

**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS**

ADDENDUM NO. 2

TO

**UST REMOVALS AND REPLACEMENTS WITH ASTS
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII
STATE PROJECT NO. AK1046-31**

June 7, 2024

This Addendum shall make the following amendments to the Solicitation:

A. SPECIFICATIONS

1. SECTION 02650 – UNDERGROUND STORAGE TANK CLOSURE

Delete page 02650-6 of SECTION 02650 – UNDERGROUND STORAGE TANK CLOSURE and replace it with the attached page 02650-6 of SECTION 02650 – UNDERGROUND STORAGE TANK CLOSURE, dated r6/7/2024.

2. SECTION 15193 – FUEL SYSTEMS

Delete page 15193-6 and 15193-7 of SECTION 15193 – FUEL SYSTEMS and replace them with the attached pages 15193-6 and 15193-7 of SECTION 15193 – FUEL SYSTEMS, dated r6/7/2024.

The following are provided for information:

B. RESPONSES TO REQUESTS FOR INFORMATION (RFI'S/QUESTIONS)

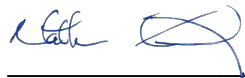
1. The attached Responses to Requests for Information (RFI's/Questions) is provided for information.

C. **ATTACHMENTS**

The following attachments are provided for information:

1. AK1046-31 Prebid Meeting Attendance Sheet
2. Copy of DOH Permit No. P-2016-352-R1
3. Copy of DOH Permit No. P-2016-353-R1
4. DWG NO. 112-31430-0321-M-1.01 FRS+ 6 Overall System Dimensions
5. FRS+ 6 Specifications

Please acknowledge receipt of this Addendum No. 2 by recording the date of its receipt in the space provided on Page P-4 of the Proposal Schedule.



NATHAN KANESHIGE
Engineering Program Manager

2.01 MATERIALS AND EQUIPMENT

- A. The Contractor shall provide the materials and equipment required to perform this work.

PART 3 – EXECUTION

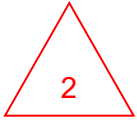
3.01 GENERAL REQUIREMENTS

- A. The QEP or a representative of the QEP shall be onsite at all times during UST system closure and removal work.
- B. Submit UST closure notification to Engineer, DOH, and HFD.
- C. Uncover, vent, and cut open UST.
- D. Clean interior of UST.
- E. Excavate and remove UST, piping, and ancillary equipment.
- F. Inspect interior and exterior of UST.
- G. Perform UST closure assessment, collect soil samples, and analyze soil samples in accordance with DOH UST closure requirements, standards, and TGM.
- H. Dispose of tank cleaning rinsate, UST, piping, and ancillary equipment in accordance with applicable federal, state, and county regulations.
- I. **Backfill removed UST pit excavation in accordance with Section 02210.**
- J. **Excavated Soil and fill materials from the removed UST pit excavation may be reused as backfill if no release of diesel fuel is identified, no sign of contamination (e.g., petroleum odor or staining) is observed in the excavated soil and fill materials that meet the requirements of Section 02210.**
- K. **If excavated soils and materials are to be reused as backfill at the site, they must be characterized in accordance with the DOTA EHE-EHMP.**
- L. Excavated soil and pea gravel may not be reused off-site.
- M. Dispose of excavated spoils (e.g., excavated pea gravel and soil) that are not reused to backfill the excavations.
- N. Excavated spoils that will be disposed of shall be characterized and disposed of in accordance with applicable federal, state,



- D. High-Efficiency Coalescer: Coalescer shall remove particulates 5 microns or less and shall have a water removal efficiency rate of 95% or more.
- E. Controls: Type 316 stainless steel, NEMA 4X controller enclosure. PLC Based with operator interface touch panel. Automatic pump and anti-siphoning solenoid valve controls based on user defined start/stop times programmed on 7-day, 24-hour time clock.

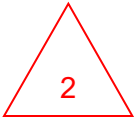
2.07 FUEL STORAGE MONITORING SYSTEM



- A. Aboveground storage tank monitoring system shall be Veeder-Root Model TLS-450 PLUS or approved equal, NEMA 4 enclosure with automatic tank gauging, integral printer with 5 spare rolls of printer paper, inventory probe, leak sensors, digital and analog outputs. All components of the system shall be provided by a single manufacturer.
- B. The control panel shall be constructed of UL listed, electronic components. The control panel power source shall be 120 volts A.C. The tank gauge probe and sensor monitoring circuits shall be intrinsically safe circuits. Panel shall incorporate self-test system, which will permit operator verification of proper operation of fuel monitoring equipment.
- C. The control panel shall include a power on light, audio and visual alarm indicator, alarm test functions, alarm dry contact and color touchscreen display. The system shall produce alarm signals for high or low tank levels and leak detection.
- D. The factory assembled, internal tank gauge probe shall be fitted to the tank and shall conduct monthly automatic tank gauging and testing.
- E. Tank basin space leak sensor shall be factory fabricated, with a two-wire cable long enough to locate the sensor at the bottom of the tank basin space. The sensor shall detect any liquid in the basin and trigger an alarm.
- F. Hydrostatic reservoir sensor shall be factory fabricated, with dual floats to detect high and low brine level conditions in the tank reservoir. The sensor shall trigger a high or low level alarm.
- G. Fuel Storage Monitoring Panel Exterior Enclosure: Enclosure shall be NEMA 4X, Type 316 stainless steel with a window to see fuel storage monitoring panel display.

2.08 FUEL STORAGE TANK ACCESSORIES

- A. Fill Connection: Provide fill line with an overfill protection device that automatically shuts off fuel supply into the tank when the tank is 95 percent full and shall enter at the top of the tank. Fill line shall extend to within 6-inches from the bottom of tank. From top of tank, fill line shall extend vertically and connect to a tight fit fill adapter with a locking-type cap. Tight fit fill adapter shall be bronze, fitted with a fluoroelastomer gasket suitable for fuel being provided.



- B. Suction Connection: Provide suction line located at the opposite end of tank from fill line. Suction line shall extend to within 6-inches from the bottom of the tank.
- C. Atmospheric Vent: Provide an atmospheric vent conforming to applicable requirement of NFPA 30. Vent pipe shall terminate at least 12 feet above grade or 2 feet above roofs of adjacent buildings and located so that discharged vapors will not enter building openings, under building eaves, or downspouts. Provide each tank storing products having a vapor pressure less than one psig with a flame arrestor and sized in accordance with NFPA 30.
- D. Emergency Tank Vents: Provide an emergency vent conforming to applicable requirement of NFPA 30 for the primary and secondary tanks.
- E. Tank Gauges: Provide each tank with a float-operated direct reading tank gauge. Provide means to wipe condensate (fogging) from viewing glass when reading gauge.
- F. Sounding Rod: Provide wood sounding rod of required length, evenly graduated and marked to read level of fuel remaining in tank in inches. Rod shall be seasoned maple or other close-grained wood. Tank end of rod shall have a non-sparking cap. Provide a chart showing tank capacity in U.S. gallons in 1/8-inch increments.
- G. Sounding Rod Connection: Weld a 12x12x1/4-inch thick striker plate directly below rod opening inside steel tanks.
- H. Dielectric Bushings: Provide nylon dielectric bushings on metallic piping connections to steel tanks.

2.09 DAY TANK PUMP SYSTEM



- A. Day tank with UL 142 rated double wall day tank, duplex supply pumps, manual supply pump, return pump, and controls. Capacity of the tank shall be as listed on the drawings. Floor mounted steel tank with internal level sensors, tank mounted pumps, pump controller, hand/off/auto switches, push to test button, status lights, automatic pump start/stop controls, pump overflow controls, manual pump alternating switch, and dry contact for alarm.
- B. The primary day tank pump shall automatically start and the anti-siphoning solenoid valve automatically open when the tank liquid drops below a preset low level. The pump shall stop and the valve close when it exceeds a preset high level. If the primary pump fails, the secondary pump shall start automatically and the anti-siphoning solenoid valve automatically open. High level, low level and any pump failure shall activate alarm light and alarm bell, and closure of dry contact.
- C. Fuel Filter / Water Separator: Fuel filter / water separator shall have a 10-micron screen.

UST REMOVALS AND REPLACEMENTS WITH ASTS

LIHUE AIRPORT

LIHUE, KAUAI, HAWAII

STATE PROJECT NO. AK1046-31

RESPONSES TO REQUEST FOR INFORMATION (RFI'S/QUESTIONS)

The following Requests for Information (RFI) were received.

1. **QUESTION:** Is there a pre-bid meeting attendees list available?

RESPONSE: Pre-bid meeting attendees list attached.

2. **QUESTION:** 15193 2.07 FUEL STORAGE MONITORING SYSTEM states: A. Underground storage tank monitoring system shall be Veeder-Root Model TLS- 450 PLUS or approved equal, NEMA 4 enclosure with automatic tank gauging, tank tightness testing, manway sump leak detection, tank interstitial space hydrostatic sensor, integral printer with 5 spare rolls of printer paper, inventory probe, leak sensors, digital and analog outputs. All components of the system shall be provided by a single manufacturer. Tank provided will be an AST. Tank tightness testing, manway sump leak detection, hydrostatic sensor are for USTs. Please confirm.

RESPONSE: Refer to revised Section 15193, Paragraph 2.07.A.

3. **QUESTION:** 15193, 2.08 states: E. Tank Gauges: Provide each tank with a float-operated direct reading tank gauge. Gauge shall have dual tapes and floats to allow reading product level and water level independently. I have not seen a dual float/tape direct read gauge in the petroleum industry. Veeder Root Mag Plus probes have water detect capabilities. Please delete dual float/tape.

RESPONSE: Refer to revised Section 15193, Paragraph 2.08.E.

4. **QUESTION:** 2.09 DAY TANK PUMP SYSTEM A. Day tank with UL 142 secondary containment dike. Double wall day tanks are the preferred method and provides more options in regards to manufacturers. Please conform double wall tanks are acceptable.

RESPONSE: Refer to revised Section 15193, Paragraph 2.09.A.

