

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION

GENERAL REQUIREMENTS, GENERAL PROVISIONS, TECHNICAL PROVISIONS

FOR

EWA & DH CONCOURSE ROADWAY IMPROVEMENTS PHASE 1

AT

DANIEL K. INOUE INTERNATIONAL AIRPORT

HONOLULU, OAHU, HAWAII

STATE PROJECT NO. AO1043-32
AIP PROJECT NO. 3-15-0005-XXX

September 2022

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION

PART 0 – GENERAL REQUIREMENTS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION

PART 0.A - BIDDING REQUIREMENTS

NOTICE TO BIDDERS
(Chapter 103D, HRS)

The receiving of SEALED BIDS for EWA & DH CONCOURSE ROADWAY IMPROVEMENTS PHASE 1, DANIEL K. INOUYE INTERNATIONAL AIRPORT, HONOLULU, OAHU, HAWAII STATE PROJECT NO. AO1043-32, AIP PROJECT NO. 3-15-0005-XXX will begin as advertised on October 3, 2022 in HiePRO. Bidders are to register and submit bids through HiePRO only. See the following HiePRO link for important information on registering: <https://hiepro.ehawaii.gov/welcome.html>.

Deadline to submit bids is Bid Opening Day, November 3, 2022 at 2:00 p.m. Hawaii Standard Time (HST). Bids received after said due date and time shall not be considered.

The GENERAL PROVISIONS dated 2016, applicable to this project are available at <http://hidot.hawaii.gov/administration/con/>.

The scope of work consists of the replacement of the Ewa Concourse 2nd and 3rd Level and the Diamond Head Concourse 2nd Level roadway concrete slabs (including reinforcement), replacement of leaking expansion joint waterproofing, replacement of roadway drains, and the removal of the decorative trellis. Also included is the demolition of concrete light pole columns and replacement of light fixtures along the 3rd Level roadways of both the Ewa and Diamond Head Concourses. Estimated construction cost is between \$20,000,000 and \$25,000,000.

To be eligible for award, bidders must possess a valid State of Hawaii General Engineering “A” license prior to the award of contract.

A pre-bid conference is scheduled for **October 10, 2022 at 10:00 a.m. Hawaii Standard Time (HST) on Microsoft Teams**. All prospective bidders or their representatives

(employees) are encouraged to attend, but attendance is not mandatory. Due to the impacts of COVID 19, the pre-bid meeting will be conducted virtually. All bidders that wish to attend must send an email indicating their interest to Ms. Valerie Sasuga, State Project Manager, at valerie.sh.sasuga@hawaii.gov. They will be added to the Microsoft Teams attendance list and will be sent an invitation email with a Microsoft Teams web-link and teleconference call-in number. This will allow each person to attend the pre-bid via the internet or they may call in. The deadline to sign up for the pre-bid conference is one (1) working day prior to the date of the pre-bid conference.

ALL requests for information (RFI) and substitution requests shall be received in writing in HiePRO no less than 17 calendar days before bid opening. Questions received after the deadline will not be addressed. Verbal requests for information will not receive a response. Anything said at the conference is for clarification purposes and any changes to the bid documents will be made by addendum and posted in HiePRO. Reference Special Provisions Section 2.7 for additional information regarding substitution requests.

Federal forms, located on Proposal pages P-12 through P-20, shall be submitted at the time of bid. Failure to submit these forms shall result in rejection of bid.

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

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

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

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

The U.S. Department of Transportation Regulations entitled "Participation by Disadvantaged Business Enterprise in Department of Transportation Financial Assistance Programs", Title 49, Code of Federal Regulations, Part 26 is applicable to this project. Bidders are hereby notified that the Department of Transportation will strictly enforce full compliance with all of the requirements of the Disadvantaged Business Enterprise (DBE) program with respect to this project.

Bidders are directed to read and be familiar with the DBE Requirements, which establishes the program requirements pursuant to Title 49 Code of Federal Regulations Part 26 and, particularly, the requirements of certification, method of award, and evidence of good faith. All Bidders must e-mail the State Project Manager at valerie.sh.sasuga@hawaii.gov, the Disadvantaged Business Enterprise (DBE) Contract Goal Verification and Good Faith Efforts (GFE) Documentation for Construction, the Disadvantaged Business Enterprise (DBE) Confirmation and Commitment Agreement – Trucking Company, and the Disadvantaged Business Enterprise (DBE) Confirmation and Commitment Agreement –

Subcontractor, Manufacturer, or Supplier by the close of business, 4:30 p.m. Hawaii Standard Time (HST), November 8, 2022. Failure to provide these documents shall be cause for bid/proposal rejection.

For additional information, contact Valerie Sasuga, Project Manager, by phone at (808) 838-8824, by fax at (808) 838-8751, or email at valerie.sh.sasuga@hawaii.gov.

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



JADE T. BUTAY
Director of Transportation

Posted:

INSTRUCTIONS FOR CONTRACTOR'S LICENSING

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION

PART 0.B - BIDDING DOCUMENTS TO BE SUBMITTED WITH BID

**PROPOSAL TO THE
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION**

PROJECT: EWA & DH CONCOURSE ROADWAY IMPROVEMENTS PHASE 1
DANIEL K. INOUE INTERNATIONAL AIRPORT
HONOLULU, OAHU, HAWAII

PROJECT NO.: AO1043-32

COMPLETION TIME: SIXTY (60) Calendar days for pre-construction activities followed by;

TWO HUNDRED SEVENTY-FIVE (275) additional calendar days for construction activities, whereby;

All work under this contract shall be completed within THREE HUNDRED THIRTY-FIVE (335) calendar days from the date indicated in the Notice to Proceed from the Department.

DBE PROJECT GOAL: 0.4%

LIQUIDATED DAMAGES: Refer to Section 8.8 of the Special Provisions in these specifications

PROJECT MANAGER: Valerie Sasuga
Department of Transportation Airports Division
400 Rodgers Boulevard, Suite 700
Honolulu, HI 96819-1880
Email: valerie.sh.sasuga@hawaii.gov
Phone: 808-838-8824

Director of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Sir:

The undersigned Bidder declares the following:

1. It has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal.
2. It has not been assisted or represented on this matter by any individual who has, in a State capacity, been involved in the subject matter of this contract within the past two years.
3. It has not and will not, either directly or indirectly offered or given a gratuity (i.e.. an entertainment or gift) to any State or County employee to obtain a contract or favorable treatment under a contract.
4. It will not maintain for its employees any segregated facilities at any of its establishments.
5. Does not and will not permit its employees to perform their services at any location under its control, where segregated facilities are maintained.

The undersigned Bidder further agrees to the following:

1. If this proposal is accepted, it shall execute a contract with the Department to provide all necessary labor, machinery, tools, equipment, apparatus and any other means of construction, to do all the work and to furnish all the materials specified in the contract in the manner and within the time therein prescribed in the contract, and that it shall accept in full payment therefore the sum of the unit and/or lump sum prices as set forth in the attached proposal schedule for the actual quantities of work performed and materials furnished and furnish satisfactory security in accordance with Section 103D-324, Hawaii Revised Statutes, within 10 days after the award of the contract or within such time as the Director of Transportation may allow after the undersigned has received the contract documents for execution, and is fully aware that non-compliance with the aforementioned terms will result in the forfeiture of the full amount of the bid guarantee required under Section 1032D-323, Hawaii Revised Statutes.
2. That the quantities given in the attached proposal schedule are approximate only and are intended principally to serve as a guide in determining and comparing the bids.

3. That the Department does not either expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work, or to omit portions of the work, as may be deemed necessary or advisable by the Director of Transportation, and that all increased or decreased quantities of work shall be performed at the unit prices set forth in the attached proposal schedule except as provided for in the specifications.
4. In case of a discrepancy between unit prices and the totals in said Proposal Schedule, the unit prices shall prevail.
5. Unless amended by Special Provision, agrees to begin work within 10 working days after the date of notification to commence with the work, which date is in the notice to proceed, and shall finish the entire project within the time prescribed.
6. The Director of Transportation reserves the right to reject any or all bids and to waive any defects when in the Director's opinion such rejections or waiver will be for the best interest of the public.

The Bidder acknowledges receipt of and certifies that it has completely examined the following listed items: Hawaii Standard Specifications for Road and Bridge Construction, 2005, and/or the General Provisions for Construction Projects for AIR and WATER Transportation Facilities Division dated 2016, as applicable, the Notice to Bidders, Special Provisions, Proposal, Contract, Bond Forms, and Project Plans.

In accordance with Section 103D-323, Hawaii Revised Statutes, this proposal is accompanied with a bid security in the amount of 5% of the total amount bid, in the form checked below. (Check applicable bid security submitted with bid.)

_____ Surety Bid Bond (Use standard form),

_____ Cash,

_____ Cashier's Check,

_____ Certified Check, or

_____ (Fill in other acceptable security.)

The undersigned Bidder acknowledges receipt of any addendum issued by the Department by recording in the space below the date of receipt.

Addendum No. 1 _____

Addendum No. 3 _____

Addendum No. 2 _____

Addendum No. 4 _____

In accordance with Section 103D-302, Hawaii Revised Statutes, the undersigned as Bidder, has listed the name of each person or firm who will be engaged by the Bidder on the project as a Subcontractor or Joint Contractor and the nature of work to be done by each on the following page. The Bidder must adequately and unambiguously disclose the unique nature and scope of the work to be performed by each Subcontractor or Joint Contractor. For each listed firm, the Bidder declares the respective firm is a Subcontractor or Joint Contractor and is subject to evaluation as a Subcontractor or Joint Contractor. It is understood that failure to comply with the aforementioned requirements may be cause for rejection of the bid submitted.

The undersigned Bidder asserts that affirmative action has been taken to seek out and consider Disadvantaged Business Enterprises (DBEs) for portions of the work which can be subcontracted, and the affirmative actions of the Bidder are fully documented in its records and are available upon request by the Department. It is also understood that it must meet or exceed the DBE contract goal listed on page P-1 or demonstrate that it made good faith efforts to meet the DBE project goal. The undersigned as Bidder agrees to utilize each participating DBE that it submitted to meet the contract goal of _____ % (percentage to be completed by Bidder) DBE participation if the contract is awarded to it, and shall maintain such DBE participation during the construction of this project.

SUBCONTRACTOR LISTING
(Attach additional sheets if necessary.)

NAME OF FIRM	NATURE OF WORK
SUBCONTRACTOR:	
1. _____	_____
1a ¹ . _____	_____
2. _____	_____
2a. _____	_____
3. _____	_____
3a. _____	_____
4. _____	_____
4a. _____	_____
5. _____	_____
5a. _____	_____
6. _____	_____
6a. _____	_____
7. _____	_____
7a. _____	_____

NOTES:

The Name of Firm and Nature of Work shall be indicated for all listed firms. The Bidder must adequately and unambiguously disclose the unique nature and scope of the work to be performed by each Sub- or Joint Contractor.

For each listed firm, the Bidder declares the respective firm is a Sub- or Joint Contractor and subject to evaluation as a Sub- or Joint Contractor.

¹ Second tier subcontractors

JOINT CONTRACTOR LISTING

(Attach additional sheets if necessary.)

NAME OF FIRM	NATURE OF WORK
JOINT CONTRACTOR:	
1. _____	_____
1a ¹ . _____	_____
2. _____	_____
2a. _____	_____
3. _____	_____
3a. _____	_____
4. _____	_____
4a. _____	_____
5. _____	_____
5a. _____	_____
6. _____	_____
6a. _____	_____
7. _____	_____
7a. _____	_____

NOTES:

The Name of Firm and Nature of Work shall be indicated for all listed firms. The Bidder must adequately and unambiguously disclose the unique nature and scope of the work to be performed by each Sub- or Joint Contractor.

For each listed firm, the Bidder declares the respective firm is a Sub- or Joint Contractor and subject to evaluation as a Sub- or Joint Contractor.

¹ Second tier joint contractors

The undersigned hereby certifies that the bid prices contained in the attached proposal schedule have been carefully checked and are submitted as correct and final.

This declaration is made with the understanding that the undersigned is subject to the penalty of perjury under the laws of the United States and is in violation of the Hawaii Penal Code, Section 710-1063, unsworn falsification to authorities, of the Hawaii Revised Statutes, for knowingly rendering a false declaration.

Bidder (Company Name)

Authorized Signature

Title

Business Address

Business Telephone

Email

Date

Contact Person (If different from above.)

Phone: _____ Email: _____

NOTE:

If Bidder is a CORPORATION, the legal name of the corporation shall be set forth above, the corporate seal affixed, together with the signature(s) of the officer(s) authorized to sign contracts for the corporation. Please attach to this page current (not more than six months old) evidence of the authority of the officer(s) to sign for the corporation.

If Bidder is a PARTNERSHIP, the true name of the partnership shall be set forth above, with the signature(s) of the general partner(s). Please attach to this page current (not more than six months old) evidence of the authority of the partner authorized to sign for the partnership.

If Bidder is an INDIVIDUAL, the bidder's signature shall be placed above.

If signature is by an agent, other than an officer of a corporation or a partner of a partnership, a **POWER OF ATTORNEY** must be on file with the Department before opening bids or submitted with the bid. Otherwise, the Department may reject the bid as irregular and unauthorized.

**EWA & DH CONCOURSE ROADWAY IMPROVEMENTS PHASE I
DANIEL K. INOUE INTERNATIONAL AIRPORT
HONOLULU, OAHU, HAWAII
STATE PROJECT NO. AO1043-32
AIP PROJECT NO. 3-15-0005-XX**

PROPOSAL SCHEDULE

Item No.	Description	Approx. Quantity	Unit	Unit Price	Total
<u>I. General Requirements</u>					
01561.1	Construction Site Runoff Program	L.S.	L.S.		\$
<u>II Site Work</u>					
02222.2	Selective Demolition	L.S.	L.S.		\$
02577	Pavement Marking	L.S.	L.S.		\$
<u>III. Concrete</u>					
03300.1	Ewa Concourse Second Level Roadway Deck Replacement	L.S.	L.S.		\$
03300.2	DH Concourse Second Level Roadway Deck Replacement	L.S.	L.S.		\$
03730.1	Included Spall Repair for Third Level Roadway Deck	2,332	S.F.	\$	\$
03730.2	Curb Spall Repair	476	L.F.	\$	\$
<u>IV. Thermal and Moisture Protection</u>					
07680.1	Ewa Concourse Second Level Roadway Overlay	48,352	S.F.	\$	\$
07680.2	DH Concourse Second Level Roadway Overlay	29,847	S.F.	\$	\$
07680.3	Ewa Concourse Third Level Roadway Overlay	36,909	S.F.	\$	\$

V. Mechanical

15400	Plumbing	L.S.	L.S.	\$
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VI. Electrical

16500.1	Ewa and DH Concourse Exterior Lighting	L.S.	L.S.	\$
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VII. Allowances

01562.1	Management of Contaminated Medias	Allowance	Allowance	\$ 50,000
01565.1	Security Measures	Allowance	Allowance	\$ 80,000
02222.1	Unforeseen Demolition Conditions	Allowance	Allowance	\$ 50,000
03730.3	Structural Slab Spall Repairs	Allowance	Allowance	\$ 250,000
13282.1	RCRA Hazardous Waste Disposal	Allowance	Allowance	\$ 50,000

TOTAL AMOUNT FOR COMPARISON OF BIDS \$ _____

The bid prices herein shall include all labor, materials, equipment, and incidentals necessary to construct all items in place, including installation and testing of equipment, complete and ready for operation, all in accordance with the plans and specifications.

Notes:

1. Bid shall include all Federal, State, County and other applicable taxes.
2. The TOTAL AMOUNT FOR COMPARISON OF BIDS will be used to determine the lowest responsible bidder.
3. Bidders must complete all unit prices and amounts. Failure to do so may be grounds for rejection of bid.
4. If a discrepancy occurs between the unit price and the total, the unit price shall govern.
5. The State reserves the right to reject any or all Bids and to waive any defects in said Bids in the best interest of the State.
6. Submission of a Bid is a warranty that the bidder has made an examination of the project site and is fully aware of all conditions to be encountered in performing the work and the requirements of the plans and specifications.
7. The bidder's attention is directed to Section 2.11 – BID SECURITY and Section 2.24 – REQUIREMENTS OF CONTRACT BONDS of the “General Provisions”, as amended by the Special Provisions.
8. Bidders shall be paid for actual work performed as directed by the Engineer for allowance items. Bidder will not be paid overhead and profit for unused allowance funds.

9. If the TOTAL AMOUNT FOR COMPARISON OF BIDS exceeds the funds available for the project, then the State reserves the right to negotiate with the lowest, responsive, responsible bidder as permitted under Section 103D-302, Hawaii Revised Statutes (HRS), to further reduce the scope of work and award a contract thereafter.
10. Proposal Sheets P-1 through P-20 shall be submitted at the time of bid. Failure to submit all pages shall result in rejection of bid.

SURETY BID BOND

Bond No. _____

KNOW TO ALL BY THESE PRESENTS:

That we, _____
(full name or legal title of offeror)

as Offeror, hereinafter called the Principal, and

(name of bonding company)

as Surety, hereinafter called Surety, a corporation authorized to transact business as a
Surety in the State of Hawaii, are held and firmly bound unto

(State/county entity)

as Owner, hereinafter called Owner, in the penal sum of

(required amount of bid security)

Dollars (\$ _____), lawful money of the United States of America,
for the payment of which sum well and truly to be made, the said Principal and the said
Surety bind ourselves, our heirs, executors, administrators, successors and assigns, jointly
and severally, firmly by these presents.

WHEREAS:

The Principal has submitted an offer for

(project by number and brief description)

NOW, THEREFORE:

The condition of this obligation is such that if the Owner shall reject said offer, or in
the alternate, accept the offer of the Principal and the Principal shall enter into a contract
with the Owner in accordance with the terms of such offer, and give such bond or bonds
as may be specified in the solicitation or Contract Documents with good and sufficient
surety for the faithful performance of such Contract and for the prompt payment of labor
and material furnished in the prosecution thereof as specified in the solicitation then this
obligation shall be null and void, otherwise to remain in full force and effect.

Signed this _____ day of _____,

Name of Principal (Offeror) (Seal)

Signature

Title

Name of Surety (Seal)

Signature

Title

BB-1

r11/17/98

BIDDER'S STATEMENT ON PREVIOUS CONTRACTS
SUBJECT TO EEO CLAUSES

The Bidder shall complete the following statement by checking the appropriate blanks:

The Bidder has ____ has not ____ participated in a previous contract subject to the equal opportunity clause prescribed by Executive Order 11246, as amended, of September 24, 1965.

The Bidder has ____ has not ____ submitted all compliance reports in connection with any such contract due under the applicable filing requirements; and that representations indicating submission of required compliance reports signed by proposed subcontractors will be obtained prior to award of subcontracts.

If the Bidder has participated in a previous contract subject to the equal opportunity clause and has not submitted compliance reports due under applicable filing requirements, the Bidder shall submit a compliance report on Standard Form 100, "Employee Information Report EEO-I" prior to award of the contract (*).

NOTE: Failure to complete the blanks may be grounds for rejecting the bid.

Signature

(Name of Bidder)

Date

(Name & Title Signing Official)

Business Address _____

PROHIBITION OF SEGREGATED FACILITIES

- (a) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Employment Opportunity clause in this contract.
- (b) “Segregated facilities,” as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.
- (c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Employment Opportunity clause of this contract.

Date

Signature

Company Name

Title

CERTIFICATION REGARDING LOBBYING

The Bidder or Offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.
4. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Signed: _____ Dated: _____

Company's Authorized Representative

Typed Name and Title of Authorized Representative

TRADE RESTRICTION CERTIFICATION

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror –

1. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (USTR);
2. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the USTR; and
3. has not entered into any subcontract for any product to be used on the Federal project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18 USC Section 1001.

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to an Offeror or subcontractor:

1. who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR or
2. whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list or
3. who incorporates in the public works project any product of a foreign country on such USTR list.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The Contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by USTR, unless the Offeror has knowledge that the certification is erroneous.

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration (FAA) may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

Signature

(Name of Bidder)

Date

(Name & Title Signing Official)

Business Address

CERTIFICATE OF BUY AMERICAN COMPLIANCE FOR MANUFACTURED PRODUCTS

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with their proposal. The bidder or offeror must indicate how they intend to comply with 49 USC § 50101 by selecting one on the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (not both) by inserting a checkmark (✓) or the letter “X”.

- Bidder or offeror hereby certifies that it will comply with 49 USC § 50101 by:
- a) Only installing steel and manufactured products produced in the United States;
 - b) Installing manufactured products for which the Federal Aviation Administration (FAA) has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or
 - c) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

1. To provide to the Owner evidence that documents the source and origin of the steel and manufactured product.
2. To faithfully comply with providing U.S. domestic product.
3. To furnish U.S. domestic product for any waiver request that the FAA rejects
4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

- The bidder or offeror hereby certifies it cannot comply with the 100 percent Buy American Preferences of 49 USC § 50101(a) but may qualify for either a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:

1. To submit to the Owner within 15 calendar days of the bid opening, a formal waiver request and required documentation that supports the type of waiver being requested.
2. That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination may result in rejection of the proposal.
3. To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.
4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 3 Waiver – The cost of the item components and subcomponents produced in the United States is more than 60 percent of the cost of all components and subcomponents of the “item”. The required documentation for a Type 3 waiver is:

- a) Listing of all product components and subcomponents that are not comprised of 100 percent U.S. domestic content (Excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition

Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).

- b) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly at place of manufacture.
- c) Percentage of non-domestic component and subcomponent cost as compared to total “item” component and subcomponent costs, excluding labor costs associated with final assembly at place of manufacture.

Type 4 Waiver – Total cost of project using U.S. domestic source product exceeds the total project cost using non-domestic product by 25 percent. The required documentation for a Type 4 of waiver is:

- a) Detailed cost information for total project using U.S. domestic product
- b) Detailed cost information for total project using non-domestic product

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date

Signature

Company Name

Title

**CERTIFICATION OF OFFEROR/BIDDER REGARDING TAX DELINQUENCY AND
FELONY CONVICTIONS**

The applicant must complete the following two certification statements. The applicant must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (✓) in the space following the applicable response. The applicant agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications

1. The applicant represents that it is () is not () a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

2. The applicant represents that it is () is not () is not a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that further action is not required to protect the Government’s interests. The applicant therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify the FAA Airports District Office, which will then notify the agency’s SDO to facilitate completion of the required considerations before award decisions are made.

Term Definitions

Felony conviction: Felony conviction means a conviction within the preceding twenty-four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 U.S.C. § 3559.

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

Date

Signature

Company Name

Title

CERTIFICATION OF OFFEROR/BIDDER REGARDING DEBARMENT

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

The successful bidder, by administering each lower tier subcontract that exceeds \$25,000 as a “covered transaction”, must verify each lower tier participant of a “covered transaction” under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: <http://www.sam.gov>.
2. Collecting a certification statement similar to the Certification of Offeror /Bidder Regarding Debarment, above.
3. Inserting a clause or condition in the covered transaction with the lower tier contract.

If the Federal Aviation Administration later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

Date

Signature

Company Name

Title

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION

PART 0.C - WAGE RATES

Requirements of Chapter 104, HRS

Wages and Hours of Employees on Public Works Law

Chapter 104, HRS, applies to every public works construction project over \$2,000, regardless of the method of procurement or financing (purchase order, voucher, bid, contract, lease arrangement, warranty, SPRB).

Rate of Wages for Laborers and Mechanics

- Minimum prevailing wages (basic hourly rate plus fringe benefits), as determined by the Director of Labor and Industrial Relations and published in wage rate schedules, shall be paid to the various classes of laborers and mechanics working on the job site. [§104-2(a), (b), Hawaii Revised Statutes (HRS)]
- If the Director of Labor determines that prevailing wages have increased during the performance of a public works contract, the rate of pay of laborers and mechanics shall be raised accordingly. [§104-2(a) and (b), HRS; §12-22-3(d) Hawaii Administrative Rules (HAR)]

Overtime

- Laborers and mechanics working on a Saturday, Sunday, or a legal holiday of the State or more than eight hours a day on any other day shall be paid overtime compensation at not less than one and one-half times the basic hourly rate plus the cost of fringe benefits for all hours worked. If the Director of Labor determines that a prevailing wage is defined by a collective bargaining agreement, the overtime compensation shall be at the rates set by the applicable collective bargaining agreement [§§104-1, 104-2(c), HRS; §12-22-4.1, HAR]

Weekly Pay

- Laborers and mechanics employed on the job site shall be paid their full wages at least once a week, without deduction or rebate, except for legal deductions, within five working days after the cutoff date. [§104-2(d), HRS]

Posting of Wage Rate Schedules

- Wage rate schedules with the notes for prevailing wages and special overtime rates, shall be posted by the contractor in a prominent and easily accessible place at the job site. A copy of the entire wage rate schedule shall be given to each laborer and mechanic employed under the contract, except when the employee is covered by a collective bargaining agreement. [§104-2(d), HRS]

Withholding of Accrued Payments

- If necessary, the contracting agency may withhold accrued payments to the contractor to pay to laborers and mechanics employed by the contractor or subcontractor on the job site any difference between the wages required by the public works contract or specifications and the wages received. [§104-2(e), HRS]

Certified Weekly Payrolls and Payroll Records

- A certified copy of all payrolls shall be submitted weekly to the contracting agency. [§104-3(a), HRS; §12-22-10, HAR]
- The contractor is responsible for the submission of certified copies of the payrolls of all subcontractors. The certification shall affirm that the payrolls are correct and complete, that the wage rates listed are not less than the applicable rates contained in the applicable wage rate schedule, and that the classifications for each laborer or mechanic conform with the work the laborer or mechanic performed. [§104-3(a), HRS; §12-22-10, HAR]
- Payroll records shall be maintained by the contractor and subcontractors for three years after completion of construction. The records shall contain: [§104-3(a), HRS; §12-22-10, HAR]
 - the name and home address of each employee
 - the last four digits of social security number
 - a copy of the apprentice's registration with DLIR
 - the employee's correct classification
 - rate of pay (basic hourly rate + fringe benefits)
 - itemized list of fringe benefits paid
 - daily and weekly hours worked
 - weekly straight time and overtime earnings
 - amount and type of deductions
 - total net wages paid
 - date of payment
- Records shall be made available for inspection by the contracting agency, the Department of Labor and Industrial Relations (DLIR), or any of its authorized representatives, who may also interview employees during working hours on the job. [§§104-3(c), 104-22(a), HRS; §12-22-10, HAR]

Termination of Work on Failure to Pay Wages

- If the contracting agency finds that any laborer or mechanic employed on the job site by the contractor or any subcontractor has not been paid prevailing wages or overtime, the contracting agency may, by written notice to the contractor, terminate the contractor's or subcontractor's right to proceed with the work or with the part of the work in which the required wages or overtime compensation have not been paid. The contracting agency may complete this work by contract or otherwise, and the contractor or contractor's sureties shall be liable to the contracting agency for any excess costs incurred. [§104-4, HRS]

Apprentices and Trainees

- Apprentice wage rates apply to contractors who are a party to a bona fide apprenticeship program which has been registered with the DLIR. In order to be paid apprentice, apprentices must be parties to an agreement either registered with or recognized as a USDOL nationally approved apprenticeship program by the DLIR, Workforce Development Division, (808) 586-8877, and the apprentice must be individually registered by name with the DLIR. [§12-22-6(1) and (2), HAR]
- The number of apprentices on any public work in relation to the number of journeyworkers in the same craft classification as the apprentices employed by the same employer on the same public work may not exceed the ratio allowed under the apprenticeship standards registered with or recognized by the DLIR. A registered or recognized apprentice receiving the journeyworker rate will not be considered a journeyworker for the purpose of meeting the ratio requirement. [§12-22-6(3), HAR]

Enforcement

- To ensure compliance with the law, DLIR and the contracting agency will conduct investigations of contractors and subcontractors. If a contractor or subcontractor violates the law, the penalties are: [§104-24, HRS]
 - First Violation Equal to 25% of back wages found due or \$250 per offense up to \$2,500, whichever is greater.
 - Second Violation Equal to amount of back wages found due or \$500 for each offense up to \$5,000, whichever is greater.
 - Third Violation Equal to two times the amount of back wages found due or \$1,000 for each offense up to \$10,000, whichever is greater; and
 - **Suspension** from doing any new work on any public work of a governmental contracting agency for three years.
 - A violation would be deemed a second violation if it occurs within two years of the **first notification of violation**, and a third violation if it occurs within three years of **the second notification of violation**. [§104-24, HRS; §12-22-25(b), HAR]
 - **Suspension:** For a first or second violation, the department shall immediately suspend a contractor who fails to pay wages or penalties until all wages and penalties are paid in full. For a third violation, the department shall penalize and suspend the contractor as described above, **except that if the contractor continues to violate the law, then the department shall immediately suspend the contractor for a mandatory three years. The contractor shall remain suspended until all wages and penalties are paid in full.** [§§104-24, 104-25, HRS]
- **Suspension:** Any contractor who fails to make payroll records accessible or provide requested information within 10 days, or fails to keep or falsifies any required record, shall be assessed a penalty including suspension as provided in Section 104-22(b) and 104-25(a)(3), HRS. [§104-3(c), HRS; §12-22-26, HAR]
- If any contractor interferes with or delays any investigation, the contracting agency shall withhold further payments until the delay has ceased. Interference or delay includes failure to provide requested records or information within ten days, failure to allow employees to be interviewed during working hours on the job, and falsification of payroll records. The department shall assess a penalty of \$10,000 per project, and \$1,000 per day thereafter, for interference or delay. [§104-22(b), HRS; §12-22-26, HAR]
- Failure by the contracting agency to include in the provisions of the contract or specifications the requirements of Chapter 104, HRS, relating to coverage and the payment of prevailing wages and overtime, is not a defense of the contractor or subcontractor for noncompliance with the requirements of this chapter. [§104-2(f), HRS]



For additional information, visit the department's website at <http://labor.hawaii.gov/wsd> or contact any of the following DLIR offices:

- Oahu (Wage Standards Division)(808) 586-8777
- Hawaii Island.....(808) 322-4808
- Maui and Kauai(808) 243-5322

STATE OF HAWAII WAGE RATE SCHEDULE

(Not Physically Included in bid Documents)

FEDERAL WAGE RATES

Superseded General Decision Number: HI20210001

State: Hawaii

Construction Types: Building, Heavy (Heavy and Dredging), Highway and Residential

Counties: Hawaii Statewide.

BUILDING CONSTRUCTION PROJECTS; RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family homes and apartments up to and including 4 stories); HEAVY AND HIGHWAY CONSTRUCTION PROJECTS AND DREDGING

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number	Publication Date
0	01/07/2022
1	01/14/2022
2	02/18/2022
3	02/25/2022
4	03/04/2022
5	03/11/2022
6	03/18/2022
7	03/25/2022
8	04/15/2022
9	07/08/2022
10	08/19/2022
11	08/26/2022
12	09/02/2022
13	09/09/2022

ASBE0132-001 06/05/2022

Rates Fringes

Asbestos Workers/Insulator
 Includes application of
 all insulating materials,
 protective coverings,
 coatings and finishes to
 all types of mechanical
 systems. Also the
 application of
 firestopping material for
 wall openings and
 penetrations in walls,
 floors, ceilings and
 curtain walls.....\$ 42.80 25.85

 BOIL0627-005 01/01/2021

Rates Fringes

BOILERMAKER.....\$ 37.25 31.25

 BRHI0001-001 08/30/2021

Rates Fringes

BRICKLAYER
 Bricklayers and Stonemasons.\$ 46.46 30.43
 Pointers, Caulkers and
 Weatherproofers.....\$ 46.71 30.43

 BRHI0001-002 08/30/2021

Rates Fringes

Tile, Marble & Terrazzo Worker
 Terrazzo Base Grinders.....\$ 42.59 32.57
 Terrazzo Floor Grinders
 and Tenders.....\$ 41.04 32.57
 Tile, Marble and Terrazzo
 Workers.....\$ 44.40 32.57

 CARP0745-001 10/01/2021

Rates Fringes

Carpenters:

Carpenters; Hardwood Floor Layers; Patent Scaffold Erectors (14 ft. and over); Piledrivers; Pneumatic Nailers; Wood Shinglers and Transit and/or Layout Man.....	\$ 51.25	24.84
Millwrights and Machine Erectors.....	\$ 51.50	24.84
Power Saw Operators (2 h.p. and over).....	\$ 51.40	24.84

 CARP0745-002 10/01/2021

Rates Fringes

Drywall and Acoustical Workers and Lathers.....	\$ 51.50	24.84
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 ELEC1186-001 08/22/2022

Rates Fringes

Electricians:		
Cable Splicers.....	\$ 60.51	30.90
Electricians.....	\$ 53.55	30.69
Telecommunication worker....	\$ 34.94	13.69

 ELEC1186-002 08/22/2022

Rates Fringes

Line Construction:		
Cable Splicers.....	\$ 60.51	30.90
Groundmen/Truck Drivers.....	\$ 40.16	25.34
Heavy Equipment Operators...	\$ 48.20	28.43
Linemen.....	\$ 53.55	30.69
Telecommunication worker....	\$ 34.94	13.69

 ELEV0126-001 01/01/2022

Rates Fringes

ELEVATOR MECHANIC.....	\$ 65.33	36.885+a+b
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a. VACATION: Employer contributes 8% of basic hourly rate for 5 years service and 6% of basic hourly rate for 6 months to 5 years service as vacation pay credit.

b. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday after Thanksgiving Day and Christmas Day.

 ENGI0003-002 09/03/2018

Rates Fringes

Diver (Aqua Lung) (Scuba)		
Diver (Aqua Lung) (Scuba) (over a depth of 30 feet)...	\$ 66.00	31.26
Diver (Aqua Lung) (Scuba) (up to a depth of 30 feet)..	\$ 56.63	31.26
Stand-by Diver (Aqua Lung)		

(Scuba).....	\$ 47.25	31.26
Diver (Other than Aqua Lung)		
Diver (Other than Aqua Lung).....	\$ 66.00	31.26
Diver Tender (Other than Aqua Lung).....	\$ 44.22	31.26
Stand-by Diver (Other than Aqua Lung).....	\$ 47.25	31.26
Helicopter Work		
Airborne Hoist Operator for Helicopter.....	\$ 45.80	31.26
Co-Pilot of Helicopter.....	\$ 45.98	31.26
Pilot of Helicopter.....	\$ 46.11	31.26
Power equipment operator - tunnel work		
GROUP 1.....	\$ 42.24	31.26
GROUP 2.....	\$ 42.35	31.26
GROUP 3.....	\$ 42.52	31.26
GROUP 4.....	\$ 42.79	31.26
GROUP 5.....	\$ 43.10	31.26
GROUP 6.....	\$ 43.75	31.26
GROUP 7.....	\$ 44.07	31.26
GROUP 8.....	\$ 44.18	31.26
GROUP 9.....	\$ 44.29	31.26
GROUP 9A.....	\$ 44.52	31.26
GROUP 10.....	\$ 44.58	31.26
GROUP 10A.....	\$ 44.73	31.26
GROUP 11.....	\$ 44.88	31.26
GROUP 12.....	\$ 45.24	31.26
GROUP 12A.....	\$ 45.60	31.26
Power equipment operators:		
GROUP 1.....	\$ 41.94	31.26
GROUP 2.....	\$ 42.05	31.26
GROUP 3.....	\$ 42.22	31.26
GROUP 4.....	\$ 42.49	31.26
GROUP 5.....	\$ 42.80	31.26
GROUP 6.....	\$ 43.45	31.26
GROUP 7.....	\$ 43.77	31.26
GROUP 8.....	\$ 43.88	31.26
GROUP 9.....	\$ 43.99	31.26
GROUP 9A.....	\$ 44.22	31.26
GROUP 10.....	\$ 44.28	31.26
GROUP 10A.....	\$ 44.43	31.26
GROUP 11.....	\$ 44.58	31.26
GROUP 12.....	\$ 44.94	31.26
GROUP 12A.....	\$ 45.30	31.26
GROUP 13.....	\$ 42.22	31.26
GROUP 13A.....	\$ 42.49	31.26
GROUP 13B.....	\$ 42.80	31.26
GROUP 13C.....	\$ 43.45	31.26
GROUP 13D.....	\$ 43.77	31.26
GROUP 13E.....	\$ 43.88	31.26

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Fork Lift (up to and including 10 tons); Partsman (heavy duty repair shop parts room when needed).

GROUP 2: Conveyor Operator (Handling building material); Hydraulic Monitor; Mixer Box Operator (Concrete Plant).

GROUP 3: Brakeman; Deckhand; Fireman; Oiler; Oiler/Gradechecker; Signalman; Switchman; Highline Cableway Signalman; Bargeman; Bunkerman; Concrete Curing Machine (self-propelled, automatically applied unit on streets,

highways, airports and canals); Leveeman; Roller (5 tons and under); Tugger Hoist.

GROUP 4: Boom Truck or dual purpose "A" Frame Truck (5 tons or less); Concrete Placing Boom (Building Construction); Dinky Operator; Elevator Operator; Hoist and/or Winch (one drum); Straddle Truck (Ross Carrier, Hyster and similar).

GROUP 5: Asphalt Plant Fireman; Compressors, Pumps, Generators and Welding Machines ("Bank" of 9 or more, individually or collectively); Concrete Pumps or Pumpcrete Guns; Lubrication and Service Engineer (Grease Rack); Screedman.

GROUP 6: Boom Truck or Dual Purpose "A" Frame Truck (over 5 tons); Combination Loader/Backhoe (up to and including 3/4 cu. yd.); Concrete Batch Plants (wet or dry); Concrete Cutter, Groover and/or Grinder (self-propelled unit on streets, highways, airports, and canals); Conveyor or Concrete Pump (Truck or Equipment Mounted); Drilling Machinery (not to apply to waterliners, wagon drills or jack hammers); Fork Lift (over 10 tons); Loader (up to and including 3 and 1/2 cu. yds); Lull High Lift (under 40 feet); Lubrication and Service Engineer (Mobile); Maginnis Internal Full Slab Vibrator (on airports, highways, canals and warehouses); Man or Material Hoist; Mechanical Concrete Finisher (Large Clary, Johnson Bidwell, Bridge Deck and similar); Mobile Truck Crane Driver; Portable Shotblast Concrete Cleaning Machine; Portable Boring Machine (under streets, highways, etc.); Portable Crusher; Power Jumbo Operator (setting slip forms, etc., in tunnels); Rollers (over 5 tons); Self-propelled Compactor (single engine); Self-propelled Pavement Breaker; Skidsteer Loader with attachments; Slip Form Pumps (Power driven by hydraulic, electric, air, gas, etc., lifting device for concrete forms); Small Rubber Tired Tractors; Trencher (up to and including 6 feet); Underbridge Personnel Aerial Platform (50 feet of platform or less).

GROUP 7: Crusher Plant Engineer, Dozer (D-4, Case 450, John Deere 450, and similar); Dual Drum Mixer, Extend Lift; Hoist and/or Winch (2 drums); Loader (over 3 and 1/2 cu. yds. up to and including 6 yards.); Mechanical Finisher or Spreader Machine (asphalt), (Barber Greene and similar) (Screedman required); Mine or Shaft Hoist; Mobile Concrete Mixer (over 5 tons); Pipe Bending Machine (pipelines only); Pipe Cleaning Machine (tractor propelled and supported); Pipe Wrapping Machine (tractor propelled and supported); Roller Operator (Asphalt); Self-Propelled Elevating Grade Plane; Slusher Operator; Tractor (with boom) (D-6, or similar); Trencher (over 6 feet and less than 200 h.p.); Water Tanker (pulled by Euclids, T-Pulls, DW-10, 20 or 21, or similar); Winchman (Stern Winch on Dredge).

GROUP 8: Asphalt Plant Operator; Barge Mate (Seagoing); Cast-in-Place Pipe Laying Machine; Concrete Batch Plant (multiple units); Conveyor Operator (tunnel); Deckmate; Dozer (D-6 and similar); Finishing Machine Operator (airports and highways); Gradesetter; Kolman Loader (and similar); Mucking Machine (Crawler-type); Mucking Machine (Conveyor-type); No-Joint Pipe Laying Machine; Portable Crushing and Screening Plant; Power Blade Operator (under 12); Saurman Type Dragline (up to and including 5 yds.); Stationary Pipe Wrapping, Cleaning and Bending Machine; Surface Heater and Planer Operator, Tractor (D-6 and

similar); Tri-Batch Paver; Tunnel Badger; Tunnel Mole and/or Boring Machine Operator Underbridge Personnel Aerial Platform (over 50 feet of platform).

GROUP 9: Combination Mixer and Compressor (gunite); Do-Mor Loader and Adams Elegrader; Dozer (D-7 or equal); Wheel and/or Ladder Trencher (over 6 feet and 200 to 749 h.p.).

GROUP 9A: Dozer (D-8 and similar); Grader (when required by the Contractor to work from drawings, plans or specifications without the direct supervision of a foreman or superintendent); Push Cat; Scrapers (up to and including 20 cu. yds); Self-propelled Compactor with Dozer; Self-Propelled, Rubber-Tired Earthmoving Equipment (up to and including 20 cu. yds) (621 Band and similar); Sheep's Foot; Tractor (D-8 and similar); Tractors with boom (larger than D-6, and similar).

GROUP 10: Chicago Boom; Cold Planers; Heavy Duty Repairman or Welder; Hoist and/or Winch (3 drums); Hydraulic Scooper (Koehring and similar); Loader (over 6 cu. yds. up to and including 12 cu. yds.); Saurman type Dragline (over 5 cu. yds.); Self-propelled, rubber-tired Earthmoving Equipment (over 20 cu. yds. up to and including 31 cu. yds.) (637D and similar); Soil Stabilizer (P & H or equal); Sub-Grader (Gurries or other automatic type); Tractors (D-9 or equivalent, all attachments); Tractor (Tandem Scraper); Watch Engineer.

GROUP 10A: Boat Operator; Cable-operated Crawler Crane (up to and including 25 tons); Cable-operated Power Shovel, Clamshell, Dragline and Backhoe (up to and including 1 cu. yd.); Dozer D9-L; Dozer (D-10, HD41 and similar) (all attachments); Gradall (up to and including 1 cu. yd.); Hydraulic Backhoe (over 3/4 cu. yds. up to and including 2 cu. yds.); Mobile Truck Crane Operator (up to and including 25 tons) (Mobile Truck Crane Driver Required); Self-propelled Boom Type Lifting Device (Center Mount) (up to and including 25 tons) (Grove, Drott, P&H, Pettibone and similar); Trencher (over 6 feet and 750 h.p. or more); Watch Engineer (steam or electric).

GROUP 11: Automatic Slip Form Paver (concrete or asphalt); Band Wagon (in conjunction with Wheel Excavator); Cable-operated Crawler Cranes (over 25 tons but less than 50 tons); Cable-operated Power Shovel, Clamshell, Dragline and Backhoe (over 1 cu. yd. up to 7 cu. yds.); Gradall (over 1 cu. yds. up to 7 cu. yds.); DW-10, 20, etc. (Tandem); Earthmoving Machines (multiple propulsion power units and 2 or more Scrapers) (up to and including 35 cu. yds., "struck" m.r.c.); Highline Cableway; Hydraulic Backhoe (over 2 cu. yds. up to and including 4 cu. yds.); Leverman; Lift Slab Machine; Loader (over 12 cu. yds); Master Boat Operator; Mobile Truck Crane Operator (over 25 tons but less than 50 tons); (Mobile Truck Crane Driver required); Pre-stress Wire Wrapping Machine; Self-propelled Boom-type Lifting Device (Center Mount) (over 25 tons m.r.c); Self-propelled Compactor (with multiple-propulsion power units); Single Engine Rubber Tired Earthmoving Machine (with Tandem Scraper); Tandem Cats; Trencher (pulling attached shield).

GROUP 12: Clamshell or Dipper Operator; Derricks; Drill Rigs; Multi-Propulsion Earthmoving Machines (2 or more Scrapers) (over 35 cu. yds "struck" m.r.c.); Operators (Derricks,

Piledrivers and Cranes); Power Shovels and Draglines (7 cu. yds. m.r.c. and over); Self-propelled rubber-tired Earthmoving equipment (over 31 cu. yds.) (657B and similar); Wheel Excavator (up to and including 750 cu. yds. per hour); Wheel Excavator (over 750 cu. yds. per hour).

GROUP 12A: Dozer (D-11 or similar or larger); Hydraulic Excavators (over 4 cu. yds.); Lifting cranes (50 tons and over); Pioneering Dozer/Backhoe (initial clearing and excavation for the purpose of providing access for other equipment where the terrain worked involves 1-to-1 slopes that are 50 feet in height or depth, the scope of this work does not include normal clearing and grubbing on usual hilly terrain nor the excavation work once the access is provided); Power Blade Operator (Cat 12 or equivalent or over); Straddle Lifts (over 50 tons); Tower Crane, Mobile; Traveling Truss Cranes; Universal, Liebherr, Linden, and similar types of Tower Cranes (in the erection, dismantling, and moving of equipment there shall be an additional Operating Engineer or Heavy Duty Repairman); Yo-Yo Cat or Dozer.

GROUP 13: Truck Driver (Utility, Flatbed, etc.)

GROUP 13A: Dump Truck, 8 cu.yds. and under (water level); Water Truck (up to and including 2,000 gallons).

GROUP 13B: Water Truck (over 2,000 gallons); Tandem Dump Truck, over 8 cu. yds. (water level).

GROUP 13C: Truck Driver (Semi-trailer. Rock Cans, Semi-Dump or Roll-Offs).

GROUP 13D: Truck Driver (Slip-In or Pup).

GROUP 13E: End Dumps, Unlicensed (Euclid, Mack, Caterpillar or similar); Tractor Trailer (Hauling Equipment); Tandem Trucks hooked up to Trailer (Hauling Equipment)

BOOMS AND/OR LEADS (HOURLY PREMIUMS):

The Operator of a crane (under 50 tons) with a boom of 80 feet or more (including jib), or of a crane (under 50 tons) with leads of 100 feet or more, shall receive a per hour premium for each hour worked on said crane (under 50 tons) in accordance with the following schedule:

Booms of 80 feet up to but not including 130 feet or Leads of 100 feet up to but not including 130 feet	0.50
Booms and/or Leads of 130 feet up to but not including 180 feet	0.75
Booms and/or Leads of 180 feet up to and including 250 feet	1.15
Booms and/or Leads over 250 feet	1.50

The Operator of a crane (50 tons and over) with a boom of 180 feet or more (including jib) shall receive a per hour premium for each hour worked on said crane (50 tons and over) in accordance with the following schedule:

Booms of 180 feet up to and including 250 feet	1.25
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Booms over 250 feet

1.75

ENGI0003-004 09/04/2017

	Rates	Fringes
Dredging: (Boat Operators)		
Boat Deckhand.....	\$ 41.22	30.93
Boat Operator.....	\$ 43.43	30.93
Master Boat Operator.....	\$ 43.58	30.93
Dredging: (Clamshell or Dipper Dredging)		
GROUP 1.....	\$ 43.94	30.93
GROUP 2.....	\$ 43.28	30.93
GROUP 3.....	\$ 42.88	30.93
GROUP 4.....	\$ 41.22	30.93
Dredging: (Derricks)		
GROUP 1.....	\$ 43.94	30.93
GROUP 2.....	\$ 43.28	30.93
GROUP 3.....	\$ 42.88	30.93
GROUP 4.....	\$ 41.22	30.93
Dredging: (Hydraulic Suction Dredges)		
GROUP 1.....	\$ 43.58	30.93
GROUP 2.....	\$ 43.43	30.93
GROUP 3.....	\$ 43.28	30.93
GROUP 4.....	\$ 43.22	30.93
GROUP 5.....	\$ 37.88	26.76
Group 5.....	\$ 42.88	30.93
GROUP 6.....	\$ 37.77	26.76
Group 6.....	\$ 42.77	30.93
GROUP 7.....	\$ 36.22	26.76
Group 7.....	\$ 41.22	30.93

CLAMSHELL OR DIPPER DREDGING CLASSIFICATIONS

- GROUP 1: Clamshell or Dipper Operator.
- GROUP 2: Mechanic or Welder; Watch Engineer.
- GROUP 3: Barge Mate; Deckmate.
- GROUP 4: Bargeman; Deckhand; Fireman; Oiler.

HYDRAULIC SUCTION DREDGING CLASSIFICATIONS

- GROUP 1: Leverman.
- GROUP 2: Watch Engineer (steam or electric).
- GROUP 3: Mechanic or Welder.
- GROUP 4: Dozer Operator.
- GROUP 5: Deckmate.
- GROUP 6: Winchman (Stern Winch on Dredge)
- GROUP 7: Deckhand (can operate anchor scow under direction of Deckmate); Fireman; Leveeman; Oiler.

DERRICK CLASSIFICATIONS

- GROUP 1: Operators (Derricks, Piledrivers and Cranes).
- GROUP 2: Saurman Type Dragline (over 5 cubic yards).
- GROUP 3: Deckmate; Saurman Type Dragline (up to and including 5 yards).
- GROUP 4: Deckhand, Fireman, Oiler.

ENGI0003-044 09/03/2018

Rates Fringes

Power Equipment Operators
(PAVING)

Asphalt Concrete Material Transfer.....	\$ 42.92	32.08
Asphalt Plant Operator.....	\$ 43.35	32.08
Asphalt Raker.....	\$ 41.96	32.08
Asphalt Spreader Operator....	\$ 43.44	32.08
Cold Planer.....	\$ 43.75	32.08
Combination Loader/Backhoe (over 3/4 cu.yd.).....	\$ 41.96	32.08
Combination Loader/Backhoe (up to 3/4 cu.yd.).....	\$ 40.98	32.08
Concrete Saws and/or Grinder (self-propelled unit on streets, highways, airports and canals).....	\$ 42.92	32.08
Grader.....	\$ 43.75	32.08
Laborer, Hand Roller.....	\$ 41.46	32.08
Loader (2 1/2 cu. yds. and under).....	\$ 42.92	32.08
Loader (over 2 1/2 cu. yds. to and including 5 cu. yds.).....	\$ 43.24	32.08
Roller Operator (five tons and under).....	\$ 41.69	32.08
Roller Operator (over five tons).....	\$ 43.12	32.08
Screed Person.....	\$ 42.92	32.08
Soil Stabilizer.....	\$ 43.75	32.08

IRON0625-001 09/01/2021

Rates Fringes

Ironworkers:.....	\$ 43.50	36.84
a. Employees will be paid \$.50 per hour more while working in tunnels and coffer dams; \$1.00 per hour more when required to work under or are covered with water (submerged) and when they are required to work on the summit of Mauna Kea, Mauna Loa or Haleakala.		

