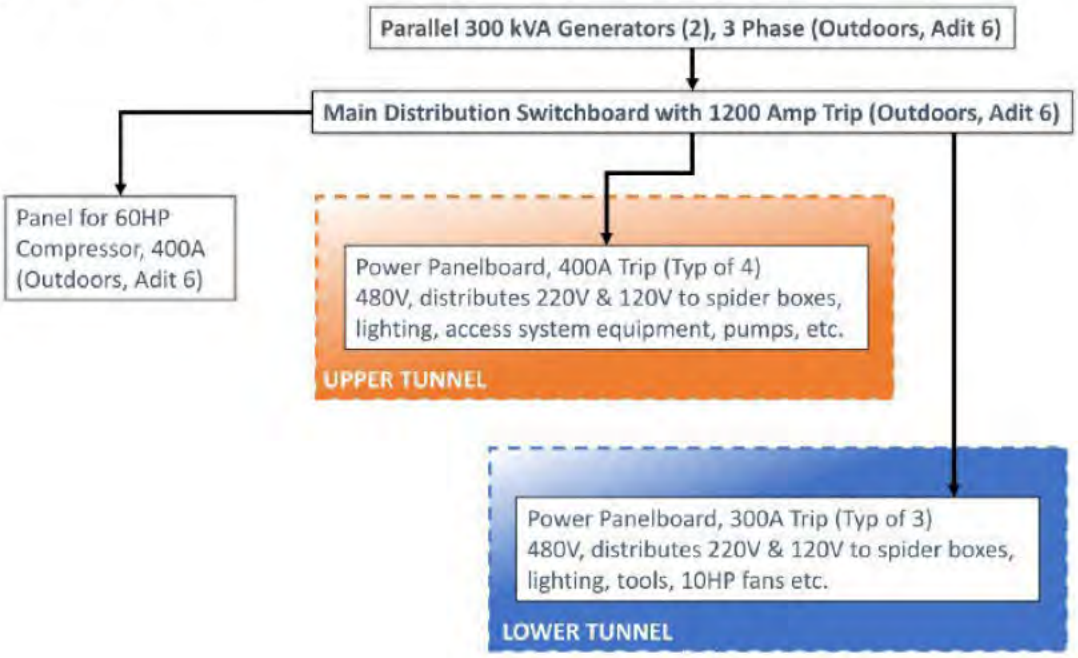
4.2.2 Provision of Utilities

Efficient temporary power and compressed air will be supplied at each tank as needed by adding onto [redacted] existing utility infrastructure, as necessary. The existing infrastructure was innovatively designed in a modular fashion which allows for the addition of the same types of power panels/cables/generators and compressors to supply utilities to additional tanks being cleaned in parallel. Power panels and ventilation systems have been and will be custom engineered and sized to fit in the RH tunnels with access constrained by tunnel dimensions and multiple bulkheads/blast doors. The power generation and compressed air systems have been installed in a small secondarily contained area outside Adit 6 and are operated by environmentally compliant tier IV diesel engines. This system has operated reliably for the last five years and at times 24/7 to support complex coating and welding operations in up to three (3) RH tanks simultaneously. The system is scalable and can be expanded to supply utilities to more tanks to be run in parallel. A description of individual utilities follows.

Power: **Figure 4-3** depicts how power will be supplied to each tank. [redacted] proposes cabling and distribution panelboards enough to add to this existing setup to the extent necessary to supply power to 4 – 6 separate tank work locations concurrently. This would allow for the maximum amount of redundancy and schedule flexibility. This system should provide sufficient power for cleaning activities as equipment and tools used for cleaning are lower amperage than coating and welding-type activities performed using this system in the past.

A separate generator and fuel tank, same model, as the existing ones, will be provided for the 200 HP fan required to de-gas/ventilate the tanks from ADIT 4. The fan will be powered by it's own, separate generator. This configuration has not been shown due to the simplicity of the system.

Figure 4-3 Power



4.2.3 Repair Design

If design is required for any repairs after tower inspection, [redacted] will act as the project Designer of Record (DOR) per Section 3.0 of this plan and as required per the project SOW. Repairs will be signed and sealed by a professional engineer.

4.2.4 Tank De-Gassing, Access Setup and Cleaning

Tank cleaning will be performed as necessary to meet project specifications and the project SOW as outlined below.

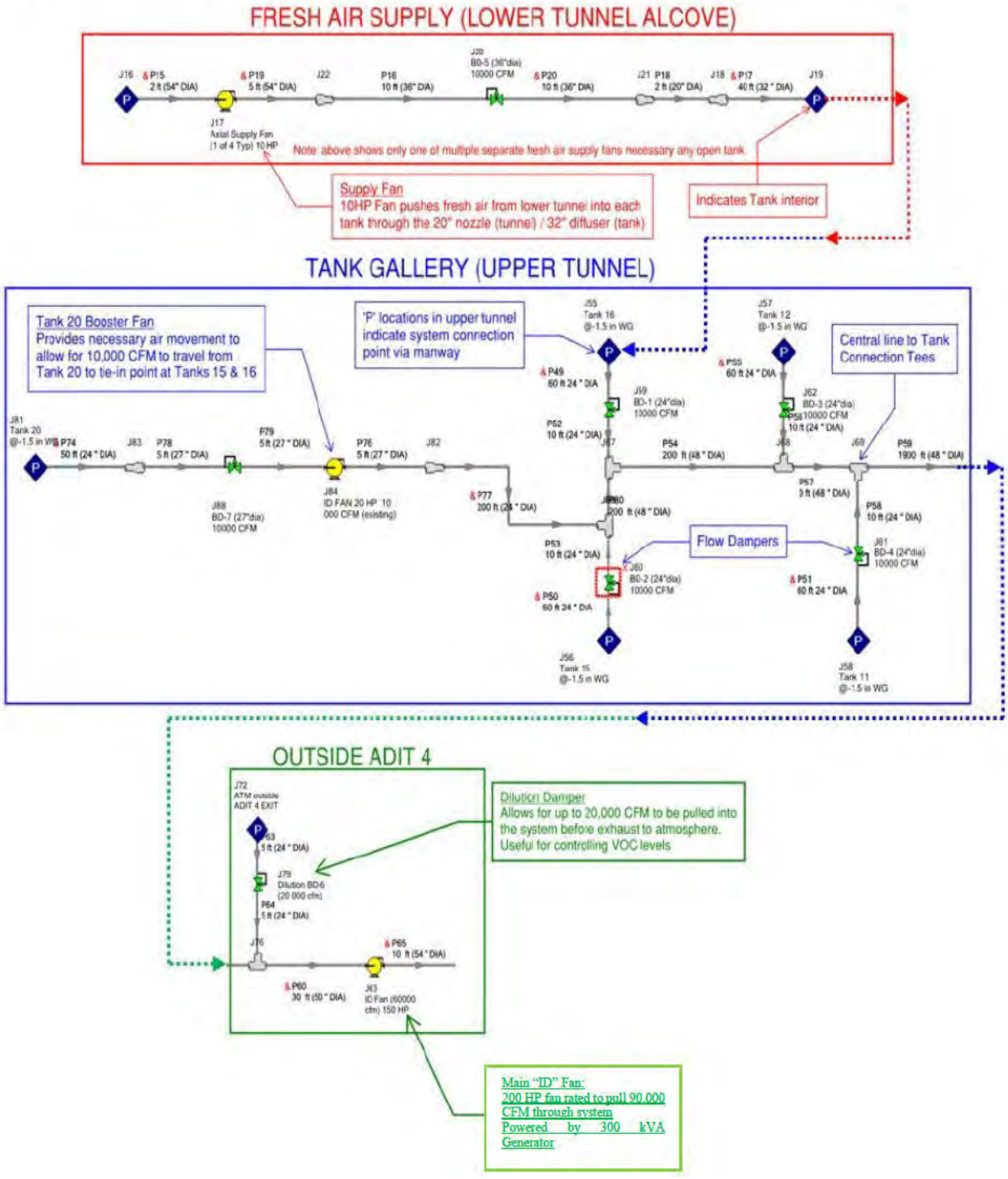
4.2.4.1 RHBFUSF TANKS

Tank De-gassing: For each tank, the 30" manway on the 8' access hatch, a blind flange on a tank nozzle in the lower tunnel alcove and the top of tank manway will be opened by personnel in appropriate PPE to determine Volatile Organic Compound (VOC) levels. [redacted] has developed specific safety checklists, procedures, and controls to eliminate unnecessary risks when first opening tank nozzles, manways, and hatches. Degassing operations will be completed via the 30" manway prior to 8' hatch removal. After degassing operations have lowered VOCs to safe levels, personnel with proper PPE (full-face/half-face respirators with organic vapor cartridges) will enter the tank through the manway and via the top of the tank by way of a center tower suspension beam which serves as an anchor for suspended scaffold loads up to 1,410 lbs. Since the ventilation system will maintain a negative pressure in the tank, VOCs from the interior will not be able to escape into any part of the facility. After removal, the 8' hatch will be secured close to the egress/ingress opening. VOC's and LEL's will be tested prior to removal of the 8' hatch. A temporary access ramp and lockable steel manway door will be installed for safe and secure access to the tank.

A degassing/vent line that is approximately 50-inches in diameter will be installed throughout the upper tunnel. A 200 HP fan will be staged outside rated to exhaust 90,000 CFM during degas operations, See **Figure 4-4**. The piping in the lower tunnel will be disconnected in each alcove and a fan hooked up to blow air into each tank. Initial degassing of the tank will be via the 30-inch hatched access on the 8-foot manway and then potentially through the 24-inch vent line that is encased in gunnite.

To ensure the safety of the personnel entering the tank and involved in the tank cleaning, repairs, and inspections, the safe for hot work certificate will be maintained by competent person certifying gas free status and ventilation are being maintained adequately. A safe for hot work certificate covers worker entry authorization.

Figure 4-4 Ventilation Schematic.



Access System Installation: See **Figure 4-5** for an overview of suspended scaffold systems used to access the shell and bottom of the tanks.

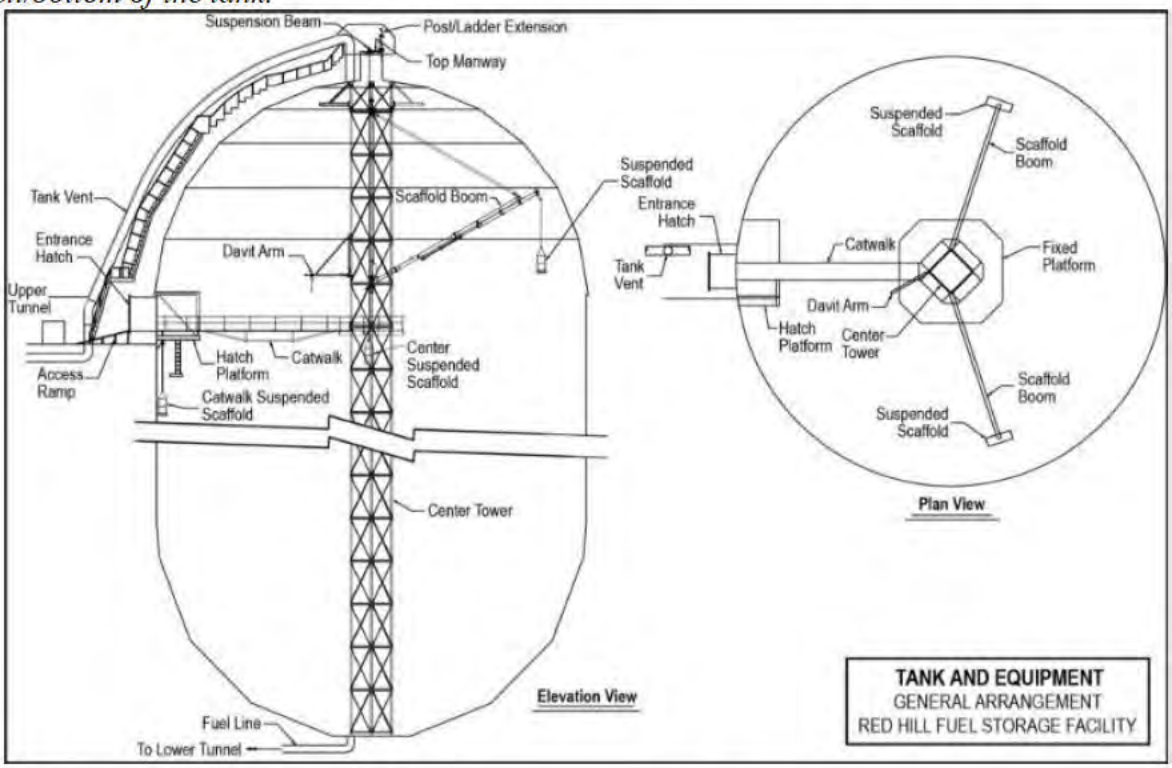
To prepare tank for installation of access systems, [redacted] will perform the following tasks in similar fashion to the work they have executed in RH Tanks 1, 5, 13, 14, 17, and 18 for [redacted] personnel selected to act as field foreman for access system installation crews have experience doing the same type of work in multiple RH tanks. Lifelines will be installed at catwalk and center tower, center tower basket will be installed, lighting systems will be put in place, the 32" diffuser will be disconnected and left at tank bottom, and support will be provided to structural engineer for inspection.

Before the booms and suspended scaffold can be installed, a structural engineer from [redacted] will inspect existing tank catwalk and center tower infrastructure for deficiencies. [redacted] has completed structural inspections and reports on at least 5 other RH tanks which commonly require replacing missing or damaged fasteners and diagonal braces on the tower.

After the tower and catwalk have been certified by [redacted] as being structurally sound for the scaffold boom installation, these booms will be installed. These systems were custom designed by [redacted] Structure group to provide safe access to most of the interior tank shell. Several proprietary innovations to systems used by previous contractors have allowed a greater range of access (approximately 10° extra rotation around tower) and additional capacity (approximately 300 more pounds per scaffold boom) to facilitate construction. The systems will be load tested in compliance with previously accepted procedures by the Government. Load testing will be witnessed and certified by [redacted] who has done the same for Tanks 1, 5, 13, 14, 17, and 18. Each scaffold boom has been load tested to 1,660 pounds and is expected to be load tested to the same capacity for each tank; each of the hoists will be load tested to 1,500 pounds and each suspended scaffold will be load tested to 1,500 pound capacity. The hoist/suspended scaffold operates independently of the boom system in vertical ascent/descent. Each scaffold boom can be rotated 190° on the "left" and "right" sides with overlap on both ends of travel. Each scaffold boom can be raised from 0 to 85° vertically. There is a jib tip which is able to extend 10 feet from the end of the fixed scaffold boom. This system can access all parts of the shell interior up to top of Upper Dome D which allows for full cleaning of interior tank surfaces at close range with 5,000 psi sprayers. The system will be maintained, tested, and operated in accordance with the access system plan that has successfully guided [redacted]'s previous RH tank projects. All suspended scaffolds will have insulated vertical lifelines installed and 100% fall protection tie-off will be strictly enforced.

A 20 cubic foot air receiver vessel similar to those operated by [redacted] during previous tank repair contracts will be installed at each of the tanks. This vessel allows smooth operation of the air motors for the booms and air tools/equipment needed to support all inspections and repairs.

Figure 4-5 Shell Access System. [redacted] *will use a suspended scaffold system to access the shell/bottom of the tank.*



Cleaning: [redacted] will clean the tanks and provide turnkey handling and disposal of waste and rinsate water. [redacted] will use the center man-basket to initially access the tank floor. Cleaning will be performed by power washing of all internal structures from the suspended scaffolding, as appropriate. The top of tank, center tower, walls and lower dome floor will be pressure washed clean, with water mixed with simple green using electric pressure washer with a capacity of up to 5,000 PSI until all areas are clean, similar to tank cleaning [redacted] performed on Red Hill Tank 13 and Tank 18. The catwalk will be washed starting from the floor area and working up to the railing, Spraying in a horizontal, side-to-side technique. For the center tower, washing will start from the top down outside and inside. Spraying in a horizontal, side-to-side manner. Each scaffold boom can be raised from 0 to 85° vertically, to reach approximately 40' above the extension ring up to the D course. There is a jib tip which is able to extend 10 feet from the end of the fixed scaffold boom. This system can access the shell interior up to the top of Upper Dome Course D. The system will be maintained, tested, and operated in accordance with the scaffold boom access system plan that has successfully guided [redacted] previous RH tank projects.

Water pressure in the legacy fire water line in the upper access tunnel is equipped with sufficient pressure as found by previous tank cleaning contracts. Simple green (See Appendix C for SDS) will be siphon fed directly through the water gun hose. Simple green will be siphoned out of a five-gallon pail. [redacted]s employees performing cleaning tasks will have received HAZCOM training and have previous handling experience. Simple green will be stored in 55-gallon drums. All storage will occur on spill pallets/within secondary containment. Storage locations will vary based on schedule and need. A usable amount of simple green will be stored on site. Transfers of simple green will occur within secondary containment.

After the area has been pressure washed utilizing simple green, a follow-on freshwater rinse will be conducted. The nozzle on the pressure washer has a feature that will block the mixing of simple green, allowing for freshwater only. Pressure washing will be performed at an approximate distance of 2 to 4 feet, with up to two passes for each area and up to 2 to 3 feet of overlap.

[redacted]will dispose of up to 3,000 gallons of residual fuel and debris/sludge (per tank) that will be removed from the tank bottom. Removal of debris/sludge and dry cleanup (rags, absorbents) will be performed as needed to obtain safe for limited hot work Certified Marine Chemist (CMC) certificate. Sludge will be removed with shovels, placed into drums, and taken out of the tank via the center tower basket. Drums of sludge will be stored in an adjacent alcove within a secondary containment. Drum dollies will be used to transport the drums of sludge out of the tank. [redacted]will load the drums onto a flat-bed truck for disposal. No waste is assumed to be hazardous per PPI #4.

Each Red Hill tank is assumed to require no more than 36,000 gallons of water and an approved cleaning solution. These quantities are conservative estimates based on wastewater handled for previous tank cleaning projects at RH. The FOR line in the tank gallery will be used to transport rinsate from each RHBFUSF tank to Tank 311, where [redacted] will collect the rinsate and dispose of it off-site IAW all Federal, State, and Local regulations.

To assist in the safe and efficient disposal of rinsate water, [redacted] assumes full control of the Fuel Oil Recovery (FOR) line which spans the lower tunnel, connecting tank drain lines to tank 311 which is located outside of Adit 3. [redacted] will complete cleaning of tank 311 prior to use to ensure the tank is clean and in good working order for use as a rinsate holding tank. [redacted] will visit Tank 311 frequently, using vacuum trucks to remove rinsate which has been tested and characterized. The fluid level of Tank 311 will be monitored via a level gauge to ensure that the tank is not overfilled in accordance with UFC criteria. Vacuum trucks will be scheduled, as required, to remove rinsate from Tank 311.

As tank power washing is initiated, [redacted] quality control processes will be applied to ensure that all areas of the tank shell and appurtenances are thoroughly cleaned. The tank(s) will be visited daily by the QCM and visual spot checks performed. Areas found to not be visually clean

shall be rewashed in accordance with the standard cleaning process. 100% of the interior tank surface will be visually inspected. Tank cleaning progress will be documented in the daily QC report and via a laminated shell rollout located outside of the tank. [redacted] will prepare daily mapping and photo-documentation of the approximate square footage completed using a generic shell layout map (See an example in Appendix A for Tank 17), with daily updates of cleaned areas. Each area of the shell/dome that is cleaned will be marked out by our subcontractor at the end of each cleaning session with magnets/ribbons, tape, chalk, paint, or other means to keep close track of the completed and cleaned surfaces. After pressure washing has been completed, the tank will be dried utilizing forced air from the fans connected in the tank gallery.

This project was awarded on the basis that "Clean" is defined as: "The removal of all product, vapor, sludge, and residue from a tank, and washing, rinsing, and drying a tank so that no product or residue remains on any tank surfaces (shell, bottom, piping, appurtenances, etc.). Only a visual inspection will be required for a tank to be constituted as "Clean".

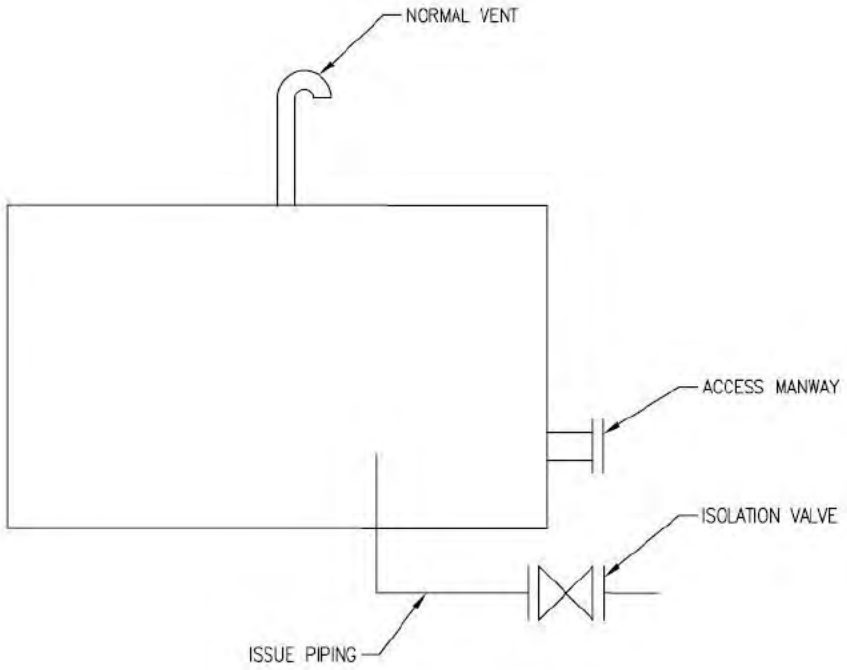
4.2.4.2 Surge Tanks

For each surge tank the manway on the side of the tank will be opened by personnel in appropriate PPE to determine Volatile Organic Compound (VOC) levels. [redacted] has developed specific safety checklists, procedures, and controls to eliminate unnecessary risks when first opening tank nozzles, manways, and hatches. Degassing of the tank will occur by installing a fan with flexible ducting, or similar, through the manway on the side of the tank. The air will then be pushed/pulled out of the normal vent on top of each tank. An additional fan may be installed and attached to the normal vent on top of each tank to facilitate air removal. The valve on the fill/issue line may also be removed and a fan installed to expedite degassing of the tank. It is not expected for there to be excessive fuel/sludge present in these tanks, up to 500 gallons per tank.

Cleaning: Cleaning will be performed by power washing of all internal structures. The entirety of the interior of the tank will be pressure washed clean, with water mixed with simple green using electric pressure washer with a capacity of up to 5,000 PSI until all areas are clean. The tanks will be visited daily, and visual spot checks performed. Areas found to not be visually clean shall be rewashed in accordance with the standard cleaning process. After the area has been cleaned, it will receive a freshwater rinse. The nozzle on the pressure washer has a feature that will block the mixing of simple green, allowing for freshwater only. Pressure washing will be performed at an approximate distance of 2 to 4 feet, with up to two passes for each area with up to 2 to 3 feet overlap. An extra-long pressure washing wand will be used to reach all areas within the tank. Water usage for each surge tank is anticipated to be approximately 5,000 gallons. Adequate access (ladders, scaffolding, etc.) will be provided to facilitate QC inspections along with the final government inspection to ensure all tank surfaces areas are clean. All tank cleaning will be conducted from the bottom of the tank, and a vacuum truck/diaphragm pump will be used to

remove fuel/sludge/rinsate directly out of the tank. After pressure washing has been completed, the tank will be dried via forced air provided by the ventilation fan. Refer to **Figure 4-6** for a simple line diagram of the previously discussed components for the Surge Tank.

Figure 4-6 Surge Tank Line Diagram.



4.2.4.3 Sump Pits

The main sump and sump 7 will be cleaned utilizing power washers and simple green similar to the tanks, followed by a freshwater rinse. They will be washed from the top down, spraying in a horizontal, side-to-side technique. The sumps will be visited daily, and visual spot checks performed. Areas found to not be visually clean shall be rewashed in accordance with the standard cleaning process. Rinsate will be pumped back into the FOR line. These areas are not considered confined spaces and do not require fall protection.

4.2.5 Work Completion Walk Through

Upon completion of the required cleaning tasks for each tank, a work completion walk through will be conducted as requested. The [redacted], base representative(s), FEAD representatives, and the NAVFAC HI NTR, or designee, will conduct the final acceptance inspection. The purpose of this inspection will be to ensure that all the Government's requirements and expectations have been successfully completed and the Government will accept all work performed by the [redacted] team.

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4.3 Post-Construction Project Activities

Post-construction activities may include demobilizing, managing any waste, and preparing a project certification report as described in the project specifications and SOW.

Demobilization, Waste Handling, and Work Completion

Upon completion of the project, [redacted] will return all facilities and storage areas to the condition they were in prior to being occupied. Demobilization will include the removal of heavy equipment, materials, supplies, and rentals, the disposition of government property, and the removal, transportation, and disposal of waste. All demolished material, rubbish, and debris generated by the project will be appropriately containerized and disposed of at an approved off-site location. All contractor equipment, rentals, and miscellaneous material will be removed in a timely, efficient, and cost-effective manner. No environmental waste will leave the site without prior authorization of the NTR. [redacted] will take preventative measures to protect the environment from any negative effects of the work being performed. Hazardous material handling will be performed in accordance with the manufacturer's specifications and will conform to all applicable federal, state, and local regulations. [redacted] will provide waste disposal documentation for each tank. A final sign-off sheet will be provided for each tank once the work is complete. The sign-off sheet will be provided to the government for signature and acceptance.

Several best managements found from previous experience are as follows:

1. Always expect fuel in pipelines when cracking flanges. Use appropriate containment to capture any residual product that may come out.
2. Always double check LOTO.
3. No dry sweeping in the tunnels. Dust will kick-up and float down the entire tunnel.
4. Only use 4-wheel dollies for transporting drums due to uneven surfaces.

5 Key Project Personnel

Table 5-1 displays a list of key project personnel and project stakeholders.

Table 5-1 Key Project Personnel

Organization	Title	Name	Phone Number/E-Mail
NAVFAC HI FEAD	Administrative Contracting Officer	[redacted]	[redacted]
	Contracting Officer's Representative		
	Engineering Technician		
NAVSUP FLC-PH	Fuel Director		
	Deputy Fuel Director		
	Supervisory General Engineer		
	Operations Supervisor		
	Bulk Fuels Supervisor		
DLA Installation Support	Project Engineer		
[redacted]	Program Manager	[redacted]	[redacted]
	Contract Administrator	[redacted]	[redacted]
	Sr. HSE Manager	[redacted]	[redacted]
	Program Engineering Manager	[redacted]	[redacted]
[redacted]	Project Manager	[redacted]	[redacted]
	Construction Manager (Site Superintendant)	[redacted]	[redacted]
	Construction Manager (Site Superintendant)	[redacted]	[redacted]
	Quality Control Manager (QCM)	[redacted]	[redacted]
	Site Safety and Health Officer (SSHO)	[redacted]	[redacted]

5.1 Project Team Responsibilities

5.1.1 Project Manager

[redacted]s Project Manager, [redacted], will be NAVFAC HI's primary point-of-contact and responsible for maintaining the overall project scope, schedule, and budget for this TO. He is also responsible for status reporting, financial tracking, scheduling, and compliance with TO contract requirements, overall, TO quality, and all project correspondence and documentation. [redacted] will work closely with his team and subcontractors to ensure an understanding of all

construction schedules, constraints, and the Navy's overall goals and objectives, and will be responsible for the preparation of monthly status reports.

5.1.2 Construction Manager (Site Superintendent)

[redacted] Construction Manager's (CM), [redacted], will be the lead persons responsible for execution of all field activities, coordination of subcontractor's activities, preparation of daily production reports, coordinating on-site logistics and access, ensuring schedule and budget adherence.

5.1.3 Quality Control Manager

[redacted]'s Quality Control Manager, [redacted], will be responsible for conducting the preparatory and initial QC meetings and ensuring all appropriate QC meetings are held and documented. The QC Manager will prepare the daily quality control reports, maintain the nonconformance log for the project, and validate any items that must be corrected. She will collect and validate all subcontractor quality control reporting requirements. The QC Manager will have the requisite authority, including stop-work authority, to ensure that all project site activities comply with applicable specifications of the approved project documents and the contract. She will ensure that all materials and sitework meets or exceeds QC acceptance criteria.

5.1.4 Site Safety and Health Officer

[redacted] Lead Safety Officer, [redacted], along with an anticipated five additional SSHO's, will have the requisite authority to administer the Site Safety and Health Plan. This authority applies equally to all project activities, whether performed by [redacted] or its subcontractors. The Safety Officers will implement and enforce the project safety policies and procedures and will conduct daily safety meetings and site safety inspections.

6 Subcontractors

Table 6-1 gives a list of the main subcontractors selected to perform work on this project.

Table 6--1 Subcontractors

Company	Role	Point of Contact Name	Phone Number/E-Mail
[redacted]	Mechanical LO/TO, Repairs, General Labor, Boom operators	[redacted]	[redacted]
[redacted]	Tank Cleaning	[redacted]	[redacted]
[redacted]	Structural Inspections and Certifications	[redacted]	[redacted]
[redacted]	Lead Planner, Competent Person	[redacted]	[redacted]
[redacted]	Electrical systems	[redacted]	[redacted]

6.1.1 Designer of Record

Design is not applicable to this task order.

6.1.2 Mechanical and Piping Subcontractor

[redacted]. will provide all on-site labor, equipment, and material to complete the mechanical and structural repairs to the tank, along with providing general labor.

6.1.3 Tank Cleaning/Waste Rinsate Disposal

[redacted] will be responsible for tank cleaning services prior to tank repair activities. They will also be responsible for removing and disposing of rinseate water, sludge, and residual fuel.

6.1.4 Structural Engineering

[redacted] will inspect, evaluate, and suggest repairs for the catwalk and center towers. Installation of the manway davit and boom supports may also be designed and evaluated by [redacted].

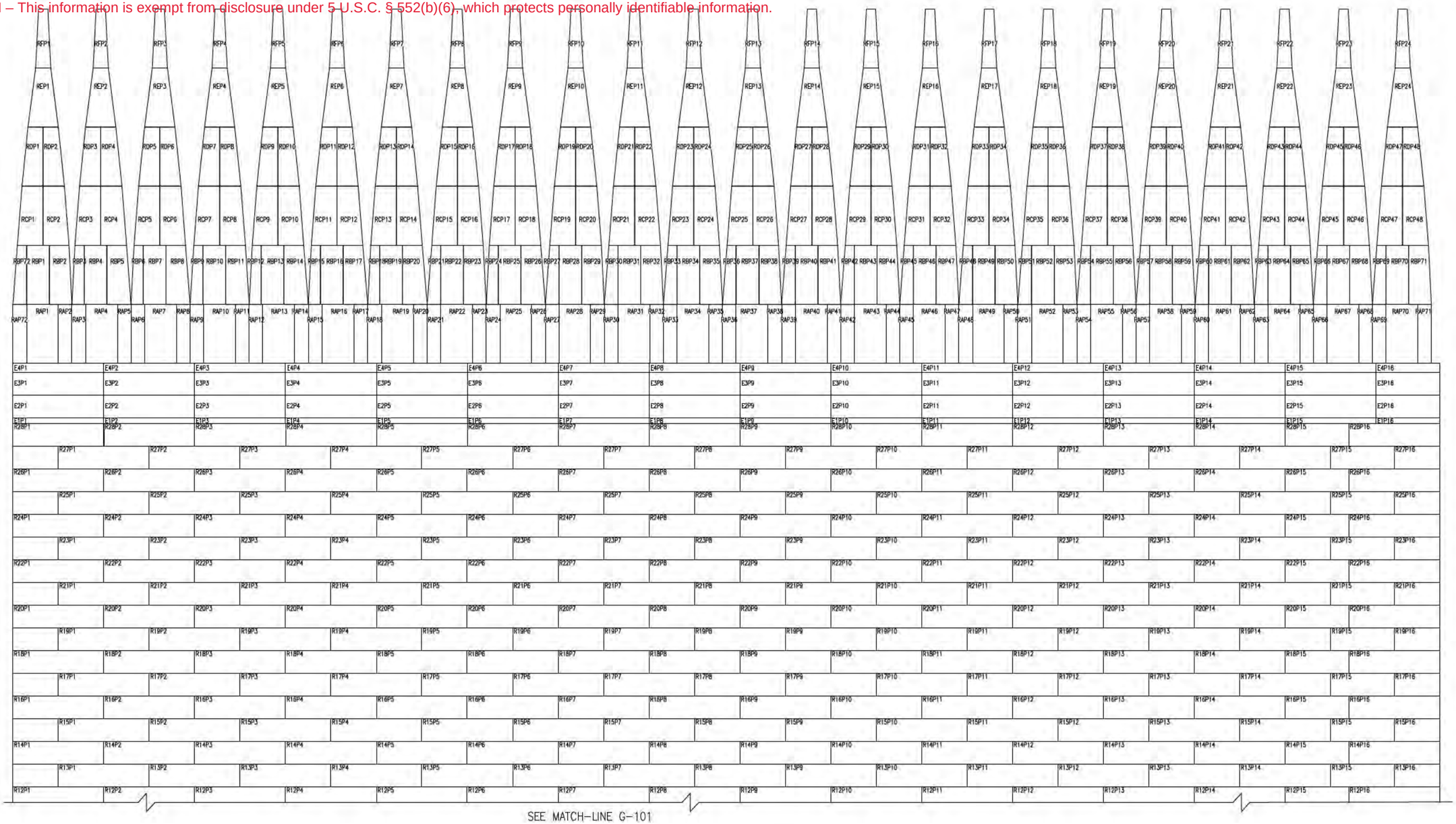
6.1.5 Lead/asbestos Competent Person

[redacted] will also provide testing services to ensure the wrap on the vent line encased in gunnite does not contain asbestos. The presence of lead or asbestos is not anticipated on this project, however if encountered [redacted] will provide lead abatement services and third-party consultants as needed to sample air for lead until a Negative Exposure Assessment report can be generated, as, applicable.

Appendix A

Generic Shell Layout Map (Tank 17)

Procurement sensitive and proprietary information – This information is exempt from disclosure under 5. U.S.C. § 552(b)(4) because it contains proprietary and procurement sensitive information.
PII – This information is exempt from disclosure under 5 U.S.C. § 552(b)(6), which protects personally identifiable information.