5. **QUESTION:** 2.09 DAY TANK PUMP SYSTEM A. Day tank with UL 142 secondary containment dike Simplex STS60 and STS100 are in M-001, Equipment Schedule. Simplex daytanks are double wall, not containment dikes.

RESPONSE: See response to item 4 (ref. revised Section 15193, paragraph 2.09.A.)

6. **QUESTION:** For bidding purposes about how many gallons of residual fuel is expected to be pumped out and disposed of for both 2,000 gallon diesel tank and 550 gallon diesel tank?

RESPONSE: The remaining fuel quantity is unknown. Contractor to use the information available and best judgement practices to estimate the residual/remaining quantity.

7. **QUESTION:** Can DOTA provide the boring logs and as-builts for the two USTs that need to be removed?

RESPONSE: Boring logs have not been generated. Section of UST can be found on reference drawings.

8. **QUESTION:** Can DOTA provide Fire Department Tank Permit and DOH permit for the two existing 2,000 gal. and 550-gal USTs?

RESPONSE: DOH permits are attached in lieu of Fire Department Tank Permits.

9. **QUESTION:** Section 15193-6 2.07 A and F Underground storage tank monitoring and hydrostatic reservoir. Are these a typo? Hydrostatic is usually for a UST application.

RESPONSE: See response to item 2 (ref. revised Section 15193, paragraph 2.07.A.)

10. **QUESTION:** Section 15193-9 3.01D diesel fuel provided by contractor. Due to the prices of fuel always changing, can DOTA provide fuel for new AST? DOTA must have a contract with an oil company to deliver fuel.

RESPONSE: Contractor shall fill the tank with #2 ultra-low sulfur diesel fuel as specified in Section 15193-9.3.01.D.

11. **QUESTION:** Section 15193-12 3.10 High Level Test Alarm Can we manually simulate and move sensors in position to simulate alarms in lieu of filling tank and emptying tank? This will save DOTA additional cost for a holding tank to drain fuel, transfer pump to transfer fuel, and labor.

RESPONSE: We take no exception to the proposed method of choice.

12. **QUESTION:** Section 15193-13 3.16 User Training Session Can a contractor certified technician provide training for fuel equipment instead of a manufacturer's representative? This will save cost for traveling expenses and labor for a manufacturer's representative to travel from the mainland to Hawaii.

RESPONSE: We take no exception to the proposed alternative.

13. **QUESTION:** Drawing M-102 Audio Visual Alarm (Remote Overfill Alarm) for AST. Recommend to install audio/visual alarm at northwest building wall so fuel tank delivery driver has a clear view of overfill alarm.

RESPONSE: We take no exception to the proposed alternative.

14. **QUESTION:** 15193 2.06 FUEL POLISHER A. Fuel polisher shall be furnished in a Type 316 stainless steel NEMA 4X enclosure with high-intensity stack light alarm, leak sensor, basket strainer, flow switch and secondary containment flanges. Fuel polisher shall be ultra-low-sulfur diesel fuel compatible. Please clarify what is flow switch? and secondary containment flanges?

RESPONSE: Refer to product data cut sheets for additional information.

15. **QUESTION:** What is the expected quantity of existing diesel fuel to remain in the USTs and daytanks?

RESPONSE: See response to RFI questions no. 6.

16. **QUESTION:** Is the existing diesel fuel from the USTs and daytanks to be disposed of or is it to be transferred into the new ASTs?

RESPONSE: Existing diesel fuel cannot be reused to fill new aboveground storage tanks.

17. **QUESTION:** Will temporary fuel be required during construction for the existing generators? If so, what quantity of temporary fuel is required?

RESPONSE: The contractor shall furnish, install, and maintain a temporary fuel system for each generator during the entire duration of the fuel system replacement work. Temporary fuels fuel system capacities shall be equivalent to or exceed the existing respective capacities of each fuel system being replaced. Disruptions to the operation of the fuel systems shall be minimized. All switch overs shall be executed based on an approved fuel system switchover plan, which shall maintain generator operation in case of a power outage.

18. **QUESTION:** What are the capacity sizes of the existing daytanks to be removed?

RESPONSE: The Terminal Generator Building has two 100-gallon day tanks. The Airfield Generator Building has one 50-gallon day tank.

19. **QUESTION:** For reuse of soil generated during UST excavation, will DOTA require analysis of all COPC listed in the DOTA EHE-EHMP or only those listed in the HEER Technical guidance manual Table 9-5?

RESPONSE: Soil generated during UST excavation will require analysis of all COPC

listed in the DOTA EHE-EHMP. Soil may not be reused off-site.

20. **QUESTION:** Specification Section 02650, Paragraph 3.01 I-K talks about backfilling UST excavation in accordance with Section 02225, reuse of pea gravel if no release is identified and it meets requirements of Section 02225 and reuse of excavated soil as backfill if it also meets the requirements of Section 02225 however there is no Section 02225 listed in the specifications. Specification Section 02210 (Earth Moving) defines soil materials and backfilling is this the section that the above is supposed to be referencing? Also, there is no requirements listed in Section 02210 to define pea gravel. Can pea gravel specs be added to confirm if any existing pea gravel can be reused as backfill material?

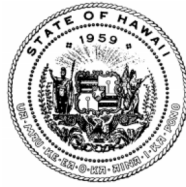
RESPONSE: Refer to revised Section 02650, Paragraph 3.01.

ONLINE MEETING ATTENDANCE SHEET
Pre-Bid Meeting

Project Name: UST Removal and Replacement Lihue Airport
 Project No. AK1046-31
 Meeting Location: TEAMS ONLINE
 Date: Wednesday May 1, 2024, 1:00 p.m.

Name: Maritez Marquez Title: Project Manager	Company: DOT - Airports Address:	Phone: (808) 838-8808 Fax: E-Mail: maritez.a.marquez@hawaii.gov
Name: Paul M. Nakasone Title: Project Manager	Company: DOT - Airports Address:	Phone: (808) 838-8807 Fax: E-Mail: paul.m.nakasone@hawaii.gov
Name: Neil Nakai, Inc. Title: Estimator	Company: Neil Nakai, Inc. Address: 1640 Kahai St.	Phone: (808) 848-1496 E-Mail: travis.nni@hawaiiantel.net
Name: Jake Shiraki Title: Project Manager	Company: B & K Address:	Phone: Fax: E-Mail: jshiraki@bowersandkubota.com
Name: Tod Deery Title: Project Manager	Company: ESI Address: 354 Uluniu Ave Kailua, Hawaii 96734	Phone: (510) 501-2467 Fax: E-Mail: tdeery@esciencei.com
Name: Dorn, Jeff Title: District Engineer	Company: DOT LIH Airports Address:	Phone: (808) 346-7382 Fax: E-Mail: jeff.dorn@hawaii.gov
Name: Bill Pierpont Title: Engineer	Company: B & K Address:	Phone: (808) 381-4336 Fax: E-Mail: wpierpont@bowersandkubota.com
Name: Jason Soriano Title: Project Manager	Company: Okahara Address:	Phone: Fax: E-Mail: jsoriano@okahara.com
Name: Jonathon Saunders Title:	Company: DOT LIH Airports Address:	Phone: Fax: E-Mail: jonathon.g.saunders@hawaii.gov
Name: Title:	Company: Address:	Phone: Fax: E-Mail:

DAVID Y. IGE
GOVERNOR OF HAWAII



ELIZABETH A. CHAR, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to:
File:

August 24, 2021

U0849RI

CERTIFIED MAIL NO. 7020 1290 0001 9982 2309
RETURN RECEIPT REQUESTED

Mr. Reid Kawane
Environmental Health Specialist
Department of Transportation, Airports Division
3901 Mokulele Loop #6
Lihue, Hawaii 96766

Dear Mr. Kawane:

SUBJECT: Application for Renewal of an Underground Storage Tank Permit
Lihue Airport, Baseyard and Terminal Emergency Generator
3901 Mokulele Loop #6, Lihue, Hawaii
Permit No. P-2016-352-R1
Facility ID No. 9-701778

The Hawaii Department of Health (DOH) has reviewed the completed application for renewal of an underground storage tank (UST) permit, which we received on December 15, 2020. The current permit (No. P-2016-352) was issued to the Department of Transportation, Airports Division (DOTA) as the owner and operator of one (1) 2,000-gallon and two (2) 4,000-gallon USTs at the subject facility.

According to your application, DOTA will remain as the owner and operator of the UST systems. Pursuant to §11-280.1-327, Hawaii Administrative Rules (HAR), the DOH has reviewed and hereby approves the application. The DOH has assigned an updated number to the renewed permit: P-2016-352-R1. Please note that the renewed permit is effective for the next five (5) years, until August 12, 2026.

Please review the permit carefully, and ensure that you and your employees, contractors, and consultants comply with Chapter 11-280.1, HAR, and Chapter 342L, Hawaii Revised Statutes, during the operation of the UST or tank systems at the facility. On all future correspondence with our office regarding this facility, please use the UST facility and/or tank ID number provided on this permit.

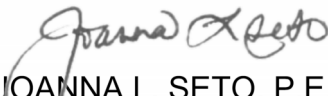
In addition, the enclosed permit and approved *Application for Renewal of an Underground Storage Tank Permit* must be maintained at the location of the UST or

Mr. Reid Kawane
August 24, 2021
Page 2

tank system for which the permit was issued and be made available for inspection upon request of any duly authorized representative of the DOH.

Should you have any questions, please contact Ms. Roxanne Kwan of the Solid and Hazardous Waste Branch at (808) 586-4226.