LAB00368-001 08/30/2021

Rates Fringes

Laborers:		
Driller.....	\$ 40.35	23.49
Final Clean Up.....	\$ 30.05	18.87
Gunite/Shotcrete Operator and High Scaler.....	\$ 39.85	23.49
Laborer I.....	\$ 39.35	23.49
Laborer II.....	\$ 36.75	23.49
Mason Tender/Hod Carrier....	\$ 39.85	23.49
Powderman.....	\$ 40.35	23.49
Window Washer (bosun chair).\$	38.85	23.49

LABORERS CLASSIFICATIONS

Laborer I: Air Blasting run by electric or pneumatic compressor; Asphalt Laborer, Ironer, Raker, Luteman, and Handroller, and all types of Asphalt Spreader Boxes; Asphalt Shoveler; Assembly and Installation of Multiplates, Liner Plates, Rings, Mesh, Mats; Batching Plant (portable and temporary); Boring Machine Operator (under streets and

sidewalks); Buggymobile; Burning and Welding; Chainsaw, Faller, Logloader, and Bucker; Compactors (Jackson Jumping Jack and similar); Concrete Bucket Dumpman; Concrete Chipping; Concrete Chuteman/Hoseman (pouring concrete) (the handling of the chute from ready-mix trucks for such jobs as walls, slabs, decks, floors, foundations, footings, curbs, gutters, and sidewalks); Concrete Core Cutter (Walls, Floors, and Ceiling); Concrete Grinding or Sanding; Concrete: Hooking on, signaling, dumping of concrete for treme work over water on caissons, pilings, abutments, etc.; Concrete: Mixing, handling, conveying, pouring, vibrating, otherwise placing of concrete or aggregates or by any other process; Concrete: Operation of motorized wheelbarrows or buggies or machines of similar character, whether run by gas, diesel, or electric power; Concrete Placement Machine Operator: operation of Somero Hammerhead, Copperheads, or similar machines; Concrete Pump Machine (laying, coupling, uncoupling of all connections and cleaning of equipment); Concrete and/or Asphalt Saw (Walking or Handtype) (cutting walls or flatwork) (scoring old or new concrete and/or asphalt) (cutting for expansion joints) (streets and ways for laying of pipe, cable or conduit for all purposes); Concrete Shovelers/Laborers (Wet or Dry); Concrete Screeding for Rough Strike-Off: Rodding or striking-off, by hand or mechanical means prior to finishing; Concrete Vibrator Operator; Coring Holes: Walls, footings, piers or other obstructions for passage of pipes or conduits for any purpose and the pouring of concrete to secure the hole; Cribbers, Shorer, Lagging, Sheeting, and Trench Jacking and Bracing, Hand-Guided Lagging Hammer Whaling Bracing; Curbing (Concrete and Asphalt); Curing of Concrete (impervious membrane and form oiler) mortar and other materials by any mode or method; Cut Granite Curb Setter (setting, leveling and grouting of all precast concrete or stone curbs); Cutting and Burning Torch (demolition); Dri Pak-It Machine; Environmental Abatement: removal of asbestos, lead, and bio hazardous materials (EPA and/or OSHA certified); Falling, bucking, yarding, loading or burning of all trees or timber on construction site; Forklift (9 ft. and under); Gas, Pneumatic, and Electric tools; Grating and Grill work for drains or other purposes; Green Cutter of concrete or aggregate in any form, by hand, mechanical means, grindstone or air and/or water; Grout: Spreading for any purpose; Guinea Chaser (Grade Checker) for general utility trenches, sitework, and excavation; Headerboard Man (Asphalt or Concrete); Heat Welder of Plastic (Laborers' AGC certified workers) (when work involves waterproofing for waterponds, artificial lakes and reservoir) heat welding for sewer pipes and fusion of HDPE pipes; Heavy Highway Laborer (Rigging, signaling, handling, and installation of pre-cast catch basins, manholes, curbs and gutters); High Pressure Nozzleman - Hydraulic Monitor (over 100# pressure); Jackhammer Operator; Jacking of slip forms: All semi and unskilled work connected therewithin; Laying of all multi-cell conduit or multi-purpose pipe; Magnesite and Mastic Workers (Wet or Dry)(including mixer operator);Mortar Man; Mortar Mixer (Block, Brick, Masonry, and Plastering); Nozzleman (Sandblasting and/or Water Blasting): handling, placing and operation of nozzle; Operation, Manual or Hydraulic jacking of shields and the use of such other mechanical equipment as may be necessary; Pavement Breakers; Paving, curbing and surfacing of streets, ways, courts, under and overpasses, bridges, approaches, slope walls, and all other labor connected therewith; Pilecutters; Pipe Accessment in place, bolting

and lining up of sectional metal or other pipe including corrugated pipe; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, HDPE, metallic or non-metallic, conduit, and any other stationary-type of tubular device used for conveying of any substance or element, whether water, sewage, solid, gas, air, or other product whatsoever and without regard to the nature of material from which tubular material is fabricated; No-joint pipe and stripping of same, Pipewrapper, Caulker, Bander, Kettleman, and men applying asphalt, Laykold, treating Creosote and similar-type materials (6-inch) pipe and over); Piping: resurfacing and paving of all ditches in preparation for laying of all pipes; Pipe laying of lateral sewer pipe from main or side sewer to buildings or structure (except Contactor may direct work be done under proper supervision); Pipe laying, leveling and marking of the joint used for main or side sewers and storm sewers; Laying of all clay, terra cotta, ironstone, vitrified concrete, HDPE or other pipe for drainage; Placing and setting of water mains, gas mains and all pipe including removal of skids; Plaster Mortar Mixer/Pump; Pneumatic Impact Wrench; Portable Sawmill Operation: Choker setters, off bearers, and lumber handlers connected with clearing; Posthole Digger (Hand Held, Gas, Air and Electric); Powderman's Tender; Power Broom Sweepers (Small); Preparation and Compaction of roadbeds for railroad track laying, highway construction, and the preparation of trenches, footings, etc., for cross-country transmission by pipelines, electrical transmission or underground lines or cables (by mechanical means); Raising of structure by manual or hydraulic jacks or other methods and resetting of structure in new locations, including all concrete work; Ramming or compaction; Rigging in connection with Laborers' work (except demolition), Signaling (including the use of walkie talkie) Choke Setting, tag line usage; Tagging and Signaling of building materials into high rise units; Riprap, Stonepaver, and Rock Slinger (includes placement of stacked concrete, wet or dry and loading, unloading, signaling, slinging and setting of other similar materials); Rotary Scarifier (including multiple head concrete chipping Scarifier); Salamander Heater, Drying of plaster, concrete mortar or other aggregate; Scaffold Erector Leadman; Scaffolds: (Swing and hanging) including maintenance thereof; Scaler; Septic Tank/Cesspool and Drain Fields Digger and Installer; Shredder/Chipper (tree branches, brush, etc.); Stripping and Setting Forms; Stripping of Forms: Other than panel forms which are to be re-used in their original form, and stripping of forms on all flat arch work; Tampers (Barko, Wacker, and similar type); Tank Scaler and Cleaners; Tarman; Tree Climbers and Trimmers; Trencher (includes hand-held, Davis T-66 and similar type); Trucks (flatbed up to and including 2 1/2 tons when used in connection with on-site Laborers' work; Trucks (Refuse and Garbage Disposal) (from job site to dump); Vibra-Screed (Bull Float in connection with Laborers' work); Well Points, Installation of or any other dewatering system.

Laborer II: Asphalt Plant Laborer; Boring Machine Tender; Bridge Laborer; Burning of all debris (crates, boxes, packaging waste materials); Chainman, Rodmen, and Grade Markers; Cleaning, clearing, grading and/or removal for streets, highways, roadways, aprons, runways, sidewalks,

parking areas, airports, approaches, and other similar installations; Cleaning or reconditioning of streets, ways, sewers and waterlines, all maintenance work and work of an unskilled and semi-skilled nature; Concrete Bucket Tender (Groundman) hooking and unhooking of bucket; Concrete Forms; moving, cleaning, oiling and carrying to the next point of erection of all forms; Concrete Products Plant Laborers; Conveyor Tender (conveying of building materials); Crushed Stone Yards and Gravel and Sand Pit Laborers and all other similar plants; Demolition, Wrecking and Salvage Laborers: Wrecking and dismantling of buildings and all structures, with use of cutting or wrecking tools, breaking away, cleaning and removal of all fixtures, All hooking, unhooking, signaling of materials for salvage or scrap removed by crane or derrick; Digging under streets, roadways, aprons or other paved surfaces; Driller's Tender; Chuck Tender, Outside Nipper; Dry-packing of concrete (plugging and filling of she-bolt holes); Fence and/or Guardrail Erector: Dismantling and/or re-installation of all fence; Finegrader; Firewatcher; Flagman (Coning, preparing, stablishing and removing portable roadway barricade devices); Signal Men on all construction work defined herein, including Traffic Control Signal Men at construction site; General Excavation; Backfilling, Grading and all other labor connected therewith; Digging of trenches, ditches and manholes and the leveling, grading and other preparation prior to laying pipe or conduit for any purpose; Excavations and foundations for buildings, piers, foundations and holes, and all other construction. Preparation of street ways and bridges; General Laborer: Cleaning and Clearing of all debris and surplus material. Clean-up of right-of-way. Clearing and slashing of brush or trees by hand or mechanical cutting. General Clean up: sweeping, cleaning, wash-down, wiping of construction facility and equipment (other than "Light Clean up (Janitorial) Laborer. Garbage and Debris Handlers and Cleaners. Appliance Handling (job site) (after delivery unloading in storage area); Ground and Soil Treatment Work (Pest Control); Gunite/Shotcrete Operator Tender; Junk Yard Laborers (same as Salvage Yard); Laser Beam "Target Man" in connection with Laborers' work; Layout Person for Plastic (when work involves waterproofing for waterponds, artificial lakes and reservoirs); Limbers, Brush Loaders, and Pilers; Loading, Unloading, carrying, distributing and handling of all rods and material for use in reinforcing concrete construction (except when a derrick or outrigger operated by other than hand power is used); Loading, unloading, sorting, stockpiling, handling and distribution of water mains, gas mains and all pipes; Loading and unloading of all materials, fixtures, furnishings and appliances from point of delivery to stockpile to point of installation; hooking and signaling from truck, conveyance or stockpile; Material Yard Laborers; Pipelayer Tender; Pipewrapper, Caulker, Bander, Kettlemen, and men applying asphalt, Laykold, Creosote, and similar-type materials (pipe under 6 inches); Plasterer Laborer; Preparation, construction and maintenance of roadbeds and sub-grade for all paving, including excavation, dumping, and spreading of sub-grade material; Prestressed or precast concrete slabs, walls, or sections: all loading, unloading, stockpiling, hooking on of such slabs, walls or sections; Quarry Laborers; Railroad, Streetcar, and Rail Transit Maintenance and Repair; Roustabout; Rubbish Trucks in connection with Building Construction Projects (excluding clearing, grubbing, and excavating); Salvage Yard: All work connected

with cutting, cleaning, storing, stockpiling or handling of materials, all cleanup, removal of debris, burning, back-filling and landscaping of the site; Sandblasting Tender (Pot Tender): Hoses and pots or markers; Scaffolds: Erection, planking and removal of all scaffolds used for support for lathers, plasters, brick layers, masons, and other construction trades crafts; Scaffolds: (Specially designed by carpenters) laborers shall tend said carpenter on erection and dismantling thereof, preparation for foundation or mudsills, maintenance; Scraping of floors; Screeds: Handling of all screeds to be reused; handling, dismantling and conveyance of screeds; Setting, leveling and securing or bracing of metal or other road forms and expansion joints; Sheeting Piling/trench shoring (handling and placing of skip sheet or wood plank trench shoring); Ship Scalers; Shipwright Tender; Sign Erector (subdivision traffic, regulatory, and street-name signs); Sloper; Slurry Seal Crews (Mixer Operator, Applicator, Squeegee Man, Shuttle Man, Top Man); Snapping of wall ties and removal of tie rods; Soil Test operations of semi and unskilled labor such as filling sand bags; Striper (Asphalt, Concrete or other Paved Surfaces); Tool Room Attendant (Job Site); Traffic Delineating Device Applicator; Underpinning, lagging, bracing, propping and shoring, loading, signaling, right-of-way clearance along the route of movement, The clearance of new site, excavation of foundation when moving a house or structure from old site to new site; Utilities employees; Water Man; Waterscape/Hardscape Laborers; Wire Mesh Pulling (all concrete pouring operations); Wrecking, stripping, dismantling and handling concrete forms an false work.

 * LAB00368-002 09/05/2022

	Rates	Fringes
Landscape & Irrigation		
Laborers		
GROUP 1.....	\$ 27.25	15.80
GROUP 2.....	\$ 28.25	15.80
GROUP 3.....	\$ 22.15	15.80

LABORERS CLASSIFICATIONS

GROUP 1: Installation of non-potable permanent or temporary irrigation water systems performed for the purposes of Landscaping and Irrigation architectural horticultural work; the installation of drinking fountains and permanent or temporary irrigation systems using potable water for Landscaping and Irrigation architectural horticultural purposes only. This work includes (a) the installation of all heads, risers, valves, valve boxes, vacuum breakers (pressure and non-pressure), low voltage electrical lines and, provided such work involves electrical wiring that will carry 24 volts or less, the installation of sensors, master control panels, display boards, junction boxes, conductors, including all other components for controllers, (b) and metallic (copper, brass, galvanized, or similar) pipe, as well as PVC or other plastic pipe including all work incidental thereto, i.e., unloading, handling and distribution of all pipes fittings, tools, materials and equipment, (c) all soldering work in connection with the above whether done by torch, soldering iron, or other means; (d) tie-in to main lines, thrust blocks (both

precast and poured in place), pipe hangers and supports incidental to installation of the entire irrigation system, (e) making of pressure tests, start-up testing, flushing, purging, water balancing, placing into operation all irrigation equipment, fixtures and appurtenances installed under this agreement, and (f) the fabrication, replacement, repair and servicing of landscaping and irrigation systems. Operation of hand-held gas, air, electric, or self-powered tools and equipment used in the performance of Landscape and Irrigation work in connection with architectural horticulture; Choke-setting, signaling, and rigging for equipment operators on job-site in the performance of such Landscaping and Irrigation work; Concrete work (wet or dry) performed in connection with such Landscaping and Irrigation work. This work shall also include the setting of rock, stone, or riprap in connection with such Landscape, Waterscape, Rockscape, and Irrigation work; Grubbing, pick and shovel excavation, and hand rolling or tamping in connection with the performance of such Landscaping and Irrigation work; Sprigging, handseeding, and planting of trees, shrubs, ground covers, and other plantings and the performance of all types of gardening and horticultural work relating to said planting; Operation of flat bed trucks (up to and including 2 1/2 tons):.

GROUP 2. Layout of irrigation and other non-potable irrigation water systems and the layout of drinking fountains and other potable irrigation water systems in connection with such Landscaping and Irrigation work. This includes the layout of all heads, risers, valves, valve boxes, vacuum breakers, low voltage electrical lines, hydraulic and electrical controllers, and metallic (coppers, brass, galvanized, or similar) pipe, as well as PVC or other plastic pipe. This work also includes the reading and interpretation of plans and specifications in connection with the layout of Landscaping, Rockscape, Waterscape, and Irrigation work; Operation of Hydro-Mulching machines (sprayman and driver), Drillers, Trenchers (riding type, Davis T-66, and similar) and fork lifts used in connection with the performance of such Landscaping and Irrigation work; Tree climbers and chain saw tree trimmers, Sporadic operation (when used in connection with Landscaping, Rockscape, Waterscape, and Irrigation work) of Skid-Steer Loaders (Bobcat and similar), Cranes (Bantam, Grove, and similar), Hoptos, Backhoes, Loaders, Rollers, and Dozers (Case, John Deere, and similar), Water Trucks, Trucks requiring a State of Hawaii Public Utilities Commission Type 5 and/or type 7 license, sit-down type and "gang" mowers, and other self-propelled, sit-down operated machines not listed under Landscape & Irrigation Maintenance Laborer; Chemical spraying using self-propelled power spraying equipment (200 gallon capacity or more).

GROUP 3: Maintenance of trees, shrubs, ground covers, lawns and other planted areas, including the replanting of trees, shrubs, ground covers, and other plantings that did not "take" or which are damaged; provided, however, that re-planting that requires the use of equipment, machinery, or power tools shall be paid for at the rate of pay specified under Landscape and Irrigation Laborer, Group 1; Raking, mowing, trimming, and runing, including the use of "weed eaters", hedge trimmers, vacuums, blowers, and other hand-held gas, air, electric, or self-powered tools, and the operation of lawn mowers (Note: The operation of

sit-down type and "gang" mowers shall be paid for at the rate of pay specified under Landscape & Irrigation Laborer, Group 2); Guywiring, staking, propping, and supporting trees; Fertilizing, Chemical spraying using spray equipment with less than 200 gallon capacity, Maintaining irrigation and sprinkler systems, including the staking, clamping, and adjustment of risers, and the adjustment and/or replacement of sprinkler heads, (Note: the cleaning and gluing of pipe and fittings shall be paid for at the rate of pay specified under Landscape & Irrigation Laborer(Group 1); Watering by hand or sprinkler system and the performance of other types of gardening, yardman, and horticultural-related work.

 * LAB00368-003 09/05/2022

	Rates	Fringes
Underground Laborer		
GROUP 1.....	\$ 40.60	24.25
GROUP 2.....	\$ 42.10	24.25
GROUP 3.....	\$ 42.60	24.25
GROUP 4.....	\$ 43.60	24.25
GROUP 5.....	\$ 43.95	24.25
GROUP 6.....	\$ 44.20	24.25
GROUP 7.....	\$ 44.65	24.25

GROUP 1: Watchmen; Change House Attendant.

GROUP 2: Swamper; Brakeman; Bull Gang-Muckers, Trackmen; Dumpmen (any method); Concrete Crew (includes rodding and spreading); Grout Crew; Reboundmen

GROUP 3: Chucktenders and Cabletenders; Powderman (Prime House); Vibratorman, Pavement Breakers

GROUP 4: Miners - Tunnel (including top and bottom man on shaft and raise work); Timberman, Retimberman (wood or steel or substitute materials thereof); Blasters, Drillers, Powderman (in heading); Microtunnel Laborer; Headman; Cherry Pickerman (where car is lifted); Nipper; Grout Gunmen; Grout Pumpman & Potman; Gunite, Shotcrete Gunmen & Potmen; Concrete Finisher (in tunnel); Concrete Screed Man; Bit Grinder; Steel Form Raisers & Setters; High Pressure Nozzleman; Nozzleman (on slick line); Sandblaster-Potman (combination work assignment interchangeable); Tugger

GROUP 5: Shaft Work & Raise (below actual or excavated ground level); Diamond Driller; Gunite or Shotcrete Nozzleman; Rodman; Groundman

GROUP 6: Shifter

GROUP 7: Shifter (Shaft Work & Raiser)

 PAIN1791-001 07/01/2022

	Rates	Fringes
Painters:		
Brush.....	\$ 40.00	30.59
Sandblaster; Spray.....	\$ 40.00	30.59

 PAIN1889-001 07/01/2022

	Rates	Fringes
Glaziers.....	\$ 41.50	38.37

PAIN1926-001 02/27/2022

	Rates	Fringes
Soft Floor Layers.....	\$ 38.77	33.31

PAIN1944-001 01/02/2022

	Rates	Fringes
Taper.....	\$ 43.85	32.65

* PLAS0630-001 09/05/2022

	Rates	Fringes
PLASTERER.....	\$ 45.00	33.58

PLAS0630-002 08/31/2020

	Rates	Fringes
Cement Masons:		
Cement Masons.....	\$ 42.65	32.29
Trowel Machine Operators....	\$ 42.80	32.29

PLUM0675-001 07/03/2022

	Rates	Fringes
Plumber, Pipefitter, Steamfitter & Sprinkler Fitter...	\$ 50.13	29.05

ROOF0221-001 09/05/2021

	Rates	Fringes
Roofers (Including Built Up, Composition and Single Ply).....	\$ 42.55	20.78

SHEE0293-001 02/27/2022

	Rates	Fringes
Sheet metal worker.....	\$ 46.22	30.64

* SUHI1997-002 09/15/1997

	Rates	Fringes
Drapery Installer.....	\$ 13.60 **	1.20
FENCE ERECTOR (Chain Link Fence).....	\$ 9.33 **	1.65

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$15.00) or 13658 (\$11.25). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.

Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISIO"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION

PART 0.D - SUPPLEMENTAL PROVISIONS

SPECIAL PROVISIONS

The following additional amendments to the General Provisions are applicable to this project:

1.3 DEFINITIONS is amended as follows:

The definition for Subcontractor is deleted in its entirety and replaced with the following:

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

The following definitions shall be added:

AASHTO - The American Association of State Highway and Transportation Officials.

Access Road - The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.

Airport Improvement Program (AIP) - A grant-in-aid program, administered by the Federal Aviation Administration (FAA).

Air Operations Area (AOA) - The term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.

Apron - Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.

ASTM International (ASTM) - Formerly known as the American Society for Testing and Materials (ASTM).

Building Area - An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.

Certificate of Analysis (COA) - The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.

Certificate of Compliance (COC) - The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.

Contractors Quality Control (QC) Facilities - The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).

Contractor Quality Control Program (CQCP) - Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.

Control Strip - A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.

Construction Safety and Phasing Plan (CSPP) - The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator.

DH – Diamond Head

Drainage System - The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.

Extra Work - An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract as previously modified.

FAA - The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.

Federal Specifications - The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.

Force Account – a) Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis. b) Owner Force Account - Work performed for the project by the Owner's employees.

Intention of Terms - Whenever, in these specifications or on the plans, the words “directed,” “required,” “permitted,” “ordered,” “designated,” “prescribed,” or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident Project Representative (RPR) is intended; and similarly, the words “approved,” “acceptable,” “satisfactory,” or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of the Owner. Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.

Lighting - A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.

Major and Minor Contract Items - A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.

Modification of Standards (MOS) - Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.

Owner - The term “Owner” shall mean the party of the first part or the contracting agency signatory to

the contract. Where the term “Owner” is capitalized in this document, it shall mean airport Sponsor only. The Owner for this project is the State of Hawaii, Department of Transportation, Airports Division.

Passenger Facility Charge (PFC) - Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.

Pavement Structure - The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.

Project - The agreed scope of work for accomplishing specific airport development with respect to a particular airport.

Quality Assurance (QA) - Owner’s responsibility to assure that construction work completed complies with specifications for payment.

Quality Control - Contractor’s responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.

Quality Assurance (QA) Inspector - An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

Quality Assurance (QA) Laboratory - The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer’s, Owner’s, or QA Laboratory.

Resident Project Representative (RPR) - The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.

Runway - The area on the airport prepared for the landing and takeoff of aircraft.

Runway Safety Area (RSA) - A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft.

Safety Plan Compliance Document (SPCD) - Details how the Contractor will comply with the CSPP.

Sponsor - A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.

Subgrade - The soil that forms the pavement foundation.

Supplemental Agreement - A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%; (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally

awarded contract; or (4) adding or deleting of a major contract item.

Taxilane - A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.

Taxiway - The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.

Taxiway/Taxilane Safety Area (TSA) - A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft.

2.7 REQUEST FOR SUBSTITUTION OF SPECIFIED MATERIALS AND EQUIPMENT BEFORE BIG OPENING is amended as follows:

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

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

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

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

2.8 PREPARATION AND DELIVERY OF BID is amended as follows: Last Paragraph (line 189 to 192) shall be replaced with the following:

“The bidder shall submit the proposal in HIEPRO. Bids received after said due date and time shall not be considered.”

2.12 PRE-OPENING MODIFICATION OR WITHDRAWAL OF BIDS is amended by deleting 2.12 PRE-OPENING MODIFICATION OR WITHDRAWAL OF BIDS in its entirety and replacing with the following:

“2.12 PRE-OPENING MODIFICATION OF WITHDRAWAL OF BIDS. A bidder may withdraw or modify a proposal after the bidder submits the proposal in HIEPRO. Withdrawal or modification of proposal must be completed before the time set for the receiving of bids.

2.14 PUBLIC OPENING OF BIDS is amended by deleting 2.14 PUBLIC OPENING OF BIDS in its entirety.

4.12 UTILITIES AND SERVICES is amended as follows:

Add the following after the last paragraph:

"(e) Repairs and Outages.

- (1) The Contractor shall have available on 24-hour call sufficient specialty contractors, such as electrical and plumbing contractors, to repair any, damage to existing facilities that might occur as a result of construction operations regardless of when the damage might occur.
- (2) Outage: Written requests for power outage, communication changes, and water and sewer connection outages shall be submitted to the Engineer at least seven (7) days in advance or as specified in other sections of these specifications. Outages will be restricted to non-peak operational hours between midnight and 6:00 a.m."

5.16 SUBCONTRACTS is amended as follows:

Add the following after the last paragraph:

“(e) The Specialty Items of work for this project are as follows:

- Asphalt paving and surfacing
- Plumbing
- Electrical
- Hazardous Material Abatement

7.4 WORKING HOURS; NIGHT WORK is amended as follows: Paragraph shall be replaced with the following:

“7.4 Working Hours. Working hours shall be as defined in Specification Section 01010 Description of Work.”

7.21 PUBLIC CONVENIENCE AND SAFETY - is hereby added to the General Provisions:

"It shall be especially noted by the Contractor that the area directly adjacent to the existing in use runways and taxiways, is an extremely hazardous area and that very strict controls will apply throughout the entire period required to complete all work within 500 feet from the edge of an in use runway and 180 feet from the edge of an in use taxiway.

The Contractor shall familiarize himself with the Airport Certification Manual available for review at the Airport Manager's Office and shall comply with its requirements.

The Contractor is responsible for the security of access points to the Airport Operational Area that are located within the limits of construction and will be fined \$1,000 per incident for any breach of security at these locations. All gates leading into the AOA shall be kept locked and if required to be open, the Contractor shall provide professional security guards to attend gates. The guards must be approved by the Director and shall be required to attend a training session conducted by the Airport Manager prior to gate assignment."

8.8 LIQUIDATED DAMAGES FOR FAILURE TO COMPLETE THE WORK OR PORTIONS OF THE WORK ON TIME: The General Provisions is hereby amended to include the following:

The schedule of liquidated damages provided in Section 8.8 of the General Provisions in these specifications shall be amended to include the following:

TWO THOUSAND DOLLARS (\$2,000.00) per calendar day for failure to complete the work within the duration (calendar days) noted on Proposal Schedule page P-1.

8.20 LIMITATION OF OPERATIONS: is hereby added to the General Provisions:

"The following limitations shall be observed by the Contractor when operating within 75 feet from the edge of any taxiway.

General - The Contractor shall schedule his operations to minimize interference with the movement of aircraft or passengers as may be required by the Engineer. The Contractor shall be responsible to alert all of his personnel to the location of power and signal cables installed for the operation of the airport. The Contractor shall control his operations in a manner to preclude any possible damage to those cables. Utility companies shall be notified by the Contractor one week before commencement of work. The Contractor shall give notice to the Engineer in writing, at least 168 hours before operating within 75 feet from the edge of any taxiway and the Engineer will assure himself that the Airport Management personnel are notified in sufficient time to publish the warning (NOTAM). The Contractor shall immediately repair any damages to the existing perimeter fence to prevent inadvertent entry to the Airport Operation Area (AOA).

Work in Vicinity of Runways and Taxiways in Use - Under the terms of this contract, it is intended that work shall be completed without disturbing the paved surface of existing runways and taxiways, unless shown otherwise on the plans.

Aircraft traffic shall not be interrupted. The Contractor shall schedule to work within 75 feet of the taxiway as directed by the Airport Management. No ruts, holes, or open trenches of 3 inches or more in depth and no objects or material 3 inches or more in height shall be permitted within the safety area when the airfield is in operation in conformance to Federal Aviation Regulation Part 139. The Contractor is also informed that Airport Zoning Regulations dictate that a 'clear zone' be maintained 500 feet on each side of an active runway, to be known as a hazardous area. The Contractor shall comply with all regulations governing ground operations within hazardous areas. The following FAA Advisory Circulars or later versions and FAA Regulations specify these requirements.

AC 150/5210-5D Painting, Marking, and Lighting Vehicles Used on an Airport, dated April 2010

AC 150/5340-1M Standards for Airport Markings, dated May 2019

AC 150/5370-2G Operational Safety on Airports During Construction, dated December 2017

FAA Regulations Objects Affecting Navigable Airspace Part 77

The Contractor shall keep all personnel and equipment off the areas not specifically designated for work under this Contract. At all times when the Contractor's equipment is not in use, the equipment shall be moved outside the hazardous areas to an area designated by the Engineer. Under no condition shall equipment be parked or material stored within the hazardous areas.

Failure on the part of the Contractor to abide by the above will result in suspension of work.

Authority of Control Tower Personnel - With the exception of actual construction methods, the airport control tower personnel will have full authority to control the Contractor's movements within the existing taxiway. When required, the Contractor shall maintain a constant radio vigil within all work areas and in addition shall keep at least one flagman on duty with the radio man. When notified by the control tower to temporarily halt operations, it shall be the duty of the flagman, through the use of appropriate methods (lighted flares shall not be used under any circumstances), to notify all operators of equipment and other personnel to cease work and move men and equipment off of hazardous areas. Contractor shall provide, at his own expense, the necessary radio and equipment including a radio equipped mobile vehicle to maintain contact with control tower personnel at all times during job performance. A transceiver operating at a frequency designated by the Engineer to communicate with the Control Tower.

Marking of Hazardous Areas - The Engineer will designate areas that are hazardous for aircraft. The Contractor shall provide red blinker lights spaced not more than 50 feet apart around all hazardous areas and areas of work within 75 feet of any taxiway. Such systems shall be subject to approval by the Engineer. The Contractor shall have personnel on call 24 hours per day for the emergency maintenance of hazard markings.

The Contractor shall provide red flags not less than 20 inches square in addition to the red blinker lights. When danger flags are made of fabric, a wire stiffener shall be used to hold the flags in an extended position. Flags shall be so mounted that they do not produce a hazard. The red danger flags shall be spaced not more than 50 feet apart around all areas of work within 75 feet of any taxiway.

All systems proposed by the Contractor for lighting and barricading shall be submitted to the Engineer for review prior to installation. The Contractor shall install all flags, lighting and barricades as required by the Engineer. Such systems shall be subject to approval by the Engineer.

Storage of Equipment and Materials - At the end of each working shift, all of the Contractor's equipment shall be withdrawn to an area designated by the Engineer. The Contractor shall park all equipment in an orderly fashion and place a sufficient number of red flasher lights to identify these areas. Materials stored within the airport shall be so placed and the work shall, at all times, be so conducted as to cause no greater obstruction to the air and ground traffic than is considered necessary by the Engineer. No runways, taxiways or roadways shall be closed or opened, except by permission of the Engineer.

Blasting Operations - The Contractor shall notify the Engineer at least three (3) days before performing blasting operations as to the extent and timing of such operations, so that the Control Tower and other concerned parties can be informed.

Utilities - The Contractor shall provide for the protection of all utilities from damages in areas to be traversed by his vehicles and equipment. If required, buried cables and utility lines shall be protected by mounding earth over the cables or by any other method approved by the Engineer.

The Contractor shall notify representatives of the owner, agencies, and other affected organizations at least 48 hours prior to working in any area containing the facilities of these organizations.

Failure to notify the owning organization will prevent authorization to work in a specific area.

Archaeological Features - Any archaeological features such as petroglyphs, burial sites, and artifacts discovered or unearthed during the performance of the work shall immediately be brought to the attention of the Engineer and all work that would damage or destroy these features shall be discontinued. The Engineer will decide, after proper investigation, to salvage or abandon such artifacts."

8.21 OPERATION OF CONTRACTOR'S MOTOR VEHICLE AND PERSONNEL IN RESTRICTED AIR OPERATIONS AND MOVEMENT AREAS is hereby added to the General Provisions:

"The contractor shall conform with the all sections of the "State of Hawaii, Department of Transportation, Airports Division, Contractor's Training Guide" pertaining to access and operation in the Airport Operation Area (AOA) hereinafter described as follows:

"A. Motor Vehicles in Airport Operation Area

For safety reasons, the operation of motor vehicles in the AOA must conform with all applicable State Airport rules and regulations."

B. Motor Vehicle Access Permit

Each motor vehicle operated in the AOA is required to:

1. Meet all State licensing registration and safety requirements and be specifically licensed for operation in the AOA.
2. Meet all insurance requirements.
3. Be restricted to operation by those persons qualified to drive the vehicle and in possession of a current Ramp Driver's License and applicable Motor Vehicle Operator's License.

C. The operators of motor vehicles in the AOA shall be responsible for meeting the following insurance requirements.

1. Licensed Vehicles

As a condition for authorization to enter the AOA, the Contractor shall provide evidence of vehicle liability insurance in the form of a Certificate of Insurance issued by an authorized insurance carrier. Automobile Liability and general Liability (combined single limit, Bodily Injury and Property Damage, per occurrence) shall be required in the applicable minimum limits specified below:

a. Daniel K. Inouye International Airport

- (1) Standard AOA clearance....\$5,000,000
- (2) Limited AOA clearance\$1,000,000 Limited AOA clearance is defined as operations restricted to Diamond head and Ewa Concourses second level roadways and connecting third level main terminal roadway only, with entry and exit via Security Access Point "C" (Primary) and Access Point "A" (Secondary)

b. Other Airports

Standard AOA clearance.....\$1,000,000

Standard AOA clearance is defined as any portion of a public Airport from which the public is restricted by fences or appropriate signs and no leased or demised to anyone for exclusive use and shall include runways, taxiways, all ramp and apron areas, aircraft parking and storage areas, fuel storage areas, maintenance areas, and any other area of a public Airport used or intended to be used for landing, takeoff, or surface maneuvering of aircraft or used for embarkation or debarkation of passengers.

2. Unlicensed Vehicles

Airport Liability (or General Liability) shall be required in the applicable minimum limits specified below:

a. Daniel K. Inouye International Airport, Kahului Airport and Ellison Onizuka Kona International Airport at Keahole

AOA clearance.....\$5,000,000

- b. All other Airports
AOA clearance.....\$1,000,000

- 3. Specifically name the State of Hawaii as additionally insured.
- 4. Indicate that the Airport Engineer will be provided with a 30-day written prior notice of policy cancellation or material change in coverage or conditions.

D. Operator's Permit

- 1. No person shall operate a motor vehicle on the AOA unless he holds and carries on his person a current Airport Motor Vehicle operator's permit issued by the State of Hawaii, Department of Transportation, Airports Division.
- 2. Operator's permits will only be issued to persons who apply through the Airport District Security Office and pass a written exam covering those portions of the Airport Rules and Regulation relating to the operation of vehicles in Airport Operations Areas.

E. Authorized Vehicles

- 1. Only vehicles considered operationally safe and necessary for the performance of this contract may be allowed to operate in the AOA.
- 2. All motor vehicles must be painted in such a manner so as to be easily identifiable and must carry the Contractor's name on each side. These signs may be of a temporary nature applied to the side windows or doors.

The lettering shall be in bold characters of a minimum of four (4) inches in height and one and one-half (1-1/2) inches in widths, the height of logos should be a minimum of six (6) inches.

- 3. The Contractor's operations on, over, across, and/or immediately adjacent to any runway and/or taxiway at a towered airport shall require the use of two-way radio communication. The Contractor shall obtain the necessary equipment at his own expense.
- 4. No person shall operate a motor vehicle on the AOA unless he holds and carries on his person a current Motor Vehicle Operator's Permit issued by the Airport Manager.
 - a. The Motor Vehicle Operator's Permit will be issued only to persons who apply through the Airport Security Section and pass a written exam covering those portions of the Airport Rules and Regulations relating to the operation of vehicles in the AOA.
 - b. Permits issued may be suspended or revoked for cause at any time by the Airports Division.

F. Airport Operation Area Construction Pass

- 1. Issuance of Airport Operation Area (AOA) Construction Passes shall be limited to contractors, subcontractors, companies, organizations, individuals engaged in authorized and approved construction activity which requires a continuing need for entry into the AOA or Airfield Movement Areas Request letters for such

passes must be made to the Airport District Manager's Office in accordance with the Contractors Training Guide or applicable District requirements.

2. As a condition for security area clearance, applicants must comply with Transportation Security Regulation 1542 which requires a ten-year background Criminal History Records Check for those individuals employed under this contract.

G. Access to Movement Areas

1. Movement areas shall mean all of the runways and taxiways of the Airport which are utilized for taxiing, takeoff, and landing of aircraft.
 - a. Any vehicle which requires access to the movement area shall be equipped with operational radio equipment capable of positive two-way contact with Tower/Ground Control.
 - b. Operators of vehicles in movement areas must possess knowledge and familiarity with restricted and airfield movement areas, operational rules, regulations, and procedures, or be under direct escort by individuals meeting all of the above requirements.
2. Vehicle Operations on Movement Areas
 - a. No vehicle shall proceed across any runway unless specifically cleared by Tower/Ground Control.
 - b. The operator of a vehicle in the movement area shall not leave his vehicle unless continuous radio contact is maintained with the Tower/Ground Control while he is away from his vehicle.
 - c. Any vehicle proceeding onto the movement area between the hours of sunset and sunrise shall be equipped with an overhead flashing light which is visible for one (1) mile, unless such vehicle is being escorted by another vehicle so equipped.
 - d. All vehicles operated on the movement area between sunrise and sunset except those being escorted, shall operate an overhead amber or red flashing beacon visible for at least one (1) mile; or display a flag at least three (3) feet square with orange and white checkered squares of not less than one (1) foot on each side.

H. Runway and Taxiway Closure

1. Requests for runway or taxiway closures, or for any work which affect operational conditions at the airport must be made in writing through the Airport Engineering Branch.
2. Temporarily closed runways require placement of a lighted "X" runway closure marker on top of the runway identification numerals at both ends of the closed runway.

3. Taxiway closures require placement of barricades with alternate orange and white markings at each end of the closed taxiway segment. Barricades must be supplemented with flashing red lights. The intensity of the lights and spacing for barricades, and lights must adequately define and delineate the hazardous area.

I. Gate Guards Furnished by Contractors

1. If a contractor is permitted by the airport to maintain operational control of an AOA Access Gate, entry through such gate shall be controlled by the posting of a gate guard.
 - a. Written instruction will be provided, outlining the guard's duties to enforce those requirements and provisions prescribed by the airport's security program to include all personnel and vehicle entry and access requirements.
 - b. Procedures will be established to identify the actions which will be undertaken by the guard in calling for assistance.
 - c. An approved emergency communications procedure will be established.

J. Compliance

1. The contractor shall comply with all regulations and rules governing the Air Operations Areas during construction, as specified in the following or later versions:
 - a. Hawaii Revised Statutes, Title 19, Administrative Rules for Public Airports.
 - b. Federal Aviation Administration Advisory Circular AC 150/5340-1, Standards for Airport Markings; AC 150/5370-2, Operational Safety on Airports During Constructions.

K. Enforcement Authorization

Act 21, Section 1, Section 261-17(a), HRS; Federal Aviation Administration Regulations, Part 139, Part 107.

L. Right of Rejection or Revocation

The State of Hawaii, Airports Division, reserves the right to withhold, deny or revoke any airport security clearance, licenses or permits to any individual or organization who fails to meet the prescribed or required access area clearance criteria to include background investigation information, or fails to observe or comply with established rules, regulations, and directives.

It should be clearly understood that such denial or revocation is based solely on airport security or safety considerations and does not in any way constitute a determination by the State with regard to private employment by any individual or organization."

-----END OF SECTION-----

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION

PART 0.E - REQUIRED FEDERAL AIRPORT IMPROVEMENT PROGRAM (AIP)
CONTRACT PROVISIONS

**NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO
ENSURE EQUAL EMPLOYMENT OPPORTUNITY**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables

Goals for minority participation for each trade: **69.1%**

Goals for female participation in each trade: **6.9%**

These goals are applicable to all of the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a) and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is Honolulu, Hawaii.

EQUAL OPPORTUNITY CLAUSE

During the performance of this contract, the Contractor agrees as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identify, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff, or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.
3. The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
7. The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: *Provided, however*, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

STANDARD FEDERAL EQUAL EMPLOYEMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS

1. As used in these specifications:
 - a. “Covered area” means the geographical area described in the solicitation from which this contract resulted;
 - b. “Director” means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;
 - c. “Employer identification number” means the Federal social security number used on the Employer’s Quarterly Federal Tax Return, U.S. Treasury Department Form 941;
 - d. “Minority” includes:
 - 1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - 2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
 - 3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - 4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR part 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor’s or subcontractor’s failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and

such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the Contractor has a collective bargaining agreement to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the Contractor during the training period and the Contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or female sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions, including specific review of these items, with onsite supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other contractors and subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

- p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the Contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
 9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally), the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.
 10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
 11. The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
 12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
 13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR part 60-4.8.
 14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g. those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

DISADVANTAGED BUSINESS ENTERPRISE REQUIREMENTS

I. GENERAL

This project is subject to Title 49, Code of Federal Regulations, Part 26, entitled "Participation by Disadvantaged Business Enterprise in Department of Transportation Financial Assistance Programs," hereinafter referred to as the ("DBE Regulations") and is incorporated and made a part of this contract herein by this reference. The following shall be incorporated as part of the contract documents for compliance. If any requirements herein are in conflict with the general provisions or special provisions applicable to this project, the requirements herein shall prevail unless specifically superseded or amended in the special provisions or by addendum.

II. POLICY

It is the policy of the U.S. Department of Transportation ("USDOT") and the State of Hawaii, Department of Transportation and its political subdivisions ("Department") that Disadvantaged Business Enterprises ("DBE"), as defined in the DBE Regulations, have an equal opportunity to receive and participate in federally assisted contracts.

III. DBE ASSURANCES

Each contract signed with a prime contractor (and each subcontract the prime contractor signs with a subcontractor) shall include the following assurance:

"The contractor, sub-recipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of USDOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate which may include, but is not limited to; 1) withholding monthly progress payments; 2) assessing sanctions; 3) liquidated damages; and/or 4) disqualifying the contractor from future bidding as non-responsible."

The prime contractor agrees to include the above statements in any subsequent contracts that it enters into with other contractors and shall require those contractors to include similar statements in further agreements.

IV. BIDDER/OFFEROR RESPONSIBILITIES

All bidders/offerors are required to register with the Department's OCR, DBE Section, using the Bidder Registration Form, which can be downloaded from the Department's website at <http://hidot.hawaii.gov/administration/ocr/dbe/dbe-program-forms/>. Certified DBEs are considered registered with the Department and are not required to submit a

Bidder Registration Form. All other bidders/offerors are required to complete this form which may be faxed to (808) 831-7944, e-mailed to HDOT-DBE@hawaii.gov, or mailed to the HDOT DBE Section at 200 Rodgers Boulevard, Honolulu, Hawaii, 96819. Registered bidders/offerors are posted on the website listed above.

Bidders/offerors, subcontractors, manufacturers, vendors or suppliers, and trucking companies shall fully inform themselves with respect to the requirements of the DBE Regulations. Particular attention is directed to the following matters:

- A. Bidders/offerors shall take all necessary steps to ensure that DBEs have an opportunity to participate in this contract.
- B. DBEs may participate as a consultant, prime contractor, subcontractor, trucking company, or vendor of materials or supplies. DBEs may also team with other DBEs or non-DBE firms as part of a joint venture or partnership.
- C. Agreements between a bidder/offeror and a DBE in which an DBE promises not to provide subcontracting quotations to other bidders/offerors are strictly prohibited.
- D. A DBE shall be certified by the Department under the appropriate North American Industry Classification System (NAICS) code and work in their registered field of work in order for credit to be allowed.
- E. Information regarding the current certification status of DBEs is available on the internet at <https://hdot.dbesystem.com/>.
- F. Commercially Useful Function (“CUF”). An DBE must perform a CUF. This means that an DBE must be responsible for the execution of a distinct element of the work, must carry out its responsibility by actually performing, managing, and supervising at least 30% of the work involved by using its own employees and equipment, must negotiate price, determine quality and quantity, order and install material (when applicable), and must pay for the material itself.¹

To determine whether an DBE is performing a CUF, the Department must evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing, the DBE credit claimed for performance of the work, and other relevant factors. The prime contractor is responsible to ensure that the DBE performs a CUF.

V. PROPOSAL REQUIREMENTS

- A. DBEs must be certified by the bid opening date.

¹ The use of joint checks payable to an DBE subcontractor and supplier may be allowed to purchase materials and supplies under limited circumstances. See VII USE OF JOINT CHECKS UNDER THE DBE PROGRAM

- B. DBE subcontractors, manufacturers, suppliers, trucking companies, and any second tier subcontractors shall be listed on the respective DBE forms as specified below in order to receive credit.
- C. The following forms are due to the Department's Project Manager or designee **by the close of business, 4:30 P.M. Hawaii Standard Time (HST), five (5) days after bid opening:**²
1. DBE Confirmation and Commitment Agreement. This form must be signed by the bidder/offeror and each DBE subcontractor, manufacturer, supplier, or trucking company. Information to be provided on the form shall include, among other things, the project number, the DBE's NAICS codes, description of work, bid items with corresponding price information, prime contractor name and contact information DBE name and contact information and subcontractor name and contact information if the DBE is a second tier subcontractor.
 2. DBE Contract Goal Verification and Good Faith Efforts (GFE) Documentation for Construction. List the dollar amount of all subcontractors, manufacturers, suppliers, and trucking companies (both DBE and non-DBE firms). Bidder/offeror must also list the DBE project goal on this form (See paragraph D below regarding goal calculation). The bidder/offeror must submit documentation demonstrating how the DBE goal was met or how the bidder/offeror attempted to meet the goal if the goal was not met. This documentation shall include quotations for both DBE and non-DBE subcontractors when a non-DBE is selected over a DBE for the project. **Documentation of good faith efforts is required irrespective of whether the bidder/offeror met the DBE project goal.**
- The above forms must be complete and provide the necessary information to properly evaluate bids/proposals. Failure to provide any of the above shall be cause for bid/proposal rejection.**
- D. Calculation of the DBE contract goal for this project is the proportionate contract dollar value of work performed, materials, and goods to be supplied by DBEs. DBE credit shall not be given for mobilization, force account items and allowance items. This DBE contract goal is applicable to all the contract work performed for this project and is calculated as follows:
1. DBE contract goal percentage = Contract Dollar Value of the work to be performed by DBE subcontractors and manufacturers, plus 60% of the contract dollar value of DBE suppliers, divided by the sum of all contract items (sum of all contract items is the total amount for comparison of bids less mobilization, force account items, and allowance items).

² In computing calendar days, the day from which the period begins to run is not counted, and when the last day of the period is a Saturday, Sunday, or Federal or State holiday, the period extends to the next day that is not a Saturday, Sunday, or holiday.

2. The Department shall adjust the bidder's/offeror's DBE contract goal to the amount of the project goal if it finds that the bidder/offeror met the goal but erroneously calculated a lower percentage. If the amount the bidder/offeror submits as its contract goal exceeds the project goal, the bidder/offeror shall be held to the higher goal.

VI. COUNTING DBE PARTICIPATION TOWARDS CONTRACT GOAL

- A. Count the entire amount of the portion of a contract (or other contract not covered by paragraph B below) that is performed by the DBE's own forces. Include the cost of supplies and materials obtained by the DBE for the work on the contract, including supplies purchased or equipment leased by the DBE (except supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate).
- B. Count the entire amount of fees or commissions charged by an DBE firm for providing a bona fide service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a USDOT-assisted contract, toward DBE goals, provided the Department determines the fee to be reasonable and not excessive as compared with fees customarily allowed for similar services.
- C. When an DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the DBE's subcontractor is itself an DBE. Work that an DBE subcontracts to a non-DBE firm does not count toward DBE goals.
- D. When an DBE performs as a participant in a joint venture, count a portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract that the DBE performs with its own forces toward DBE goals.
- E. Count expenditures to an DBE contractor toward DBE goals only if the DBE is performing a CUF on that contract.
- F. The following is a list of appropriate DBE credit to be allowed for work to be performed by an DBE subcontractor. Count expenditures with DBEs for materials or supplies toward DBE goals as provided in the following:
 1. If the materials or supplies are obtained from an DBE manufacturer, count 100 percent of the cost of the materials or supplies toward DBE goals;
 2. For purposes of determining DBE goal credit, a manufacturer is a firm that operates or maintains a factory or establishment that produces (on the premises) the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications;

3. If the materials or supplies are purchased from an DBE regular dealer, count 60 percent of the cost of the materials or supplies toward DBE goals;
4. For purposes of determining DBE goal credit, a regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business;
5. To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question;
6. A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business as provided in the DBE Regulations, if the person both owns and operates distribution equipment for the products. Any supplementing of a regular dealers' own distribution equipment shall be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis;
7. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers;
8. With respect to materials or supplies purchased from an DBE, which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site, toward DBE goals, provided that the Department determines the fees to be reasonable and not excessive as compared with fees customarily allowed for similar services. Do not count any portion of the cost of the materials and supplies themselves toward DBE goals; however,
9. If a firm is not currently certified as an DBE in accordance with standards of this part at the time of the execution of the contract, do not count the firm's participation toward any DBE goals, except as provided for in §26.87(i);
10. Do not count the dollar value of work performed under a contract with a firm after it has ceased to be certified toward the Department's overall goal; and
11. Do not count the participation of an DBE subcontractor toward a contractor's final compliance with its DBE obligations on a contract until the amount being counted has actually been paid to the DBE.

G. The following factors are used in counting DBE participation for trucking companies:

1. The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular

contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals;

2. The DBE must itself own and operate at least one (1) fully licensed, insured, and operational truck used on the contract;
3. The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs;
4. The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as an DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract;
5. The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE that leases trucks equipped with drivers from a non-DBE is entitled to credit for the total value of transportation services provided by non-DBE leased trucks equipped with drivers not to exceed the value of transportation services on the contract provided by DBE-owned trucks or leased trucks with DBE employee drivers. Additional participation by non-DBE owned trucks equipped with drivers receives credit only for the fee or commission it receives as a result of the lease arrangement. If a recipient chooses this approach, it must obtain written consent from the appropriate Department operating administration.
EXAMPLE: DBE firm X uses two (2) of its own trucks on a contract, leases two (2) trucks from DBE Firm Y and six (6) trucks from non-DBE Firm Z. DBE credit would be awarded for the total value of transportation services provided by Firm X and Firm Y, and may also be awarded for the total value of transportation services provided by four (4) of the six (6) trucks provided by Firm Z. In all, full credit would be allowed for the participation of eight (8) trucks. With respect to the other two (2) trucks provided by Firm Z, DBE credit could be awarded only for the fees or commissions pertaining to those trucks Firm X receives as a result of the lease with Firm Z;
6. The DBE may lease trucks without drivers from a non-DBE truck leasing company. If the DBE leases trucks from a non-DBE truck leasing company and uses its own employees as drivers, it is entitled to credit for the total value of these hauling services.
EXAMPLE: DBE Firm X uses two (2) of its own trucks on a contract. It leases two (2) additional trucks from non-DBE Firm Z. Firm X uses its own employees to drive the trucks leased from Firm Z. DBE credit would be awarded for the total value of the transportation services provided by all four (4) trucks; and
7. For purposes of determining whether a trucking firm performs a CUF, a lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

- H. The bidder/offeror may be a joint venture or partnership that has a certified DBE as a partner. A “Joint Venture” means an association between an DBE firm and one (1) or more other firms to carry out a single, for-profit, business enterprise for which the parties combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract, and whose share in the capital contribution, control, management, risks and profits are commensurate with its ownership interest.
- I. Effects of a Summary Suspension of an DBE. When an DBE’s certification is suspended, the DBE may not be considered to meet a contract goal on a new contract and any work it does on a contract received during the suspension shall not be counted towards the overall goal. The DBE may continue to perform work under an existing contract executed before the DBE received a Notice of Suspension and may be counted towards the contract goal during the period of suspension as long as the DBE is performing a CUF under the existing contract.
- J. Effects of Decertification of an DBE. Should an DBE become decertified during the term of the subcontract for reasons beyond the control of and with no fault or negligence on the part of the contractor, the work remaining under the subcontract may be credited towards the contract goal, but are not included in the overall accomplishments.

Should the DBE be decertified after contract award and before notice to proceed, the contractor must still meet the DBE goal by either: a) withdrawing the subcontract from the DBE and expending good faith efforts to replace it with an DBE that is currently certified for that same work; or b) continuing with the subcontract with the decertified firm and expending good faith efforts to find other work not already subcontracted out to DBEs in an amount to meet the DBE goal either by; 1) increasing the participation of other DBEs on the project; 2) documenting good faith efforts; or 3) by a combination of the above.

VII. USE OF JOINT CHECKS UNDER THE DBE PROGRAM

- A. The following guidelines apply to the use of joint checks:
1. The second party (typically the prime contractor) acts solely as a guarantor;
 2. The DBE must release the check to the supplier;
 3. The use of joint checks is a commonly recognized business practice;
 4. The Department must approve the use of joint checks prior to use by contractors and/or DBEs. As part of this approval process the Department will analyze industry practice to confirm that the use of joint checks is commonly employed outside of the DBE program for non-DBE subcontractors on both federal and state funded contracts. Using joint checks shall not be approved if it conflicts with other aspects of the DBE Regulations regarding CUF; and
 5. The Department will monitor the use of joint checks closely to avoid abuse.