SEE MATCH-LINE G-101

TOP of TANK – SHELL ROLL-OUT

TANK 17 PLATE LAYOUT

SCALE: N.T.S.

100 % DESIGN FOR REVIEW

IF SHEET IS LESS THAN (22" x 34")
IT IS A REDUCED PRINT-SCALE. REDUCE ACCORDINGLY.
PRINT DRAWINGS IN PDF FORMAT ON 11x17 PAPER.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK AMONG THE VARIOUS TRADES AS NECESSARY TO AVOID CONFLICTS AND TO ENSURE THE INSTALLATION OF ALL WORK WITHIN THE AVAILABLE SPACE.

NO.	DESCRIPTION	DATE	APPR
A	100% DESIGN FOR REVIEW	08/29/2018	DJK

NAVFAC

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVFAC EXWC
PORT HUENEME, CA

JOINT BASE PEARL HARBOR HICKAM
PEARL HARBOR, HI

CLEAN, INSPECT AND REPAIR
RED HILL TANK 17

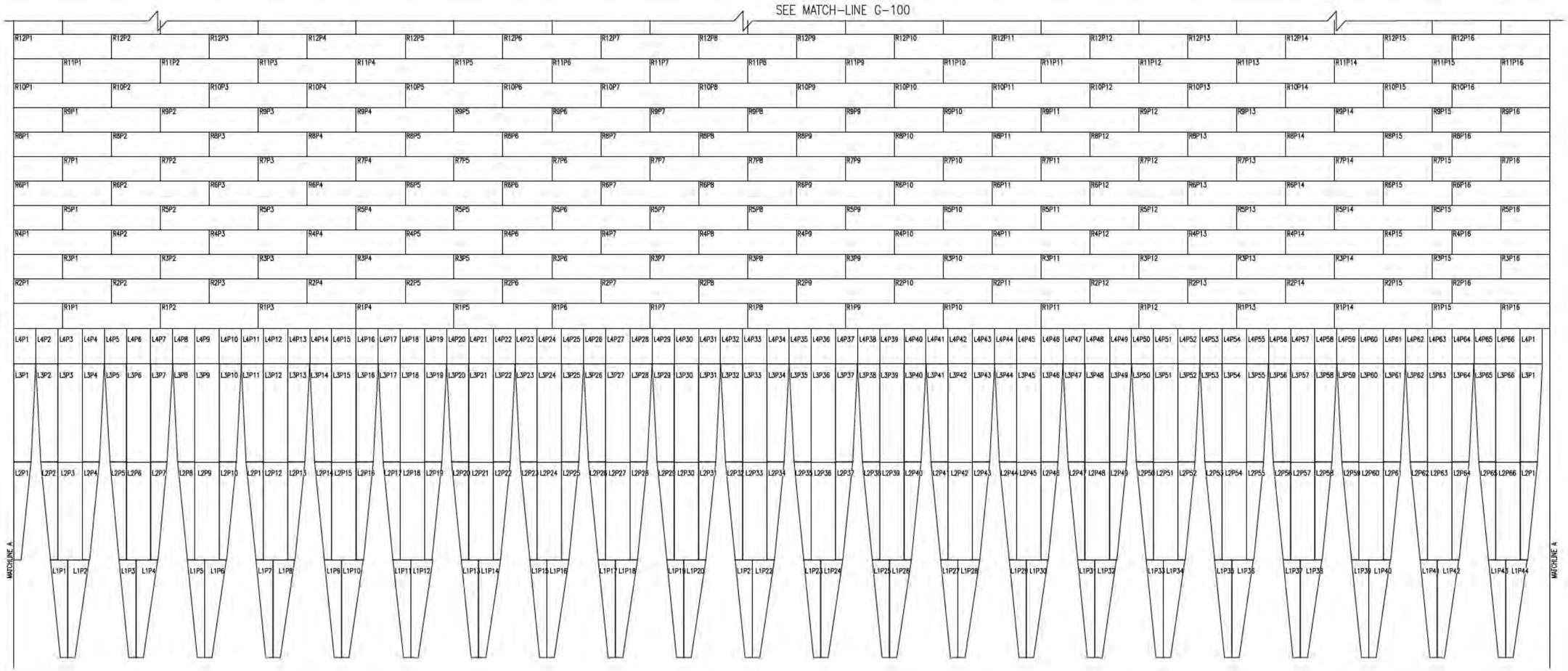
TANK 17 PLATE LAYOUT (1)

G-100

DRAWING REVISION: 31 JANUARY 2017

Procurement sensitive and proprietary information – This information is exempt from disclosure under 5. U.S.C. § 552(b)(4) because it contains proprietary and procurement sensitive information.
PII – This information is exempt from disclosure under 5 U.S.C. § 552(b)(6), which protects personally identifiable information.

SEE MATCH-LINE G-100



BOTTOM of TANK – SHELL ROLL-OUT

TANK 17 PLATE LAYOUT

SCALE: N.T.S.

IF SHEET IS LESS THAN (22" x 34")
IT IS A REDUCED PRINT-SCALE. REDUCE ACCORDINGLY.
PRINT DRAWINGS IN PDF FORMAT ON 11x17 PAPER.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK AMONG THE VARIOUS TRADES AS NECESSARY TO AVOID CONFLICTS AND TO ENSURE THE INSTALLATION OF ALL WORK WITHIN THE AVAILABLE SPACE.

100 % DESIGN FOR REVIEW

A	100% DESIGN FOR REVIEW		06/29/2018	DJK
STM	DESCRIPTION		DATE	APPR

NAVFAC

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVFAC EXWC
PORT HUENEME, CA

JOINT BASE PEARL HARBOR HICKAM
PEARL HARBOR, HI

CLEAN, INSPECT AND REPAIR
RED HILL TANK 17

TANK 17 PLATE LAYOUT (2)

G-101

DRAWING REVISION: 31 JANUARY 2017

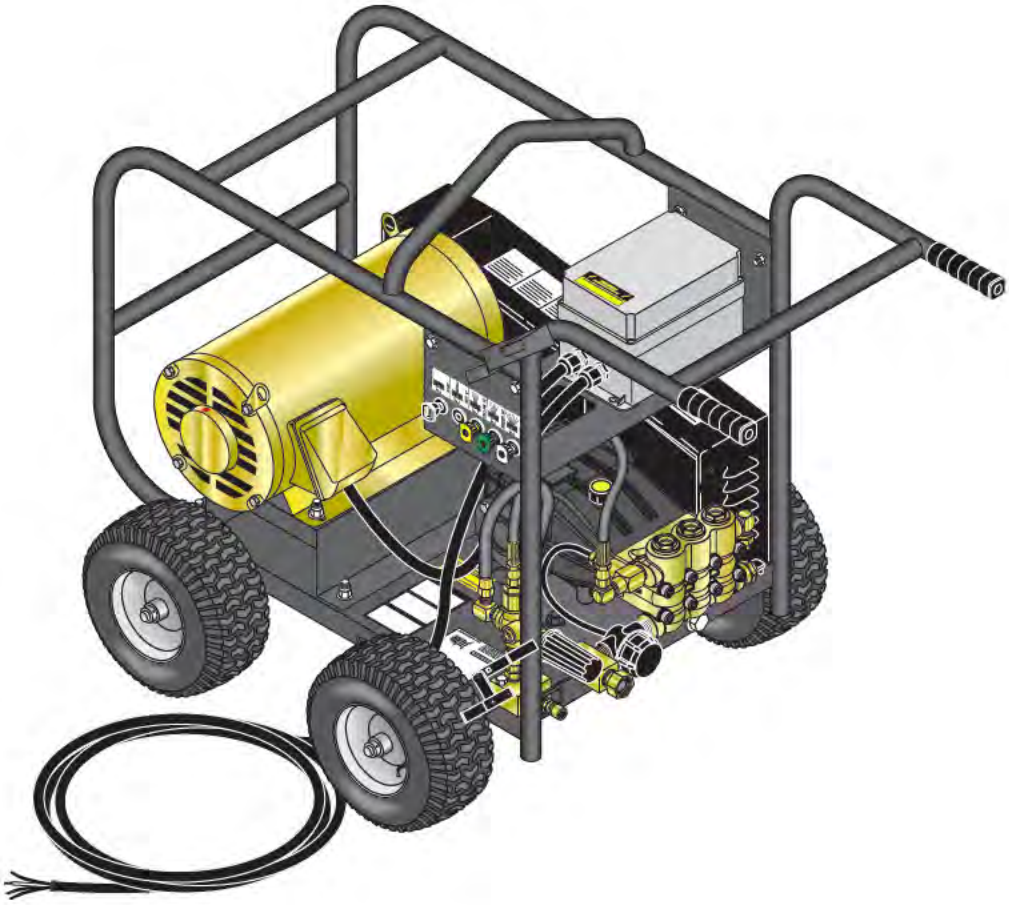
Appendix C

SDS and Cut Sheets

KÄRCHER

makes a difference

High pressure cleaner
Electric motor - Cold water



Register your product
www.kaercher.com/welcome

9.800-340.0 (03/20)

MODELS:

1.107-084.0
HD 5.0/50 Eb Cage

1.107-087.0
HD 5.0/50 Eb Cage

CONTENTS

Model Number _____

Serial Number _____

Date of Purchase _____

The model and serial numbers will be found on a decal attached to the pressure washer. You should record both serial number and date of purchase and keep in a safe place for future reference.

INTRODUCTION & IMPORTANT SAFETY INFORMATION

Thank you for purchasing this Pressure Washer.

We reserve the right to make changes at any time without incurring any obligation.

Owner/User Responsibility:

The owner and/or user must have an understanding of the manufacturer's operating instructions and warnings before using this pressure washer. Warning information should be emphasized and understood. If the operator is not fluent in English, the manufacturer's instructions and warnings shall be read to and discussed with the operator in the operator's native language by the purchaser/owner, making sure that the operator comprehends its contents.

Owner and/or user must study and maintain for future reference the manufacturers' instructions.

The operator must know how to stop the machine quickly and understand the operation of all controls. Never permit anyone to operate the engine without proper instructions.

SAVE THESE INSTRUCTIONS

This manual should be considered a permanent part of the machine and should remain with it if machine is resold.

When ordering parts, please specify model and serial number. Use only identical replacement parts.

This machine is to be used only by trained operators.

IMPORTANT SAFETY INFORMATION

WARNING: To reduce the risk of injury, read operating instructions carefully before using.

1. Read the owner's manual thoroughly. Failure to follow instructions could cause malfunction of the machine and result in death, serious bodily injury and/or property damage.
2. Know how to stop the machine and bleed pressure quickly. Be thoroughly familiar with the controls.
3. Stay alert — watch what you are doing.
4. All installations must comply with local codes. Contact your electrician, plumber, utility company or the selling distributor for specific details. If your machine is rated 250 volts or less, single phase will be provided with a ground fault circuit interrupter (GFCI). If rated more than 250 volts, or more than single phase this product should only be connected to a power supply receptacle protected by a GFCI.

DANGER: Improper connection of the equipment-grounding conductor can result in a risk of electrocution. Check with a qualified electrician or service personnel if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the product - if it will not fit the outlet, have a proper outlet installed by a qualified electrician. Do not use any type of adaptor with this product

WARNING: Keep wand, hose, and water spray away from electric wiring or fatal electric shock may result.

5. To protect the operator from electrical shock, the machine must be electrically grounded. It is the responsibility of the owner to connect this machine to a UL grounded receptacle of proper voltage and amperage ratings. Do not spray water on or near electrical components. Do not touch machine with wet hands or while standing in water. Always disconnect power before servicing.

WARNING: Flammable liquids can create fumes which can ignite, causing property damage or severe injury.

WARNING: Risk of explosion — Do not spray flammable liquids.

6. Do not allow acids, caustic or abrasive fluids to pass through the pump.
7. Never run pump dry or leave spray gun closed longer than 1-2 minutes.
8. Keep operating area clear of all persons.

WARNING: High pressure spray can cause paint chips or other particles to become airborne and fly at high speeds. To avoid personal injury, eye, hand and foot safety devices must be worn.

9. Eye, hand, and foot protection must be worn when using this equipment.

IMPORTANT SAFETY INFORMATION

WARNING: Grip cleaning wand securely with both hands before starting. Failure to do this could result in injury from a whipping wand.

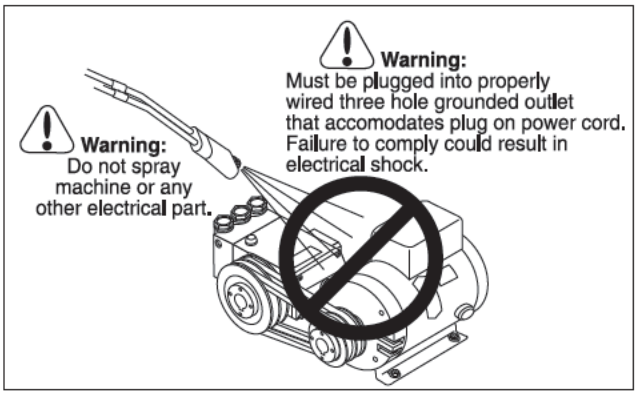
WARNING: High pressure developed by these machines will cause personal injury or equipment damage. Keep clear of nozzle. Use caution when operating. Do not direct discharge stream at people, or severe injury or death will result.

10. To reduce the risk of injury, close supervision is necessary when a machine is used near children. Do not allow children to operate the pressure washer. **This machine must be attended during operation.**
11. Never make adjustments on machine while in operation.
12. Be certain all quick coupler fittings are secured before using pressure washer.

WARNING: Protect machine from freezing.

13. To keep machine in best operating conditions, it is important you protect machine from freezing. Failure to protect machine from freezing could cause malfunction of the machine and result in death, serious bodily injury, and/or property damage. Follow storage instructions specified in this manual.
14. Inlet water must be clean fresh water and no hotter then 90°F.
15. Manufacturer will not be liable for any changes made to our standard machines or any components not purchased from us.
16. The best insurance against an accident is precaution and knowledge of the machine.

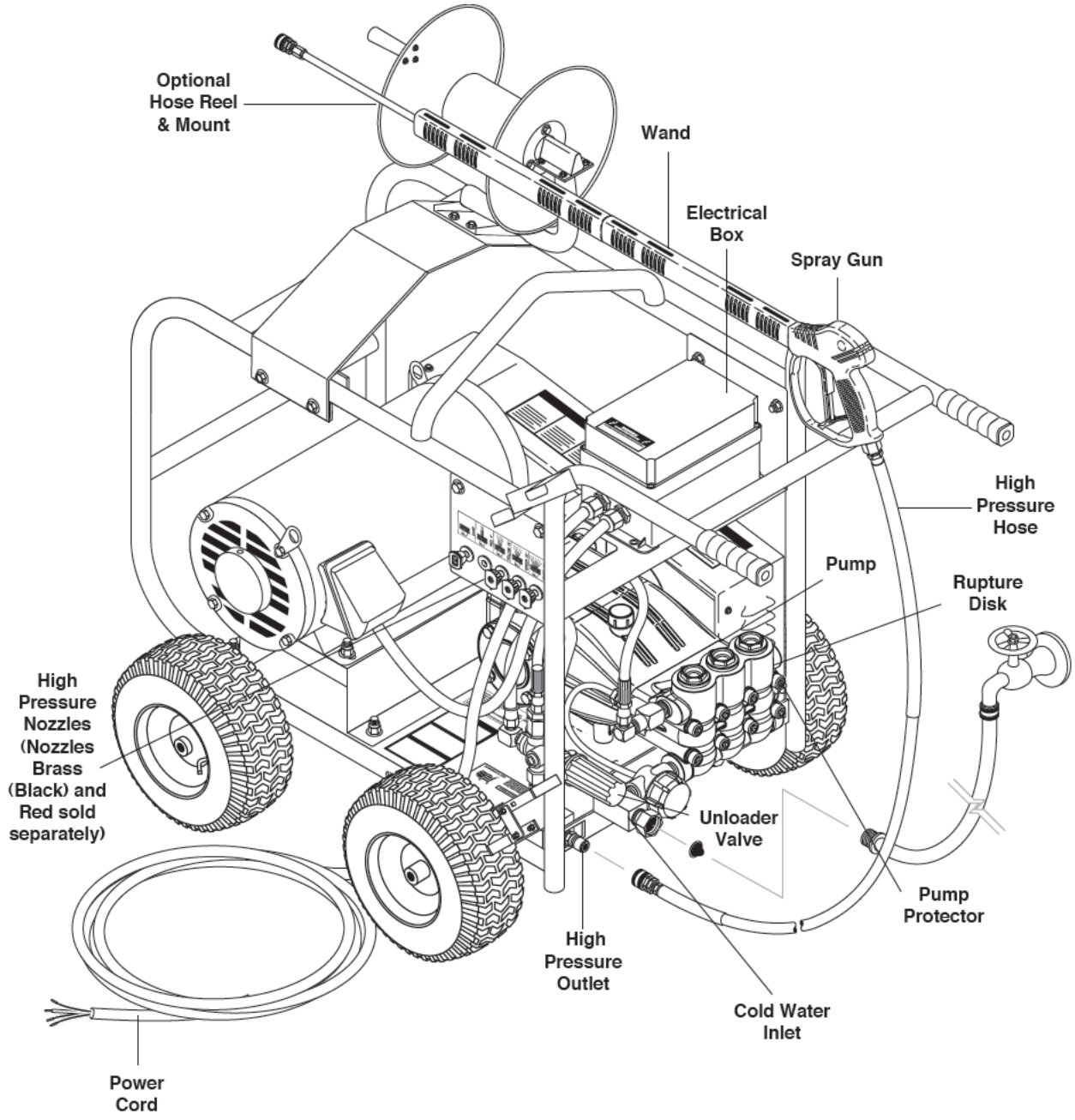
WARNING: Be extremely careful when using a ladder, scaffolding or any other relatively unstable location. The cleaning area should have adequate slopes and drainage to reduce the possibility of a fall due to slippery surfaces.



17. Do not overreach or stand on unstable support. Keep good footing and balance at all times.
18. Do not operate this machine when fatigued or under the influence of alcohol, prescription medications, or drugs.

Follow the maintenance instructions specified in the manual.

COMPONENT IDENTIFICATION



Pump — Delivers a specific gpm to the high pressure nozzle which develops pressure.

Spray Gun — Controls the application of water and detergent onto cleaning surface with trigger device. Includes safety latch.

Detergent Injector — Allows you to siphon and mix detergents (Not Shown).

Wand — Must be connected to the spray gun.

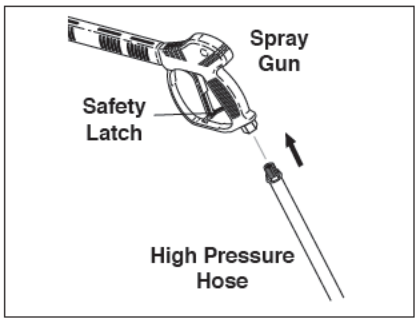
High Pressure Hose — Connect one end to water pump high pressure discharge nipple and the other end to spray gun.

Rupture Disk — Secondary pressure release in the unlikely event the unloader valve fails.

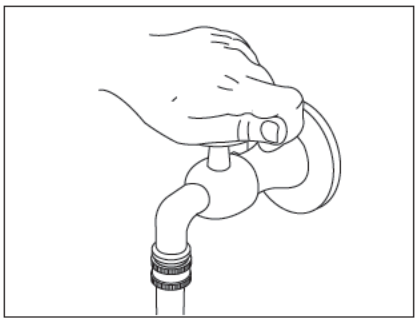
Unloader Valve — Safety device which, when the spray gun closes, prevents over pressurization.

Note: **If trigger on spray gun is released for more than 1-2 minutes, water will leak from the pump protector. Warm water will discharge from pump protector onto floor. This system prevents internal pump damage.**

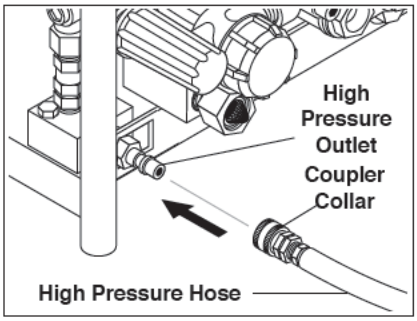
ASSEMBLY INSTRUCTIONS



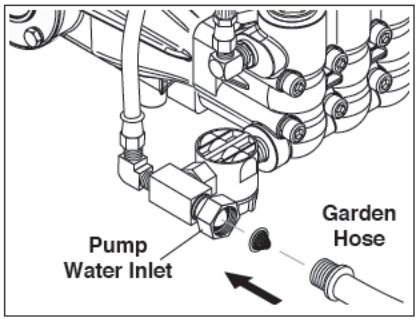
STEP 1: Attach the high pressure hose to the spray gun using teflon tape on hose threads.



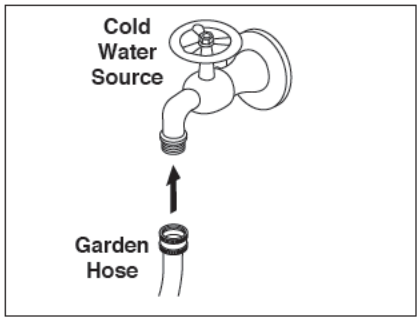
STEP 2: Before installing nozzle, turn on water supply and run machine allowing water to flush through the system until clear.



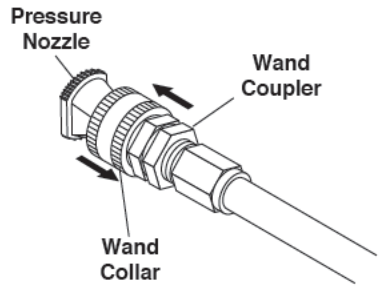
STEP 3: Connect the high pressure hose to the high pressure outlet. Push coupler collar forward until secure.



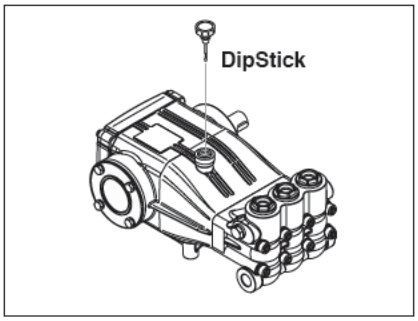
STEP 4: Connect the garden hose to pump water inlet. Inspect inlets. ***CAUTION: Do not run the pump without water or pump damage will result.***



STEP 5: Connect garden hose to the cold water source.

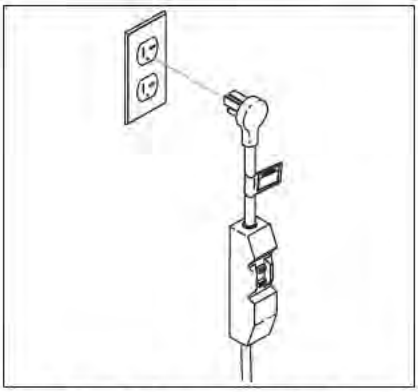


STEP 6: Pull the spring-loaded collar of the wand coupler back to insert your choice of pressure nozzle. Release the coupler collar and push the nozzle until the collar clicks. Pull the nozzle to make sure it is seated properly.

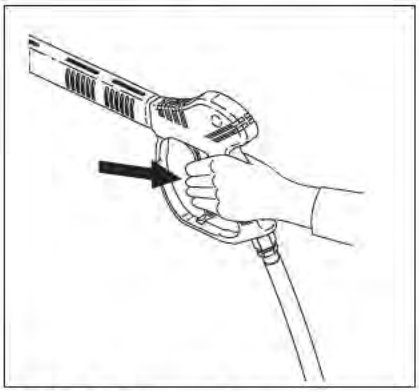


STEP 7: Remove shipping cap and install oil dipstick. Check pump oil level by using dipstick or observe oil level in oil window (if equipped). Use 40 wt. (non detergent) oil.

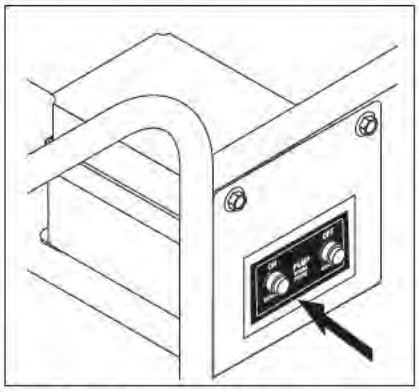
OPERATING INSTRUCTIONS



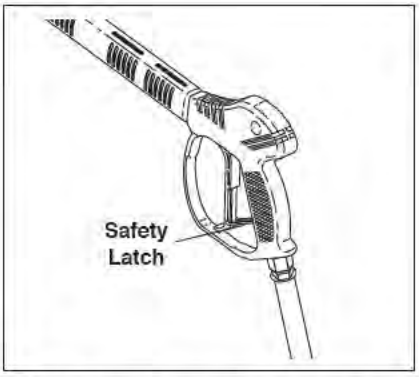
STEP 1: Connect machine to adequate power source. Push reset button on GFCI if equipped.



STEP 2: Trigger the spray gun to eliminate trapped air then wait for a steady flow of water to emerge from the spray wand. Then install nozzle.

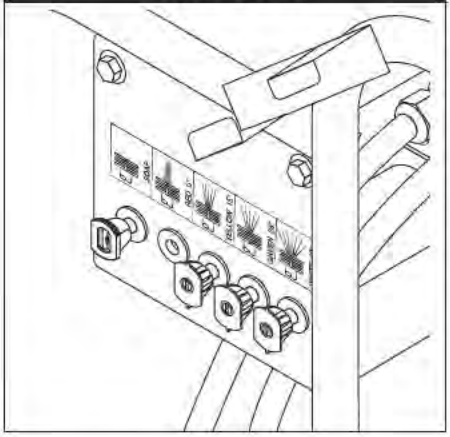


STEP 3: Turn machine on.



⚠WARNING! Never replace nozzles without engaging the safety latch on the spray gun trigger.

NOZZLES



The four color-coded quick connect nozzles provide a wide array of spray widths from 15° to 40° and are easily accessible when placed in the convenient rubber nozzle holder, which is provided on the front of the machine.

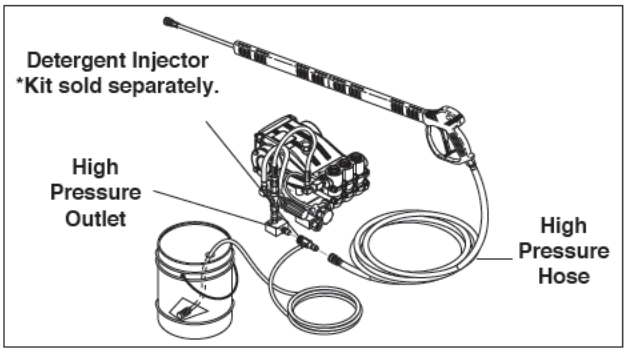
NOTE: For a more gentle rinse, select the white 40° or green 25° nozzle. To scour the surface, select the yellow 15° nozzle. To apply detergent select the black soap nozzle.

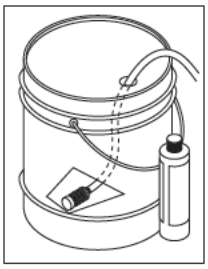
*Nozzles Brass (Black) sold separately.

APPLYING DETERGENT & GENERAL OPERATING TECHNIQUES

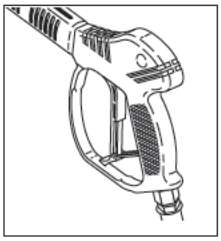
WARNING: Some detergents may be harmful if inhaled or ingested, causing severe nausea, fainting or poisoning. The harmful elements may cause property damage or severe injury.

STEP 1: Connect detergent injector to high pressure outlet on machine, Connect high pressure hose to injector with quick coupler. (Check to make sure locking coupler sleeves are in proper position before applying water pressure.)





STEP 2: Use detergent designed specifically for pressure washers. Household detergents could damage the pump. Prepare detergent solution as required by the manufacturer. Fill a container with pressure washer detergent. Place the filter end of detergent suction tube into the detergent container.



STEP 3: With safety latch on spray gun engaged, secure black detergent nozzle into quick coupler. **NOTE:** Detergent cannot be applied using yellow, green or white nozzles.

STEP 4: With the motor running, pull trigger to operate machine. Liquid detergent is drawn into the machine and mixed with water. Apply detergent to work area. Do not allow detergent to dry on surface.

IMPORTANT: You must flush the detergent injection system after each use by placing the suction tube into a bucket of clean water, then run the pressure washer in low pressure for 1-2 minutes.

THERMAL PUMP PROTECTOR

If you run the engine on your pressure washer for 1-2 minutes without pressing the trigger on the spray gun, circulating water in the pump can reach high temperatures. When the water reaches this temperature, the pump protector engages and cools the pump by discharging the warm water onto the ground. This thermal device prevents internal damage to the pump.

CLEANING TIPS

Pre-rinse cleaning surface with fresh water. Place detergent suction tube directly into cleaning solution and apply to surface at low pressure (for best results, limit your work area to sections approximately 6 feet square and always apply detergent from bottom to top). Allow detergent to remain on surface 1-3 minutes. Do not allow detergent to dry on surface. If surface appears to be drying, simply wet down surface with fresh water. If needed, use brush to remove stubborn dirt. Rinse at high pressure from top to bottom in an even sweeping motion keeping the spray nozzle approximately 1 foot from cleaning surface. Use overlapping strokes as you clean and rinse any surface. For best surface cleaning action spray at a slight angle.

Recommendations:

- Before cleaning any surface, an inconspicuous area should be cleaned to test spray pattern and distance for maximum cleaning results.
- If painted surfaces are peeling or chipping, use extreme caution as pressure washer may remove the loose paint from the surface.
- Keep the spray nozzle a safe distance from the surface you plan to clean. High pressure wash a small area, then check the surface for damage. If no damage is found, continue to pressure washing.

CAUTION - Never use:

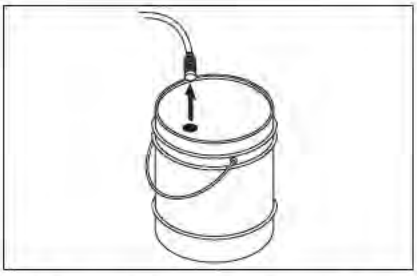
- Bleach, chlorine products and other corrosive chemicals
- Liquids containing solvents (i.e., paint thinner, gasoline, oils)
- Tri-sodium phosphate products
- Ammonia products
- Acid-based products

These chemicals will harm the machine and will damage the surface being cleaned.

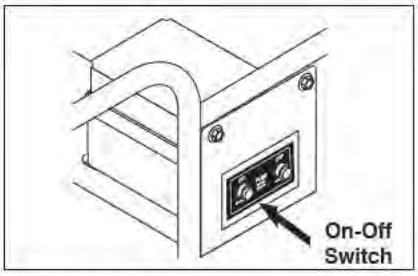
RINSING

It will take a few seconds for the detergent to clear. Apply safety latch to spray gun. Remove black soap nozzle from the quick coupler. Select and install the desired high pressure nozzle. **NOTE:** You can also stop detergent from flowing by simply removing detergent siphon tube from bottle.

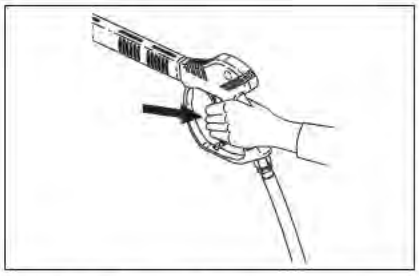
SHUT DOWN AND CLEAN-UP



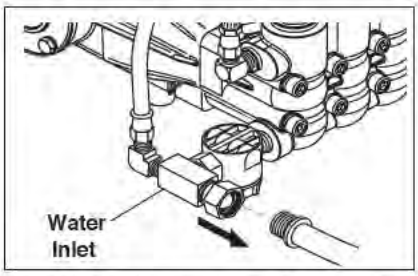
STEP 1: Remove detergent suction tube from container and insert into one gallon of fresh water. For low pressure connect the black detergent nozzle. Pull trigger on spray gun and siphon water for one minute.



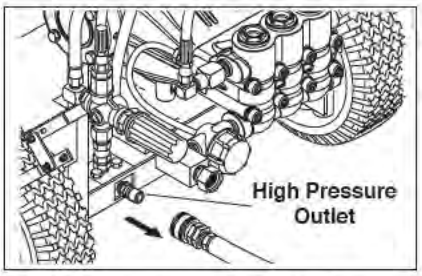
STEP 2: Turn off the motor.



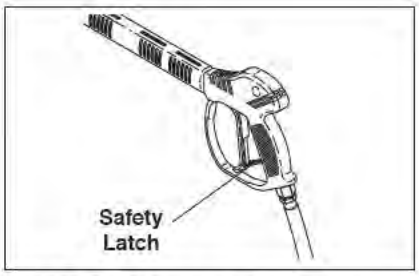
STEP 3: Press trigger to release water pressure.



STEP 4: Disconnect the garden hose from the water inlet on the machine.



STEP 5: Disconnect the high pressure hose from high pressure outlet.



STEP 6: Engage the spray gun safety lock.

STORAGE

Pump Storage

CAUTION: Always store your pressure washer in a location where the temperature will not fall below 32° F (0° C). The pump in this machine is susceptible to permanent damage if frozen.

FREEZE DAMAGE IS NOT COVERED BY WARRANTY.

If you must store your pressure washer in a location where the temperature is below 32° F, you can minimize the chance of damage to your machine by draining your machine as follows:

1. Stop the pressure washer and detach supply hose and high pressure hose. Squeeze the trigger of the spray gun to drain all water from the wand and hose.
2. Restart pressure washer and let it run briefly (about 5 seconds) until water no longer discharges from the high pressure outlet.