Sincerely,

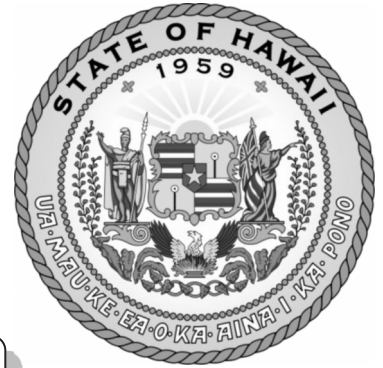

JOANNA L. SETO, P.E., CHIEF
Environmental Management Division

Enclosures: Permit No. P-2016-352-R1
Approved application for renewal of an underground storage tank
permit
Receipt for filing fee

c: Kauai Fire Prevention Bureau (w/permit only)

UNDERGROUND STORAGE TANK OPERATION PERMIT

HAWAII DEPARTMENT OF HEALTH
SOLID & HAZARDOUS WASTE BRANCH
2827 Waimano Home Road, #100
Pearl City, Hawaii 96782



PERMIT NO. P-2016-352-R1

PERMITTEE:
OWNER NAME AND ADDRESS:
Department of Transportation, Airports Division
3901 Mokulele Loop #6
Lihue, Hawaii 96766

EFFECTIVE DATE: Aug 13, 2021
EXPIRATION DATE: Aug 12, 2026
Renewal Application
must be received by: Feb 12, 2026

OPERATOR NAME AND ADDRESS:
Department of Transportation, Airports Division
3901 Mokulele Loop #6
Lihue, Hawaii 96766

This permit is issued under the provisions of Chapter 342L, Hawaii Revised Statutes (HRS), and Chapter 11-280.1, Hawaii Administrative Rules (HAR). The above-named permittee is hereby authorized to operate the underground storage tanks (USTs) shown below:

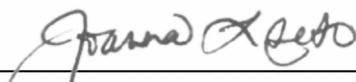
Facility Name: Lihue Airport, Baseyard and Terminal Emergency Generator
Facility Address: 3901 Mokulele Loop #6, Lihue, Hawaii 96766
Facility ID Number: 9-701778

Description of permitted USTs:

Tank ID No.	Capacity	Contents
M-5	2,000 gallons	Diesel
7	4,000 gallons	Gasoline (87)
8	4,000 gallons	Diesel

Subject to: Standard and Special Conditions

Acceptance of this permit constitutes an acknowledgment and agreement that the holder will comply with all rules, statutes, and orders of the Department of Health (DOH) and the conditions precedent to the granting of this permit.



(for) DIRECTOR OF HEALTH
State of Hawaii

This permit must be kept on-site and shall be made available for inspection upon request.

STANDARD CONDITIONS

1. Owners and operators are responsible for complying with all applicable requirements of Chapter 342L, HRS, and Chapter 11-280.1, HAR.
2. This permit does not limit the DOH's authority to inspect the tanks or facility or to bring an enforcement action for violations of Chapter 342L, HRS, or Chapter 11-280.1, HAR.
3. This permit may not be transferred without the express approval of the Director of Health.
4. The Director of Health may revoke or suspend this permit for any of the reasons listed in §11-280.1-330, HAR.
5. The owner and operator must apply for a permit modification to add USTs or tank systems to this permit.
6. If the renovation or modification of a UST would cause the UST to be out of compliance with this permit, the owner and operator must also submit an application to modify the permit.
7. This permit must be maintained at the location of the UST or tank system for which it was issued and be made available for inspection upon request of any duly authorized representative of the DOH.

Operation Requirements

Owners or operators must:

8. Ensure that releases due to spilling and overfilling do not occur.
9. Report, investigate, and clean up any spills and overfills in accordance with §11-280.1-53, HAR.
10. Ensure that releases due to corrosion are prevented.
11. Use a UST or tank system made of or lined with materials that are compatible with the substance stored.
12. Ensure that repairs will prevent releases due to structural failure and corrosion for as long as the UST or tank system is used to store regulated substances.
13. Ensure that spill and overfill prevention equipment and containment sumps that are part of interstitial monitoring for piping are operating properly and will prevent releases to the environment.
14. Provide a method, or combination of methods, of release detection that is installed, calibrated, operated, and maintained in accordance with §11-280.1-40, HAR.
15. Conduct periodic walkthrough inspections and maintenance in accordance with §§11-280.1-36 and 11-280.1-37, HAR.
16. Cooperate fully with inspections, monitoring, and testing conducted by the DOH, as well as requests by the DOH for document submission, monitoring, and testing by owners and operators.

Notification Requirements

Owners and operators must submit the following information to the DOH:

17. Notification for all USTs and tank systems as required by §342L-30, HRS, and §11-280.1-34, HAR.
18. Reports of all releases including suspected releases, spills and overfills, and confirmed releases.
19. Release response actions planned or taken.
20. Documentation of permanent closure or change-in-service within thirty (30) days after completion of work, in accordance with §11-280.1-71(e), HAR.

Miscellaneous Requirements

21. For each UST or tank system that is in use or temporarily out of use, owners and operators must designate a class A, class B, and class C operator trained in accordance with Chapter 11-280.1, HAR, Subchapter 10.
22. Owners or operators of petroleum USTs or tank systems must demonstrate financial responsibility for taking release response actions and for compensating third parties for bodily injury and property damage caused by accidental releases arising from the operation of petroleum USTs or tank systems in accordance with Chapter 11-280.1, HAR, Subchapter 8.

SPECIAL CONDITIONS

None

SOLID AND HAZARDOUS WASTE BRANCH

Underground Storage Tank Program

2827 Waimano Home Road #100 • Pearl City, Hawaii 96782

Phone: 808 - 586- 4226 • Fax: 808-586-7509 • http://health.hawaii.gov/shwb/underground-storage-tanks

DEC 15 2020

APPLICATION FOR RENEWAL OF AN UNDERGROUND STORAGE TANK PERMIT

Return completed form to:

Solid and Hazardous Waste Branch
Underground Storage Tank Program
2827 Waimano Home Road #100
Pearl City, Hawaii 96782

State Use Only

Date received: 12/15/2020

Date entered into computer: 7/19/2021

Data clerk's initials: RJ

Comments: APPROVED

Hawaii State Department of Health
Underground Storage Tank Section

Exp. 8/12/2021

Facility ID Number: 9-701778

Current Permit No.: P-2016-352

Updated Permit No.: P-2016-352-R1

Renewal Fee \$100

I. LOCATION OF TANK(S)

Lihue Airport, Baseyard and Terminal Emergency Generator

Reid Kawane

Facility Name or Company Site identifiers

Location Contact Person

3901 Mokulele Loop, #6 Lihue HI 96766 Kauai (4) 3-5-001:008
Location Address (P.O. Box NOT ACCEPTABLE) City State Zip Code Island Tax Map Key #

(808) 241-3904 (808) 241-3939
Location Phone # (w/ area code) Location Fax # (w/ area code)

II. CONTACT PERSON IN CHARGE OF TANK(S)

Reid Kawane Environmental Health Specialist
Name Job/Position Title

3901 Mokulele Loop, #6 Lihue HI 96766
Mailing Address City State Zip Code

(808) 241-3904 (808) 241-3939 reid.r.kawane@hawaii.gov
Phone # (w/ area code) Fax # (w/ area code) E-mail Address

III. OWNER OF TANK(S)

Department of Transportation, Airports Division
Owner Name (Corporation, Individual, Public Agency, or Other Entity)

3901 Mokulele Loop, #6 Lihue HI 96766
Mailing Address City State Zip Code

(808) 241-3904 (808) 241-3939 reid.r.kawane@hawaii.gov
Phone # (w/ area code) Fax # (w/ area code) E-mail Address

IV. OPERATOR OF TANK(S) (if same as Section III, check here)

Operator Name (Corporation, Individual, Public Agency, or Other Entity)

Mailing Address _____ City _____ State _____ Zip Code _____

Phone # (w/ area code) _____ Fax # (w/ area code) _____ E-mail Address _____

V. FINANCIAL RESPONSIBILITY (Check all that apply)

- Commercial Insurance
 Letter of Credit
 Local Government Bond Rating Test
 Financial Test of Self Insurance
 Surety Bond
 Other Method Allowed (Specify) _____
 Guarantee
 Trust Fund
 Exempt:
 State or
 Federal Agency

Checking one or more of the above boxes attests to the fact that the financial responsibility requirements in subchapter 8 of chapter 11-280.1, Hawaii Administrative Rules, are met using the selected mechanism(s) as of the date of the certification below.

VI. DESCRIPTION OF TANK(S) (Complete for each tank at this location)

Tank Number	Tank No. <u>M-5</u>	Tank No. <u>7</u>	Tank No. <u>8</u>	Tank No. _____	Tank No. _____
1. Date of Installation (mo/year)	02/1987	10/1990	10/1990		
2. Estimated Capacity (gallons)	2,000	4,000	4,000		
Compartmentalized? Yes/No	No	No	No		
Estimated compartment capacity (gallons)					
Manifolded? Yes/No	No	No	No		
3. Substance Stored					
A. Gasoline (Specify grade of product)		87			
B. Diesel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Gasohol (Including ethanol blends) Specify grade of product					
D. Kerosene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Used Oil / Waste Oil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. JP-4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Non-Petroleum Hazardous Substance (CERCLA name and/or CAS #)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Tank Number	Tank No. <u>M-5</u>	Tank No. <u>7</u>	Tank No. <u>8</u>	Tank No. _____	Tank No. _____
H. Mixture of Substances Please specify					
I. Other, please specify.					