- B. Contractors and DBEs should review the following general guidelines when determining whether to use joint checks closely to avoid abuse:
1. That standard industry practice applies to all contractors (federal and state contracts);
 2. Use of joint checks must be available to all subcontractors;
 3. Material industry sets the standard industry practice, not prime contractors;
 4. Short term, not to exceed reasonable time (i.e., one (1) year, two (2) years) to establish/increase a credit line with the material supplier;
 5. No exclusive arrangement between one (1) prime and one (1) DBE in the use of joint checks that might bring the independence of the DBE into question;
 6. Non-proportionate ratio of DBE's normal capacity to size of contract and quantity of material to be provided under the contract;
 7. The DBE is normally responsible to install and furnish the work item; and
 8. The DBE must be more than an extra participant in releasing the check to the material supplier.
- C. The Department shall allow the use of joint checks if the following general conditions are met:
1. DBE submits request to the Department for action;
 2. There is a formalized agreement between all parties that specify the conditions under which the arrangement shall be permitted;
 3. There is a full and prompt disclosure of the expected use of joint checks;
 4. The Department will provide prior approval;
 5. DBE remains responsible for all other elements of 49 CFR 26.55(c)(1);
 6. The agreement states clearly and determines that independence is not threatened because the DBE retains final decision making responsibility;
 7. The Department will determine that the request is not an attempt to artificially inflate DBE participation;
 8. Standard industry practice is only one (1) factor;
 9. The Department will monitor and maintain oversight of the arrangement by reviewing cancelled checks and/or certification statement of payment; and
 10. The Department will verify there is no requirement by prime contractor that the DBE is to use a specific supplier nor the prime contractor's negotiated unit price.

VIII. DEMONSTRATION OF GOOD FAITH EFFORTS FOR CONTRACT AWARD

- A. When a project goal is not met, the Department shall conduct the initial review of GFE submitted by the bidder/offeror and shall determine whether the bidder/offeror has performed the quality, quantity, and intensity of efforts that demonstrate a reasonably active and aggressive attempt to meet the contract goal in accordance with 49 CFR Part 26, Appendix A.

- B. The bidder/offeror bears the responsibility of demonstrating that it met the contract goal, or if the contract goal was not met, by documenting the GFE it made in an attempt to meet the goal. It is the sole responsibility of the bidder/offeror to submit any and all documents, logs, correspondence, and any other records or information to the Department that will demonstrate that the bidder/offeror made good faith efforts to meet the DBE goal.
- C. In its good faith evaluation, the Department shall perform the following as part of its evaluation: a) compare the bidder's/offeror's bid against the bids/offers of other bidders/offerors, and compare the DBEs and DBE work areas utilized by the bidder/offeror with the DBEs listed in other bids/offers submitted for this contract (If other bidders obtained DBEs in a particular work area in which the low bidder did not, the Department shall take this into consideration in its evaluation); b) verify contacts by bidders/offerors with DBEs; and c) compare the DBE and the categories of DBE work targeted by the bidder/offeror for participation in the contract, with the total pool of available DBEs ready, willing and able to perform work on each particular subcontract targeted by the bidder/offeror.
- D. Actions on the part of the bidder/offeror that will be considered demonstrative of good faith efforts include, but are not limited to, the following:
1. Whether the bidder/offeror submitted the required information (i.e., DBE name, address, NAICS code, description of work, project name, and number), and dollar amounts for all subcontractors, within five (5) days of bid opening;
 2. Whether the bidder/offeror solicited through all reasonable and available means (e.g., attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform part or all of the work to be included under the contract. The Department will also consider whether the bidder/offeror solicited the participation of potential DBEs as early in the procurement process as practicable, and allowed sufficient time for the DBEs to properly inquire about the project and respond to the solicitation. The Department will also review whether the bidder/offeror took appropriate steps to follow up with interested DBEs in a timely manner to facilitate participation by DBEs in this project;
 3. Whether the bidder/offeror identified and broke up portions of work that can be performed by DBEs in order to increase the likelihood that an DBE will be able to participate, and that the DBE goal could be achieved (e.g., breaking out contract items into economically feasible units to facilitate DBE participation even when the bidder/offeror might otherwise prefer to self-perform these work items with its own forces);
 4. Whether the bidder/offeror made available or provided interested DBEs with adequate information about the plans, specifications, and requirements of the project in a timely manner, and assisted them in responding to the bidder's/offeror's solicitation;

5. Whether the bidder/offeror negotiated in good faith with interested DBEs. Evidence of such negotiations includes documenting: a) the names, addresses and telephone numbers of DBEs that were contacted; b) a description of the information that was provided to DBEs regarding the plans and specifications; and c) detailed explanation for not utilizing individual DBEs on the project;
6. Whether the bidder/offeror solely relied on price in determining whether to use an DBE. The fact that there may be additional or higher costs associated with finding and utilizing DBEs are not, by itself, sufficient reasons for a bidder's/offeror's refusal to utilize an DBE, or the failure to meet the DBE goal, provided that such additional costs are not unreasonable. Also, the ability or desire of a bidder/offeror to perform a portion of the work with its own forces, that could have been undertaken by an available DBE, does not relieve the bidder/offeror of the responsibility to make good faith efforts to meet the DBE goal, and to make available and solicit DBE participation in other areas of the project to meet the DBE goal;
7. Whether the bidder/offeror rejected DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The DBEs standing within the industry, membership in specific groups, organizations or associations, and political or social affiliation are not legitimate basis for the rejection or non-solicitation of bids from particular DBEs;
8. Whether the bidder/offeror made efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance;
9. Whether the bidder/offeror made efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services;
10. Whether the bidder/offeror effectively used the services of available minority/women community organizations, minority/women business groups, contractors' groups, and local, state and federal minority/women business assistance offices or other organizations to provide assistance in recruitment and placement of DBEs;
11. Whether the bidder/offeror, who selects a non-DBE over an DBE subcontractor, has quotes of each DBE and non-DBE subcontractor submitted to the bidder for work on the contract; and for each DBE that was contacted but not utilized by the bidder/offeror for a contract, the bidder/offeror has a detailed written explanation for each DBE detailing the reasons for the bidder's/offeror's failure or inability to utilize, or to allow the DBE to participate in the contract; and
12. Whether other bidders/offerors met the goal and whether the apparent successful bidder/offeror could have met the goal with additional efforts. The Department may determine that an apparent successful bidder/offeror who fell short of meeting the goal, made good faith efforts when it met or exceeded the average DBE participation obtained by other bidders/offerors.

IX. ADMINISTRATIVE RECONSIDERATION.

If it is determined by the Department that the apparent successful bidder/offeror has failed to meet the provisions of 49 CFR Section 26.53(a), the bidder/offeror may submit a request for administrative reconsideration. If under the provisions of 49 CFR, Section 26.53(d), it is determined by the Department that the apparent successful bidder/offeror has failed to meet the provisions of this subsection, the bidder/offeror may submit a written request for administrative reconsideration.

- A. Within five (5) working days of being informed in writing by the Department that the bidder/offeror has not documented sufficient GFE, a bidder/offeror may request administrative reconsideration. Bidders/offerors should make this request in writing to the following official:

Director of Transportation
Hawaii Department of Transportation
869 Punchbowl Street, Room 509
Honolulu, Hawaii 96813

- B. The reconsideration official, or his or her designee (referred to as “reconsideration official”), shall not have played any role in the original determination that the bidder/offeror failed to meet the goal or make adequate good faith efforts to do so.
- C. As part of this reconsideration, the bidder/offeror will have the opportunity to provide written documentation or argument concerning the issue of whether it met the goal or made adequate GFE to do so. The bidder/offeror will have the opportunity to meet in person with the reconsideration official to discuss the issue of whether it met the goal or made adequate GFE to do so.
- D. In an administrative reconsideration, the reconsideration official will review all previously submitted documents, oral and written arguments, and other evidence presented in the reconsideration, in making the decision.
- E. The Department shall inform the bidder/offeror of the decision within thirty (30) days of the proceeding. The decision will state the Department’s findings, and explain the basis of those findings, with respect to whether or not the bidder/offeror met the contract goal, or whether or not the bidder/offeror made adequate GFE to achieve the contract goal.
- F. The reconsideration decision is not administratively appealable to USDOT but is appealable under HRS 103D-709.

X. AWARD OF CONTRACT

- A. In a sealed bid procurement, the Department reserves the right to reject any or all bids. The award of contract, if it is awarded, will be to the lowest responsive and responsible bidder who meets or exceeds the DBE project goal, or who makes

good faith efforts to meet or exceed the DBE project goal, as determined by the Department.

- B. If the lowest responsible bidder does not meet the DBE project goal and does not demonstrate to the satisfaction of the Department that it made good faith efforts to meet the DBE project goal, such bid shall be rejected as non-responsive. The Department will then consider the next lowest responsive and responsible bidder for award in accordance with paragraph A above.

XI. REPLACEMENT OF AN DBE ON A PROJECT WITH A CONTRACT GOAL

Under this contract, the prime contractor shall utilize the specific DBE listed to perform the work and supply the materials for which each is listed unless the contractor obtains written consent from the Department to replace an DBE. If the Department's consent is not provided, the contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE. The Department reserves the right to request copies of all DBE subcontracts.

The Department will require a contractor to make good faith efforts to replace an DBE that is terminated or has otherwise failed to complete its work on a contract with another certified DBE, to the extent needed to meet the contract goal. A prime contractor's inability to find a replacement DBE at the original price is not sufficient to demonstrate that good faith efforts have been made to replace the original DBE. The fact that the contractor has the ability and/or desire to perform the contract work with its own forces does not relieve the contractor of the obligation to make good faith efforts to find a replacement DBE, and it is not a sound basis for rejecting a prospective replacement DBE's reasonable quote.

The Department will require the prime contractor to promptly provide written notice to the project manager of the DBE's inability or unwillingness to perform and provide reasonable documentation.

The written notice by the contractor must include the following:

1. The date the contractor determined the certified DBE to be unwilling, unable or ineligible to perform work on the contract;
2. The projected date that the contractor shall require a substitution or replacement DBE to commence work if consent is granted by the Department;
3. Documentation of facts that describe and cite specific actions or inactions on the part of the affected DBE that led to the contractor's conclusion that the DBE is unwilling, unable, or ineligible to perform work on the contract;
4. A brief statement of the affected DBE's capacity and ability or inability to perform the work as determined by the contractor;
5. Documentation of contractor's good faith efforts to enable affected DBE to perform the work;
6. The current percentage of work completed on each bid item by the affected DBE;

7. The total dollar amount currently paid per bid item for work performed by the affected DBE;
8. The total dollar amount per bid item remaining to be paid to the DBE for work completed but for which the DBE has not received payment, and with which the contractor has no dispute; and
9. The total dollar amount per bid item remaining to be paid to the DBE for work completed, for which the DBE has not received payment, and with which the contractor and DBE have a dispute.

The prime contractor shall send a copy of the written notice to replace a certified DBE on a contract to the affected DBE. The affected DBE may submit a written response within five (5) calendar days to the Department to explain its position on its performance on the committed work. The Department shall consider both the prime contractor's request and DBE's stated position before approving the termination or substitution request, or determining if any action shall be taken against the contractor.

There shall be no substitution or termination of an DBE subcontractor at any time without the prior written consent of the Department. The Department will provide written consent only if the contractor has good cause, as determined by the Department, to terminate the DBE. Good cause may include, but is not limited to the following circumstances:

1. The DBE subcontractor fails or refuses to execute a written contract;
2. The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards;
3. The listed DBE subcontractor fails or refuses to meet the prime contractor's reasonable, nondiscriminatory bond requirements;
4. The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
5. The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant to 2 CFR Parts 180, 215 and 1200 or applicable state law;
6. The Department has determined that the listed DBE subcontractor is not a responsible contractor;
7. The listed DBE subcontractor voluntarily withdraws from the project and provides to the Department written notice of its withdrawal;
8. The listed DBE is ineligible to receive DBE credit for the type of work required; and
9. An DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract.

Upon approval from the Department to replace an DBE, the contractor's good faith efforts shall be documented and submitted to the Department within seven (7) calendar days. This time period may be extended for another seven (7) calendar days upon request by the prime contractor.

If an DBE subcontractor is unable to perform work under the contract, and is to be

replaced, the contractor's failure to obtain a substitute certified DBE or to make good faith efforts to obtain such a substitute DBE subcontractor to perform said work, may constitute a breach of this contract for which the Department may terminate the contract or pursue such remedy as deemed appropriate by the Department.

XII. CONTRACT COMPLIANCE

This contract is subject to contract compliance tracking, and the prime contractor and all subcontractors are required to report payments electronically in the HDOT online Certification and Contract Compliance Management System (hereafter referred to as "online tracking system"). The prime contractor shall report the date payment was made by the Department and shall report payment to all subcontractors for the audit period. The prime contractor and all subcontractors are responsible for responding by any noted response date or due date to any instructions or request for information, and to check the online tracking system on a regular basis to manage contact information and contract records.

The prime contractor is responsible for ensuring all subcontractors have completed all requested items and that their contact information is accurate and up-to-date. HDOT may require additional information related to the contract to be provided electronically through the online tracking system at any time before, during, or after contract award. Information related to contractor access of the online tracking system will be provided to designated point of contact with each contractor upon award of the contract. The online tracking system is web-based and can be accessed at the following Internet address: <https://hdot.dbesystem.com/>.

XIII. PAYMENT

- A. The Department will make an estimate in writing each month based on the items of work performed and materials incorporated in the work and the value therefore at the unit prices or lump sum prices set forth in the contract. All progress estimates and payments will be approximate only and shall be subject to correction at any time prior to or in the final estimate and payment. The Department will not withhold any amount from any payment to the contractor, including retainage.
- B. The contractor shall pay all subcontractors within ten (10) calendar days after receipt of any progress payments from the Department. This clause applies to both DBE and non-DBE subcontractors, and all tiers of subcontracts.
- C. The contractor will verify that payment or retainage has been released to the subcontractors or its suppliers within the specified time through entries in the Department's online tracking system during the corresponding monthly audits. Prompt payment will be monitored and enforced through the contractor's reporting of payments to its subcontractors and suppliers in the online tracking system.

Subcontractors, including lower tier subcontractors and/or suppliers will confirm the timeliness and the payment amounts received utilizing the online tracking system. Discrepancies will be investigated by the DBE Program Office and the project engineer. Payments to the subcontractors, including lower tier subcontractors, and including retainage released after the subcontractor or lower tier subcontractor's work has been completed to the Department's satisfaction, will be reported by the Contractor or the subcontractor.

- D. When any subcontractor has satisfactorily completed its work as specified in the subcontract, and there are no bona fide disputes, the contractor shall make prompt and full payment to the subcontractor of all monies due, including retainage, within ten (10) calendar days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented, as required by the Department. The contractor must obtain the prior written approval from the Department before it can continue to withhold retainage from any subcontractor who has completed its portion of the work. This clause applies to both DBE and non-DBE subcontractors, and all tiers of subcontracts.

XIV. RECORDS

The contractor shall maintain and keep all records necessary for the Department to determine compliance with the contractor's DBE obligations. The records shall be available at reasonable times and places for inspection by the Department and appropriate Federal agencies. The records to be kept by the contractor shall include:

1. The names, race/ethnicity, gender, address, phone number, and contact person of all DBE and non-DBE consultants, subcontractors, manufacturers, suppliers, truckers and vendors identified as DBEs;
2. The nature of work of each DBE and non-DBE consultant, subcontractor, manufacturer, supplier, trucker and vendor;
3. The dollar amount contracted with each DBE and non-DBE consultant, subcontractor, manufacturer, supplier, trucker and vendor; and
4. Cumulative dollar amount of all change orders to the subcontract.

XV. FAILURE TO COMPLY WITH DBE REQUIREMENTS

The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of USDOT assisted contracts. All contractors, subcontractors, manufacturers and suppliers are hereby advised that failure to carry out all DBE requirements specified herein shall constitute a material breach of contract that may result in termination of the contract or such other remedy as deemed appropriate by the Department including but not limited to: 1) withholding monthly progress payments; 2) assessing sanctions; 3) liquidated damages; and/or 4) disqualifying the contractor from future bidding as non-responsible.

BUY AMERICAN PREFERENCE STATEMENT

The Buy American Preference requirement in 49 USC § 50101 requires that all steel and manufactured goods used on AIP projects be produced in the United States. The statute gives the FAA the ability to issue a waiver to a sponsor to use non-domestic material on an AIP funded project subject to meeting certain conditions. A sponsor may request that the FAA issue a waiver from the Buy American Preference requirements if the FAA finds that:

1. Applying the provision is not in the public interest;
2. The steel or manufactured goods are not available in sufficient quantity or quality in the United States;
3. The cost of components and subcomponents produced in the United States is more than 60 percent of the total components of a facility or equipment, and final assembly has taken place in the United States. Items that have an FAA standard specification item number (such as specific airport lighting equipment) are considered the equipment.
4. Applying this provision would increase the cost of the overall project by more than 25 percent.

The Contractor agrees to comply with 49 USC § 50101, which provides that Federal funds may not be obligated unless all steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

A bidder or offeror must complete and submit the Buy America certification included herein with their bid or offer. The Owner will reject as nonresponsive any bid or offer that does not include a completed Certificate of Buy American Compliance.

Appendix X. Buy American Guidance

X-1. General Sponsor Buy American Requirements.

The Buy American Preferences under 49 USC § 50101 require that all steel and manufactured goods used in AIP funded projects be produced in the United States. Under 49 USC § 50101(c), ground transportation demonstration projects in 49 USC § 47127 are excluded. Sponsors must complete one of the three requirements in Table X-1 for the AIP projects (including ineligible or non-AIP funded work included in the same contract).

Table X-1 General Sponsor Buy American Requirements

All sponsors must complete one of the following for AIP funded projects...
(1) Certify, in writing, all products are wholly produced in America and are of 100% U.S. materials.
(2) Certify that all equipment that is being used on the project is on the Nationwide Buy American conformance list.
(3) Request a waiver to use non- U.S. produced products.

X-2. Other Buy American and Buy America Requirements.

There are other Buy American and Buy America preference rules and requirements imposed by other Federal agencies that may differ from the AIP Buy American guidance. That is because there are difference statutory requirements for other Federal agencies and grant programs that do not apply to AIP.

X-3. Changes Orders and Buy American Requirements.

A change order to a project requires a separate Buy American review and may require an ADO determination.

X-4. Buy American Waiver Process and Delegation.

Under 49 USC § 50101(b) and 49 CFR § 1.83(a)(11), the FAA is given the authority to waive these Buy American Preferences if certain market or product conditions exist. Many pieces of equipment are constructed with some non- U.S. produced components or subcomponents. Therefore, it is expected that the sponsor will have to request a waiver on a majority of projects (unless the project is constructed of materials that already have a nationwide waiver). These requirements only apply to manufactured components and subcomponents. Software is not considered a component or subcomponent.

The four types of Buy American waivers that the FAA may be issued are listed in Table X-2. The responsibility for Type I and II waivers, as well as any nationwide waivers remains with

APP-500. The ADOs have been delegated the authority to issue Type III and Type IV waivers to a sponsor on a project level.

Table X-2 Criteria by Buy American Waiver Type

For the following...	The following criteria apply...
Type I Waiver	Per 49 USC § 50101(b)(1), the FAA can issue this type of waiver if the FAA determines that applying the Buy American requirements would be inconsistent with the public interest. Due to the possible national implications of such a waiver, APP-500 is responsible for reviewing and issuing Type I Waivers.
Type II Waiver	Per 49 USC § 50101(b)(2), the FAA can issue this type of waiver for equipment or construction material if the FAA determines that the goods are not produced in a sufficient and reasonably available amount or are not of a satisfactory quality. Type II Waivers can only be issued on the equipment/construction material level and cannot be issued for a system and/or facility that is comprised of various pieces of equipment/construction material. These waivers are issued by APP-500, after the FAA publishes a Federal Register Notice asking manufacturers to advise the FAA if they manufacture the equipment/material that is seeking a waiver and if their product meets the FAA specifications and Buy American requirements. After manufacturers respond to this notice, APP-500 will make a determination if there is insufficient quantity or quality.
Type III Waiver	<p>Per 49 USC § 50101(b)(3), the FAA can issue this type of waiver if the FAA determines that 60% or more of the components and subcomponents in the equipment/facility are of U.S. origin and their final assembly is in the United States. A Type III Waiver cannot be issued at the system level and must be issued for each piece of equipment; however, in the case of facilities a Type III Waiver may be issued for the entire facility if all the construction materials when combined meet the 60% U.S. origin requirement. The ADO may issue these waivers. For block grant state projects, only the FAA (usually the ADO) may issue the waivers. Block grant states are not allowed to issue a waiver. To complete a Type III Waiver request, the following supporting documentation must be submitted by the requester:</p> <ol style="list-style-type: none"> <li data-bbox="402 1352 1373 1472">(1) A completed Buy American Content Percentage Calculation Worksheet (or equivalent) (see Appendix B for link). Per 49 USC § 50101(c), labor costs at final assembly must be excluded from this worksheet. This is because the Buy American statute is based on the cost of materials and equipment, not labor. <li data-bbox="402 1493 1386 1577">(2) A completed Buy American Product Final Assembly Questionnaire (or equivalent) (see Appendix B for link). Final assembly in the United States must meet the standard defined below under Final Assembly Location. <li data-bbox="402 1598 1393 1808">(3) The manufacturer must certify in writing that any major structural steel used in their equipment is of 100% U.S. origin. Small amounts of steel that are used in components and subcomponents, that are not structural steel, may be of foreign origin. This would typically consist of nuts, bolts and clips. For these types of steel, the manufacturer must indicate the use of the steel (nuts, bolts, clips, etc.) and must count this steel as non-U.S. origin when completing the Content Percentage Calculation Form. <p>Per FAA policy, after the ADO reviews the waiver request, the ADO must send a notification to the requester informing them of the approval or disapproval of the</p>

Table X-2 Criteria by Buy American Waiver Type

For the following...	The following criteria apply...
	<p>waiver. The ADO must use the following language in this notification for project specific waivers: <i>I have reviewed the request for Waiver of Buy American Requirement submitted by XXX for the use of XXXXX equipment on the subject project. The information submitted by XXXX satisfies the requirement for waiver of the requirements of 49 USC § 50101 based on XX% of the cost of components and subcomponents to be used in the project being produced in the United States with final assembly being performed in XXXXXXXX. The waiver is hereby approved for use on this AIP grant project.</i></p> <p>The ADO must place a copy of the notifications in the grant file. Following this notification, no further action is required.</p>
Type IV Waiver	<p>Per 49 USC § 50101(b)(4), the FAA can issue this type of waiver if the FAA determines that applying Buy American requirements increases the cost of the overall project by more than 25%. The ADO may issue these waivers. For block grant state projects, only the FAA (usually the ADO) may issue the waivers. Block grant states are not allowed to issue a waiver. In order to issue this type of waiver, the FAA must determine that there is at least one bid from a Buy American compliant supplier to make the 25% cost increase determination.</p> <p>Per FAA policy, after the ADO reviews the waiver request, the ADO must send a notification to the requester informing them of the approval or disapproval of the waiver. The ADO must use the following language in this notification for project specific waivers: <i>I have reviewed the request for Waiver of Buy American Requirement submitted by XXX for the use of XXXXX equipment on the subject project. The information submitted by XXXX satisfies the requirement for waiver of the requirements of 49 USC § 50101 that including domestic material will increase the cost of the overall project by more than 25%. The waiver is hereby approved for use on this AIP grant project.</i></p> <p>The ADO must place a copy of the notifications in the grant file. Following this notification no further action is required.</p>

X-5. National Buy American Waiver.

APP-500 may issue National Waivers for certain equipment/material that is used frequently in AIP funded projects. APP-500 will list these National Waivers on the FAA Office of Airports website under the Buy American Conformance List. Any equipment or materials on the Buy American Conformance List do not need additional waiver materials. All personnel not in APP-500 must direct any manufacturer seeking to be added to this Buy American Conformance List to APP-500.

X-6. Definitions.

To assist in making Buy American Waiver determinations the following definitions apply:

Table X-3 Buy American Specific Definitions

Buy American Waiver specific definitions include...
<p>a. Project. The <i>Project</i> is generally the project that is being bid or procured. The <i>Project</i> does not extend over multiple grants or phases, even though the overall project may be phased or may be built in multiple bid packages.</p>
<p>b. Facility or Equipment. This will be defined differently depending on the project. For a building, the portion of the building that is being funded under the AIP grant is the <i>facility</i> listed in the waiver. For other projects, the bid items as described in the current version of Advisory Circular 150/5370-10, Standards for Specifying Construction of Airports, will generally be the <i>equipment</i> referred to in the waiver except for airfield electrical equipment. For airfield electrical equipment, the L- items listed in the Addendum to the current version of Advisory Circular 150/5345-53, Airport Lighting Equipment Certification Program, will generally be the <i>equipment</i> referred to in the waiver. For a vehicle or single piece of equipment like a snow plow or ARFF vehicle, the single vehicle itself is the <i>equipment</i>.</p>
<p>c. Final Assembly Location. Final assembly is a process whereby assembly is meaningful and complex utilizing a substantial amount of time and resources, a number of different assembly operations, and a high level of skilled labor. The Final Assembly Questionnaire must be completed in order to determine whether final assembly occurs at the recorded site.</p>
<p>d. Nonavailable Items. By FAA policy, the list of items that have been determined nonavailable per 48 CFR § 25.104 are excluded from the Buy American preference requirements for AIP funded projects. This list includes petroleum products; therefore, asphalt is a nonavailable item per this list. In addition, the FAA has determined that cement and concrete are also nonavailable items excluded from the Buy American preference requirements (although the steel used for reinforcement, ties, stirrups, etc. must meet Buy American).</p>

49 U.S.C.

United States Code, 2009 Edition
Title 49 - TRANSPORTATION
SUBTITLE VII - AVIATION PROGRAMS
PART E - MISCELLANEOUS
CHAPTER 501 - BUY-AMERICAN PREFERENCES
Sec. 50101 - Buying goods produced in the United States
From the U.S. Government Publishing Office, www.gpo.gov

§50101. Buying goods produced in the United States

(a) **P. REFERENCE.**—The Secretary of Transportation may obligate an amount that may be appropriated to carry out section 106(k), 44502(a)(2), or 44509, subchapter I of chapter 471 (except section 47127), or chapter 481 (except sections 48102(e), 48106, 48107, and 48110) of this title for a project only if steel and manufactured goods used in the project are produced in the United States.

(b) **WAIVER.**—The Secretary may waive subsection (a) of this section if the Secretary finds that—

- (1) applying subsection (a) would be inconsistent with the public interest;
- (2) the steel and goods produced in the United States are not produced in a sufficient and reasonably available amount or are not of a satisfactory quality;
- (3) when procuring a facility or equipment under section 44502(a)(2) or 44509, subchapter I of chapter 471 (except section 47127), or chapter 481 (except sections 48102(e), 48106, 48107, and 48110) of this title—

(A) the cost of components and subcomponents produced in the United States is more than 60 percent of the cost of all components of the facility or equipment; and

(B) final assembly of the facility or equipment has occurred in the United States; or

(4) including domestic material will increase the cost of the overall project by more than 25 percent.

(c) **LABOR COSTS.**—In this section, labor costs involved in final assembly are not included in calculating the cost of components.

(Pub. L. 103–272, §1(e), July 5, 1994, 108 Stat. 1298, §49101; renumbered §50101 and amended Pub. L. 104–287, §5(88)(D), (89), Oct. 11, 1996, 110 Stat. 3398.)

HISTORICAL AND REVISION NOTES

PUB. L. 103–272

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
49101(a)	49 App.:2226a(a).	Nov. 5, 1990, Pub. L. 101–508, §9129, 104 Stat. 1388–371.
49101(b)	49 App.:2226a(b).	
49101(c)	49 App.:2226a(c).	

In this chapter, the word “goods” is substituted for “product” and “products” for consistency.

In subsection (a), the words “Notwithstanding any other provision of law” are omitted as surplus. The words “after November 5, 1990” are omitted as obsolete.

In subsection (b), before clause (1), the words “The Secretary may waive” are substituted for “shall not apply” for consistency. In clause (2), the words “steel and goods” are substituted for “materials and products” for consistency. In clause (4), the word “contract” is omitted as surplus.

P. B. L. 104–287, §5(89)

This makes a clarifying amendment to 49:50101(a) and (b)(3), 50102, 50104(b)(1), and 50105, as redesignated by clause (88)(D) of this section, because 49:47106(d) was struck by section 108(1) of the Federal Aviation Administration Authorization Act of 1994 (Public Law 103–305, 108 Stat. 1573).

AMENDMENTS

1996—Pub. L. 104–287, §5(88)(D), renumbered section 49101 of this title as this section.

Subsecs. (a), (b)(3). Pub. L. 104–287, §5(89), substituted “section 47127” for “sections 47106(d) and 47127”.

USE OF DOMESTIC PRODUCTS

Pub. L. 103–305, title III, §305, Aug. 23, 1994, 108 Stat. 1592, provided that:

“(a) PROHIBITION AGAINST FRAUDULENT USE OF ‘MADE IN AMERICA’ LABELS.—(1) A person shall not intentionally affix a label bearing the inscription of ‘Made in America’, or any inscription with that meaning, to any product sold in or shipped to the United States, if that product is not a domestic product.

“(2) A person who violates paragraph (1) shall not be eligible for any contract for a procurement carried out with amounts authorized under this title [enacting section 47509 of this title, amending sections 44505 and 48102 of this title, and enacting provisions set out as notes under this section and section 40101 of this title], including any subcontract under such a contract pursuant to the debarment, suspension, and ineligibility procedures in subpart 9.4 of chapter 1 of title 48, Code of Federal Regulations, or any successor procedures thereto.

“(b) COMPLIANCE WITH BUY AMERICAN ACT.—(1) Except as provided in paragraph (2), the head of each office within the Federal Aviation Administration that conducts procurements shall ensure that such procurements are conducted in compliance with sections 2 through 4 of the Act of March 3, 1933 (41 U.S.C. 10a through 10c [41 U.S.C. 10a—10b–1], popularly known as the ‘Buy American Act’).

“(2) This subsection shall apply only to procurements made for which—

“(A) amounts are authorized by this title to be made available; and

“(B) solicitations for bids are issued after the date of the enactment of this Act [Aug. 23, 1994].

“(3) The Secretary, before January 1, 1995, shall report to the Congress on procurements covered under this subsection of products that are not domestic products.

“(c) DEFINITIONS.—For the purposes of this section, the term ‘domestic product’ means a product—

“(1) that is manufactured or produced in the United States; and

“(2) at least 50 percent of the cost of the articles, materials, or supplies of which are mined, produced, or manufactured in the United States.”

Similar provisions were contained in the following prior authorization act: Pub. L. 102–581, title III, §305, Oct. 31, 1992, 106 Stat. 4896.

PURCHASE OF AMERICAN MADE EQUIPMENT AND PRODUCTS

Pub. L. 103–305, title III, §306, Aug. 23, 1994, 108 Stat. 1593, provided that:

“(a) SENSE OF CONGRESS.—It is the sense of Congress that any recipient of a grant under this title [enacting section 47509 of this title, amending sections 44505 and 48102 of this title, and enacting provisions set out as notes under this section and section 40101 of this title], or under any amendment made by this title, should purchase, when available and cost-effective, American made equipment and products when expending grant monies.

“(b) NOTICE TO RECIPIENTS OF ASSISTANCE.—In allocating grants under this title, or under any amendment made by this title, the Secretary shall provide to each recipient a notice describing the statement made in subsection (a) by the Congress.”



**FAA
Office of Airports**

**Type I, II, III Equipment / Building, and IV Buy American Waivers Issued
(As of 9/15/2022)**

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

NOTICE: L-823 Connectors do not have independent utility needed to consider it as a component that warrants a Buy American waiver. For purposes of Buy American Preferences, the FAA considers these products as sub-components of the larger airfield lighting equipment being installed.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Potters Industries (Flex-O-Lite)	Reflective Media TTB 13215D Type IA (Flex-O-Lite) Glass Beads	8/27/2022
Type III Equipment/Building	GBA Components, LLC	Inpavement Light EB-83A Coated Bolts	8/7/2022
Type III Equipment/Building	ADB Safegate Americas, LLC	L-850D(L) RSRT212XXXXFXXXX1 Inpavement Runway Threshold Light	7/30/2022
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852A (LED) Model RSTA21XXXNXXX2X1 Inpavement Taxiway Centerline Light	7/17/2022
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852B (LED) Model RSTB21XXXNXXX2X1 Inpavement Centerline Light	7/17/2022
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852C (LED) Model RSTC21XXXNXXX2X1 Inpavement Taxiway Centerline Light	7/17/2022
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852D (LED) Model RSTD21XXXNXXX2X1 Inpavement Centerline Light	7/17/2022
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852J (LED) Model RSTJ21XXXCXXX2X1 Inpavement Taxiway Centerline Light	7/17/2022
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852K(LED) Inpavement Taxiway Centerline Light Model RSTK21XXXCXXX2X1	7/17/2022
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852S (LED) Model RSSB21XXXNRNX2X1 Inpavement Stop Bar Light	7/17/2022
Type III Equipment/Building	Flash Technology	L-880 (LED) Precision Approach Path Indicator	7/17/2022

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Flash Technology	Flash Technology L-881 (LED) Precision Approach Path Indicator	7/17/2022
Type III Equipment/Building	Potters Industries (Flex-O-Lite)	Reflective Media TT-B 1325D Type III (Flex-O-Lite) Glass Beads, 1.9 Index of Refraction	7/17/2022
Type III Equipment/Building	ADB Safegate	L-850A(L) RSRC11XXXNXXXXX1 Inpavement Runway Centerline Light	6/18/2022
Type III Equipment/Building	ADB Safegate	L-850B(L) RSRZ11XX1XWNXXX1 Inpavement Touchdown Zone Light	6/18/2022
Type III Equipment/Building	ADB Safegate	L-850C (L) RSRE11XXXCXXXXX1 Inpavement Runway Edge Light	6/18/2022
Type III Equipment/Building	ADB Safegate	L-850D(L) RSRN212XXXRXXXXX1 Inpavement Runway End Light	6/18/2022
Type III Equipment/Building	ADB Safegate	L-850T(L) RRSR21XX1NRNRXX1 Runway Status Light	6/18/2022
Type III Equipment/Building	M-B Companies, Inc.	Carrier Vehicle and Broom Attachment	5/21/2022
Type III Equipment/Building	Airport Lighting Company	L-821 Airport Lighting Control Panel	2/26/2022
Type III Equipment/Building	Airport Lighting Company	L-880 LED Precision Approach Path Indicator	2/26/2022
Type III Equipment/Building	Airport Lighting Company	L-881 LED Abbreviated Precision Approach Path Indicator	2/26/2022
Type III Equipment/Building	ADB Safegate	High Intensity Runway Edge L-862(L) ERES2YW33S00002	11/27/2021
Type III Equipment/Building	ADB Safegate	High Intensity Runway Edge Light L-862(L) ERES2GR13SF0002	11/27/2021

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	High Intensity Runway Edge Light L-862(L) ERES2WY33S00002	11/27/2021
Type III Equipment/Building	Webasto Charging Systems Incorporated	Posicharge DVS 300 Electric Vehicle Charger	11/27/2021
Type III Equipment/Building	Multi-Electric Manufacturing	LED E Runway Elevated Threshold End Light	9/18/2021
Type III Equipment/Building	Multi-Electric Manufacturing	LED Runway Elevated Edge - L-862 (L)	9/18/2021
Type III Equipment/Building	Airport Lighting Company	L-890 Lighting Control & Monitoring System	7/17/2021
Type III Equipment/Building	Airport Lighting Company	High Intensity Runway Edge Light, L-862 LED	5/8/2021
Type III Equipment/Building	Airport Lighting Company	L-861SE LED Medium Intensity Runway & Taxiway Edge Light	5/8/2021
Type III Equipment/Building	Airport Lighting Company	L-862 E LED High Intensity Runway Threshold Light	5/8/2021
Type III Equipment/Building	Hali-Brite Incorporated	L-801 A (LED) Medium Intensity Beacon	4/24/2021
Type III Equipment/Building	Hali-Brite Incorporated	L-802 A (LED) High Intensity Beacon	4/24/2021
Type III Equipment/Building	Musco Lighting	TLC for LED® Light-Structure System™ Apron Flood Lighting	4/11/2021
Type III Equipment/Building	Flight Light Inc.	L-810 Obstruction Light Single Head LED	4/3/2021
Type III Equipment/Building	Flight Light Inc.	L-810 Obstruction Light Double Head LED	4/3/2021
Type III Equipment/Building	Airport Lighting Company	L-847 Switch, Circuit Selector	3/20/2021
Type III Equipment/Building	ADB Safegate	L-849 -L Runway End Identification Lights - E1101012	8/8/2020
Type III Equipment/Building	Webasto Charging Systems, Incorporated	DVS 400 Electric Charging Station	5/2/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Webasto Charging Systems, Incorporated	MVS 400 Electric Charging Station	5/2/2020
Type III Equipment/Building	Webasto Charging Systems, Incorporated	MVS800 Electric Charging Station	5/2/2020
Type III Equipment/Building	Hali-Brite Incorporated	L-893, Lighted Visual Aid to Indicate Temporary Runway Closure LED RCM-D L-893 (L)	4/26/2020
Type III Equipment/Building	Hali-Brite incorporated	L-893, Lighted Visual Aid to Indicate Temporary Runway Closure, LED RCM-D	4/26/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG01S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG01S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG01SF0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG02S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG0ASL0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG0BSL0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG0CSL0000	4/11/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG0CSM0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG01S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG01SF0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG02S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG02S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG03S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG03S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG03SF0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG03SF0100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG04S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG04S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG04SF0000	4/11/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG04SF0100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG05S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG05SC0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG05SC0100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG06SC0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG07S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG07SC0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG07SF0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG09S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG0BSM0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG0CSL0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RN09SL0000	4/11/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YG01S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YR01S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YR03S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YY02S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS6WY09S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS8RG05SC0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS8RN05SC0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS8RR05S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RG28SF0002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RN01S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RR03S00102	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RR35S00002	4/11/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RR38S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RY28S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RY31S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RY33S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RY33S00102	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RY35S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2WW31S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2WW31S00102	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2WW33S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2WW33S00102	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2YG31SF0002	4/11/2020
Type III Equipment/Building	ADb Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RR03S00002	4/11/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN05MI0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN05SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN05SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN09MI0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN09MI002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN11SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN15SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR08SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR11MF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR11SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR13MF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR13SF0102	4/4/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR13SM0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR15MF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR15SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR19SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR25MF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR25SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR29SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GW31SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GY33SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GY35SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2NG21SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2NG23SF0102	4/4/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2NG25SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2NG25SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG21MF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG21SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG23MF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG23SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG25SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG29SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG31SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RN01M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RN05S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RN09M00002	4/4/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RR01S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RR03S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RR15S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RR25S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RR31M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RR31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RR35S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RW31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RY23S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RY31M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RY31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RY35S00002	4/4/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WG31SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WR31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW31M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW31S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW33M00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW33S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW33S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW35M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW35S01102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW39M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY31M00002	4/4/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY31S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY33M00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY33S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY39M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY39S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YG33SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YG35SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YR13S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YR31M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YR31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YR35S00002	4/4/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YR39M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YR39S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YW31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YW33M00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YW33S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YW35M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YW39M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YW39S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GN05SI0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GN11SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GN13SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GN13SF0102	4/4/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GN18SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GR05SI0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GR11SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GR11SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GR12SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GR13SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GR15SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GR18SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GY31SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GY33SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GY33SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GY35SF0002	4/4/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2NG21SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2NG23SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2NG23SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2NG28SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RG21SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RG22SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RG23SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RG23SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RG25SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RN05S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RR01S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862(L) High Intensity Runway Edge Light EREL2GN13SF0102	4/4/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG21SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW35S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY35S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YW35S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RG21SF0002	4/4/2020
Type III Equipment/Building	ADB safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG25SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-826 L L-862 Lights, Runway Edge, High Intensity EREL 24 IN N/G W/ARC 1.5 CPLG 12 FAA	3/15/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL 14 IN G/N N/ARC 2 CPLG 11.5	3/15/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL 14 IN G/N W/ARC 2 CPLG 11.5	3/15/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL 14 IN G/R W/ARC 2 CPLG 11.5 FAA	3/15/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL 24 IN G/N W/ARC 1.5 CPLG 12	3/15/2020

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL 24 IN G/Y W/ARC 1.5 CPLG 12 FAA	3/15/2020
Type III Equipment/Building	Safety Coatings Inc	Marking TTP-1952F Type I Black	3/15/2020
Type III Equipment/Building	Safety Coatings Inc	Marking TTP-1952F Type I Blue	3/15/2020
Type III Equipment/Building	Safety Coatings Inc	Marking TTP-1952F Type I Red	3/15/2020
Type III Equipment/Building	Safety Coatings Inc	Marking TTP1952F Type I L.F. Yellow	3/15/2020
Type III Equipment/Building	Safety coatings Inc	Marking Type 1952F Type I White	3/15/2020
Type III Equipment/Building	Diamond Vogel	Marking - 7503 Blue Waterborne Traffic Paint	2/17/2020
Type III Equipment/Building	Diamond Vogel	Marking - UC 1509 White Waterborne Traffic Paint	2/17/2020
Type III Equipment/Building	Diamond Vogel	Marking - UC 3584 Yellow Waterborne Traffic Paint	2/17/2020
Type III Equipment/Building	Diamond Vogel	Marking - UC 5503 Red Waterborne Traffic Paint	2/17/2020
Type III Equipment/Building	Diamond Vogel	Marking - UC 9507 Black Waterborne Traffic Paint	2/17/2020
Type III Equipment/Building	Avlite Systems	L-880 LED Precision Approach Path Indicator	1/24/2020
Type III Equipment/Building	Avlite Systems	L-881 LED Abbreviated Precision Approach Path Indicator	1/24/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WG04S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WG04S00100	12/7/2019

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WG07S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WR01S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WR01S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WR03S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WR03S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WR04S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WR07S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW01S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW01S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW02S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW02S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW03S00000	12/7/2019

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW03S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW04S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW04S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW05S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW05S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW06S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW07S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW09S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW09SL0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW09SM0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW0ASL0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW0ASM0000	12/7/2019

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW0BSL0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW0BSM0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW0CSL0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW0CSM0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY01S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY01S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY02S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY02S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY03S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY03S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY04S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY04S00100	12/7/2019

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY05S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY05S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY06S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY07S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY09S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YG01S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YG02S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YG03S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YG03S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YG04S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YG04S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YN03S00100	12/7/2019

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YR01S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YR03S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YR04S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YY01S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YY01S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YY03S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YY03S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YY04S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YY04S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS6NG09S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS6NR09S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS6RG09S00000	12/7/2019

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS6WW09S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS8RR05SC0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS8WW05S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS8WY05S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG09SM0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RN09SM0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RNOASL0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RNOASM0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RN0BSL0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RN0BSM0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RN0CSL0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RN0CSM0000	11/23/2019

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR01S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR01S00100	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR02S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR03S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR03S00100	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR04S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR04S00100	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR07S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR09S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW09SL0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW09SM0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW0ASL0000	11/23/2019

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW0ASM0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW0BSL0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW0BSM0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW0CSL0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW0CSM0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WG01S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WG01S00100	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WG03S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WG03S00100	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WR04S00100	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG03S00100	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG03S00000	11/16/2019

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG03SF0000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG04S00000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG04S00100	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG07S00000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG09SL0000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG09SM0000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NR01S00000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NR01S00100	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NR03S00000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NR03S00100	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NR04S00000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NR04S00100	11/16/2019

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2RG0ASL0000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2RG0ASM0000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2RG0BSL0000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2RG0CSM0000	11/16/2019
Type III Equipment/Building	Vaisala	In-Pavement Stationary Runway Weather Information System RWS200	11/16/2019
Type III Equipment/Building	Astronics DME	L-852S Inpavement Taxiway Lights L-R-1-0	10/26/2019
Type III Equipment/Building	Astronics DME	L-852T-L 1 G2 Inpavement Taxiway Lights	10/26/2019
Type III Equipment/Building	Astronics DME	L-852X Inpavement Taxiway Lights L-G2	10/26/2019
Type III Equipment/Building	Astronics DME	L-852X-L G2 Inpavement Taxiway Lights	10/26/2019
Type III Equipment/Building	Astronics DME	L-862L High Intensity runway Edge Lights	10/26/2019
Type III Equipment/Building	Franklin Paint Company	P-620 Black Waterborne Traffic Paint	10/26/2019
Type III Equipment/Building	Franklin Paint Company	P-620 Green Waterborne Traffic Paint	10/26/2019
Type III Equipment/Building	Franklin Paint Company	P-620 Red Waterborne Traffic Paint	10/26/2019
Type III Equipment/Building	Franklin Paint Company	P-620 White Waterborne Traffic Paint	10/26/2019
Type III Equipment/Building	Franklin Paint Company	P-620 Yellow Waterborne Traffic Paint	10/26/2019
Type III Equipment/Building	Millerbernd Manufacturing Company	L-867 Light Base, Non-Load Bearing	10/26/2019
Type III Equipment/Building	Millerbernd Manufacturing Company	L-868 Light Base, Load Bearing	10/26/2019

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Millerbernd Manufacturing Company	L-894 Elevated Light Cover 12"	10/26/2019
Type III Equipment/Building	Millerbernd Manufacturing Company	L-894 Elevated Light Cover 16"	10/26/2019
Type III Equipment/Building	Wix Support Equipment	Electric Vehicle Charging Station Cable Mangement System	10/26/2019
Type III Equipment/Building	ADB Safegate	L-862 (L) High Intensity Runway Edge Light EREL2GN13SF0102	10/19/2019
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN13SF0102	10/19/2019
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN15SF0002	10/19/2019
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN15SF0102	10/19/2019
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR15SF0102	10/19/2019
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GY33SF0102	10/19/2019
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2NG23SF0102	10/19/2019
Type III Equipment/Building	ADB Safegate	L-861 L Runway & Taxiway Edge Medium Intensity Lights	10/1/2019
Type III Equipment/Building	ADB Safegate	L-862 E L Runway Edge High Intensity Lights ERES2WW35S00002	10/1/2019

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Runway Edge High Intensity Lights EREL2RG21SF0002	10/1/2019
Type III Equipment/Building	ADB Safegate	L-862 Runway Edge High Intensity Lights EREL2WW35S00002	10/1/2019
Type III Equipment/Building	Minit charger, LLC	ALT22-480-1 Altus 22kW Dual Port Charger with BIW Cables	10/1/2019
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 E LED Inpavement Taxiway Light	10/22/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 F LED Inpavement Taxiway Light	10/22/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 S LED Inpavement Taxiway Light	10/22/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 T LED Inpavement Taxiway Light	10/22/2018
Type III Equipment/Building	Astronics DME Corporation	L-804 V Holding Poisition Edge Light	8/27/2018
Type III Equipment/Building	Astronics DME Corporation	L-829 Monitored Constant Current Regulator	8/27/2018
Type III Equipment/Building	Astronics DME Corporation	L-849 I LED Runway End Indentification Lights	8/27/2018
Type III Equipment/Building	Astronics DME Corporation	L-850 A LED Runway Inpavement Lights	8/27/2018
Type III Equipment/Building	Astronics DME Corporation	L-850 B LED Runway Inpavement Lights	8/27/2018
Type III Equipment/Building	Astronics DME Corporation	L-850 T Runway Inpavement Light	8/27/2018
Type III Equipment/Building	Astronics DME Corporation	L-858 Runway and Taxiway Signs	8/27/2018
Type III Equipment/Building	Kodiack America, LLC	Snow Removal Equipment - Dual Engine Chassis w/ Rwy Broom & Air Blast	8/27/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-850 A LED Inpavement Runway Light	8/27/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-850 B LED Inpavement Runway Light	8/27/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-850 C LED Inpavement Runway Light	8/27/2018

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-850 D LED Inpavement Runway Light	8/27/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-850 E LED Inpavement Runway Light	8/27/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-850 T LED Inpavement Runway Light	8/27/2018
Type III Equipment/Building	Ennis-Flint Company	P-620 AirMark Preformed Thermoplastic Pavement Markings	8/4/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 A LED Inpavement Taxiway Light	7/29/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 B LED Inpavement Taxiay Light	7/29/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 C LED Inpavement Taxiway Light	7/29/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 D LED Inpavement Taxiway Light	7/29/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 J LED Inpavement Taxiway Light	7/29/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 K LED Inpavement Taxiway Light	7/29/2018
Type III Equipment/Building	Airport Lighting Company	L-828 Constant Current Regulator	7/24/2018
Type III Equipment/Building	Airport Lighting Company	L-829 Monitored Constant Current Regulator	7/24/2018
Type III Equipment/Building	Eaton Crouse-Hinds	L-852 G LED Inpavement Taxiway Light	7/22/2018
Type III Equipment/Building	Hughey & Phillips	L-810 Low Intensity LED , Double, VAC	1/21/2017
Type III Equipment/Building	Hughey & Phillips	L-810 Low Intensity LED, Single, VAC	1/21/2017
Type III Equipment/Building	Astronics DME Corporation	L-858 B LED Runway Runway & Taxiway Signs	10/17/2016
Type III Equipment/Building	Astronics DME Corporation	L-858 L LED Runway & Taxiway Signs	10/17/2016
Type III Equipment/Building	Astronics DME Corporation	L-858 R LED Runway & Taxiway Signs	10/17/2016
Type III Equipment/Building	Eaton Crouse-Hinds	L-850 C Runway Inpavement Lights	10/10/2016
Type III Equipment/Building	Vaisala	AW20, AWOS III	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS A	8/1/2016

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS AV	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS I	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS II	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS III	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS III P	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS III PT	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS III T	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS IV Z	8/1/2016
Type III Equipment/Building	Vaisala	AW20-STA, AWOS A	8/1/2016
Type III Equipment/Building	Vaisala	AW20-STA, AWOS AV	8/1/2016
Type III Equipment/Building	Vaisala	AW20-STA, AWOS II	8/1/2016
Type III Equipment/Building	Vaisala	AW20-STA, AWOS III P	8/1/2016
Type III Equipment/Building	Vaisala	AW20-STA, AWOS III PT	8/1/2016
Type III Equipment/Building	Vaisala	AW20-STA, AWOS III T	8/1/2016
Type III Equipment/Building	Vaisala	AW20-STA, AWOS IV Z	8/1/2016
Type III Equipment/Building	Vaisala	AW20-STA, AWS I	8/1/2016
Type III Equipment/Building	Jaquith Industries	L-894 12" Elevated Light Cover Baseplate	5/17/2016
Type III Equipment/Building	Jaquith Industries	L-894 16" Elevated Light Cover Baseplate	5/17/2016
Type III Equipment/Building	Jaquith Industries	L-895 Light Mounting Stake	5/17/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, 1952, TT-P-Hotline Waterborne Durable Type III - White Marking Paint TM2452	5/14/2016

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	The Sherwin-Williams Company	P-620, 1952, TT-P-Hotline Waterborne Durable Type III - Yellow Marking Paint TM2453	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P- 1952, Hotline Waterborne Type I/II - Yellow Marking Paint TM2259	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Hotline Waterborne Type I/II w Algaecide, Fungicide, & Rust Inhibitor - Red Marking Paint TM2544	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Hotline Waterborne Type I/II - White Marking Paint TM2152	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Hotline Waterborne Type III w Algaecide, Fungicide, & Rust Inhibitor - White Marking Paint TM2564	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Durable Type III - Black Marking Paint TM2140	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Durable Type III - Blue Marking Paint TM2142	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Durable Type III - Green Marking Paint TM2143	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Durable Type III - Red Marking Paint TM2141	5/14/2016