In temperatures below 32° you may connect a bulkhead fitting to the bottom of a bucket then attach a garden hose to siphon anti-freeze into the pump.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
PUMP RUNNING NORMALLY BUT PRESSURE LOW ON INSTALLATION	Pump sucking air	Check water supply and possibility of air seepage.
	Check valves sticking	Check and clean or replace if necessary.
	Unloader valve seat faulty	Check and replace if necessary.
	Nozzle incorrectly sized	Check and replace if necessary.
	Worn piston packing	Check and replace if necessary.
FLUCTUATING PRESSURE	Valves worn	Check and replace if necessary.
	Blockage in valve	Check and clean out if necessary.
	Faulty or misadjusted unloader valve	Tampering with the factory setting may cause personal injury and/or property damage, and will void the manufacturer's warranty.
	Pump sucking air	Check water supply connections.
	Worn piston packing	Check and replace if necessary.
	Insufficient water	Check filter and hose for breakage.
PRESSURE LOW AFTER PERIOD OF NORMAL USE	Nozzle worn	Check and replace if necessary.
	Suction or delivery valves worn	Check and replace if necessary.
	Suction or delivery valves blocked	Check and clean if necessary.
	Unloader valve seat worn	Check and replace if necessary.
	Worn piston package	Check and replace if necessary.
PUMP NOISY	Air in suction line	Check water supply and connections on suction line.
	Broken or weak suction or delivery valve spring	Check and replace if necessary.
	Foreign matter in valves	Check and clean if necessary.
	Worn bearings	Check and replace if necessary.
	Excessive temperature of water	Reduce to below 140°F.
PRESENCE OF WATER IN PUMP OIL	Oil seal worn	Check and replace if necessary.
	High humidity in air	Check and change oil twice as often.
	Piston packing worn	Check and replace if necessary.
WATER DRIPPING FROM UNDER PUMP	Piston packing worn	Check and replace if necessary.
	O-Ring plunger retainer worn	Check and replace if necessary.
WATER DRIPPING FROM PUMP PROTECTOR	Water supply pressure too high (over 90 psi)	Lower water supply pressure using a regulator.
	Spray gun is in the off position for over 1-2 minutes	Turn machine off if not in use for over 1-2 minutes.
OIL DRIPPING	Oil seal worn	Check and replace if necessary.
EXCESSIVE VIBRATION IN HIGH-PRESSURE HOSE	Irregular functioning of the pump valves	Check and replace if necessary

PREVENTATIVE MAINTENANCE

This pressure washer was produced with the best available materials and quality craftsmanship. However, you as the owner have certain responsibilities for the correct care of the equipment. Attention to regular preventative maintenance procedures will assist in preserving the performance of your equipment. Contact your dealer for maintenance. Regular preventative maintenance will add many hours to the life of your pressure washer. Perform maintenance more often under severe conditions.

Pump Oil (Non foaming) SAE 10W-40	Inspect	Daily inspect the oil level
	Change	After first 50 hours, then every 500 hours or annually
Replace high pressure nozzle		Every 6 months
Replace quick connects		Annually
Clean water screen/filter		Weekly
Replace HP hose		Annually if there is any sign of wear
Grease motor		Every 10,000 hour
Belt Tension/Inspection		Daily
Check Air Pressure in Tires		Daily

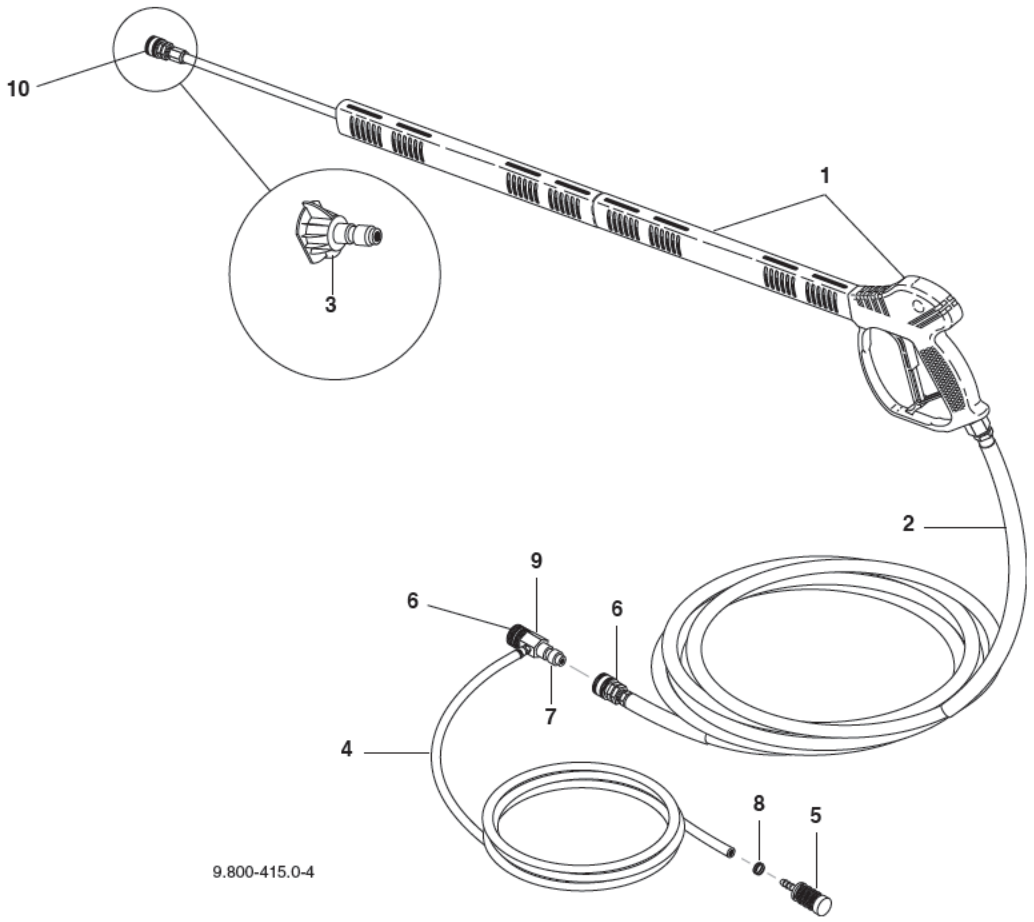
OIL CHANGE RECORD

Check pump oil and engine oil level before first use of your new pressure washer.

Date Oil Changed Month/Day/Year	Estimated Operating Hours Since Last Oil Change

Date Oil Changed Month/Day/Year	Estimated Operating Hours Since Last Oil Change

HOSE & SPRAY GUN ASSEMBLY



HOSE & SPRAY GUN ASSEMBLY PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY
1	9.802-228.0	Gun w/Wand (5000 PSI), w/Coupler	1
2	8.918-088.0	Hose, 3/8" x 50', 2W, TS,SO-SW,HIGH PRESS CP (MPE, BDE,BRE and HD)	1
3	9.803-811.0	Nozzle, SAQCMEG 15045, Yellow	1
	9.803-812.0	Nozzle, SAQCMEG 25045, Green	1
	9.803-813.0	Nozzle, SAQCMEG 4004.5, White	1
	9.802-311.0	Nozzle COMPL, QCEM-6540 Brass	1

ITEM	PART NO.	DESCRIPTION	QTY
4	9.802-251.0	Hose, 1/4" x 1/2" Clear Vinyl	6 ft.
5	9.802-160.0	Strainer, Plastic, 1/4" Hose Barb	1
6	9.802-167.0	Coupler, 3/8" Fem, 11,000 PSI, Snap-Tite	1
7	9.802-168.0	Nipple, 3/8" Fem, 11,000 PSI	1
8	6.390-126.0	Clamp, Hose, .46-.54 ST	2
9	9.802-167.0	Injector, SS, Non Adj, 2.0-4.0 GPM, 5500 PSI	1
10	8.756-030.0	Coupler. 1/4" Socket, Male, Brass	1

THANK YOU!
MERCI! DANKE! ¡GRACIAS!

Registrieren Sie Ihr Produkt und profitieren Sie von vielen Vorteilen.

Register your product and benefit from many advantages.

Enregistrez votre produit et bénéficier de nombreux avantages.

Registre su producto y aproveche de muchas ventajas.

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Rate your product and tell us your opinion.

Évaluer votre produit et dites-nous votre opinion.

Reseñe su producto y díganos su opinión.

www.kaercher.com/dealersearch

Alfred Kärcher SE & Co. KG
Alfred-Kärcher-Str. 28-40
71364 Winnenden (Germany)
Tel.: +49 7195 14-0
Fax: +49 7195 14-2212

Section 1: IDENTIFICATION

Product Name: Extreme Simple Green® Aircraft & Precision Cleaner
Additional Names:

Manufacturer's Part Number: **Please refer to Section 16*

Recommended Use: Cleaner and degreaser formulated to safely remove, oil, grease, and grime.
Restrictions on Use: Do not use on non-rinsable or asphalt surfaces

Company: Sunshine Makers, Inc.
15922 Pacific Coast Highway
Huntington Beach, CA 92649 USA
Telephone: 800-228-0709 ● 562-795-6000 *Mon – Fri, 8am – 5pm PST*
Fax: 562-592-3830
Email: info@simplegreen.com
Emergency Phone: Chem-Tel 24-Hour Emergency Service: 800-255-3924

Section 2: HAZARDS IDENTIFICATION

This product is considered hazardous (Eye Corrosive/Irritant – Category 2B) by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

OSHA HCS 2012
Label Elements
Signal Word: Warning **Hazard Symbol(s)/Pictogram(s):** None required

Hazard Statements:
H320 – Causes Eye Irritation.

Precautionary Statements:
P264 – Wash hands thoroughly after handling.
P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 – If eye irritation persists: Get medical advice.

Hazards Not Otherwise Classified (HNOC): No hazards not otherwise classified were identified

Other Information: None Known.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS Number	Percent Range
Water	7732-18-5	> 78%*
Triethanolamine	102-71-6	≤ 10%*
Ethoxylated Alcohol	68439-46-3	≤ 5%*
Propylene Glycol Butyl Ether	5131-66-8	< 5%*
Tetrapotassium Pyrophosphate	7320-34-5	< 1%*
Potassium Silicate	1312-76-1	< 1%*

**specific percentages of composition are being withheld as a trade secret*

Section 4: FIRST-AID MEASURES

Inhalation: Not expected to cause respiratory irritation. If adverse effect occurs, move to fresh air.
Skin Contact: Not expected to cause skin irritation. If adverse effect occurs, rinse skin with water.
Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice.
Ingestion: May cause upset stomach. Drink plenty of water to dilute. See section 11.

Most Important Symptoms/Effects, Acute and Delayed: None known.

Indication of Immediate Medical Attention and Special Treatment Needed, if necessary: Treat symptomatically

Section 5: FIRE-FIGHTING MEASURES

Suitable & Unsuitable Extinguishing Media: Use Dry chemical, CO2, water spray or "alcohol" foam. Avoid high volume jet water.
Specific Hazards Arising from Chemical: In event of fire, fire created carbon oxides and oxides of phosphorus may be formed.
Special Protective Actions for Fire-Fighters: Wear positive pressure self-contained breathing apparatus; Wear full protective clothing.

This product is non-flammable. See Section 9 for Physical Properties.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:
For non-emergency personnel: See section 8 – personal protection.
For emergency responders: Avoid eye contact. Safety goggles suggested if splashing or misting is likely to occur.

Environmental Precautions: Do not allow into open waterways and ground water systems.

Methods and Materials for Containment and Clean Up: Dike or soak up with inert absorbent material. See section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Precautions for Safe Handling: Ensure adequate ventilation. Keep out of reach of children. Keep away from heat, sparks, open flame and direct sunlight. Do not pierce any part of the container. Do not mix or contaminate with any other chemical. Do not eat, drink or smoke while using this product.

Conditions for Safe Storage including Incompatibilities: Keep container tightly closed. Keep in cool dry area. Avoid prolonged exposure to sunlight. Do not store at temperatures above 109°F (42.7°C). If separation occurs, mix the product for reconstitution.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values:	Triethanolamine (102-71-6)	5 mg/m³ PEL	California
	Diethanolamine (111-42-2)	3 ppm TWA; 15 mg/m³ TWA	Connecticut, Michigan, Minnesota, OSHA, Tennessee, Vermont, Washington
		0.46 ppm PEL; 2 mg/m³ PEL	California
		6 ppm STEL	Washington

Appropriate Engineering Controls: Showers, eyewash stations, ventilation systems

Individual Protection Measures / Personal Protective Equipment (PPE)
Eye Contact: Use protective glasses or safety goggles if splashing or spray-back is likely.
Respiratory: Use in well ventilated areas or local exhaust ventilations when cleaning small spaces.
Skin Contact: Use protective gloves (any material) when used for prolonged periods or dermally sensitive.
General Hygiene Considerations: Wash thoroughly after handling and before eating or drinking.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear Liquid	**Partition Coefficient: n-octanol/water:**	Not determined
Odor:	No added odor	**Autoignition Temperature:**	Non-flammable
Odor Threshold:	Not determined	**Decomposition Temperature:**	109°F
pH:	10 – 11.5	**Viscosity:**	Like water
Freezing Point:	0°C (32°F)	**Specific Gravity :**	1.01 – 1.04
Boiling Point & Range:	98°C (210°F)	**VOCs:**	***Water & fragrance exemption in calculation*
Flash Point:	> 212°F	CARB Method 310**:	20 g/L 0.1667 lb/gal 2.0%
Evaporation Rate:	Not determined	**VOC Composite Partial Pressure:**	0.102207135
Flammability (solid, gas):	Not applicable		

Section 9: PHYSICAL AND CHEMICAL PROPERTIES - continued

Upper/Lower Flammability or Explosive Limits:	Not applicable	**Nutrient Content:**	
Vapor Pressure :	20.7 mmHg	Nitrogen -	<0.1% (0% by formula)
Vapor Density:	Not determined	Phosphorous -	< 0.25% (by formula)
Relative Density:	8.34 – 8.67 lb/gal	Sulfur -	<0.1% (0% by formula)
Solubility:	100% in water		

Section 10: STABILITY AND REACTIVITY

Reactivity: Non-reactive.
Chemical Stability: Stable under normal conditions 70°F (21°C) and 14.7 psig (760 mmHg).
Possibility of Hazardous Reactions: None known.
Conditions to Avoid: Excessive heat or cold.
Incompatible Materials: Do not mix with oxidizers, acids, bathroom cleaners, or disinfecting agents.
Hazardous Decomposition Products: Normal products of combustion - CO, CO2, oxides of phosphorus.

Section 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:
Inhalation - Overexposure may cause headache.
Skin Contact - Not expected to cause irritation.
Eye Contact - Causes eye irritation.
Ingestion - May cause upset stomach.

Symptoms related to the physical, chemical and toxicological characteristics: no symptoms expected under typical use conditions.
Delayed and immediate effects and or chronic effects from short term exposure: no symptoms expected under typical use conditions.
Delayed and immediate effects and or chronic effects from long term exposure: headache, dry skin, or skin irritation may occur.
Interactive effects: Not known.

Numerical Measures of Toxicity

Acute Toxicity:
Oral LD_{50} (rat) > 5 g/kg body weight
Dermal LD_{50} (rabbit) > 5 g/kg body weight
Calculated via OSHA HCS 2012 / Globally Harmonized System of Classification and Labelling of Chemicals

Skin Corrosion/Irritation: Non-irritant per Dermal Irritection® assay modeling. *No animal testing performed.*
Eye Damage/Irritation: Irritant per Ocular Irritection® assay modeling. *No animal testing performed.*
Germ Cell Mutagenicity: Mixture does not classify under this category.
Carcinogenicity: Volume of ingredients does not trigger or classify under this category. This product contains trace amounts of Diethanolamine (IARC 2B and ACGIH A3)
Reproductive Toxicity: Mixture does not classify under this category.
STOT-Single Exposure: Mixture does not classify under this category.
STOT-Repeated Exposure: Mixture does not classify under this category.
Aspiration Hazard: Mixture does not classify under this category.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Volume of ingredients used does not trigger toxicity classifications under the Globally Harmonized System of Classification and Labelling of Chemicals.
Aquatic: Not tested on finished formulation.
Terrestrial: Not tested on finished formulation.

Persistence and Degradability: Readily Biodegradable per OECD 301D, Closed Bottle Test.
Bioaccumulative Potential: No data available.
Mobility in Soil: No data available.
Other Adverse Effects: No data available.

Section 13: DISPOSAL CONSIDERATIONS

Unused or Used Liquid: May be considered hazardous in your area depending on usage and tonnage of disposal – check with local, regional, and or national regulations for appropriate methods of disposal.

Empty Containers: May be offered for recycling.

Never dispose of used degreasing rinsates into lakes, streams, and open bodies of water or storm drains.

Section 14: TRANSPORT INFORMATION

U.N. Number: Not applicable
U.N. Proper Shipping Name: Cleaning Compound, Liquid NOI
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Marine Pollutant - NO
Transport in Bulk (according to Annex II of MARPOL 73/78 and IBC Code): Unknown.
Special precautions which user needs to be aware of/comply with, in connection with transport or conveyance either within or outside their premises: None known.

U.S. (DOT) / Canadian TDG: Not Regulated for shipping.
ICAO/ IATA: Not classified as Hazardous
IMO / IDMG: Not classified as Hazardous
ADR/RID: Not classified as Hazardous

Section 15: REGULATORY INFORMATION

All components are listed on: TSCA and DSL Inventory.

SARA Title III: Sections 311/312 – Not applicable.
Sections 313 Superfunds Amendments and Reauthorizations Act of 1986 – Diethanolamine (111-42-2) < 0.01%
Sections 302 – Not applicable.

Clean Air Act (CAA): Triethanolamine (102-71-6), Diethanolamine (111-42-2), Propylene Glycol Butyl Ether (5131-66-8)
Clean Water Act (CWA): Not applicable
CERCLA: Diethanolamine (111-42-2) 100 lb RQ

State Right To Know Lists: Triethanolamine (102-71-6) Massachusetts, New Jersey, Pennsylvania
Diethanolamine (111-42-2) Massachusetts, New Jersey, Pennsylvania
CA Proposition 65: Diethanolamine (111-42-2) < 0.01%

Texas ESL:

Triethanolamine	102-71-6	5 µg/m³ long term	50 µg/m³ short term
Ethoxylated Alcohol	68439-46-3	60 µg/m³ long term	600 µg/m³ short term
Propylene Glycol Butyl Ether	5131-66-8	73 µg/m³ long term	730 µg/m³ short term
Tetrapotassium Pyrophosphate	7320-34-5	5 µg/m³ long term	50 µg/m³ short term
Potassium Silicate	1312-76-1		5 µg/m³ short term
Diethanolamine	111-42-2	1 µg/m³ long term	10 µg/m³ short term

Section 16: OTHER INFORMATION

Size	UPC
1 Gallon	043318134067
1 Gallon, 4 per case	043318134067
5 Gallon	043318134050
55 Gallon	043318134555
275 Gallon	043318134753

USA part numbers listed only. Not all part numbers listed. USA part numbers may not be valid for international sale.

Section 16: OTHER INFORMATION - continued

NFPA:

Health – Eye Irritant
Flammability – Non-flammable
Stability – Stable
Special - None

Acronyms

NTP	National Toxicology Program	IARC	International Agency for Research on Cancer
OSHA	Occupational Safety and Health Administration	CPSC	Consumer Product Safety Commission
TSCA	Toxic Substances Control Act	DSL	Domestic Substances List

Prepared / Revised By: Sunshine Makers, Inc., Regulatory Department.
This SDS has been revised in the following sections: Modification to section 9 and 16

DISCLAIMER: The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

ATTACHMENT 5B: ENVIRONMENTAL PROTECTION PLAN - REDACTED

RETURN TO TABLE OF CONTENTS

Naval Facilities Engineering Command
NAVFAC HAWAII

ENVIRONMENTAL PROTECTION PLAN

Clean Red Hill Tanks, JBPHH, Hawaii
Joint Base Pearl Harbor-Hickam Oahu, Hawaii

JANUARY 2024

Naval Facilities Engineering Command
[redacted]

[redacted]
Task Order [redacted]

Revision: 0

Department of the Navy, Naval Facilities
Engineering and Expeditionary Warfare Center

Submitted by:

[redacted]

[redacted]

ENVIRONMENTAL PROTECTION PLAN AMENDMENTS

[redacted]

Date	Change Needed	Change Made

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ATTACHMENTS

ACRONYMS AND ABBREVIATIONS

[redacted]	[redacted]
CFR	Code of Federal Regulations
DOT	Department of Transportation
EPP	Environmental Protection Plan
FOR	Fuel Oil Reclamation
HDOH	Hawaii Department of Health
HSE	Health, Safety, and the Environment
HW	Hazardous Waste
JBPHH	Joint Base Pearl Harbor-Hickam
NAVFAC	Naval Facilities Engineering and Expeditionary Warfare Center
NTR	Navy Technical Representative
SSHO	Site Safety and Health Officer

1.0 GENERAL OVERVIEW

1.1 General Overview and Purpose

This Environmental Protection Plan (EPP) details the work activities to be completed by [redacted] to mitigate adverse environmental impacts and ensure work complies with all applicable environmental regulations for the tank cleaning work at Red Hill Underground Fuel Storage Complex, Joint Base Pearl Harbor-Hickam (JBPHH), Hawaii. All work will be conducted in accordance with the Statements of Work entitled "Clean Fuel Storage Tanks for Closure, Joint Base Pearl Harbor-Hickam, Hawaii," received 23 May 2023. [redacted] will perform this work under contract number [redacted]

It is assumed that all tanks to be cleaned will be drained and emptied of recoverable, flowable fuel when turned over to [redacted] at the project start date. All associated pipelines are expected to be drained and emptied. No residual fuel is expected to be encountered.

The elements of this plan will coincide with the Installation Hazardous Waste Management Plan when within the installation.

1.2 Separate Plans

Specific plans required by the contract and prepared separately consist of the following:

- **Waste Management Plan:** Ensures that all waste generated during tank cleaning and closure activities will be managed in compliance with federal, state, and local government standards.
- **Dirt and Dust Control Plan:** Describes what practices will be employed to keep dirt and dust down.

1.3 Environmental Manager Personnel

The Environmental Managers for this project will be [redacted] They will have the authority to implement applicable environmental regulations, responsible to document environmental procedures, direct spill response, and ensure training is provided to project personnel on all aspects of this EPP as required by the contract. The Quality Control Manager, Construction Manager, and Site Safety and Health Officer (SSHO) will also have the authority to stop any work in violation of this EPP.

A letter signed by an officer of the firm appointing the Environmental Managers is included as Attachment 1 of this EPP. This letter designates the persons responsible for managing and implementing the environmental program as described in the project contract.

All required training as designated by contract shall be obtained prior to project commencement and updated or recertified prior to qualification expiration dates or as mandated per contract requirements.

1.4 Operating Procedures

The [redacted] consists of over 1,400 documents of which approximately 465 documents are related to Health, Safety, and the Environment (HSE). These documents include forms, guidelines, checklists, policies, and procedures. Specific[redacted] documents applicable for this EPP are:

- [redacted]
- [redacted]
- [redacted]

1.4.1 Contingency Plan

The [redacted] Red Hill Team developed the site-specific Contingency Plan to act as the actionable preparedness plan in response to emergency situations that have the potential to harm the environment, personnel, or the facility and project equipment. The Contingency Plan identifies responsible persons, actions, and equipment or resources available to prevent incidents, contain spills, or react to fires and explosions.

The Contingency Plan establishes the Emergency Action Committee, onsite personnel's roles and responsibilities to assume during an emergency situation at the project site. A copy of the site-specific Contingency Plan in full detail is maintained onsite. The positions are provided in Table 1. The plan is provided with this document as Attachment 4.

[redacted] **RED HILL EMERGENCY ACTION COMMITTEE**

Position	Primary	Alternate
Emergency Coordinator (Incident Commander)	[redacted]	[redacted]
Evacuation Coordinator	[redacted]	[redacted]
Communication Coordinator	[redacted]	[redacted]
Emergency Supplies Coordinator	[redacted]	[redacted]

1.5 Communication and Training

The HSE Manager and Deputy Project Manager will complete the on-line Environmental Compliance Assessment Training and Tracking System training prior to construction. Spill response, environmental protection, and compliance training will be documented for [redacted] and subcontractor personnel upon completion. In-house training will be conducted to familiarize

employees of the requirements following [redacted] procedures and contract specifications. Training topics will include, but are not limited to the following:

- Spill reporting and response procedures
- Waste stream identification, collection, segregation, and labeling
- Hazardous material storage and use

Environmental training certifications are presented in Attachment 2 of this document.

TABLE 2: EMERGENCY CONTACTS

Position	Name	Phone Number	Email
Project Manager	[redacted]	[redacted]	[redacted]
Deputy Project Manager			
Site Superintendent			
Construction Manager			
QC Manager			
HSE Manager			
SSHO			

1.6 General Site Information

The mined-in-place, underground, cylindrical petroleum storage tanks are located at the Red Hill Underground Fuel Storage Complex at JBPHH, Oahu, Hawaii. Each tank is capable of holding approximately 12.5 million gallons of fuel. The tanks provide storage for two different types of jet fuel; JP-5 and F-24, and diesel fuel, F-76. The tank tops and bottoms are domed at each end. Access into the tanks is provided by an upper access catwalk system approximately 190 feet above the tank bottom, and a lower access tunnel just below the tank bottom.

A general site location and laydown plan can be found in Figure 1 below.

DCRIT determination for RH – This information is exempt from disclosure under 5 U.S.C. § 552(b)(3) because it meets the requirements for exemption under 10 U.S.C. § 130e.

FIGURE 1: SITE LOCATION AND LAYDOWN AREA

2.0 MANAGEMENT OF NATURAL RESOURCES

2.1 Land Resources

All project work will be performed in, or immediately adjacent to, improved areas. No work is anticipated for unimproved areas or areas of native vegetation. Except for designated work areas, the sites will be preserved in, or restored to, their original condition. Temporary equipment and material storage areas will be identified and approved by the Navy Technical Representative (NTR). Any removal and excavation activities will be conducted in a manner that minimizes impact and protects the surrounding areas from being disturbed. Precautions to be taken to minimize impact will include, but are not limited to, the following:

- All heavy equipment and vehicle operations will be limited to designated roadways and predetermined routes.
- Debris from work activities will be collected daily.
- Proper guidance will be provided to heavy equipment operators to minimize impact to designated work areas.

2.2 Tree Protection

During construction activities, efforts will be made to minimize the impact to site vegetation (both inside and outside the designated work areas, storage areas, and access routes). Site vegetation consist of trees, bushes, and wild grasses. At the work site location, no endangered or protected trees nor vegetation, are known to exist. Precautions taken to minimize the impact of field activities on the existing vegetation will include:

- Using existing roads only.
- Closely supervising equipment operators and emphasizing preservation of vegetation in non-work areas.
- Providing proper guidance to heavy equipment and truck operators to minimize damage to adjacent vegetation not directly affected by field activities.

2.3 Replacement of Damaged Landscape Features

During construction activities, efforts will be made to minimize the impact to site landscape features (both inside and outside the designated work areas, storage areas, and access routes). Precautions taken to minimize the impact of field activities on the landscape features will include:

- Using existing roads only.
- Closely supervising equipment operators and emphasizing preservation of landscape features in non-work areas.
- Providing proper guidance to heavy equipment and truck operators to minimize damage to adjacent landscape features not directly affected by field activities.

- No unauthorized clearing or digging shall be conducted to minimize damage to landscape features, such as rock formations and established vegetation boundaries that serve to stabilize the mountain side.

2.4 Temporary Construction

Temporary construction activities are expected to be minimal. Effort will be made to minimize the impact of temporary construction and temporary facilities. Only designated areas will be used for temporary facilities and or construction activities. All temporary construction is expected to be removed from the site upon project completion.

Measures to protect natural resources including surface waters and storm water runoff from pollution associated with temporary construction materials are described in sections 4.3 and 4.4. Measures to address potential impacts of material transfer through the tunnel are provided in section 6.0.

2.5 Stream Crossings

Not Applicable. There is no stream crossing located at the project site. The nearest surface water feature is an unnamed concrete lined drainage ditch which runs along the Red Hill facility perimeter fence below the lower extension of Icarus Way. There is a vegetated hillside slope approximately 400 feet wide between the [redacted] laydown area near ADIT 4 and this drainage ditch. The ditch connects to Halawa Stream approximately 5000 feet from the point nearest to the project site, near the H-3 interchange.

2.6 Fish and Wildlife Resources

All phases of construction activities will be performed in a manner that protects fish and wildlife. Impacts to some surrounding areas may not be considered a significant concern since all work is underground. No fish or wildlife habitats are expected to be impacted in anyway.

2.7 Wetland Areas

Due to the location of work within stone/concrete tunnels, no wetlands are expected to be impacted.

2.8 Drinking Water and Groundwater Resources

The Red Hill facility is located above a freshwater aquifer. Due to the close proximity of the construction sites and interior facility layout, it is possible that any spills or releases of hazardous materials such as fuel can enter the groundwater aquifer. All project activities involving the handling, storage, or movement of possible contaminants shall be conducted involving containment, barriers, and response equipment readily available.

3.0 PROTECTION OF HISTORICAL AND ARCHAEOLOGICAL RESOURCES

3.1 Objectives

All phases of construction activities will be performed in a manner consistent with the Navy approved [redacted] Red Hill tank cleaning work plan and the tank cleaning section to be approved by DOH and EPA as part of the RHBFSF closure plan.

3.2 Methods

Any actions with the potential to impact the historic Red Hill facility will be subject to Navy review prior to approval. [redacted] will verify that any intrusive activities are reviewed and approved in advance by JBPHH, in order to ensure no historic or archaeological resources are impacted.

4.0 STORM WATER MANAGEMENT AND CONTROL

4.1 Ground Cover

Ground cover in the work area is not expected to be impacted as it is within stone/concrete tunnels. Furthermore, the temporary facilities placed outside the tunnels will have minimal impact to ground cover, and the site will be restored to original condition after demobilization.

4.2 Erodible Soil

Soil erosion in the work area is not expected to be impacted as it is within stone/concrete tunnels. Temporary measures to mitigate loss of erodible soil at the temporary facility outside the tunnels are not expected. However, if required, those measures will be maintained throughout the project.

4.3 Temporary Measures

The majority of work will be conducted inside the Red Hill facility, in areas not exposed to storm water. Activities which may occur at the laydown area near ADIT 4 include material storage and handling, vehicle parking, and temporary waste storage. Due to the limited nature of activities with potential for stormwater exposure, installation of structural BMPs is not expected to be required. Existing vegetated areas will remain undisturbed and no activities would occur on sloped areas which could contribute to erosion. Therefore, stabilization measures are not anticipated at this time.

Temporary measures to prevent pollution and discharge of non-storm water runoff will include:

- All containers of hazardous materials will be stored under cover to minimize exposure to storm water and in secondary containment to prevent spills, leaks, or drips which could be exposed to storm water.
    - Hazardous material storage areas will be inspected on a weekly basis to ensure containers remain in good condition, and secondary containment remains intact.
    - Spill kits will be maintained in areas where hazardous materials may be stored
    - Quantities of hazardous materials stored on site will be limited to only the amount necessary for work.
    - All hazardous material will be stored in appropriate containers in properly designated hazardous material storage cabinets.
- Storage of materials which could contribute pollutants to storm water runoff such as grease, rust, or flaking paint will be in covered areas as much as possible. Material stored in areas exposed to storm water will be inspected weekly and, if needed, placed on impermeable containment berms
- Vehicles on site will be inspected weekly for leaks or spills, and any leaking vehicles or equipment will be protected by drip pans until the equipment can be taken off-site for maintenance.

- Waste generated will be taken off-site as directly as possible to minimize the amount of time waste is stored in areas exposed to storm water.
    - Waste storage areas will be bermed in an impermeable containment area to contain potential leaks or spills, and managed to prevent windblown trash.
    - During waste handling activities, trucks that enter the site for waste disposal will be inspected to ensure no leaks, spills or other potential sources of pollutants.
- Prevent the erosion of soil from around the temporary storage area by limiting vehicle movement to paved areas as much as possible.

If temporary waste storage facilities are needed outside the tunnels, then surface water runoff will be managed in order to complete the following:

- Contain the waste in an impermeable plastic-lined berm so no water enters or leaves the containment area.
- Prevent the erosion of soil from around the temporary storage area.

4.4 Best Management Practices

[redacted] will follow the below processes for BMP selection, implementation, maintenance, and inspection

4.4.1 Effective Selection, Implementation, and Maintenance of Best Management Practices

The HSEM and Environmental Managers will select and implement BMPs that suit the requirements for activities being conducted at the site. BMPs will include, but are not limited to the following:

4.4.1.1 Good Housekeeping

- Sites will maintain good housekeeping to reduce the potential for stormwater to come in contact with materials, waste and debris on site.
- Sites will store materials, chemicals, and wastes as described in Section 4.3 above.
- Sites will clean-up work areas and paved storage areas on a regular basis.
- Sites will properly dispose of waste materials as soon as practicable.

4.4.1.2 Equipment and Machinery Maintenance

- Sites will maintain equipment and machinery in accordance with the manufacturer's recommendations and or instruction manuals.
- Sites will have equipment and machinery user manuals on site or readily available for reference.
- Sites will maintain records of equipment and machinery maintenance onsite.

4.4.1.3 Exposure Minimization

- Waste and recyclables containers will be covered when not in use.

- Materials and equipment will not be stored near stormwater conveyance systems without the implementation of appropriate BMPs to mitigate any potential exposure to stormwater conveyance systems.
- Metal parts and components will be stored off the ground where possible, by utilizing any of the following or other effective means:
  - Pipe Racks
  - Pallets
  - Wooden posts
- Project/site waste materials will be stored off the native ground surface and covered where possible. Wastes with potential to release liquids or contaminated rain run-off will be stored in secondary containment. Acceptable means include
  - Concrete or paved surfaces
  - Covered heavy plastic liner
  - Portable secondary containment units
  - Roll-off containers and dumpsters

4.4.1.4 Management of Stormwater Runoff

The site will utilize physical structures to divert runoff away from potential pollutant sources and areas prone to erosion. Stormwater runoff management structures include but are not limited to:

- Roof drain down-spouts where appropriate to divert roof run-off away from areas with potential pollutants
- Material with potential to leach contaminants to groundwater will be kept out of the elements or covered.
- Storage areas of material shall not be in locations prone to erosion or increase the potential for erosion.

BMP implementation will be scheduled to precede the site activities for which the BMPs are selected. The HSEM or Environmental Managers will be responsible for managing the BMP installation schedule to ensure completion of BMP installation in a timely manner as needed.

4.4.2 Contractor's Inspection of BMPs

The HSEM or their designee will conduct inspections daily when applicable and maintain the BMPs. BMP inspections will include:

- Visual inspection of the BMPs implemented at the site
- Documentation of the effectiveness of the BMPs at the site
- Documentation of any repairs or maintenance that may be required

The HSEM or their designee will document BMP inspections and the corrective actions taken by site personnel to improve the effectiveness of the BMPs. The HSEM or their designee will maintain BMP inspections within the site files.