Did you have any repairs since your last application? YES NO

If yes, please indicate the date of the repair and what action was taken:

- Tank M-5: 7/5/2018, Spill bucket replaced and tested
- Tank 7: 5/13/2020, New fill nozzle adapter and cap installed
- Tank 8: 5/13/2020, New fill nozzle adapter and cap installed
- Tank M-5: 5/13/2020, New 4 inch fill riser nipple connection installed

VII. OPERATOR'S CERTIFICATION (Read and sign after completing all sections)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Reid Kawane

Environmental Health Specialist

Name of operator or operator's authorized representative (Print or Type)

Official Title



12/04/2020

Signature

Date Signed

Status of Signatory (Mark as appropriate)

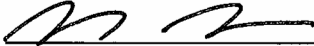
1. Corporation: principal executive officer
 duly authorized representative
2. Partnership: general partner
3. Sole proprietorship: proprietor
4. Government entity: principal executive officer
 ranking elected official
 duly authorized employee

VIII. OWNER'S CERTIFICATION (Read and sign after completing all sections)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Reid Kawane

Name of owner or owner's authorized representative (Print or Type)



Signature

Environmental Health Specialist

Official Title

12/04/2020

Date Signed

Status of Signatory (Mark as appropriate)

- 1. Corporation:
 - principal executive officer
 - duly authorized representative
- 2. Partnership:
 - general partner
- 3. Sole proprietorship:
 - proprietor
- 4. Government entity:
 - principal executive officer
 - ranking elected official
 - duly authorized employee



HARTCROWSER

Letter of Transmittal

To: State of Hawaii, Department of Health
Solid and Hazardous Waste Branch
Underground Storage Tank Program
2827 Waimano Home Road #100
Pearl City, HI 96782

Date: 12/15/2020

Job No.: 3100-002-002

Attn: Ms. Roxanne Kwan and Mr. Roy Ilaga

Re: Application for Renewal of an Underground Storage Tank Permit
Lihue Airport (LIH), Baseyard and Terminal Emergency Generator
Facility ID Number: 9-701778

We are sending the following items:

<i>Date</i>	<i>Copies</i>	<i>Description</i>
12/15/2020	1	Application for Renewal of an Underground Storage Tank Permit for P-2016-352

These are transmitted:

- For your information
 For action specified below
 For review and comment
 For your use
 As requested

Remarks

Facility ID Number: 9-701778.

By: Simone Simbeck 

Title: Senior Associate

HART CROWSER INC
500 ALA MOANA BLVD STE 7-240
HONOLULU, HI 96813

EZShield™ Check Fraud
Protection for Business
90-8758/1222

DATE 12/15/20

PAY TO THE
ORDER OF

STATE OF HAWAII

\$ 100.00

One hundred

DOLLARS



FOR Ust Permit Renewal - Facility ID
9-701778 (LHA Baseyard/Terminal)



[Handwritten Signature]

MP

Solid and Hazardous Waste Branch
Department of Health
2827 Waimano Home Road
Pearl City, Hawaii 96782

STATE OF HAWAII
OFFICIAL RECEIPT

No **65893**

Department or Agency

DATE: April 13, 2021

RECEIVED from Hart Crowser, Inc.

one hundred and 00/100

DOLLARS

Ust permit renewal for LHA Airport, Baseyard and Terminal Emergency
Generator (9-701778) P-2016-352-R1

\$ 100.00

[Handwritten Signature]
Authorized Signature

check no. 1106

Details on back
Security Features

DAVID Y. IGE
GOVERNOR OF HAWAII



ELIZABETH A. CHAR, M.D.
DIRECTOR OF HEALTH

**STATE OF HAWAII
DEPARTMENT OF HEALTH**

P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

August 24, 2021

U0850RI

**CERTIFIED MAIL NO. 7020 1290 0001 9982 2316
RETURN RECEIPT REQUESTED**

Mr. Reid Kawane
Environmental Health Specialist
Department of Transportation, Airports Division
3901 Mokulele Loop #6
Lihue, Hawaii 96766

Dear Mr. Kawane:

SUBJECT: Application for Renewal of an Underground Storage Tank Permit
Lihue Airport, Airfield Emergency Generator
3901 Mokulele Loop #6, Lihue, Hawaii
Permit No. P-2016-353-R1
Facility ID No. 9-702554

The Hawaii Department of Health (DOH) has reviewed the completed application for renewal of an underground storage tank (UST) permit, which we received on December 15, 2020. The current permit (No. P-2016-353) was issued to the Department of Transportation, Airports Division (DOTA) as the owner and operator of one (1) 550-gallon UST at the subject facility.

According to your application, DOTA will remain as the owner and operator of the UST system. Pursuant to §11-280.1-327, Hawaii Administrative Rules (HAR), the DOH has reviewed and hereby approves the application. The DOH has assigned an updated number to the renewed permit: P-2016-353-R1. Please note that the renewed permit is effective for the next five (5) years, until August 12, 2026.

Please review the permit carefully, and ensure that you and your employees, contractors, and consultants comply with Chapter 11-280.1, HAR, and Chapter 342L, Hawaii Revised Statutes, during the operation of the UST or tank systems at the facility. On all future correspondence with our office regarding this facility, please use the UST facility and/or tank ID number provided on this permit.

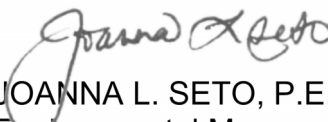
In addition, the enclosed permit and approved *Application for Renewal of an Underground Storage Tank Permit* must be maintained at the location of the UST or

Mr. Reid Kawane
August 24, 2021
Page 2

tank system for which the permit was issued and be made available for inspection upon request of any duly authorized representative of the DOH.

Should you have any questions, please contact Ms. Roxanne Kwan of the Solid and Hazardous Waste Branch at (808) 586-4226.

Sincerely,


JOANNA L. SETO, P.E., CHIEF
Environmental Management Division

Enclosures: Permit No. P-2016-353-R1
Approved application for renewal of an underground storage tank
permit
Receipt for filing fee

c: Kauai Fire Prevention Bureau (w/permit only)

UNDERGROUND STORAGE TANK OPERATION PERMIT

HAWAII DEPARTMENT OF HEALTH
SOLID & HAZARDOUS WASTE BRANCH
2827 Waimano Home Road, #100
Pearl City, Hawaii 96782



PERMIT NO. P-2016-353-R1

PERMITTEE:
OWNER NAME AND ADDRESS:
Department of Transportation, Airports Division
3901 Mokulele Loop #6
Lihue, Hawaii 96766

EFFECTIVE DATE: Aug 13, 2021
EXPIRATION DATE: Aug 12, 2026
Renewal Application
must be received by: Feb 12, 2026

OPERATOR NAME AND ADDRESS:
Department of Transportation, Airports Division
3901 Mokulele Loop #6
Lihue, Hawaii 96766

This permit is issued under the provisions of Chapter 342L, Hawaii Revised Statutes (HRS), and Chapter 11-280.1, Hawaii Administrative Rules (HAR). The above-named permittee is hereby authorized to operate the underground storage tank (UST) shown below:

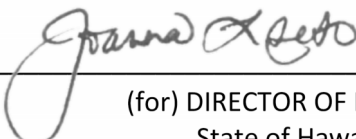
Facility Name: Lihue Airport, Airfield Emergency Generator
Facility Address: 3901 Mokulele Loop #6, Lihue, Hawaii 96766
Facility ID Number: 9-702554

Description of permitted UST:

Tank ID No.	Capacity	Contents
M-1	550 gallons	Diesel

Subject to: Standard and Special Conditions

Acceptance of this permit constitutes an acknowledgment and agreement that the holder will comply with all rules, statutes, and orders of the Department of Health (DOH) and the conditions precedent to the granting of this permit.



(for) DIRECTOR OF HEALTH
State of Hawaii

This permit must be kept on-site and shall be made available for inspection upon request.

STANDARD CONDITIONS

1. Owners and operators are responsible for complying with all applicable requirements of Chapter 342L, HRS, and Chapter 11-280.1, HAR.
2. This permit does not limit the DOH's authority to inspect the tanks or facility or to bring an enforcement action for violations of Chapter 342L, HRS, or Chapter 11-280.1, HAR.
3. This permit may not be transferred without the express approval of the Director of Health.
4. The Director of Health may revoke or suspend this permit for any of the reasons listed in §11-280.1-330, HAR.
5. The owner and operator must apply for a permit modification to add USTs or tank systems to this permit.
6. If the renovation or modification of a UST would cause the UST to be out of compliance with this permit, the owner and operator must also submit an application to modify the permit.
7. This permit must be maintained at the location of the UST or tank system for which it was issued and be made available for inspection upon request of any duly authorized representative of the DOH.

Operation Requirements

Owners or operators must:

8. Ensure that releases due to spilling and overfilling do not occur.
9. Report, investigate, and clean up any spills and overfills in accordance with §11-280.1-53, HAR.
10. Ensure that releases due to corrosion are prevented.
11. Use a UST or tank system made of or lined with materials that are compatible with the substance stored.
12. Ensure that repairs will prevent releases due to structural failure and corrosion for as long as the UST or tank system is used to store regulated substances.
13. Ensure that spill and overfill prevention equipment and containment sumps that are part of interstitial monitoring for piping are operating properly and will prevent releases to the environment.
14. Provide a method, or combination of methods, of release detection that is installed, calibrated, operated, and maintained in accordance with §11-280.1-40, HAR.
15. Conduct periodic walkthrough inspections and maintenance in accordance with §§11-280.1-36 and 11-280.1-37, HAR.
16. Cooperate fully with inspections, monitoring, and testing conducted by the DOH, as well as requests by the DOH for document submission, monitoring, and testing by owners and operators.

Notification Requirements

Owners and operators must submit the following information to the DOH:

17. Notification for all USTs and tank systems as required by §342L-30, HRS, and §11-280.1-34, HAR.
18. Reports of all releases including suspected releases, spills and overfills, and confirmed releases.
19. Release response actions planned or taken.
20. Documentation of permanent closure or change-in-service within thirty (30) days after completion of work, in accordance with §11-280.1-71(e), HAR.

Miscellaneous Requirements

21. For each UST or tank system that is in use or temporarily out of use, owners and operators must designate a class A, class B, and class C operator trained in accordance with Chapter 11-280.1, HAR, Subchapter 10.
22. Owners or operators of petroleum USTs or tank systems must demonstrate financial responsibility for taking release response actions and for compensating third parties for bodily injury and property damage caused by accidental releases arising from the operation of petroleum USTs or tank systems in accordance with Chapter 11-280.1, HAR, Subchapter 8.