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type I/II - Black Marking Paint TM2221	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type I/II - Blue Marking Paint TM2224	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type I/II - Green Marking Paint TM2226	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type I/II - Red Marking Paint TM2222	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type I/II - Yellow Marking Paint TM2153	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type I/II w Algaecide, Fungicide, & Rust Inhibitor - Black Marking Paint TM2543	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type III w Algaecide, Fungicide, & Rust Inhibitor - Blue Marking Paint TM2545	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type III w Algaecide, Fungicide, & Rust Inhibitor - Yellow Marking Paint TM2565	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne, Type I/II - White Marking Paint TM2248	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Type III w Algaecide & Rust Inhibitor - Black Marking Paint TM2540	5/14/2016

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Type III w Algaecide, Fungicide & Rust Inhibitor - White Marking Paint TM2538	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Type III w Algaecide, Fungicide, & Rust Inhibitor - Yellow Marking Paint TM2539	5/14/2016
Type III Equipment/Building	Boshchung America, LLC	Airport Winter Safety and Operations, RWIS	1/2/2016
Type III Equipment/Building	Astronics DME Corporation	L-804 Holding Position Edge Light	8/4/2015
Type III Equipment/Building	ADB Safegate	L-806 LED, Wind Cones-Frangible	5/15/2015
Type III Equipment/Building	ADB Safegate	L-806 Wind Cones - Frangible	5/15/2015
Type III Equipment/Building	ADB Safegate	L-850 D, Incandescent Inpavement Lights	5/15/2015
Type III Equipment/Building	ADB Safegate	L-850 E, Incandescent Inpavement Lights	5/15/2015
Type III Equipment/Building	ADB Safegate	L-850 F, Incandescent Inpavement Lights	5/15/2015
Type III Equipment/Building	ADB Safegate	L-861 E, LED Runway Edge, Medium Intensity Lights	5/15/2015
Type III Equipment/Building	ADB Safegate	L-861 LED, Medium Intensity Runway Edge Lights	5/15/2015
Type III Equipment/Building	ADB Safegate	L-804 LED, Holding Position Edge Light	5/5/2015
Type III Equipment/Building	ADB Safegate	L-810 LED, Obstruction Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-849 C, LED, Runway End Identification Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-849 E, LED, Runway End Identification Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-850 A, Q/I, Runway, Inpavement Lights	5/5/2015

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-850 B, Q/I Runway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-850 C LED, Runway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-850 C, Q/I Runway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-850 D, LED Runway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 A, LED, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 A, Q, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 B, LED Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 B, Q, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 C, LED Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 C, Q, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 D, LED Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 D, Q, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 E, Q, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 G, LED, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 G, Q, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 J, LED Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 S, Q, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 T, LED Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-858, LED, Runway and Taxiway Signs	5/5/2015
Type III Equipment/Building	ADB Safegate	L-861 SE, Q, Runway Edge, Medium Intensity Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-861 T, LED Taxiway Edge, Medium Intensity Lights	5/5/2015

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861, Q, Runway Edge, Medium Intensity Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-861E, Q, Runway Edge, Medium Intensity Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-862 E, Q, Runway Edge, High Intensity Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-862, Q, Runway Edge, High Intensity Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-880 LED, Precision Approach Path Indicator	5/5/2015
Type III Equipment/Building	ADB Safegate	L-881 LED, Abbreviated Precision Approach Path Indicator	5/5/2015
Type III Equipment/Building	Atg Airports, Ltd.	L-850 B Runway Inpavement Lights	2/2/2015
Type III Equipment/Building	Atg Airports, Ltd.	L-850 A Runway Inpavement Lights	1/20/2015
Type III Equipment/Building	Atg Airports, Ltd.	L-850 C Runway Inpavement Lights	1/17/2015
Type III Equipment/Building	Astronics DME Corporation	L-849 A LED Runway End Identification Lights	10/27/2014
Type III Equipment/Building	Rheinmetall Defence	DEBRA FOD	10/21/2014
Type III Equipment/Building	Ennis-Flint Company	A-A-2886B Black Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	A-A-2886B Blue Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	A-A-2886B Red Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	A-A-2886B White Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	A-A-2886B Yellow Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Black Type I/II Fast Dry Runway Marking Paint	8/16/2014

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Black Type III Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Blue Type I/II Fast Dry Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Blue Type III Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Green Type I/II Fast Dry Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Green Type III Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Red Type I/II Fast Dry Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Red Type III Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E White Type I/II Fast Dry Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E White Type III Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Yellow Type I/II Fast Dry Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Yellow Type III Runway Marking Paint	8/16/2014
Type III Equipment/Building	Manairco	L-861 T LED Runway & Taxiway Edge, Medium Intensity Lights	6/27/2014

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Eaton Crouse-Hinds	L-850 A LED Runway Inpavement Lights	6/16/2014
Type III Equipment/Building	Eaton Crouse-Hinds	L-850 B LED Runway Inpavement Lights	6/16/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 10,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 12,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 15,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 2,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 20,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 25,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 30,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 35,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 4 - 1,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 4 - 600 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 6 - 4,000 Gallon DWT Fuel Storage Tank	5/13/2014

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Containment Solutions	CSI Tank 6 - 2,500 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 6 - 3,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 6 - 5,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 6 - 6,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 8 - 12,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 8 - 8,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 8 -15,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 8 -5,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Service Wire Company	L-824, Underground Electrical Cables for Airfield Circuits	5/4/2014
Type III Equipment/Building	Airport Lighting Company	L-861 LED Runway & Taxiway Edge, Medium Intensity Lights	3/29/2014
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Black Runway Marking Paint (5385)	3/24/2014
Type III Equipment/Building	Eaton Crouse-Hinds	L-852 A LED Taxiway Inpavement Lights	2/25/2014
Type III Equipment/Building	Eaton Crouse-Hinds	L-852 B LED Taxiway Inpavement Lights	2/25/2014

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Eaton Crouse-Hinds	L-852 C LED Taxiway Inpavement Lights	2/25/2014
Type III Equipment/Building	Eaton Crouse-Hinds	L-852 D LED Taxiway Inpavement Lights	2/25/2014
Type III Equipment/Building	Eaton Crouse-Hinds	L-852 J LED Taxiway Inpavement Lights	2/25/2014
Type III Equipment/Building	Eaton Crouse-Hinds	L-852 K LED Taxiway Inpavement Lights	2/25/2014
Type III Equipment/Building	Astronics DME Corporation	L-852 B LED Taxiway, Inpavement Lights	11/16/2013
Type III Equipment/Building	Astronics DME Corporation	L-852 C LED Taxiway, Inpavement Lights	11/16/2013
Type III Equipment/Building	Astronics DME Corporation	L-861 E LED Runway & Taxiway Edge, Medium Intensity Lights	11/16/2013
Type III Equipment/Building	Astronics DME Corporation	L-861 SE LED Runway & Taxiway Edge, Medium Intensity Lights	11/16/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Black Runway Marking Paint (5383)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Blue Runway Marking Paint (5274)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Blue Runway Marking Paint (5344)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Blue Runway Marking Paint (5384)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Green Runway Marking Paint (5376)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Green Runway Marking Paint (5386)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Red Runway Marking Paint (5345)	10/19/2013

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Red Runway Marking Paint (5375)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B White Runway Marking Paint (5281)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Yellow Runway Marking Paint (5342)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Yellow Runway Marking Paint (5372)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Yellow Runway Marking Paint (5382)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	IL SPEC Red Runway Marking Paint (5408)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	IL SPEC Yellow Runway Marking Paint (4636)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type II Blue Runway Marking Paint (4834)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type II Green Runway Marking Paint (5192)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type II Red Runway Marking Paint (4836)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type II Yellow Runway Marking Paint (4477)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type II Yellow Runway Marking Paint (8511)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type II Yellow Runway Marking Paint (9511)	10/19/2013

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type III Blue Runway Marking Paint (5433)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type III Green Runway Marking Paint (5435)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type III Red Runway Marking Paint (5434)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type III Yellow Runway Marking Paint (5431)	10/19/2013
Type III Equipment/Building	Airport Lighting Company	L-804, Holding Position Edge Light	9/21/2013
Type III Equipment/Building	Honeywell Airport Systems	L-828 F20 Constant Current Regulator	9/21/2013
Type III Equipment/Building	Honeywell Airport Systems	L-828 W10 Constant Current Regulator	9/21/2013
Type III Equipment/Building	Honeywell Airport Systems	L-829 S04 Constant Current Regulator with Monitor	9/21/2013
Type III Equipment/Building	Honeywell Airport Systems	L-829-F04, Constant Current Regulator	9/9/2013
Type III Equipment/Building	Honeywell Airport Systems	L-829-F30, Constant Current Regulator	9/9/2013
Type III Equipment/Building	Honeywell Airport Systems	L-829-F70, Constant Current Regulator	9/9/2013
Type III Equipment/Building	Honeywell Airport Systems	L-829-S30, Constant Current Regulator	9/9/2013
Type III Equipment/Building	Honeywell Airport Systems	L-829-S70, Constant Current Regulator	9/9/2013
Type III Equipment/Building	Amerace - Thomas & Betts Corporation	L-830-16 Isolation Transformer, 60Hz, 10/15 Watts, 6.6/6.6 Amperes	7/9/2013
Type III Equipment/Building	Amerace - Thomas & Betts Corporation	L-830-17 Isolation Transformer, 60Hz, 20/25 Watts, 6.6A/6.6A Amperes	7/9/2013
Type III Equipment/Building	Astronics DME Corporation	L-852 D LED Taxiway, Inpavement Lights	7/7/2013
Type III Equipment/Building	Astronics DME Corporation	L-852 A LED Taxiway, Inpavement Lights	3/26/2013

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Astronics DME Corporation	L-861 E Halogen Edge Light	3/26/2013
Type III Equipment/Building	Astronics DME Corporation	L-861 Halogen Lights	3/26/2013
Type III Equipment/Building	Astronics DME Corporation	L-861 LED Runway & Taxiway Edge, Medium Intensity Lights	3/26/2013
Type III Equipment/Building	Astronics DME Corporation	L-861 T - Halogen Taxiway Light	3/26/2013
Type III Equipment/Building	Astronics DME Corporation	L-861 T LED Runway & Taxiway Edge, Medium Intensity Lights	3/26/2013
Type III Equipment/Building	Point Light Corporation	L-861 E LED Runway & Taxiway Edge, Medium Intensity Lights	3/26/2013
Type III Equipment/Building	Point Light Corporation	L-861 SE LED Runway & Taxiway Edge, Medium Intensity Lights	3/26/2013
Type III Equipment/Building	Point Light Corporation	L-861 T LED Runway & Taxiway Edge, Medium Intensity Lights	3/26/2013
Type III Equipment/Building	Point Light Corporation	L-862 E LED Runway & Taxiway Edge, Medium Intensity Lights	3/26/2013
Type III Equipment/Building	Advanced Drainage Systems (ADS)	D-705 10" Pipe Underdrain w/sock	3/10/2013
Type III Equipment/Building	Advanced Drainage Systems (ADS)	D-705 4" Pipe Underdrain w/sock	3/10/2013
Type III Equipment/Building	Advanced Drainage Systems (ADS)	D-705 6" Pipe Underdrain w/sock	3/10/2013
Type III Equipment/Building	Advanced Drainage Systems (ADS)	D-705 8" Pipe Underdrain w/sock	3/10/2013
Type III Equipment/Building	DME (Astronics)	L-852T-L-X LED, Inpavement, OMNI	3/9/2013
Type III Equipment/Building	Vaisala	AWOS A	1/6/2013
Type III Equipment/Building	Vaisala	AWOS A/V	1/6/2013
Type III Equipment/Building	Vaisala	AWOS I	1/6/2013
Type III Equipment/Building	Vaisala	AWOS II	1/6/2013

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Vaisala	AWOS III, III-T, III-P, III-PT, III-PTZ	1/6/2013
Type III Equipment/Building	Kodiack America, LLC	Snow Blower & Runway Broom Equipment	10/10/2012
Type III Equipment/Building	ADB Safegate	L-830, Isolation Transformer, 60Hz	7/28/2012
Type III Equipment/Building	TREX Aviation Systems	FOD Finder XM-Mobile	5/25/2012
Type III Equipment/Building	Stratech Systems Limited	iFerret TM FOD System	5/5/2012
Type III Equipment/Building	ADB Safegate	L-849 A, LED Runway End Identification Lights	5/4/2012
Type III Equipment/Building	ADB Safegate	L-850 A, LED Runway Inpavement Lights	5/4/2012
Type III Equipment/Building	ADB Safegate	L-850 B, LED Runway Inpavement Lights	5/4/2012
Type III Equipment/Building	ADB Safegate	L-852 K, LED Taxiway Inpavement Lights	5/4/2012
Type III Equipment/Building	ADB Safegate	L-852 S, LED Taxiway Inpavement Lights	5/4/2012
Type III Equipment/Building	Vaisala	Inpavement Runway Sensors	5/4/2012
Type III Equipment/Building	Precision Control Systems	L-890, Lighting Control & Monitoring System	4/3/2012
Type III Equipment/Building	All Weather, Inc.	AWOS I - 900 Series	11/27/2011
Type III Equipment/Building	All Weather, Inc.	AWOS II - 900 Series	11/27/2011
Type III Equipment/Building	All Weather, Inc.	AWOS III - 3000 Series	11/27/2011
Type III Equipment/Building	All Weather, Inc.	AWOS III - 900 Series	11/27/2011
Type III Equipment/Building	FlexStake, Inc.	L-853, Retro reflective Markers	9/11/2011
Type III Equipment/Building	QinetiQ	Tarsier FOD System	9/11/2011
Type III Equipment/Building	TREX Aviation Systems	FOD Finder XF -Fixed	9/11/2011
Type III Equipment/Building	X-Sight	FODetect Systems	7/26/2011
Type III Equipment/Building	Flash Technology	L-856, High Intensity Obstruction Lights	3/28/2011
Type III Equipment/Building	Flash Technology	L-864, Red Obstruction Lights	3/28/2011

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Sherwin Industries, Inc.	L-893, Lighted Visual Aid for Runway Closure	3/28/2011
Type III Equipment/Building	ADB Safegate	L-854, Radio Controls	2/1/2011
Type III Equipment/Building	ADB Safegate	L-860, Low Intensity Runway Edge Lights	2/1/2011
Type III Equipment/Building	Flight Light	L-810, Lights-Obstruction (Various Types)*	1/18/2011
Type III Equipment/Building	Flight Light	L-828, Constant Current Regulators (Various Types)*	1/18/2011
Type III Equipment/Building	Flight Light	L-861 LED Runway & Taxiway Edge, Medium Intensity Lights	1/18/2011
Type III Equipment/Building	Southwire Company	L-824, Underground Electrical Cables for Airfield Circuits	1/16/2011
Type III Equipment/Building	Nehring Electrical Works	L-824, Underground Electrical Cables for Airfield Circuits	11/23/2010
Type III Equipment/Building	Point Light Corporation	L-806, Wind Cones-Frangible	11/20/2010
Type III Equipment/Building	Point Light Corporation	L-807, Wind Cones-Rigid	11/20/2010
Type III Equipment/Building	Point Light Corporation	L-810, Lights-Obstruction	11/20/2010
Type III Equipment/Building	Point Light Corporation	L-861 LED Runway & Taxiway Edge, Medium Intensity Lights	11/20/2010
Type III Equipment/Building	Point Light Corporation	L-862, Runway Edge-Threshold-Stop Bar Lights	11/20/2010
Type III Equipment/Building	Point Light Corporation	L-864, Red Obstruction Lights	11/20/2010
Type III Equipment/Building	Amerace - Thomas & Betts Corporation	L-830-1, Isolation Transformer, 60Hz 30/45 Watts, 6.6/6.6A	9/19/2010
Type III Equipment/Building	Tenco Industries Inc.	202 LMM Snow Blower	8/27/2010

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Flash Technology	L-865, White Obstruction Lights	8/17/2010
Type III Equipment/Building	Rural Electric	L-854, Radio Controls	8/17/2010
Type III Equipment/Building	ADB Safegate	L-821, Airport Lighting Control Panel	8/7/2010
Type III Equipment/Building	Flash Technology	L-849, Runway End Identification Lights	6/21/2010
Type III Equipment/Building	Flash Technology	L-859, Flashing Omnidirectional Lights	6/21/2010
Type III Equipment/Building	Airport Lighting Company	L-880, Precision Approach Path Indicator	4/27/2010
Type III Equipment/Building	Airport Lighting Company	L-881, Abbreviated Precision Approach Path Indicator	4/27/2010
Type III Equipment/Building	Neubert Aero Corp	Dynamic Friction Decelerometer	4/27/2010
Type III Equipment/Building	Neubert Aero Corp	Dynamic Friction Tester	4/27/2010
Type III Equipment/Building	Rural Electric	L-821, Airport Lighting Control Panel	4/27/2010
Type III Equipment/Building	Rural Electric	L-890, Lighting Control & Monitoring System	4/27/2010
Type III Equipment/Building	Safe-Hit	L-853, Retroreflective Markers	3/20/2010
Type III Equipment/Building	Daimler	Freightliner M2 Carrier Vehicle	1/12/2010
Type III Equipment/Building	Millard Towers Limited	L-891 - Low Impact Resistant Structures	12/22/2009
Type III Equipment/Building	Millard Towers Limited	L-892 - Frangible Support Structure	12/22/2009
Type II - Insufficient Quantity and/or Quality	OCEM	L-852 S LED Taxiway Inpavement Lights	12/1/2009
Type III Equipment/Building	Prysmian Cables and Systems, Inc.	L-824, Underground Electrical Cables for Airfield Circuits	10/4/2009
Type III Equipment/Building	Airport Lighting Company	L-861 Runway & Taxiway Edge, Medium Intensity Lights	9/13/2009
Type III Equipment/Building	Airport Lighting Company	L-862, Runway Edge-Threshold-Stop Bar Lights	9/13/2009

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Strobe Approach Lighting Technology, LLC	L-849, Runway End Identification Lights	8/25/2009
Type III Equipment/Building	Strobe Approach Lighting Technology, LLC	L-859, Flashing Omnidirectional Lights	8/25/2009
Type III Equipment/Building	LoneStar	P-632, Bituminous Pavement Rejuvenator	8/17/2009
Type III Equipment/Building	Pavement Rejuvenation International, LP	P-632, Bituminous Pavement Rejuvenator	8/16/2009
Type III Equipment/Building	Soundproof Windows	Single Hung 36 X 72 Window	8/14/2009
Type III Equipment/Building	ADB Safegate	L-828, Constant Current Regulators	7/28/2009
Type III Equipment/Building	ADB Safegate	L-829, Monitored Constant Current Regulators	7/28/2009
Type III Equipment/Building	ADB Safegate	L-890, Lighting Control & Monitoring System	7/28/2009
Type III Equipment/Building	Airfield Guidance Sign Manufacturers, Inc.	L-858, Runway & Taxiway Signs	7/28/2009
Type III Equipment/Building	Rural Electric	L-867, Non-Load Bearing Light Box	7/24/2009
Type III Equipment/Building	Rural Electric	L-868, Load Bearing Light Box	7/24/2009
Type III Equipment/Building	ADB Safegate	L-890, Lighting Control & Monitoring System	7/20/2009
Type III Equipment/Building	Olson Industries	L-867, Non-Load Bearing Light Box	7/19/2009
Type III Equipment/Building	Olson Industries	L-868, Load Bearing Light Box	7/19/2009
Type III Equipment/Building	Standard Signs, Inc.	L-858, Runway & Taxiway Signs	7/10/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-890, Lighting Control & Monitoring System	6/30/2009
Type III Equipment/Building	Airport Lighting Equipment	L-867, Non-Load Bearing Light Box	6/29/2009
Type III Equipment/Building	Airport Lighting Equipment	L-868, Load Bearing Light Box	6/29/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-801, Beacons-Medium Intensity	6/28/2009

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Eaton Crouse-Hinds	L-802, Beacons-High Intensity	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-804 Holding Position Edge Light	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-806, Wind Cones-Frangible	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-807, Wind Cones-Rigid	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-823, Primary Connector Kits	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-828, Constant Current Regulators	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-829, Regulators, Constant Current with Monitor	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-830, Isolation Transformers, 60Hz	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-847, Circuit Selector Switch	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-852, Taxiway Inpavement Lights	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-858, Runway & Taxiway Signs	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-861 LED Runway & Taxiway Edge, Medium Intensity Lights	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-862, Runway Edge-Threshold-Stop Bar Lights	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-880, Precision Approach Path Indicator	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-881, Abbreviated Precision Approach Path Indicator	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-884, Power & Control Unit	6/28/2009
Type III Equipment/Building	ADB Safegate	L-804, Holding Position Edge Light	6/26/2009
Type III Equipment/Building	ADB Safegate	L-807, Wind Cones-Rigid	6/26/2009
Type III Equipment/Building	ADB Safegate	L-810, Lights-Obstruction	6/26/2009
Type III Equipment/Building	ADB Safegate	L-827, Monitors-Regulator	6/26/2009

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-828, Constant Current Regulators	6/26/2009
Type III Equipment/Building	ADB Safegate	L-829, Monitored Constant Current Regulators	6/26/2009
Type III Equipment/Building	ADB Safegate	L-847, Circuit Selector Switch	6/26/2009
Type III Equipment/Building	ADB Safegate	L-853, Retroreflective Markers	6/26/2009
Type III Equipment/Building	ADB Safegate	L-858, Runway & Taxiway Signs	6/26/2009
Type III Equipment/Building	ADB Safegate	L-861 Runway & Taxiway Edge, Medium Intensity Lights	6/26/2009
Type III Equipment/Building	ADB Safegate	L-862, Runway Edge-Threshold-Stop Bar Lights	6/26/2009
Type III Equipment/Building	ADB Safegate	L-880, Precision Approach Path Indicator	6/26/2009
Type III Equipment/Building	ADB Safegate	L-881, Abbreviated Precision Approach Path Indicator	6/26/2009
Type III Equipment/Building	ADB Safegate	L-884, Power & Control Unit	6/26/2009
Type III Equipment/Building	Halibrite	L-801, Beacons-Medium Intensity	6/23/2009
Type III Equipment/Building	Halibrite	L-802, Beacons-High Intensity	6/23/2009
Type III Equipment/Building	Halibrite	L-806, Wind Cones-Frangible	6/23/2009
Type III Equipment/Building	Halibrite	L-807, Wind Cones-Rigid	6/23/2009
Type III Equipment/Building	Halibrite	L-893, Lighted Visual Aid for Runway Closure	6/23/2009
Type III Equipment/Building	Manairco	L-801, Beacons-Medium Intensity	6/23/2009
Type III Equipment/Building	Manairco	L-828, Constant Current Regulators	6/23/2009
Type III Equipment/Building	Manairco	L-861 Runway & Taxiway Edge, Medium Intensity Lights	6/23/2009

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Multi-Electric	L-804, Holding Position Edge Light	6/23/2009
Type III Equipment/Building	Multi-Electric	L-861 LED Runway & Taxiway Edge, Medium Intensity Lights	6/23/2009
Type III Equipment/Building	Multi-Electric	L-862, Runway Edge-Threshold-Stop Bar Lights	6/23/2009
Type III Equipment/Building	Multi-Electric	L-880, Precision Approach Path Indicator	6/23/2009
Type III Equipment/Building	Multi-Electric	L-881, Abbreviated Precision Approach Path Indicator	6/23/2009
Type III Equipment/Building	DME	L-861 LED Runway & Taxiway Edge, Medium Intensity Lights	6/21/2009
Type III Equipment/Building	DME	L-862, Runway Edge-Threshold-Stop Bar Lights	6/21/2009
Type III Equipment/Building	Integro	L-830, Isolation Transformers, 60Hz	6/21/2009
Type III Equipment/Building	Jaquith Industries	L-867, Non-Load Bearing Light Box	6/21/2009
Type III Equipment/Building	Jaquith Industries	L-868, Load Bearing Light Box	6/21/2009
Type III Equipment/Building	Jaquith Industries	L-891 - Low Impact Resistant Structures	6/21/2009
Type III Equipment/Building	Jaquith Industries	L-892 - Frangible Support Structure	6/21/2009

The following components or subcomponents are steel or manufactured goods that have an FAA specification number and have been determined to be 1) 100% United States product and 2) produced in the United States.

Waiver Type	Manufacturer	Product	Effective Date
100% US and US Final Assembly	Integro	L-823 Plug and Receptacle, Cable Connectors	6/10/2009

Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 9/15/2022)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
100% US and US Final Assembly	MCB Industries	EB-83 bolts	1/31/2011
100% US and US Final Assembly	MCB Industries	2-part washers (used with 3/8" x 16 by various length bolts)	10/14/2015
100% US and US Final Assembly	MCB Industries	18-8 fasteners (various length bolts)	12/27/2016

GENERAL CIVIL RIGHTS PROVISIONS

The Contractor agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

CIVIL RIGHTS – TITLE VI ASSURANCES

Title VI Solicitation Notice

The State of Hawaii – Airports Division, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders or offerors that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

Title VI Clauses for Compliance with Nondiscrimination Requirements

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “Contractor”), agrees as follows:

1. **Compliance with Regulations:** The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
3. **Solicitations for Subcontracts, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor’s obligations under this contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.
4. **Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a Contractor’s noncompliance with the non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:
 - a. Withholding payments to the Contractor under the contract until the Contractor complies; and/or

- b. Cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “Contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 USC § 2000d *et seq.*, 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination in Federally-assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 *et seq.*), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq.*) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC § 471, Section 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-209) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 USC §§ 12131 – 12189) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration’s Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority

populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC 1681 et seq).

CONTRACT WORK HOURS AND SAFETY STANDARDS ACT REQUIREMENTS

1. Overtime Requirements.

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; Liability for Unpaid Wages; Liquidated Damages.

In the event of any violation of the clause set forth in paragraph (1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this clause, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this clause.

3. Withholding for Unpaid Wages and Liquidated Damages.

The Federal Aviation Administration (FAA) or the Owner shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this clause.

4. Subcontractors.

The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this clause.

DAVIS-BACON REQUIREMENTS

1. Minimum Wages.

- (i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided* that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

- (ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination;
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

- (B) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the Contractor, the laborers, or mechanics to be employed in the classification, or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

- (iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- (iv) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program: *Provided* that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding.

The Federal Aviation Administration or the sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the Contractor, Sponsor, Applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and Basic Records.

- (i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the

Davis-Bacon Act, the Contractor shall maintain records that show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and that show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

- (ii)(A) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit the payrolls to the applicant, Sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at www.dol.gov/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit them to the applicant, sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, Sponsor, or Owner).
- (B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
- (1) The payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5(a)(3)(i), and that such information is correct and complete;
 - (2) Each laborer and mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations 29 CFR Part 3;
 - (3) Each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- (C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The Contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the sponsor, the Federal Aviation Administration, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, Sponsor, applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the

Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination that provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal Employment Opportunity. The utilization of apprentices, trainees, and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act Requirements.

The Contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

The Contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR Part 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

- (i) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 USC 1001.

COPELAND “ANTI-KICKBACK” ACT

Contractor must comply with the requirements of the Copeland “Anti-Kickback” Act (18 USC 874 and 40 USC 3145), as supplemented by Department of Labor regulation 29 CFR part 3. Contractor and subcontractors are prohibited from inducing, by any means, any person employed on the project to give up any part of the compensation to which the employee is entitled. The Contractor and each Subcontractor must submit to the Owner, a weekly statement on the wages paid to each employee performing on covered work during the prior week. Owner must report any violations of the Act to the Federal Aviation Administration.

ENERGY CONSERVATION REQUIREMENTS

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to energy efficiency as contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 USC 6201*et seq.*).

PROCUREMENT OF RECOVERED MATERIALS

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

1. The contract requires procurement of \$10,000 or more of a designated item during the fiscal year;
or
2. The contractor has procured \$10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products.

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

- a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
- b) Fails to meet reasonable contract performance requirements; or
- c) Is only available at an unreasonable price.

RIGHTS TO INVENTIONS

Contracts or agreements that include the performance of experimental, developmental, or research work must provide for the rights of the Federal Government and the Owner in any resulting invention as established by 37 CFR part 401, Rights to Inventions Made by Non-profit Organizations and Small Business Firms under Government Grants, Contracts, and Cooperative Agreements. This contract incorporates by reference the patent and inventions rights as specified within 37 CFR §401.14. Contractor must include this requirement in all sub-tier contracts involving experimental, developmental, or research work.

VETERAN'S PREFERENCE

In the employment of labor (excluding executive, administrative, and supervisory positions), the Contractor and all sub-tier contractors must give preference to covered veterans as defined within Title 49 United States Code Section 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by 15 USC 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

DISTRACTED DRIVING

In accordance with Executive Order 13513, “Federal Leadership on Reducing Text Messaging While Driving”, (10/1/2009) and DOT Order 3902.10, “Text Messaging While Driving”, (12/30/2009), the Federal Aviation Administration encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or subgrant.

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding \$3,500 that involve driving a motor vehicle in performance of work activities associated with the project.

CLEAN AIR AND WATER POLLUTION CONTROL

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 USC § 740-7671q) and the Federal Water Pollution Control Act as amended (33 USC § 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

Contractor must include this requirement in all subcontracts that exceeds \$150,000.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION

PART 0.F - DBE FORMS

Summary of Good Faith Efforts (GFE)

As required by the specifications “*Disadvantaged Business Enterprise Requirements*,” documentation of GFE shall be submitted by the close of business, 4:30 P.M. HST five (5) days of bid opening. **The bidder/offeror shall respond to the following questions and describe efforts to obtain DBE participation whether or not the DBE project goal is met.** Responses must be sufficient to properly evaluate the bidder’s/offeror’s good faith efforts. Copies of correspondence return receipts, telephone logs, or other documentation will be required to support GFE. Attach additional sheets, if necessary. Based on responses given, HDOT shall make a determination of the bidders’ GFE. **Failure to provide required information sufficient to evaluate the bid/proposal shall be cause for bid/proposal rejection.**

1. Did you submit the required information by the close of business, 4:30 P.M. HST, five (5) days after bid opening (i.e. DBE name, address, NAICS code, description of work, project name, and number)?
2. Explain your GFE if any, to solicit through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform part or all of the work to be included under the contract.
 - a. Explain your GFE if any, to solicit the participation of potential DBEs as early in the procurement process as practicable.
 - b. Explain your GFE if any, to allow sufficient time for the DBEs to properly inquire about the project and respond to the solicitation.
 - c. Explain your GFE if any, to take appropriate steps to follow up with interested DBEs in a timely manner to facilitate participation by DBEs in this project.
3. Explain your GFE if any, to identify and break up portions of work that can be performed by DBEs in order to increase the likelihood that a DBE will be able to participate, and that the DBE goal could be achieved (e.g. breaking out contract items into economically feasible units to facilitate DBE participation even when you might otherwise prefer to self-perform these work items).
4. Explain your GFE if any, to make available or provide interested DBEs with adequate information about the plans, specifications, and requirements of the project in a timely manner, and assist them in responding to your solicitation.
5. Explain your GFE if any, to negotiate in good faith with interested DBEs. Evidence of such negotiations includes documenting:
 - a) the names, addresses and telephone numbers of DBEs that were contacted; b) a description of the information that was provided to DBEs regarding the plans and specifications; and c) detailed explanation for not utilizing individual DBEs on the project.
6. Did you solely rely on price in determining whether to use a DBE? If yes please explain. The fact that there may be additional or higher costs associated with finding and utilizing DBEs are not, by themselves, sufficient reasons for your refusal to utilize a DBE or

NAME and SIGNATURE of AUTHORIZED REPRESENTATIVE of PRIME CONTRACTOR:

DATE:

failure to meet the DBE goal, provided that such additional costs are not unreasonable. Also, the ability or desire to perform a portion of the work with your own forces, that could have been undertaken by an available DBE, does not relieve you of the responsibility to make good faith efforts to meet the DBE goal, and to make available and solicit DBE participation in other areas of the project to meet the DBE goal.

7. Did you reject DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities? If yes, please explain. The DBEs standing within the industry, membership in specific groups, organizations or associates, and political or social affiliation are not legitimate basis for the rejection or non-solicitation of bids from particular DBEs.
8. Explain your GFE to assist interested DBEs in obtaining bonding, lines of credit, or insurance.
9. Explain your GFE if any, to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services.
10. If you selected a non-DBE over a DBE subcontractor, please provide the quotes of each DBE and non-DBE subcontractor submitted to you for work on the contract; and for each DBE that was contacted but not utilized for a contract, provide a detailed written explanation for each DBE detailing the reasons for not utilizing or allowing the DBE to participate in the contract.
11. Explain your GFE if any, to effectively use the services of available minority/women community organizations, minority/women business groups, contractors' groups, and local, state and federal minority/women business assistance offices or other organizations to provide assistance in recruitment and placement of DBEs.

NAME and SIGNATURE of AUTHORIZED REPRESENTATIVE of PRIME CONTRACTOR:

DATE:



**Disadvantaged Business Enterprise (DBE)
Contract Goal Verification and Good Faith Efforts (GFE)
Documentation For Construction
INSTRUCTIONS**

Project #	Self-explanatory
County	County where project is located
DBE Project Goal	Indicate DBE goal listed in the proposal on P-1
Prime Contractor	Name of prime contractor
Name of Subcontractor, Supplier, Manufacturer, and Trucking Company	Company name of subcontractor, supplier, manufacturer, or trucking firm
DBE (Y/N)	Y for yes and N for no
Bid Item Number and Description	Pay item and description
Approx. Quantity/ Hours	Self-explanatory
Unit	Unit of measure
Unit Price/ Rate	Self-explanatory
Dollar Amount	Total dollar amount committed to subcontractor, supplier, manufacturer, or trucking firm
A. Dollar amount of the work to be performed by DBE subcontractors, manufacturers, and trucking companies, plus 60% of the dollar amount of DBE suppliers	Total amount of DBE participation
B. Sum of all work items less mobilization, force account items, allowance items	List total of work items minus mobilization, force accounts and allowances. DBE credit shall not be given for mobilization, force account items, and allowance items.
A/B = DBE contract goal	Self-explanatory
Name and Signature of Authorized Representative of Prime Contractor	Self-explanatory (Note: bidder must sign and date every page of form.)
Date	Date form is signed
Summary of Good Faith Efforts (GFE)	Complete by answering questions in detail and providing documentation to support how bidder demonstrated good faith efforts to meet the goal, irrespective of whether or not the goal was met.



Disadvantaged Business Enterprise (DBE) Confirmation and Commitment Agreement Trucking Company

This commitment is subject to the award and receipt of a signed contract from the Hawaii Department of Transportation (HDOT) for the subject project. DBEs must be certified by the bid opening date.

Project #:	County:
NAICS CODE/DESCRIPTION OF WORK:	SECONDARY NAICS CODE:

*All quantities and units should match the bid tab item whenever possible.

The prime contractor shall inform HDOT the dates when the trucking firm starts and completes all work under the subcontract.

Estimated Beginning Date (Month/Year):	Estimated Completion Date (Month/Year):
---	--

TRUCKING COMPANY:	Item No.	Item Description	Unit	Unit Price / Rate	Amount
				\$	\$
				\$	\$
				\$	\$
TOTAL COMMITMENT AMOUNT					\$

1. Number of hours contracted or quantities to be hauled: _____
2. Number of fully operational trucks to be used: _____ Tractor/trailers: _____ Dump trucks: _____
3. Number of fully operational trucks owned by DBE: _____ Dump trucks: _____ Tractors/trailers: _____
4. If Owner Operators or additional trucking companies are to be used answer the following:

Name of Trucking Company	DBE Y/N	Estimated Dollar Amount to be Contracted	Number and Type of Trucks (specify)
		\$	
		\$	

The prime contractor certifies by signature on this agreement to utilize the DBE trucking company as listed on the agreement form. If a DBE trucking company is unable to perform the work as listed on this agreement form, the prime contractor will follow the substitution/replacement approval process as outlined in the contract DBE requirements. **IMPORTANT! The signatures of the DBE, prime contractor, and subcontractor (only if the DBE will be a second tier sub) confirms that all information on this Agreement is true and correct. Parties should sign Agreement in the order in which they are listed.**

DBE NAME:	Name/Title (please print):
Address:	Signature:
Phone: Fax:	
Email:	
Prime Contractor:	Name/Title (please print):
Address:	Signature:
Phone: Fax:	
Email:	
Subcontractor (only if the DBE will be a second tier sub):	Name/Title (please print):
Address:	Signature:
Phone: Fax:	
Email:	

HDOT retains the information collected through this form. With few exceptions, you are entitled on request to be informed about the information that we collect about you.



**Disadvantaged Business Enterprise (DBE)
Confirmation and Commitment Agreement
Trucking Company
INSTRUCTIONS**

The purpose of this agreement is to secure the commitment of the bidder/offeror to utilize the listed DBE trucking company, and the DBE's confirmation that it will perform work for the bidder/offeror on this project. The information on this form shall be provided by the DBE.

Project #	Self-explanatory
County	County where project is located
NAICS Code/Description of Work	Primary North American Industry Classification System code under which DBE is certified to perform and description of work to be done
Secondary NAICS Code	List other NAICS codes firm is certified to perform
Estimated Beginning Date (Month/Year)	Date DBE shall begin work on the project
Estimated Completion Date (Month/Year)	Date DBE's work will be completed
Trucking Company	Name of DBE trucking company
Item No.	List pay item number
Item Description	Description of item
Unit	Unit of measure – e.g. weight or hours
Unit Price/Rate	Cost per unit or hourly rate
Amount	Total amount per pay item
Total Commitment Amount	Sum of all pay items and total commitment of bidder/offeror to DBE
Number of hours contracted or quantities to be hauled	Approximate number of hours or tonnage to be hauled
Number of fully operational trucks to be used:	Total number of trucks to be used for the project
Tractor/Trailers	Number of tractor trailers to be used
Dump Trucks	Number of dump trucks to be used
Number of fully operational trucks owned by DBE	Number of listed DBE's trucks to be used on this project
Name of Trucking Company	If other trucking companies (DBE or non-DBE) are to be leased, list name and information about type of trucks in this section
Estimated Dollar Amount to be Contracted	Provide information about estimated cost to lease trucks
Number of Dump Trucks, Tractor/Trailer	Self-explanatory
DBE NAME	DBE Company name
Name/Title	Name and title of DBE's representative
Address	Self-explanatory
Phone	Self-explanatory
Fax	Self-explanatory
Email	Self-explanatory
Signature	Signature of DBE's representative
Date	Date agreement is signed
Prime Contractor	Company name

Name/Title	Name and title of prime contractor's representative
Address	Self-explanatory
Phone	Self-explanatory
Fax	Self-explanatory
Email	Self-explanatory
Signature	Signature of prime contractor's representative
Date	Date agreement is signed
Subcontractor (only if the DBE will be a second tier sub):	Name of subcontractor only if the listed DBE trucking company will be performing work under this subcontractor
Name/Title	Name and title of the subcontractor's representative
Address	Self-explanatory
Phone	Self-explanatory
Fax	Self-explanatory
Email	Self-explanatory
Signature	Signature of subcontractor
Date	Date agreement is signed



Disadvantaged Business Enterprise (DBE) Confirmation and Commitment Agreement Subcontractor, Manufacturer, or Supplier

This commitment is subject to the award and receipt of a signed contract from the Hawaii Department of Transportation (HDOT) for the subject project. DBEs must be certified by the bid opening date.

Project #:	County:
NAICS CODE/DESCRIPTION OF WORK:	SECONDARY NAICS CODE:

*All quantities and units should match the bid tab item whenever possible.

The prime contractor shall inform HDOT of the dates when the subcontractor starts and completes all work under the subcontract.

Estimated Beginning Date (Month/Year):	Estimated Completion Date (Month/Year):
---	--

SUBCONTRACTOR:	Item No.	Item	Approx. Quantity	Unit	Unit Price	Amount
					\$	\$
					\$	\$
					\$	\$
					\$	\$
TOTAL COMMITMENT AMOUNT						\$

MANUFACTURER:	Item No.	Item	Approx. Quantity	Unit	Unit Price	Amount
					\$	\$
					\$	\$
TOTAL COMMITMENT AMOUNT						\$

SUPPLIER:	Item No.	Item	Approx. Quantity	Unit	Unit Price	Amount
					\$	\$
					\$	\$
TOTAL COMMITMENT AMOUNT						\$

The prime contractor certifies by signature on this agreement that subcontracts will be executed between the prime contractor and the DBE subcontractors as listed on the agreement form. If a DBE subcontractor is unable to perform the work as listed on this agreement form, the prime contractor will follow the substitution/replacement approval process as outlined in the contract DBE requirements. **IMPORTANT! The signatures of the DBE, prime contractor, and subcontractor (only if the DBE will be a second tier sub) confirms that all information on this Agreement is true and correct. Parties should sign Agreement in the order in which they are listed.**

DBE NAME:	Name/Title (please print):
Address:	Signature:
Phone: Fax:	
Email:	Date:
Prime Contractor:	Name/Title (please print):
Address:	Signature:
Phone: Fax:	
Email:	Date:
Subcontractor (only if the DBE will be a second tier sub):	Name/Title (please print):
Address:	Signature:
Phone: Fax:	
Email:	Date:

HDOT retains the information collected through this form. With few exceptions, you are entitled on request to be informed about the information that we collect about you.



Disadvantaged Business Enterprise (DBE) Confirmation and Commitment Agreement Subcontractor, Manufacturer, or Supplier INSTRUCTIONS

The purpose of this agreement is to secure the commitment of the bidder/offeror to utilize the listed DBE, and the DBE's confirmation that it will perform work for the bidder/offeror on this project. The information on this form shall be provided by the DBE.

Project #	Self-explanatory
County	County where project is located
NAICS Code/Description of Work	Primary North American Industry Classification System code under which DBE is certified to perform and description of work to be done
Secondary NAICS Code	List other NAICS codes firm is certified to perform
Estimated Beginning Date (Month/Year)	Date DBE shall begin work on the project
Estimated Completion Date (Month/Year)	Date DBE's work will be completed
Subcontractor	Name of DBE subcontractor (company name)
Item No.	List pay item number
Item	Description of item
Approx. Quantity	Self-explanatory
Unit	List unit of measure
Unit Price	Cost per unit
Amount	Total amount per pay item
Total Commitment Amount	Sum of all pay items and total commitment of bidder/offeror to DBE
Manufacturer	Name of DBE manufacturer
Supplier	Name of DBE supplier (aka regular dealer)
DBE NAME	DBE Company name
Name/Title	Name and title of DBE's representative
Address	Self-explanatory
Phone	Self-explanatory
Fax	Self-explanatory
Email	Self-explanatory
Signature	Signature of DBE's representative
Date	Date agreement is signed
Prime Contractor	Company name
Name/Title	Name and title of prime contractor's representative
Address	Self-explanatory
Phone	Self-explanatory
Fax	Self-explanatory
Email	Self-explanatory
Signature	Signature of prime contractor's representative
Date	Date agreement is signed
Subcontractor (only if the DBE will be a second tier sub):	Name of subcontractor only if the listed DBE will be performing work under this subcontractor as a second tier subcontractor/supplier/manufacturer

Name/Title	Name and title of the subcontractor's representative that the listed DBE will work under as a second tier subcontractor/supplier/manufacture
Address	Self-explanatory
Phone	Self-explanatory
Fax	Self-explanatory
Email	Self-explanatory
Signature	Signature of subcontractor's representative
Date	Date agreement is signed

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION

PART 0.G - SAMPLE FORMS

C O N T R A C T

THIS AGREEMENT, made this day _____, by and between the STATE OF HAWAII, by its Director of Transportation, hereinafter referred to as "STATE", and «CONTRACTOR», «STATE_OF_INCORPORATON», whose business/post office address is «ADDRESS» hereinafter referred to as "CONTRACTOR",

WITNESSETH: That for and in consideration of the payments hereinafter mentioned, the CONTRACTOR hereby covenants and agrees with the STATE to complete in place, furnish and pay for all labor and materials necessary for

“«PROJECT_NAME_AND_NO»”,

or such a part thereof as shall be required by the STATE, the total amount of which labor, materials and construction shall be computed at the unit and/or lump sum prices set forth in the attached proposal schedule and shall be the sum of «BASIC»----- DOLLARS

(\$«BASIC_NUMERIC») as follows:

TOTAL AMOUNT FOR COMPARISON OF BIDS.....\$«BASIC_NUMERIC»

K-1

which shall be provided from the following funds:

Federal Funds.....
State Funds.....
TOTAL AMOUNT.....

all in accordance with the specifications, the special provisions, if any, the notice to bidders, the instructions to bidders, the proposal and plans for «PROJECT_NO_ONLY», and any supplements thereto, on file in the office of the Director of Transportation. These documents, together with all alterations, amendments, and additions thereto and deductions therefrom, are attached hereto or incorporated herein by reference and made a part of this contract.

The CONTRACTOR hereby covenants and agrees to complete such construction within «WORKING_DAYS», from the date indicated in the notice to proceed from the STATE, subject, however, to such extensions as may be provided for under the specifications.

For and in consideration of the covenants, undertakings and agreements of the CONTRACTOR herein set forth and upon the full and faithful performance thereof by the CONTRACTOR, the STATE hereby agrees to pay the CONTRACTOR the sum of «BASIC»-----DOLLARS (\$«BASIC_NUMERIC») in lawful money, but not more than such part of the same as is actually earned according to the STATE's determination of the actual quantities of work performed and materials furnished by the CONTRACTOR at the unit or lump sum prices set forth in the attached proposal schedule. Such payment, including any extras, shall be made, subject to such additions or deductions hereto or hereafter made in the manner and at the time prescribed in the specifications and this contract.

An additional sum of «EXTRAS»-----DOLLARS (\$«EXTRA_NUMERIC») is hereby provided for extra work and shall be provided from the following funds:

Federal Funds.....
 State Funds.....
 Total.....

Where Federal funds are involved, it is covenanted and agreed by and between the parties hereto that the sum of ----«FEDERAL_BASIC»----DOLLARS (\$«FEDERAL_BASIC_NUMERIC») and ----«FEDERAL_EXTRAS»----DOLLARS (\$«FEDERAL_EXTRAS_NUMERIC»), a portion of the contract price and extras, respectively, shall be paid out of the applicable Federal funds, and that this contract shall be construed to be an agreement to pay said sums to the Contractor only out of the aforesaid Federal funds if and when such Federal funds shall be received from the Federal Government, and that this contract shall not be construed to be a general agreement to pay said portions at all events out of any funds other than those which may be so received from the Federal Government; provided, that if the Federal share of the cost of the project is not immediately forthcoming from the Federal Government, the STATE may advance the CONTRACTOR the anticipated Federal reimbursement of the cost of the completed portions of the work from funds which have been appropriated by the STATE for its pro rata share.

All words used herein in the singular shall extend to and include the plural. All words used in the plural shall extend to and include the singular. The use of any gender shall extend to and include all genders.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be duly executed the day and year first above written.

STATE OF HAWAII

Director of Transportation

«CONTRACTOR»

Signature

Print name

Print Title

Date

K-4

PERFORMANCE BOND (SURETY)
(6/21/07)

KNOW TO ALL BY THESE PRESENTS:

That _____,
(Full Legal Name and Street Address of Contractor)

as Contractor, hereinafter called Principal, and _____

(Name and Street Address of Bonding Company)

as Surety, hereinafter called Surety, a corporation(s) authorized to transact business as a
surety in the State of Hawaii, are held and firmly bound unto the _____,
(State/County Entity)

its successors and assigns, hereinafter called Obligee, in the amount of _____

_____ DOLLARS (\$ _____), to which payment Principal and Surety bind themselves,
their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by
these presents.

WHEREAS, the above-bound Principal has signed a Contract with Obligee on
_____, for the following project: _____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part
hereof.

NOW THEREFORE, the condition of this obligation is such that:

If the Principal shall promptly and faithfully perform, and fully complete the Contract in
strict accordance with the terms of the Contract as said Contract may be modified or amended
from time to time; then this obligation shall be void; otherwise to remain in full force and effect.

Surety to this Bond hereby stipulates and agrees that no changes, extensions of time, alterations, or additions to the terms of the Contract, including the work to be performed thereunder, and the specifications or drawings accompanying same, shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, extensions of time, alterations, or additions, and agrees that they shall become part of the Contract.

In the event of Default by the Principal, of the obligations under the Contract, then after written Notice of Default from the Oblige to the Surety and the Principal and subject to the limitation of the penal sum of this bond, Surety shall remedy the Default, or take over the work to be performed under the Contract and complete such work, or pay moneys to the Oblige in satisfaction of the surety's performance obligation on this bond.

Signed this _____ day of _____, _____.

(Seal)

Name of Principal (Contractor)

*

Signature

Title

(Seal)

Name of Surety

*

Signature

Title

***ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC**

PERFORMANCE BOND

KNOW TO ALL BY THESE PRESENTS:

That we, _____
(full legal name and street address of Contractor)

as Contractor, hereinafter called Contractor, is held and firmly bound unto the

(State/County entity)

its successors and assigns, as Obligee, hereinafter called Obligee, in the amount

_____ DOLLARS \$ _____),
(Dollar amount of Contract)

lawful money of the United States of America, for the payment of which to the said Obligee, well and truly to be made, Contractor binds itself, its heir, executors, administrators, successors and assigns, firmly by these presents. Said amount is evidenced by:

- Legal Tender;**
- Share Certificate** unconditionally assigned to or made payable at sight to _____
Description: _____;
- Certificate of Deposit**, No. _____, dated _____ issued by _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- Cashier's Check** No. _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- Teller's Check** No. _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- Treasurer's Check** No. _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- Official Check** No. _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- Certified Check** No. _____, dated _____ accepted by a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

WHEREAS:

The Contractor has by written agreement dated _____ entered into a contract with Obligee for the following Project: _____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW THEREFORE,

The Condition of this obligation is such that, if Contractor shall promptly and faithfully perform the Contract in accordance with, in all respects, the stipulations, agreements, covenants and conditions of the Contract as it now exists or may be modified according to its terms, and shall deliver the Project to the Obligee, or to its successors or assigns, fully completed as in the Contract specified and free from all liens and claims and without further cost, expense or charge to the Obligee, its officers, agents, successors or assigns, free and harmless from all suits or actions of every nature and kind which may be brought for or on account of any injury or damage, direct or indirect, arising or growing out of the doing of said work or the repair or maintenance thereof or the manner of doing the same or the neglect of the Contractor or its agents or servants or the improper performance of the Contract by the Contractor or its agents or servants or from any other cause, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

AND IT IS HEREBY STIPULATED AND AGREED that suit on this bond may be brought before a court of competent jurisdiction without a jury, and that the sum or sums specified in the said Contract as liquidated damages, if any, shall be forfeited to the Obligee, its successors or assigns, in the event of a breach of any, or all, or any part of, covenants, agreements, conditions, or stipulations contained in the Contract or in this bond in accordance with the terms thereof.

The amount of this bond may be reduced by and to the extent of any payment or payments made in good faith hereunder.

Signed and sealed this _____ day of _____, _____.

(Seal) _____

Name of Contractor

Signature*

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

LABOR AND MATERIAL PAYMENT BOND (SURETY)
(6/21/07)

KNOW TO ALL BY THESE PRESENTS:

That _____,
(Full Legal Name and Street Address of Contractor)

as Contractor, hereinafter called Principal, and _____

(Name and Street Address of Bonding Company)

as Surety, hereinafter called Surety, a corporation(s) authorized to transact business as a surety in the State of Hawaii, are held and firmly bound unto the _____,
(State/County Entity)

its successors and assigns, hereinafter called Oblige, in the amount of _____

_____ Dollars (\$ _____), to which payment Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the above-bound Principal has signed Contract with the Oblige on _____ for the following project: _____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW THEREFORE, the condition of this obligation is such that if the Principal shall promptly make payment to any Claimant, as hereinafter defined, for all labor and materials supplied to the Principal for use in the performance of the Contract, then this obligation shall be void; otherwise to remain in full force and effect.