5.0 PROTECTION OF THE ENVIRONMENT FROM WASTE DERIVED FROM CONTRACTOR OPERATIONS

5.1 Control and Disposal of Solid and Sanitary Waste

All relevant federal, state, and local rules and regulations regarding the transport, storage, use, documentation, transportation, and disposal of waste shall be followed. Waste shall be properly packaged using Department of Transportation (DOT) containers that are compatible with the waste being stored. Containers shall be labeled to identify its contents. Keep wastes segregated and place in separate containers. Do not combine or consolidate waste generated from different processes. Containers of liquid must be stored on adequate secondary spill containment. Locate spill containment under shelter where feasible or ensure that spill containment is emptied after rain events. Rain water shall be collected in appropriate containers and treated as if it contains contaminants. Following a sample analysis, the rain water will be disposed of per regulatory guidance. When applicable or possible, a waste determination shall be made prior to the generation of a waste stream to determine whether the waste is hazardous or non-hazardous. The following non-hazardous solid and sanitary wastes are anticipated:

- Sanitary wastes generated from temporary self-contained portable toilets will be removed from the site on a regular basis.
- Residual fuel, sludge, sediment, or deleterious material generated by the tank cleaning process will be collected in 55-gallon drums, following a sample analysis. Drums will be removed from the tank via upper access tunnel. Within secondary containment, drums will be staged in an adjacent alcove. Transportation will be arranged at intervals necessary to minimize the number of drums within the facility. The typical transport truck supplied to transfer drummed waste off-site can hold 30-40 drums. This quantity should serve as the maximum stored on site at one time allowing for the regular removal of waste from the job site. The movement of drums from one point to another within the installation will be minimalized to mitigate the potential of mishaps during travel.
- Rinse water generated by the tank cleaning process will be flowed through the facility fuel oil reclamation (FOR) 4-inch pipeline to the S-311 above ground storage tank located outside of the Adit 3 entrance. The waste will be sampled, analyzed, and disposed of in accordance with federal, state, and local regulations.
- Soiled personal protective equipment will be collected daily during the project timeline. It is estimated that two, 55-gallon drums per tank will be accumulated.

Rinse water will be sampled and tested with the total halogen test and a field screen test to determine if the waste is considered hazardous or non-hazardous. If the water is considered to be nonhazardous, it shall be packaged, labeled, stored, transported, treated, and disposed of in accordance with Title 40 Code of Federal Regulations (CFR) Parts 260-266. If water is found to be hazardous, it will be disposed of accordingly per federal, state, and local regulations.

The sludge is to be tested using the total petroleum hydrocarbons-diesel range, Toxicity Characteristic Leaching Procedure 8 Resource Conservation and Recovery Act metals, volatile

organic compounds, and flash point tests. Once the sludge has passed all tests and been determined to be nonhazardous, it will be disposed of in a sanitary landfill.

For waste requiring a laboratory analysis prior to disposal, environmental testing services must be accredited by a nationally recognized and/or DoD recognized laboratory accreditation body (e.g., National Environmental Laboratory Accreditation Program - NELAP, Department of Defense Environmental Laboratory Accreditation Program - DoD ELAP) for the applicable matrix (e.g. solid, water, etc.), test method (e.g. EPA 1311, 6010, 7471, 8082, etc.) and analyte (e.g. lead, cadmium, chromium, mercury, polychlorinated biphenyls, etc.) to be tested.

NOTE: The plan required by Section 01 74 19, Construction Waste Management and Disposal, is the Waste Management Plan.

5.2 Control and Disposal of Hazardous Waste

All relevant federal, state, and local rules and regulations regarding the transport, storage, use, and disposal of hazardous materials will be followed. [redacted] will document the quantity and types of hazardous wastes that are stored onsite, together with the storage, handling, and disposal procedures.

If over 55 gallons of HW, 1 quart of liquid acute HW, or 2.2 lbs of solid acute HW is expected, [redacted] shall take appropriate, timely actions (such as scheduling and expediting waste pickup and HW manifest preparation and review) prior to generating waste. Waste in excess of 55 gallons of HW, 1 quart of liquid acute HW, or 2.2 lbs of solid acute HW will not be generated until a waste pickup date is scheduled that will comply with the 3-day regulatory limit. [redacted] will provide manifest/waste documentation for Government review at least 10 working days prior to scheduled pickup date.

[redacted] will be required to establish a less than 90-day accumulation site for wastes expected to be characterized as HW only if the HW in excess of 55 gallons (or 1 quart of liquid acute HW or 2.2 lbs of solid acute HW) cannot be removed from the site within 3 calendar days despite all reasonable pre-planning efforts.

Approval by the contracting officer is required prior to establishing a 90-day accumulation site. At least 10 working days prior to accumulating waste, submit a request in writing to the Contracting Officer and provide the following information: Contract Number; Contractor; Hazardous Waste or Regulated Waste POC; Phone Number; Type of Waste; Source of Waste; Emergency POC; Phone Number; Location of the Site; Site Plan."

For less than 90-day accumulation sites, 40 CFR 260-268 requirements shall be met which include, but are not limited to: Personnel Training, Weekly Inspections, Contingency Plan, Arrangements with Local Authorities, and Access to Communications or Alarm System. These requirements shall be in place prior to using a less than 90-day accumulation site. Requirements for a less than 90-day accumulation site are significantly more stringent and labor intensive than for a satellite accumulation area. Planning ahead by preparing disposal paperwork and contacting waste transporters can minimize the need for a less than 90-day accumulation site."

Hazardous wastes will be handled as follows:

1. HW shall be properly packaged using DOT containers that are compatible with the waste being stored. Keep wastes segregated and place in separate containers. Do not combine or consolidate waste generated from different processes.
2. Containers of liquid must be stored on adequate secondary spill containment and under shelter when possible. When uncovered, secondary containment used must be capable of containing 10 percent of the volume of all containers or the entire volume of the largest container, plus sufficient freeboard for rainwater accumulations.
3. Each HW container shall have a label with the words, "Hazardous Waste," a description of the contents, and an emergency point-of-contact and phone number.
4. HW containers shall be closed except when adding or removing waste. Storage of HW must be at or near the point of generation and under the control of the point-of-contact specified on the drum.
5. Once 55 gallons of HW is exceeded, the HW in excess of 55 gallons must be removed within 3 calendar days and the drum(s) must be marked with the accumulation start date.
6. Submit waste documentation (lab analyses, waste profile, clearance request, waste documentation certification, etc.) to the Contracting Officer at least ten working days prior to the scheduled waste pick up to allow for adequate environmental department review.
7. Waste will be collected from the underground tank interior, drummed and stored at the point of accumulation, and transported to the proper facility for disposal.
8. Any potential Resource Conservation and Recovery Act hazardous waste generated will be tested to verify its proper waste characterization.
9. Sampling and analysis will be handled in accordance with all applicable environmental regulations.
10. [redacted] will notify the NTR upon generation of any hazardous waste and request the JBPHH hazardous waste generator identification and the name of the person authorized to sign hazardous waste manifests. A DOT-permitted transporter will be subcontracted to transport and broker disposal of the hazardous waste at a permitted disposal facility acceptable to JBPHH's appropriate environmental point of contact.
11. All disposal of hazardous waste will be in compliance with Land Disposal Restrictions Title 40 CFR Part 268. The JBPHH-authorized person will need to certify the land disposal restriction documents and waste profiles as part of the U.S. mainland waste facilities acceptance.
12. Copies of manifests or hazardous materials shipping documents along with acceptance documentation from the permitted recycling facility will be obtained and submitted with project close-out documents.

13. Used oils will be recycled as far as practicable and be segregated from domestic-type solid wastes for recovery/recycling. All procedures shall be in accordance with Title 40 CFR Part 279.

14. [redacted] will take all measures possible to minimize hazardous waste generation through recycling at state of Hawaii-approved recycling centers versus disposing of hazardous materials such as lead-acid batteries and used oil or similar.

15. As indicated above, the proposed permitted U.S. mainland facility will need to be approved by the appropriate environmental contact at JBPHH. The facility-signed manifest and certificate of disposal will be returned to the person from JBPHH, who certified that particular hazardous waste manifest.

16. The removal of any hazardous waste will be performed by subcontractors that will have current Hazardous Waste Operations and Emergency Response training certificates. All waste to be transported off base shall have an EPA Identification Number. Any [redacted] employee handling hazardous waste will also be similarly trained.

Facilities or subcontractors offering construction waste transport on-site or off-site must ensure that proper shipping orders, bill of lading, manifests, or other shipping documents containing waste diversion information meet requirements of 40 CFR 273 Universal Waste Management, 49 CFR 173 Shippers - General Requirements for Shipments and Packagings, and 49 CFR 178 Specifications for Packaging. Individuals signing manifests or other shipping documents should meet the minimum training requirements.

5.2.1 Off-Island Disposal of Hazardous Waste

Hazardous waste disposal shall be performed at a permitted off-island treatment, storage, and disposal facility. Before transporting hazardous waste off government property, a hazardous waste manifest, land disposal restriction (LDR) form as applicable, laboratory results, lab accreditation package, Waste Documentation Form, Additional Information for Construction and Demolition Form, and Review Sheet for Waste Characterization and Disposal Form to the Installation Environmental Office via the Contracting Officer. Allow 10 working days for government review. The Installation Environmental Office will sign the hazardous waste manifest as the generator. Contractor transporting hazardous waste off Government property must have transporter EPA Identification Number, appropriate DOT training, and appropriate driver's license endorsements required to transport hazardous waste.

5.2.2 On-Island or Off-Island Disposal of Non-Hazardous Waste

Before transporting any non-hazardous construction and/or demolition debris and waste off Government Property, [redacted] will submit the waste documentation package including laboratory results, lab accreditation package, Waste Documentation Form, Additional Information for Construction and Demolition Waste form, and Review Sheet for Waste Characterization and Disposal to the Installation Environmental Office via the Contracting Officer. [redacted] shall comply with Department of Transportation (DOT) regulations and implement applicable DOT requirements (e.g., proper shipping name, packaging, marking, labeling, placarding, Commercial

Driver License with Hazardous Material endorsement, and non-hazardous waste manifest). Prepare the required shipping papers in accordance with DOT regulations, to include proper certification statement required by 49 CFR 172.204(a), and submit to the Installation Environmental Office via Contracting Officer. Allow 10 working days for Government review. Once Government comments are adequately addressed, Installation Environmental Office staff will sign the appropriate waste documentation as the Generator/Property Owner. For non-DOT regulated, non-hazardous waste, prepare and sign any additional documentation similar to a non-hazardous waste manifest when required by the waste disposal facility.

6.0 PREVENTION OF RELEASES TO THE ENVIRONMENT

6.1 Procedures to Prevent Releases to the Environment

In order to prevent releases to the environment, the HSE manager will ensure all employees are trained in initial release prevention and response training topics, including the following:

- Contents of this EPP and applicable federal, state, and local regulations governing onshore spill prevention and management.
- Precautionary measures to prevent spills.
- Sources of spills, such as equipment failure or malfunction.
- Standard pollution-specific response procedures in case of a spill.
- Equipment, materials, and supplies available for spill clean-up activities.
- Locations and inspection requirements for spill-response kits.

A detailed description of the above procedures is outlined in the sections below.

6.2 Precautionary Measures to Prevent Spills

Secondary Containment

Preventing a release of hazardous material or waste to the environment remains a critical aspect of performing work on the project site. Uncontrollable events such as equipment malfunction or the occurrence of natural events can hinder all efforts to preventing a spill. A solution to preparing for unforeseen catastrophes is the implementation of secondary containment for any sources of potential releases.

Secondary containment shall accompany all aspects of project work involving the storage, use, movement, or disposal of harmful solids and liquids where applicable. Containment is a catchment area around the potential release source capable of capturing all of the contaminants, typically 110% of the largest quantity or container.

Some examples of project material or equipment and the secondary containment that shall accompany found on site include:

- 55-gallon drums of waste set atop of spill pallets or placed in a non-permeable basin with side walls.
- Boom hydraulic oil pump with built in secondary catchment basin.
- Secondary retainment wall around S-311 FOR tank.
- Generator manufactured double-walled tanks
- Drip diverter catchment hung underneath flanges during line breaking procedures.
- Clear poly material wrapped around liquid transfer hose connections to serve as leak detection and spray prevention

Control of Hazardous Energy

The Facility lock out/tag out (LOTO) procedure has been implemented for all contractors working at Red Hill and JBPHH for systems associated with the fuel pipelines. Authorization to conduct any work which falls under a LOTO requires a Work Authorization Form (WAF) to be issued by government authorizing personnel prior to beginning work. Facility and APTIM LOTO procedures shall be followed by all employees and subcontractors. Facility procedure shall take precedence when applicable.

The WAF procedure shall accompany all line-breaking procedures to prevent the spills and releases of hazardous materials such as residual fuel during the project.

6.3 Spill Diversion and Containment Measures

To control the spread of a spill, the project will evaluate the use of diversion barriers to create spill ways to direct the release away from critical infrastructure such as sumps or drains. The project site is designed to flow fuel downgradient. Relatively, the walking surfaces or ground, is sloped downhill.

Preventing or directing the spill to a controlled location will minimize the impact on environmental resources. Absorbent booms or functional dams may be employed to manage the control of accidental spills throughout the upper and lower tunnels, near areas of waste transfer, or near equipment storage areas. To the greatest extent possible, spills should be diverted to relatively impermeable surfaces such as paved or concrete areas and away from soil. Locations of concern requiring immediate diversion actions have been identified as near the drain culvert than runs parallel to the lower Icarus Way access road and ground water monitoring wells located in the lower tunnel. Well heads are barriered by absorbent boom socks and have plugs installed at the openings. Diversion dams and sandbags are currently installed near or on top of well heads. Prior to the cleaning of sumps, or areas near wells heads, [redacted] will coordinate with government representatives to ensure they are protected from intrusion. [redacted] will perform site inspections throughout the project timeline to identify environmental threats such as areas of potential spills, spill pathways, and risk mitigation measures.

6.4 Sources of Spills

A release to the environment, whether considered big or small, can have severe effects on the environment and natural resource supplies such as fresh water aquifers. The project has identified multiple sources of potential spills to provide awareness of project . A severity level has been applied to each scenario rated 1 to 3, 1 being the most severe, 3 having the least severe of consequences. Sources of spills information is provided in Table 3 below.

TABLE 3: SPILL SEVERITY MATRIX

Severity	Source	Hazardous Material	Cause of Spill	Precautionary Measure
1	Fuel day tank	Diesel fuel - 500-gal capacity	Equipment Failure - Pressure vent Human Error - Puncture - struck by vehicle - over filled	Tank is of double wall construction, secondary containment is built-in. The tank is set within a leak and drip catchment containment with side walls. Leak detection port connected to outer tank for inspection.
1	Generator	Diesel fuel - 430-gal capacity Oil - 9.3-gal capacity	Equipment Failure - Engine oil leak - Hole in diesel tank	Sub-base Fuel Cells (double wall). Contains a leak sensor, low fuel level switch, and a secondary containment tank. UL142 listed.
1	S311 FOR Tank	Tank wash water Residual fuel/water - 42,336-gal capacity	Tank structural failure	Tank is located inside of a walled containment.
1	FOR pipeline	Residual fuel Tank wash water	Pipeline leak or rupture	FOR piping has been tested by facility for functionality. Walk the line in its entirety prior to use performing visual inspection. Daily visual inspections to be conducted.
2	Boom hydraulic tank	Hydraulic oil - 30-gal capacity	Equipment failure - Hose rupture - Failed seal within equipment	Hydraulic pump assembly has catchment tub built into system.
2	Waste accumulation /transport in drums	Fuel sludge - 55-gal capacity	Drum puncture Dropped drum Drum not properly closed Drum overfilled	Movement of drums conducted with 4-wheel dolly only. Spotter to be used to clear initial pathway. All drums being filled or awaiting transport shall be located within containment basin.

2	Vacuum truck operations	Tank wash water (oily water)	Equipment failure -Hose leak/rupture -Fill tank leak	Wrap hose connection with clear poly and tape as leak detection and spray catchment. Place hose connections elevated over catchment such as 5-gal bucket.
3	Line-breaking (lower tunnel fuel piping)	Diesel/Jet Fuel - F-76 - F-24 - JP-5	Pipeline is not drained fully Residual fuel not expected	Drip diverter catchment hung around pipeline section to be opened with funnel system plumbed into drum. Any high point relatively available are checked for the presence of fuel. Flanges shall only be cracked when opening to facilitate quick closure if needed.
3	Tank cleaning	Commercial cleaning agent	Spill during transport to job site Spill during transfer to cleaning equipment holding tank	Ensure containers are closed fully during transport onsite. Place containers inside spill containment during transfer of product for use.

6.5 Pollution-Specific Response Procedures in Case of Spill

Based upon the identification of waste streams and potential sources of hazardous releases to the environment, the expected spill response procedures shall be capable of containing and completing cleanup operations of solid and liquid material. For all spills, the steps detailed in section 6.7 “Spill Response and Notification” below shall be followed.

Liquid Spills and Releases to the Environment

For all liquid spills, if possible, the sources of the spill shall be secured and proper notifications made. Containment of the spill shall start from the outside boundary of the hazardous material, working inward. Absorbent booms or pads can be placed around the spill to prevent further spread.

If the spill area contains drainage systems, block off access to the drain ways to prevent hazardous material from transferring to unknown or distant locations. Outside of the facility, drainage systems such as the stormwater culvert can not be blocked off for the project duration without disturbing natural stormwater flow paths. Inside the facility, drains such as the groundwater management system, aquifer well stations, and sumps can be blocked off during the project timeline. Such barriers and protections installed in and around the facility will continue to remain

in place as needed. An evaluation of these areas will be completed routinely throughout the project prior to moving possible contaminants while on the installation.

Using absorbent material (granular, pads, booms) absorb all possible liquid and contain within available non-permeable container or bag until DOT approved container can be supplied. Absorbents should not be fully saturated or contain free flowing liquid for disposal. Collect and contain all residues of the spilled liquid. All spill response waste shall be collected, labeled, stored, and sampled prior to disposal in accordance with local, state, and federal regulations.

If a liquid spill were to occur, the less of a quantity able to spill greatly impacts the potential of spread for the spilled material. Minimizing the on hand, or on site quantity of a hazardous chemical may reduce the negative impact on the environment. It is for this purpose, only the necessary amount of a hazardous liquid to perform the general assigned tasks will be maintained or stored onsite.

Solids Spills and Releases to the Environment

Spills and releases of hazardous material in a solid state would include tank bottom sludge and debris. Spills of this nature shall be reported and handled in the same manner as liquid waste as outlined above and in section 6.7. Solid waste spill response shall also start from the outside boundary, working inward as applicable. Absorbent material may still be used to absorb and contain the contents. In addition, a tool such as a shovel or broom may also be used to collect solids from up off the ground. For loose debris such as rust and dust, minimal dry sweeping shall be conducted to avoid air dispersal and respirable hazards both inside and outside of the facility tunnels.

Collect absorbent and waste material in a non-permeable container until an approved DOT container can be received at the spill location. All waste derived from response activities shall be collected, labeled, stored, sampled, and disposed of aligning with local, state, and federal regulations.

6.6 Spill Response Equipment, Materials, and Supplies

A spill response kit shall contain any applicable tools, equipment, or material necessary for the initial containment and cleanup of a release until additional support can respond to the location. All spill kits at a minimum shall contain the following supplies.

- Absorbent pads (diapers): 1-2 packs of typically 50-100 pads.
- Absorbent booms: sections measuring 5-10 feet long
- Absorbent granular: 25-50 pound bags
- PPE: chemical resistant gloves, goggles, chemical tyvek overall
- Container: 5 gal buckets or similar, spill kit container also available
- Trash bags
- Strong industrial tape, such as duct tape.
- Caution tape
- Broom and dustpan

- Drain cover seals

Other spill response supplies available onsite include items such as rubber tapered plugs, pipe clamps, isolation inflatable plugs, and mechanical blinds. Pneumatic driven diaphragm pumps and hoses are available onsite for the movement of liquid for any response requiring this equipment to advance clean up procedures. Two 1-inch , and one 2-inch pumps remain onsite at all times as well as a few hundred feet of liquid transfer hoses.

The project keeps DOT approved containers onsite to be readily available if needed. Approximately ten or more 55-gal steel open top drums are kept in inventory. Other containers include ten or more 250-gal totes, and approximately five 55-gal poly drums.

6.7 Locations and Inspection Requirement of Response Kits

Spill response kits shall be conspicuously placarded and be located within the vicinity and readily accessible to all sources of spills or releases to the environment. Based upon the identification of sources of potential spills, the following locations have been identified as requiring that a spill kit be readily accessible:

- Generators and supply diesel tank locations
- S311 FOR tank
- Vacuum truck area of use
- Active lower tunnel alcoves
- Active upper tunnel alcoves
- Along the FOR 4” pipeline during transfers to S311 tank
- Travel along with containers from accumulation point, and to disposal transport truck
- Waste accumulation areas
- Any activity where hazardous substances can be exposed to the environment will have an appropriate-sized spill kit near the operation

Spill kits shall be inspected monthly to ensure all required contents remain readily available if needed. Inspectors shall use document inspections using [redacted] “Spill Kit Monthly Inspection Form”. Monthly inspections may be conducted by Site Safety Officers, the HSE Manager, or site Environmental Managers. Completed inspection records shall be kept on file at the job site for the duration of the project.

A tamper seal may be placed on spill kits allowing for the alert that a spill kit was opened and that supplies may be diminished. A tamper seal shall not require the use of a tool or sharp object to remove the seal and allow for easy access to the kit if needed. If a seal has been broken, an inspection shall be done immediately and any diminished supplies replaced.

6.8 Spill Response and Notifications

Project personnel will take appropriate measures to avoid spills when draining, purging, and modifying pipes connected to tanks or during any activity with the potential for a hazardous substance release to the environment. Project personnel will use spill-control techniques that may

include temporary oil-absorbent booms, and or plastic sheeting overlaid on lumber, to form temporary containment areas.

Mirroring [redacted]s Contingency Plan, in the event of a spill, the following procedures will be initiated:

- Project personnel will stop the source of the spill; deactivate all applicable power sources and/or emergency stop buttons.
- Immediately notify environmental managers, site management and safety personnel, HSE manager, the customers' representatives, or other personnel designated on the EAC Communication and Organizational Structure as provided in the Contingency Plan (Attachment 4). Due to many worksites being underground without cell-service, on scene notifications shall be made in a manner that results in immediate confirmation of receipt such as by phone call or radio, or in person if possible.
- Clear the location of all persons except those trained to deal with the incident.
- Clean up shall be performed by qualified personnel only.
- Absorbents will be placed to clean up all products and prevent further spread of contamination.
- All absorbent materials and fluids must be contained in DOT-approved open-top drums.
- All absorbent materials and fluids must be assumed to be contaminated until demonstrated otherwise.
- Drums shall be clearly marked according to contents, accumulation date, and known or suspected hazard(s). Drums shall be marked "Pending Analysis" until such time as results have been received from the laboratory.
- Drums shall be segregated into a separate, marked holding area.
- Notify appropriate personnel when the spill has been successfully cleaned.
- Notify Waste Coordinator of all waste accumulated to ensure collection, storage, and disposal of all waste is conducted as required.
- Samples of the spill residue and materials used in the spill cleanup must be collected.
- Materials shall be disposed of in accordance with Department of Health and Environmental Protection Agency requirements.
- Copies of the sample analysis and a letter stating the disposition and location of the disposal will be provided to the NTR and the facility.
- Spilled materials, contaminated soils and water, absorbents, and miscellaneous spill related debris require proper handling. [redacted] will properly dispose of these materials and any other materials associated with spill containment and cleanup.

Once the spill is under control by [redacted]s Incident Commander, or when adequately possible, notification to first responders (i.e., installation Fire Department, the Installation, Command Duty Officer, Installation Environmental Office, the JBPHH Regional Dispatch Center, and the Contracting Officer) should be made in parallel with spill mitigation actions. To the extent practicable, notification must include date and time spill occurred or was discovered, location, specific substance spilled, spill volume, operation underway when the spill occurred, and response actions taken or planned.

Throughout the project worksites, and at active tank locations, emergency notification signage will be posted. Emergency contacts at a minimum shall include Environmental Managers, Site Superintendent, project management personnel, and emergency response contacts.

7.0 REGULATORY NOTIFICATION AND PERMITS

Throughout the duration of the project, [redacted] will evaluate the potential that activities may involve contact with, or disturbance of hazardous material that can significantly impact human health and the environment. Prior to such involvement, or at the time of realization, [redacted] will conduct sampling and testing of the potentially hazardous material. All testing shall be conducted in accordance with local, state, and Federal regulations.

Per the Environmental Management Division of the state of Hawaii the following permits shall be obtained if sampling results indicate the hazardous material is present and may be disturbed or become in direct contact with project personnel.

- Asbestos
- Lead

Based upon project scope of work, it is not expected that lead or asbestos containing material will be encountered to fulfill the contract.

8.0 CLEAN AIR ACT COMPLIANCE

In accordance with the Clean Air Act and Hawaii Department of Health (HDOH) Clean Air Branch HAR 11-60.1, [redacted] has submitted an air permit application for the operation of diesel generators. With HDOH concurrence, an air permit is required to be obtained for the project duration.

Upon application approval, the permit will be provided to Naval Facilities Engineering and Expeditionary Warfare Center (NAVFAC) Contracting Officer as a submittal, to include the NAVFAC Permit Record of Decision form.

[redacted] submitted an additional inquiry to HDOH regarding an air permit in reference to Red Hill tank degassing with air displacement. [redacted] has received verbal confirmation from NAVFAC HI that HDOH Clean Air Branch has reached a decision that the degassing of the underground storage tanks does not require an air permit. [redacted] is awaiting an official determination notice at the time of this plan submittal.

A letter is being prepared for submittal to the HDOH Clean Air Branch regarding the air permit applicability of the four surge tanks located onboard JBPHH. [redacted] is contracted to degas and clean these tanks in conjunction with the 14 Red Hill tanks.

Degassing of the tanks cannot take place until a formal determination has been received by [redacted] from the HDOH Clean Air Branch.

9.0 DIRT AND DUST CONTROL

9.1 Facility External Layout

The Red Hill Facility base has a relatively small footprint as an annex of JBPHH. There are two main roads. Icarus Way is a paved, double lane road that allows travel along the lower sections of the site where the main entrance gate is located. Adit 3 and Adit 6 entrances into the facility tunnels, are accessed from the lower roadway. Following a sharp turn, Icarus Way travels to the upper section of the facility that is carved along the rock side of the mountain. Adits 4 and 5 are accessed from the upper access road.

Work associated with the contract is scheduled to be completed within the facility tunnels underground. For this reason, it is not expected that excessive airborne dust and dirt will be generated along installation roadways affecting outdoor air quality standards set forth in the Clean Air Act.

9.2 Sources of Dust and Dirt

9.2.1 Vehicles

Personal vehicles such as cars and trucks will enter the site daily as employees and subcontractors arrive and depart for contract work on workdays. Vehicles will traverse the lower and upper sections of Icarus Way. All personal vehicles will park in designated areas located at the [redacted] trailer offices and laydown area. There will be no parking allowed around Adit 5 and Adit 6.

9.2.2 Heavy Equipment

The only mobile heavy equipment machinery expected to be utilized during the project is a telehandler, or telescoping forklift. The machinery is used to pick up and move heavy pieces of material or equipment in support of project needs. The telehandler is a slow moving piece of construction machinery. Speeds with a load are typically around 1 to 2 miles per hour for safety reasons. Without a load, the equipment is still limited to travel speeds around 3 to 5 miles per hour.

9.3 Mitigation Methods

The following methods will be utilized to minimize dirt and dust on the project site:

- All vehicles and equipment will remain on paved roads when approaching the project site.
- [redacted] will clean up any dirt and debris build up on the paved roads derived from this project's equipment, vehicles, or project activities.
- Dust will be controlled by wetting down the area around temporary facilities as necessary.
- All dust will be collected by power vacuum or similar systems when necessary. No dry sweeping or use of powered air movers such as compressed air or leaf blowers will be utilized to clear dirt, dust, or debris.

No Excavation is expected during this project.

10.0 REFERENCES

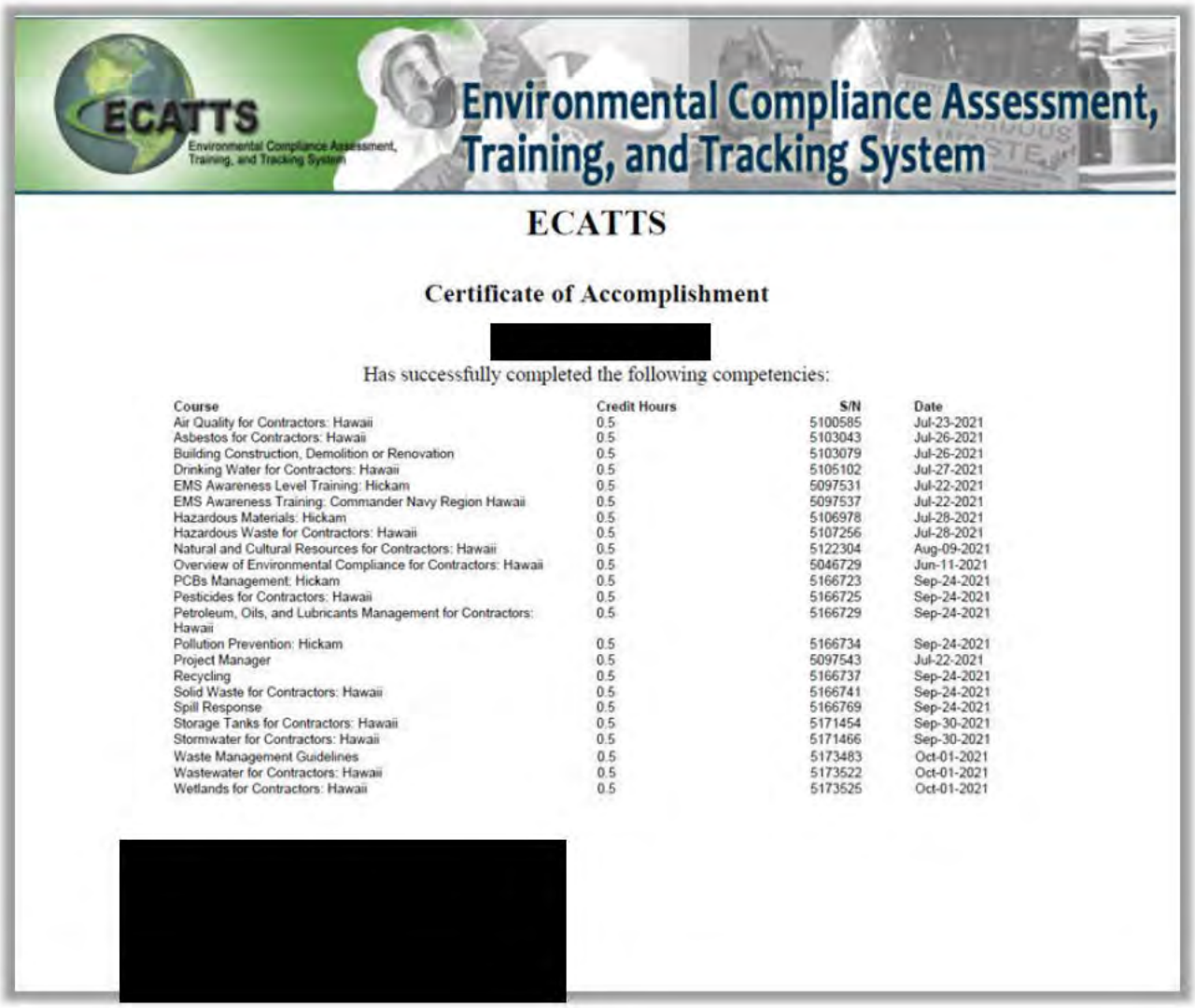
[1] "Clean Fuel Storage Tanks for Closure, Joint Base Pearl Harbor-Hickam, Hawaii," parts 1 to 6 dated Fiscal Year 2023.

[2] Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA publication SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015).

[3] *United States Code of Federal Regulations,* Title 40 CFR Parts 260-268, and 279.

[4] [redacted] Red Hill Contingency Plan.