SPECIAL CONDITIONS

None

SOLID AND HAZARDOUS WASTE BRANCH

Underground Storage Tank Program

2827 Waimano Home Road #100 • Pearl City, Hawaii 96782

DEC 15 2020

Phone: 808 - 586- 4226 • Fax: 808-586-7509 • http://health.hawaii.gov/shwb/underground-storage-tanks

APPLICATION FOR RENEWAL OF AN UNDERGROUND STORAGE TANK PERMIT

Return completed form to:

Solid and Hazardous Waste Branch
Underground Storage Tank Program
2827 Waimano Home Road #100
Pearl City, Hawaii 96782

State Use Only

12/15/2020

Date received:

7/19/2021

Date entered into computer:

RS

Data clerk's initials:

Comments:

APPROVED

Hawaii State Department of Health
Underground Storage Tank Section

Exp. 8/12/2021

Facility ID Number: 9-702554

Current Permit No.: P-2016-353

Updated Permit No.: P-2016-353-R1

Renewal Fee \$100

I. LOCATION OF TANK(S)

Lihue Airport, Airfield Emergency Generator

Reid Kawane

Facility Name or Company Site identifiers

Location Contact Person

3901 Mokulele Loop, #6 Lihue HI 96766 Kauai (4) 3-5-001:008
Location Address (P.O. Box NOT ACCEPTABLE) City State Zip Code Island Tax Map Key #

(808) 241-3904 (808) 241-3909
Location Phone # (w/ area code) Location Fax # (w/ area code)

II. CONTACT PERSON IN CHARGE OF TANK(S)

Reid Kawane Environmental Health Specialist
Name Job/Position Title

3901 Mokulele Loop, #6 Lihue HI 96766
Mailing Address City State Zip Code

(808) 241-3904 (808) 241-3909 reid.r.kawane@hawaii.gov
Phone # (w/ area code) Fax # (w/ area code) E-mail Address

III. OWNER OF TANK(S)

Department of Transportation, Airports Division
Owner Name (Corporation, Individual, Public Agency, or Other Entity)

3901 Mokulele Loop, #6 Lihue HI 96766
Mailing Address City State Zip Code

(808) 241-3904 (808) 241-3909 reid.r.kawane@hawaii.gov
Phone # (w/ area code) Fax # (w/ area code) E-mail Address

IV. OPERATOR OF TANK(S) (if same as Section III, check here)

Operator Name (Corporation, Individual, Public Agency, or Other Entity)

Mailing Address _____ City _____ State _____ Zip Code _____

Phone # (w/ area code) _____

Fax # (w/ area code) _____

E-mail Address _____

V. FINANCIAL RESPONSIBILITY (Check all that apply)

- Commercial Insurance
 Letter of Credit
 Local Government Bond Rating Test
 Financial Test of Self Insurance
 Surety Bond
 Other Method Allowed (Specify) _____
 Guarantee
 Trust Fund
 Exempt:
 State or
 Federal Agency

Checking one or more of the above boxes attests to the fact that the financial responsibility requirements in subchapter 8 of chapter 11-280.1, Hawaii Administrative Rules, are met using the selected mechanism(s) as of the date of the certification below.

VI. DESCRIPTION OF TANK(S) (Complete for each tank at this location)

Tank Number	Tank No. <input checked="" type="checkbox"/>	Tank No. _____	Tank No. _____	Tank No. _____	Tank No. _____
1. Date of Installation (mo/year)	08/1991				
2. Estimated Capacity (gallons)	550				
Compartmentalized? Yes/No	No				
Estimated compartment capacity (gallons)					
Manifolded? Yes/No	No				
3. Substance Stored					
A. Gasoline (Specify grade of product)					
B. Diesel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Gasohol (Including ethanol blends) Specify grade of product					
D. Kerosene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Used Oil / Waste Oil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. JP-4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Non-Petroleum Hazardous Substance (CERCLA name and/or CAS #)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Tank Number	Tank No. <u>M</u>	Tank No. <u> </u>	Tank No. <u> </u>	Tank No. <u> </u>	Tank No. <u> </u>
H. Mixture of Substances Please specify					
I. Other, please specify.					

Did you have any repairs since your last application? YES NO

If yes, please indicate the date of the repair and what action was taken:

2/2/2017 - Probe cable replacement

VII. OPERATOR'S CERTIFICATION (Read and sign after completing all sections)

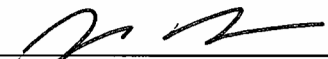
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Reid Kawane

Environmental Health Specialist

Name of operator or operator's authorized representative (Print or Type)

Official Title



12/04/2020

Signature

Date Signed

Status of Signatory (Mark as appropriate)

- 1. Corporation: principal executive officer
 duly authorized representative
- 2. Partnership: general partner
- 3. Sole proprietorship: proprietor
- 4. Government entity: principal executive officer
 ranking elected official
 duly authorized employee

VIII. OWNER'S CERTIFICATION (Read and sign after completing all sections)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Reid Kawane

Environmental Health Specialist

Name of owner or owner's authorized representative (Print or Type)

Official Title



12-04-2020

Signature

Date Signed

Status of Signatory (Mark as appropriate)

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 - general partner
- 3. Sole proprietorship:
 - proprietor
- 4. Government entity:
 - principal executive officer
 - ranking elected official
 - duly authorized employee



DEC 16 2020

Letter of Transmittal

To: State of Hawaii, Department of Health
Solid and Hazardous Waste Branch
Underground Storage Tank Program
2827 Waimano Home Road #100
Pearl City, HI 96782

Date: 12/15/2020

Job No.: 3100-002-002

Attn: Ms. Roxanne Kwan and Mr. Roy Ilaga

Re: Application for Renewal of an Underground Storage Tank Permit
Lihue Airport (LIH), Airfield UST
Facility ID Number: 9-702554

We are sending the following items:

<i>Date</i>	<i>Copies</i>	<i>Description</i>
12/15/2020	1	Application for Renewal of an Underground Storage Tank Permit for P-2016-353

These are transmitted:

For your information For action specified below For review and comment For your use As requested

Remarks

Facility ID Number: 9-702554.

By: Simone Simbeck

Title: Senior Associate

HART CROWSER INC
500 ALA MOANA BLVD STE 7-240
HONOLULU, HI 96813

EZShieldSM Check Fraud
Protection for Business
90-8758/1222

DATE 12/15/20

PAY TO THE
ORDER OF

STATE OF HAWAII

\$ 100.00

One hundred

DOLLARS



[Handwritten Signature]

FOR VST Permit Renewal - Facility ID#
9-702554 (LIH Airfield)

MP

Solid and Hazardous Waste Branch
Department of Health
2827 Waimano Home Road
Pearl City, Hawaii 96782
Department of Agency

STATE OF HAWAII
OFFICIAL RECEIPT

No 65890

DATE: April 13, 21 2021

RECEIVED from Hart Crowser, Inc.

one hundred and 00/100

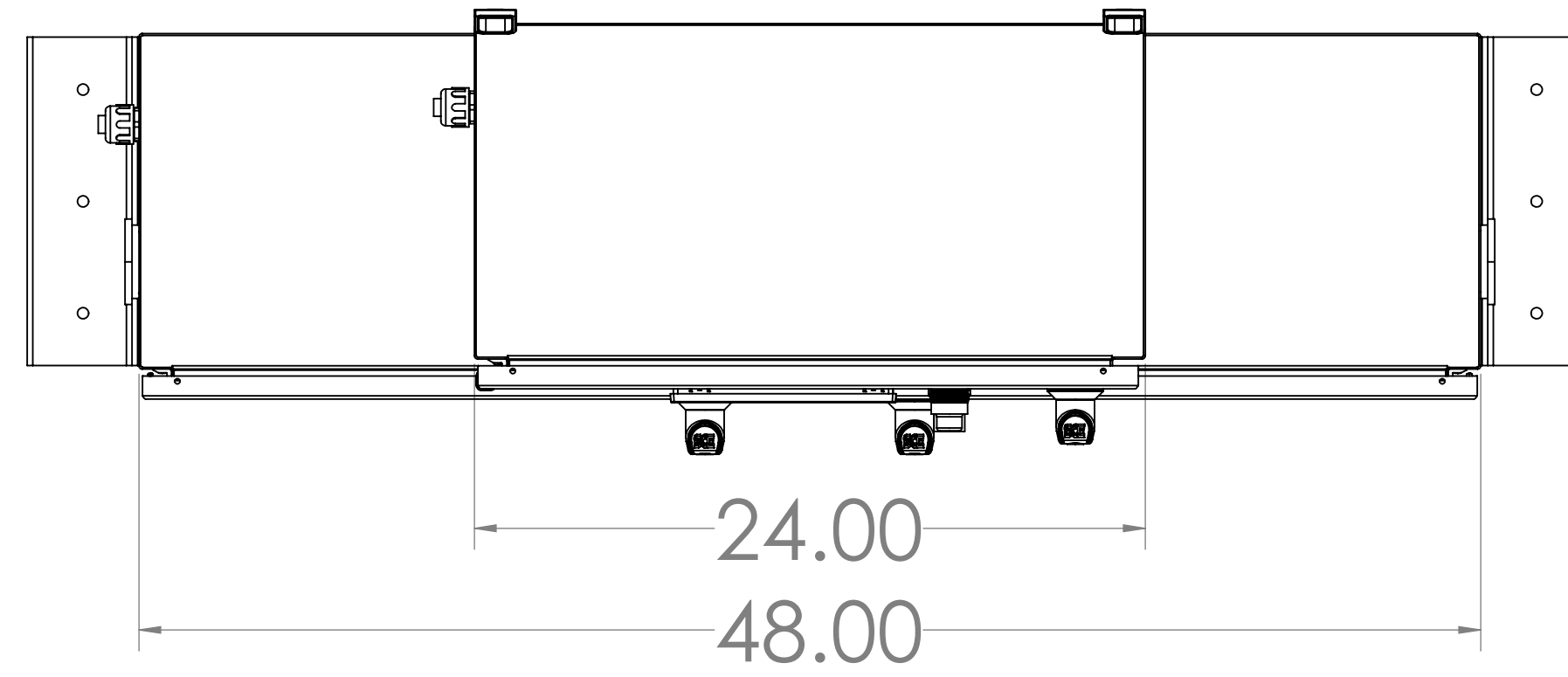
DOLLARS

VST permit renewal for Lihue Airport, Airfield Emergency Generator
(9-702554) P-2016-353-K1