1. Surety to this Bond hereby stipulates and agrees that no changes, extensions of time, alterations, or additions to the terms of the Contract, including the work to be performed thereunder, and the specifications or drawings accompanying same, shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, extensions of time, alterations, or additions, and agrees that they shall become part of the Contract.

2. A "Claimant" shall be defined herein as any person who has furnished labor or materials to the Principal for the work provided in the Contract.

Every Claimant who has not been paid amounts due for labor and materials furnished for work provided in the Contract may institute an action against the Principal and its Surety on this bond at the time and in the manner prescribed in Section 103D-324, Hawaii Revised Statutes, and have the rights and claims adjudicated in the action, and judgment rendered thereon; subject to the Obligee's priority on this bond. If the full amount of the liability of the Surety on this bond is insufficient to pay the full amount of the claims, then after paying the full amount due the Obligee, the remainder shall be distributed pro rata among the claimants.

Signed this _____ day of _____, _____.

(Seal)

Name of Principal (Contractor)

*

Signature

Title

(Seal)

Name of Surety

*

Signature

Title

***ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC**

LABOR AND MATERIAL PAYMENT BOND

KNOW TO ALL BY THESE PRESENTS:

That we, _____
(full legal name and street address of Contractor)

as Contractor, hereinafter called Contractor, is held and firmly bound unto _____
(State/County entity)

its successors and assigns, as Obligee, hereinafter called Obligee, in the amount
_____ DOLLARS (\$ _____)
(Dollar amount of Contract)

lawful money of the United States of America, for the payment of which to the said Obligee, well and truly to be made, Contractor binds itself, its heir, executors, administrators, successors and assigns, firmly by these presents. Said amount is evidenced by:

- Legal Tender;
- Share Certificate unconditionally assigned to or made payable at sight to _____
Description: _____
- Certificate of Deposit, No. _____, dated _____ issued by _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- Cashier's Check No. _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- Teller's Check No. _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- Treasurer's Check No. _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- Official Check No. _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- Certified Check No. _____, dated _____ accepted by a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

WHEREAS:

The Contractor has by written agreement dated _____ entered into a contract with Obligee for the following Project: _____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW THEREFORE,

The condition of this obligation is such that, if Contractor shall promptly and faithfully perform the Contract in accordance with, in all respects, the stipulations, agreements, covenants and conditions of the Contract as it now exists or may be modified according to its terms, free from all liens and claims and without further cost, expense or charge to the Obligee, its officers, agents, successors or assigns, free and harmless from all suits or actions of every nature and kind which may be brought for or on account of any injury or damage, direct or indirect, arising or growing out of the doing of said work or the repair or maintenance thereof or the manner of doing the same or the neglect of the Contractor or its agents or servants or the improper performance of the Contract by the Contractor or its agents or servants or from any other cause, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

AND IT IS HEREBY STIPULATED AND AGREED that suit on this bond may be brought before a court of competent jurisdiction without a jury, and that the sum or sums specified in the said Contract as liquidated damages, if any, shall be forfeited to the Obligee, its successors or assigns, in the event of a breach of any, or all, or any part of, covenants, agreements, conditions, or stipulations contained in the Contract or in this bond in accordance with the terms thereof.

AND IT IS HEREBY STIPULATED AND AGREED that this bond shall inure to the benefit of any and all persons entitled to file claims for labor performed or materials furnished in said work so as to give any and all such persons a right of action as contemplated by Sections 103D-324(d) and 103D-324(e), Hawaii Revised Statutes.

The amount of this bond may be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payments of mechanics' liens which may be filed of record against the Project, whether or not claim for the amount of such lien be presented under and against this bond..

Signed this _____ day of _____, _____.

(Seal) _____

Name of Contractor

Signature*

Title

ALL SIGNATURES MUST BE ACKNOWLEDGED BY A NOTARY PUBLIC

CHAPTER 104, HRS COMPLIANCE CERTIFICATE

The undersigned bidder does hereby certify to the following:

1. Individuals engaged in the performance of the contract on the job site shall be paid:
 - A. Not less than the wages that the director of labor and industrial relations shall have determined to be prevailing for corresponding classes of laborers and mechanics employed on public works projects; and
 - B. Overtime compensation at one and one-half times the basic hourly rate plus fringe benefits for hours worked on Saturday, Sunday, or a legal holiday of the State or in excess of eight hours on any other day.
2. All applicable laws of the federal and state governments relating to workers' compensation, unemployment compensation, payment of wages, and safety shall be fully complied with.

DATED at Honolulu, Hawaii, this _____ day of _____.

Name of Corporation, Partnership, or Individual

Signature and Title of Signer

NOTARY CERTIFICATION

Subscribed and sworn before me this

Doc. Date: _____ # Pages: _____

_____ day of _____

Notary Name: _____

Doc. Description: _____

Notary Public, _____ Judicial Circuit

State of Hawaii

My Commission Expires: _____

Notary Signature: _____

Date: _____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION

PART I – GENERAL PROVISIONS FOR CONSTRUCTION PROJECTS

(NOT PHYSICALLY INCLUDED)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION

PART II – TECHNICAL PROVISIONS

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01010 - DESCRIPTION OF WORK

PART I - GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including the General Provisions for Construction Projects (2016), Special Provisions, and General Requirements of the Specifications, apply to the work specified in this section.

1.02 SUMMARY

A. Section Includes:

1. Location of the work.
2. Hours of work
3. Safety
4. Operation of airport facilities during construction
5. Disposal of excess soil materials
6. Construction stakes, lines and grades.
7. Special project requirements

1.03 VEHICLE PARKING

Parking passes may be purchased at a monthly rate of \$175.00 plus a one-time fee of \$25.00 for parking access card. These passes are subject to approval by the Airport Manager and availability of parking spaces. All costs associated with obtaining parking passes shall be the responsibility of the Contractor.

1.04 PROVISIONS FOR FIELD OFFICE/STORAGE SPACE

Pending the availability of space on airport property, the State will issue Revocable Permit(s) to the Contractor for the use of the space, assessed at a monthly fee of \$25 for each Revocable Permit issued. The space(s) may be used for a field office, staging of materials and equipment, vehicle parking or other uses subject to the approval of the State. All spaces shall be subject to the requirements of Section 01561 - CONSTRUCTION SITE RUNOFF CONTROL PROGRAM.

Since space on airport property is extremely limited, the State does not guarantee that space(s) provided to the Contractor will be in close proximity to the project site. The State will make every effort to provide the Contractor with space on airport property, however, should the State determine that no space is available for such use(s), the responsibility shall then be on the Contractor to find space outside of airport property.

1.05 LOCATION OF THE WORK

- A. The work to be performed under this contract is located at the Daniel K. Inouye International Airport, Honolulu, Oahu, Hawaii.

- C. Conditions:
 - 1. The Main Terminal and airport roadways shall remain operational at all times. Any damages to existing areas caused by the Contractor shall be repaired by the Contractor at no cost to the State.
 - 2. Upon award of the contract, the Contractor, at their cost, shall obtain all permits required for this project.

1.06 HOURS OF WORK

- A. Work shall be performed to minimize the impact to the operation of Wiki Wiki bus system and the traveling public.
 - 1. Work activities at the Ewa Concourse 2nd level roadway shall occur between 8:00 p.m. and 5:00 a.m. During non-working hours, safe access to the Ewa Concourse must be provided for Wiki Wiki bus operations.
 - 2. Working hours at the Ewa Concourse 2nd level turnaround area shall be limited to 12:01 a.m. to 5:00 a.m. The turnaround must always be open for Wiki Wiki bus operations during non-working hours.
 - 3. Work activities at the Ewa Concourse 3rd level roadway can be performed at the construction site at anytime over a 24 hour period, provided that vehicular access is safely maintained at all times. Any work that will impact the use of the 3rd level roadway must be performed between 3:00 p.m. and 11:00 p.m.
 - 4. Work activities at the Diamond Head Concourse 2nd level roadway, including the turnaround, shall be performed between 3:00 p.m. and 11:00 p.m. During non-working hours, safe access to the Diamond Head Concourse must be provided for Wiki Wiki bus operations.
 - 5. In the event of an emergency, airport operations shall take precedence over all construction activities.
 - 6. Contractor shall submit a proposed construction schedule to DOT-A for review and approval no later than 30 days after award of the contract. The Contractor shall coordinate their schedule with the DOT-

A if rescheduling of work or intermittent work is required, such work shall be performed at no extra cost to the State. If the Contractor elects to work overtime, compensation for State employees and for construction management consultant as authorized by DOT-A shall be the Contractor's obligation to pay in accordance with Section 7.6 of the General Provisions.

- B. Contractor shall clean work areas at the end of each working shift. Rubbish, loose materials, etc. shall be disposed of daily. **Tools and equipment shall not be left unattended during working hours.** Materials shall be safely secured and stored in an area designated by the Airport Manager.

1.07 SAFETY

- A. The Contractor shall take the necessary precautions to protect his workers and other personnel from injuries. The rules and regulations promulgated by the Occupational Safety and Health Acts are applicable and made a part of these specifications.
- B. Barricades and warning signs shall be erected by the Contractor in the work area to properly protect all personnel in the area.
- C. During the progress of the work debris, empty crates, waste, material drippings, etc., shall be removed by the Contractor at the end of each work day, and the work area shall be left clean and orderly.

1.08 OPERATION OF AIRPORT FACILITIES DURING CONSTRUCTION

- A. The Contractor shall coordinate the phases of work under this contract with the Engineer to permit the continuing operation of existing Airport facilities and to minimize disruption to pedestrian and vehicular traffic.
- B. Utility Maintenance: During the construction of this contract, existing utility services serving occupied or used facilities shall not be disrupted except where authorized in writing by authorities having jurisdiction. Contractor shall provide temporary services during interruptions to existing utilities, as acceptable to the Engineer. Damages to the existing utility facilities by the Contractor will be repaired at the Contractor's expense.
- C. Outages for water, power, communications, air conditioning or any other utility, if necessary, shall be kept to a minimum and scheduled for off-peak hours, generally from 12:00 a.m. to 6:00 a.m. The Contractor shall submit written requests to the Engineer for such outages no later than

fourteen (14) calendar days in advance. The request shall include a description of work and the duration of the outage. The Contractor shall not proceed with such outages until written approval is received from the State.

1.09 DISPOSAL OF EXCESS SOIL MATERIALS

A. Off-Site Disposal of Excess Soil Material

Any excess soil material and rubbish disposed of outside the Airport property shall be the responsibility of the Contractor. The Contractor shall make all arrangements and bear all costs involved therewith.

1.10 CONSTRUCTION STAKES, LINES AND GRADES

- A. The Contractor shall perform all construction layout and reference staking necessary for the proper control and satisfactory completion of all structures, grading, paving, drainage, sewer, water, and all other appurtenances required for the completion of the work.
- B. Existing horizontal and vertical survey control points for the project are shown on the plans. The Contractor shall verify the location of all control points prior to the start of construction.
- C. The Department will not be responsible for delays in setting stakes and marks.
- D. All control points and stakes or marks which the Engineer may set shall be preserved by the Contractor. If such control points, stakes or marks are destroyed or disturbed by the Contractor, the cost of replacing such stakes or marks will be charged against the Contractor and deducted from payments due the Contractor.
- E. The Contractor shall be responsible for the placement and preservation of adequate ties to all control points whether established by the Contractor or by the Engineer.
- F. All original, additional or replacement stakes, marks, references and batter-boards which may be required for the construction operations, shall be furnished, set and properly referenced by the Contractor. The Contractor shall be solely and completely responsible for the accuracy of the line and grade of all features of the work. Any errors or apparent discrepancies found in previous surveys, the plans and specifications shall be called to the Engineer's attention by the Contractor for correction or interpretation prior to proceeding with the work.

- G. Before construction is started on any structure which is referenced to an existing structure or topographical feature, the Contractor shall check the pertinent locations and grades of the existing structures or topographical features to determine whether the locations and grades shown on the plans are correct.
- H. All construction staking shall be performed by qualified personnel under the direct supervision of a person with an engineering background who is experienced in the direction of such work and is acceptable to the Engineer.
- I. All stakes and markers used for control staking shall be of the same quality as used by the Department for this purpose. For slope limits, pavement edges, gutter lines, et cetera, where so called "working" stakes are commonly used, stakes of different quality may be acceptable.
- J. The Department may check the Contractor's control of the work at any times as the work progresses. The Contractor will be informed of the results of these checks, but the Department by doing so will in no way relieve the Contractor of his responsibility for the accuracy of the layout work. The Contractor shall at his expense correct or replace any deficient or inaccurate layout and construction work. If, as a result of these deficiencies or inaccuracies, the Department is required to make further studies, redesign, or both, all expenses incurred by the Department due to such deficiencies or inaccuracies, will be deducted from any payments due the Contractor.
- K. The Contractor shall furnish all necessary personnel, engineering equipment and supplies, materials, and transportation incidental to the accurate and satisfactory completion of this work.

Unless otherwise provided, all requirements imposed by this section and performed by the Contractor shall be considered incidental to the various contract items and not separate or additional payment will be made thereof.

1.11 SPECIAL PROJECT REQUIREMENTS

- A. Upon receipt of the Contract, the Contractor shall process and return the Contract to the State' Contract Office within five (5) calendar days.
- B. The State intends to issue the Notice to Proceed for the Project to the Contractor within 35 calendar days after bid opening. The Contractor shall be able to commence work on this date.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the bid prices for the various items of work in this project.

END OF SECTION

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including the General Provisions for Construction Projects (2016), Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

1.02 PROJECT DOCUMENTATION

The contract will not be considered complete until required submittals have been received and accepted by the State.

1.03 DETAILED CONSTRUCTION SCHEDULE

A. The Contractor shall submit a detailed construction schedule to the Engineer for review, no later than thirty (30) calendar days after award of the Contract. The detailed construction schedule shall be based on a detailed critical path analysis of construction activities and sequence of operations needed for the orderly performance and completion of any separable parts of any work and all work in accordance with the Contract. The schedule shall be Critical Path Method (CPM) type in the form of an arrow diagram and activity listing or comprehensive bar graph. The network diagram shall show in detail and in orderly sequence all activities on a time scale, their descriptions, durations and dependencies, necessary and required to complete all work and any separable parts thereof. The schedule shall show in detail the following information for each activity:

1. Identification by code numbers and description;
2. Duration;
3. Craft and Equipment;
4. Earliest start and finish dates;
5. Latest start and finish dates;
6. Total and free float time; and
7. Highlighted Critical Path

B. The construction schedule shall be complete in all respects, covering in addition to activities at the site of work, off-site activities such as design, fabrication, and procurement of equipment; the scheduled delivery dates of such equipment; submittal and approval of shop drawings and samples; ordering and delivery of materials; inspections; and testing. The schedule shall also include a manpower forecast by crafts. The detailed construction schedule shall be supplemented by a three week schedule

prepared by the Contractor and submitted to the Engineer on a weekly basis. The Contractor shall promptly inform the Engineer of any proposed change in the schedule and shall furnish the Engineer with a revised schedule and cash flow diagram within fifteen (15) calendar days after approval of such change.

The schedule shall be kept up to date, taking into account the actual progress of work and shall be updated if necessary, every thirty (30) calendar days. The updated schedule shall, as determined by the Engineer, be sufficient to meet the requirements for the completion of the separable parts of work and the entire projects as set forth in the contract.

Upon commencing work, the Contractor shall submit at the start of each week to the Engineer for review, a detailed two (2) week construction schedule.

- C. If at any time during the progress of the Work, the Contractor's actual progress appears to the Engineer to be inadequate to meet the requirements of the contract, the Engineer will notify the Contractor of such imminent or actual noncompliance with the contract. The Contractor shall thereupon take such steps as may be necessary to improve his progress and the Engineer may require an increase in the labor force, the number of shifts, and/or overtime operations, days of work and/or the amount of construction plants all without additional cost to the State. Neither such notice by the Engineer nor the Engineer's failure to issue such notice shall relieve the Contractor from his obligation to achieve the quality of work and rate of progress required by the contract. Failure of the Contractor to comply with instructions of the Engineer under these provisions may be grounds for determination by the State that the Contractor is not prosecuting work with such diligence as will assure completion within the times specified. Upon such determination, the State may employ labor and equipment and charge the Contractor for the cost thereof, including depreciation for plant and equipment or may terminate the Contractor's right to proceed with the performance of the contract, or any separable part thereof, in accordance with the applicable provisions of the contract.
- D. The Contractor shall submit to the Engineer one (1) reproducible and three (3) prints of the detailed construction schedule and of each revised schedule submitted thereafter.

1.04 SCHEDULE OF VALUES

- A. The Contractor shall submit the Schedule of Values to the Engineer for review, no later than thirty (30) calendar days after award of the Contract.

- B. Format and Content: Use the Project Specifications table of contents as a guide to establish the format for the Schedule of Values. Provide at least one line item for each Specification Section. Provide a breakdown of the contract sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principle work or subcontract amounts down into several smaller identifiable items of work.

- C. Identification: Include the following Project identification on the schedule of values:
 - 1. Project name and location
 - 2. Project number
 - 3. Contractor's name and address
 - 4. Contract No.
 - 5. Date of submittal

- D. Arrange the Schedule of Values in tabular form with separate columns to indicate the following items listed:
 - 1. Related Specification Section or Division
 - 2. Description of work
 - 3. Dollar value and percent complete

- E. Correlate line items in the Schedule of Values with other required administrative schedules and forms including;
 - 1. Construction Schedule
 - 2. Application for Payment forms including continuation sheets
 - 3. List of Subcontractors
 - 4. List of principle suppliers and fabricators
 - 5. Schedule of submittals

- F. Round amount to nearest whole dollar; the total shall equal the contract sum.

- G. Provide a separate line item in the Schedule of Values for each part of the work where Applications for Payment may include materials or equipment, purchased, fabricated or stored, but not yet installed.

- H. Schedule Updating: Update and resubmit the Schedule of Values prior to the next Applications for Payment or when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.05 OTHER SUBMITTALS REQUIRED BEFORE CONSTRUCTION

The Contractor shall submit the following items prior to or at the pre-construction meeting or unless otherwise noted:

- A. Name, residence phone number, addresses and scope of authority for the following persons:
 - 1. Superintendent
 - 2. Contractor's authorized representative to sign documents
 - 3. Two (2) additional persons who can be contacted during non-working hours for emergencies.
 - 4. Field Office location and phone numbers (cellular, pager, fax, etc.)
- B. Name of Safety Officer
- C. Notice of Materials to be furnished
- D. Three (3) copies each of Certificates of Insurance. The State of Hawaii, Department of Transportation, Airports Division shall be named as additionally insured. If canceled, thirty (30) days written notice to the State of Hawaii must be given. If certificates are not correct, work cannot proceed.
- E. Three (3) copies each Insurance and Tax Rates.
- F. List of apprentices who will be working on the project supported with the Statement of Apprenticeship or copy of the Apprenticeship Agreements registered with the State Board, for each apprentice.
- G. List of equipment to be used on the job. Designate maximum working height and capacity of equipment involved and their respective rental rates.
- H. Three (3) copies of an expenditure (cash flow) plan consisting of an anticipated work completion graph plotting contract time and gross payment anticipated.

1.06 SHOP DRAWINGS, SAMPLES, CATALOG CUTS, AND CERTIFICATES

- A. Submittal Schedule: Prior to the submission of any shop drawings or submittals, the Contractor shall submit to the Engineer for review, a submittal schedule. The schedule shall identify the subject matter of each submittal, the corresponding specification section number and the proposed date of submission. During the progress of work, the Contractor shall revise and resubmit the submittal schedule as directed by the

Engineer.

- B. The Contractor shall submit for review to the Engineer, or to a representative designated by the Engineer, six (6) copies of all shop drawings, samples, catalog cuts and certificates. Three (3) copies will be returned to the Contractor with information of review action. The Contractor shall submit additional quantities for their subcontractor's or supplier's use. Each shop drawing, certificate of compliance, sample, and equipment list shall be checked and certified correct by the Contractor, and shall be identified with the applicable information specified hereinafter under "Submittal Identification."

Items are to be reviewed prior to commencing fabrication or delivery of material to the job site.

- C. Each copy of the drawings, certificates, catalog cuts, and lists reviewed by the Engineer will be stamped "REVIEW ACTION" with the appropriate action noted therein. The review of the Engineer shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory. Acceptance of such drawings will not relieve the Contractor the responsibility of conforming to the contract drawings and specifications or for any error or omission which may exist as the Contractor shall be responsible for the dimensions and design of adequate connections, details, and satisfactory construction of all work. Each shop drawing submitted for review shall have, in the lower right-hand corner just above title, a white space 4" x 4" in which the Engineer can place the stamp and indicate action taken. The Contractor shall also inform their subcontractors to provide this space in their preparation of shop drawings.

1.07 MAINTENANCE DATA AND OPERATING INSTRUCTIONS

Six (6) copies of maintenance data and operating instructions shall be submitted by the Contractor at the conclusion of the equipment installation. The manuals shall be assembled in one or more binders, each with a title page, typed table of contents, and heavy section dividers with numbered plastic index tabs. The binders shall be a minimum of 2 inches thick, three ring, "D slant" with hard covers. All data shall be punched for binding and composition and printing shall be arranged so that punching does not obliterate any data. The project number, project title, and Airport shall be inserted in the front and backbone binder cover.

The Contractor shall submit a draft to the Engineer for review prior to the submission of the final copies.

The manual shall include separate sections describing each equipment. Provide

a general description of the equipment, instructions for operation, maintenance, recommended inspection points and periods for inspection, testing, adjustments, calibration procedures with illustrations, wiring diagrams, trouble shooting situations and solutions, and repair methods in a practical, complete, and comprehensive manner.

For each equipment, include information on detailed parts listings (part numbers and costs) with the manufacturer's name, address, contact person, e-mail address and phone/fax numbers. Provide the contact name, address, e-mail address and phone/fax numbers of the distributor in the State of Hawaii for each equipment.

Include a separate section on warranty information on all products and equipment. Provide this information in a tabular format with a listing on all products and equipments with warranty start and completion dates for each item.

Include separate sections on all approved submittals, test reports, certifications, etc.

All information shall be arranged in a logical, orderly sequence. Manuals submitted by the manufacturer will not be accepted.

1.08 TEST REPORTS

Six copies of test reports for any material used in this Contract shall be submitted when specified or required by the Engineer.

1.09 SUBMITTAL IDENTIFICATION

A. To avoid rejection and to clarify each submittal, the General Contractor shall have a rubber stamp made up in the following format:

B. _____
General Contractor's Name

PROJECT TITLE: _____

AIRPORT: _____

STATE PROJECT NO: _____

AIP PROJECT NO: _____

THIS SUBMITTAL HAS BEEN CHECKED BY THIS GENERAL CONTRACTOR AND IS CERTIFIED CORRECT AND IN COMPLIANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.

ITEM NO. _____

SUBMITTAL NUMBER _____

DATE RECEIVED _____

SPECIFICATION SECTION # _____

SPECIFICATION PARAGRAPH # _____

DRAWING NUMBER _____

SUBCONTRACTOR NAME _____

SUPPLIER NAME _____

MANUFACTURER NAME _____

CERTIFIED BY _____
(Contractor's Signature, Date)
(Contractor's Name and Title)

C. This stamp "filled in" should appear on each reproducible shop drawing, on the cover sheet of copies of test and mill reports, certificates of compliance, catalog cuts, brochures, etc. The stamp should be placed on a heavy stock paper merchandise (approximately 3" x 6") and one tag tied to each sample submitted for approval. The tag on the samples should state what the sample is, so that if the tag is accidentally separated from the sample they can be matched up again. The back of this tag will be used by the Engineer for receipt, approval, and log stamp for any comments that relates to the sample.

D. Submission Number: Each submission is to be sequentially numbered in the space provided in the Contractor's stamp. Correspondence and transmittal will refer to this number.

- E. The Contractor shall ensure that all submittals, including shop drawings, are complete and in conformance to the requirements of the Contract specifications prior to submission to the State for review and acceptance. Incomplete submittals will not be processed by the State and returned to the Contractor for correction. Any cost impacts and delays in the Project schedule as a result of incomplete submittals shall be the responsibility of the Contractor.

1.10 AS-BUILT DRAWINGS

As-built drawings shall conform to the requirements of Section 5.8 - "Coordination between the Contractor and the State" of the General Provisions for Construction Projects, and the following requirements:

The Contractor shall maintain on the job site two (2) sets of full-size contract drawings, marking them in red to show all variations between the construction actually provided and that indicated or specified in the contract documents, including buried or concealed construction.

Where a choice of material or method is permitted herein or where variations in scope of character of work from that of the original contract or authorized, the drawings shall be marked to define the construction actually provided. Where equipment installation is involved, the size, manufacturer's name, model number, power input or output characteristics as applicable shall be shown on the as-built drawings.

The representation of such changes shall conform to standard drafting practice and shall include such supplementary notes, legends, and details as necessary to clearly portray the as-built construction.

The drawings shall be maintained and updated on a daily basis. The Contractor shall stamp, sign, and date each sheet with the following stamp:

AS-BUILT DRAWINGS/SPECIFICATIONS

This certifies that the dimensions and details shown on this sheet reflect the dimensions and details, and specifications as constructed in the field.

CONTRACTOR'S NAME

Signature

Date

Monthly and final payments to the Contractor shall be subject to prior approval of the drawings. On completion of the work, both sets of marked-up drawings shall be delivered to the Engineer, and shall be subject to approval before acceptance.

1.11 GUARANTEES

Guarantee periods shall start at time of acceptance in writing by the State.

All guarantees and warranties shall be made out to the "State of Hawaii." Supplier and subcontractor guarantees shall be co-signed by the Contractor.

The Contractor is solely responsible for coincidence or non-coincidence of factory warranties or equipment guarantees, and the Contractor's own warranties and guarantees as required by the contract. The Contractor is solely responsible for scheduling and coordinating the installation of equipment and materials so as to take maximum advantage of factory warranties.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the bid prices for the various items of work in this project.

END OF SECTION

SECTION 01400 - CONTRACTOR QUALITY CONTROL PROGRAM

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 CONTRACTOR QUALITY CONTROL PROGRAM

A. GENERAL

The Contractor shall establish, provide, and maintain an effective Quality Control Program that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified herein and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The intent of this section is to enable the Contractor to establish a necessary level of control that will:

1. Adequately provide for the production of acceptable quality materials.
2. Provide sufficient information to assure both the Contractor and the Engineer that the specification requirements can be met.
3. Allow the Contractor as much latitude as possible to develop his or her own standard of control.

The Contractor shall be prepared to discuss and present, at the pre-construction conference, his/her understanding of the quality control requirements. The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the Quality Control Program has been reviewed and approved by the Engineer and State Project Manager. No partial payment will be made for materials subject to specific quality control requirements until the Quality Control Program has been reviewed and approved.

B. DESCRIPTION OF PROGRAM

1. **General Description.** The Contractor shall establish a Quality Control Program to perform inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. This Quality Control Program shall ensure conformance to applicable specifications and plans with respect to materials, workmanship, construction, finish, and functional performance. The Quality Control Program shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of quality control.
2. **Quality Control Program.** The Contractor shall describe the Quality Control Program in a written document which shall be reviewed and approved by the Engineer and State Project Manager prior to the start of any production, construction, or off-site fabrication. The written Quality Control Program shall be submitted to the Engineer for review no later than thirty (30) calendar days after award of the Contract.
3. **The Quality Control Program shall be organized to address, as a minimum, the following items:**
 - a. Quality control organization;
 - b. Submittals schedule;
 - c. Inspection requirements;
 - d. Quality control testing plan;
 - e. Documentation of quality control activities; and
 - f. Requirements for corrective action when quality control and/or acceptance criteria are not met.
 - g. A listing of the definable features of work for the project.

The Contractor is encouraged to add any additional elements to the Quality Control Program that he/she deems necessary to adequately control all production and/or construction processes required by this contract.

C. QUALITY CONTROL ORGANIZATION.

The Contractor's Quality Control Program shall be implemented by the establishment of a separate quality control organization that is not a part of the production organization. An organizational chart shall be developed to show all quality control personnel and how these personnel integrate with other management/production and construction functions and personnel. The organizational chart shall identify all quality control staff by name and function, and shall indicate the total staff required to implement all elements of the Quality Control Program, including inspection and testing for each item of work. At the top of the chart, an overall Contractor Quality Control System Manager, CQCSM, shall be named and his/her subordinates shall follow thereafter.

The quality control organization shall consist of the following minimum personnel:

1. Contractor Quality Control System Manager. The CQCSM shall be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The CQCSM shall have a minimum of 5 years of experience in airport and/or paving and building construction and shall have had prior quality control experience on a project of comparable size and scope as the contract. The CQCSM shall be on the project full time and shall have no production duties. The CQCSM shall NOT be the point of contact for the production organization.

The CQCSM shall have full authority to institute any and all actions necessary for the successful implementation of the Quality Control Program to ensure compliance with the contract plans and technical specifications including authority to independently stop any work not in compliance with the contract. The CQCSM shall report directly to a responsible officer of the construction firm, such officer not being the project superintendent or foreman. The CQCSM may supervise the Quality Control Program on more than one project provided that person can be at the job site within 2 hours after being notified of a problem and a Quality Control Technician is present on the job site full time.

2. Quality Control Technicians. A sufficient number of quality control technicians necessary to adequately implement the Quality Control Program shall be provided. These personnel shall be either engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate fields and shall have a minimum of 2 years of experience in their area of expertise.

The quality control technicians shall report directly to the CQCSM and shall perform the following functions:

- a. Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by Section 1.02E.
 - b. Performance of all quality control tests as required by the technical specifications and Section 1.02F.
3. Staffing. The Contractor shall provide sufficient qualified quality control personnel to monitor each work activity at all times. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The Quality Control Program shall state where different technicians will be required for different work elements.

All personnel shown on the organizational chart shall have, in resume form, all information regarding their education, any licenses, their present position, previous work experience, etc. included in the Quality Control Program written documentation. These resumes shall be verified by the CQCSM.

D. SUBMITTALS SCHEDULE

The Contractor shall submit a detailed listing of all submittals (e.g., mix designs, material certifications, color samples) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include:

1. Specification item number;
2. Item description;
3. Description of submittal;
4. Specification paragraph requiring submittal; and
5. Scheduled date of submittal.

E. INSPECTION REQUIREMENTS

Quality control inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor.

Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the particular feature of work.

Before any definable feature of work is started, the CQCSM shall notify the Engineer and State Project Manager of such work at least 48 hours in advance. Upon notification, the Engineer or State Project Manager shall determine if a meeting shall be held to discuss the condition of the work area, material and equipment status, what is to be expected and any questions or possible problems. No definable feature work shall commence without the consent of the Engineer and State Project Manager.

F. QUALITY CONTROL TESTING PLAN

As a part of the overall Quality Control Program, the Contractor shall implement a quality control testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification item, as well as any additional quality control tests that the Contractor deems necessary to adequately control production and/or construction processes.

The testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

1. Specification item number;
2. Item description (e.g., concrete cylinder test);
3. Test type (e.g., concrete compressive strength);
4. Test standard (e.g., ASTM or AASHTO test number, as applicable);
5. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated);
6. Responsibility (e.g., plant technician, independent lab); and
7. Control requirements (e.g., target, permissible deviations).

The testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D 3665. The Engineer and State Project Manager shall be provided the opportunity to witness quality control sampling and testing. The CQCSM shall make every effort to inform the Engineer and State Project Manager at least 24 hours, or more if stated in the specifications, before such testing occurs.

All quality control test results shall be documented by the Contractor as

required by Section 1.02G.

G. DOCUMENTATION

The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that the required inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the Engineer and State Project Manager daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the CQCSM.

Specific Contractor quality control records required for the contract shall include, but are not necessarily limited to, the following records:

1. Daily Inspection Reports. Each Contractor quality control technician shall maintain a daily log of all inspections performed for both Contractor and Subcontractor operations on a form acceptable to the Engineer and State Project Manager. These technician's daily reports shall provide factual evidence that continuous quality control inspections have been performed and shall, as a minimum, include the following:
 - a. Technical specification item number and description and location of work performed;
 - b. A comprehensive breakdown of the work force including the number of workers and total hours for each trade.
 - c. Compliance with approved submittals;
 - d. Proper storage of materials and equipment;
 - e. Proper operation of all equipment;
 - f. Adherence to plans and technical specifications;
 - g. Review of quality control tests; and

h. Safety inspection.

The daily inspection reports shall identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible quality control technician and the CQCSM. The Engineer and State Project Manager shall be provided at least one copy of each daily inspection report on the work day following the day of record.

2. Daily Test Reports. The Contractor shall be responsible for establishing a system which will record all quality control test results. Daily test reports shall document the following information:

a. Technical specification item number and description;

b. Test designation;

c. Location;

d. Date of test;

e. Control requirements;

f. Test results;

g. Causes for rejection;

h. Recommended remedial actions; and

i. Retests.

Test results from each day's work period shall be submitted to the Engineer and State Project Manager prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical quality control charts. The daily test reports shall be signed by the responsible quality control technician and the CQCSM.

H. CORRECTIVE ACTION REQUIREMENTS

The Quality Control Program shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general

requirements for operation of the Quality Control Program as a whole, and for individual items of work contained in the technical specifications.

The Quality Control Program shall detail how the results of quality control inspections and tests will be used for determining the need for corrective action and shall contain clear sets of rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and utilize statistical quality control charts for individual quality control tests. The requirements for corrective action shall be linked to the control charts.

I. SURVEILLANCE BY THE ENGINEER AND STATE PROJECT MANAGER

All items of material and equipment shall be subject to surveillance by the Engineer or State Project Manager at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate quality control system in conformance with the requirements detailed herein and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to surveillance by the Engineer or State Project Manager at the site for the same purpose.

Surveillance by the Engineer or State Project Manager does not relieve the Contractor of performing quality control inspections of either on-site or off-site Contractor's or subcontractor's work.

J. NONCOMPLIANCE

1. The Engineer or State Project Manager will notify the Contractor of any noncompliance with any of the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Any notice, when delivered by the Engineer or State Project Manager or his/her authorized representative to the Contractor or his/her authorized representative at the site of the work, shall be considered sufficient notice.
2. In cases where quality control activities do not comply with either the Contractor's Quality Control Program or the Contract provisions, or where the Contractor fails to properly operate and maintain an effective Quality Control Program, as determined by the Engineer or State Project Manager, the Engineer or State Project Manager may:
 - a. Order the Contractor to replace ineffective or unqualified

quality control personnel or subcontractors in accordance with Section 8.4 – “Character and Proficiency of Workers” of the General Provisions for Construction Projects.

- b. Order the Contractor to stop operations in accordance with Section 8.10 – “Suspension of Work” of the General Provisions for Construction Projects.
- c. Determine work performed by the Contractor during periods of noncompliance to be unacceptable and subject to inspection, removal or non-payment in accordance with Section 5.12 – “Removal of Non-Conforming and Unauthorized Work: Performance of Corrective or Remedial Work” of the General Provisions for Construction Projects.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - MEASUREMENT & PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 01433 – MOCK-UPS

PART 1 – GENERAL

1.01 GENERAL

- A. Section Includes: Mock-ups of the items listed in Paragraph 1.06 are a conceptual framework but shall also include individual specification sections where specific mock-up attributes can be stipulated in more detail. Build on site for review and approval before proceeding with any construction that may be affected by the construction represented by a corresponding mock-up.

1.02 RELATED DOCUMENTS

- A. The General Provisions of the contract, including the General Provisions for Construction Project (2016), Special Provisions, and General Requirements of the Specifications apply to the work specified in this section.
- B. Section 01300 – SUBMITTALS
- C. Section 01400 – CONTRACTOR QUALITY CONTROL PROGRAM
- D. Individual tests required in accordance with the pertinent sections of these specifications and the Contract drawings, where applicable.

1.03 DELEGATED ENGINEERING REQUIREMENTS

- A. Contract Document Intent: Drawings and Specifications express the concept of mock-up Work, however, they may not indicate or specify the total Work that may be required, nor shall they be construed as engineered.
- B. Delegated Engineering Responsibility: Employ a delegated engineering professional to provide engineering for foundations and structural frame to support mock-up.

1.04 QUALITY ASSURANCE

- A. Delegated Engineering Professional Qualifications: Professional engineer legally authorized to practice in jurisdiction where Project is located.

1.05 PROCEDURES FOR MOCK-UP CONSTRUCTION

- A. Extent, size, form, and primary components are indicated on the drawings or in the specification section pertaining to the corresponding work.
- B. Mock-up shall not be provided until corresponding product data, shop drawings, samples and other preparatory submittals are approved.

- C. Mock-up shall be rebuilt as necessary until approved by DOT-A. The DOT-A shall have final approval of the mock-up. This approval must be granted before ordering and installing the materials required to build the mock-up.
- D. After approval, mock-up shall remain and serve as the standard for judging the acceptance or rejection of the appearance characteristics and workmanship of corresponding construction.
- E. After completion and acceptance of the corresponding construction, mock-up shall be removed when directed by DOT-A unless otherwise approved mock-up has been located as part of the permanent construction.
- F. Surrounding and other construction affected by mock-up construction or removal shall be completed as indicated or, if construction is not indicated, the site shall be restored to the condition existing before the mock-up construction.

1.06 LIST OF REQUIRED MOCK-UPS

- A. Concrete Slab Repair at Ewa Concourse Third Level Roadway. Contractor shall select one (1) spall noted for repair on the construction documents in the Ewa Concourse Third Level. Chosen repair shall be stated by the contractor in writing and approved by DOT-A as sufficient mock-up location before mock-up work commences.

1. Reference Specification Section 03730 – CONCRETE REPAIRS.

- B. Fluid-Applied Membrane Waterproofing at the Second Level Ewa and Diamond Head Roadway Repair. Three (3) 3-foot by 3-foot areas within the first section of Second level roadway demolition of both the Ewa and Diamond Head side shall be used as mock-ups. Contractor is to prepare the structural concrete surface of the whole section of repair area per contract documents and Contractor shall pick 3 locations for waterproofing mock-up. Surface preparation shall be inspected by DOT-A. Upon written approval of surface preparation and mock-up locations, waterproofing membrane mock-ups shall be installed with one Peel Strength Tests placed in the middle of each. Passing of the Peel Strength Test and Electronic Leak Detection Test of all three locations is required for approved Mock-Up installation.

1. Reference Specification Section 07140 – FLUID-APPLIED MEMBRANE WATERPROOFING for Peel Strength Test and Electronic Leak Detection Test requirements.

- C. Expansion Joints at Ewa Concourse Third Level Roadway. Contractor shall select one (1) expansion joint waterproofing noted on the construction documents in the Ewa Concourse Third Level. Chosen repair shall be stated by the contractor in writing and approved by DOT-A as sufficient mock-up location before mock-up work commences.

1. Reference Specification Section 07916 – EXPANSION JOINT WATERPROOFING

- D. Concrete Repair of the Structural Slab at Drain Inlets at Ewa Concourse Second and Third Level and Diamond Head Concourse Second Level. Contactor shall select one (1) drain location at the second level of either the Ewa or Diamond Head Concourse Roadway and one (1) drain location at the Ewa Concourse Third Level roadway.
 - 1. Reference Specification Section 03300 – STRUCTURAL CONCRETE.
 - 2. Reference Specification Section 05519 – POST-INSTALLED CONCRETE ANCHORS.

- E. Post-Installed Concrete Anchors at the light poles of the Ewa Concourse Third Level and Diamond Head Concourse Third Level. Contractor shall select one (1) location at the third level of either the Ewa or Diamond Head Concourse Roadway where a post-installed concrete anchor is to be placed for the new light pole anchor as shown on the construction drawings.
 - 1. Reference Specification Section 05519 – POST-INSTALLED CONCRETE ANCHORS.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Materials used in the initial mock-up construction shall comply as specified in the applicable sections for the work and as approved by submittal reviews.
- B. Materials may be modified only to the extent required for mock-up approval by DOT-A.
 - 1. Modified materials shall comply with the specified requirements but may differ in appearance characteristics, such as color and texture.
- C. Materials used in the construction of approved mock-up construction shall be used in the corresponding permanent construction.

PART 3 – EXECUTION

3.01 INSTALLATION, GENERAL

- A. General: Purchase, fabrication, and installation of products and materials for Work shall not begin until a letter has been received from the contractor indicating that parties agree to the scope, location and finishes of the mock-up, and shop drawings are prepared and approved before fabrication can commence.
- B. Construction Requirements:
 - 1. Use same Subcontractors, including supervisors, which will perform Work on Project.

2. Where necessary, provide foundations and structural frame for support of mock-ups.
3. Install products and materials according to specified requirements of respective Specification Sections.
4. Work on mock-ups shall be representative of those to be expected for Work.
5. Finish various components to show maximum variation that will exist in Work.
6. Protect exterior mock-ups from climate with weather resistant coverings.
7. Do not demolish, alter, or remove mock-ups until acceptable to DOT-A

C. Approvals:

1. Approved mock-up establishes standard by which execution of Work will be judged.
2. Approval does not constitute approval of deviations from Contract Documents, unless such deviations are specifically approved by DOT-A in writing.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 01533 - BARRICADES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 BARRICADES

- A. The contractor shall take precaution to protect people and property from injury and damage. He shall erect barricades to delineate his work areas and provide the appropriate signing, hazard lights, and temporary paint striping as directed by the Engineer, to aid public and airport pedestrian and vehicular traffic around his work areas. Barricades shall be traffic cones, delineators, blinker barricades, caution tape, sawhorses, plywood barricades or other barriers as approved by the Engineer to effectively provide proper protection.
- B. The contractor shall be responsible for his own security and protection of his property, including mobilization yard barricades.
- C. Barricades, in general, shall be neat and in good condition, as required for protection. In areas frequented by the general public, the barricades shall be visually presentable and plywood partitions shall be painted. Where dust is a problem, the Contractor shall erect floor to ceiling dust proof partitions
- D. The Contractor shall coordinate and sequence this work with the Engineer to permit the continuing operation of the existing Airport facility. Barricades shall be removed upon the completion and acceptance of work and the premises left clean and operational.
- E. The Contractor shall be responsible for securing access into and out of the barricaded areas.

PART 2 - PRODUCTS (Not Used)

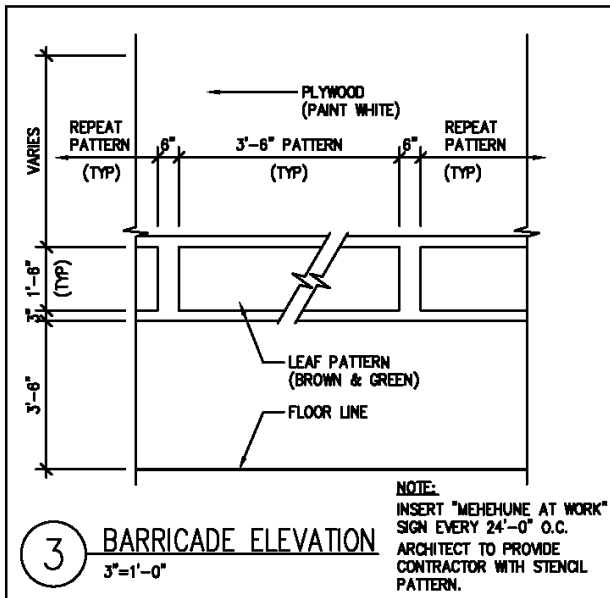
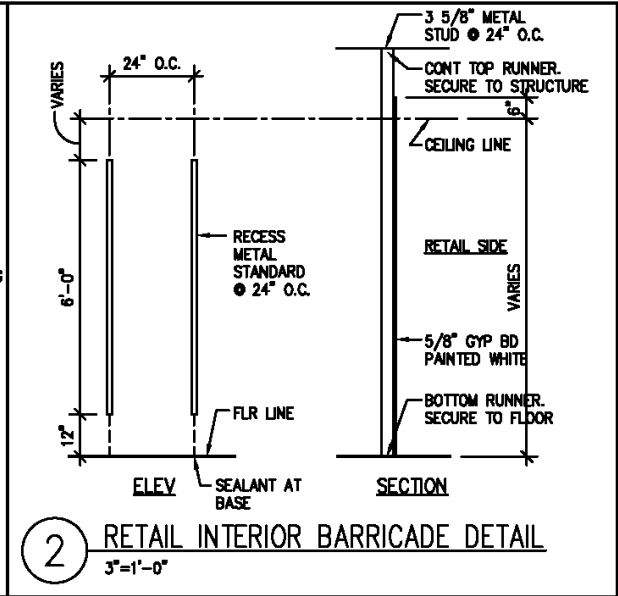
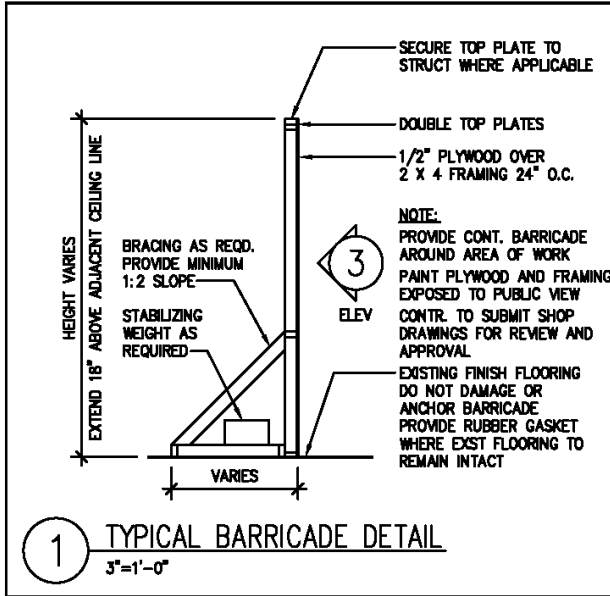
PART 3 - EXECUTION (Not Used)

PART 4 - MEASUREMENT & PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

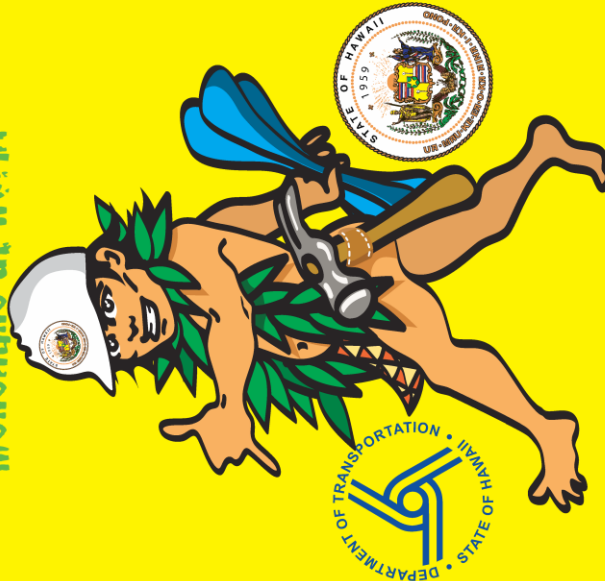
Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION





Menehune at work!



Aloha,
Please pardon the inconvenience.

ご迷惑をおかけしますが。

不便之处 敬请原谅

서비스 이용에 불편함을 드려 진심으로 사과드립니다.

We are working hard to improve
and safeguard your flying experience!

皆様の安全な飛行のため 日々努力を重ねています。

我们正在致力改善和保障您的飞行体验

저희는 귀하의 안전한 항공여행을 위해서 최선을 다해 노력하고 있습니다.

Mahalo for your patience and understanding.

ご協力に感謝いたします。

感谢您的忍耐和体谅

승객 여러분의 이해와 협조에 감사드립니다.

SECTION 01560 - ENVIRONMENTAL CONTROLS

PART I – GENERAL

1.1 RELATED DOCUMENTS

- A. The General Provisions, Special Provisions, and Technical Provisions, apply to the work specified in this section. Special attention is directed to the following Articles:
1. State of Hawaii, Air and Water Transportation Facilities Division, General Provisions for Construction Projects, Article VI, Control of Materials, Paragraph 6.8 Non-Conforming Materials.
 2. State of Hawaii, Air and Water Transportation Facilities Division, General Provisions for Construction Projects, Article VII, Legal Relations and Responsibility to Public, Paragraph 7.14 Pollution Control and Protection of Archeological Historical, and Burial Sites.
 3. State of Hawaii, Air and Water Transportation Facilities Division, General Provisions for Construction Projects, Article VII, Legal Relations and Responsibility to Public, Paragraph 7.17 Contaminated or Hazardous Items and Material; Regulated Items and Material; Waste.
 4. Section 01561 Construction Site Runoff Control Program.
 5. Section 01562 Management of Contaminated Media.
- B. The latest version of the State of Hawaii, Department of Transportation, Airports Division (DOTA) Construction Activities BMP Field Manual.

1.2 ENVIRONMENTAL PROTECTION

With the exception of those measures set forth elsewhere in these specifications, environmental protection shall consist of the prevention of environmental pollution as the result of construction operations under this contract. For the purpose of this specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare, unfavorably alter ecological balances of importance to human life, affect other species of importance to man, or degrade the utilization of the environment for aesthetic and recreational purposes.

1.3 APPLICABLE REGULATIONS

In order to provide abatement and control of environmental pollution arising from the construction activities of the Contractor and their Subcontractors in the performance of this contract, the work performed shall comply with the intent of all applicable Federal, State, and Local laws and regulations concerning environmental pollution control and abatement, including, but not limited to, the following regulations:

- A. State of Hawaii, Department of Health, Administrative Rules, Chapter 55, WATER POLLUTION CONTROL; Chapter 54, WATER QUALITY STANDARDS.
- B. United States, Environmental Protection Agency, CLEAN WATER ACT; 33 United States Code §1251 et seq.
- C. State of Hawaii, Department of Health, Administrative Rules, Chapter 59, AMBIENT AIR QUALITY, Chapter 60.1, AIR POLLUTION CONTROL.
- D. United States, Environmental Protection Agency, CLEAN AIR ACT; 42 United States Code §7401 et seq.
- E. State of Hawaii, Department of Health, Administrative Rules, Chapter 42, VEHICULAR NOISE CONTROL.
- F. State of Hawaii, Department of Health, Administrative Rules, Chapter 46, COMMUNITY NOISE CONTROL.
- G. State of Hawaii, Occupational Safety and Health Standards, Title 12, Department of Labor and Industrial Relations, Subtitle 8, Division of Occupational Safety and Health, Part 3 Construction Standards, Chapter 145 Asbestos.
- H. Environmental Protection Agency, Code of Federal Regulations Title 40, Part 61, Subpart M (Revised Subpart B), NATIONAL EMISSION STANDARDS FOR AIR POLLUTANTS and Subpart B, NATIONAL EMISSION STANDARDS FOR ASBESTOS; Final Rule dated November 20, 1990.
- I. State of Hawaii, Department of Health, Title 11, Chapter 501, Asbestos Requirements.
- J. U.S. Department of Labor - Occupational Safety and Health Administration (OSHA) Asbestos Regulations, Code of Federal Regulations Title 29, Parts 1910, 1915 and 1926, Occupational Exposure to Asbestos, Final Rule dated August 10, 1994.

1.4 SUBMITTALS

The Contractor shall submit the following items within 30 calendar days after the Notice to Proceed Date:

- A. Submit proposed means, methods, techniques and procedures to be used for environmental control.
- B. Submit a State of Hawaii Department of Health Asbestos Notification of Demolition and Renovation Form for all demolition projects (including facilities which no asbestos is present) and renovation projects per HAR 11-501.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 AIR POLLUTION CONTROL

- A. Emission: The Contractor shall not be allowed to operate equipment and vehicles that show excessive emissions of exhaust gases until corrective repairs or adjustments are made, as determined by the Engineer.
- B. Dust: The Contractor, for the duration of the contract, shall maintain all excavations, embankments, haul roads, permanent access roads, plant sites, waste disposal areas, borrow areas, and all other work areas within or without the project limits free from dust which would cause a hazard to the work or operations of other Contractors, or to persons or property. Industry-accepted methods of stabilization suitable for the area involved, such as sprinkling or similar methods, will be permitted. Chemical or oil treating shall not be used.
- C. Burning on Airport property shall not be permitted.