ATTACHMENT 2
TRAINING CERTIFICATIONS



ECATTS
Environmental Compliance Assessment, Training, and Tracking System

Environmental Compliance Assessment, Training, and Tracking System

ECATTS

Certificate of Accomplishment

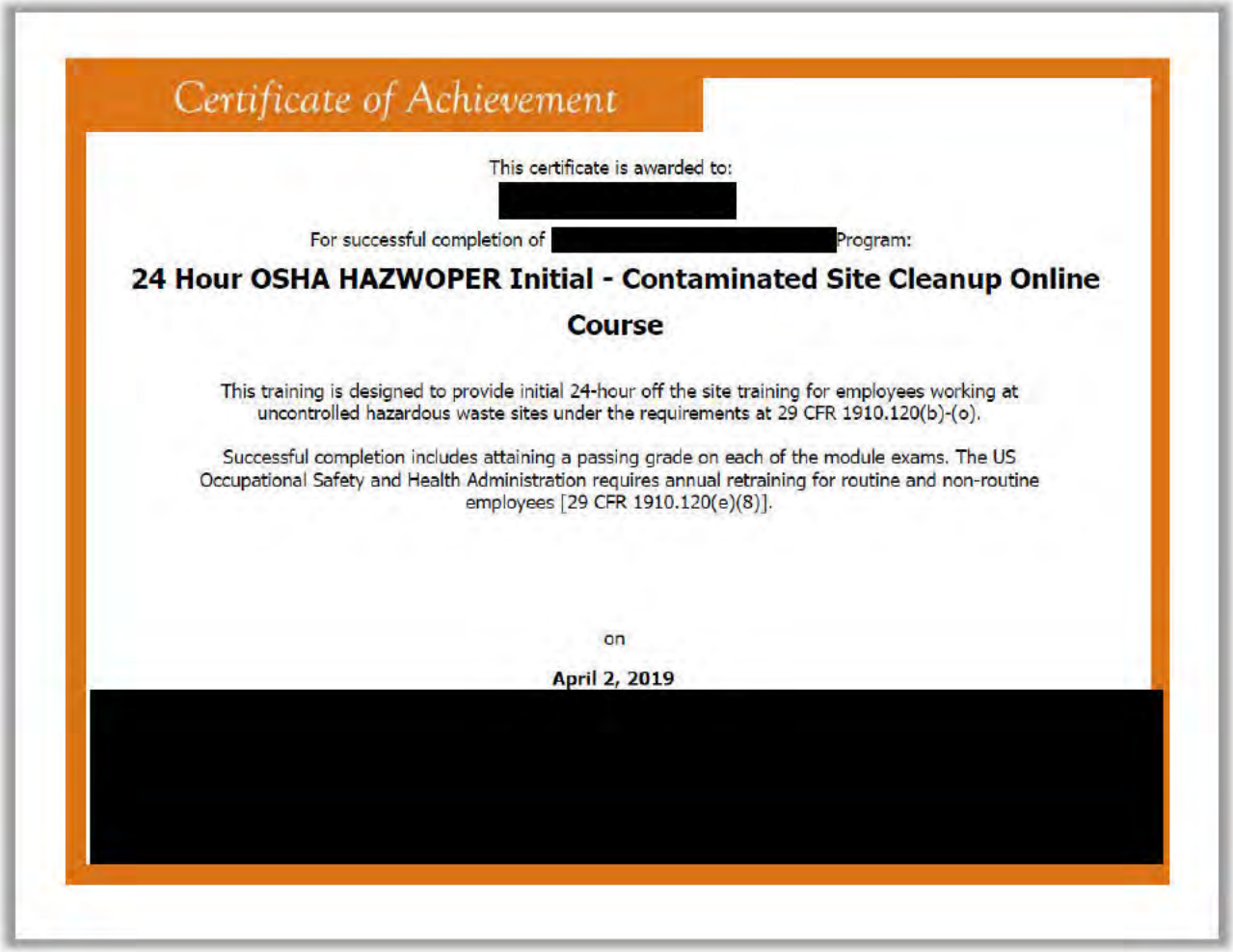
[redacted]

Has successfully completed the following competencies:

Course	Credit Hours	S/N	Date
Air Quality for Contractors: Hawaii	0.5	5100585	Jul-23-2021
Asbestos for Contractors: Hawaii	0.5	5103043	Jul-26-2021
Building Construction, Demolition or Renovation	0.5	5103079	Jul-26-2021
Drinking Water for Contractors: Hawaii	0.5	5105102	Jul-27-2021
EMS Awareness Level Training: Hickam	0.5	5097531	Jul-22-2021
EMS Awareness Training: Commander Navy Region Hawaii	0.5	5097537	Jul-22-2021
Hazardous Materials: Hickam	0.5	5106978	Jul-28-2021
Hazardous Waste for Contractors: Hawaii	0.5	5107256	Jul-28-2021
Natural and Cultural Resources for Contractors: Hawaii	0.5	5122304	Aug-09-2021
Overview of Environmental Compliance for Contractors: Hawaii	0.5	5046729	Jun-11-2021
PCBs Management: Hickam	0.5	5166723	Sep-24-2021
Pesticides for Contractors: Hawaii	0.5	5166725	Sep-24-2021
Petroleum, Oils, and Lubricants Management for Contractors: Hawaii	0.5	5166729	Sep-24-2021
Pollution Prevention: Hickam	0.5	5166734	Sep-24-2021
Project Manager	0.5	5097543	Jul-22-2021
Recycling	0.5	5166737	Sep-24-2021
Solid Waste for Contractors: Hawaii	0.5	5166741	Sep-24-2021
Spill Response	0.5	5166769	Sep-24-2021
Storage Tanks for Contractors: Hawaii	0.5	5171454	Sep-30-2021
Stormwater for Contractors: Hawaii	0.5	5171466	Sep-30-2021
Waste Management Guidelines	0.5	5173483	Oct-01-2021
Wastewater for Contractors: Hawaii	0.5	5173522	Oct-01-2021
Wetlands for Contractors: Hawaii	0.5	5173525	Oct-01-2021

[redacted]

Procurement sensitive and proprietary information – This information is exempt from disclosure under 5. U.S.C. § 552(b)(4) because it contains proprietary and procurement sensitive information.
PII – This information is exempt from disclosure under 5 U.S.C. § 552(b)(6), which protects personally identifiable information.



Certificate of Achievement

This certificate is awarded to:

[redacted]

For successful completion of [redacted] Program:

24 Hour OSHA HAZWOPER Initial - Contaminated Site Cleanup Online Course

This training is designed to provide initial 24-hour off the site training for employees working at uncontrolled hazardous waste sites under the requirements at 29 CFR 1910.120(b)-(o).

Successful completion includes attaining a passing grade on each of the module exams. The US Occupational Safety and Health Administration requires annual retraining for routine and non-routine employees [29 CFR 1910.120(e)(8)].

on

April 2, 2019

[redacted]

Procurement sensitive and proprietary information – This information is exempt from disclosure under 5. U.S.C. § 552(b)(4) because it contains proprietary and procurement sensitive information.
PII – This information is exempt from disclosure under 5 U.S.C. § 552(b)(6), which protects personally identifiable information.

CERTIFICATE OF COMPLETION

This certificate awarded to

[redacted]

for satisfactory participation in

OSHA 8 Hour Hazwoper Refresher

29 CFR Part 1910.120 - 8 Contact Hour(s)

Certificate 139788 awarded on August 30, 2023.

[redacted]

Procurement sensitive and proprietary information – This information is exempt from disclosure under 5. U.S.C. § 552(b)(4) because it contains proprietary and procurement sensitive information.
PII – This information is exempt from disclosure under 5 U.S.C. § 552(b)(6), which protects personally identifiable information.

CERTIFICATE OF COMPLETION

This certificate awarded to

[redacted]

for satisfactory participation in

Hazardous Waste Management and Shipping for Environmental Professionals

40 CFR 262.16(b)(9)(iii), 40 CFR 262.17(a)(7) and 49 CFR 172.704 - 8 Contact Hour(s)

Certificate 107909 awarded on July 7, 2020.

[redacted]

Procurement sensitive and proprietary information – This information is exempt from disclosure under 5. U.S.C. § 552(b)(4) because it contains proprietary and procurement sensitive information.
PII – This information is exempt from disclosure under 5 U.S.C. § 552(b)(6), which protects personally identifiable information.

CERTIFICATE OF COMPLETION

This certificate awarded to

[redacted]

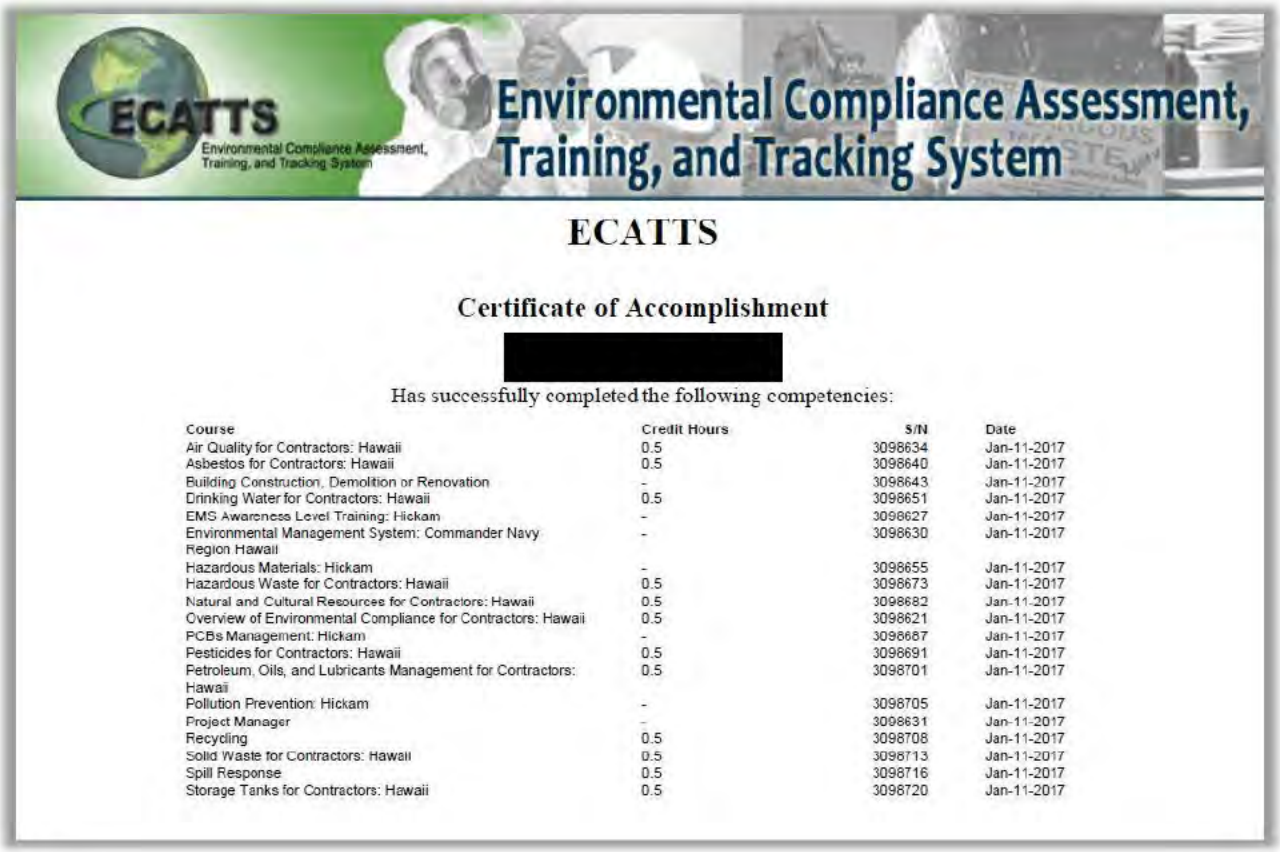
for satisfactory participation in

RCRA and DOT Refresher

40 CFR 262.16(b)(9)(iii), and 40 CFR 262.17(a)(7), and 49 CFR 172.704 (Subpart H) - 2 Contact Hour(s)

Certificate 139787 awarded on August 30, 2023.

[redacted]



ECATTS

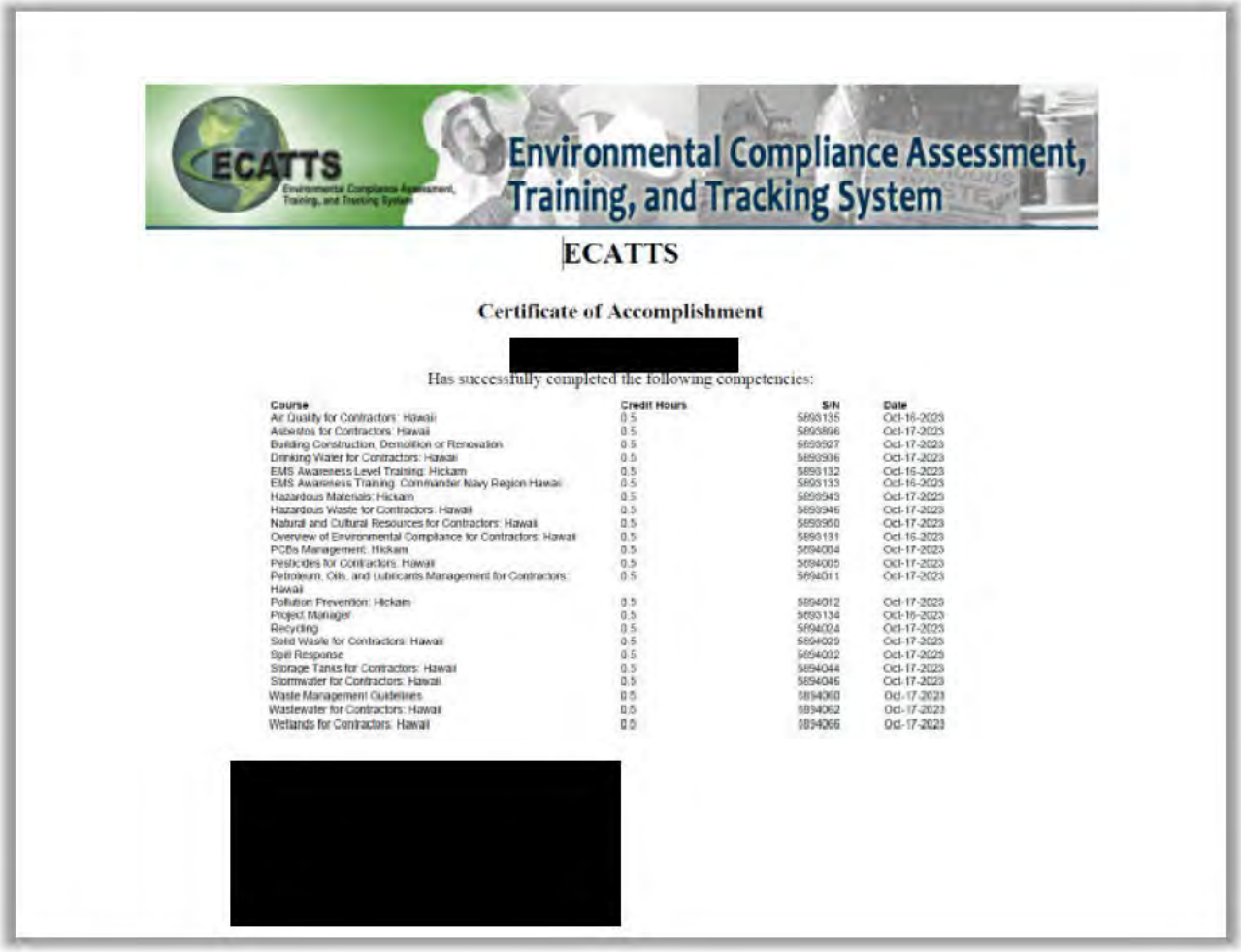
Certificate of Accomplishment

[redacted]

Has successfully completed the following competencies:

Course	Credit Hours	S/N	Date
Air Quality for Contractors: Hawaii	0.5	3098634	Jan-11-2017
Asbestos for Contractors: Hawaii	0.5	3098640	Jan-11-2017
Building Construction, Demolition or Renovation	-	3098643	Jan-11-2017
Drinking Water for Contractors: Hawaii	0.5	3098651	Jan-11-2017
EMS Awareness Level Training: Hickam	-	3098627	Jan-11-2017
Environmental Management System: Commander Navy Region Hawaii	-	3098630	Jan-11-2017
Hazardous Materials: Hickam	-	3098655	Jan-11-2017
Hazardous Waste for Contractors: Hawaii	0.5	3098673	Jan-11-2017
Natural and Cultural Resources for Contractors: Hawaii	0.5	3098682	Jan-11-2017
Overview of Environmental Compliance for Contractors: Hawaii	0.5	3098621	Jan-11-2017
PCBs Management: Hickam	-	3098687	Jan-11-2017
Pesticides for Contractors: Hawaii	0.5	3098691	Jan-11-2017
Petroleum, Oils, and Lubricants Management for Contractors: Hawaii	0.5	3098701	Jan-11-2017
Pollution Prevention: Hickam	-	3098705	Jan-11-2017
Project Manager	-	3098631	Jan-11-2017
Recycling	0.5	3098708	Jan-11-2017
Solid Waste for Contractors: Hawaii	0.5	3098713	Jan-11-2017
Spill Response	0.5	3098716	Jan-11-2017
Storage Tanks for Contractors: Hawaii	0.5	3098720	Jan-11-2017

Procurement sensitive and proprietary information – This information is exempt from disclosure under 5. U.S.C. § 552(b)(4) because it contains proprietary and procurement sensitive information.
PII – This information is exempt from disclosure under 5 U.S.C. § 552(b)(6), which protects personally identifiable information.



ECATTS

Environmental Compliance Assessment, Training, and Tracking System

ECATTS

Certificate of Accomplishment

[redacted]

Has successfully completed the following competencies:

Course	Credit Hours	S/N	Date
Air Quality for Contractors: Hawaii	0.5	5893135	Oct-16-2023
Asbestos for Contractors: Hawaii	0.5	5893896	Oct-17-2023
Building Construction, Demolition or Renovation	0.5	5893927	Oct-17-2023
Drinking Water for Contractors: Hawaii	0.5	5893936	Oct-17-2023
EMS Awareness Level Training: Hickam	0.5	5893132	Oct-16-2023
EMS Awareness Training: Commander Navy Region Hawaii	0.5	5893133	Oct-16-2023
Hazardous Materials: Hickam	0.5	5893943	Oct-17-2023
Hazardous Waste for Contractors: Hawaii	0.5	5893946	Oct-17-2023
Natural and Cultural Resources for Contractors: Hawaii	0.5	5893950	Oct-17-2023
Overview of Environmental Compliance for Contractors: Hawaii	0.5	5893131	Oct-16-2023
PCBs Management: Hickam	0.5	5894004	Oct-17-2023
Pesticides for Contractors: Hawaii	0.5	5894005	Oct-17-2023
Petroleum, Oils, and Lubricants Management for Contractors: Hawaii	0.5	5894011	Oct-17-2023
Pollution Prevention: Hickam	0.5	5894012	Oct-17-2023
Project Manager	0.5	5893134	Oct-16-2023
Recycling	0.5	5894024	Oct-17-2023
Solid Waste for Contractors: Hawaii	0.5	5894029	Oct-17-2023
Spill Response	0.5	5894032	Oct-17-2023
Storage Tanks for Contractors: Hawaii	0.5	5894044	Oct-17-2023
Stormwater for Contractors: Hawaii	0.5	5894046	Oct-17-2023
Waste Management Guidelines	0.5	5894060	Oct-17-2023
Wastewater for Contractors: Hawaii	0.5	5894062	Oct-17-2023
Wetlands for Contractors: Hawaii	0.5	5894066	Oct-17-2023

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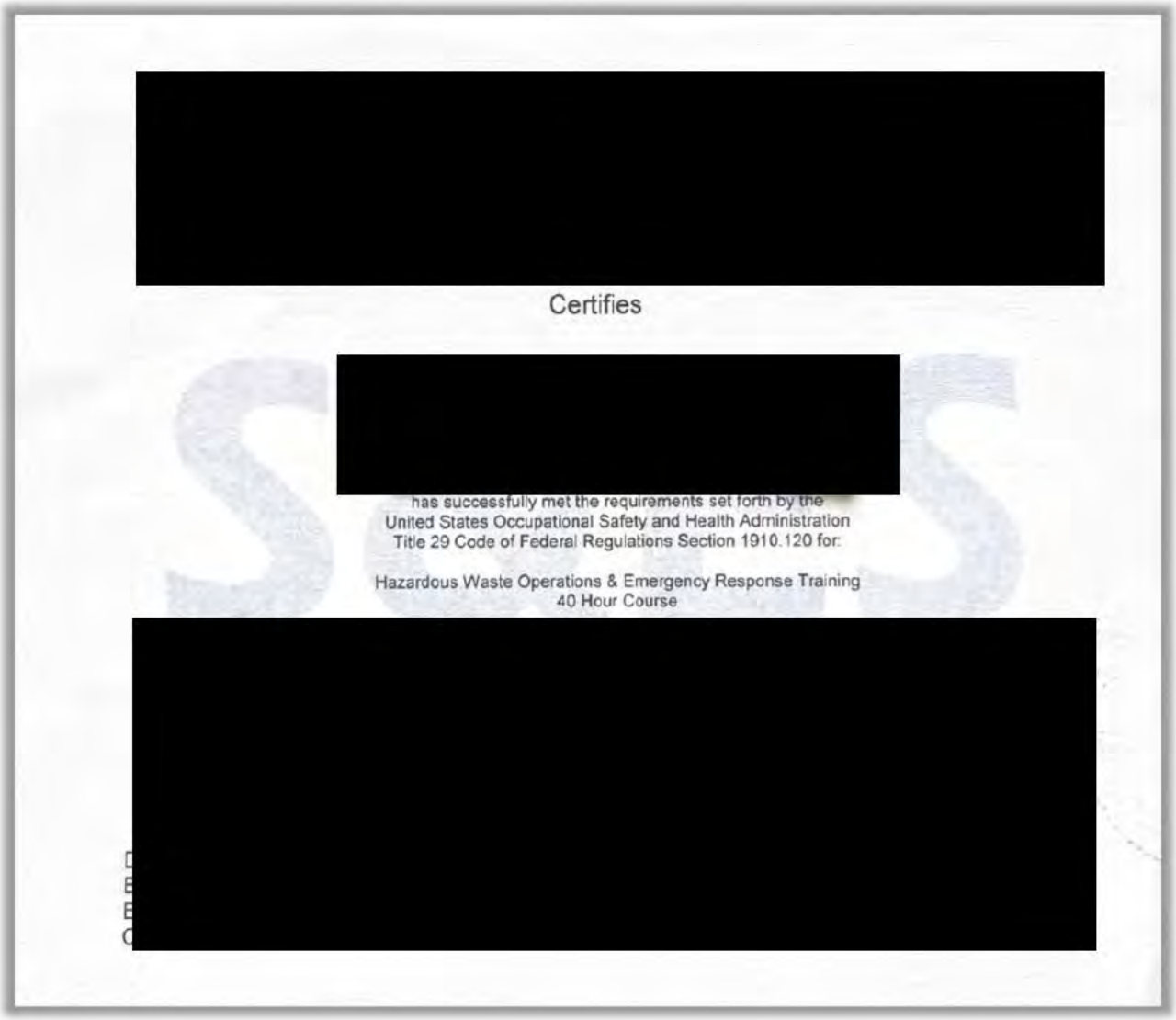
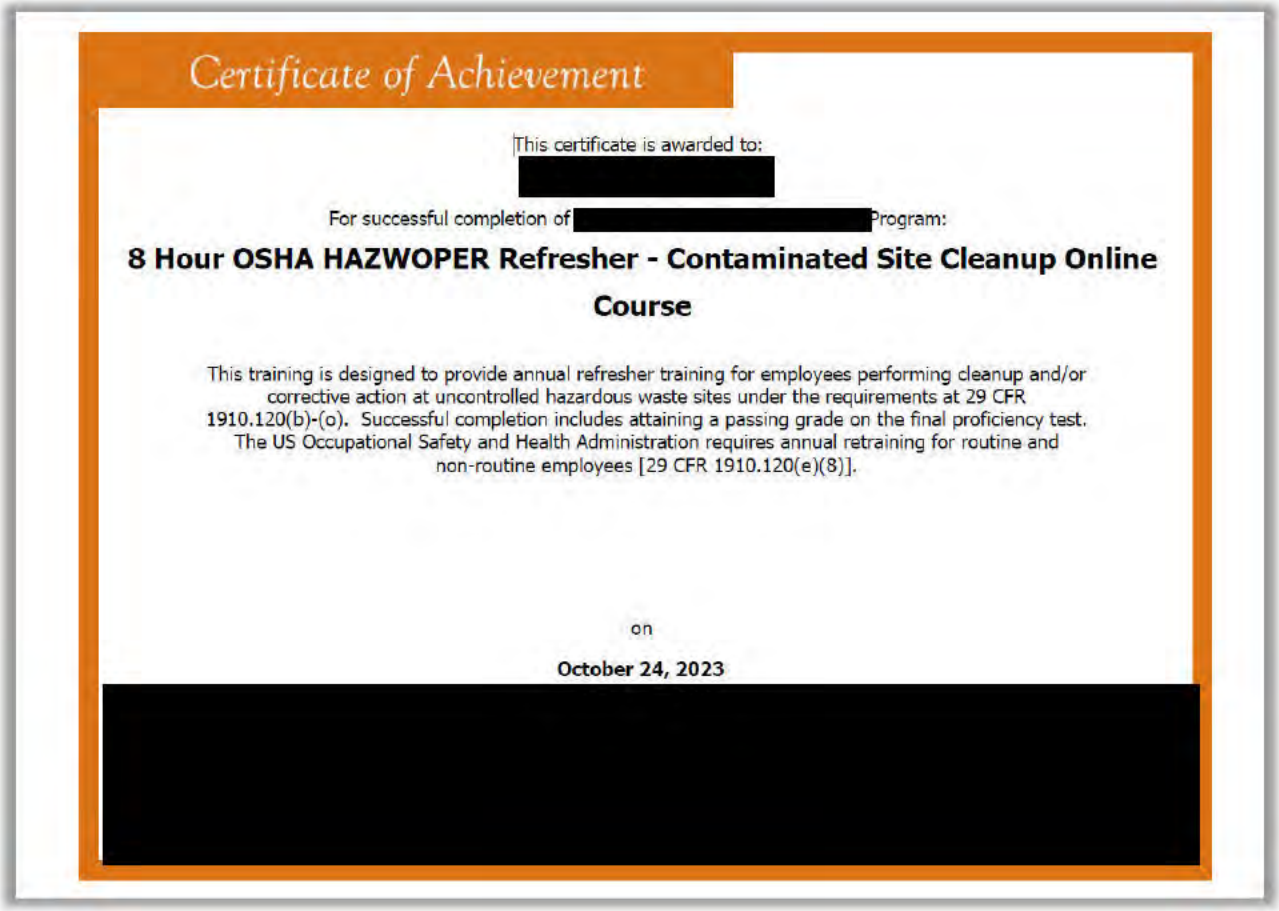




Certificate of Achievement

This certificate is awarded to:

[redacted]

For successful completion of [redacted] Program:

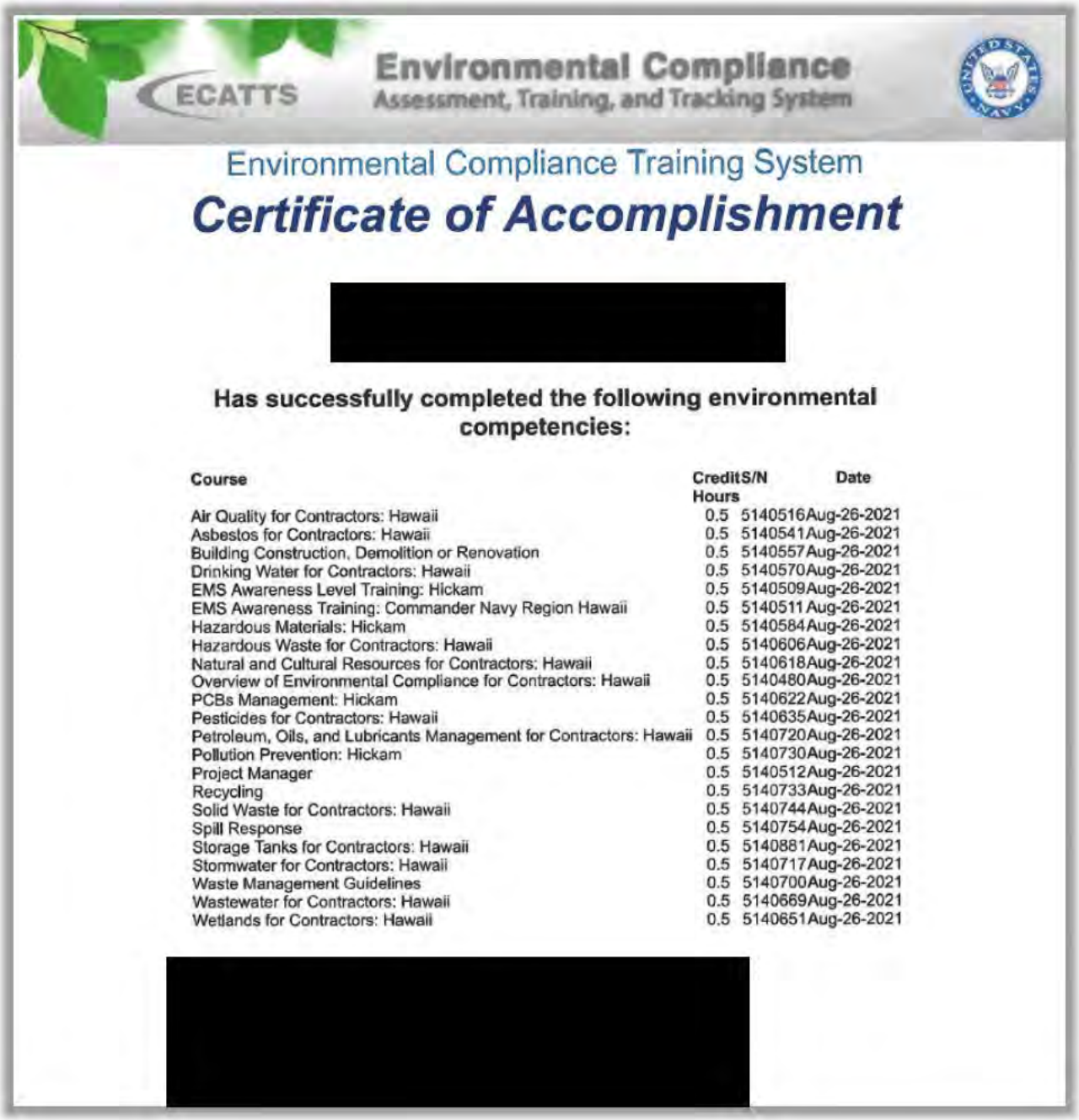
8 Hour OSHA HAZWOPER Refresher - Contaminated Site Cleanup Online Course

This training is designed to provide annual refresher training for employees performing cleanup and/or corrective action at uncontrolled hazardous waste sites under the requirements at 29 CFR 1910.120(b)-(o). Successful completion includes attaining a passing grade on the final proficiency test. The US Occupational Safety and Health Administration requires annual retraining for routine and non-routine employees [29 CFR 1910.120(e)(8)].

on

October 24, 2023

[redacted]



ECATTS
Environmental Compliance
Assessment, Training, and Tracking System

Environmental Compliance Training System

Certificate of Accomplishment

[redacted]

Has successfully completed the following environmental competencies:

Course	Credit Hours	S/N	Date
Air Quality for Contractors: Hawaii	0.5	5140516	Aug-26-2021
Asbestos for Contractors: Hawaii	0.5	5140541	Aug-26-2021
Building Construction, Demolition or Renovation	0.5	5140557	Aug-26-2021
Drinking Water for Contractors: Hawaii	0.5	5140570	Aug-26-2021
EMS Awareness Level Training: Hickam	0.5	5140509	Aug-26-2021
EMS Awareness Training: Commander Navy Region Hawaii	0.5	5140511	Aug-26-2021
Hazardous Materials: Hickam	0.5	5140584	Aug-26-2021
Hazardous Waste for Contractors: Hawaii	0.5	5140606	Aug-26-2021
Natural and Cultural Resources for Contractors: Hawaii	0.5	5140618	Aug-26-2021
Overview of Environmental Compliance for Contractors: Hawaii	0.5	5140480	Aug-26-2021
PCBs Management: Hickam	0.5	5140622	Aug-26-2021
Pesticides for Contractors: Hawaii	0.5	5140635	Aug-26-2021
Petroleum, Oils, and Lubricants Management for Contractors: Hawaii	0.5	5140720	Aug-26-2021
Pollution Prevention: Hickam	0.5	5140730	Aug-26-2021
Project Manager	0.5	5140512	Aug-26-2021
Recycling	0.5	5140733	Aug-26-2021
Solid Waste for Contractors: Hawaii	0.5	5140744	Aug-26-2021
Spill Response	0.5	5140754	Aug-26-2021
Storage Tanks for Contractors: Hawaii	0.5	5140881	Aug-26-2021
Stormwater for Contractors: Hawaii	0.5	5140717	Aug-26-2021
Waste Management Guidelines	0.5	5140700	Aug-26-2021
Wastewater for Contractors: Hawaii	0.5	5140669	Aug-26-2021
Wetlands for Contractors: Hawaii	0.5	5140651	Aug-26-2021

[redacted]

CERTIFICATE OF COMPLETION

This certificate awarded to

[redacted]

for satisfactory participation in

OSHA 8 Hour Hazwoper Refresher

29 CFR Part 1910.120 - 8 Contact Hour(s)

Certificate 140146 awarded on September 8, 2023.