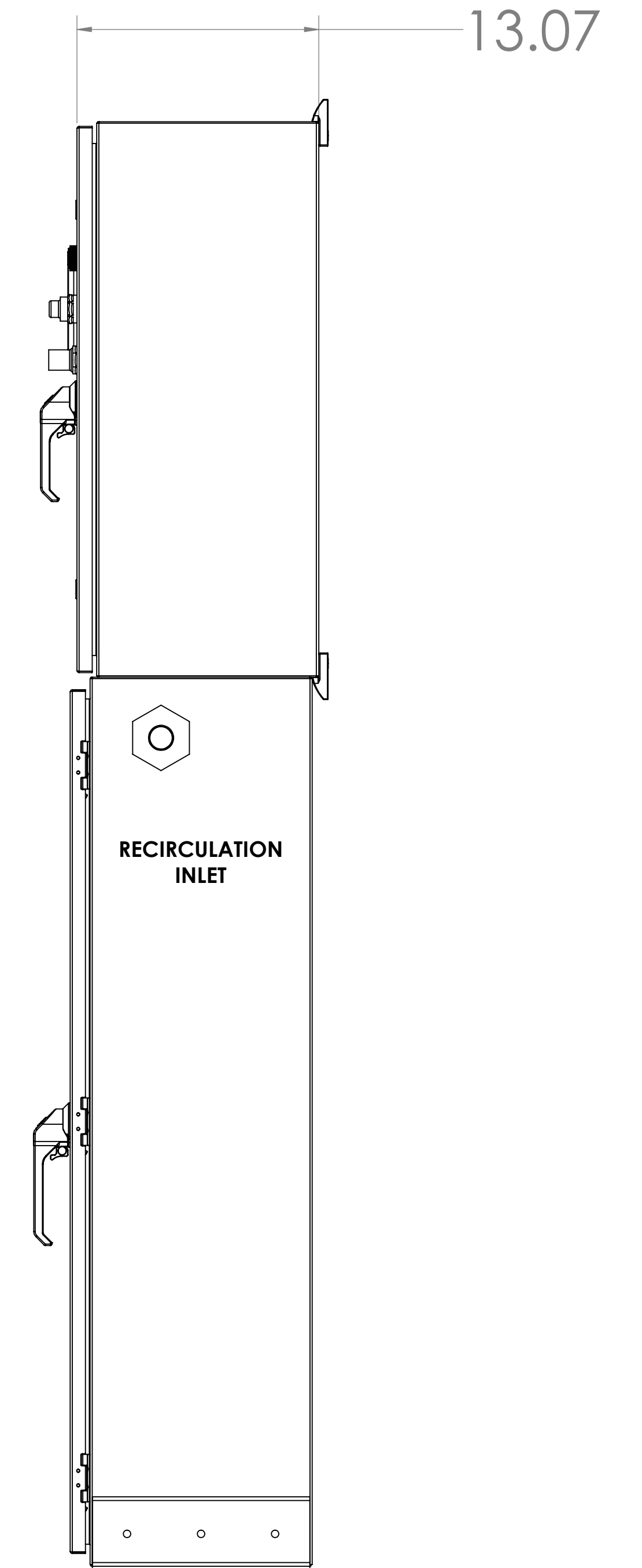
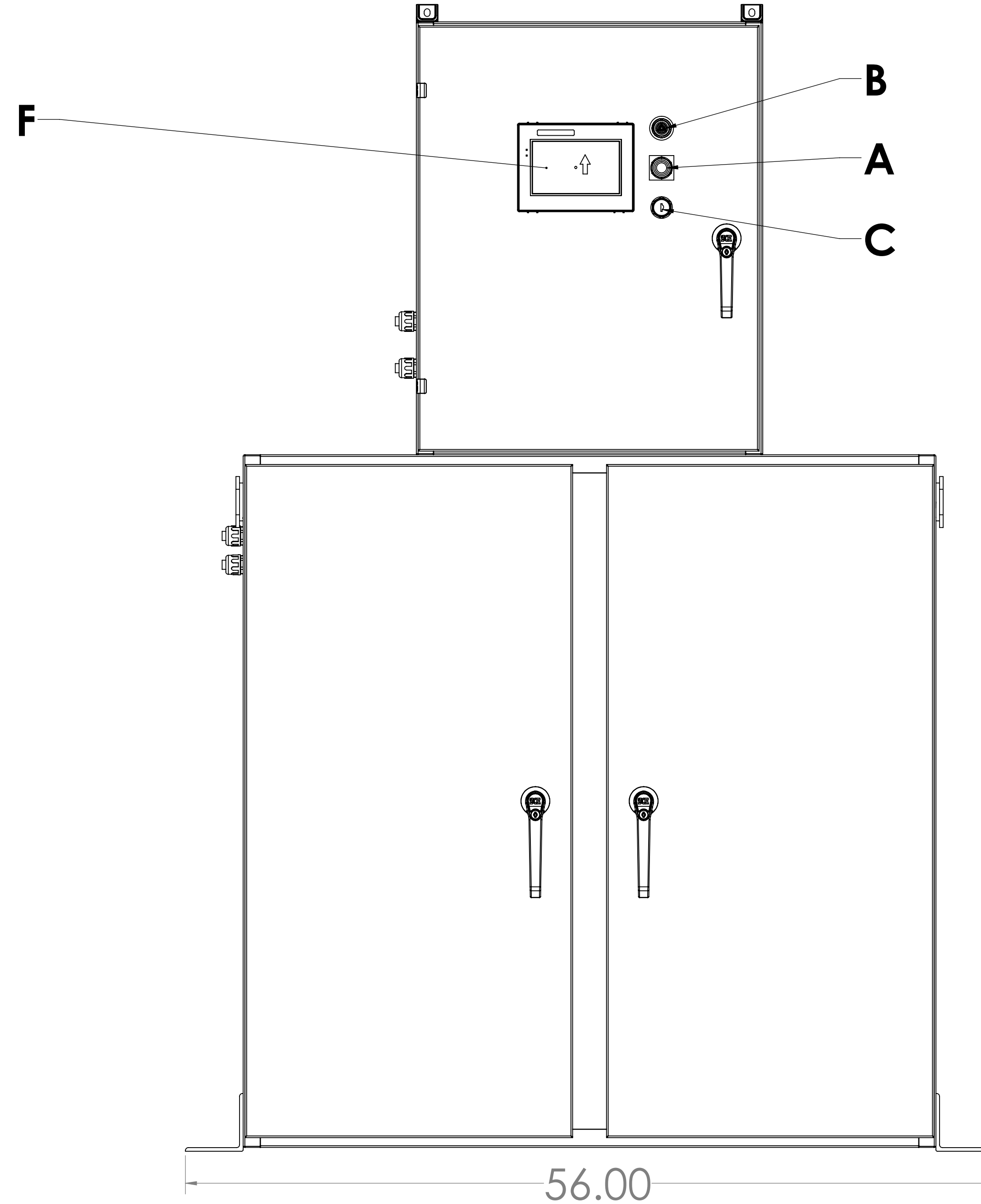
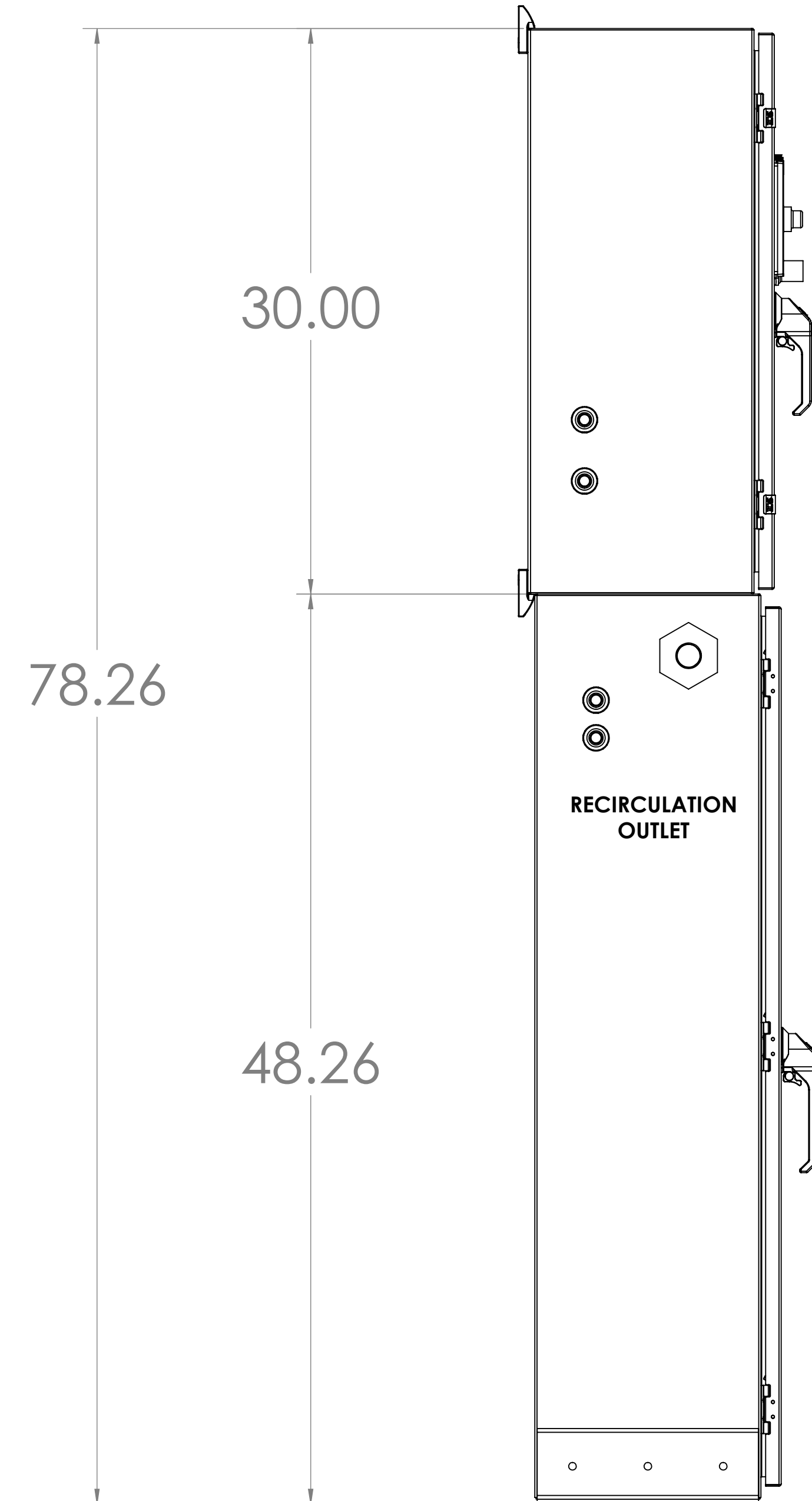
\$ 100.00
check no. 1107

[Handwritten Signature]
Authorized Signature

QTY	Parts List	REF
1	502-110-005	A
1	502-111-005	B
1	502-112-005	C
1	505-140-005	F



NOTE: UNLESS OTHERWISE SPECIFIED,
1. ALL DIMENSIONS ARE APPROXIMATE.