3.2 WATER POLLUTION CONTROL

- A. Wastes: The Contractor shall not deposit, at the airport site or in its vicinity, solid waste or discharge liquid waste, such as fuels, lubricants, bituminous waste, untreated sewage, and other pollutants which may contaminate the body of ground water.
- B. Spillages: No petroleum products, bituminous materials, or other deleterious substances, including debris, are allowed to fall, flow, leach, or otherwise enter the sewage systems or storm drains. All spills shall be immediately reported by following the instructions found on the Spill Reporting Fact Sheet for the appropriate airport and completing the Spill Reporting Form. The Spill Reporting Fact Sheet and Form can be found at:

<http://hidot.hawaii.gov/airports/doing-business/engineering/environmental/construction-site-runoff-control-program>

Any fines assessed to DOTA, as a result of Contractor's spillages or the Contractor's failure to report spillages, shall be paid by the Contractor.

Reference Specification Section 01562, Paragraph 3.3(C) Release Reporting for additional information and requirements.

- C. Erosion: The Contractor shall provide any necessary temporary drainage, dikes, and similar facilities to prevent erosion damage to the site. Run-off shall be controlled to prevent damage to the surrounding area.

3.3 NOISE CONTROL

- A. At all times keep objectionable noise generation to a minimum by:
 - 1. Equipping air compressors with silencing packages.
 - 2. Equipping jackhammers with silencers on the air outlet.
 - 3. Equipment that can be electrically driven instead of gas or diesel is preferred. If noise levels on equipment cannot reasonably be brought down to criteria, listed as follows, either the equipment will not be allowed on the job or use time will have to be scheduled subject to approval of the Engineer.
 - 4. All construction vehicles and equipment on the project operating between 10:00 p.m. and 7:00 a.m. shall be equipped with an ambient noise sensing variable volume backup alarm system. The system shall be in compliance with Title 29 of the Code of Federal Regulations, Part 1926.601(b)(4)(i).
- B. Objectionable noise received on neighboring properties is defined as any noise exceeding the noise limits of State Regulations (Title 11, Hawaii Administrative Regulations, Department of Health, Chapter 46 – Community Noise Control) or City and County of Honolulu ordinance, as stated below, or as any noise causing a public nuisance in a residential area, as determined by the State and community representatives, or by the nuisance provisions of local ordinances.
 - 1. The noise limitations established are as set forth in the following table after any applicable adjustments provided for herein are applied:

RECEIVING PROPERTY

<u>Noise Source</u>	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>
Airport	50 dBA	65 dBA	70 dBA

- 2. Between the hours of 6:00 pm to 5:00 am on weekdays and weekends, the noise limitations above may be exceeded for any receiving property by no more than:
 - a. Five dBA for a total of 15 minutes in any one hour period; or
 - b. Ten dBA for a total of 5 minutes in any one hour period; or
 - c. 15 dBA for a total of 1.5 minutes in any one hour period.
- C. In addition to the noise controls specified, demolition and construction activities conducted within 1,000 feet of residential areas may have additional noise controls

required.

- D. The Contractor and its subcontractor operations shall, at all times, comply with all State of Hawaii and City and County of Honolulu requirements.
- E. For work conducted within Airport buildings, noise levels from work activities shall not exceed 85 dBA on the slow scale at the project boundary.

3.4 DISPOSAL

Construction waste, such as crates, boxes, building materials, pipes, and other rubbish shall be properly disposed of at a licensed landfill. Please consult with the local landfill to ensure that objects meet the specific landfill's requirements for size, type, etc. Other areas or methods proposed by the Contractor will be approved only if the Engineer determines that their effect on the environment is equal to or less than those described herein.

3.5 HAZARDOUS MATERIALS CONTROL

- A. The use of hazardous materials, i.e., asbestos and PCB, in the construction of this project shall be strictly prohibited. Any corrective action to remove and replace the hazardous material and contaminated work shall be at the sole expense of the Contractor.

B. DEFINITIONS

1. HAZARDOUS SUBSTANCE – Any substance designated pursuant to Section 311(b)(2)(A) of the Clean Water Act; any element, compound, mixture, solution, or substance designated pursuant to Section 102 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); any hazardous waste having the characteristics identified under or listed pursuant to Section 3001 of the Solid Waste Disposal Act; any toxic pollutant listed under Section 307(a) of the Clean Water Act; any hazardous air pollutant listed under Section 112 of the Clean Air Act, as amended (42 U.S.C. §§7401-7626); any imminently hazardous chemical substance or mixture regulated under Section 7 of the Toxic Substances Control Act, as amended (15 U.S.C. §§2601-2671), oil, trichloro propane, and any other substance or pollutant or contaminant designated by rules adopted pursuant to this chapter (Chapter 128D, Hawaii Revised Statutes)
2. OIL – Oil Waste of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, oil mixed with waste, crude oil or any fraction or residue.
3. POLLUTANT OR CONTAMINANT – Any element, substance, compound, or mixture, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism either directly from

the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformation, in such organism or their offspring.

PART 4 – MEASUREMENT AND PAYMENT

4.1 BASIS OF MEASUREMENT AND PAYMENT

All work specified in this Section shall not be measured nor paid for separately but shall be considered incidental to item 01561, Construction Site Runoff Control Program.

END OF SECTION

SECTION 01561 – CONSTRUCTION SITE RUNOFF CONTROL PROGRAM

PART 1 – GENERAL

1.1 DESCRIPTION

This Section describes the following:

- (A) The Contractor shall comply with the following referenced documents:
- State of Hawaii, Department of Transportation, Airports Division (DOTA) Construction Activities Best Management Practices (BMP) Field Manual, in developing, installing, and maintaining Site-Specific BMPs for all projects.
 - DOTA's Storm Water Programs (SWMPP) for the Daniel K. Inouye International Airport (HNL) and Kahului Airport (OGG), as applicable.
 - Hawaii Administrative Rules (HAR) Chapters 11-54, 11-55, and 11-60.
 - Honolulu's City and County "Rules Relating to Water Quality" for all projects on Oahu. Use respective Soil Erosion Guidelines for Maui, Kauai and Hawaii projects.
 - Applicable Federal, State and Local Permit Conditions.
 - All other documents referenced in this Section.

For any conflicting requirements between the referenced documents and applicable bid documents, the stricter requirement will prevail and govern. Should a requirement not be clearly described within the applicable bid documents, notify the Engineer immediately for interpretation. For the purposes of clarification, "applicable bid documents" include the construction plans, specifications, and Permits.

- (B) Detailed plans, diagrams, and written Site-Specific Best Management Practices (BMPs); construction, maintenance, and repair of temporary water pollution, dust, and erosion control measures at the project site, including local material sources, work areas, and haul roads; removal and disposal of hazardous wastes; control of fugitive dust (defined as uncontrolled emission of solid airborne particulate matter from any source other than combustion).
- (C) Work associated with construction stormwater, dewatering, and hydrotesting activities and compliance with conditions of the Notice of General Permit Coverage (NGPC) or National Pollutant Discharge Elimination System (NPDES) permit(s) authorizing discharges associated with construction stormwater, dewatering, and hydrotesting activities.
- (D) Potential pollutant identification and mitigation measures, listed in Appendix A for use in the development of the Contractor's Site-Specific BMP.

Requirements of this Section also apply to construction support activities including: concrete or asphalt batch plants, rock crushing plants, equipment staging yards/areas, material storage areas, excavated material disposal areas, and borrow areas located both inside and outside of the Airport Property and State Right-of-Way. For areas serving multiple construction projects or operating beyond the completion of the construction project in which it supports, the Contractor shall be responsible for securing the necessary permits, clearances, and documents, and following the conditions of the permits and clearances, at no cost to the State.

The Contractor shall be responsible for all applicable subcontractors, suppliers and vendors, and shall ensure that the means and methods of construction activities of applicable subcontractors, suppliers and vendors are in full compliance with this Section.

PART 2 PRODUCTS

2.1 MATERIALS

Comply with applicable materials described in the current DOTA "Construction Activities BMP Field Manual" and Section 3 and 4 of the current City and County of Honolulu "Storm Water Best Management Practice Manual." Refer to FAA Advisory Circulars and DOTA District, including Wildlife Hazard Management Plan, for additional guidance and conditions.

In addition, materials shall comply with the following:

- (A) Grass. The FAA and USDA recommend the following grass species when requiring grass: "No-Mow" bermudagrass ("Green Velvet") (*Cynodon dactylon*) or Seashore paspalum (*Paspalum vaginatum*). These species both possess higher than average drought resistance, saline soil tolerances, and, most importantly, do not produce seed heads attractive to the majority of hazardous avian species. It is recommended that stolons, sprigs, or plugs be used to avoid providing hazardous species with a readily available food source. The use of seeds shall not be allowed.

Alternative grass species shall only be applied with the approval of the DOTA Environmental Section. This includes, but not limited to, sodding, cuttings, and planting. Grass shall be a quick-growing species. Grass shall be suitable to the area and provide a temporary cover that will not compete later with permanent cover. The grass label or tag shall be provided to the DOTA Environmental Section.

Irrigation of these grass shall be done during the hours of darkness to avoid providing another hazardous wildlife attractant.

- (B) Fertilizer and Soil Conditioners. Fertilizer and soil conditioners shall conform to Hawaii Standard Specifications for Road and Bridge Construction 2005 or latest edition, Subsection 619.02(H)(1) – Commercial Fertilizer. Fertilizers shall not be applied during inclement weather or rain events.

The use of alternative types of fertilizer and soil conditioners shall be subject to the approval of the DOTA Environmental Section.

- (C) Hydro-mulching. Hydro-mulching used as a temporary stabilization measure shall consist of specially processed fiber which shall form a homogeneous slurry after addition and agitation in hydro-mulch applicator equipment.
1. Mulches shall be recycled materials including bagasse, hay, straw, wood cellulose bark, wood chips, or other material acceptable to the DOTA Environmental Section. Mulches shall be clean and free of noxious weeds and deleterious materials.
 2. Potable water shall meet the requirements of Hawaii Standard Specifications for Road and Bridge Construction 2005 or latest edition, Subsection 712.01 – Water. Submit alternate sources of irrigation water to the Engineer for acceptance by the DOTA Environmental Section if deviating from 712.01 – Water.
 3. Soil and Mulch Tackifier shall meet the requirements and installation in accordance with portions of Hawaii Standard Specifications for Road and Bridge Construction 2005 or latest edition, Section 641 – Hydro-Mulch Seeding, including 641.02(D) – Soil and Mulch Tackifier. The use of seeds in the hydro-mulch mixtures shall not be allowed.

Alternative materials or methods to control, prevent, remove, and dispose pollution are allowable if acceptable to the DOTA Environmental Section.

PART 3 EXECUTION

3.1 PRECONSTRUCTION REQUIREMENTS

- (A) Water Pollution, Dust, and Erosion Control Meeting.
Schedule a water pollution, dust, and erosion control meeting with the Engineer after the Site-Specific BMP Plan is submitted to the Engineer and accepted in writing by the DOTA Environmental Section. The meeting shall be scheduled a minimum of 14 calendar days prior to the Start Work Date. At a minimum, the meeting shall be attended by the Contractor, applicable subcontractors, Engineer, DOTA Environmental Section and/or any authorized representatives of the designated attendees. The meeting will discuss the sequence of work, and plans and proposals for water pollution, dust, and erosion controls.

(B) Water Pollution, Dust, and Erosion Control Submittals.

Submit a Site-Specific BMP Plan within 30 calendar days of Contract Execution to the Engineer for acceptance by the DOTA Environmental Section. Submission of the complete and acceptable Site-Specific BMP Plan is the sole responsibility of the Contractor, and additional contract time will not be issued for delays due to incompleteness.

Include the following:

1. Written description of activities to minimize water pollution and soil erosion into drainage systems, sewer systems, and State waters. Include proposed means, methods, techniques, and procedures to be used for environmental control. BMP shall include, but not limited to, the following:
 - a. An identification of potential pollutants and their sources.
 - b. A list of all materials and heavy equipment to be used during construction.
 - c. Descriptions of the methods and devices used to minimize the discharge of pollutants into drainage systems, sewer system, and State waters.
 - d. Details of the procedures used for the maintenance and subsequent removal of any erosion or siltation control devices.
 - e. Methods of removing and disposing hazardous wastes encountered or generated during construction.
 - f. Methods of removing and disposing concrete and asphalt pavement cutting slurry, concrete curing water, and hydro-demolition water.
 - g. Spill Control and Prevention, and Emergency Spill Response Plan.
 - h. Fugitive dust control, including dust from earth-disturbing, hauling, grinding, sweeping, or brooming off operations, or combination thereof.
 - i. Methods of storing and handling of oils, paints, and other products used for the project.
 - j. Material storage and handling areas, and other staging areas, including storage of reinforcing steel and building material.
 - k. Concrete truck washouts.

- l. Concrete waste and asphalt concrete waste control.
 - m. Fueling and maintenance of vehicles and other equipment.
 - n. Tracking of sediment offsite from project entries and exits.
 - o. Litter management. Prevention of Foreign Object Debris (FOD) is essential.
 - p. Sanitary/Septic Waste Management and Facilities.
 - q. Stockpiles of Aggregates, Soils, Asphalt Concrete Material, Concrete Waste, and Asphalt Concrete Waste.
 - r. Methods of Handling and Removal of Contaminated Soils and Groundwater encountered or generated during construction.
 - s. Methods and Procedures for Dewatering.
 - t. Methods and Procedures for Hydro-Testing.
 - u. Methods and Practices for proper Housekeeping, including excessive sawdust; concrete spill prevention and removal; and collection and removal of building materials waste, such as tie wires, reinforcing steel, and lumber.
 - v. Other factors that may cause water pollution, dust, and erosion control.
2. Plans indicating location of water pollution, dust and erosion control devices; plans and details of BMP measures and devices to be installed or utilized; identify areas of soil disturbance in cut and fill; indicate areas used for construction staging and storage, including items (1) through (22) above, storage of aggregate (indicate type of aggregate), asphalt cold mix, soil or solid waste, equipment and vehicle parking, and areas where vegetative practices are to be implemented. Indicate intended drainage pattern on plans. Include flow arrows. Include separate drawing for each phase of construction that alters drainage patterns.
 3. Dates when BMP measures will be installed and removed.
 4. Name(s) of specific individual(s) designated responsible for the Contractor's Construction Site Runoff Control Program. Include cellular and business telephone numbers, fax numbers, and e-mail addresses. These individuals shall be available 24 hours a day, 7 days a week.

5. Description of fill material to be used.
6. For projects with an NGPC or NPDES Permit for Construction Activities, submit information to address all sections in the Storm Water Pollution Prevention Plan (SWPPP), as described in HAR Chapter 11-55, Appendix C, Section 7.
7. For projects with an NGPC or NPDES Permit, submit information required for compliance with the conditions of the Notice of General Permit Coverage (NGPC)/NPDES Permit.
8. Date and sign the Site-Specific BMP Plan.

Modify, as necessary, and resubmit amended Site-Specific BMP plans and construction schedules to the Engineer for acceptance by DOTA Environmental Section. Modify the Site-Specific BMP Plan to address, but not limited to, the following.

1. To correct conditions that develop during construction which were unforeseen during the design and pre-construction stages.
2. Changes to the Contractor's Means and Method of Construction.
3. Omitted conditions that should have been allowed for in the accepted Site-Specific BMP Plan.
4. A Site-Specific BMP measure that replaces an accepted Site-Specific BMP measure that was not satisfactorily performing.
5. Revised dates of installation and/or removal of Site-Specific BMP measures.

The modifications shall be submitted to the Engineer and accepted in writing by DOTA Environmental Section before implementing the revised Site-Specific BMPs in the field. Amendments to the Site-Specific BMP Plan shall be included with the original Site-Specific BMP Plan.

A copy of the accepted original Site-Specific BMP Plan and all accepted amended Site-Specific BMP Plans, with the signed certification by the authorized representative listed in the NGPC or NPDES Permit, shall be kept on site or at an accessible location so that it can be made available at the time of an on-site inspection, or upon request by the Engineer, DOTA Environmental Section, DOTA's Third Party Inspector, and/or DOH/EPA Representative.

- (C) Discharges of Stormwater Associated with Construction Activities. If the project scope consists of ground disturbing activities and the total work area, including all construction support activity areas (i.e. storage and/or staging areas), is one acre or more, an NPDES Permit authorizing Discharges of Storm Water Associated with Construction Activity (CWB-NOI Form C) or Individual Permit authorizing stormwater discharges associated with construction activity is required from the Department of Health Clean Water Branch (DOH-CWB).

Do not begin construction activities until all required conditions of the permit are met and submittals detailed in Subsection 01561.3.1(B) – Water Pollution, Dust, and Erosion Control Submittals are completed, submitted to the Engineer and accepted in writing by the DOTA Environmental Section.

- (D) Discharges Associated with Hydrotesting Activities. If hydrotesting activities require effluent discharge into State waters or drainage systems, an NPDES Hydrotesting Waters Permit (CWB-NOI Form F) or Individual Permit authorizing discharges associated with hydrotesting is required from the DOH-CWB.

Do not begin hydrotesting activities until the DOH-CWB has issued an Individual NPDES Permit or Notice of General Permit Coverage (NGPC). Conduct Hydrotesting operations in accordance with the conditions of the permit or NGPC.

- (E) Discharges Associated with Dewatering Activities. If dewatering activities require effluent discharge into State waters or drainage systems, an NPDES Dewatering Permit (CWB-NOI Form G) or Individual Permit authorizing discharges associated with dewatering is required from the DOH-CWB.

Do not begin dewatering activities until the DOH-CWB has issued an Individual NPDES Permit or Notice of General Permit Coverage (NGPC). Conduct dewatering operations in accordance with the conditions of the permit or NGPC.

- (F) Solid Waste Disclosure. Submit the Solid Waste Disclosure Form for Construction Sites, if applicable, to the Engineer within 30 calendar days of Contract Execution or upon the discovery of the solid waste. Provide a copy of all the disposal receipts from the facility permitted by the Department of Health to receive solid waste to the Engineer. This should also include documentation from any intermediary facility where solid waste is handled or processed.

- (G) Construction BMP Training. The Contractor's representative(s), identified in Section 01561.3.1(B)(4), responsible for the Contractor's Construction Site Runoff Control Program, site managers, and appropriate subcontractors' personnel shall be properly trained on environmental compliance by attending a designated DOTA training seminar (e.g. HDOT's Protect Our Water Conference) or viewing the DOTA construction and post-construction training available at:

<http://hidot.hawaii.gov/airports/doing-business/engineering/environmental/construction-site-runoff-control-program>

Submit completed Training Roster and Construction Training Quizzes to the DOTA Environmental Section (fax: 808-838-8017 or email to dot.air.environmental@hawaii.gov) prior to the start of construction activities.

Individual workers must be trained on their site-specific BMPs by the Contractor's representative(s) and managers who are knowledgeable in the proper manufacturer's installation, maintenance, and repair of the BMP product, or the manufacturer's authorized instructor. The Contractor shall keep training logs updated and readily available.

- (H) Health and Safety Plan. A site-specific Health and Safety Plan for excavation work conducted in the known or suspected area of contamination shall be prepared and submitted at least 15 calendar days prior to initiating any excavation work. The Plan shall be applicable to Federal and State regulations.

The Contractor shall retain and pay for the services of a Certified Industrial Hygienist (CIH), certified by the American Board of Industrial Hygiene, to certify training, and review and approve the Health and Safety Plan, excavation procedures, including the determination of the need for personal protective equipment.

The Health and Safety Plan shall describe methods, techniques, and phases for handling the contaminated soil and groundwater, if present, including:

1. A sequence of operations.
2. Method of excavation, transporting, and disposal.
3. Soil Stockpiling and Groundwater Storage procedures.
4. Proposed equipment.
5. Provisions to ensure that chemical and petroleum constituent concentrations, both airborne and in the soil, are below the Department of Health Environmental Action Level (EAL), Permissible Exposure Limit (PEL) and below the Lower Explosive Limit (LEL). Provide soil testing, air monitoring, personnel monitoring, and air sampling to ensure worker safety as determined by CIH. If airborne concentrations exceed the PEL or the LEL at the control area boundary, then, work must stop immediately and the Engineer and DOTA Environmental Section notified.

3.2 CONSTRUCTION REQUIREMENTS

Do not begin work until submittals detailed in Subsection 01561.3.1(B) – Water Pollution, Dust, and Erosion Control Submittals are completed, submitted to the Engineer and accepted in writing by the DOTA Environmental Section, and required conditions of the NPDES Permit and other applicable permits are met.

Do not expose or disturb surface area of earth material, or initiate any ground-disturbing activities (including clearing and grubbing) until BMPs are installed, functional and accepted in writing by DOTA Environmental Section and/or their designated authorized representative. Only the soil, to the extent that is required to install the BMP measures and devices, shall be disturbed and minimized to the extent possible.

Install, maintain, monitor, repair and replace BMPs, such as for water pollution, dust, and erosion control; installation, monitoring, and operation of hydrotesting activities; removal and disposal of hazardous waste indicated on plans, concrete cutting slurry, concrete curing water; or hydro-demolition water. Address all comments received from the Engineer, DOTA Environmental Section and/or DOTA's Third-party inspector.

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

Protect temporarily or permanently disturbed soil surface from rainfall impact, runoff, and wind before the end of each work day. Coordinate and schedule the work to the maximum extent possible to minimize the amount of exposed or disturbed surface area of earth material.

Immediately *initiate* stabilizing exposed soil areas upon completion of earth disturbing activities for areas permanently or temporarily ceased on any portion of the site. Earth-disturbing activities have permanently ceased when clearing and excavation within any area of the construction site that will not include permanent structures has been completed. Earth-disturbing activities have temporarily ceased when clearing, grading, or excavation within any area of the site will not resume for a period of 14 or more calendar days, but such activities will resume in the future. The term “immediately” is used in this section to define the deadline for *initiating* stabilization measures. “Immediately” means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.

Any of the following types of activities constitutes *initiation of stabilization*:

1. Prepping the soil for vegetative or non-vegetative stabilization;
2. Applying mulch or other non-vegetative product to the exposed area;
3. Planting the exposed area;

4. Starting any of the activities in items (1) – (3) above on a portion of the area to be stabilized, but not on the entire area; and
5. Finalizing arrangements to have stabilization product fully installed in compliance with the deadline for completing initial stabilization activities.

After the initiation of stabilization, stabilization activities shall be completed by the following deadline.

1. For projects with an NGPC or NPDES Permit for Construction activities:
 - (a) For construction areas discharging into waters not impaired for nutrients or sediments, complete stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities.
 - (b) For construction areas discharging into nutrient or sediment impaired waters, complete stabilization within 7 calendar days after the temporary or permanent cessation of earth-disturbing activities.
2. For projects without an NGPC or NPDES Permit for Construction activities, complete stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities.

Any of the following types of activities constitutes completion of stabilization activities:

1. For vegetative stabilization, all activities necessary to initially plant the area to be stabilized; and/or
2. For non-vegetative stabilization, the installation or application of all such non-vegetative measures.

If the Contractor is using vegetative cover for temporary or permanent stabilization and is unable to meet the deadlines above due to circumstances beyond the Contractor's control, the Contractor shall notify and provide documentation of the circumstances to the Engineer for acceptance by DOTA Environmental Section. The Contractor shall include in their documentation the schedule that the Contractor will follow for initiating and completing stabilization. If agreed to by DOTA Environmental Section, the Contractor may, instead, comply with the following stabilization deadlines:

1. Immediately initiate, and complete within the timeframe shown above, the installation of temporary non-vegetative stabilization measures to prevent erosion;
2. Complete all soil conditioning, planting, watering or irrigation installation, mulching, and other required activities related to the planting and initial establishment of vegetation as soon as conditions or circumstances allow it on the site.

Follow the applicable requirements of the contract documents including Hawaii Standard Specifications for Road and Bridge Construction 2005 or latest edition, Section 619 and Section 641, as amended.

Where necessary to prevent erosion on the planted area, immediately install non-vegetative erosion controls that provide cover (e.g., mulch, rolled erosion control products) to the area while vegetation is becoming established.

Protect exposed or disturbed surface area with mulches or hydro-mulch with no seeds. Spray mulches at a rate of 2,000 pounds per acre. Add tackifier to mix at a rate of 85 pounds per acre. For hydro-mulch, use the ingredients and rates required for mulches. Apply fertilizer, if applicable, per the manufacturer's recommendations. Mulches, hydro mulch, and/or fertilizers shall not be applied during inclement weather or rain events. Submit recommendations from a licensed Landscape Architect when deviating from the application rates above or manufacturer's recommendations.

Install velocity dissipation measures when exposing erodible surfaces greater than 15 feet in height.

BMP measures shall be in place and operational at the end of each work day or as required by Section 01561.3.1(B).

Install and maintain stabilized construction entrances, including any wheel washes, to minimize tracking of dirt and mud onto roadways, sidewalks, and other paved areas. Restrict traffic to stabilized construction entrance areas only. Clean dirt, mud, or other material tracked onto the road, sidewalk, or other paved area by the end of the same day in which the track-out occurs. If tracking is excessive or sediment is being transported farther along the pavement or sidewalk by other vehicles traveling outside of the construction site, then, conduct cleaning and sweeping immediately. Modify stabilized construction entrances, as needed, to prevent mud from being tracked onto road. Stabilize entire access roads if necessary.

Maintain all excavations, embankments, haul roads, permanent access roads, plant sites, waste disposal areas, borrow areas, and all other work areas within the project limits free from dust which would cause a hazard to the work, airport operations, operations of other contractors, or to persons or property. Chemicals may be used as soil stabilizers for erosion and dust control. Submit the manufacturer's product data sheets of the chemicals to the Engineer for acceptance by the DOTA Environmental Section. Oil treating shall not be used. When using water for dust control, only potable water, that conform to Hawaii Standard Specifications for Road and Bridge Construction 2005 or latest edition, Subsection 712.01 – Water, shall be used. Dust screens and fabrics are not allowed on, or inhibit the view of, the TSA and AOA Security Fences.

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

Provide temporary slope drains of rigid or flexible conduits to carry runoff from cuts and embankments. Provide portable flume at the entrance. Shorten or extend temporary slope drains to ensure proper function.

Protect ditches, channels, and other drainageways leading away from cuts and fills at all times by either:

1. Hydro-mulching the lower region of embankments in the immediate area.
2. Installing check dams and siltation control devices.
3. Other methods acceptable to the DOTA Environmental Section.

Provide for controlled discharge of waters impounded, directed, or controlled by project activities or erosion control measures.

Cleanup and remove any pollutant that is attributed to the Contractor. Deposit of solid waste or the discharge of liquid waste, such as fuels, lubricants, bituminous waste, untreated sewage and other pollutants which may contaminate the body of ground water shall not be permitted. Care shall be taken to ensure that no petroleum products, bituminous materials, or other deleterious substances, including debris, are allowed to fall, flow, leach, or otherwise enter the sewage systems or storm drains.

Burning of matter or waste material on Airport property shall not be permitted.

The use of hazardous materials is prohibited without the approval of the Engineer. Any corrective actions to remove and replace the hazardous material and contaminated work shall be at the sole expense of the Contractor. Hazardous materials shall be properly stored and handled.

3.3 INSPECTIONS

For all projects with earth-disturbing activities, including construction support activity areas, the following inspections shall be conducted:

- (A) Initial Inspection of BMPs. Prior to the start of construction activities, the DOTA Environmental Section, or their designated authorized representative, will conduct an initial site inspection of the BMPs.

The Contractor shall submit their request for this inspection in writing to the Engineer. The inspection is subject to the availability of the DOTA Environmental Section or their designated authorized representative.

Prior to this inspection, only the soil, to the extent that is required to install the BMP measures and devices, shall be disturbed. During the inspection, the inspector will note any deficiencies in the BMP measures and devices, including identifying any

site conditions that have the potential to result in the discharge of pollutants. The Contractor is responsible for the correction of the deficiencies. Corrective Action shall be documented and submitted to the Engineer for acceptance by the DOTA Environmental Section and/or their designated authorized representative. The deficiencies must be corrected and accepted before construction activities are allowed to commence.

Initial Inspections shall be conducted separately for each new construction phase, new work areas, and additional construction support areas that occur during the construction period.

- (B) Contractor's Inspection of BMPs. Commencing immediately after the Initial BMP Inspection and until the acceptance of the Final BMP Inspection, the Contractor shall conduct inspections of the sites to ensure that BMPs are effective and activities do not have the potential of causing a polluted discharge.

The Contractor's Inspections shall be conducted at the following intervals:

1. Weekly.
2. Within 24 hours of any rainfall of 0.25 inch or greater which occurs in a 24-hour period.

The Contractor shall use on-line rainfall measurements data sources and providers. Rainfall measurements shall be taken from the same airport as the location of the project or within one (1) mile distance from the disturbed areas. Submit the identity of the provider, with the location of their measuring device, to the Engineer for approval by DOTA Environmental Section.

In lieu of using any on-line rainfall provider or if there are no measuring device of an on-line provider on the airport or within one (1) mile from the disturbed area, the Contractor shall furnish and install a rain gauge in a secure location prior to field work including installation of site-specific BMPs. Provide a rain gauge with a tolerance of at least 0.05 inches of rainfall. Install the rain gauge on the project site in an area that will not deter rainfall from entering the gauge opening. Do not install in a location where rain water may splash into the rain gauge. The rain gauge installation shall be stable and plumbed. Maintain rain gauge and replace any rain gauge that is stolen, does not function properly or accurately, is worn out, or needs to be relocated. Do not begin field work until the rain gauge is installed and Site-Specific BMPs are in place. Rain gauge data logs shall be readily available.

Submit rain gage data logs weekly with the Contractor's BMP Inspection Report to the Engineer for acceptance by the DOTA Environmental Section.

3. When existing erosion control measures are damaged or not operating properly as required by Site-Specific BMP.

Prepare a written report of the inspection and submit a copy of the report within 24-hours to the Engineer for acceptance by the DOTA Environmental Section. The report must include any deficiencies of the Site-Specific BMPs observed and the correction of these deficiencies. Corrective actions can be documented in a separate report and submitted upon completion of the corrective actions. Submit the report(s) to the Engineer for acceptance by DOTA Environmental Section.

The initiation of the work to repair or correct the deficiency shall begin immediately. However, except for those deficiencies that pose an immediate threat for the discharge of pollutants to the drainage system, surface waters, or receiving water, if the deficiency is identified at a time in the day in which it is too late to initiate the work, the initiation of the work shall begin on the following day.

After the initiation of the work to repair or correct the deficiency, the work shall be completed as follows:

1. If the deficiency poses an immediate threat for the discharge of pollutants to the drainage system, surface waters, or receiving waters, the work to fix the deficiency shall be completed by the close of the same day of discovery of the deficiency. Examples of these deficiencies included, but not limited to, illicit discharge, absence of perimeter controls in an area with evidence of sediment transporting off-site, and spills near a drain or waterway that have not been cleaned.
2. If the deficiency poses a significant threat for the discharge of pollutants to the drainage system, surface waters, or receiving waters, the work to fix the deficiency shall be completed by five (5) calendar days or before the next forecasted rain event, whichever is sooner. Examples of these deficiencies include, but not limited to, perimeter controls that are not functional or require maintenance, drain inlet protections that are not functional or require maintenance, installation of a new pollution prevention control, and deficiencies requiring significant repair for the correction of the deficiency.
3. If the deficiency does not pose a threat for the discharge of pollutants to the drainage system, surface waters, or receiving waters, but are not in strict conformance with the SWPPP, SSBMP Plan, or DOTA's Construction Activities BMP Field Manual, the work to correct the deficiency shall be completed by ten (10) calendar days or within the time specified by the

Engineer, whichever is sooner. These deficiencies include all deficiencies except those deficiencies included in (1) and (2), above.

4. If it is infeasible to complete the correction of the deficiency or installation of a new pollution prevention control within the respective timeframe above, notify the Engineer who will consult with DOTA Environmental Section. Document why it is infeasible to complete the work within the required timeframe. Complete the work as soon as practicable and as agreed to by both the Engineer and DOTA Environmental Section.

Retain copies of these inspection reports on-site or at an accessible location for the duration of the project so that they can be made available at the time of an on-site inspection, or upon request by the Engineer, DOTA Environmental Section, DOTA's Third Party Inspector, and/or DOH/EPA Representative. Present these inspection reports to the DOTA's Third-Party Inspectors at the time of their inspection for review.

- (C) Final Inspection / Post-construction BMP Initial Inspection. The DOTA Environmental Section, or their designated authorized representative, shall conduct a Final Inspection / Post-Construction BMP initial inspection when the Contractor has completed construction, including installing permanent BMPs and stabilizing exposed soil.

The Contractor shall submit the request for this inspection in writing to the Engineer. The inspection is subject to the availability of the DOTA Environmental Section or their designated authorized representative.

All deficiencies noted must be addressed before the Contractor can remove temporary BMPs and close the site. The Contractor is responsible for correction of the deficiencies. Corrective Action shall be documented and submitted to the Engineer for acceptance by the DOTA Environmental Section. Any deficiencies noted during the final inspection must be corrected before the State will issue the project final acceptance and make final payment.

Partial Final Inspection of construction phases or partial areas of the project shall be conducted during the construction of the project for areas that are to be transferred for DOTA's use.

- (D) Routine Inspections Conducted by DOTA. The Contractor's designated representative specified in Subsection 01561.3.1(B)(4) shall address any Site-Specific BMP deficiencies brought up by the Engineer or their authorized representative (i.e. Quality Control Engineer, Project Inspector, etc.) taking all reasonable measures to minimize or prevent discharge of pollutants until a permanent solution is installed and made operational.

The initiation of the work to repair and correction of the deficiency shall be completed within the same timelines as required in Subsection 01561.3.3(B).

(E) DOTA's SWMPP Inspections. *For Projects located at the Daniel K. Inouye International Airport (HNL) or the Kahului Airport (OGG)* that have a NGPC or NPDES Permit, or disturb one acre or more, including the construction support activity areas, the following additional inspections shall be conducted:

1. Third-Party Inspections. The DOTA Environmental Section's Third-Party inspector will conduct routine inspections. Third-party inspections shall be conducted monthly. The frequency of the inspections may increase if deficiencies are identified as determined by the inspector. Deficiencies must be corrected within the timeline defined in DOTA's SWMPP, Section C, Construction Site Runoff Control Program, which can be downloaded from the website:

<http://hidot.hawaii.gov/airports/doingbusiness/engineering/environmental/construction-site-runoff-control-program/>

The Contractor shall be responsible for the correction of ALL deficiencies identified during any of the above inspections. Corrective Action shall be documented and submitted to the Engineer for acceptance by the DOTA Environmental Section or their designated authorized representative.

If the Contractor fails to satisfactorily address Site-Specific BMP deficiencies, the DOTA reserves the right to employ outside assistance or use the State's own labor forces to provide necessary corrective measures. The Contractor will be fully responsible for all cost and time. The State will charge the Contractor such incurred costs plus any associated project engineering costs and will make appropriate deductions from the Contractor's monthly progress payment.

Failure to apply or maintain Site-Specific BMP measures may result in the assessment of liquidated damages (Appendix B). Depending on the severity of the deficiencies, additional enforcement actions, such as, suspension of work and/or termination of the contract (with the Contractor's Surety being fully responsible for all additional costs incurred by the State) can be conducted and assessed against the Contractor.

For all citations or fines received by the DOTA for non-compliance, including non-compliance with NGPC/NPDES Permit conditions, the Contractor shall reimburse the State within 30 calendar days for the full amount of outstanding cost that the State has incurred, or the State shall deduct all incurred costs from the Contractor's monthly progress payments.

The Contractor shall be responsible for all citations, fines and penalties levied by DOH or EPA against the State due to the Contractor's failure to satisfactorily address Site-Specific

BMP deficiencies and/or any Contractor's illicit discharges. The State will make the appropriate deductions from the Contractor's monthly progress payment.

PART 4 MEASUREMENT AND PAYMENT

4.1 BASIS OF MEASUREMENT AND PAYMENT

The work specified in this Section will be paid for at the contract lump sum price. Payment shall be full compensation for work prescribed in this Section and contract documents, including but not limited to, all labor, materials, tools, equipment, and all incidentals necessary to install, maintain, monitor, repair, replace, modify, and remove Site-Specific BMP measures.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
01561.1	Construction Site Runoff Control Program	Lump Sum

Partial payments shall be paid in the Monthly Progress Payment as follows:

1. 20% of the line item price shall be paid upon DOTA Environmental Section's acceptance in writing of the Site-Specific BMP Plan and the satisfactory completion of the Initial Inspection of BMPs defined in Section 01561.3.3(A), above.
2. 60% of the line item price shall be paid in equal monthly payments over the duration of the contract. Failure to satisfactorily apply, maintain, or modify BMP measures and devices, and/or submittals shall result in the withholding of monthly progress payments for this line item.

For projects located at the Daniel K. Inouye International Airport (HNL) or the Kahului Airport (OGG) that have a NGPC or NPDES Permit, or disturb one (1) acre or more, including construction support activity areas, payments shall be made only after the DOTA's Third-Party Inspection defined in Section 01561.3.3(E), above, have been satisfactorily completed and accepted by the DOTA Environmental Section. Any deficiencies classified as Major or above will result in the withholding of monthly progress payments for this line item.

3. The remaining 20% of the line item price shall be paid after all BMP measures have been satisfactorily removed.

Payment will be made only after the satisfactory completion of the Final Inspection / Post-Construction BMP Initial Inspection defined in Section 01561.3.3(C), above, and acceptance of the Post-Construction BMPs by the DOTA Environmental Section.

Liquidated Damages, up to \$25,000 per day (Appendix B), shall be assessed for each non-compliance of the BMP requirements described in this Section. The Contractor shall not be entitled to recover any Liquidated Damages assessed, even after the deficiencies have been corrected.

Appendix A

The current DOTA's Construction Activities Best Management Practices (BMP) Field Manual can be found on DOTA's Environmental Website at

<https://hidot.hawaii.gov/airports/doing-business/engineering/environmental/construction-site-runoff-control-program/>

The manual is periodically updated and should be downloaded via the website to ensure that the latest version is applied. The manual identifies potential pollutant sources and BMPs that should be used to mitigate pollutants.

Additional information and requirements for stormwater programs at all airports can also be found at the above website, including additional requirements for Daniel K. Inouye International Airport (HNL) and Kahului Airport (OGG).

Appendix B Liquidated Damages Schedule for Non-Compliances.

Non-Compliance	Amount
Failure to submit a Notice of Intent or otherwise obtain a permit for Staging and/or Storage Area beyond the project limits.	\$1,000 per calendar day per violation.
Failure to comply with the conditions specified in the Notice of General Permit Coverage (NGPC) or Individual NPDES Permit, or any other applicable permit.	\$1,000 per calendar day per violation.
Failure to have the accepted SSBMP Plan and Amendments or the accepted SWPPP and Amendments available at a project construction site.	\$1,000 per calendar day per violation.
Failure to install a BMP specified by the SSBMP Plan or SWPPP, or permit.	\$2,000 per calendar day per violation.
Failure to properly install or maintain appropriate Site-Specific BMPs in accordance with applicable plans, permits, and guidance documents.	\$2,000 per calendar day per violation.
<p>Failure to have an accepted Amendment to the SSBMP Plan or an accepted Amendment to the SWPPP prior to implementation of the proposed BMPs.</p> <p>Note: Advance review and acceptance can be provided via email which will satisfy this non-compliance. However, the written Amendment must still be formally submitted for certification and signature by the authorized representative identified in the NGPC or NPDES Permit.</p>	\$2,000 per calendar day per violation.
Failure to conduct required inspections.	<p>\$1,000 for each of the first ten violations,</p> <p>\$2,500 for each of the next ten violations,</p> <p>\$5,000 for each subsequent violation.</p>
Failure to submit required reports such as BMP inspection reports, rain gauge data logs, etc.	<p>\$500 per calendar day for the first ten days of each violation,</p> <p>\$1,000 per calendar day for the next ten days of each violation,</p> <p>\$2,500 per calendar day for each subsequent day of violation.</p>

Non-Compliance	Amount
Any “major” or “critical” non-compliance violation with the applicable plans, permits, and guidance documents.	Up to \$25,000 per calendar day per violation.
Any violation resulting in a polluted discharge.	Up to \$25,000 per calendar day per violation.

Note: Liquidated Damages shown in the Table shall be assessed at the discretion of the DOTA.

Assessment of Liquidated Damages for Non-Compliance:

The Contractor may be assessed liquidated damages by issuance of an Enforcement Letter. The Enforcement Letter shall indicate the amount of liquidated damages that are assessed for the non-compliances which shall be deducted from the Contractor’s next progress payment. The Enforcement Letter will be sent electronically via e-mail and a hard copy to the Contractor’s designated representative(s), identified in Section 01561.3.01(2)(d), responsible for the Contractor’s Construction Site Runoff Control Program. An Enforcement Letter may be issued with or without a previous Verbal Notification, Warning Letter, or Notice of Apparent Violation (NAV).

Liquidated Damages may be assessed for the following:

- Non-compliances listed in the Table, herein, included in Appendix B.
- Non-compliances have not been corrected in the timeframes noted.
- Corrective actions are not completed after a Verbal Notification, Warning Letter, or Notice of Apparent Violation is issued.
- Contractors are non-responsive to DOTA’s directives.
- Repeated non-compliance.
- A polluted discharge has occurred.

The number of days used for the liquidated damages calculations shall start on the day that the non-compliance was required to be corrected and shall end on the day that the non-compliance is corrected and accepted. If DOTA’s personnel are not able to go out in the field to verify that the BMP deficiencies are corrected in the timeframe specified, the Contractor can send photographs showing the corrected deficiency via e-mail to the Engineer and DOTA Environmental Section along with documentation on how the deficiency was corrected. The Engineer and DOTA Environmental Section may visit the site to verify the corrective actions are acceptable. If the

corrective actions are acceptable, then the clock stops on the day that the documentation was received.

END OF SECTION



Site-Specific Best Management Practices (SSBMP) Plan Template



STATE OF HAWAII, DEPARTMENT OF
TRANSPORTATION, AIRPORTS DIVISION
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819-1880

August 2020

Disclaimer and General Instructions

This template is provided for informational purposes to assist designers and contractors, of State of Hawai'i, Department of Transportation, Airports Division (DOTA) construction projects and Tenant Improvement Projects (TIP), in preparing a Site-Specific Best Management Practices (SSBMP) Plan for projects that do not require a National Pollutant Discharge Elimination System (NPDES) permit and its more extensive Stormwater Pollution Prevention Plan (SWPPP). DOTA requires all projects to implement BMP measures and practices for environmental protection. This template should be modified to reflect appropriate site-specific BMPs and used in conjunction with the most recent version of the DOTA "Construction Activities BMP Field Manual" provided on the DOTA webpage.¹ Throughout the template, **orange-highlighted fields must be completed by the designer and gray-highlighted fields should be completed by the designer or contractor** with project-specific information.

Each plan shall be evaluated on its own merits according to the characteristics of the project and the site to be developed. The following projects are exempt from the construction review process:

- Interior renovations, provided the total combined exterior staging areas are less than one (1) acre.
- Minor land disturbance activities performed on a single lot with less than 0.25 acre of disturbed and exposed soil caused by construction activities and as approved by DOTA, Engineering Branch, Environmental Section (AIR-EE).
- Milling and replacement of pavement surfaces of runways, taxiways, or other paved areas that do not expose the underlying base course or subgrade material.
- Utility Repair Work.
- Maintenance and repair activities.

It should be noted that exempt projects are still required to implement appropriate BMPs to ensure that construction activities do not discharge pollutants into the storm drainage system or stormwater runoff.

Projects whose total combined disturbed areas and construction support activities (i.e., staging areas, soil stockpile areas, etc.) are one (1) acre or more do not qualify as an Exempted Project. Additionally, projects that are part of a larger common plan of development that will ultimately disturb one acre or more of total land area also do not qualify as an Exempted Project.

Application of BMPs shall comply with applicable federal, state, and county regulations. Use of this template does not guarantee compliance with environmental regulations or DOTA plan approval. Users of this template shall assume all liability directly or indirectly arising from the use of the template. Users of this template should use their best professional judgment and sound engineering principles and seek advice from appropriately qualified professionals to determine the applicability of the information provided for site-specific application and selection of BMPs.

¹ <https://hidot.hawaii.gov/airports/doing-business/engineering/environmental/construction-site-runoff-control-program/>

SITE-SPECIFIC BEST MANAGEMENT PRACTICES (SSBMP) PLAN

Project Name

Ewa and Diamond Head Concourse 2nd and 3rd Level Roadway Improvements - Phase 1

Tenant Company Name or DOTA Project Number

AO1043-2

Project Address and Airport Location

300 Rodgers Blvd, Honolulu, Hawaii 96819 - Ewa and Diamond Head Concourse

SSBMP Preparation, Revision Date

5/27/2022, 07/08/2022, 08/30/2022

SSBMP Preparer & Company

Saeid Pourjalali - KAI Hawaii, Inc.

SSBMP Preparer Signature

SSBMP On-Site Responsible Party Name(s) and Contact(s)

TBD

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Required Attachments

ATTACHMENT 1: PROJECT MAPS

ATTACHMENT 2: TRAINING LOG AND RECORDS

ATTACHMENT 3: SSBMP AMENDMENT LOG

Section 1 Project Description

1.1 SITE DESCRIPTION

The Roadway Improvement (Project) site comprises approximately 2.41 acres and is located at The Ewa and Diamond Head Concourse at 300 Rodgers Blvd, in Honolulu, Hawai'i. The Project site is located approximately 600 feet south of Rodgers Blvd. The Project site is located approximately 5400 feet West of Ke'ehi Lagoon.

NEAREST WATERBODY

Nearest Waterbody	Ke'ehi Lagoon
Project Distance from Nearest Waterbody	5400 feet
Project Discharge Coordinates*	21d19'19.8"N 157d55'46.7"W; 21d19'50.5"N 157d54'24.7"W

* Discharge locations should be the coordinates of discharge to the State receiving water from the project site.

1.2 PROJECT DESCRIPTION

Project Area: <i>(i.e., limits of construction activities)</i>	98100	ft ²	2.3	Ac
Construction Support Activity Area Outside Project Limits, if applicable: <i>(i.e., staging, storage, and stockpile areas)</i>	5000	ft ²	0.11	Ac
Total Project Disturbed Area ² : <i>(Project Disturbed Area + Construction Support Activity Area Outside Project Limits)</i>	5000.00	ft ²	0.11	Ac

Project grading will not occur.

Construction materials will be stockpiled or stored at approved staging/storage areas as shown on the erosion and sediment control plans or as directed by DOT Airports. Construction activities will be phased; see phasing plans for limits of each phase and sequence.

The Project will consist of replacement of the concrete roadway pavement slab, including replacement of the roadway drain inlets.

1.3 SITE CONDITIONS

As of the date of this SSBMP Plan, the Project site is existing development of impervious areas. The Project site was previously developed with Airport terminal building facilities. Historic sources of contamination include: there are no known historic sources of contamination at the site.

The Project site is relatively level. The elevation of the Project site ranges from 28 to 47 feet above Mean Sea Level (MSL) between two separate roadway levels. Surface drainage at the site currently flows to the north and west for the Ewa Terminal and north and east for the Diamond Head Terminal,

² State of Hawai'i Department of Health defines ground disturbance as clearing, grading, excavation, and construction support activities include, but are not limited to, concrete or asphalt batch plants, rock crushing plants, equipment staging yards/areas, material storage areas, excavated material disposal areas, borrow areas, and similar activities specific to the Project.

towards drain inlets within the roadways discharging to drainage channels that lead to the ocean. The project will maintain the existing site drainage patterns.

Existing and proposed site topography, drainage patterns, and stormwater conveyance systems are shown on the civil drawings. This site does not contain offsite run-on.

Section 2 Best Management Practices

2.1 SCHEDULE FOR BMP IMPLEMENTATION

INSTRUCTIONS

- *The BMP implementation schedule shows the timeline for installation of BMPs. The schedule provides information necessary to plan for adequate materials and crews to install BMPs at the right time. In order to be effective, some BMPs must be installed before the site is disturbed (e.g., to provide protection during grading operations or to reduce or minimize pollution from historic areas of contamination during construction).*
- *See the most recent version of the DOTA “Construction Activities BMP Field Manual” for a list of accepted BMPs.*

Table 1. BMP Implementation Schedule

Category	BMP	Implementation	Duration
Erosion Control	C.1, Scheduling	Prior to Construction	Entirety of Project
	C.2, Preservation of Existing Vegetation	Start of Construction	Entirety of Project
Sediment Control	C.11 Compost Filter Berm or Sock	Prior to Construction	Entirety of Project
	C.12 Storm Drain Inlet Protection	Prior to Construction	Entirety of Project
Tracking Control			
Site Activities Potential Pollutant Control	C.18 Paving Operations and Waste Management	Prior to Construction	Entirety of Project
	C.19 Structure Construction and Painting	Prior to Construction	Entirety of Project
	C.22 Vehicle and Equipment Operation and Maintenance	Prior to Construction	Entirety of Project
	C.23 Concrete Curing Water and Compounds Management	Prior to Construction	Entirety of Project
	C.26 Material and Delivery Storage	Prior to Construction	Entirety of Project

Category	BMP	Implementation	Duration
Material and Waste Management	C.27 Material Use	Prior to Construction	Entirety of Project
	C.28 Protection of Stockpiles	Prior to Construction	Entirety of Project
	C.29 Solid Waste Management – Hazardous Waste	Prior to Construction	Entirety of Project
	C.30 Solid Waste Management – Debris	Prior to Construction	Entirety of Project
	C.32 Concrete Operation and Waste Management	Prior to Construction	Entirety of Project
	C.34 Spill Prevention and Control	Prior to Construction	Entirety of Project
	C.36 Management of Materials Associated with Paint	Prior to Construction	Entirety of Project

2.2 CONSTRUCTION BMP SELECTION

INSTRUCTIONS

- Complete the checklists in each of the following BMP categories to select appropriate project-specific BMPs. Note that certain BMPs that are required for all projects are described before the checklist in each category.
- Provide a narrative description of the how BMPs selected will be used to protect stormwater runoff. If a BMP is checked as “No,” please write in N/A (“not applicable”) for the corresponding narrative.

2.2.1 Erosion Control BMPs

Erosion control BMPs consist of measures that are designed to prevent soil particles from detaching and becoming transported in stormwater runoff. Erosion control BMPs protect the soil surface by covering and/or binding soil particles.

The Project will implement the following erosion control practices during construction:

1. Protect and preserve existing vegetation in and adjacent to work areas for as long as practicable before disturbing it.
2. Schedule and sequence construction activities and BMP implementation in a manner that will limit exposure of disturbed soil to wind, rain, and stormwater run-on and runoff.
3. Control the area of soil disturbing operations such that erosion control BMPs can be implemented quickly and effectively.
4. Control erosion in concentrated flow paths by applying check dams or alternate methods.
5. At the completion of construction, ensure all construction materials and waste is cleaned up and disposed of properly.

Sufficient erosion control materials shall be maintained onsite to allow implementation in conformance with this SSBMP Plan.

The following erosion control BMP selection table indicates the BMPs that shall be implemented to control erosion on the construction site.

Table 2. Erosion Control BMPs

BMP Name	BMP Used	
	YES	NO
C.1 Scheduling	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.2 Preservation of Existing Vegetation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.3 Location of Potential Sources of Sediment	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.4 Earth Dike	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.5 Temporary Drains and Swales	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.6 Dust Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.7 Topsoil Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.8 Geotextiles and Mats	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.9 Grass and Planting	<input type="checkbox"/>	<input checked="" type="checkbox"/>

C.1 Scheduling

Contractor to provide schedule for timing of installation, maintenance and removal of BMPs.