[redacted]

ECATTS Environmental Compliance Assessment, Training, and Tracking System

Environmental Compliance Training System

Certificate of Accomplishment

[redacted]

Has successfully completed the following environmental competencies:

Course	Credit Hours	S/N	Date
Air Quality for Contractors: Hawaii	0.5	5894125	Oct-17-2023
Asbestos for Contractors: Hawaii	0.5	5894128	Oct-17-2023
Building Construction, Demolition or Renovation	0.5	5894139	Oct-17-2023
Drinking Water for Contractors: Hawaii	0.5	5894141	Oct-17-2023
EMS Awareness Level Training: Hickam	0.5	5894103	Oct-17-2023
EMS Awareness Training: Commander Navy Region Hawaii	0.5	5894111	Oct-17-2023
Hazardous Materials: Hickam	0.5	5894149	Oct-17-2023
Hazardous Waste for Contractors: Hawaii	0.5	5894159	Oct-17-2023
Natural and Cultural Resources for Contractors: Hawaii	0.5	5894161	Oct-17-2023
Overview of Environmental Compliance for Contractors: Hawaii	0.5	5894095	Oct-17-2023
PCBs Management: Hickam	0.5	5894164	Oct-17-2023
Pesticides for Contractors: Hawaii	0.5	5894168	Oct-17-2023
Petroleum, Oils, and Lubricants Management for Contractors: Hawaii	0.5	5894173	Oct-17-2023
Pollution Prevention: Hickam	0.5	5894181	Oct-17-2023
Project Manager	0.5	5894112	Oct-17-2023
Recycling	0.5	5894190	Oct-17-2023
Solid Waste for Contractors: Hawaii	0.5	5894205	Oct-17-2023
Spill Response	0.5	5894219	Oct-17-2023
Storage Tanks for Contractors: Hawaii	0.5	5894278	Oct-17-2023
Stormwater for Contractors: Hawaii	0.5	5894299	Oct-17-2023
Waste Management Guidelines	0.5	5894302	Oct-17-2023
Wastewater for Contractors: Hawaii	0.5	5894304	Oct-17-2023
Wetlands for Contractors: Hawaii	0.5	5894308	Oct-17-2023

[redacted]

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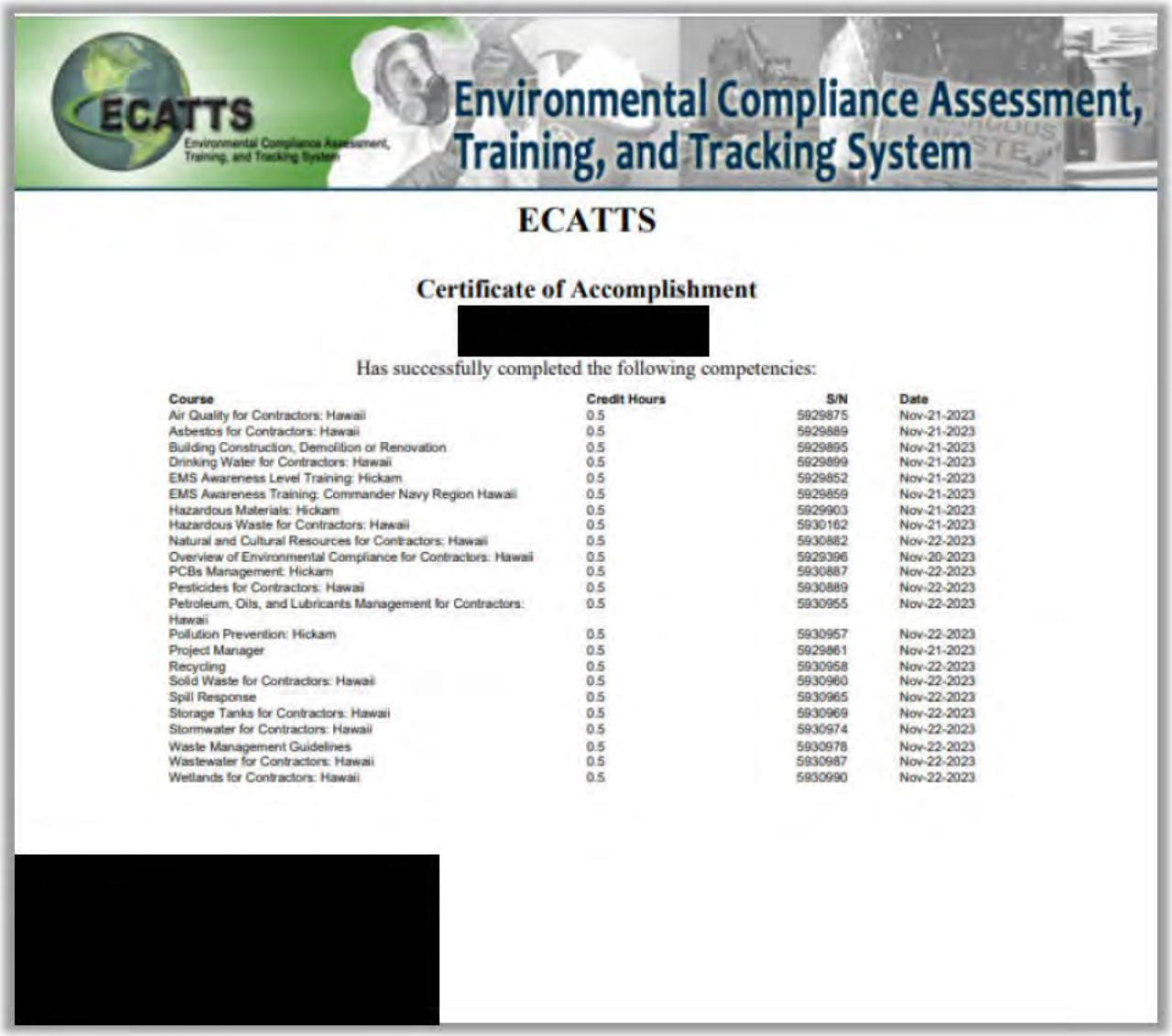


ECATTS
Environmental Compliance Assessment, Training, and Tracking System

Environmental Compliance Assessment, Training, and Tracking System

ECATTS

Certificate of Accomplishment

[redacted]

Has successfully completed the following competencies:

Course	Credit Hours	S/N	Date
Air Quality for Contractors: Hawaii	0.5	5929875	Nov-21-2023
Asbestos for Contractors: Hawaii	0.5	5929889	Nov-21-2023
Building Construction, Demolition or Renovation	0.5	5929895	Nov-21-2023
Drinking Water for Contractors: Hawaii	0.5	5929899	Nov-21-2023
EMS Awareness Level Training: Hickam	0.5	5929852	Nov-21-2023
EMS Awareness Training: Commander Navy Region Hawaii	0.5	5929859	Nov-21-2023
Hazardous Materials: Hickam	0.5	5929903	Nov-21-2023
Hazardous Waste for Contractors: Hawaii	0.5	5930162	Nov-21-2023
Natural and Cultural Resources for Contractors: Hawaii	0.5	5930882	Nov-22-2023
Overview of Environmental Compliance for Contractors: Hawaii	0.5	5929396	Nov-20-2023
PCBs Management: Hickam	0.5	5930887	Nov-22-2023
Pesticides for Contractors: Hawaii	0.5	5930889	Nov-22-2023
Petroleum, Oils, and Lubricants Management for Contractors: Hawaii	0.5	5930955	Nov-22-2023
Pollution Prevention: Hickam	0.5	5930957	Nov-22-2023
Project Manager	0.5	5929861	Nov-21-2023
Recycling	0.5	5930958	Nov-22-2023
Solid Waste for Contractors: Hawaii	0.5	5930960	Nov-22-2023
Spill Response	0.5	5930965	Nov-22-2023
Storage Tanks for Contractors: Hawaii	0.5	5930969	Nov-22-2023
Stormwater for Contractors: Hawaii	0.5	5930974	Nov-22-2023
Waste Management Guidelines	0.5	5930978	Nov-22-2023
Wastewater for Contractors: Hawaii	0.5	5930987	Nov-22-2023
Wetlands for Contractors: Hawaii	0.5	5930990	Nov-22-2023

[redacted]

ATTACHMENT 3

SPILL KIT INSPECTION FORM

[redacted]

SPILL KIT MONTHLY INSPECTION

Inspector Name: (Printed)	Location:	Total Number of Spill Kits at Location:	Tamper Seal Installed on Spill Kit: (Y / N) Ser. No.:

Spill Kit Item (minimum required)	Date: Signage Posted: (Y / N)		Date: Signage Posted: (Y / N)		Date: Signage Posted: (Y / N)		Date: Signage Posted: (Y / N)		Comments &/or Corrective Actions
	Expected Quantity	Actual Quantity	Expected Quantity	Actual Quantity	Expected Quantity	Actual Quantity	Expected Quantity	Actual Quantity	
Absorbent pads									
Absorbent granular									
Absorbent booms									
Trash bags									
Container (bucket)									
Broom & dust pan									
Gloves									
Goggles									
Coverall									
Tape									
Caution tape									

Additional Items	Expected Quantity	Actual Quantity	Expected Quantity	Actual Quantity	Expected Quantity	Actual Quantity	Expected Quantity	Actual Quantity	Comments &/or Corrective Actions
Drain Seals									

[redacted]

ATTACHMENT 4

[redacted] RED HILL CONTINGENCY PLAN

1.0 Introduction

The Contingency Plan shall act as the actionable preparedness plan for the Red Hill Project Site. The Plan addresses the responsible persons, actions, and emergency equipment and resources available and required to prevent incidents, contain spills, react to fires or explosions, and other types of emergency situations that have the potential to harm the environment, the site facility, personnel, or another critical aspect of [redacted]'s project site.

The Red Hill Contingency Plan shall by carried out immediately whenever there is a risk, threat, or sudden emergency situation with impact upon the project either directly or indirectly.

1.1 Scope

This procedure applies to all [redacted] employees, contractors, subcontractors and visitors associated with this site.

2.0 Site Orientation

[redacted]s Red Hill Project Site is located onboard the bulk fuel storage base known as Red Hill, an annex of Joint Base Pearl Harbor-Hickam. A laydown area has been allotted along Icarus Way near the Adit 4 entrance. The laydown includes four office structures, four conex shipping containers for storage, hazardous material storage, outdoor equipment/material storage, industrial trash collection, restrooms and parking. A detailed image of [redacted]s laydown can be found below. *[Figure 1]*

Various safety and emergency response equipment are readily available throughout [redacted] Adit 4 laydown area. Equipment includes fire extinguishers, spill kits, eye wash stations, first-aid kits, and an automated external defibrillator (AED). The location of all response equipment located at [redacted] laydown areas can be found below. *[Figure 2 and 2.1]*

Red Hill is located in a lower mountainous area of Oahu's Ko'olau Mountain Range. The highest outdoor elevation encountered is less than 400 ft above sea level.

The climate and weather patterns follow along with the tropical climate of Hawaii. Average summertime temperatures are 85°F from June to September. December through April, temperatures are lower averaging 78°F. Strong winds and heavy rainfall can be experienced throughout the year depending on the prevailing wind pattern and its effect upon the island chain.

[redacted] Red Hill Project Site is not in a flood inundation zone. Although, during heavy rains select locations of the site will experience mild flooding along roads and parking lots resulting in muddy, slippery conditions.

Red Hill is not in a tsunami evacuation zone due to elevation. Island-wide, tsunami warning sirens are tested on the 1st of the month at 11:45 a.m., or the following Monday if the 1st falls on a weekend. There is no need to evacuate or respond if the warning sirens signal during this time.

Figure 1: [redacted] **Red Hill Location Map**

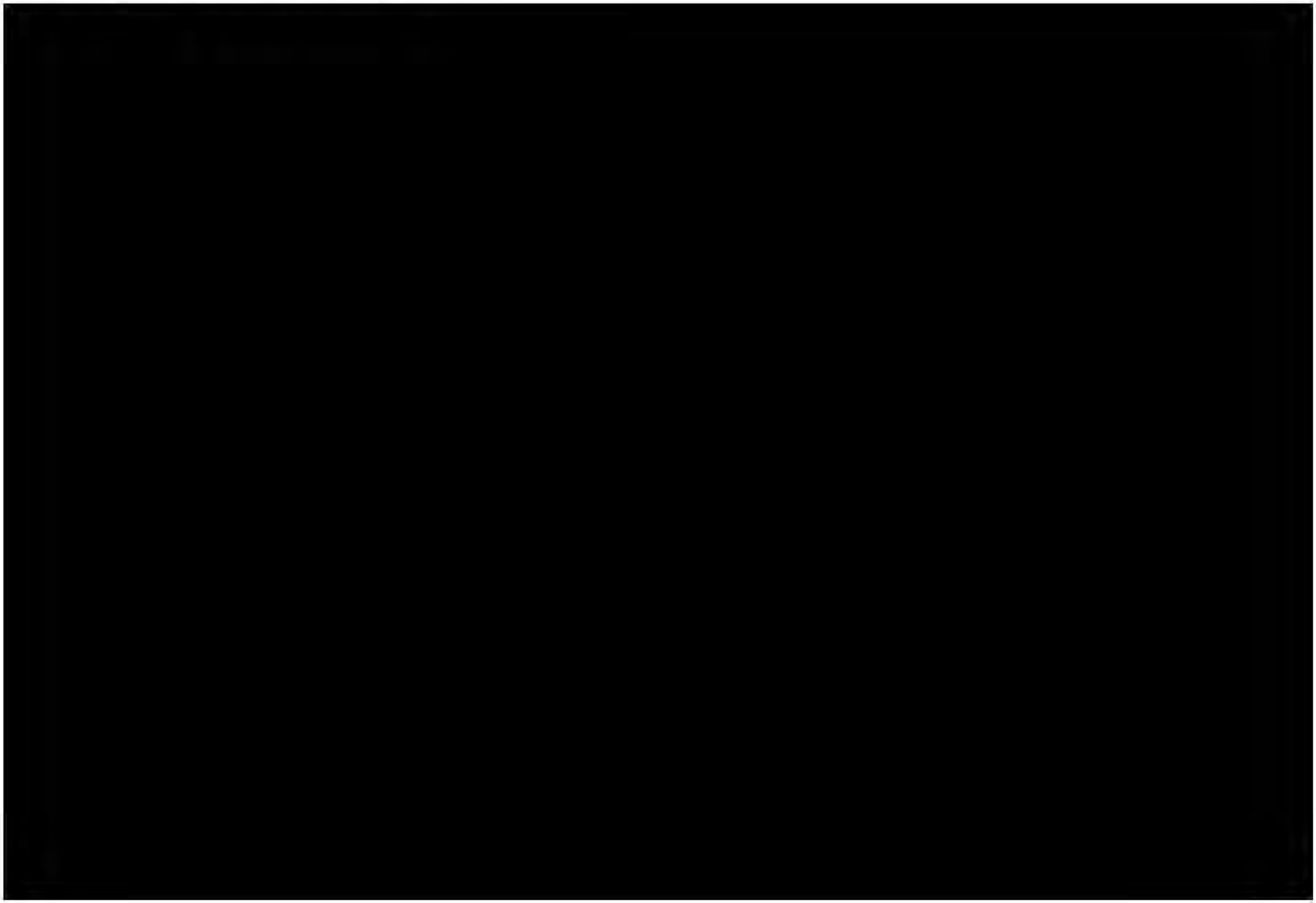


Figure 2: **Adit 4 Laydown Emergency Response Equipment Location**

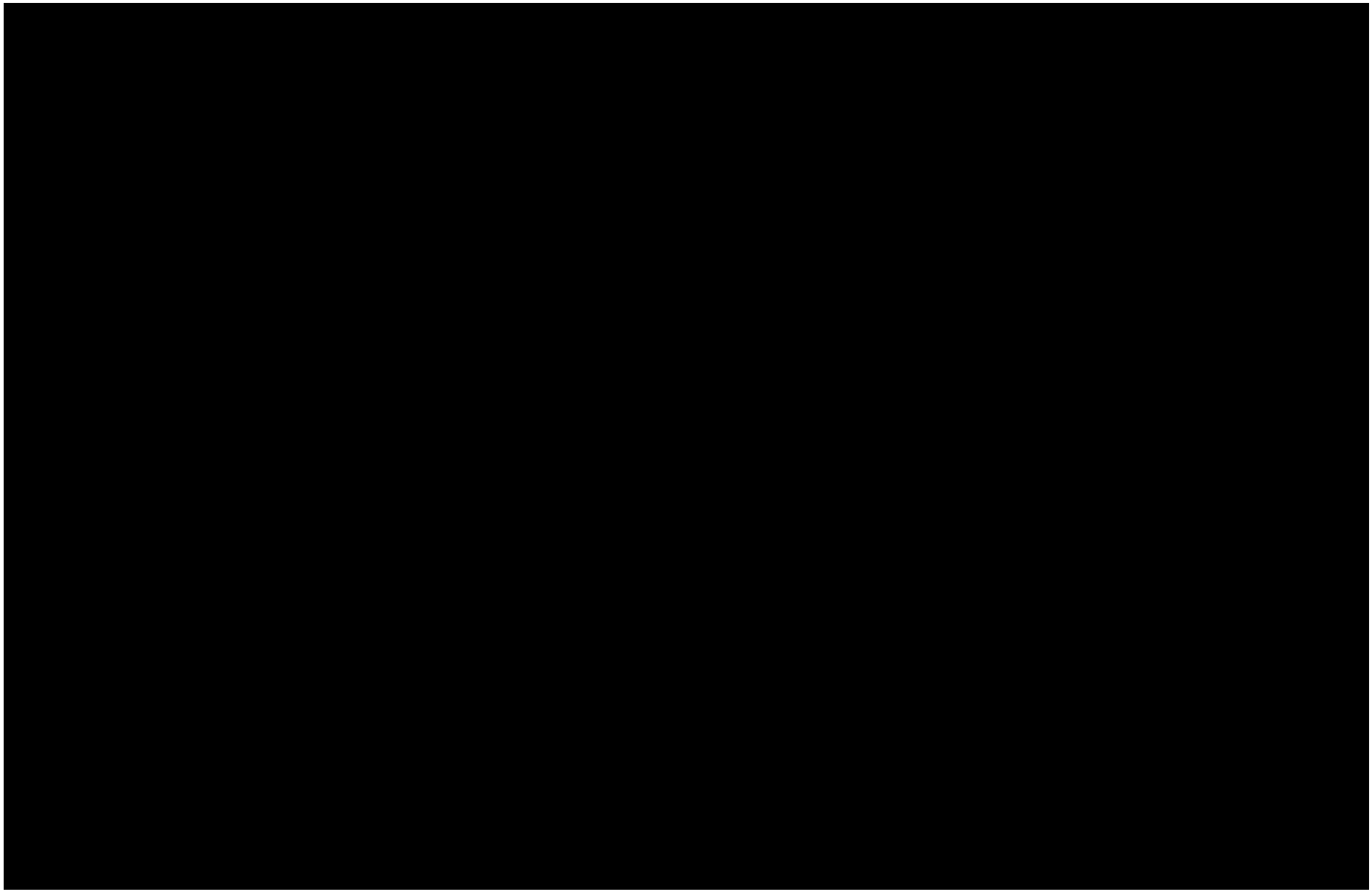


Figure 2.1: **CAA Approximate Location and Emergency Response Equipment**

3.0 [redacted] Red Hill Emergency Action Committee

The Emergency Action Committee *[Table 1]* shall carry out all duties and responsibilities in the event emergency response occurs at the job site. The positions and responsibilities are as follows:

Table 1: **Emergency Action Committee (EAC)**

Position	Primary	Alternate
Emergency Coordinator (Incident Commander)	[redacted]	[redacted]
Evacuation Coordinator	[redacted]	[redacted]
Communication Coordinator	[redacted]	[redacted]
Emergency Supplies Coordinator	[redacted]	[redacted]

Emergency Coordinator shall:

- Be responsible for the implementation of all personnel and medical records.
- Make the decision to evacuate or take any other measures in the event communications are disrupted with the [redacted]
- Coordinate necessary actions with the client and other contractors in the area.
- Communicate and coordinate with various [redacted] sites and offices.

Evacuation Coordinator shall:

- Be responsible for the accounting of all personnel at the assembly point.
- Coordinate suitable transportation to the local airport, alternative airports, seaport or other locations.
- Collect and keep available details of all personnel and medical records.
- Contact Medical/Ambulance/Other Emergency Services.
- Procure tools, equipment and spare parts for vehicles used in evacuation.
- Be responsible for maintaining a sufficient quantity of reserve fuel for vehicles to be used in evacuation.

Communication Coordinator shall:

- Be responsible for relaying instructions and information from the Emergency Coordinator to all personnel.
- Immediately relay all information received to the Emergency Coordinator.
- Issue emergency news information to the [redacted] as required.
- Maintain information on Next of Kin of personnel assigned to the Site, including Name, Relationship, Address and Telephone Number.

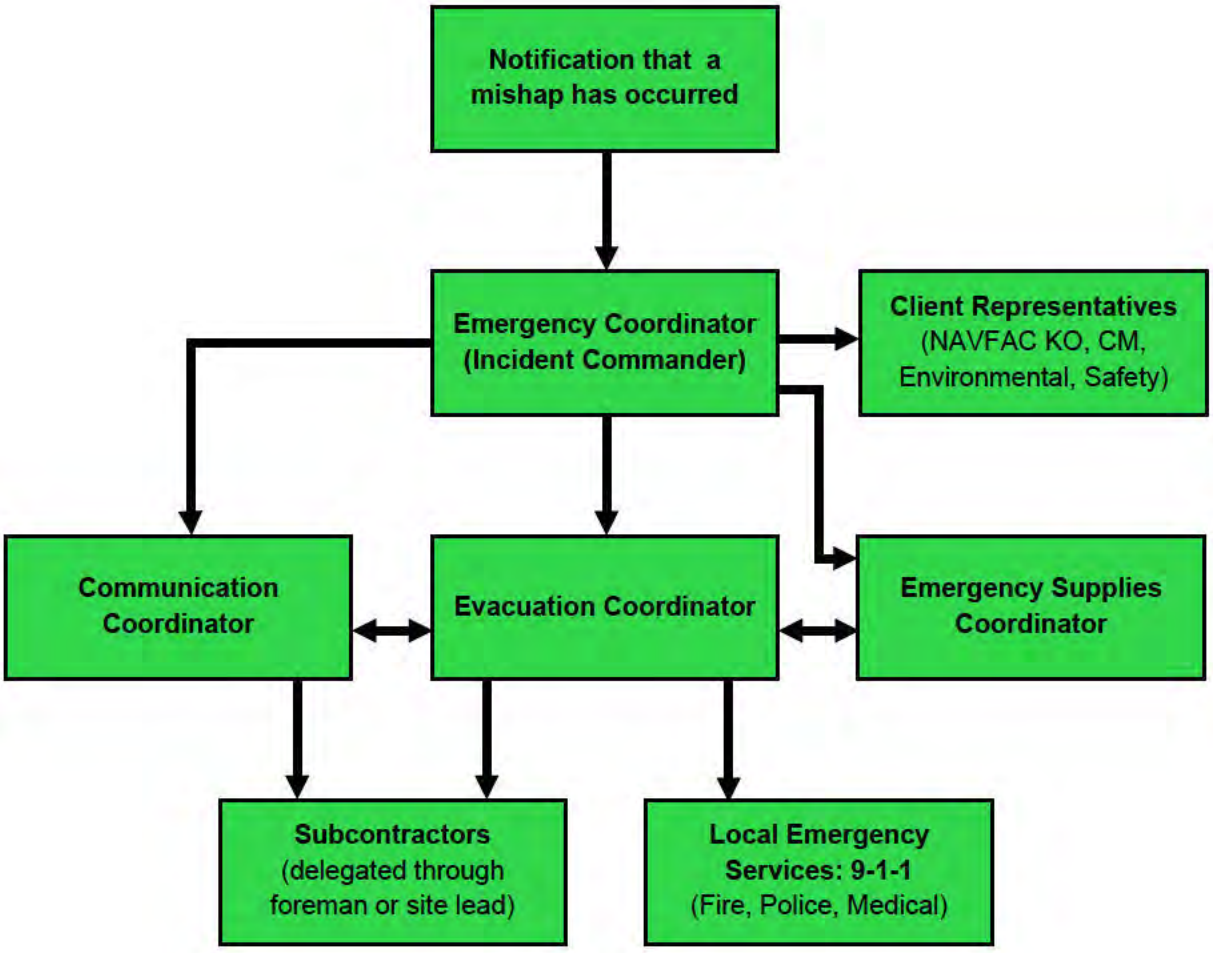
Emergency Supplies Coordinator shall:

- Ensure the procurement and delivery of adequate emergency supplies for anticipated emergencies are on hand to include emergency medical supplies, potable water, gasoline and diesel in sufficient quantities for all employees who may be standing by at our facility.

EAC Organizational Structure

The Red Hill Fuel Facility EPP organizational structure depicted below *[Figure 3]* identifies command relationships and functional responsibilities. This structure is intended for use as a whole or in part based on situational requirements.

Figure 3: [redacted] **EAC Communication and Authority Structure**



4.0 Emergency Communications

Primary mode of communication is use of 2-way radios using the tanks individual selected channel established prior to work during the Daily Safety Meeting. In the event of an emergency, Channel #1 will be utilized by all personnel for communication.

In the event radio communication is not available nor feasible, small portable airhorns are readily accessible for signaling. Communication is carried out through the performance of 1, 2 or 3 air blasts signaling different alerts and responses. 3 horn blasts signals STOP WORK and EVACUATE IMMEDIATELY.

Hardwired internal-only phone lines are routed as direct communication between worksites and [redacted] offices to signal personnel in the event an emergency is occurring at any location. Phones are located throughout the upper and lower tunnels of the tank gallery, various adits, throughout the harbor tunnel, and the [redacted] offices.

Outside of the Red Hill Underground Facility, cell phones are able to be utilized as communication.

5.0 Company Vehicle Operation

All employees driving and/or in company vehicles, to include golf carts, trucks, heavy machinery etc., shall follow all local, state, and federal laws.

The use of mobile devices to include cell phones, cameras, and music players is prohibited while operating company vehicles, except when a hands-free device is authorized.

[redacted] vehicles could be involved in incidents inside the boundary limits of the facility or outside. This could involve property damage, injury, or pollution. A flexible approach will be needed as many factors may be involved. Site management will liaise with the relevant police authority with regard to incidents involving its employees or any of its vehicles.

A damaged or improperly operating company vehicle shall be considered out of service until repaired.

If property damage, injury, hospitalization, or fatality occurs, determine severity level and correlating response action.

6.0 Security Threat

Employees have the responsibility to question any person(s) that may be unknown on site. Requests to see identification may be made or employees may alert facility security personnel to investigate.

Any suspicious activity or area that does not look safe and secure shall be reported to security forces.

Incidents caused by malevolent acts can be difficult to respond to. Support from local police forces may be needed considering the nature of security breaches, otherwise the emergency response follows the same pattern as other incidents.

EAC shall determine if security threat presents a threat or risk to the project and determine severity level and correlating response action.

7.0 Hazardous Spills or Release

All persons involved, including subcontractors to [redacted], with the possibility of a spill or release of a hazardous substance shall be made aware of any actions or responsibilities and able to perform them if necessary.

Non-permeable secondary containment shall be provided for all hazardous material and waste stored on-site.

Secondary containment for liquids shall be capable of holding at minimum 110% of the largest container within the containment.

[redacted]s Red Hill Facility is not required to develop a Spill Prevention Control and Countermeasures (SPCC) plan as it does not meet the requirements set forth by governing law.

> A Spill Prevention Control and Countermeasures Plan is required by the Clean Water Act for sites that have a total of 1320 gallons of oil/fuel (660 in some states) stored above ground or 42,000 gallons stored below ground.

Spills and harmful releases severity level shall be determined and respective actions put into effect. If response clean-up can be accomplished without fatal or long-term exposure effects, spill response efforts shall commence.

The following steps shall be carried out in the event of a hazardous substance spill:

- Project personnel will stop the source of the spill; deactivate all applicable power sources and/or emergency stop buttons.
- Immediately notify environmental managers, site management and safety personnel, HSE manager, the customers' representatives, or other personnel designated on the EAC Communication and Authority Structure (Figure 3). Due to many worksites being underground without cell-service, on scene notifications shall be made in a manner that results in immediate confirmation of receipt such as by phone call or radio, or in person if possible.
- Clear the location of all persons except those trained to deal with the incident.
- Clean up shall be performed by qualified personnel only.
- Absorbents will be placed to clean up all products and prevent further spread of contamination.
- All absorbent materials and fluids must be contained in DOT-approved open-top drums.
- All absorbent materials and fluids must be assumed to be contaminated until demonstrated otherwise.

- Drums shall be clearly marked according to contents, accumulation date, and known or suspected hazard(s). Drums shall be marked "Pending Analysis" until such time as results have been received from the laboratory.
- Drums shall be segregated into a separate, marked holding area.
- Notify appropriate personnel when the spill has been successfully cleaned.
- Notify Waste Coordinator of all waste accumulated to ensure collection, storage, and disposal of all waste is conducted as required.
- Samples of the spill residue and materials used in the spill cleanup must be collected.
- Materials shall be disposed of in accordance with Department of Health and Environmental Protection Agency requirements.
- Copies of the sample analysis and a letter stating the disposition and location of the disposal will be provided to the NTR and the facility.
- Spilled materials, contaminated soils and water, absorbents, and miscellaneous spill related debris require proper handling. [redacted] will properly dispose of these materials and any other materials associated with spill containment and cleanup.

Once the spill is under control by [redacted]s Incident Commander, or when adequately possible, notification to first responders (i.e., installation Fire Department, the Installation, Command Duty Officer, Installation Environmental Office, the JBPHH Regional Dispatch Center, and the Contracting Officer) should be made in parallel with spill mitigation actions. To the extent practicable, notification must include date and time spill occurred or was discovered, location, specific substance spilled, spill volume, operation underway when the spill occurred, and response actions taken or planned.

Throughout the project worksites, and at active tank locations, emergency notification signage will be posted. Emergency contacts at a minimum shall include Environmental Managers, Site Superintendent, project management personnel, and emergency response contacts.

8.0 Fire and Explosion

It has been demonstrated that personnel who have been intensively drilled in the proper procedures to follow in a fire emergency, react swiftly and correctly to minimize danger to themselves and their fellow employees, and are better prepared to take fire control measures until local fire authorities arrive on the scene.

8.1 Discovering the Fire

Any person discovering a fire, should quickly and carefully remove anyone who is injured or in immediate danger. This person must be careful not to risk injury to themselves, as it is most important that they remain conscious and able to report the fire.

8.2 Reporting the Fire

CALL 9-1-1 or refer to section 11.0.

When possible, the nearest telephone should be used to report the fire, with the individual reporting the fire providing the following information:

- There is a fire
- What is on fire
- The specific location of the fire
- Name, phone number, location of person reporting the fire
- Report number and names of injured or missing personnel
- Request the response of emergency service vehicles
- Notify of any known road or access restrictions with the site

Time permitting, the manual pull fire alarm reporting system should be activated.

9.0 Emergency Notification-Sounding the Alarm

9.1 Audible Alarms

Air horns shall be available to warn employees inside underground storage tanks and tunnels of hazards or the need for evacuation.

- 3 horn blasts are used to signal immediate evacuation

Fire alarms are installed throughout the facility and includes a pre-recorded message. There is a public address system installed throughout the facility. The fire alarm requires all employees to evacuate to the nearest adit. After exiting an accountability check must be conducted by the SSHO assigned to each underground storage tank where work is being performed.

- Radio calls shall be made to all work sites to evacuate.
- If time permits, use internal phone system to notify all tanks and offices of fire and evacuation.
- Ensure all notified workers are properly aware of what the alarm represents and exit.

9.2 Visual Alarms

The Red Hill Fuel Facility is equipped with strobe lights. The lights and audible alarms operate in conjunction with each other and require all personnel to evacuate to the nearest adit.

10.0 Evacuation

When evacuation is necessary, there must be no hesitation in requiring personnel to immediately vacate the area. Follow emergency exits and other means of egress from the area.

Evacuate to muster location and do not return until all-clear given by authorized person(s).

10.1 Evacuation Routes

Evacuation routes are posted throughout the Red Hill Fuel Facility. Evacuation routes utilize the tunnels that are well lit and wide enough to accommodate the evacuating personnel. Weekly inspection of the evacuation routes will be conducted to ensure they are unobstructed, clear of debris and do not expose evacuating personnel to additional hazards. Evacuation route maps for Red Hill can be found in *Attachment 1.0*.

10.2 Assembly Points

In case of evacuation:

- Use nearest facility exit or Adit to your location.
  - Workers exiting via distant Adits (1, 2, or 3) shall report into [redacted] project team via phone or radio to notify of safe evacuation and to arrange transportation to primary assembly points if needed.
- Personnel will use the emergency assembly points as noted below.
- Assembly points are designated outside of Adit 4 and Adit 5.
- Employees must stay at least 50 feet away from access routes of emergency vehicles.

Table 4: **Evacuation Assembly Points**

Location	Primary Assembly Point	Secondary Assembly Point
On-Site	Adit 4 (APTIM Office)	Adit 5
Off-Site	Halawa Main Security Access Gate	Halawa Valley Correctional Center

10.3 Personnel Accounting

Employees will be accounted for through the following method:

- Employees will gather at designated assembly points.
- Employees will remain in the assembly areas until released.
- A head count will be taken by the work site SSHO or Foreman.
- The SSHO or Foreman will provide the head count along with a list of personnel unaccounted for to the Evacuation Coordinator.

- The SSHO or Foreman will conduct a reconciliation between the primary and secondary assembly points, list of known visitors, and the attendance list.
- The SSHO or Foreman will provide a remaining list of unaccounted personnel to the Evacuation Coordinator.
- The Evacuation Coordinator will provide the list of unaccounted personnel to the Rescue Team Leader.
- The Rescue Team will attempt to locate unaccounted personnel in the affected area.
- Non-employees and visitors will be required to follow this plan and will be accounted for in a similar manner.

11.0 Coordination with Local Emergency Agencies.

The primary dispatch center for the facility is JBPHH Regional Dispatch Center (RDC) (808) 474-2222. All 9-1-1 calls made from the facility are routed to this number. They coordinate with Federal Fire Dept, law enforcement, security and local utilities to support critical needs based on the situation. Federal Fire HAZMAT is the primary agency to respond a fuel spill or chemical release.

- If Federal Fire HAZMAT is unable to respond immediately, Honolulu Fire Dept may be contacted to support spill response efforts.

- The National Response Center is available at 800-424-8802 to report an oil or chemical spill.

- Immediately after a reportable release, the owner or operator of a facility or vessel must notify the HEER Office (for the HSERC), the Local Emergency Planning Committee (LEPC) of the appropriate jurisdiction, and the National Response Center (NRC).

Any spills that involve release of fuel from pipelines or tanks with the Red Hill Fuel Storage facility also require a notification to the Red Hill Pump House by contacting 808-471-8081.

12.0 Critical Equipment Shutdown

[redacted] owned and operated power generators must be shut down after all employees have exited the facility. All auxiliary power to project equipment will be secured from electrical power at this time. The emergency coordinator is responsible for the shutdown of generators and the return to service conditions.

13.0 Emergency Equipment

13.1 Fire Extinguishers

Fire extinguishers owned and inspected by the Navy Fuels Group are located throughout the facility and available to use if needed.

At each work site location where operations are being conducted, fire extinguishers owned and maintained by [redacted] are located near the worksite, inside the alcoves, and each work platform (including suspended scaffolds and boom baskets).

[redacted] owned fire extinguishers are also located in each company vehicle and various locations around the Adit 4 laydown yard at the office complex.

13.2 Spill Kits

Emergency spill kits are located within the upper and lower alcoves of each active fuel tank and at various locations in the laydown yard where flammables or hazardous materials are stored or used. These are inspected monthly to ensure supplies are stocked to cover various releases of hazardous constituents.

13.3 First Aid Kits

First aid kits are located at each active worksite, tanks, on at Safety Bulletin Boards in the tunnel near upper alcove entrances.

First aid kits are also located inside company vehicles and on the Safety Bulletin Board located at the office complex.

13.4 Automated External Defibrillator (AED)

Automated external defibrillators are available for cardiac emergencies. AEDs are located at the Adit 4 laydown office complex on the safety message board, and will be available at or near active worksites throughout the facility as the project progresses. A training device is kept onsite and incorporated into training events.

13.5 Rescue Kit

A Gravitec G4 Rescue and Evacuation Kit (descender, anchor straps, pulleys, rope and carabiners), SKED personnel recovery device, Stokes stretcher basket, and Quick-Pick rescue pole are located in the alcoves of each active tank to assist confined space rescue or injured personnel movement in the event of an emergency.

13.6 Eye Wash Station

Large emergency eye wash stations with a minimum 15-minute discharge time are provided at each active alcove inside the facility. Smaller 32oz eye wash bottles are also provided throughout and at the Adit 4 laydown and near the hazardous material storage flammable cabinets. Eye wash stations may be used at any time necessary to include when irritation is experienced due to a foreign object in the eye of an employee.

13.7 Self-Contained Self-Rescue (SCSR) Escape Breathing Device

In the event an emergency occurs that requires escape through a hazardous atmosphere, Ocenco emergency breathing devices are provided in the lower tunnel system near active work sites. The devices are located in a marked rolling toolbox.

The EBA 6.5 is a self-contained, closed circuit breathing apparatus using compressed oxygen as a source rather than generating oxygen from chemicals. The rugged clear case allows the worker to quickly and accurately visually assess the condition of the device. The oxygen delivery system allows the user to inhale immediately from the device when donned and provides up to 100 liters of oxygen flow during high work rates. Manual adjustment of the oxygen valve will provide a user at rest up to 8 hours of respiratory protection.