NO.	REVISION DESCRIPTION	REV BY	CHK BY	APP. BY	DATE
A6					



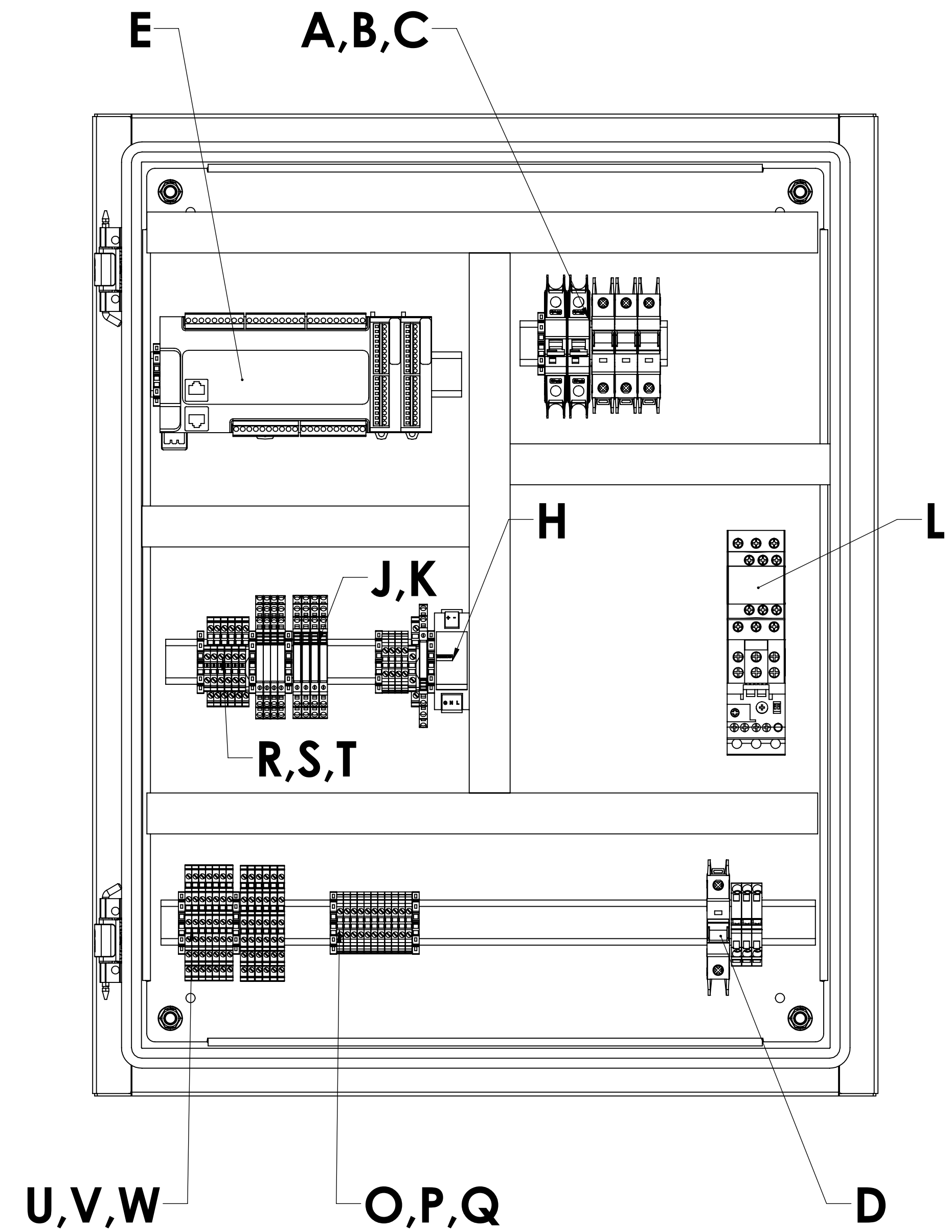
462 BORREGO COURT SUITE D.
SAN DIMAS, CA 91773
PHONE: (800) 868-2088 (909) 305-1241
www.rcitechnologies.com

UL 508A LISTED
MANUFACTURER

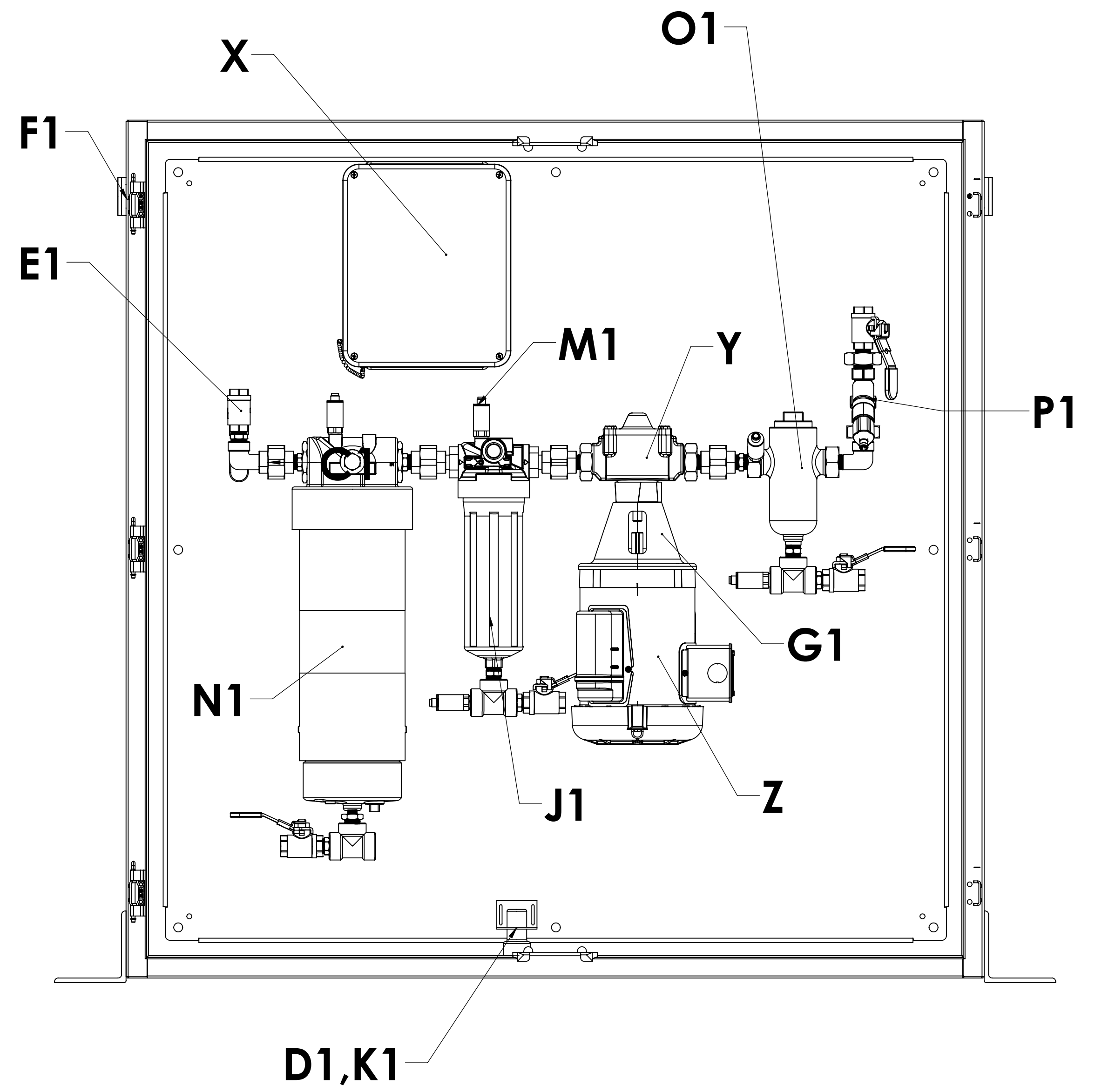
-CONFIDENTIAL-
NOT TO BE DISCLOSED, USED OR DUPLICATED
EXCEPT AS AUTHORIZED IN WRITING BY RCI TECHNOLOGIES

DR.	I.D. NO.:
DSGN.	PROJECT No. 3143
CK.	DWG. SCALE
AP.	PLOT SCALE
DATE 3/25/21	
SCC Ser. 112-31430	SHEET 1 OF 2

CUSTOMER	(for submittals)
TITLE	FRS+ 6 OVERALL SYSTEM DIMENSIONS
DWG. No.	112-31430-0321-M-1.01
REV. No.	A