C.2 Preservation of Existing Vegetation

N/A

C.3 Location of Potential Sources of Sediment

Locate stockpiles away from low spots. Use naturally level areas for parking and equipment staging during construction. Verify that the work site layout is in accordance with the project phasing plan. Update the layout per phase of work. An updated lay out plan shall be submitted to the Construction Manager prior to the start of work for that phase.

C.4 Earth Dike

N/A

C.5 Temporary Drains and Swales

N/A

C.6 Dust Control

Schedule construction activities to minimize exposed areas. Stabilize exposed soils until permanent BMPs are installed. Minimize the impact of dust by anticipating the direction of prevailing winds. Comply with State of Hawaii, Department of Health (DOH) requirements for dust control. If dust screen or fence is used in conjunction with other dust control measures, the Airport Manager or Code 22 must approve the location. Screens located on or adjacent to the Airport Operations Area (AOA) fence line may not be allowed due to airport security concerns.

C.7 Topsoil Management

N/A

C.8 Geotextiles and Mats

N/A

C.9 Grass and Planting

N/A

2.2.2 Sediment Control BMPs

Sediment control BMPs are temporary or permanent structural measures intended to complement the selected erosion control measures to reduce sediment discharges from active construction areas. Sediment control BMPs are designed to intercept and settle out soil particles that have been detached and transported by the force of water.

The following sediment control BMP selection table indicates the BMPs that shall be implemented to control sediment on the construction site.

Table 3. Sediment Control BMPs

BMP Name	BMP Used	
	YES	NO
C.10 Sand Bag Barrier	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.11 Compost Filter Berm or Sock	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.12 Storm Drain Inlet Protection	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.13 Sediment Trap	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.14 Silt Fence	<input type="checkbox"/>	<input checked="" type="checkbox"/>

C.10 Sand Bag Barrier

N/A

C.11 Compost Filter Berm or Sock

Install 395 LF of Compost Biofilter Sock around the contractor staging area. See Erosion and Sediment Control Plans, sheets C-E-701, C-E-801, C-D-702, and C-D-802 and detail 2 on sheet C-T-002.

C.12 Storm Drain Inlet Protection

Install Storm Drain Inlet Protection per Erosion and Sediment Control Plans, sheets C-E-701, C-E-801, C-D-702, and C-D-802. See detail 1 on sheet C-T-002.

C.13 Sediment Trap

N//A

C.14 Silt Fence

N/A

2.2.3 Tracking Control BMPs

Tracking control BMPs are temporary or permanent structural measures intended to reduce sediment discharges from vehicles and equipment exiting active construction areas.

The following tracking control BMP selection table indicates the BMPs that shall be implemented to control sediment trackout from the construction site.

Table 4. Tracking Control BMPs

BMP Name	BMP Used	
	YES	NO
C.15 Stabilized Construction Entrance/Exit	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.16 Construction Road Stabilization	<input type="checkbox"/>	<input checked="" type="checkbox"/>

C.15 Stabilized Construction Entrance/Exit

N/A

C.16 Construction Road Stabilization

N/A

2.2.4 Site Activities Potential Pollutant Control BMPs

Unauthorized non-stormwater discharges into storm drainage systems or waterways are prohibited. A separate NPDES permit is required by the State of Hawai'i, Department of Health for non-stormwater discharges.

The following site activities potential pollutant control BMP selection table indicates the BMPs that shall be implemented to control potential pollutants on the construction site.

Table 5. Site Activities Potential Pollutant Control BMPs

BMP Name	BMP Used	
	YES	NO
C.17 Dewatering Operations	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.18 Paving Operations and Waste Management	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.19 Structure Construction and Painting	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.20 Vehicle and Equipment Cleaning	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.21 Vehicle and Equipment Fueling	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.22 Vehicle and Equipment Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.23 Concrete Curing Water and Compounds Management	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.24 Hydrotesting Effluent Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.25 Water-Jet Wash and Hydro-Demolition Water Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>

At a minimum the following measures shall be implemented to control non-stormwater discharges during construction:

- Notify DOTA, Environmental Section (AIR-EE) of any illicit connections and illegal dumping or discharge incidents at the time of discovery.
- Use water in a manner that will not cause erosion or transport pollutants off-site. Water application rates will be minimized as necessary to prevent runoff and ponding, and water equipment leaks will be repaired immediately.
- Prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters.
- Place all equipment or vehicles in a designated area fitted with appropriate BMPs for fueling, maintenance, and storage. If on-site mobile fueling is necessary, construct a protected temporary fueling area in a designated location and provide absorbent spill clean-up materials for each mobile container.
- Clean paved surfaces in such a manner to prevent unauthorized non-stormwater discharges from entering the storm drain system or receiving water.
- Implement controls during paving operations including AC removal, saw cutting, and resurfacing operations to prevent paving materials from being discharged off-site. Immediately following paving and/or grinding operations, sweep and inspect the area for paving and grinding debris.
- Employ proper procedures to reduce or eliminate the contamination of stormwater runoff during concrete curing and finishing operations.
- During vehicle maintenance activities, prevent fluids from leaking into the ground and discharging to storm drain conveyances. Place all equipment or vehicles in a designated area fitted with appropriate BMPs. Vehicle maintenance will be conducted away from storm drain facilities and on a level graded area.
- When it is necessary to park paving machines and other construction equipment at the Project site, the equipment shall be parked on filter fabric over 10-mil plastic sheeting with a bermed perimeter, or acceptable equivalent. Protective plastic shall be removed and replaced at the

first sign of deterioration. Place drip pans, plastic sheeting, or absorbent material under vehicles and equipment while parked and when requiring maintenance activities that involve grease, oil, solvents, or other vehicle fluids.

- Clean leaks immediately and dispose of leaked materials properly. Repair leaking equipment promptly.

C.17 Dewatering Operations

N/A

C.18 Paving Operations and Waste Management

Contractor shall provide description of the site-specific implementation.

C.19 Structure Construction and Painting

Contractor shall provide description of the site-specific implementation.

C.20 Vehicle and Equipment Cleaning

N/A

C.21 Vehicle and Equipment Fueling

N/A

C.22 Vehicle and Equipment Operation and Maintenance

Eliminate and minimize the discharge of pollutants to storm water from vehicle and equipment operation and maintenance operations by using off-site facilities, using spill pads under vehicles and equipment, checking for leaks and spills, and containing and cleaning up spills immediately.

List of heavy equipment:

Epoxy Overlay Vehicle

Concrete truck mixer

Scissor Lift

Mini-excavator

Hauling Truck

Jack Hammer

Saw Cutting Machine

Truck for waste removal

C.23 Concrete Curing Water and Compounds Management

Use proper storage and handling techniques for concrete curing compounds. Protect drain inlets prior to the application of curing compounds.

C.24 Hydrotesting Effluent Management

N/A

C.25 Water-Jet Wash and Hydro-Demolition Water Management

N/A

2.2.5 Material and Waste Management BMPs

Material and waste management BMPs consist of implementing procedural and structural BMPs to prevent the release of construction materials and wastes into stormwater discharges. The amount and type of construction materials to be utilized at the Project will depend on the type of construction and the length of the construction period. The materials may be used continuously, such as fuel for vehicles and equipment, or for a discrete period, such as soil binders for temporary stabilization.

Material and waste management BMPs shall be implemented to minimize stormwater contact with construction materials, wastes and service areas, and to prevent potential pollutants from the materials and wastes from being discharged offsite. The primary mechanisms for stormwater contact that shall be addressed include:

- Direct contact with precipitation
- Contact with stormwater run-on and runoff
- Wind dispersion of loose materials
- Direct discharge to the storm drainage system through spills or dumping
- Extended contact with some materials and wastes, such as asphalt cold mix and treated wood products, which can leach pollutants into stormwater.

The following material and waste management BMP selection table indicates the BMPs that shall be implemented to handle materials and control construction site wastes associated with these construction activities.

Table 6. Material and Waste Management BMPs

BMP Name	BMP Used	
	YES	NO
C.26 Material and Delivery Storage	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.27 Material Use	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.28 Protection of Stockpiles	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.29 Solid Waste Management – Hazardous Waste	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.30 Solid Waste Management – Debris	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.31 Contaminated Soil Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.32 Concrete Operation and Waste Management	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.33 Sanitary/Septic Waste Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.34 Spill Prevention and Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.35 Spill Response Practices	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.36 Management of Materials Associated with Paint	<input checked="" type="checkbox"/>	<input type="checkbox"/>

C.26 Material and Delivery Storage

prevent, reduce, or eliminate the discharge of pollutants from material delivery, storage, and use to the storm water system or watercourse by minimizing the storage of hazardous materials onsite, storing materials, waste, toxic and hazardous substances, stockpiles and other sources of pollution shall not be stored in buffer areas, near areas of concentrated flow, or areas abutting the municipal separate storm sewer system (MS4), receiving water, or drainage improvements that discharge off-site. Primary and secondary containment controls and covers shall be implemented to the maximum extent possible.

List of materials:

[Provide a list of materials or write N/A if not used]

C.27 Material Use

Minimize use of hazardous materials onsite. See also C.26 Material and Delivery Storage for additional requirements.

C.28 Protection of Stockpiles

Provide sediment control measures at the toe of the stockpile. Stockpiles must be covered with plastic sheeting or a comparable material whenever the stockpile is inactive or by the end of the work shift, whichever is sooner. Stockpile shall not be located in drainage ways, within 50 feet from areas of concentrated flows, and are not allowed in the city right-of-way. Sediment barriers or silt fences shall be used around the base of all stockpiles. Stockpiles shall not exceed 15 feet in height. Stockpiles greater than 15 feet in height shall require 8 foot wide benching in accordance with ROH chapter 14, article 15.

C.29 Solid Waste Management – Hazardous Waste

Keep spill cleanout materials where they are readily accessible. Create and implement spill prevention and response plans to eliminate and minimize the discharge of pollutants to the MS4 and receiving waters from leaks and spills by reducing the chance of spills, absorbing, containing, and cleaning up spills and properly disposing of spills materials. At a minimum, clean up all leaks and spills immediately.

Existing waterproofing contains asbestos. Existing concrete contains lead based/containing paint, mainly on the trellis and concrete light poles. Waterproofing contains asbestos and concrete contains lead based/containing paint will be removed and disposed of off-site without onsite storage.

A hazardous waste disposal plan should be provided for reference by the Contractor.

C.30 Solid Waste Management – Debris

Prevent or reduce discharge of pollutants to the land, groundwater, and in storm water from solid waste or construction and demolition waste by providing designated waste collection area and provide separate containers for recycled waste materials. Collect trash daily, and ensure that construction waste is collected, removed, and disposed of only at authorized disposal area. Trash bins shall be watertight, with a cover or lid, or under cover with regularly scheduled disposal services.

C.31 Contaminated Soil Management

N/A

C.32 Concrete Operation and Waste Management

Prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite.

C.33 Sanitary/Septic Waste Management

N/A

C.34 Spill Prevention and Control

Properly store hazardous materials and waste in covered containers, within secondary containment and protected from vandalism. Clean up leaks immediately. See also C.29 Solid Waste Management – Hazardous Waste.

C.35 Spill Response Practices

N/A

C.36 Management of Materials Associated with Paint

Use proper storage and handling techniques. Do not clean out brushes or rinse containers into the pavement or storm drain. Inspect containers, equipment, and containment facilities for leaks.

2.3 PERMANENT BMP SELECTION

INSTRUCTIONS

- *Complete the conditions assessment checklist below to determine if PBMPs are needed. If any condition is checked “Yes,” describe PBMPs to be implemented or reasons why PBMPs are not required.*
- *Provide a narrative description of the how BMPs selected will be used to prevent erosion and contamination of stormwater following construction.*

Permanent BMPs (PBMPs) are measures installed during construction, designed to reduce or eliminate pollutant discharges from the site after construction is completed. The Project will include the following features for which DOTA requires some type of PBMPs:

Table 7. Project Features

Condition	YES	NO
Disturbed soil areas that are not covered by impervious surfaces	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Steep earthen slopes (i.e., grade of 20 percent or more)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parking lots and buildings adding 10,000 square feet or more of impervious area within 50 feet of a surface waterbody	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Uncontained aircraft, vehicle, or equipment washing area	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fueling area or petroleum storage that exceeds the regulatory threshold for Spill Prevention, Control, and Countermeasure (SPCC) plans in Title 40 Part 112 of the Code of Federal Regulations (i.e., 1,320 gallons above ground)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mobile refueler ³ parking or storage area	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Modifying, replacing, or installing new MS4 drainage structures	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The following PBMPs have been identified to address the above:

- Post construction BMPs (PBMPs) will be provided in a future phase to install a hydro sediment separator at the lower levels.
-

The Project is exempt from PBMP requirements by meeting one or more of the following:

Table 8. PBMP Exemptions

Condition	YES	NO
The Project solely involves trenching and/or resurfacing associated with utility work, provided the ground surface consists of hardscape	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The Project solely involves resurfacing or replacement of damaged pavement	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Stormwater runoff does not ultimately discharge to a receiving water	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The Project will return the area to pre-development runoff conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PBMPs are prohibited due to aircraft safety concerns	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other: 	<input type="checkbox"/>	<input checked="" type="checkbox"/>

³ Per Title 40 Part 112 of the Code of Federal Regulations, “a mobile refueler means a bulk storage container onboard a vehicle or towed, that is designed or used solely to store and transport fuel for transfer into or from an aircraft, motor vehicle, locomotive, vessel, ground service equipment, or other oil storage container.”

Section 3 BMP Inspection and Maintenance

3.1 CONSTRUCTION BMP INSPECTION AND MAINTENANCE

INSTRUCTIONS

- *Include a statement about BMP inspection and maintenance requirements.*
- *Describe the location of blank and completed inspection checklists/forms. Provide a blank inspection form in the SSBMP Plan that will be used to record results of the inspection and assessment.*
- *Completed inspection forms should be included in SSBMP Plan or in an accompanying file/binder that is referenced in the SSBMP Plan and readily accessible onsite.*

BMPs shall be regularly maintained for proper and effective functionality. Commencing immediately after the Initial BMP Inspection and until the acceptance of the Final BMP Inspection, the Contractor shall conduct inspections of the project site(s), on a weekly basis and after a significant rainfall,⁴ to ensure that BMPs are effective and activities do not have the potential of causing a polluted discharge. BMPs that are deemed not effective, shall be replaced immediately with a more effective BMP and the BMP Plan should be updated to reflect the change.

Contractor self-inspection reports, SSBMP revisions, and a “live” BMP plan reflecting current site conditions shall be retained on site or at an accessible location for the duration of the project so that they can be made available at the time of an on-site inspection, or upon request by DOTA, AIR-EE, and/or DOH/EPA Representative.

3.2 PERMANENT BMP INSPECTION AND MAINTENANCE

A plan for the post construction funding and maintenance of the PBMPs listed in Section 2.3 has been developed.

NONE

⁴ Significant rainfall is defined as rainfall of 0.25 inch or greater occurring in a 24- hour period.

Attachment 1

Project Maps and Plans

Project maps and plans are required to be provided as part of the SSBMP Plan. The maps must contain at least the following:

- Project Location Map, including (as applicable) project limits; areas for construction support activity areas (i.e., contractor's staging and storage yards; sediment, soil or other construction material stockpile areas; chemical storage; vehicle/equipment parking areas; temporary batch plant yards; etc.); access routes to the project site if using unpaved roadways or within the Air Operations Area (AOA); and nearby landmarks, roads, canals, and surface waters. The boundaries or limits for all construction support activities shall be identified in the construction plans.
- Erosion and Sediment Control Plans, Details, and Notes with site-specific temporary BMP measures, including areas designated for construction support activities.
- Plans and Details of PBMPs.
- Permanent Landscaping Plans, Details, and Specifications.
- The flow pattern/paths for the area. Show all storm drains or other drainage structures present in the area and reference/label these structures with their Environmental Identification Numbers (EIDs).

Attachment 2

Training Log and Records

It is required for all contractors and sub-contractors to be trained on the site-specific BMPs that are utilized during construction, as well as spill response. Records of completion (i.e., Construction BMP Quiz and/or training roster sign-in sheet) must be up to date and included in the SSBMP Plan.

There are two training options:

1. All contractor and subcontractor employees watch the Construction BMP Training Video and fill out the Construction BMP Quiz to be submitted via email to dot.air.environmental@hawaii.gov or via fax to 808-838-8017.

OR

2. The supervisors/managers watch the Construction BMP Training Video, train their employees, fill out the Construction BMP Quiz, and submit a sign-in roster for the training of the remaining employees via email to dot.air.environmental@hawaii.gov or via fax to 808-838-8017.

The Construction BMP Training Video, Construction BMP Training Quiz, and Spill Response Factsheets can be found at the link below:

<http://hidot.hawaii.gov/airports/doing-business/engineering/environmental/construction-site-runoff-control-program/>

Attachment 3

SSBMP Amendment Log

The SSBMP Plan is a “living document” for the duration of the project. All updates and revisions must be recorded and logged below.

No.	Description of Change	Date	Name
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			

Discharge Permit No.:

Issuance Date:

Construction Connection, Discharge, and Surface Runoff Permit

Pursuant to Hawaii Administrative Rules, Chapter 11-55, application is hereby made to connect or discharge into the Airport drainage system at the location(s) specified below and at no other location. The permit shall expire within 5 years of issuance date.

Airport: HNL	PMID/TMK: 110030365 & 11003066	Basin ID:
Tenant Company Name or DOTA Project Name and No.: Ewa and Diamond Head Concourse Roadway Improvements AO1043-32		
Tenant Contact Name or DOTA State Engineer: Valerie Sasuga		
Contact Email: valerie.sh.sasuga@hawaii.gov	Contact Number: 808-838-8824	

Type of Connection and/or Discharge (check all that apply):

- Stormwater runoff from construction site Construction Dewatering Hydrotesting
- Alteration or removal of Drainage New Drainage Connection Other _____

I, the Designer, have included the following as attachments to this application:

- Plans showing the changes/connection to the drainage system, if applicable
- Quantity of stormwater and site process water entering drain system

Please check the boxes below to indicate which items have been submitted to AIR-EE for review and acceptance:

- DOH NOI-C Application for Stormwater Discharge from Construction Activities for Projects that disturb one (1) acre or more, if applicable.
- Designer’s Stormwater Pollution Prevention Plan (SWPPP) or Site-Specific BMP Plan for projects that disturb less than one (1) acre, including a project location map, discharge locations, and runoff flow patterns.

Name of Designer: Saeid Pourjalali

Design Company: KAI Hawaii, Inc.

Designer Signature: 

Date: 6/9/2022

To be completed by the Contractor:

Please check the boxes below to indicate which items have been submitted to AIR-EE for review and acceptance:

- Contractor’s Site-Specific Construction Best Management Practices (BMP) Plan, including a detailed summary of Erosion Control BMPs, project location map, and construction schedule
- Copy of the DOH NPDES Permit for Dewatering or Hydrotesting, if applicable.

Licensee Information and Agreement

The Licensee shall be the owner or authorized representative of the tenant’s company for Tenant Improvement Projects, or construction company authorized representative for DOTA Projects.

Discharge Permit No.:

Issuance Date:

Licensee, the undersigned, hereby agree to the following:

1. That the Licensee shall indemnify and hold the State free and harmless from all suits and actions resulting from the licensee's discharge operations.
2. That the Licensee will comply with all requirements of the DOTA construction specifications for DOTA projects and the DOTA Construction Activities BMP Field Manual and other DOTA construction requirements as included on the AIR-EE Construction Site Runoff webpage <https://hidot.hawaii.gov/airports/doing-business/engineering/environmental/construction-site-runoff-control-program/>.
3. This permit/approval shall obligate the activity to implement BMPs as required in Hawaii Administrative Rules, Chapter 11-55, Appendices C, F, and/or G.
4. The Licensee will promptly correct any deficiencies identified by DOH or DOTA.
5. That the Licensee shall provide appropriate best management practices and treatment devices for the removal of soil particles and other pollutant(s) in the discharge. Such discharge shall meet the basic water quality criteria applicable to all waters, as identified in Hawaii Administrative Rules, Chapter 11-54, Section 4 and any other applicable sections, at the point of discharge into State waters.
6. That the Licensee shall make all restoration to any State Airport or Airport tenant property damaged during the Licensee's discharge operations in accordance with DOTA.
7. That the Licensee shall discontinue the discharge should DOH determine that the receiving waters are being polluted, or the discharge does not meet the effluent requirements of the NPDES permit, or the Licensee's operations are not in the best interest of the general public. In addition, the Licensee shall be liable for any and all penalties as a result of discharges from the Licensee's operation.
8. That a copy of any effluent monitoring required by the NPDES permit shall be furnished to DOTA.
9. That the Licensee shall inspect and clean the inlets to the State Airport drainage system prior to discharging. If DOTA determines that any materials or substances from the Licensee's discharge operations have settled into any storm sewer, the Licensee shall immediately remove and clear any material and substance to the satisfaction of DOTA.
10. That the Licensee shall notify the DOTA Engineering Branch, Environmental Section (AIR-EE) of dewatering operations or hydrotesting operations at least 72 hours before commencing discharge.

Signature of Licensee	Print Name and Title	Date
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Company Name	Company Address	Zipcode
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Phone Number	Fax Number
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Approved by:

Environmental Section Supervisor	Date
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SECTION 01562 – MANAGEMENT OF CONTAMINATED MEDIAS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

The General Provisions, Special Provisions, and General Requirements of the Specifications apply to the work specified in this section.

1.2 DESCRIPTION AND SCOPE OF WORK

- A. This Section describes procedures for the management of contaminated media (soil, groundwater, and soil vapor) that may be disturbed during excavation activities associated with this project.
- B. The Contractor shall supply all labor, materials, and equipment necessary for the removal, temporary storage, testing, handling, soil backfilling and management of contaminated media to carry out the work in accordance with these specifications, and all applicable Federal, State, and local regulations and latest amendments.
- C. The Contractor shall examine the State of Hawaii, Department of Transportation, Airports Division (DOTA) Programmatic Environmental Hazard Evaluation and Environmental Hazard Management Plan (DOTA EHE-EHMP) and, if included as part of these specifications, the Environmental Site Assessment (ESA) Phase II, to understand the conditions that may affect work and performance. Should the Contractor deviate from the DOTA EHE-EHMP or ESA, the Contractor shall be responsible to prepare a DOH required Construction EHMP (C-EHMP) utilizing the C-EHMP Addendum Template or most recent version provided by DOH, also known as a Site-Specific EHMP. Any deviation will require approval by the State of Hawaii, Department of Health (HDOH) and DOTA Environmental Section (DOTA AIR-EE) prior to implementation, using the forms provided in Appendix B of the DOTA EHE-EHMP. The forms should detail deviations from standard practices in the text and explain how those deviations will be protective of human health and the environment. The forms should be submitted to HDOH and DOTA AIR-EE for review and approval if deviations are requested or if notifying of a release.
- D. It should be noted that the DOTA EHE-EHMP is for Contaminants of Potential Concern (COPCs) which include, but not limited to, the following:
- Petroleum Substances, e.g., TPH, TPH-g, TPH-d, TPH-o, BTEX, and PAHs.
 - Chlorinated Solvents, e.g., VOCs
 - Polychlorinated Biphenyls (PCBs)
 - Pesticides, e.g., chlordane
 - Heavy Metals, e.g., Arsenic, Barium, Cadmium, Total Chromium, Lead, Mercury, Selenium, and Silver.

In addition, free product (e.g., gasoline, diesel fuel, fuel oils, lubricating oils, benzene, toluene, xylenes) may be encountered in areas of previous petroleum releases.

Should the ESA Phase II identify contaminants other than those listed above or there

is a risk to human health and/or the environment (such as indoor air quality in an occupied building), the Contractor shall be responsible to revise, update, and finalize the C-EHMP Addendum. The Contractor shall coordinate with, as well as have their C-EHMP approved by HDOH prior to the start of any ground disturbing activities.

1.3 REFERENCES

- A. Programmatic Environmental Hazard Evaluation and Environmental Hazard Management Plan dated July 2019, or its latest edition.
- B. DOTA's Storm Water Management Program Plan (SWMPP) for the Daniel K. Inouye International Airport (HNL) and Kahului Airport (OGG), including DOTA's Construction Activities BMP Field Manual dated August 2019, or its latest edition.
- C. All work under this contract shall be performed in strict accordance with all applicable Federal, State, and local regulations, standards, and codes governing contaminated media.
- D. The most recent editions of any relevant regulations, standards, documents, or codes shall be in effect, including, but not limited to, the following. Where conflicts among the requirements or with these specifications exists, the most stringent requirements shall apply.
 - 1. 29 CFR 1910, "Occupational Safety and Health Standards".
 - 2. 29 CFR 1926, "Safety and Health Regulations for Construction".
 - 3. 40 CFR 50, "National Primary and Secondary Ambient Air Quality Standards A".
 - 4. 40 CFR 122, "EPA Administered Permit Program: The National Pollutant Discharge Elimination System".
 - 5. 40 CFR 261, "Identification and Listing of Hazardous Waste".
 - 6. 40 CFR 263, "Standards Applicable to Transporters of Hazardous Waste".
 - 7. 40 CFR 302, "Designation, Reportable Quantities, and Notification".
 - 8. 49 CFR 172, Subpart E, "Labeling".
 - 9. 49 CFR 172, Subpart F, "Placarding".
 - 10. The Hawaii Environmental Response Law (Hawaii Revised Statutes [HRS] Chapter 128D) and the State Contingency Plan (Hawaii Administrative Rules [HAR] Title 11, Chapters 451-1–451-24).
 - 11. The Hazard Evaluation and Emergency Response Office Technical Guidance Manual (TGM) for Implementation of the State Contingency Plan (Interim Final, June 21, 2009).
 - 12. Hawaii Hazardous Waste Laws and Regulations (HRS Chapter 342J, HAR Title 11, Chapters 260.1–279.1).

13. Hawaii Solid Waste Laws and Regulations (HRS Chapters 342H and I, HAR Title 11, Chapter 58.1).
14. Hawaii Underground Storage Tank Laws and Regulations (HRS Chapter 342L; HAR Title 11, Chapter 280.1).
15. Hawaii Water Quality Standards (HAR Title 11, Chapter 54).
16. Hawaii Ambient Air Quality Standards (HAR Title 11, Chapter 59).
17. Hawaii Occupational Safety and Health Standards (HAR Title 12, Subtitle 8).
18. Hawaii Department of Health, Office of Hazard Evaluation and Emergency Response. Screening for Environmental Hazards at Sites with Contaminated Soil and Groundwater. Website URL: <http://eha-web.doh.hawaii.gov/eha-cma/Leaders/HEER/EALs>. Fall 2011 (and updates).
19. Hawaii Department of Health, Office of Hazard Evaluation and Emergency Response. Guidance for Soil Stockpile Characterization and Evaluation of Imported and Exported Fill Material. Website URL: <http://eha-web.doh.hawaii.gov/eha-cma/Leaders/HEER/technical-guidance-and-fact-sheets>. October 8, 2017 (and updates).
20. Hawaii Department of Health, Office of Hazard Evaluation and Emergency Response. Construction EHMP Addendum Template, available from AIR-EE.
21. U.S. Environmental Protection Agency (EPA): Comprehensive Environmental Restoration, Compensation, and Liability Act, Section 107(1), 1980, exemption for cleanup of legally applied pesticide products.

PART 2 – PRODUCTS

2.1 PERSONAL PROTECTIVE EQUIPMENT & SIGNAGE

- A. Provide workers with Personal Protective Equipment (PPE) according to the Contractor's PPE Assessment.
- B. Provide warning signs and labels to protect the workers and the public.

2.2 POLYETHYLENE SHEETING

Sheet plastic shall be new, and clear or black with at least 20-mil thickness. A 6-mil plastic sheet can be used to cover the stockpiles.

PART 3 – EXECUTION

3.1 GENERAL WORK PROCEDURES

- A. Prior to beginning work, the Contractor, the Contractor's Qualified Environmental Professional, and DOTA Engineer or its representative shall discuss the approved

Work Plan, as described in Paragraph 3.2 below, including work procedures and safety precautions.

- B. Communicate any existing, potential, or new hazards to workers before a job begins or as necessary. The workers shall be aware of the need for proper safety procedures and be familiar with the Contractor's Work Plan.
- C. Boundaries shall be established at each area where soil excavation is to be performed. The area shall be clearly identified to prevent unauthorized entry. Establish a control area by completely enclosing/roping-off the area where contaminated soil excavation, removal, stockpiling and disposal operations will be performed.
- D. Provide physical boundaries around the control area by roping-off the area to ensure that airborne concentrations of COPC will not exceed permissible exposure limits outside the control area.
- E. Where applicable, caution signs shall be placed at the entrances to each work area, located such that approaching personnel may read the signs and take necessary precautions before entering the work area. No one will be permitted in the work area unless the person is provided with appropriate training and protective equipment.
- F. It should be noted that, in some cases, the contamination may not be identifiable through visual and/or olfactory observation (e.g., soil contaminated with metals, PCBs, pesticides, etc.) and contaminant-specific field screening techniques may need to be implemented.
- G. Measure, monitor, and record worker exposure to toxic materials or harmful agents as necessary.
- H. Follow Decontamination regulations and procedures as necessary.
- I. Soil excavation activities, grading, and any disturbance of impacted soil may cause a potential exposure to Contractor's employees and the general public due to fugitive dust. The routes of exposure of dusts are by inhalation, ingestion, and dermal contact. The Contractor shall use engineering controls such as water spraying and wind barriers to control fugitive dust.
- J. The Contractor shall test residual soils not used as backfill for COPC. Soils with concentrations above regulatory and/or unrestricted use environmental action levels shall be disposed of in accordance with regulatory requirements.
- K. Report construction activities in areas with contaminated soil or groundwater by completing the appropriate forms in the DOTA EHE-EHMP, Appendix B.3 Construction Activities Release Response Plan. Submit the forms to the HDOH Office of Hazard Evaluation and Emergency Response (HEER Office) and provide a copy of the forms to the DOTA Engineer and DOTA AIR-EE.

3.2 PRECONSTRUCTION REQUIREMENTS

- A. Submit the following a minimum of 30 calendar days prior to beginning any ground

disturbing activities, for approval by DOTA AIR-EE.

1. Contractor's Work Plan for Known or Suspected Areas of Contaminated Media:

- a. The Contractor shall submit their work plan which shall include, but not limited to, a Site-Specific Health and Safety Plan (HASp) or if needed, a C-EHMP. The work plan shall describe the procedures, engineering controls, and methods the Contractor will use during the excavation, temporary storage, handling, treatment, backfilling, and disposal of soil and/or water at the project site. The plan shall also include soil stockpiling and segregation, testing, contaminated soil and water quality testing, contaminated soil and water disposal procedures, backfilling procedures, personal protection requirements, work area isolation, construction barriers, wetting methods, decontamination procedures, and emergency procedures. The work plan shall be in accordance to all applicable Federal, State, and local regulations and latest amendments.

For locations within the airport which DOTA has already established a Site-Specific EHMP from previous projects, the DOTA's Site-Specific EHMP, shall govern, where applicable.

- b. The plan shall include the names of the Contractor's and their subcontractor's qualified personnel who will be supervising or managing the management of contaminated materials at the site. Include the personnel's phone number and qualifications.
- c. The plan shall include the name(s) of the Contractor's Qualified Environmental Professional, including their qualifications.
- d. Proposed schedule of work.
- e. A sketch identifying the location of temporary soil stockpiling and water storage devices, including pipes and appurtenances, if applicable.
- f. A map showing the location of the work and nearest medical facilities and hospitals.
- g. A copy of this Work Plan must be on the construction site and available at all times.
- h. The Work Plan shall be amended to reflect changes to the site or work conditions, as needed.

B. QUALIFIED ENVIRONMENTAL PROFESSIONAL

The Contractor shall employ a Qualified Environmental Professional who possesses five (5) years, minimum, experience providing environmental oversight for the management of contaminated media during construction activities. The Environmental Professional shall assist in the preparation of the Contractor's Work Plan by reviewing the work procedures, including the determination of the need for

PPE, and to provide environmental oversight during construction. The Environmental Professional shall be identified in the Work Plan, including a list of their environmental qualifications, for approval by DOTA AIR-EE.

C. CONTRACTOR TRAINING

The Contractor and its subcontractors shall implement safe work places and practices by eliminating, mitigating, or protecting against existing or potential hazards to the workers who may be exposed to harmful, hazardous, and toxic materials and substances, including contaminated water and soil.

3.3 CONSTRUCTION REQUIREMENTS

A. SOIL EXCAVATION AND STOCKPILING

1. Notify the HDOH Clean Water Branch (CWB) at least 90 calendar days prior to disturbing contaminated soil from known areas of contamination. Notify the HDOH HEER Office at least seven (7) calendar days prior to construction activities that could disturb known contaminated soil.
2. The HDOH HEER Office shall be immediately notified if contaminated soils are encountered. The disturbance of contaminated soil shall be performed in accordance with the Contractor's approved Work Plan, the DOTA EHE-EHMP, or a C- EHMP Addendum where applicable. HDOH HEER Office will determine whether additional sampling is required. Provide a location map with Global Positioning System (GPS) coordinates and approximate depth (bgs) at which the contaminated soils were encountered to the DOTA Engineer and DOTA AIR-EE.
3. During excavation and disturbance of impacted soil, all workers, supervisory personnel, subcontractors, and consultants must take precautionary measures as necessary to prevent exposure of the workers and the general public to chemicals of concern (COCs) by contaminated soil dust and inhalation of associated vapors.
4. The Contractor's Qualified Environmental Professional shall direct the segregation of the soil into three (3) separate soil piles: Pile No. 1 will consist of clean soil; Pile No. 2 will consist of soil excavated from areas found to be contaminated or suspected to be contaminated; and Pile No. 3 will consist of soil that is grossly contaminated. Contaminated soil stockpiles, suspected contaminated soil stockpiles, and grossly contaminated soil stockpiles shall be placed onto 20-mil plastic sheeting. Underlay edges of the plastic sheeting with bermed soil. Ensure that the height of the bermed soil will be sufficient to prevent stormwater runoff from breaching it. Place the excavated soil inside the bermed area on top of the plastic sheeting. Cover the stockpiles with 6-mil plastic sheeting in the bermed area to mitigate dust concerns caused by wind and prevent contact with rainwater and stormwater runoff. Secure the plastic cover with sufficient ballast and place sediment control devices along the entire toe of each stockpile.
5. Each stockpile shall not exceed 100 cubic yards and shall be located away from drainage features, surface waters, and stormwater drainage paths. Or, the soils

can be placed in watertight containers, such as 20-yard steel roll-off bins, drums, etc. These containers shall be covered.

6. The Contractor shall have representative soil samples taken from each stockpile (Pile No. 1, 2, and 3) and tested in accordance with HDOH guidelines, standards, and regulations, such that the soil sample report, prepared by the Contractor's Qualified Environmental Professional, can specifically state one of the following:
 - a. "The soil is not a regulated hazardous waste and is acceptable for disposal at a HDOH permitted facility."; or
 - b. "The soil is acceptable for unrestricted reuse."

Sampling and testing of the stockpiles shall be, at a minimum, in accordance to the latest edition of the HDOH's *Guidance for Soil Stockpile Characterization and Evaluation of Imported and Exported Fill Material*. The Contractor's Qualified Environmental Professional shall direct the soil sampling collection and testing methods in accordance with the most current guidelines. Stockpiles shall be tested using multi-increment (MI) sampling approaches. Appropriate decision unit (DU) volumes for larger stockpiles of soil should be discussed with the HDOH HEER Office on a case-by-case basis.

The Contractor shall also confirm, with the HDOH permitted facility, the facility's sampling requirements, as well as their standards for disposal.

7. Any liquid-phase oil or free product associated with the contaminated soil shall be drained prior to stockpiling. If feasible, the free product should be separated from the soil, properly stored, profiled, and disposed of at an approved recycling/disposal facility.
8. For any soils hauled off Airport property, the Contractor shall be responsible for the legal disposal of any soil. The Contractor shall implement and maintain the following:
 - a. A form, signed by the Contractor and haul truck driver. The form shall contain the following information:
 - i. The date the material is being taken off Airport property.
 - ii. The name of the haul trucking company.
 - iii. The haul truck number and license plate number.
 - iv. The quantity of material being loaded into the haul truck.
 - v. The disposal facility or location of where the material is to be taken.
 - vi. The time the truck left the project site.
 - b. The form and waste manifest from the HDOH permitted facility shall be provided to the Engineer or its representative by the close of the next working day. The Contractor shall verify that the quantity of material loaded into the truck, as indicated on the form, exactly matches the quantity of material disposed at the HDOH permitted facility, as indicated on the waste manifest.

- c. The Contractor shall maintain a log that summarizes each form and waste manifest for ease of tracking and monitoring.
 - d. **All forms, waste manifest, and summary log shall be a condition of payment being made to the Contractor and shall be submitted with each progress payment. Failure to submit the above and/or should any quantity of material loaded into the truck, as indicated on the form, not exactly match the quantity of material disposed at the HDOH permitted facility, as indicated on the waste manifest, shall be reason for the State to withhold payment to the Contractor.**
9. Excavated soils can be reused onsite (within the construction site boundaries) with the prior approval of the DOTA AIR-EE, HDOH HEER Office, and subject to the following conditions:
- a. Representative soil samples have been taken and tested in accordance with HDOH standards and regulations.
 - b. The contaminated soil can only be reused within proximity of its original excavation.
 - c. The contaminated soil is placed within areas more than 150 meters from surface water and drainage features.
 - d. The contaminated soil cannot be placed beneath or within the footprint of a planned building structure.
 - e. The contaminated soil can only be placed at an elevation above the tidally influenced high water table and at least 1-foot below the finish surface grade. The more highly impacted soil should be placed at the bottom of the excavation and the cleanest soil at the top of the excavation. At least 1-foot of clean soil must be placed as the final backfill layer at the top. The excavation shall then be capped with an impervious layer, such as concrete and asphalt.
 - f. The contaminated soil cannot contain any free oil, oil sheens, oil stains, or total petroleum hydrocarbon (TPH) concentrations exceeding 5,000 parts per million (ppm).
 - g. The contaminated soil is not considered a hazardous waste pursuant to Federal and State laws.
 - h. Contaminated soil shall not be reused in areas that are uncontaminated.
10. Excavated soils can be reused offsite (off Airports property) with the prior approval of the DOTA AIR-EE, HDOH HEER Office, and subject to the following conditions:
- a. Representative soil samples have been taken and tested in accordance with HDOH standards and regulations.

- b. The work shall be performed in accordance to the latest edition of the HDOH's *Guidance for Soil Stockpile Characterization and Evaluation of Imported and Exported Fill Material*.
 - c. A signed agreement with the receiving facility acknowledging the test results of the soil samples and acceptance of the soil is required to be submitted to the DOTA Engineer and DOTA AIR-EE ten (10) calendar days prior to hauling of the soil to the receiving facility.
 - d. The contaminated soil shall not contain any free oil, oil sheens, oil stains, or total petroleum hydrocarbon (TPH) concentrations exceeding 5,000 parts per million (ppm).
 - e. The contaminated soil is not considered a hazardous waste pursuant to Federal and State laws.
11. All soil that is reused onsite or offsite shall be included in the Closeout Report. The report shall include, at a minimum, a copy of the signed agreement from the receiving facility accepting the soil, a copy of the soil test results, the quantity of soil received by the facility, a location map of the reused soil including GPS coordinates of its limits, the depth and thickness of the soil's placement, a brief description of the purpose of the soil's re-use, and photos of the site conditions after placement has been completed.

B. GROUNDWATER MANAGEMENT

Soil and groundwater may be impacted by petroleum hydrocarbons, dissolved metals, and/or pesticides, and may be encountered during soil excavation.

1. The disturbance of contaminated groundwater shall be performed in accordance with the approved Work Plan, DOTA EHE-EHMP, or Site-Specific EHMP, where applicable. HDOH HEER Office will determine whether additional sampling is required.
2. If contaminated groundwater is uncovered at a previously unknown source or site on the project, the Contractor shall immediately notify the DOTA Engineer, DOTA AIR-EE, and HDOH HEER Office of its discovery. Provide a location map with GPS coordinates and approximate depth of the groundwater (bgs) at which the discovery was encountered.
3. During excavation and disturbance of impacted groundwater, all workers, supervisory personnel, subcontractors and consultants must take precautionary measures as necessary to prevent exposure of the workers and the general public to COCs and inhalation of associated vapors. Free product, sheen, and impacted groundwater must be managed properly.
4. Groundwater that exhibits evidence of possible contamination, i.e., odor, visual sheen, free product, coloration, and PID measurement, shall be properly stored when removed from the ground. Storage devices shall be watertight and leak-free to prevent discharge of the water into the surrounding ground, drainage system, and surface waters.

When disconnecting pipes and hoses from storage devices and equipment, residual waters contained in the pipes and hoses shall also be prevented from discharging into the surrounding ground, drainage system, and surface waters.

5. Representative water samples shall be taken and tested in accordance with Federal and State guidelines, standards, and regulations.
6. If free product is present in the extracted groundwater, it must be separated from the groundwater, profiled, and disposed of at an HDOH approved recycling/disposal facility. Free product shall not be moved from one excavation to another. Engineering measures shall be taken to prevent the transfer of the free product during dewatering. Under no circumstances shall water contaminated with free product be discharged from a dewatering pit.
7. At least once daily, remove oil observed floating on the groundwater during excavation activities using a vacuum truck, absorbent pad, or other methods approved by HDOH HEER Office. Excavations shall not be backfilled until the floating oil is removed to the maximum extent practicable, which is when further use of vacuum trucks, absorbent pads, or other approved methods do not result in further floating oil removal. Backfilling of any excavation shall not occur without concurrence from DOTA AIR-EE and HDOH HEER Office.
8. Avoid any releases of contaminated groundwater to surface water bodies or areas beyond the work area.
9. Groundwater shall only be re-infiltrated in the ground with the prior approval of DOTA AIR-EE and HDOH HEER Office, and subject to the following conditions:
 - a. Within 200-feet of its original location or source and returned to the same aquifer which is not a current or potential drinking water source. Re-infiltration shall not contaminate uncontaminated areas.
 - b. More than 150 meters from surface waters, drainage features, and drainage structures.
 - c. Groundwater does not contain any gross contaminants.
 - d. If petroleum free product is present in the groundwater, the free product shall be removed prior to transfer of the groundwater to the re-infiltration site. Free product shall be removed at least once daily until no free product is observed after 24 hours. The free product shall be disposed at an HDOH-approved facility.
 - e. Groundwater is not considered a hazardous waste pursuant to Federal and State law.
 - f. Re-infiltration shall be conducted at a slow enough rate so that it does not flow past the designated infiltration area, enter storm drains, or impact surface water in the area.
 - g. If discharging to a re-infiltration trench, the trench must not be an

underground injection control (UIC) well by HDOH's Safe Drinking Water Branch (SDWB) definitions. If some part of the trench system is deemed to be a UIC well, then the whole system shall be considered an injection well.

- h. Advance clearance from HDOH SDWB is required if a re-infiltration trench is deeper than 10 feet.
 - i. If a UIC well is used for re-infiltration, the Contractor is responsible to obtain the necessary permits, including, but not limited to, HDOH's UIC Permit. The Contractor shall meet and comply with all permit requirements, including, but not limited to, well construction, placement, use, and closure.
10. Under circumstances where contaminated groundwater cannot be re-infiltrated, proper disposal must be conducted with the prior approval of the DOTA AIR-EE, HDOH SDWB, HDOH Solid and Hazardous Waste Branch (SHWB), and HDOH HEER Office. This is also subject to the following conditions:
- a. Discharge to the local or municipal sanitary sewer system after acquiring appropriate permit(s) from City and County (if applicable and if allowable by the receiving governmental agency) prior to discharge. If discharge water was generated within contaminated areas, additional coordination with HDOH HEER Office is required, and Aquatic Habitat Criteria (Chronic Toxicity) shall apply to discharge within these areas, in addition to any criteria applicable to the National Pollutant Discharge Elimination System (NPDES) permit or pretreatment facility. Water discharged to a sanitary sewer may be required to meet Water Quality Standards.
 - b. Notification to the appropriate agencies and other pertinent information related to the discharge must be provided upon request.
 - c. The Contractor is responsible for the legal disposal or discharge of any groundwater that is not re-infiltrated, and shall provide the DOTA AIR-EE with copies of waste manifests.
 - d. For any groundwater hauled off Airport property, the Contractor shall have representative samples taken and tested in accordance with HDOH guidelines, standards, and regulations. A copy of the groundwater test result shall be submitted to DOTA AIR-EE. The groundwater shall not be disposed offsite without the approval of DOTA AIR-EE and the HDOH permitted facility that is receiving the groundwater. Furnish documentation from the receiving facility indicating that they acknowledge the groundwater test results, including their approval to dispose the groundwater at their facility.

C. RELEASE REPORTING

Encountering previously unknown, suspected, or confirmed contaminated soil or groundwater during subsurface construction activities is considered a release and shall be reported to HDOH HEER Office (phone: 808-586-4249, or after hours at 808-236-8200). Copies of the HDOH Release Report, HDOH issued Release Number, and email correspondence (if applicable), shall be furnished to the DOTA Engineer

and DOTA AIR-EE.

1. Upon the discovery of contaminated soil and/or groundwater, the Contractor shall immediately notify the DOTA Engineer, DOTA AIR-EE, and HDOH HEER Office.
2. A reportable release of hazardous substances or contaminated soil or groundwater may be indicated by, but not limited to, any of the following:
 - A petroleum sheen on the groundwater in an excavation.
 - Any free product that appears on groundwater.
 - Visual or olfactory evidence of contamination (e.g., unusual discoloration, buried containers, fumes, unknown liquids).
3. Comply with DOTA and HDOH HEER Office requirements. A written report shall be provided to the HDOH HEER Office. The *Hawaii Hazardous Substance Written Follow-up Notification Form* is provided in the DOTA EHE-EHMP, Appendix B.1. Photos shall be included to document the incident. The Contractor shall keep a copy of the completed Form B.1 and provide copies of the written report to the DOTA Engineer and DOTA AIR-EE.
4. If free product is encountered, report the release in accordance with HAR § 11-451.

Releases that occur during construction activities or releases due to unforeseen events (spill) shall also be reported.

1. Report all spills to immediately to AIR-EE, State Engineer, and appropriate airport personnel and regulatory agencies (if applicable) following the DOTA Spill Reporting Fact Sheets for each airport. Spill Reporting Fact Sheets can be found on DOTA's Environmental Webpage for Construction site Runoff at <https://hidot.hawaii.gov/airports/doing-business/engineering/environmental/construction-site-runoff-control-program/>.
2. In the event of a release of a hazardous substance that causes an imminent threat to human health or the environment, the first call shall be to 911.
3. Small spills of petroleum or hazardous substances (less than 25 gallons) which are capable of being cleaned up within 72 hours and do not threaten ground or surface waters shall be cleaned up immediately.
4. Report spills of a certain size (e.g., volume of greater than 25 gallons or not contained within 72 hours), per HAR § 11-451, to HDOH HEER Office and the National Response Center immediately. Comply with the HDOH HEER Office requirements. A written report shall be provided to the HDOH HEER Office within 30 calendar days of a Reportable Quantity spill cleanup. The *Hawaii Hazardous Substance Written Follow-up Notification Form* is provided in the DOTA EHE-EHMP, Appendix B.1. Photos shall be included to document the incident. The Contractor shall keep a copy of the completed Form B.1, and provide copies of the written report, the HDOH issued Release Number, and email correspondence (if applicable) to the DOTA Engineer and DOTA AIR-EE.
5. Any spill that enters a body of water, onto an adjoining shoreline, or discharges

into the storm drain system, HDOH CWB must also be immediately notified and the National Response Center notified within 24 hours. Report significant spills to the U.S. Coast Guard.

D. FINAL CLEANUP

1. When work which disturbs contaminated soil has been completed, the State will visually inspect the work area for evidence of contaminated materials and direct the Contractor to clean and remove remaining contaminated materials. The Contractor shall not dismantle the work area boundaries prior to authorization by the State.
2. Any equipment which contacts contaminated materials shall be cleaned with a water spray immediately upon completion of work. The wash location shall be located immediately adjacent to the contaminated area. All wash water and solid waste shall be disposed of in accordance with the Work Plan. The wash water shall not be allowed to discharge into the drainage system and surface waters.

E. AIR MONITORING

1. Air monitoring shall be conducted when petroleum-contaminated soil (PCS), contaminated groundwater, free product, or chlorinated solvents (e.g., PCE, TCE, etc.) is present in an excavated area. The monitoring shall include both work area and perimeter measurements of volatile organic compound (VOC) vapors. Appropriate response actions shall be taken in conformance to Federal and State regulatory requirements and guidelines. The response actions shall include ensuring that on-site workers have the appropriate level of PPE and the general public is not affected adversely.
2. Air monitoring shall be conducted with a conventional photoionization detector (PID) to measure total VOC vapor concentrations. If high levels of benzene are anticipated, an Ultra-Rae PID, which is benzene-specific, shall also be used.
3. If toxic gases are a potential concern, air monitoring of the lower explosive limit (LEL) shall be conducted using a multi-gas meter to determine if a hazardous atmosphere exists.
4. Air monitoring shall be conducted for at least three (3) full 8-hour shifts to establish a negative exposure assessment for worker's exposure to airborne contaminants. After the establishment of the negative worker's exposure, periodic monitoring shall be conducted once every seven (7) calendar days to document worker exposure for the duration of the contaminated soil work.
5. Work area and perimeter air monitoring shall be conducted throughout the entire duration of the contaminated soil work to ensure unprotected personnel are not exposed above permissible exposure limits at all times. If the outside boundary levels are at or exceed permissible exposure limits, work shall be stopped, and the Contractor's Qualified Environmental Professional and DOTA Engineer shall be immediately contacted to address the situation causing the increased levels.
6. Submit air sampling results to the DOTA Engineer within five (5) calendar days after the samples are collected, signed by the testing laboratory employee

performing the air monitoring.

F. UNDERGROUND STORAGE TANKS (UST) AND UTILITY PIPES

1. For any UST or pipeline discovered or planned removal, the nature of the UST or pipeline, and whether they are inactive, shall be determined prior to removal. Immediately notify the DOTA Engineer and DOTA AIR-EE of the discovery.

If unanticipated petroleum pipelines are discovered, contact HDOH HEER Office within 24 hours after encountering them.

2. The Contractor shall record field observations of the UST and pipelines. These observations shall include, but are not limited to, the following:
 - a. Location relative to fixed landmarks, including GPS coordinates. Provide a location map that shows the UST and pipelines that were encountered. The map must include a North arrow and a scale.
 - b. Depth, diameter, length, and type of pipe, if applicable. Describe the condition of the pipe.
 - c. Type of fuel or product, including analytical laboratory reports for the product that is recovered.
 - d. Beginning and ending fluid levels, if applicable.
 - e. Volume of each type of product removed.
 - f. Flow rates, if applicable.
 - g. Direction of flow.
 - h. Detailed photographs.
 - i. Detailed description of actions taken following the discovery, such as, cutting, product removal, and disposal.

Provide records of the field observations to the DOTA Engineer, DOTA AIR-EE, and HDOH HEER Office.

3. Prior to removal of a UST, the Contractor shall prepare and submit to the DOTA Engineer, for review by DOTA AIR-EE, a Site-Specific plan. All work associated with USTs shall be in compliance with HAR § 11-280.1 requirements, and HDOH HEER Office and HDOH SHWB requirements.

The contractor shall also complete the HDOH *Notice of Intent to Close Underground Storage Tanks* form and submit it to the DOTA Engineer for submission to HDOH SHWB (UST Section) by DOTA AIR-EE.

Prior to the removal of the UST, the Contractor shall receive approval from DOTA AIR-EE and HDOH HEER Office.