Instructions for donning and use of breathing devices are located on the toolbox and on the device cover itself. [redacted] has the SCSR training device onsite and incorporates its use during exercises. New workers to the site are trained initially in its use and function.

14.0 Emergency and Medical Services

[redacted] will provide rapid first-aid and trauma response at the casualty location, followed by stabilization and evacuation to a specialized medical care facility.

The Red Hill project has multiple personnel trained and certified in the application of first-aid, CPR, and AED units. All [redacted] employees shall receive retraining as necessary.

Urgent Care and Emergency medical facilities are located within a short distance of the Red Hill Facility. A map *[Attachment 2.0]* is provided showing the fastest routes and average travel time.

14.1 Off-Site Emergency Medical Services:

Pali Momi Medical Center
98-1079 Moanalua Road
Aiea, Hawaii 96701
(808) 486-6000

Kaiser Permanente Moanalua Road Emergency Department
3288 Moanalua Road
Honolulu, Hawaii 96819
(808) 432-0000

Additional emergency and medical care contact numbers can be found in *Attachment 3.1*.

Notification of injury or illness shall be reported to the employee's management as soon as possibly achievable.

If any employee under [redacted]s job site responsibility must be admitted into medical care, a designated [redacted] representative shall accompany them at the facility. Transportation to and from shall be coordinated by the Site Project Manager and Site HSE Manager.

15.0 Rescue

15.1 Assisted Rescue

Rescue Services are available and provided by JBPHH Federal Fire Department. Fed Fire can provide medical, confined space, elevated high rescue, fire, and IDLH rescue scenarios.

Federal Fire Department is located at:
650 Center Drive
Building 284
Joint Base Pearl Harbor-Hickam 96860
(808) 471-3303, or dial 9-1-1

15.2 Self-Rescue

[redacted] and Red Hill subcontractor [redacted] have successfully developed and accomplished confined space tank rescue drills. In the event a rescue must be performed, trained qualified individuals shall perform or lead the rescue effort per the site-specific Rescue Plan.

If a rescue is performed and medical services have not yet arrived at the adit or tunnels, rescue teams are trained to continue down the road as far as possible to reach emergency service vehicles. Complications such as base access, traffic, or tight access roads may arise as an unseen delay. It is of note, the rescue team should remain in contact with emergency call center personnel to notify that the response location is changing.

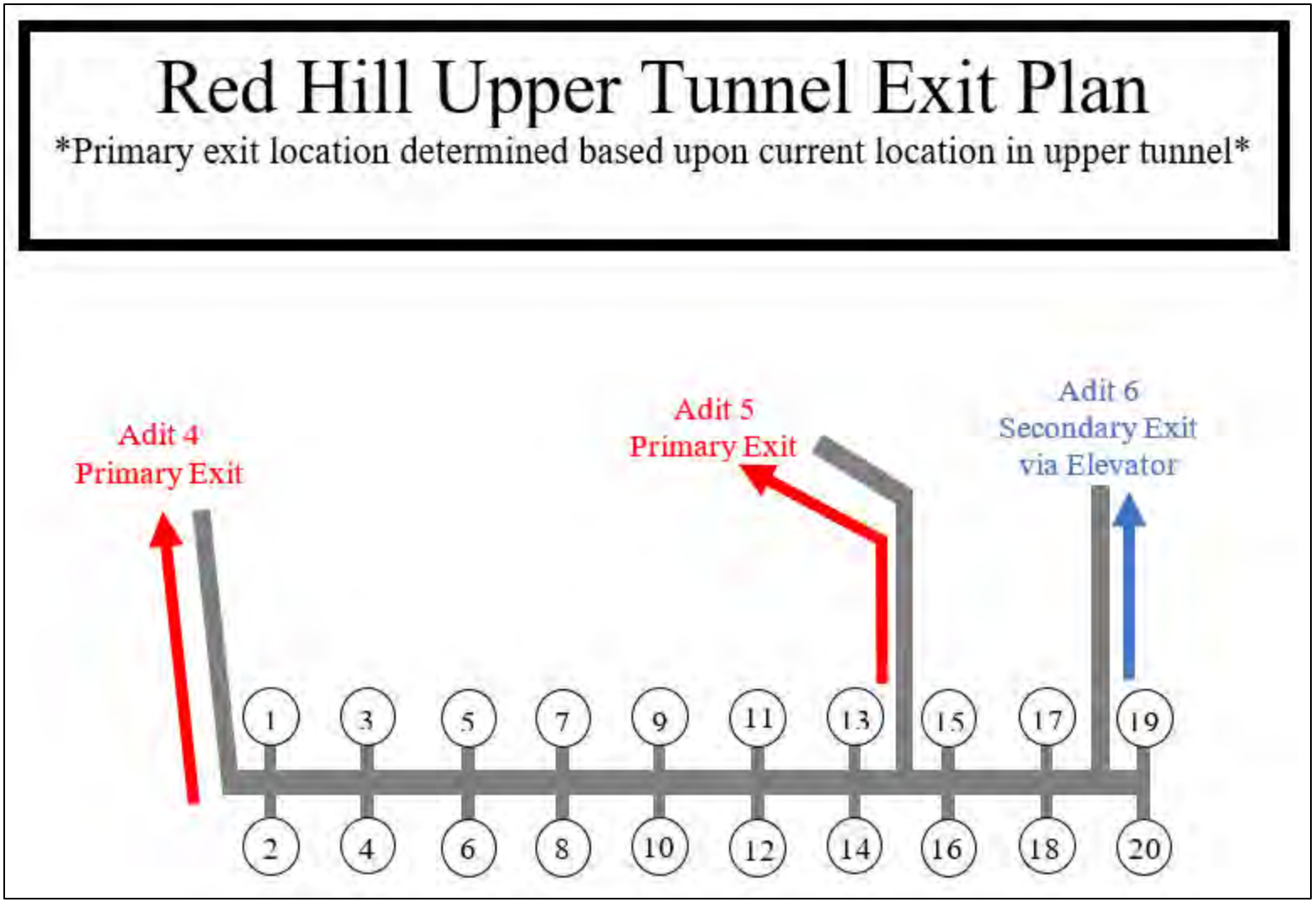
16.0 Critique of Response

Whenever the Contingency Plan is implemented in response to an incident or a drill, an internal critique of the response shall be conducted and documented.

Attachments

1.0 Evacuation Maps	1.1	Upper Tunnel Evacuation Map
	1.2	Lower Tunnel Evacuation Map
2.0 Medical Care Facility Maps	2.1	Kaiser Permanente Emergency Room
	2.2	Pali Momi Urgent Care Facility
3.0 Emergency Contacts	3.1	Project Emergency Contact Numbers

[Attachment 1.1]



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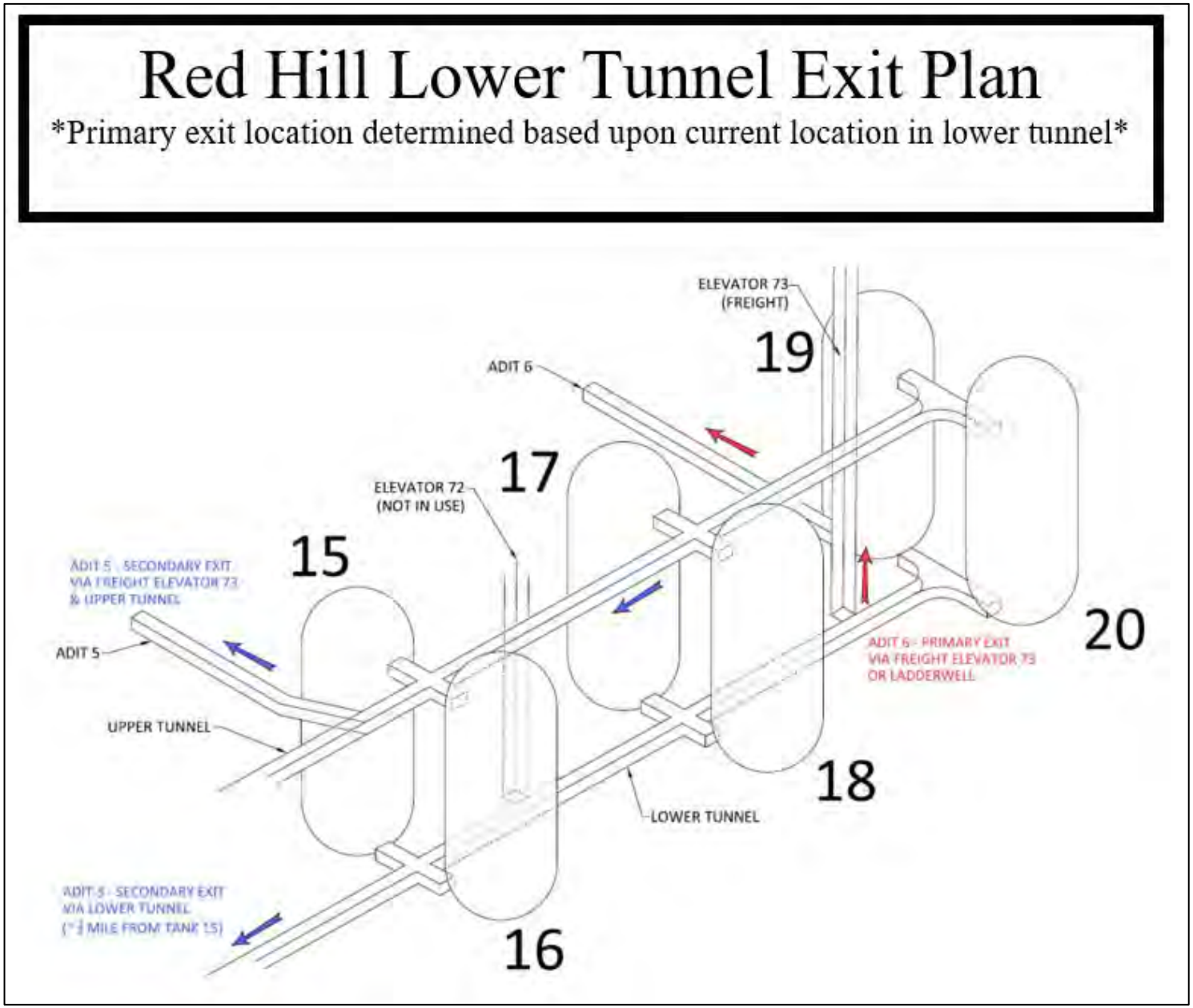

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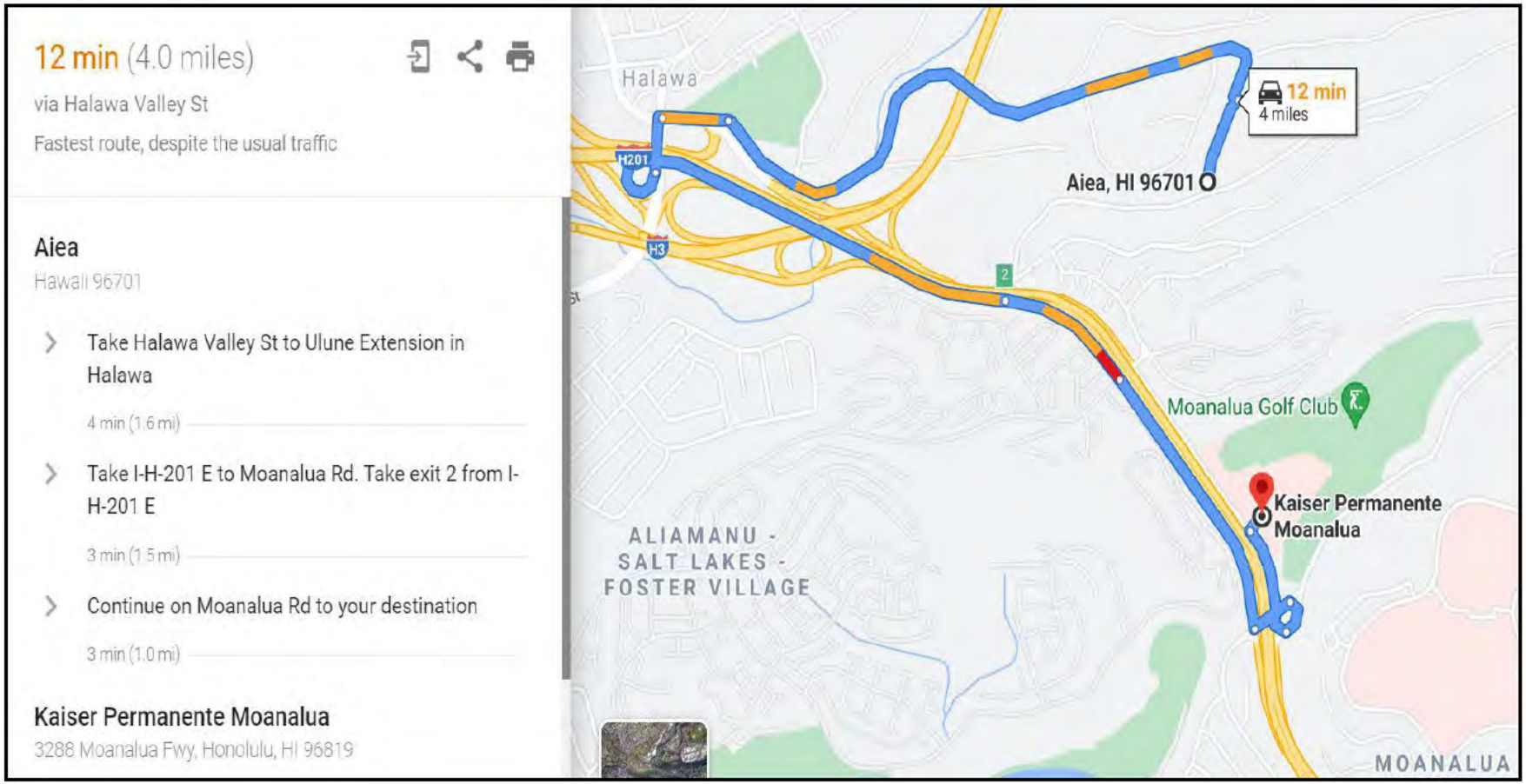

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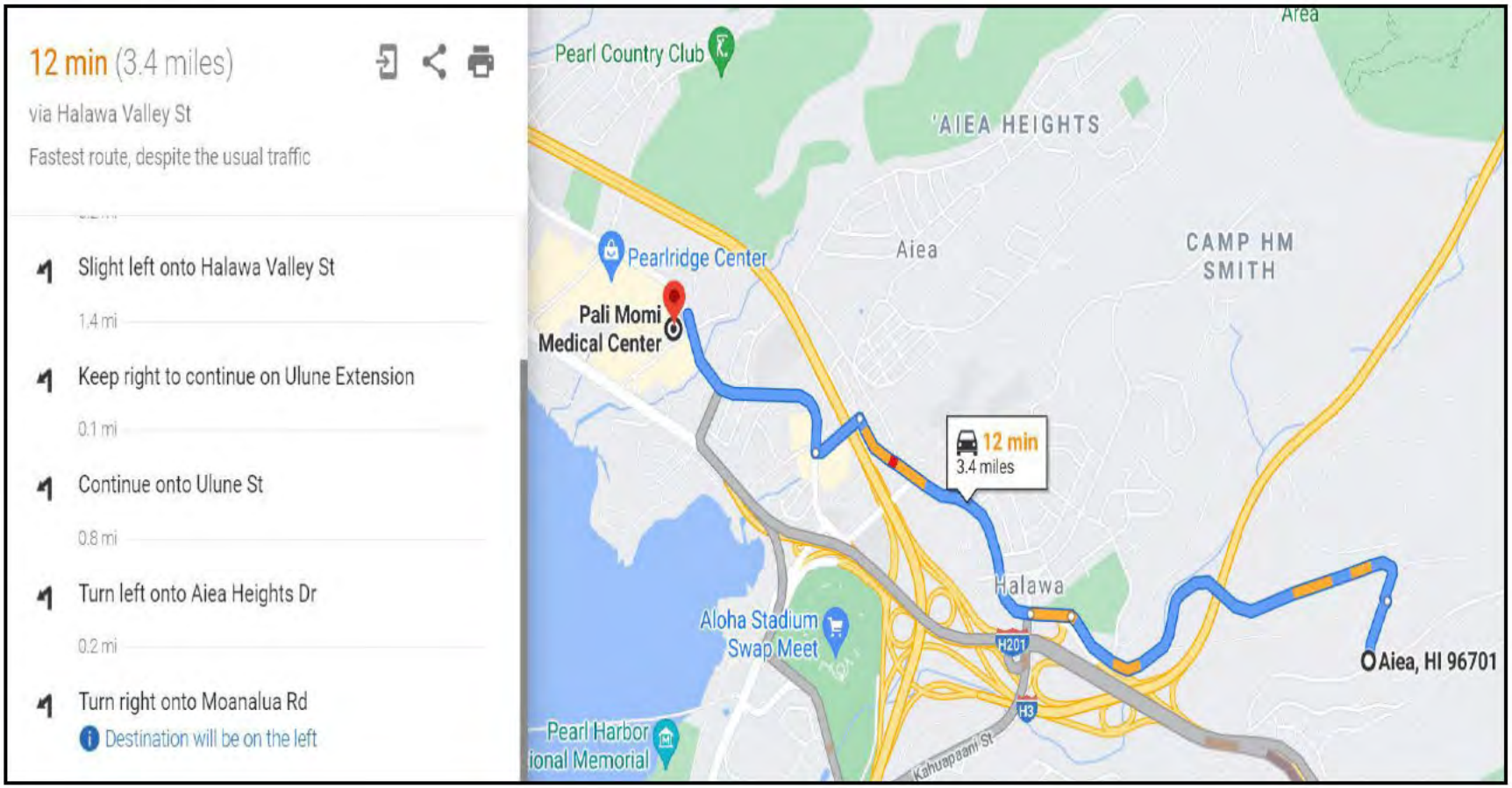


Procurement sensitive and proprietary information – This information is exempt from disclosure under 5. U.S.C. § 552(b)(4) because it contains proprietary and procurement sensitive information.
PII – This information is exempt from disclosure under 5 U.S.C. § 552(b)(6), which protects personally identifiable information.

[Attachment 3.1]

IN CASE OF EMERGENCY

Important Emergency Phone Numbers

Emergency Services	9-1-1
JBPHH Regional Dispatch Center (RDC)	(808) 471-7117
JBPHH Federal Fire Department	(808) 471-3303
NAVFAC CDO	(808) 397-8289
JBPHH QI (Qualified Individual)	(808) 864-2463
NOSC-R (Navy On-Scene Coordinator Representative)	(808) 371-0448
NAVFAC Environmental Branch	(808) 471-3858
National Poison Control Hotline	(800) 222-1222
National Response Center	(800) 424-8802

Government Contacts

Red Hill Pump House (PAPA)	(808) 471-8081
NAVFAC Construction Manager	[redacted]
NAVFAC Construction Manager	[redacted]
Core Health Networks	(877) 347-7429
[redacted]	
Project Manager	[redacted]
Deputy Project Manager	
Construction Manager	
Site Superintendent	
Quality Control Manager	
Build Engineer	
Health, Safety and Environment Manager	
Site Safety and Health Officer (SSHO)	
Site Safety and Health Officer (SSHO)	

Medical Facilities

Kaiser-Permanente Moanalua - Emergency Dept	(808) 432-0000
Pali Momi Medical Center	(808) 486-6000

ATTACHMENT 6B: WASTE MANAGEMENT PLAN - REDACTED

RETURN TO TABLE OF CONTENTS

Naval Facilities Engineering Command
NAVFAC HAWAII

JANUARY 2024

WASTE MANAGEMENT PLAN

Clean Red Hill Tanks, JBPHH, Hawaii
Joint Base Pearl Harbor-Hickam Oahu, Hawaii

Naval Facilities Engineering Command
[redacted]

[redacted]

Revision: 0

Submitted by:

[redacted]

[redacted]

CONTENTS

LIST OF ACRONYMS AND ABBREVIATIONS

[redacted]	[redacted]
ASD	Accumulation Start Date
CFR	Code of Federal Regulation
CY	cubic yard
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
LDR	Land Disposal Restrictions
NAVFAC	Naval Facilities Engineering Systems Command
PPE	Personal Protective Equipment
RCRA	Resources Conservation and Recovery Act
SAA	Satellite Accumulation Area
TSDF	Treatment, Storage and Disposal Facility

LIST OF TABLES

LIST OF APPENDIXES

1.0 INTRODUCTION

The purpose of this Waste Management Plan is to ensure that all waste generated during tank cleaning activities will be managed in compliance with the state and local government regulations and to leave the site in no worse condition after project completion. This plan governs the minimalization, generation, management, storage, and transport and disposal of waste that are routinely encountered during tank cleaning. [redacted] has been tasked to conduct tank cleaning operations at Red Hill Bulk Fuel Storage Facility, Oahu, Hawaii through Contract number [redacted] Order [redacted]

All work will be conducted in accordance with Statement of Work entitled "Clean Fuel Storage Tanks for Closure, Joint Base Pearl Harbor-Hickam, Hawaii," dated Fiscal Year 2023.

2.0 WASTE COORDINATORS

Waste onboard [redacted] site is identified, documented, stored, and disposed of by a qualified Waste Coordinator. The qualified person(s) is responsible for maintaining compliance with the [redacted] Waste Management Plan and Title 29, 40, and 49 Code of Federal Regulations.

Waste Coordinators shall remain current with training qualifications such as Hazardous Waste Operations and Emergency Response (HAZWOPER) and training in line with 49 CFR part 172 "Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans". Training certifications are provided in the Project Environmental Protection Plan.

The Waste Coordinators have completed the online Environmental Compliance Assessment Training and Tracking System (ECATTS) training. Prior to waste handling, training will be documented for [redacted] and subcontractor personnel. On-site training will be conducted to familiarize employees of the requirements following [redacted] procedures and contract requirements.

The [redacted] Waste Coordinators (Table 1) prepare the hazardous and non-hazardous waste documentation for review and signature by authorized government personnel, unless otherwise specified.

A project waste management meeting will be held with the Contracting Officer to discuss the proposed Waste Management Plan and establish a mutual understanding relative to the management of waste and how diversion requirements will be met. The coordination and mutual understanding meeting may be used to settle this requirement. Waste management goals and project timelines will be discussed at the preconstruction meeting, regular quality control meetings, and morning safety tailgate meetings when applicable to the project job tasks for that day.

Prior to project evolutions that will result in the accumulation of hazardous or non-hazardous waste, Waste Coordinators will conduct a meeting to address details such as:

- Identify the production process
- Potential spill scenarios and control measures
- Waste containers to be used
- Secondary containment
- Spill kit contents and locations
- Waste documentation forms and information to be sent for government approval
- Accumulation areas if applicable

TABLE 1: WASTE CORRDINATORS

Name	Project Position	Phone Number	Email
[redacted]	Dep. Project Manager, Environmental Manager	[redacted]	[redacted]
[redacted]	SSHO	[redacted]	[redacted]

3.0 IDENTIFICATION OF WASTE STREAMS

Table 2 will be used as a guideline for the management of anticipated waste streams for this project.

TABLE 2: SUMMARY OF ANTICIPATED WASTE STREAMS

Potential Waste Stream	Description	Estimated Quantity
Residual fuel, sludge, sediment, or deleterious material	Non-flowable residual product after tank draining	~3,000 gallons or 72 barrels per tank
Oily water/tank wash water	Tank cleaning with detergent wash water	~36,000 gallons per tank (estimated from previous tank cleaning performed)
Spent personal protective equipment (PPE) and absorbent debris	Spent PPE and absorbent pads/rags	2 each 55-gallon drums per tank
Ordinary trash	Ordinary trash will consist of paper materials, plastic cups and plastic bags, trash bags, and food waste. Ordinary trash will be bagged and disposed off-site at an approved solid waste facility on island	~1 cubic yard (CY) per tank (estimated per previous project)
Scrap metal	Scrap metal accumulated from tank piping, ventilation, and tank demolition and fabrication; waste metal containers	~5 CY per tank (estimated per previous project)

Additional process related waste relating the project tasks shall be managed accordingly to [redacted] Universal Waste Management Plan, this plan, and applicable Title 40 and 49 CFR regulations. This waste streams could include dead batteries, inoperable bulbs, cleaning material, and generator maintenance waste.

4.0 WASTE CHARACTERIZATION

To ensure proper disposal, all project wastes must be characterized in accordance with 40 Code of Federal Regulations (CFR) Parts 261, 262, and 279, applicable state laws and regulations. Table 3 summarizes the testing requirements and analytical laboratories to perform the tests for each waste stream.

TABLE 3: WASTE TESTING REQUIREMENTS

Potential Waste Stream	Testing Requirements (U.S. Environmental Protection Agency Method)	Estimated # of samples	Testing Laboratories
Residual fuel	Total halogen (field screening test, SW-846 Method 9077)	1 per tank	Not applicable, [redacted] will perform the field screening test
Residual sludge, sediment, or deleterious material	TPH-diesel (Method 8015M), Toxicity Characteristic Leaching Procedure (TCLP) 8 Resource Conservation and Recovery Act (RCRA) metals (1311/6010B/7470A), Volatile Organic Compound (VOC) (8260B), Polyaromatic hydrocarbons (PAHs) (8270SIM), and Flash Point (7.1.2)	1 per tank	[redacted]
Oily water/tank wash water	Total halogen (field screening test, SW-846 Method 9077)	3 per tank	Not applicable, [redacted] will perform the field screening test
Ordinary trash	None	None	Not applicable
Scrap metal	None	None	Not applicable

Laboratories providing environmental testing services must be accredited by a nationally recognized and/or DoD recognized laboratory accreditation body (e.g., National Environmental Laboratory Accreditation Program – NELAP, Department of Defense Environmental Laboratory Accreditation Program – DoD ELAP) for the applicable matrix (e.g., solid, water, etc.), test method (e.g., EPA 1311, 6010, 7471, 8082 etc.) and analyte (e.g. lead, cadmium, chromium, mercury, polychlorinated biphenyls, etc.) to be tested.

5.0 WASTE PACKAGING

5.1 Waste Packing

Residual water and oily wash water will be pumped into the S-311 fuel oil recovery (FOR) tank located outside of Adit 3 prior to hauling out to disposal/recycling facilities. The oily sludge/sediment and spent PPE/absorbent debris will be packed into 55-gallon open head steel drums with drum liners. All waste containers will remain closed at all times except for when waste is being added or removed.

Ordinary trash will be collected as general refuse in a 15 CY roll-off bin located at the Adit 4 [redacted] laydown yard. Ordinary trash typically consists of office waste, which will be packed in plastic garbage bags.

Scrap metal will be collected in a 15 CY roll-off bin located at the Adit 4 [redacted] laydown yard. Scrap metal will be recycled at a State of Hawaii approved facility.

All storage tanks and drums will be stored on secondary containment. Equipment to be used for waste packaging includes vacuum truck, pumps, and hoses.

5.2 Waste Labeling and Marking

After packaging, residual water and oily wash water shall be marked as “Oily Water Pending Testing.” Oily Sludge/sediment shall be marked as “Sludge Pending Analytical.” After the waste characterization, each container will be marked and labeled with an appropriate waste marking and U.S. Department of Transportation (DOT) hazardous labels and markings (if hazardous) for transportation. Hazardous waste containers will be marked with a hazardous waste label with generator’s information, date of accumulation, waste codes, manifest number, proper DOT shipping name, and shipping description. Hazardous waste containers will be also labeled with appropriate DOT hazard labels and markings (e.g., Flammable or Class 9, marine pollutants, etc.)

6.0 WASTE TRANSPORTATION

A hazardous waste manifest with Land Disposal Restriction (LDR) notification forms or a non-hazardous waste manifest will be prepared prior to transportation. The manifest with LDR forms or a non-hazardous waste manifest will be submitted by [redacted] for obtaining signatures from the Contracting Officer or Representative. After the waste materials have been characterized, packaged, properly labeled, marked, and manifested, they will be loaded onto a shipping truck. The truck will be placarded with appropriate hazard classes in compliance with 49 CFR requirements. Transporters will be licensed and/or permitted for the classification of hazardous waste, universal waste, or used oil being transported in affected jurisdiction(s).

Facilities or subcontractors offering construction waste transport on-site or off-site must ensure that proper shipping orders, bill of lading, manifests, or other shipping documents containing waste diversion information meet requirements of 40 CFR 273 Universal Waste Management, 49 CFR 173 Shippers – General Requirements for Shipments and Packagings, and 49 CFR 178 Specifications for Packaging. Individuals signing manifest or other shipping documents should meet the minimum training requirements.

7.0 TREATMENT AND DISPOSAL

7.1 Treatment/Disposal Facility Selection

Each waste stream will be evaluated to ensure it meets the waste acceptance criteria and packaging requirements for the proposed treatment, storage, and disposal facility (TSDF) prior to transport. Hazardous waste will be transported off-site to a duly permitted hazardous waste TSDF, along with all paperwork. The disposal facility must operate in a compliant manner and meet all applicable federal and state regulations and requirements.

The facility must demonstrate a properly designed system and it must presently operate (and historically have operated) in a manner that controls the types of materials accepted for disposal. Invoices and certificates of disposal will be returned by the TSDF operators verifying that the waste was received and disposed properly. The certificate of disposal will reference the following:

- waste profile sheet number
- manifest number and shipment date
- quantity disposed
- all waste disposed
- disposal facilities (U.S. Environmental Protection Agency [EPA] identification number, name, location, and phone number)
- disposal method
- date of final disposal
- signature of the person responsible for adequate and appropriate disposition of the waste

Table 4 summarizes the anticipated waste recycling/disposal method and facilities.

TABLE 4: WASTE RECYCLE/DISPOSAL METHOD, PROPOSED FACILITIES, AND PROPOSED TRANSPORTERS

Potential Waste Stream	Disposal Methods	Recycle/Disposal Facilities	Transporters
Residual fuel	Recovery and recycle, or disposal	[redacted]	[redacted]

Potential Waste Stream	Disposal Methods	Recycle/Disposal Facilities	Transporters
Oily water	Treatment and recycle		
Oily sludge/sediment	If hazardous with heavy metal, it will be stabilized and landfilled If non-hazardous, it will be solidified and landfilled		
Spent PPE and absorbent debris	If hazardous with heavy metal, it will be stabilized and landfilled If non-hazardous, it will be solidified and landfilled		

Potential Waste Stream	Disposal Methods	Recycle/Disposal Facilities	Transporters
Ordinary trash	Burn for energy recovery	[redacted]	[redacted]
Scrap metal	Recycled for reuse		

8.0 WASTE DOCUMENTATION

[redacted] will prepare and process waste disposal documentation in accordance with the procedures for on-island or off-island disposal of non-hazardous waste and off-island disposal of hazardous waste per the details of this Waste Management Plan.

The [redacted] Waste Coordinators will prepare the hazardous and non-hazardous waste documentation for review and signature by authorized government personnel, unless otherwise specified. Documentation will include the following, as applicable:

- Waste profile sheets (forms supplied by the destination TSDF with supporting waste documentation (material safety data sheet, analysis)
- Permit from TSDF accepting waste for disposal as supplied on the waste profile sheet
- Hazardous waste manifests, as required
- Non-hazardous waste manifests or bills of lading, as required
- Land disposal restriction notification/certifications (forms supplied by TSDFs), as required
- Review Sheet for Waste Characterization and Disposal (Naval Facilities Engineering Systems Command [NAVFAC] Environmental Department)
- Waste Documentation Form CNRH N465 (NAVFAC Environmental Department)

8.1 Hazardous and Non-Hazardous Waste Shipment Documentation Procedures

Before allowing a manifested hazardous or non-hazardous waste to leave the property, the following procedures must be followed:

- Government-authorized personnel must sign the uniform hazardous waste manifest or a non-hazardous waste manifest.
- All containers must be properly packaged, marked, labeled, and placarded in accordance with DOT 49 CFR 171 regulations, Resource Conservation and Recovery Act (RCRA), or Toxic Substance Control Act (TSCA) requirements (if applicable). As hazardous material shipment off-site in quantities that require placarding are not currently anticipated, a hazardous materials security plan is not required. The initial waste transporter must sign and print the date of acceptance on the manifest.
- One copy of the uniform hazardous waste manifest, or non-hazardous waste manifest, must be pulled as the generator copy after the initial waste transporter signs the manifest.
- The remaining copies of the uniform hazardous waste manifest, or non-hazardous waste manifest, must be given to the transporter, along with the land disposal restriction certifications, if required.

8.2 Exception Reports

Each waste stream and/or shipment will be tracked from the time it leaves the site until the waste is received and disposed at the Final TSDF. If a signed copy of the original terminal manifest is not received by the 35th day after the original transporter signature, the waste coordinator will contact the TSDF and/or transporters to obtain the status of the waste. If the signed copy is not received by the 45th day after original transporter signature, an EPA exception report must be filed. The exception report draft will be submitted to the [redacted]/Government no later than the 37th day, and then forwarded to the EPA by [redacted]/Government on or by the 45th day. All calls or other efforts undertaken to locate shipments must be documented along with the exception report.

8.3 Discrepancy Reports

Discrepancies due to differences between the quantities of hazardous waste designated on the manifest or shipping papers and the quantity of hazardous waste a facility actually received will be reported to the [redacted]/Government and rectified within 15 days after the TSDF receives the waste. An EPA discrepancy report will be submitted by the [redacted] and/or Government representative at least five days before the EPA requires it.

8.4 Recordkeeping

In accordance with Title 40 CFR 262.40, records of signed manifest shall be maintained by the generator for three years or until a signed copy from the designated facility which received the waste is provided.

All waste accumulated shall be logged within the appropriate site accumulation log. Information tracked shall include individual log number, accumulation start date, quantity, description, manifest number, and be initialed by the Waste Coordinator logging the waste.

9.0 WASTE MANAGEMENT

If waste or unused material is determined to be a RCRA hazardous waste or acute hazardous waste, on-site management of the waste must comply with the following hazardous waste management standards such as labeling and marking, container selection and use, and storage and accumulation requirements specified in 40 CFR 260-279.

As stated in the Closure Plan, non-hazardous solid waste will be managed in a similar fashion as hazardous as a best management practice.