QTY	Parts List	REF
1	503-120-005	A
1	503-121-005	B
1	503-121-005	C
1	503-122-005	D
1	504-130-005	E
1	507-160-005	H
5	510-190-005	J
1	510-191-005	K
1	512-211-005	F
1	512-210-005	G
1	511-200-005	L
12	513-220-005	O
4	513-221-005	P
3	513-222-005	Q
4	513-223-005	R
3	513-224-005	S
3	513-225-005	T
8	513-226-005	U
3	513-227-005	V
19	513-228-005	W
1	514-230-005	X
1	515-240-005	Y
1	516-250-005	Z
1	517-262-005	A1
1	517-263-005	B1
4	518-270-005	C1
1	519-280-005	D1
2	520-290-005	E1
2	521-300-005	F1
1	522-310-005	G1
2	523-321-005	H1
1	523-320-005	I1
1	524-330-005	J1
1	501-100-005	K1
2	501-101-005	L1
3	501-102-005	M1
1	525-340-005	N1
1	526-350-005	O1
1	527-360-005	P1
2	528-370-005	Q1
2	528-371-005	R1
1	506-158-005	S1



NO.	REVISION DESCRIPTION	REV BY	CHK BY	APP. BY	DATE


RCI Technologies
 462 BORREGO COURT SUITE D.
 SAN DIMAS, CA 91773
 PHONE: (800) 868-2088 (909) 305-1241
 www.rcitechnologies.com

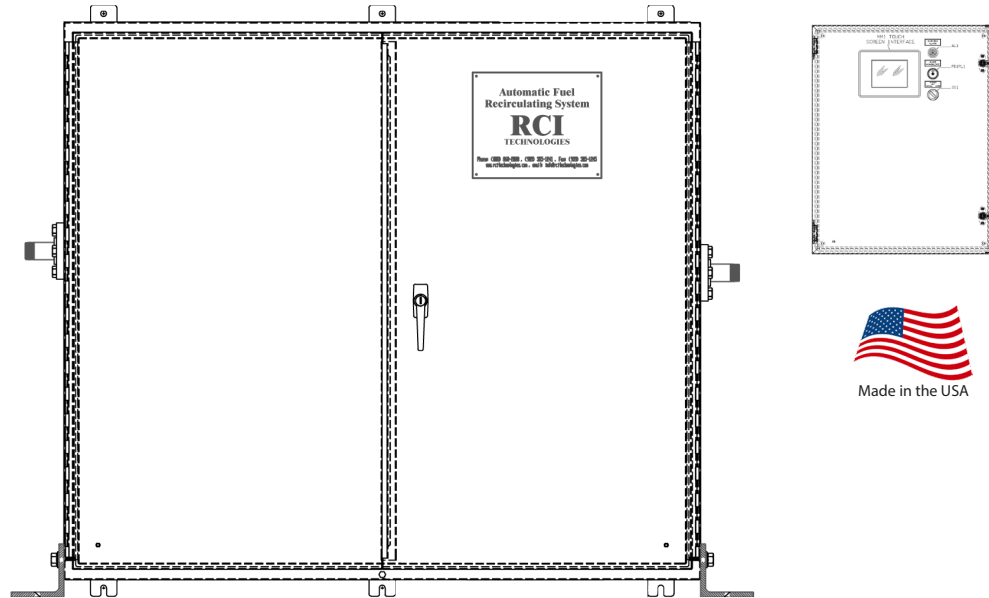
UL 508A LISTED MANUFACTURER

-CONFIDENTIAL-
 NOT TO BE DISCLOSED, USED OR DUPLICATED
 EXCEPT AS AUTHORIZED IN WRITING BY RCI TECHNOLOGIES

DR.	I.D. NO.:
DSGN.	PROJECT No. 3194
CK.	DWG. SCALE
AP.	PLOT SCALE
DATE 5/25/21	
RCI Ser. 114-31940	SHEET 2 OF 2

CUSTOMER	(for submittals)
TITLE	FRS+ 6 CONTROL/MECHANICAL DETAIL VIEW
DWG. No.	114-31940-0521-M-1.02
REV. No.	A

The FRS+ 6 Fuel Recirculating System automatically recirculates and polishes fuel at 6 gpm, for a single fuel storage tank on a preprogrammed schedule and is designed for use with ultra-low-sulfur diesel (ULSD) fuel. The FRS+ product line utilizes advanced filtration technology that includes a high-efficiency fuel filter and a three-phase fuel coalescer. Duplex pump units (DPU) and multi-tank units (MTU) are also available.



The system is PLC-based, with an operator interface touch panel that allows for system programming and alarm monitoring. Automatic controls are governed by a programmable 7-day, 24-hour real-time clock with user-definable start and stop times. There are four (4) alarm outputs: General Alarm, Programmable Alarm, High Water Level Alarm, and Catch Basin Leak Alarm.

The electronic controller is housed in a separate NEMA 4, key-lockable enclosure located outside of the primary system cabinet.

System Details

Standard Power	120V, 60Hz, 1Ph
Available Power Options	208/240V, 60Hz, 1Ph
Power Upgrades	208/240/380/480V, 50/60Hz, 3Ph
Max. Operating Pressure	Factory preset at 75 psi
Cabinet Dimensions	60" W x 48" H x 12" D
Cabinet Material	NEMA 4 powder-coated steel (white)
Cabinet Mounting	Wall or floor (mounting tabs included)

Filtration

Basket Strainer	100 mesh (150 micron nominal) simplex strainer
High-Efficiency Fuel Filter	IBF 35 (3 micron)
Particulate Removal (per ISO 16889)	3 micron Beta 1000 (1, 2, 5, 10, 25 options available)
Water Removal	n/a (optional water block down to 10 micron Beta 1000)
High-Efficiency Coalescer	IBC 30 (5 micron)
Particulate Removal (per ISO 16889)	5 micron Beta 1000 (3 micron option available)
Water Removal (per SAE J1488)	95% efficiency for free & emulsified water

Sensors and Gauges

Leak Sensor	Liquid Detection
Pressure Sensor	Analog Pressure Transducer
Water Sensor	Water-in-Fuel (x2)
Differential Pressure Sensors	Analog Pressure/Vacuum Gauges

Pump and Motor

Pump Type	Positive Displacement
Product to Pump	Ultra-Low-Sulfur Diesel
Pump Rate	6 gpm
Pump Housing	Ductile Iron
Pump Gears	Steel
Motor Horsepower	1/3 HP
Motor Enclosure	TEFC
Motor Frame	56C
Motor Duty	Continuous
Motor Type	Capacitor Start

Separate Electronic Controller

Controller Type	PLC, UL listed 508A
HM Interface	6" touchscreen
Enclosure Dimensions	30" H x 24" W x 12" D
Enclosure Material	NEMA 4 powder-coated steel (white)
Enclosure Location	External to primary system cabinet
Enclosure Mounting	Wall (top/side mounting brackets included)

Plumbing

Inlet/Outlet Manual Ball Valves	1/2" stainless steel (x2)
Unions	1/2" stainless steel (x3)
Flow Switch	>1 gpm setpoint

The FRS+ 6 is also available in the following styles: Duplex Pump (DPU) and Multi-Tank (MTU)

FRS+ 6-DPU (Duplex Pump Unit)

The FRS+ 6-DPU automatically recirculates and polishes fuel in a single storage tank using two alternating 6 gpm pumps and motors on a preprogrammed schedule, providing excellent back-up protection.

NOTE:

This option will increase cabinet width.

FRS+ 6-MTU (Multi-Tank Unit)

The FRS+ 6-MTU automatically recirculates and polishes fuel at 6 gpm in up to four storage tanks, on a preprogrammed schedule. All other FRS+ 6 specifications are applicable to this model, in addition to 1/2" automated ball valves (4 for two tanks, 6 for three tanks, 8 for four tanks).

A 115V actuator is used on brass automated ball valves rated at 600 WOG. It is constructed with a NEMA 4 protective cover.

(Supply side automated ball valve always closed.
Return side automated ball valve always open.)



ALL FRS UNITS ARE CYCLE- AND LEAK-TESTED FOR A MINIMUM OF 2 HOURS PRIOR TO SHIPPING.

	FRS	FRS+	mFRS+
Basket Strainer	OPTION	✓	✓
Bio-Mag (Decontamination Unit)	OPTION	OPTION	OPTION
Flow Switch	OPTION	✓	✓
Fuel Coalescer	-	✓	✓
Fuel Filter	✓	✓	✓
Fuel Filter with Water Block	OPTION	OPTION	OPTION
Fuel Purifier	✓	-	-
Differential Pressure Gauges - Electronic	OPTION	✓	✓
Differential Pressure Gauges - Mechanical	✓	-	-
Leak Float	✓	✓	✓
Leak Sensor	OPTION	OPTION	OPTION
Stainless-Steel Fittings	✓	✓	✓
Y-Strainer	✓	OPTION	OPTION
Integrated Particulate & Water Monitoring	-	-	✓
Engine Compatibility Recommendation	Tier I-III	Tier IV	Tier IV
Fluid Compatibility	ULSD*	ULSD*	ULSD*



*ULSD: Ultra-Low-Sulfur Diesel Fuel

Partial List of Options

CABINET

- High-Intensity Stack-Light Alarm
- Main Disconnect with Rotary Handle
- Mounting Legs
- Secondary Containment Flanges
- Stainless-Steel NEMA 4X Cabinet

COMPONENTS

- Y-Strainer
- Bio-Mag (Decontamination Unit)
- Water-Block Fuel Filter

COMMUNICATION

- BACnet Interface
- LON Communication
- Modbus RTU Interface
- Modbus TCP/IP Interface

HMI

- Internal Touchscreen
- Touchscreen Cover

SAFETY

- Hydrocarbon Waste Conversion Kit
- Universal Spill Kit

SYSTEM

- Automatic Drain with High Water Alarm & 15 gal. Waste Tank
- Auto/Manual Chemical Injection
- Fuel Transfer
- Automated Ball Valves
- Power Changes and Upgrades
- Thermostatically Controlled Internal Heater
- Thermostatically Controlled Ventilation Fan