9.1 Containers and Labeling

The container and labeling requirements for hazardous waste are summarized below:

- Place all hazardous waste into appropriate United Nations-specification, DOT-approved containers that are compatible with the waste. Ensure the weight limitations for the containers (i.e., drums, super sacks, tri-wall boxes, or roll-off type containers) are not exceeded.
- The containers must be in good condition. If a container is not in good condition or begins to leak, the waste must be transferred to a container that is in good condition.
- Label each container with a hazardous waste label and hazard class DOT label (or placard for bulk containers such as roll-offs or Conex boxes) so they are clearly visible. Supply all information requested on the label including the state/EPA identification number, the generator's name and address, the manifest document number, and the DOT proper shipping description.
- Uncharacterized wastes pending sample results must be marked, "This Container on Hold Pending Analysis." They should also be marked with the date of sampling, the sample identification number, and its suspected hazard class (flammable, corrosive, etc.).
- Containers must remain closed at all times, except when it is necessary to add or remove waste.
- Incompatible wastes must not be placed in the same container or placed in an unwashed container that previously held incompatible waste.
- Containers holding waste that is incompatible (flammable, reactive, etc.) with any waste or materials stored nearby in other containers or piles must be separated from the other materials or protected from them by a dike, berm, wall, or other device.
- If the container will not be used again after disposal, the container must be legally empty. This means that all wastes are removed using practices commonly employed to remove materials from that type of container and no more than 1 inch of waste or less than 3 percent of the total capacity of the container for containers less than 100 gallons.

9.2 Container Selection, Management, and Secondary Containment

All hazardous waste generated on site shall be packaged and shipped in accordance with Hazardous Materials Transportation Act and Regulations (49 CFR 171-180).

Container Selection - Containers shall be:

- Inspected prior to use to ensure they are in good condition. Containers that are not in good condition (leaky, rusted, severely dented, or lids or bungs damaged) will not be used.
- Evaluated prior to use to determine if the container is compatible with the waste. Incompatible containers will not be used to contain any wastes.
- DOT approved (e.g., United Nations-specified drums, super sacks, conex boxes, or roll off type containers).
- Verified to be properly rated for weight of waste to be contained.

Container Management – Container shall be:

- Inspected every 7 days while in use to ensure they are in good condition. Closed at all times, except when waste is being added or removed. Liquid containers will be closed and secured. Solid waste containers will have snug-fitting lids.
- Re-used only for the same waste streams, except uncontaminated overpack containers.
- Positioned so that labels are clearly visible and properly completed. Stored so that adequate aisle space is maintained between each row of containers.
- Allowed 4 to 6 inches of freeboard headspace in liquid drums for expansion of the liquids within the drum during transit.
- Secondary containment required when accumulating: a liquid, flammable liquid, or reactive waste.
- All drums must be placed fully over secondary containment and protected from rain. A covered containment must hold 110 percent of the volume of largest container. An uncovered area also has to have the capacity to hold 13 inches of rainfall in addition to holding 10% of the volume of all containers or 110 percent the volume of the largest container.

9.3 Accumulation Areas

This section provides a summary of the various accumulation area requirements that may be encountered during the project.

Less Than 90-day Accumulation

Contractor shall establish a less than 90-day accumulation site for wastes expected to be characterized as hazardous waste if the hazardous waste in excess of 55 gallons (or 1 quart if acute hazardous waste) cannot be removed from the site within 3 calendar days. Notify the Contracting Officer of the need to establish a less than 90-day accumulation site. Approval by the Contracting Officer is required prior to establishing a 90-day accumulation site. At least 10 working days prior to accumulating waste, submit a request in writing to the Contracting Officer and provide the following information: contract number; contractor; hazardous waste or regulated waste POC; phone number; type of waste, source of waste, emergency POC; phone number; location of the site; site plan.

Contractor shall follow 40 CFR 260-268 requirements for less than 90-day accumulation sites which include, but are not limited to: personnel training, weekly inspections, contingency plan, access to communications or alarm system, arrangements with local authorities. These requirements shall be in place prior to using a less than 90-day accumulation site. Requirements for a less than 90-day accumulation site are significantly more stringent and labor intensive than for a satellite accumulation area. Planning ahead by preparing disposal paperwork and contacting waste transporters can minimize the need for a less than 90-day accumulation site.

Satellite Accumulation Areas

A satellite accumulation area (SAA) shall be designated in areas where hazardous or suspected hazardous wastes are generated and accumulated on-site. The SAA shall be at or near the point of generation and under the control of the operator. Once an SAA exceeds a maximum of 55 gallons of hazardous waste or 1 quart of acute hazardous waste, the waste containers shall be labeled with the accumulation start date (ASD). When over 55 gallons of HW, 1 quart of liquid acute HW, or 2.2 lbs of solid acute HW is expected, contractor shall take appropriate, timely actions (such as scheduling and expediting waste pickup and HW manifest preparation and review) prior to generating waste. Do not generate in excess of 55 gallons of HW, 1 quart of liquid acute HW, or 2.2 lbs of solid acute HW until a waste pickup date is scheduled that will comply with the 3-day regulatory limit. Contractor shall provide manifest/waste documentation for Government review at least 10 working days prior to scheduled pickup date.

Contractor shall follow 40 CFR 262 requirements for SAAs that include, but are not limited to, the requirements in Table 5 and the following:

- The area must be marked clearly with ―No Smoking or other appropriate warning signs and a sign that designates it as an SAA.
- The waste must be stored in a manner consistent with the inspection log requirements.
- The amount of waste in excess of 55 gallons of hazardous waste and 1 quart of acute hazardous waste shall be removed from the SAA within 3 days of the accumulation start date.

TABLE 5: LESS THAN 90-DAY CENTRAL ACCUMULATION AREA REQUIREMENTS

Less Than 90-Day Central Accumulation Area	The following procedures apply in the event a waste is characterized as hazardous waste and a CAA must be established: • Establish a less than 90-day accumulation area. • Use the area only for storage of waste and not for storing nonrelated materials, equipment, or functions. • CAA must be located at least 50 feet from property line and secure against unauthorized access. • Located on surface which does not show any cracks or gaps and is impervious to the hazardous waste being stored. • Follow container requirements. • Post the emergency spill response procedures and have a spill kit in the area. • Spill kits shall at a minimum contain the necessary equipment and material to respond to a release of the accumulated waste within an accumulation area. Included contents of the spill kit may consist of: absorbent pads and booms, absorbent granules, PPE (i.e., goggles, gloves, tyvek), trash bags, 5-gal bucket, broom and dust pan, shovel, duct tape, and caution tape. • Keep a fire extinguisher in the area. • Make an emergency shower/eyewash station immediately available, tested weekly, and functioning. • Maintain adequate aisle space and position labels so they are visible and properly labeled. • Secure access to the accumulation area when authorized personnel are not present. • If the less than 90-day accumulation area is not covered, secondary containment for all containers is mandatory and must be capable of containing 10 percent of the volume of all containers or the entire volume of the largest container, plus freeboard for rainwater accumulations. • Post HAZARDOUS WASTE ACCUMULATION AREA and DANGER UNAUTHORIZED PERSONNEL KEEP OUT signs at the entrance. • Conduct inspections every seven days using the 90-day weekly inspection logs. Copies of these inspections will be maintained in the project files. Keep a logbook that includes the date, time, findings, actions taken, and inspector's signature. • Post "NO SMOKING" OR "OPEN FLAME" signs. • Remove or decontaminate all containers, liners, and soil prior to closure. • A roll off container that contains bulk hazardous waste must be managed as a 90- day accumulation area because the volume capacity is greater than 55 gallons. A lined super sack is considered in secondary containment as long as the liner is intact.

TABLE 6: SATELLITE ACCUMULATION AREA (SAA) REQUIREMENTS

Satellite Accumulation Area	The following procedures apply in the event an SAA is needed: • Use the area only for storage of waste and not for storing nonrelated materials, equipment, or functions. • SAA shall be located at or near the point of generation where wastes initially accumulate. • Follow all container requirements specified above. The container must be marked with the contents and labeled as appropriate with a hazardous waste label and appropriate DOT label. All labels should be on the upper one-third of the container, where practicable. • Post the emergency spill response procedures and have a spill kit nearby. • Spill kits shall at a minimum contain the necessary equipment and material to respond to a release of the accumulated waste within an accumulation area. Included contents of the spill kit may consist of: absorbent pads and booms, absorbent granules, PPE (i.e., goggles, gloves, tyvek), trash bags, 5-gal bucket, broom and dust pan, shovel, duct tape, and caution tape • Keep a fire extinguisher at the area or nearby if any of the waste is flammable. • Make sure emergency shower/eyewash stations are immediately available, tested weekly, and functioning. • Ensure the SAA is secured to prevent improper mixing or unauthorized addition of waste to the containers. • Conduct weekly inspections using the SAA inspection logs. Keep a logbook that includes the date, time, findings, actions taken, and inspector's signature. • Post "HAZARDOUS WASTE ACCUMULATION AREA" signs so they are visible from a distance of 25 feet. • When 55 gallons or more of a hazardous waste stream or 1 quart of acutely hazardous waste is present in an SAA, fill in the start date on the hazardous waste label and transfer all waste of that particular waste stream to a 90-day accumulation area within 3 days from the start date. • Remove or decontaminate all containers, liners, and waste prior to closure.

9.4 Disposal

Hazardous waste disposal is described in Section 6.

9.5 Procedures for Handling Rejected Load of Hazardous Waste

If a load of hazardous waste is rejected from the TSDF, immediately notify the project manager. This notification should occur as soon as anyone becomes aware of the load rejection. The notification must include a contact name and number for someone who is aware of the waste and the reason for rejection.

The project manager will immediately notify the Government Contracting Officer. The following information will be provided:

- manifest number
- generator of manifest
- the date of waste rejection
- who rejected the waste at the TSDF (include contact name/telephone number)
- the reason for waste rejection
- where the waste is located

A rejected load of hazardous waste, if [redacted] is the generator, will need to be coordinated by [redacted] to be deliver back onsite due to the remote location and site access restrictions. In the event a load is returned, [redacted] may request to establish a CAA as a temporary holding location. CAA establishment shall follow all applicable regulations and must conform to this Waste Management Plan.

Immediate notification of the NTR should occur even if all the information is not available. However, the information should be obtained and transmitted to the [redacted]/Government as soon as possible. After notification, proceed with the technical direction from the [redacted]/Government representative.

9.6 Hazardous Material (including waste) Transportation

Hazardous material (including wastes) must be shipped in accordance with DOT requirements. Hazardous material transported on U.S. land and in U.S. waters must be properly classed, described, packaged, marked, and labeled for shipment as required by the DOT Hazardous Materials Regulations 49 CFR 171. All DOT functions must be performed by properly trained personnel, as discussed in Section 5.0.

Requirements under 49 CFR 171 will apply to all off-site shipments of hazardous materials. The definition of hazardous materials includes hazardous wastes. Personnel trained under hazardous materials 126-F requirements will perform all DOT functions. The information contained in this section is intended to be a general guide. Requirements specific to each hazardous material must be determined in the field. It is the responsibility of each DOT-trained individual to ensure the requirements of 49 CFR 171 are met. The Waste Coordinator will verify DOT requirements are met before the waste shipment leaves the site. Any issues or questions regarding the proper shipment of hazardous materials are to be directed to the waste coordinator.

9.7 On-island or Off-Island Disposal of Non-Hazardous Waste

Before transporting any non-hazardous construction and/or demolition debris and waste off Government Property, submit the waste documentation package including laboratory results, lab accreditation package, Waste Documentation Form, Additional Information for Construction and Demolition Waste form, and Review Sheet for Waste Characterization and Disposal to the Installation Environmental Office via the Contracting Officer.

Comply with Department of Transportation (DOT) regulations and implement applicable DOT requirements (e.g., proper shipping name, packaging, marking, labeling, placarding, Commercial Driver License with Hazardous Material endorsement, and non-hazardous waste manifest). Prepare the required shipping papers in accordance with DOT regulations, to include proper certification statement required by 49 CFR 172.204(a), and submit to the Installation Environmental Office via Contracting Officer. Allow 10 working days for Government review. Once Government comments are adequately addressed, Installation Environmental Office staff will sign the appropriate waste documentation as the Generator/Property Owner.

For non-DOT regulated, non-hazardous waste, prepare and sign any additional documentation similar to a non-hazardous waste manifest when required by the waste disposal facility.

9.8 Off-Island Disposal of Hazardous Waste

Dispose of hazardous waste at permitted off-island treatment, storage, and disposal facility. Before transporting hazardous waste off Government property, submit hazardous waste manifest, land disposal restriction (LDR) form as applicable, laboratory results, lab accreditation package, Waste Documentation Form, Additional Information for Construction and Demolition Waste form, and Review Sheet for Waste Characterization and Disposal to the Installation Environmental Office via the Contracting Officer. Allow 10 working days for Government review.

The Installation Environmental Office will sign the hazardous waste manifests as the generator. Contractor transporting hazardous waste off Government property must have transporter EPA Identification Number, appropriate DOT training, and appropriate driver's license endorsements required to transport hazardous waste.

10.0 CONTINGENCY PLAN

An unexpected sudden or non-sudden release of any hazardous materials storage and shipped on the site may create a release of hazardous waste to the air, soil or surface water at the facility. As such, the Project Contingency Plan addresses the responsible persons, actions, and emergency equipment required to contain spills and other types of emergency situations, that can be either external threats (natural disasters, hurricane, earthquake) or internal threats (spill, fire, security breach, power outage, etc.)

11.0 REFERENCES

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA publication SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015).

United States Code of Federal Regulations, 40 CFR Part 171

United States Code of Federal Regulations, 40 CFR Part 261

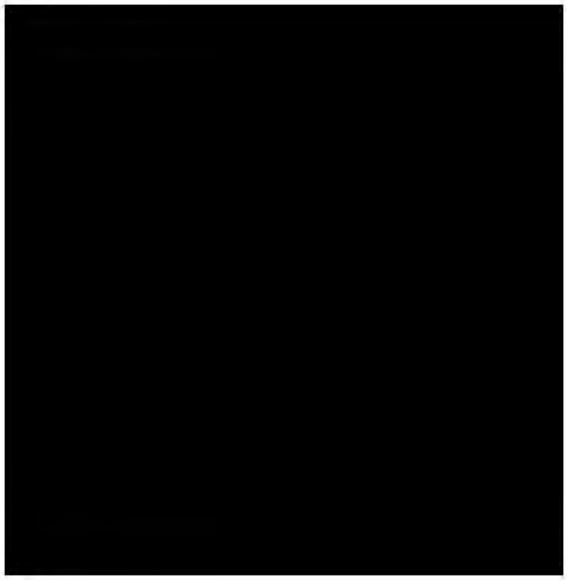
United States Code of Federal Regulations, 40 CFR Part 262

United States Code of Federal Regulations, 40 CFR Part 279

Appendix 1
Universal Waste Management Plan

PROCEDURE

[redacted]



UNIVERSAL WASTE MANAGEMENT

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

UNIVERSAL WASTE MANAGEMENT

[redacted]

UNIVERSAL WASTE MANAGEMENT

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

Procurement sensitive and proprietary information – This information is exempt from disclosure under 5. U.S.C. § 552(b)(4) because it contains proprietary and procurement sensitive information.

`

Example Universal Waste Labels

Examples of Universal Waste labels that are available for use.

ATTACHMENT 7: TANK 1 HYDROTEST WATER LAB ANALYSIS

RETURN TO TABLE OF CONTENTS

ADVANCED ANALYTICAL LABORATORY INC

January 7, 2022

Pacific Commercial Services, LLC
PO Box 235117
Honolulu, HI
96823

Dear Daniel Barragan:

Please find enclosed the analytical report for:

Project Name:	Aptim Red Hill Hydrotest water
AAL Project #:	X7
Date Received:	01/04/2022
MIS Prep:	No

The results, applicable reporting limits, QA/QC data, invoice, and copy of COC are included.

Advanced Analytical Laboratory appreciates the opportunity to provide analytical services for this project. If you have any questions regarding this project, please don't hesitate to contact AAL.

Thank you for your business and continuing support.

Sincerely,

Uwe Baumgartner, Ph.D
Owner

Elisa M. Young
Owner

544 Ohohia St. Unit 10, HONOLULU HAWAII 96819
tel (808) 836-2252

ADVANCED ANALYTICAL LABORATORY-CHAIN OF CUSTODY RECORD

Phone: (808) 836 2252 Fax:(808) 836 2250 Address: 844 Ohohia Street #10 Honolulu, HI 96819

TURNAROUND TIME: 24 hr AAL PROJECT#: X7

CLIENT:	Pacific Commerical Services, Inc.	PROJECT NAME:	Aptim Red Hill Hydrotest water
ADDRESS:	91-254 Olai Street, Kapolei, HI 96707	COLLECTOR:	Sho Hasegawa
PHONE: 808-545-4599	EMAIL: daniel.barragan@pcshi.com	DATE OF COLLECTION:	1/4/2022
CLIENT PROJECT#:	303472-01	PROJECT MANAGER:	Daniel Barragan

ANALYSES

Sample Number	Time	Sample type	Container Type	Multi-Incremental Volatile	Multi-Incremental Non Volatile	8015M TPH Fuel Scan	8015M TPH Gasoline	8015M TPH Diesel	8015M TPH Oil	8260B Volatiles	8260 BTEX	8021B MBE	HVOC	8100 PAH DOH 4	8270 PAH 17 analytes	8270 Semi Volatiles	8082 PCB	TCLP 8081 OrganoChlorind Pes	8081 OrganoChlorine Pesticides	8081 Technical Chlordane	TCLP Chromium	Benzene	Flash Point	Chlordane, Dieldrin	Priority Metals	pH	Field Notes	Number of containers	Number containers received
Tank 01	14:30	comp	bottles			X				X				X			X								X	X		8	8

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
[signature]	1/4/22 1500	[signature]	1/4/22 15:10
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	8
CHAIN OF CUSTODY SEALS INTACT	
RECEIVED IN GOOD CONDITION	Y
TEMPERATURE	1.0°C
PAGE __ OF __	

LABORATORY NOTES:

ADVANCED ANALYTICAL LABORATORY INC

AAL Project #X7

Pacific Commercial Services, LLC

Client Project #: 303472-01 Method 8015M
Client Project Name: Aptim Red Hill Hydrotest water Matrix: Water

CLIENT SAMPLE ID	TPH-DIESEL [mg/L]	TPH-OIL [mg/L]	SURROGATE RECOVERY	FLAGS	DATE ANALYZED
Blank	nd	nd	96%		1/6/2022
Tank 01	0.108	nd	MI		1/6/2022
PQL	0.050	0.100	Acceptable Range		
MDL	0.010	0.032	70%-130%		

QA/QC DATA

QC BATCH # 010622	TPH-DIESEL [mg/L]	TPH-OIL [mg/L]	Acceptable Range
Lab Control Spike (LCS)	0.492	0.472	0.350-0.650
Matrix Spike (MS)	0.497	0.479	0.350-0.650
Matrix Spike Dup (MSD)	0.496	0.476	0.350-0.650
Recovery LCS	98%	94%	70%-130%
Recovery MS	99%	96%	70%-130%
Recovery MSD	99%	95%	70%-130%
RPD of MS/MSD	0.2%	0.6%	20%

Analyst: U. Baumgartner, Ph.D.
Data review: E. Young

544 OHOHIA STREET #10 HONOLULU HAWAII 96819
TEL (808) 836-2252

ACCU LABORATORY

12524 130th Lane NE
Kirkland WA 98034

Tel: (425) 214-5858
(425) 214-5868
Email: lisa@accu-lab.com
website: www.accu-lab.com

Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**22-AL0106-4**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	1/4/2022
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	1/6/2022
Project Name	**Aptim Red Hill Hydrotest water**	Date Reported	1/7/2022
Client Project#	**303472-01**		
Project#	**X7**		

TPH-GRO in Water by EPA 8260D/5030B

Accu Lab Batch# AL010622-1

Client sample ID					**Tank 01**	**MS**	**MSD**	**RPD**
Lab ID	MRL	Unit	MTH BLK	LCS	22-AL0106-4-1	22-AL0106-0-1	22-AL0106-0-1	22-AL0106-0-1
Matrix			Water	Water	Water	Liquid	Liquid	Liquid
Date Analyzed			1/6/2022	1/6/2022	1/6/2022	1/6/2022	1/6/2022	1/6/2022
Gasoline Range Organics (GRO)	0.25	mg/l	nd	95%	nd	103%	95%	8%
Surrogate Recoveries								
Dibromofluoromethane			87%	85%	85%	81%	83%	
4-Bromofluorobenzene			90%	89%	90%	88%	85%	

Acceptable Recovery Limits:
Surrogates/LCS 70-130%
MS/MSD 65-135%
Acceptable RPD limit: 30%

CCU LABORATORY

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	Honolulu, HI, 96819	Date Sampled	1/4/2022
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Project Name	**Aptim Red Hill Hydrotest water**	Date Reported	1/7/2022
Client Project#	**303472-01**		
Project#	**X7**		

Volatiles in Water by EPA 8260C/5030B

Accu Lab Batch# AL010622-1

Client sample ID					**Tank 01**	**MS**	**MSD**	**RPD**
Lab ID	MRL	Unit	MTH BLK	LCS	22-AL0106-4-1	22-AL0106-0-1	22-AL0106-0-1	22-AL0106-0-1
Matrix			Water	Water	Water	Liquid	Liquid	Liquid
Date Analyzed			1/6/2022	1/6/2022	1/6/2022	1/6/2022	1/6/2022	1/6/2022
Chloromethane	2.0	ug/l	nd		nd			
Vinyl chloride	2.0	ug/l	nd	81%	nd	77%	76%	2%
Bromomethane	2.0	ug/l	nd		nd			
Chloroethane	2.0	ug/l	nd		nd			
Trichlorofluoromethane	2.0	ug/l	nd		nd			
1,1-Dichloroethene	2.0	ug/l	nd		nd			
Methylene Chloride	2.0	ug/l	nd		nd			
Methyl T-Butyl Ether (MTBE)	0.5	ug/l	nd	76%	nd	78%	80%	3%
trans-1,2-Dichloroethene	1.0	ug/l	nd		nd			
1,1-Dichloroethane	1.0	ug/l	nd	78%	nd	80%	79%	2%
2,2-Dichloropropane	1.0	ug/l	nd		nd			
cis-1,2-Dichloroethene	1.0	ug/l	nd		nd			
Methyl Ethyl Ketone (MEK)	1.0	ug/l	nd		nd			
Chloroform	1.0	ug/l	nd		nd			
1,1,1-Trichloroethane	1.0	ug/l	nd		nd			
Carbon tetrachloride	1.0	ug/l	nd		nd			
1,1-Dichloropropene	1.0	ug/l	nd		nd			
Benzene	0.5	ug/l	nd	90%	nd	92%	90%	2%
1,2-Dichloroethane (EDC)	1.0	ug/l	nd		nd			
Trichloroethene	1.0	ug/l	nd	100%	nd	103%	92%	11%
1,2-Dichloropropane	1.0	ug/l	nd		nd			
Dibromomethane	1.0	ug/l	nd		nd			
Bromodichloromethane	1.0	ug/l	nd		nd			
Toluene	1.0	ug/l	nd	114%	7.2	111%	109%	1%
1,1,2-Trichloroethane	1.0	ug/l	nd		nd			
Tetrachloroethene	1.0	ug/l	nd	123%	nd	132%	130%	2%
1,3-Dichloropropane	1.0	ug/l	nd		nd			
Dibromochloromethane	1.0	ug/l	nd		nd			
1,2-Dibromoethane (EDB)	1.0	ug/l	nd		nd			

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Analytical Report

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	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	1/4/2022
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	1/6/2022
Project Name	**Aptim Red Hill Hydrotest water**	Date Reported	1/7/2022
Client Project#	**303472-01**		
Project#	**X7**		

Volatiles in Water by EPA 8260C/5030B

Accu Lab Batch# AL010622-1

Client sample ID					**Tank 01**	**MS**	**MSD**	**RPD**
Lab ID	MRL	Unit	MTH BLK	LCS	22-AL0106-4-1	22-AL0106-0-1	22-AL0106-0-1	22-AL0106-0-1
Matrix			Water	Water	Water	Liquid	Liquid	Liquid
Date Analyzed			1/6/2022	1/6/2022	1/6/2022	1/6/2022	1/6/2022	1/6/2022
Chlorobenzene	1.0	ug/l	nd	122%	nd	122%	120%	1%
1,1,1,2-Tetrachloroethane	1.0	ug/l	nd		nd			
Ethyl benzene	0.5	ug/l	nd	108%	nd	108%	108%	0%
m,p-Xylenes	2.0	ug/l	nd	126%	4.9	124%	123%	1%
o-Xylene	1.0	ug/l	nd	122%	2.6	121%	120%	1%
Styrene	1.0	ug/l	nd		nd			
Bromoform	2.0	ug/l	nd		3.5			
Isopropyl benzene	0.5	ug/l	nd		nd			
1,2,3-Trichloropropane	1.0	ug/l	nd		nd			
Bromobenzene	0.5	ug/l	nd		nd			
1,1,2,2-Tetrachloroethane	0.5	ug/l	nd		nd			
n-Propylbenzene	0.5	ug/l	nd		nd			
2-Chlorotoluene	0.5	ug/l	nd		nd			
4-Chlorotoluene	0.5	ug/l	nd		nd			
1,3,5-TrimEthylbenzene	0.5	ug/l	nd		2.2			
tert-Butylbenzene	0.5	ug/l	nd		nd			
1,2,4-TrimEthylbenzene	0.5	ug/l	nd		6.8			
sec-Butylbenzene	0.5	ug/l	nd		nd			
1,3-Dichlorobenzene	0.5	ug/l	nd		nd			
p-Isopropyltoluene	0.5	ug/l	nd		nd			
1,4-Dichlorobenzene	0.5	ug/l	nd		nd			
1,2-Dichlorobenzene	0.5	ug/l	nd		nd			
n-Butylbenzene	0.5	ug/l	nd		nd			
1,2-Dibromo-3-Chloropropane	2.0	ug/l	nd		nd			
1,2,4-Trichlorobenzene	2.0	ug/l	nd		nd			
Hexachlorobutadiene	2.0	ug/l	nd		nd			
Naphthalene	2.0	ug/l	nd	82%	11	105%	112%	7%
1,2,3-Trichlorobenzene	2.0	ug/l	nd		nd			

ACCU LABORATORY

12524 130th Lane NE
Kirkland WA 98034

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	Honolulu, HI, 96819	Date Sampled	1/4/2022
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Project Name	**Aptim Red Hill Hydrotest water**	Date Reported	1/7/2022
Client Project#	**303472-01**		
Project#	**X7**		

Volatiles in Water by EPA 8260C/5030B

Accu Lab Batch# AL010622-1

Client sample ID					Tank 01	MS	MSD	RPD
Lab ID	MRL	Unit	MTH BLK	LCS	22-AL0106-4-1	22-AL0106-0-1	22-AL0106-0-1	22-AL0106-0-1
Matrix			Water	Water	Water	Liquid	Liquid	Liquid
Date Analyzed			1/6/2022	1/6/2022	1/6/2022	1/6/2022	1/6/2022	1/6/2022
Surrogate Recoveries								
Dibromofluoromethane			87%	85%	85%	81%	83%	
1,2-Dichloroethane-d4			82%	82%	78%	80%	80%	
Toluene-d8			99%	101%	96%	97%	99%	
4-Bromofluorobenzene			90%	89%	90%	88%	85%	

Acceptable Recovery Limits:
Surrogates/LCS *70-130%*
MS/MSD *65-135%*
Acceptable RPD limit: *30%*

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	Honolulu, HI, 96819	Date Sampled	1/4/2022
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Project Name	**Aptim Red Hill Hydrotest water**	Date Reported	1/7/2022
Client Project#	**303472-01**		
Project#	**X7**		

PAHs in Water by 8270D/3010C GC/MS-SIM

Accu Lab Batch# AL010622-5

Client sample ID				Tank 01		DUP	RPD
Lab ID	MRL	Unit	MTH BLK	22-AL0106-4-1	LCS/MS	LCS/MS	LCS/MS
Matrix			Water	Water	Water	Water	Water
Date Extracted			1/6/2022	1/6/2022	1/6/2022	1/6/2022	1/6/2022
Date Analyzed			1/7/2022	1/7/2022	1/7/2022	1/7/2022	1/7/2022
Naphthalene	0.05	ug/l	nd	7.4	115%	98%	16%
Acenaphthene	0.05	ug/l	nd	0.12	75%	79%	6%
Fluoranthene	0.05	ug/l	nd	nd	77%	76%	1%
Benzo(a)pyrene	0.025	ug/l	nd	nd	89%	87%	2%
Surrogate Recoveries							
2-Fluorobiphenyl			138%	119%	88%	90%	
Terphenyl-d14			108%	87%	76%	77%	

Acceptable Recovery Limits:

Surrogates/LCS	*50-150%*
MS/MSD	*50-150%*
Acceptable RPD Limit:	*15%*

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Kirkland WA 98034

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	Honolulu, HI, 96819	Date Sampled	1/4/2022
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	1/6/2022
Project Name	**Aptim Red Hill Hydrotest water**	Date Reported	1/7/2022
Client Project#	**303472-01**		
Project#	**X7**		

Polychlorinated Biphenyls in Water by EPA 8082A/3510C

Accu Lab Batch# AL010622-4

Client sample ID				Tank 01		DUP	RPD
Lab ID	MRL	Unit	MTH BLK	22-AL0106-4-1	LCS/MS	LCS/MS	LCS/MS
Matrix			Water	Water	Water	Water	Water
Date Extracted			1/6/2022	1/6/2022	1/6/2022	1/6/2022	1/6/2022
Date Analyzed			1/6/2022	1/6/2022	1/6/2022	1/6/2022	1/6/2022
A1016	0.10	ug/l	nd	nd			
A1221	0.10	ug/l	nd	nd			
A1232	0.10	ug/l	nd	nd			
A1242	0.10	ug/l	nd	nd			
A1248	0.10	ug/l	nd	nd			
A1254	0.10	ug/l	nd	nd			
A1260	0.10	ug/l	nd	nd	93%	94%	0.5%
A1262	0.10	ug/l	nd	nd			
Surrogate Recoveries							
Decachlorobiphenyl			99%	78%	99%	99%	
Tetrachloro-m-xylene			129%	127%	117%	119%	

Acceptable Recovery Limits:

Surrogates/LCS	*60-150%*
MS/MSD	*50-150%*
Acceptable RPD limit:	*30%*

CCU LABORATORY

12524 130th Lane NE
Kirkland WA 98034

Tel: (425) 214-5858
(425) 214-5868
Email: lisa@accu-lab.com
website: www.accu-lab.com

Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**22-AL0106-4**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	1/4/2022
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	1/6/2022
Project Name	**Aptim Red Hill Hydrotest water**	Date Reported	1/7/2022
Client Project#	**303472-01**		
Project#	**X7**		

Dissolved Metals in Water by EPA 6020B/EPA3005A

Accu Lab Batch# AL010622-10

Client sample ID					**Tank 01**	**MS**	**MSD**	**RPD**
Lab ID	MRL	Unit	MTH BLK	LCS	22-AL0106-4-1	22-AL0106-4-1	22-AL0106-4-1	22-AL0106-4-1
Matrix			Water	Water	Water	Water	Water	Water
Date Prepared			1/6/2022	1/6/2022	1/6/2022	1/6/2022	1/6/2022	1/6/2022
Date Analyzed			1/6/2022	1/6/2022	1/6/2022	1/6/2022	1/6/2022	1/6/2022
Antimony (Sb)	1.0	ug/l	nd	101%	1.7	82%	81%	0.5%
Arsenic (As)	5.0	ug/l	nd	104%	nd	111%	110%	1%
Beryllium (Be)	1.0	ug/l	nd	108%	nd	101%	100%	1%
Cadmium (Cd)	1.0	ug/l	nd	103%	nd	96%	96%	0.8%
Chromium (Cr)	2.0	ug/l	nd	104%	nd	97%	96%	1%
Copper (Cu)	5.0	ug/l	nd	104%	nd	88%	88%	0.5%
Lead (Pb)	1.0	ug/l	nd	112%	nd	101%	102%	1%
Nickle (Ni)	1.0	ug/l	nd	104%	7.6	95%	94%	1%
Selenium (Se)	2.0	ug/l	nd	102%	nd	100%	100%	0.2%
Silver (Ag)	2.0	ug/l	nd	100%	nd	88%	83%	6%
Thallium (Tl)	1.0	ug/l	nd	103%	nd	96%	97%	0.8%
Zinc (Zn)	5.0	ug/l	nd	104%	14	90%	91%	0.9%
Mercury (Hg)	0.20	ug/l	nd	99%	nd	88%	88%	0.9%
Barium (Ba)	5.0	ug/l	nd	103%	49	101%	94%	8%

Acceptable Recovery Limits:

LCS	*80-120%*
MS/MSD	*75-125%*
Acceptable RPD limit:	*20%*

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Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**22-AL0106-4**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	1/4/2022
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	1/6/2022
Project Name	**Aptim Red Hill Hydrotest water**	Date Reported	1/7/2022
	303472-01		
Project#	**X7**		

pH by SM4500-H+ B

Client sample ID	Accu Lab ID	Matrix	pH	Date Analyzed	Note
Tank 01	22-AL0104-6-1	Water	7.0	1/6/2022	

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Kirkland WA 98034

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website: www.accu-lab.com

Analytical Report

Client	Advanced Analytical Laboratory 544 Ohohia Street #10 Honolulu, HI, 96819	**Acculab WO#** Date Sampled	**22-AL0106-4** 1/4/2022
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	1/6/2022
Project Name	**Aptim Red Hill Hydrotest water**	Date Reported	1/7/2022
Client Project#	**303472-01**		
Project#	**X7**		

Data Qualifiers and Comments:

MRL- Method Reporting Limit
nd- Indicates the analyte is not detected at the listing reporting limit.
C- Coelution with other compounds.
M- % Recovery of surrogate, MS/MSD is out of the acceptable limit due to matrix effect.
B- Indicates the analyte is detected in the method blank associated with the sample.
J- The analyte is detected at below the reporting limit.
E- The result reported exceeds the calibration range, and is an estimate.
D- Sample required dilution due to matrix. Method Reporting Limits were elevated due to dilutions.
H- Sample was received or analyzed past holding time
Q- Sample was received with head space, improper preserved or above recommended temperature.
I- Due to insufficient sample, LCS/LCS DUP were analyzed in place of MS/MSD.
R- The recovery of this analyte in QC sample failed high, but the analyte was not detected in all related samples. No action was taken.
R-1- The RPD value for the MS/MSD was outside of QC acceptance limits however both recoveries were acceptable. All related samples were "nd". No action was taken.
R-2- The recovery of the surogate in sample failed high, but all related analytes were not detected in the sample. No action was taken.