4. The UST or pipeline segment must be drained of its content or determined that it is empty of liquids or flammable vapors prior to the removal. Any petroleum fluids recovered must be representatively sampled and tested to determine how they can be recycled or disposed in full accordance with HAR § 11-58.1 and § 11-260–279, and any other Federal and State regulations.
5. Only personnel knowledgeable and trained in pipeline and UST removal shall cut, drain, and remove USTs and pipelines. Prior to cutting, plastic sheeting and absorbent material shall be placed below and adjacent to the cutting location. Any residual fluid in the UST or pipeline must be properly contained on the sheeting and prevented from discharging into the surrounding soil or entering any drainage system and surface waters.
6. The cut-off ends of the pipeline segments, that remain in-place, must be filled with concrete and appropriately sealed to prevent any potential leakage and contact with groundwater.
7. If the waste pipe or UST are to be stored onsite prior to disposal, the area shall be lined with polyethylene plastic sheeting, 10 mil or thicker, and bermed to contain any free product. Some viscous products may appear to be immobile, however, after exposed to atmosphere heating, can liquefy. The waste pipe segment shall be stored on appropriate dunnage with the ends of the pipe sealed or covered to protect the interior of the pipe from contact with rainwater and wind.
8. All removed pipelines and USTs shall be properly disposed or recycled.
9. For USTs, a UST Removal Report including all sampling activities required under HAR § 11-280.1 shall be prepared and submitted to the DOTA Engineer, DOTA AIR-EE, and HDOH SHWB (UST Section).

3.4 POST-CONSTRUCTION REQUIREMENTS

A. Submit the following within 30 calendar days after work is completed.

1. Close-out Report

- a. A signed certificate stating that the removal and disposal of all contaminated materials were completed in accordance with the Contractor's approved Work Plan or C-EHMP Addendum, and all applicable Federal, State, and local rules and regulations.
- b. All approved DOTA EHE-EHMP deviation request forms. (Reference Appendix B of the DOTA EHE-EHMP.)
- c. All Site-Specific EHMP, if applicable.
- d. All testing, laboratory results, and reports for any soil, groundwater, soil vapor, UST, pipeline, and other samplings taken.
- e. All disposal forms, waste manifests, and summary logs.

- f. Any results from project air monitoring.
- g. Record of Field Observations, including location map with GPS coordinates, limits, and depths of any contaminated media (soil, groundwater, etc.) that were encountered at previously unknown source or sites on the project. Include a copy of the completed *Hawaii Hazardous Substance Written Follow-up Notification* form that was submitted to HDOH and all other associated documents.
- h. If any contaminated soil was removed offsite (off of Airport Property), at a minimum, include the following:
 - A copy of the signed agreement from the receiving facility acknowledging the test result of the soil samples and indicating acceptance of the soil for reuse.
 - Copies of the test results of the soil sampling.
- i. If any contaminated soil was re-used onsite (within the construction site boundaries), at a minimum, include the following:
 - Copies of the test results of the soil sampling.
 - The quantity of soil that is re-used on-site.
 - Location map of the re-used soil. Include GPS coordinates of its limits, if the area is accessible.
 - A brief description of the purpose of the re-used soil (e.g., general fill, utility trench backfill material, etc.). Include the depth and thickness of its placement.
 - Photos of the site after placement of the re-use soil has been completed.
- j. Record of Field Observation of any unanticipated UST or pipeline discovered during construction activities, including a copy of the completed HDOH *Notice of Intent to Close Underground Storage Tanks* form and all other associated documents.

The Close-out Report shall be by each individual contaminated media and shall include all appropriate documentations. The Close-out Reports for each contaminated media can be submitted separately or combined in a 3-ring binder with divider tabs.

PART 4 – MEASUREMENT AND PAYMENT

4.1 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will be paid for under the various contract items as shown below.

For ALLOWANCE items in the Proposal Schedule, the allowance is an estimate and the amount shall not exceed the maximum amount shown in the Proposal Schedule. Payment shall be the actual cost as invoiced by the Contractor and approved by the DOTA Engineer. The Contractor shall be allowed to include overhead, profit, insurance and/or other mark-ups, as stipulated in Section 9.5 of the 2016 General Provisions for Construction Projects, Air and Water Transportation Facilities Divisions.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
01562.1	Management of Contaminated Medias	Allowance

Should the DOTA receive reports of any illegal dumping of material, and if illegal dumping is confirmed to have occurred, the DOTA will assess a Liquidated Damage amount of \$5,000 per truck per day, until the illegal dumped material has been cleaned up or the incident has been remedied to the HDOH’s concurrence. The Contractor shall not be entitled to recover any Liquidated Damages assessed, even after the non-compliance has been corrected.

The Contractor shall also be responsible for all citations, fines, and penalties levied by HDOH or EPA against the State due to the Contractor’s failure to properly manage contaminated medias, including non-compliance with the DOTA EHE-EHMP, DOTA Site-Specific EHMP, or C-EHMP Addendum. The Contractor shall reimburse the State within 30 calendar days for the full amount of outstanding cost that the State has incurred, or the State shall deduct all incurred costs from the Contractor’s monthly progress payments.

If the Contractor fails to satisfactorily address the non-compliance item, DOTA reserves the right to employ outside assistance or use the State’s own labor forces to provide necessary corrective measures. The Contractor shall be fully responsible for all cost and time. The State shall charge the Contractor such incurred costs plus any associated project engineering costs and shall make appropriate deductions from the Contractor’s monthly progress payment.

END OF SECTION

SECTION 01565 – SECURITY MEASURES

PART I – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 DESCRIPTION

The Contractor shall incorporate the State’s airport security measures as part of his work. The Contractor shall adhere to established and enhanced security procedures, as mandated by the State and FAA, throughout the course of this Contract.

1.03 SUBMITTALS

Submit a security plan that addresses the conditions set forth in this Contract. Said plan shall contain, at a minimum, a plan of the project scope with locations of construction barricades with secured entry/exits, identification of locations requiring guards, Contractor measures to ensure security of worksite and personnel and procedures to ensure the containment of the worksite from unauthorized personnel. This package shall be submitted within fourteen (14) calendar days after award of the Contract.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 SECURITY

- A. Obtain airport security identification badges for all employees working on this project and Air Operations Area (AOA) decals for all vehicles entering the AOA area in accordance to the requirements stated in the Special Provisions, Paragraph 8.21. All requests for badges and AOA decals shall be submitted in writing to the Airport District Manager through the Engineer within fourteen (14) calendar days after award of the Contract. Only authorized personnel working on this project shall be allowed to obtain badges. The Contractor shall be responsible to pay for all costs associated with complying with airport security requirements, including obtaining airport security identification badges.

Currently, the fee to obtain a new airport identification badge is \$100.00, but due to the changing fee structure of these services, the Contractor shall

inquire with the Daniel K. Inouye International Airport AOA badge and ramp license office at 836-6427. For other Airport Districts cost inquiries should be made the District Manager's office.

If access is required to the Honolulu International Arrivals Building, inquiries shall be made to the Bureau of Customs and Border Patrol at 861-8642 for additional bonding requirements.

- B. The Contractor shall comply with all existing and proposed airport security initiative requirements. Contractor may be subject to civil penalties up to \$35,000.00 for each security violation.
- C. The Contractor shall protect work areas from theft, vandalism and unauthorized entry. Ensure that proper methods are undertaken to secure tools, materials and equipment from the public.
- D. All vehicles entering the AOA through any of the Airport Access Check Points may be subject to search. The Contractor shall allow extra time for these inspections and be able to provide personnel, as required, to assist Airport security personnel during the inspections.
- E. If required by the State, the Contractor will be responsible for the posting of guards at access points where the construction traffic may compromise the integrity of the airport security. Payment for posting of security guards required by the State shall be paid for as an allowance item in the Proposal Schedule. The Contractor shall submit the name and qualifications of the security company to the Engineer for review prior to hiring the security company. The security company shall have extensive experience in working on airports and knowledgeable in airport security procedures within the State of Hawaii.

PART 4 - MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

No measurement shall be made for the items in this Section.

4.02 BASIS OF PAYMENT

Work under this Section, except for posting security guards, shall be considered incidental to and included in the bid prices for the various items of work in this project.

Posting of security guards required by the State shall be paid for under an allowance item in the Proposal Schedule. The allowance is an estimate and the amount shall not exceed the maximum amount shown in the proposal schedule.

Additional charges by the Contractor for overhead, coordination, profit, insurances and other incidental expenses shall not be allowed. These shall be included in the Contractor's lump sum bid price.

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>
01565.1	Security Measures	Allowance

END OF SECTION

SECTION 01580 - TEMPORARY FACILITIES AND UTILITIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including the General Provisions for Construction Projects (2016), Special Provisions, and General Requirements of the Specifications, apply to the work specified in this section.

1.02 DESCRIPTION

This item shall consist of arranging and maintaining all utilities including, but not limited to, water, electricity, sewage disposal and telephone communications in the work area which the Contractor and Engineer deems necessary to meet the requirements of the work under the contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 TEMPORARY UTILITIES DURING CONSTRUCTION

- A. Water and Sanitation: The Contractor shall provide temporary drinking water and sanitary facilities for the field personnel. The facilities shall be in accordance with the applicable health regulations and shall be maintained clean and operable until the conclusion of the construction work.
- B. Telephone: The Contractor shall have a telephone available for the State's use for communications with field personnel. Cellular telephones are acceptable. The Contractor shall install the telephone immediately upon starting work and maintain service until the project is completed. All costs associated with obtaining and maintaining telephone service shall be borne by the Contractor.
- C. Electricity: Contractor shall obtain or provide temporary electric power and shall pay for all connections and energy charges incurred during construction.
- D. Metering: Water and electrical services shall be metered and payment for meters and services shall be borne by the Contractor. Temporary connections for water shall include installation of a meter and backflow preventer at the point of connection according to State standards at the Contractor's cost. The Contractor shall submit requests for temporary connections in writing to the Engineer fourteen (14) calendar days prior to

the connection and shall include a description of work and a sketch of the proposed installation.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 01581 - PROJECT IDENTIFICATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including the General Provisions for Construction Projects (2016), Special Provisions, and General Requirements of the Specifications, apply to the work specified in this section

1.02 DESCRIPTION OF WORK

The work covered by this Section consists of fabrication and erection of one finished project sign in accordance with the project sign details and specifications contained herein.

1.03 SUBMITTALS

Submit six (6) copies of the project sign layout to the Engineer for review prior to fabrication of sign. Sign layout shall be submitted within thirty (30) calendar days after the Notice to Proceed date.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Plywood - 3/4" thick exterior grade high density overlay with resin-bonded surfaces on both sides.
- B. Lumber for frames, braces and supports - S4S construction grade, Douglas Fir, as required.
- C. Paints and Inks - Screen print inks are matte finish. Paints are satin finish, exterior grade, one (1) prime coat and two (2) finish coats minimum all sides and edges.

2.02 SPECIFICATIONS

- A. Lettering: Shall be set in Helvetica Compact Bold. If this specific type is not available, Futura Demi Bold may be substituted. Other letters are set as shown in Helvetica Medium with the exception of the initial capitals of the Governor which is set in Baskerville. Copy should be set and spaced by a professional typesetter and enlarged photographically for photo stencil screen process.
- B. Artwork: Constant elements of the sign layout-frame, stripe, and official

State information may be duplicated following working drawing measurements as specified in the drawings. The "STATE OF HAWAII" masthead letters shall be Baskerville Bold as indicated on the drawing layout.

- C. Title: The specific major work of the project under construction is emphasized by using type in all capitals. Other related information of lesser importance use type in initial caps and lower case letters.
- D. Materials: Panel is 3/4" exterior grade high density overlaid plywood, with resin bonded surfaces on both sides.
- E. Paints and Inks: Screen print inks are matte finish. Paints are satin finish, exterior grade. References to Ameritone color key paint are for color match only.
- F. Color:
 - 1. IBL10A Bohemian Blue
 - 2. 2H16P Softly (White)
 - 3. 2VR2A Hot Tango (Red)
 - 4. 1M52E Tokay (Gray)

PART 3 - EXECUTION

3.01 TITLES

- A. Constant elements of the sign layout (frame, outline, stripe, and official state information) may be duplicated following working drawing measurements, or be reproduced and enlarged photographically using a layout template if provided. The "STATE OF HAWAII" master head should be reproduced and enlarged as specified, using the artwork provided.
- B. The specific major work of the project under construction is emphasized by using 3-3/4" type, all capitals. Secondary information such as locations or buildings uses 2-1/4" type, all capitals. Other related information of lesser importance uses 1-1/2" (capital height) type in lower case letters. All lines of type should not exceed the width of the 6'-2" stripe.

3.03 INSTALLATION

- A. Locations of all signs shall be as directed by the Engineer. Mounting shall be secure and in a presentable manner.

- B. The project sign shall be erected within five (5) calendar days after the Notice to Proceed date. The sign shall be installed only after the submittal is approved.

3.04 MAINTENANCE

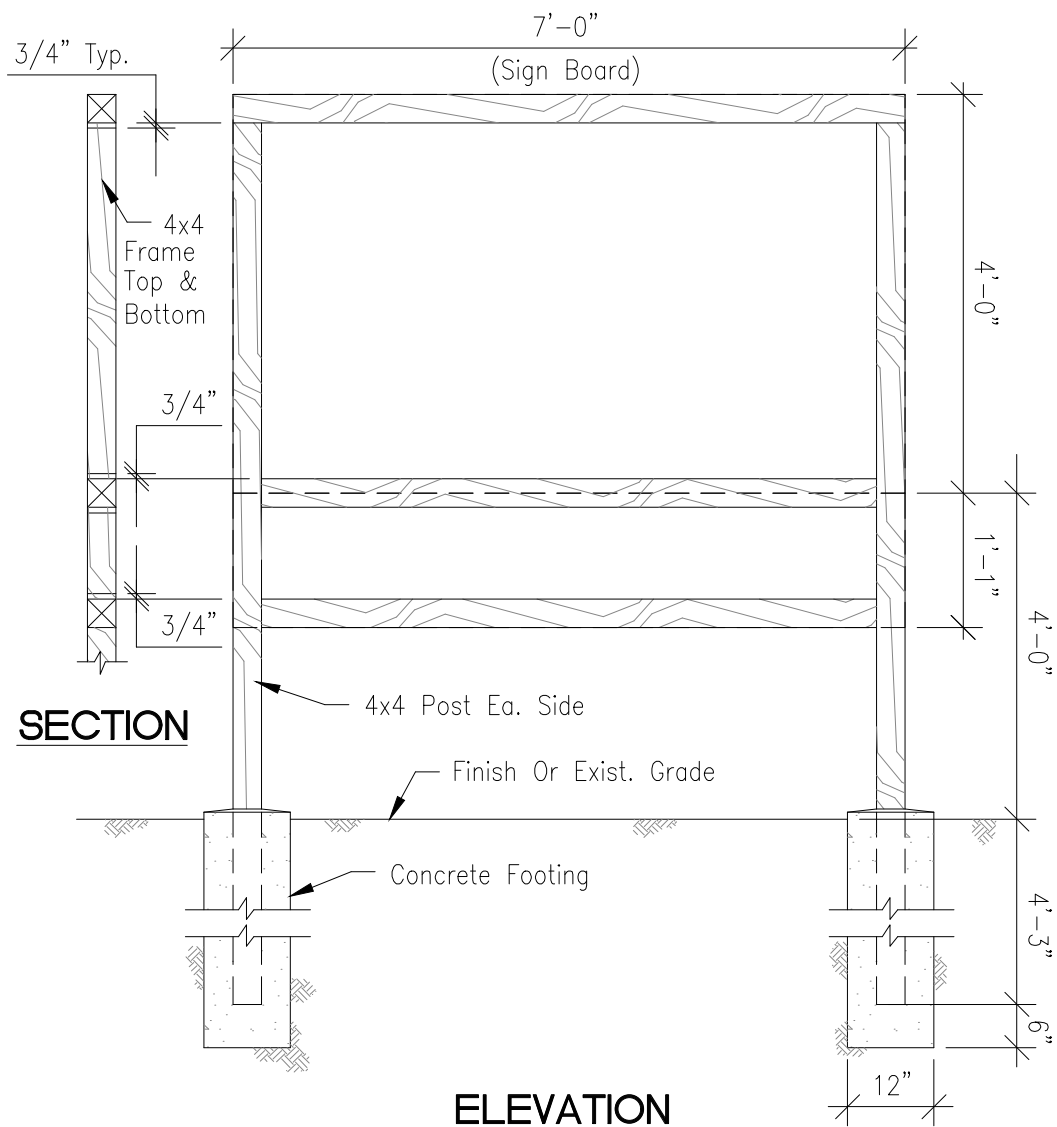
- A. Contractor shall maintain all signs and keep them legible and in good repair at their own expense for the entire construction period.
- B. After the final approval of the construction work by the State, the project sign shall be removed from the site and shall become the property of the Contractor.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

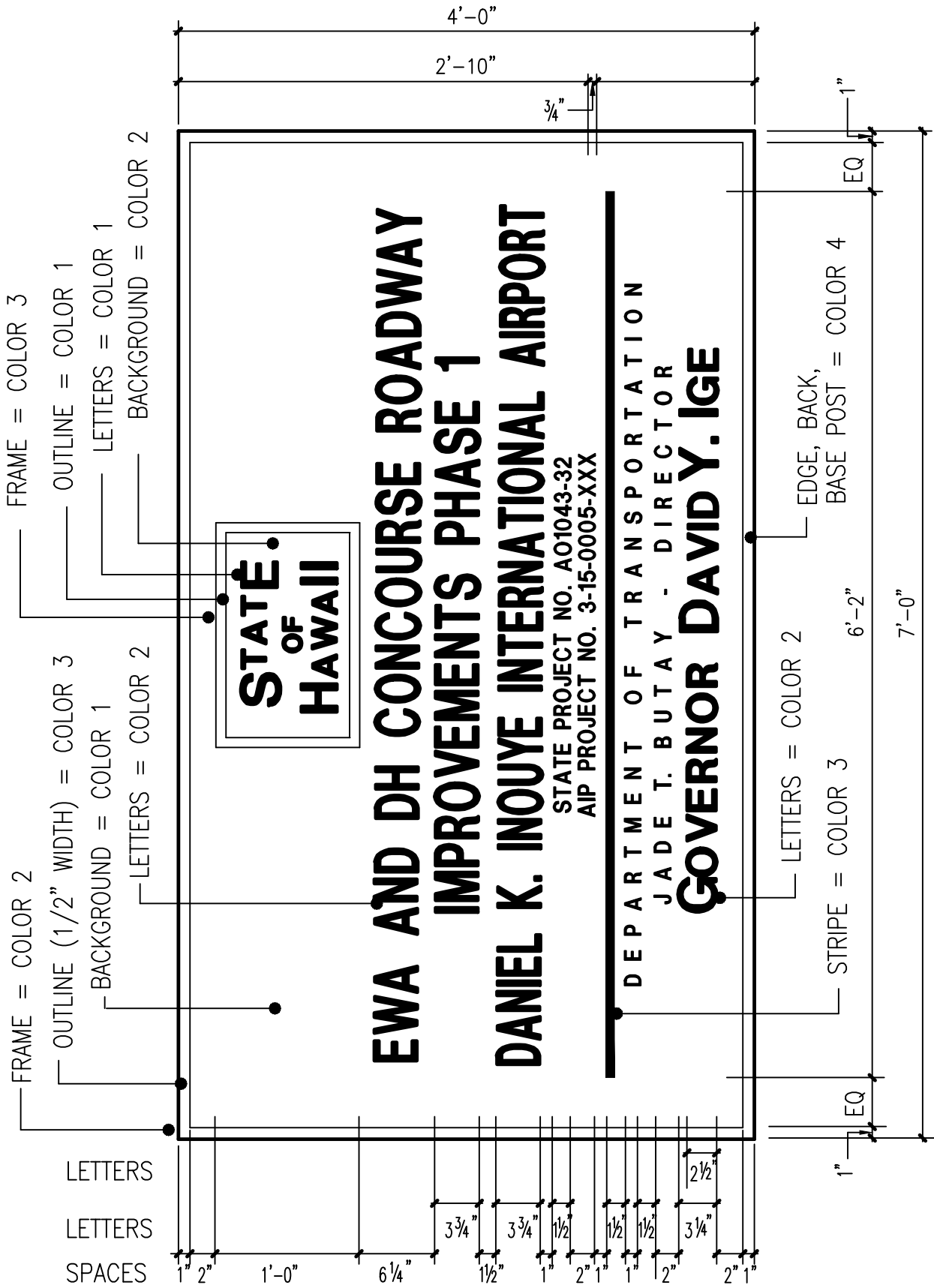
Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION



PROJECT SIGN DETAIL

Not To Scale



SECTION 01700 – MOBILIZATION AND DEMOBILIZATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 GENERAL REQUIREMENTS

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

1.03 MOBILIZATION

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

1.04 DEMOBILIZATION

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

- A. Mobilization shall not be measured for payment. The maximum bid allowed for "Mobilization" is an amount not to exceed six (6) percent of the sum of all items (excluding this item and all Allowances). If the proposal submitted by the bidder indicates an amount in excess of the

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

- B. Demobilization will not be measured for payment. A separate line item called "Demobilization" will be added to the Contractor's Schedule of Values after the contract has been awarded. The total amount for this item shall be 2.5% of the Contractor's total bid amount and will be deducted from other line items in the schedule of values as negotiated between the Contractor and the State. **THE CONTRACTOR SHALL NOT MODIFY THE PROPOSAL SCHEDULE BY ADDING A "DEMobilIZATION" BID ITEM TO THE PROPOSAL SCHEDULE.**

4.02 BASIS OF PAYMENT

- A. Mobilization will be paid for at the contract lump sum price under Mobilization. Partial payment will be made as follows:
1. When 2 1/2 percent of the original contract amount is earned, 50 percent of the bid amount will be paid.
 2. When 5 percent of the original contract amount is earned, 75 percent of the bid amount will be paid.
 3. When 10 percent of the original contract amount is earned, 100 percent of the bid amount will be paid.
- Nothing herein shall be construed to limit or preclude partial payments otherwise provided by the contract.
- B. Partial payment will not be paid for Demobilization. Full payment will be made on the Contractor's final payment request. This will occur after the Contractor has fulfilled all of the requirements of the Contract bid documents to the satisfaction of the State and issuance of the Final Acceptance letter to the Contractor by the State.

END OF SECTION

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

PART 1 – GENERAL

1.01 SUMMARY

- A. This Section includes hazardous material survey for asbestos and lead-containing materials for the Hawaii Department of Transportation Airports Division, Daniel K. Inouye International Airport, 1st, 2nd, and 3rd Level Roadway Rehabilitation project, and is provided for the Contractor's information.

- B. Related Sections include the following:
 - 1. Section 13281 – REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING MATERIALS for requirements of work which disturbs asbestos containing materials (ACM).
 - 2. Section 13282 – LEAD PAINT CONTROL MEASURES for requirements of work which disturbs lead-containing paints which, for the purpose of this Section, is defined as paint with any measurable levels of lead.
 - 3. Section 13288 – ASBESTOS TESTING AND MONITORING for requirements for asbestos monitoring and compliance.
 - 4. Section 13289 – LEAD TESTING AND MONITORING for requirements for lead monitoring and compliance.

1.02 ASBESTOS

- A. The structures to be renovated under this contract were surveyed for the presence of ACM. A copy of the survey report is included in this Section.
 - 1. Review the attached report for the location and volume of ACM. Contractor may conduct further surveys at his/her own expense if previously unforeseen ACM is suspected in the project areas. If unforeseen ACM is found, notify DOT-A immediately.
 - 2. ACM outside of the project area shall not be disturbed in any way.

- B. As applicable, notify employees, subcontractors, and all other persons engaged on the project of the presence of asbestos in the project area in accordance with the requirements of Chapter 110, Article 12-110-2 (f) (1) (B) of the Occupational Safety and Health Standards, State of Hawaii.

- C. In the event that work is required in any areas other than the one(s) designated within this project scope, request a copy of the asbestos survey report(s). Based on the information contained in the survey(s), notify affected personnel per Part entitled “ASBESTOS” herein above.
- D. Comply with applicable Federal, State, and local rules and regulations pertaining to the handling, removal, and disposal of asbestos-containing materials.

1.03 LEAD CONTAINING PAINT

- A. Inform employees, subcontractors, and other persons engaged in the project that lead containing paints (LCP) are present in the project site. Follow the requirements of Federal, State, and local regulations.
- B. Review the attached lead testing data which identify locations where LCP was found. Lead testing was for design purposes only, and the results do not satisfy any of the requirements for worker exposure assessment or disposal.
- C. Contractor may conduct additional lead testing of existing painted surface at his/her own expense if previously unforeseen lead paints are discovered.
- D. Comply with applicable rules and regulations pertaining to the handling, removal, and disposal of lead paint.

1.04 METALS AND OTHER CONTAMINANTS IN PAINT

- A. Paint coatings were analyzed for lead only during design and may contain additional heavy metals and other chemical substance.
- B. Anticipate hazards and implement appropriate engineering controls, and personal protective equipment shall be utilized as additional protection.
- C. All appropriate hazard controls shall be implemented to prevent any exposures to the site workers, airport personnel, the public, and the environment.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 SURVEY

- A. *Targeted Hazardous Material Survey Report for Hawaii Department of Transportation Airports Division, Daniel K. Inouye International Airport, 1st, 2nd, and 3rd Level Roadway Rehabilitation, 300 Rodgers Blvd., Honolulu Island of Oahu 96819, dated July 14, 2021, prepared by Myounghee Noh & Associates, L.L.C.*
- B. Review existing survey report(s) and verify and understand the locations and volumes of hazardous materials.

PART 4 – MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the bid prices for the various items of work in this project.

END OF SECTION

**TARGETED HAZARDOUS MATERIAL SURVEY REPORT
FOR
HAWAII DEPARTMENT OF TRANSPORTATION AIRPORTS DIVISION
DANIEL K. INOUE INTERNATIONAL AIRPORT
1ST, 2ND, AND 3RD LEVEL ROADWAY REHABILITATION
300 RODGERS BLVD.
HONOLULU, ISLAND OF OAHU 96819**

MNA PROJECT 2866_2

AUGUST 23, 2021



Myounghee Noh & Associates

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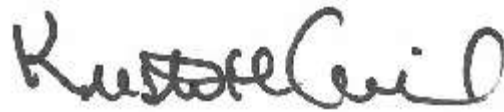
TARGETED HAZARDOUS MATERIAL SURVEY REPORT
FOR
HAWAII DEPARTMENT OF TRANSPORTATION AIRPORTS DIVISION
DANIEL K. INOUE INTERNATIONAL AIRPORT
1ST, 2ND, AND 3RD LEVEL ROADWAY REHABILITATION
300 RODGERS BLVD.
HONOLULU, ISLAND OF OAHU 96819

MNA Project 2866_2

August 23, 2021



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Appendix B	Homogeneous Materials Identified and Sample Types Collected
Appendix C	Sample and Hazardous Material Location Drawings
Appendix D	Photographs
Appendix E	Laboratory Analytical Reports

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EXECUTIVE SUMMARY

In June 2021, Myounghee Noh & Associates, L.L.C. (MNA), was retained by KAI Hawaii, Inc., to conduct a targeted hazardous material survey at the 1st, 2nd, and 3rd level roadways at the Daniel K. Inouye International Airport, Honolulu, Oahu. Targeted were those areas anticipated to be disturbed or demolished during the planned roadway rehabilitation project.

The objective of the survey was to identify the presence, extent, and conditions of hazardous materials within the roadway corridor in the areas anticipated to be disturbed, so that the information can be incorporated in the design.

In June and August 2021, MNA conducted this hazardous material survey and identified 49 suspect building materials. Based on sampling and analysis of 69 asbestos/bulk and 52 lead/paint chip samples, and a visual inspection of roadway lighting, MNA provides the following summary:

Summary of Hazardous Material Findings

Terminal 2	ACM	LCP	LBP	Arsenic
First Level Roadway Corridor				
Ewa Concourse				
Diamond Head Concourse	☐*	☐		
Second Level Roadway Corridor				
Ewa Concourse	☐*	☐	☐	
Diamond Head Concourse	☐*	☐	☐	
Third Level Roadway Corridor				
Ewa Concourse	☐*	☐	☐	
Diamond Head Concourse	☐*	☐	☐	

☐ indicates presence of hazardous material

* Includes materials where one or more asbestos fibers were identified using the required point count method. While the less than 0.1% asbestos is not a regulated material, trace amounts can be a health hazard.

All roadway lighting was identified as light-emitting diode (LED). LED lighting is not suspected of containing hazardous materials, and therefore no inspections were conducted.

ACM – Asbestos-Containing Material, 1% or higher

LBP – Lead-Based Paint, ≥5,000 mg/kg

LCP – Lead-Containing Paint, <5,000 mg/kg

Based on the visual survey and sampling and analysis of suspect bulk materials and paints, special hazard control measures are warranted for work involving asbestos and lead paint. These control measures are briefly described in Section 8 Recommendations for Renovation and Construction Work. General dust, silica, and runoff controls and environmental protection are also warranted.

Paint samples were analyzed for lead content only and bulk samples were analyzed for asbestos only. There is a potential for the presence of other hazardous chemicals in the paint coatings and non-ACM materials. Contractor must anticipate hazards and take all appropriate measures to prevent exposure of site workers, the public, and the environment.

Contractors must verify, prior to bidding, the location and volumes of potentially hazardous materials and determine the appropriate dust and hazard control measures based on the area and material to be disturbed. Quantities of materials provided in this report are based on visual approximations only during the survey and should not be used for bidding purposes.

Analytical results provided in this report do not meet the requirements for waste characterizations. Contractor must coordinate with permitted landfills for waste characterization requirements.

Any ACM disturbance is considered a regulated activity. Contractors are required to comply with 29 CFR 1926.1101(k)(3)(i) to identify the presence, location, and quantity of ACM before any work is begun.

Worker protection from silica exposures is also enforced by the Occupational Safety and Health Administration. All appropriate engineering controls must be implemented, and personal protective equipment may be considered as added protection.

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1.0 INTRODUCTION

Myounghee Noh & Associates, L.L.C. (MNA), under an agreement with KAI Hawaii, Inc., conducted a targeted hazardous material survey for the 1st, 2nd, and 3rd level roadway rehabilitation project, located within the Daniel K. Inouye International Airport, Honolulu, Oahu.

MNA’s survey was conducted in support of the planned roadway rehabilitation project. Targeted were those areas anticipated to be disturbed by the rehabilitation and construction work including hazardous building materials due to the suspected presence of asbestos, lead, or arsenic (Table 1)



Daniel K. Inouye International Airport Roadway Corridor
June 2021

Table 1. Anticipated Design Scope of Work

Work Anticipated
Terminal 2 Roadway - Diamond Head and Ewa Concourse
<ul style="list-style-type: none">• Repaint and recoat guardrails, roadway markings, handrails, and light poles.• Repair damaged roadway corridor attributes, including concrete light poles, ceilings, walls, eaves, roadways, and roadways draining systems.• Remove and replace damage ceramic wall tiles and ceramic floor tiles within the roadway corridor.• Repair and recoat the interior of the roadside planters.• Remove and replace LED light fixtures on the roadways.

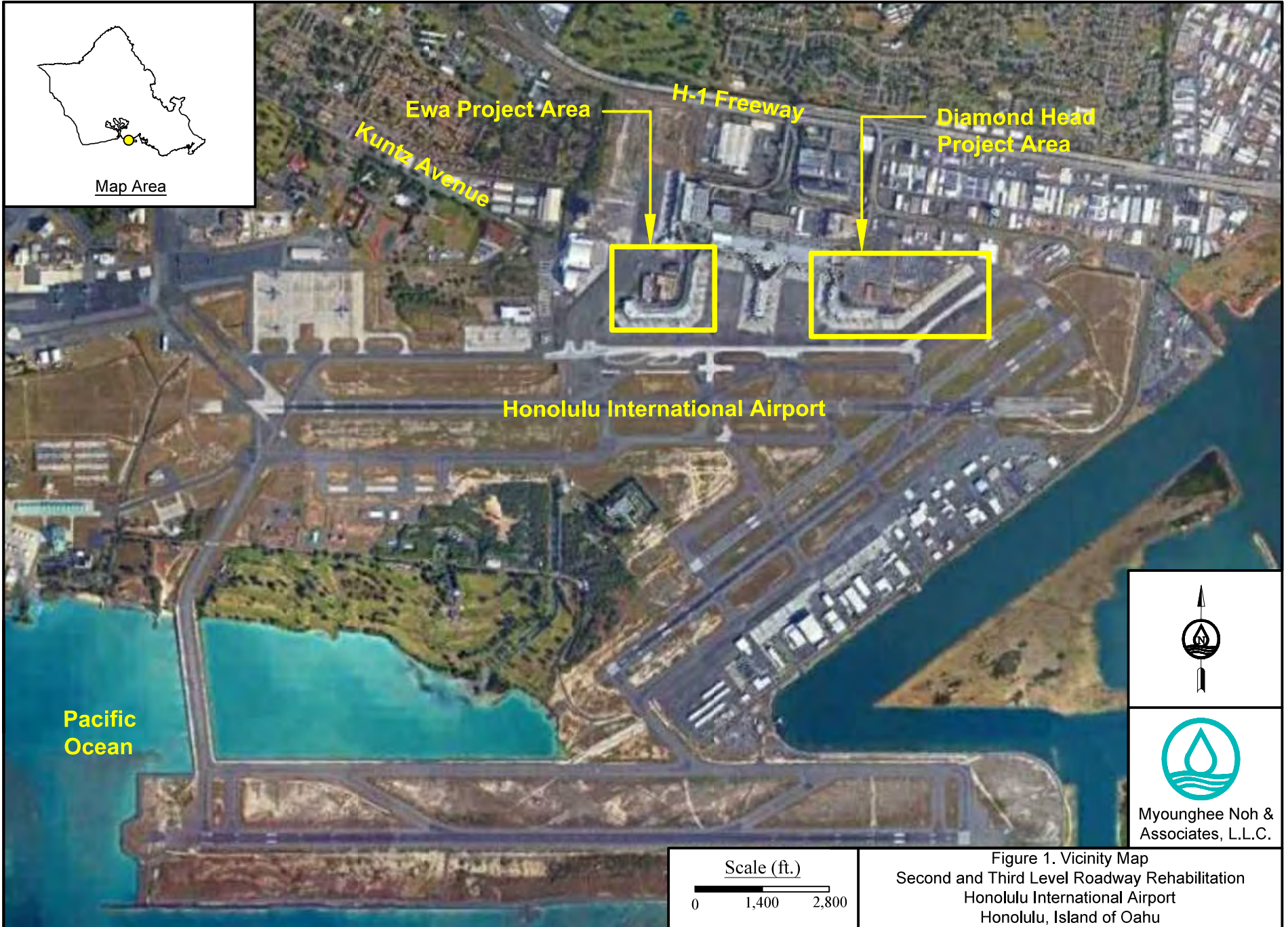


Figure 1. Vicinity Map
 Second and Third Level Roadway Rehabilitation
 Honolulu International Airport
 Honolulu, Island of Oahu

2.0 SAMPLING AND SURVEY METHODS

In June and August 2021, State of Hawaii-certified building inspectors, Danny Falanug and Kealohilani Serrao, conducted the building material survey at Diamond Head and Ewa Concourse at Terminal 2, International Terminal. The inspectors performed a visual assessment of the project site, identified materials suspected of containing asbestos, lead, or arsenic, and collected samples of these materials. Inspector certifications are presented in Appendix A.

2.1 Identifying Homogeneous Materials

The inspectors identified building materials with the same appearance, color, and substrate as homogeneous materials. The concourse building materials are considered unique per floor/level. Building materials with the same characteristics (appearance, color, and substrate), as an identified homogeneous material, should be considered to possess the same hazard characteristics, unless specifically identified as otherwise in the report. As an example, if silver paint on metal is found to be lead-based paint (LBP), then all identical silver paint on metal in the survey area should be treated as LBP. Table 2 provides an overview of sampling and a summary of hazardous materials identified.

Table 2. Summary of Sampling and Results

Materials Sampled	Samples Submitted/ Inspected	Suspect Material Locations	Identified Hazardous Materials
First Level Roadway			
Asbestos in bulk material or paint	9	Ceiling, columns, eaves, walls	1 ACM (2% Chrysotile)
Lead in paint	8	Ceiling, columns, conduit, eaves, electrical boxes, pipes, walls	3 LCP (46 mg/kg – 250 mg/kg)
Second Level Roadway			
Asbestos in bulk material or paint	30	Ceilings, columns, eaves, floors, roadway, walls	2 ACM (5% and 20% Chrysotile) 1 material containing trace asbestos*
Lead in paint	24	Brackets, ceilings, columns, conduit, curbs, eaves, guardrails, roadway, trim, walls	7 LCP (40 mg/kg – 130,000 mg/kg) including 2 LBP (27,000 mg/kg – 130,000 mg/kg)
Third Level Roadway			
Asbestos in bulk material or paint	30	Columns, eaves, floors, roadway, walls	2 ACM (2% and 10% Chrysotile) 3 materials containing trace asbestos*
Lead in paint	20	Columns, curbs, eaves, guardrails, handrails, roadway, walls	5 LCP (56 mg/kg – 9,500 mg/kg) including 1 LBP (9,500 mg/kg)

All roadway lighting was identified as light-emitting diode (LED). LED lighting is not suspected of containing hazardous materials, and therefore no inspections were conducted.

No suspect arsenic-containing materials were identified during the survey at 1st, 2nd, or 3rd level roadway.

*Includes materials where one or more asbestos fibers were identified using the point count method. While the less than 0.1% asbestos is not a regulated material, trace amounts can be a health hazard.

ACM – Asbestos-Containing Material

LCP – Lead-Containing Paint, <5,000 mg/kg

LBP – Lead-Based Paint, ≥5,000 mg/kg

mg/kg – milligrams per kilogram (equivalent to parts per million)

2.2 Building Material Sampling

Bulk and paint samples were collected using a decontaminated chisel, razor, or hammer in a manner that minimized airborne dust. The inspectors collected triplicate samples for asbestos and duplicate samples for lead. No suspected arsenic-containing building materials were identified. Samples were placed in sealable plastic bags, labeled with a unique identification number, and recorded on a chain-of-custody. For each sample, the date, sample appearance, analyte, and sample location were recorded on a field data form. Asbestos samples were transported under chain-of-custody to LA Testing in South Pasadena, California. Lead samples were delivered under chain-of-custody to Hawaii Analytical Laboratory in Honolulu, Hawaii.

3.0 LABORATORY INFORMATION

LA Testing analyzed the asbestos samples by polarized light microscopy using the Environmental Protection Agency (EPA) Method 600/R-93/116. LA Testing, South Pasadena, is certified by:

- National Voluntary Laboratory Accreditation Program (NVLAP), certification 200232-0
- State of Hawaii Department of Health (HDOH), certification L-01-034
- American Industrial Hygienist Association (AIHA) Environmental Lead Laboratory Accreditation Program (ELLAP), certification 102814

Hawaii Analytical Laboratory analyzed the lead samples by flame atomic absorption spectroscopy using the NIOSH Method 7082m. Hawaii Analytical Laboratory, Honolulu, is certified by:

- NVLAP, certification 200655-0
- HDOH, certification L-14-002
- AIHA ELLAP, certification 101812

4.0 ASBESTOS RESULTS

Materials determined to contain greater than, or equal to, 1% asbestos are considered regulated asbestos-containing material (ACM) under the National Emission Standards for Hazardous Air Pollutants (NESHAP) as specified in 40 Code of Federal Regulations (CFR) Part 61 Subpart M. The U.S. Occupational Safety and Health Administration (OSHA) Asbestos General Industry and Construction Standards also define ACM as 1% asbestos or more by volume under 29 CFR 1910.1001 and 29 CFR 1926.1101, respectively. However, any measurable levels of asbestos fibers are considered to be a health concern, in an uncontrolled work environment.

Twenty-three homogeneous materials suspected of containing asbestos were identified and sampled, generating 69 samples for analysis. Five ACM were confirmed in the survey area, with results ranging from 2% to 20% chrysotile asbestos. Four other materials were found to contain one or more asbestos fibers using the required point counting method. While the less than 1% asbestos is not a regulated material, trace amounts can be a health hazard (Table 3).

First Level: Three homogeneous materials suspected of containing asbestos were identified and sampled, generating nine samples for analysis. One ACM, beige textured paint and skim coat on

concrete, was confirmed on the ceiling, columns, and eaves in the survey area, with a result of 2% chrysotile asbestos.

Second Level: Ten homogeneous materials suspected of containing asbestos were identified and sampled, generating 30 samples for analysis. Two ACM, black coating on concrete inside the planters and black waterproofing under concrete roadway pavement, were confirmed in the survey area, with a results of 3% and 20% chrysotile asbestos, respectively. One material, light pink textured paint and skim coat on concrete ceilings, eaves, and walls, was found to contain one or more asbestos fibers using the point count method.

Third Level: Ten homogeneous materials suspected of containing asbestos were identified and sampled, generating 30 samples for analysis. Two ACM, black mastic on concrete interior of planters and light gray mastic on concrete floors, were confirmed in the survey area, with results of 10% and 2% chrysotile asbestos, respectively. Three other materials, beige paint on concrete walls and light pink paint and skim coat on concrete ceilings, eaves, and walls, and beige paint and skim coat on concrete masonry unit (CMU), contained trace amounts of asbestos. Materials containing less than 1% asbestos can be a health hazard.

The suspected ACM descriptions and identifiers are provided in Appendix B. Sample and hazardous material location drawings are provided in Appendix C. Photographs of suspected materials are presented in Appendix D. Laboratory analytical reports, chain-of-custody, and field data forms are provided in Appendix E.

Table 3. Asbestos-Containing Material Determination

Concourse	Locations	HM ID	Material Color	Material	Substrate	Result	Condition	Estimated Quantity	Unit
First Level									
Diamond Head (DH)	Ceiling, columns, eaves	44	Beige	Paint/skim coat	Concrete	ACM 2%	Good	3,000	sq. ft.
DH	Walls	46	Beige	Paint/skim coat	CMU	ND	Good	2,000	sq. ft.
DH	Columns, walls	48	Lt. pink	Paint/skim coat	Concrete	ND	Good	1,000	sq. ft.
Second Level									
DH, Ewa	Ceilings, eaves, walls	2	Lt. pink	Paint/skim coat	Concrete	<0.1%*	Fair	6,000	sq. ft.
DH, Ewa	Columns, walls	4	Beige	Paint/skim coat	Concrete	ND	Good	10,000	sq. ft.
DH, Ewa	Inside Planters	12	Black Silver	Coating Paint	Concrete	3% ND	Poor	8,000	sq. ft.
DH, Ewa	Eaves	14	Beige	Textured paint/skim coat	Concrete	ND	Good	5,000	sq. ft.
DH, Ewa	Floors	16	Gray	Grout	3" x 9" Ceramic tile	ND	Good	1,000	sq. ft.
DH, Ewa	Walls	18	Beige	Paint/skim coat	CMU	ND	Good	1,000	sq. ft.
DH, Ewa	Roadway	19	Black	Expansion joint	Concrete	ND	Good	2,000	ln. ft.

Concourse	Locations	HM ID	Material Color	Material	Substrate	Result	Condition	Estimated Quantity	Unit
DH, Ewa	Walls	20	Gray	Grout	12" x 12" Ceramic tile	ND	Good	200	sq. ft.
Ewa	Floor	21	Lt. gray	Caulking	Concrete	ND	Good	500	ln. ft.
DH, Ewa	Roadway (under concrete pavement)	49	Black	Waterproofing	Concrete	20%	Fair	92,000	sq. ft.
Third Level									
DH, Ewa	Walls	23	Lt. pink	Paint/skim coat	Concrete	<0.1%*	Fair	6,000	sq. ft.
DH, Ewa	Columns, eaves, walls	25	Beige	Paint/skim coat	Concrete	<0.1%*	Good	8,000	sq. ft.
DH, Ewa	Walls	27	Beige	Paint/skim coat	CMU	<0.1%*	Good	1,000	sq. ft.
DH, Ewa	Inside Planters	29	Black	Coating/Wrap Mastic	Concrete	ND 10%	Fair	3,000	sq. ft.
DH, Ewa	Floors	30	Lt. gray	Caulking Mastic	Concrete	ND 2%	Fair	1,000	ln. ft.
DH, Ewa	Eaves	32	White	Textured paint/skim coat	Concrete	ND	Good	3,000	sq. ft.
DH, Ewa	Roadway	37	White and black	Expansion joint	Concrete	ND	Good	2,000	ln. ft.
DH	Walls	38	Gray	Grout	12" x 12" Ceramic tile	ND	Good	200	sq. ft.
Ewa	Roadway	40	White	Coating	Concrete	ND	Fair	20	ln. ft.
Ewa	Roadway	42	Gray	Skim coat	Concrete	ND	Fair	100	sq. ft.

* Indicates that one or more asbestos fibers were identified using the point count method. While the less than 0.1% asbestos is not a regulated material, trace amounts can be a health hazard.

Bold values indicate results above the reporting limit.

The asbestos found to be chrysotile.

Good – Material is in an "as installed" condition. It is usable as is and may show cosmetic wear and tear or fading.

Fair – Material is functional for its installed purpose but shows initial signs of deterioration beyond the cosmetic.

Poor – Material shows significant deterioration and may not be functional for its installed purpose. The binding of the material has decreased integrity as indicated by peeling, cracking, or crumbling of the material.

Abbreviations and Acronyms

ACM – Asbestos-Containing Material

ND – Not Detected

HM ID – Homogeneous Material Identifier

sq. ft. – Square Feet

ln. ft. – Linear Feet

5.0 LEAD RESULTS

The U.S. Department of Housing and Urban Development (HUD) and the EPA define paint containing 5,000 milligrams per kilogram (mg/kg), or 0.5% by weight, or more of lead to be LBP. Paint containing any measurable concentration of lead is considered to be lead-containing paint (LCP) and a health concern. When lead is detected in a multi-layer sample, it is assumed that all layers represented by the sample contain lead at the same concentration.

Twenty-six suspected lead paints were identified and sampled, generating 52 paint chip samples. Fifteen lead paint were identified in the survey area, with results ranging from 40 mg/kg to 130,000

mg/kg. Three of those paints were identified as LBP, at or above 5,000 mg/kg, the threshold for LBP (Table 4).

First Level: Four suspected lead paints were identified and sampled, generating eight paint chip samples. Three lead paints, light pink on metal conduit, electrical boxes, and pipes, and beige on concrete ceiling, columns, and eaves, and CMU walls, were identified in the survey area, with results ranging from 46 mg/kg to 250 mg/kg. None of the three lead paints were identified as LBP.

Second Level: Twelve suspected lead paints were identified and sampled, generating 24 paint chip samples. Seven lead paints were identified in the survey area, with results ranging from 40 mg/kg to 130,000 mg/kg. Two of those paints, yellow on concrete curbs and silver on metal guardrail, were identified as LBP.

Third Level: Ten suspected lead paints were identified and sampled, generating 20 paint chip samples. Five lead paints were identified in the survey area, with results ranging from 56 mg/kg to 9,500 mg/kg. One of those paints, beige on CMU walls, was identified as LBP.

Suspected LCP descriptions and identifiers are provided in Appendix B. Sample and hazardous material location drawings are in Appendix C. Photographs of suspected LCP are presented in Appendix D. Laboratory analytical reports, chain-of-custody, and field data forms are provided in Appendix E.

Table 4. Lead-Containing Paint Determination

Wings	Locations	HM ID	Material Color	Material	Substrate	Result (mg/kg)	Condition	Estimated Quantity	Unit
First Level									
Diamond Head (DH)	Conduit, electrical boxes, pipes	41	Lt. pink	Paint	Metal	LCP 46 - 78	Poor	1,000	ln. ft.
DH	Ceiling, columns, eaves	43	Beige	Paint	Concrete	82 - 250	Good	3,000	sq. ft.
DH	Walls	45	Beige	Paint	CMU	94 - 120	Good	2,000	sq. ft.
DH	Columns, walls	47	Lt. pink	Paint	Concrete	<40	Good	1,000	sq. ft.
Second Level									
DH, Ewa	Ceilings, eaves, walls	1	Lt. pink	Paint	Concrete	49 - 59	Fair	6,000	sq. ft.
DH, Ewa	Columns, walls	3	Beige	Paint	Concrete	40 - 550	Good	10,000	sq. ft.
DH, Ewa	Ceilings	5	Black	Paint	Concrete	<40	Fair	2,000	sq. ft.
DH, Ewa	Brackets, conduit, trim	6	Black	Paint	Metal	<40	Fair	1,000	sq. ft.
DH, Ewa	Conduit	7	Lt. pink	Paint	Metal	79 - 190	Good	40	ln. ft.
DH, Ewa	Roadway	8	White	Paint	Asphalt	<40	Fair	200	ln. ft.

Wings	Locations	HM ID	Material Color	Material	Substrate	Result (mg/kg)	Condition	Estimated Quantity	Unit
DH, Ewa	Curbs	9	Red	Paint	Concrete	<40 - 4,200	Fair	1,000	sq. ft.
DH, Ewa	Roadway	10	Yellow	Paint	Asphalt	<40 - 550	Fair	200	ln. ft.
DH, Ewa	Curbs	11	Yellow	Paint	Concrete	LBP 27,000 - 38,000	Fair	1,500	sq. ft.
DH, Ewa	Eaves	13	Beige	Textured paint	Concrete	<40	Good	5,000	sq. ft.
DH	Guardrail	15	Silver	Paint	Metal	110,000 - 130,000	Poor	80	sq. ft.
DH	Walls	17	Beige	Paint	CMU	<40	Good	1,000	sq. ft.
Third Level									
DH, Ewa	Walls	22	Lt. pink	Paint	Concrete	<40 - 56	Fair	6,000	sq. ft.
DH, Ewa	Columns, eaves, walls	24	Beige	Paint	Concrete	<40 - 170	Good	8,000	sq. ft.
DH, Ewa	Walls	26	Beige	Paint	CMU	220 - 9,500	Good	1,000	sq. ft.
DH, Ewa	Guardrails, handrails	28	Beige	Paint	Metal	<40 - 130	Poor	1,000	sq. ft.
DH	Eaves	31	White	Textured paint	Concrete	<40	Good	3,000	sq. ft.
DH, Ewa	Roadway	33	White	Paint	Concrete	<40	Good	100	ln. ft.
DH	Curbs	34	Yellow	Paint	Concrete	<40	Good	600	sq. ft.
Ewa	Handrails	35	Brown	Paint	Metal	<40	Good	500	sq. ft.
Ewa	Guardrails	36	Yellow	Paint	Metal	330 - 420	Fair	80	sq. ft.
Ewa	Roadway	39	White	Coating	Concrete	<40	Fair	20	ln. ft.

Bold values indicate results above the reporting limit.

Good – Material is in an "as installed" condition. It is usable as is and may show cosmetic wear and tear or fading.

Fair – Material is functional for its installed purpose but shows initial signs of deterioration beyond the cosmetic.

Poor – Material shows significant deterioration and may not be functional for its installed purpose. Paint is bubbling or peeling over 20% or more of surface area and no longer protects the substrate.

Abbreviations and Acronyms

HM ID – Hazardous Material Identifier

LBP – Lead-Based Paint, ≥5,000 mg/kg

LCP – Lead-Containing Paint, <5,000 mg/kg

ln. ft. – Linear Feet

mg/kg– milligrams per kilogram or parts per million

sq. ft. – Square Feet

6.0 ARSENIC RESULTS

The disturbance of arsenic-containing materials is regulated by the OSHA Inorganic Arsenic General Industry Standard under 29 CFR 1910.1018. No suspected arsenic-containing materials were observed; therefore, no samples were collected during this survey.

7.0 SUMMARY OF SURVEY RESULTS

MNA conducted a targeted hazardous material survey at the 1st, 2nd, and 3rd level roadway corridor of Diamond Head and Ewa Concourse at the Daniel K. Inouye International Airport, Honolulu, Island of Oahu. MNA’s survey was conducted in support of the planned roadway rehabilitation project (design scope in Table 1).

Based on the analysis of 23 asbestos-suspected materials and 26 lead-suspected paint coatings, MNA provides the following summary:

Summary of Hazardous Material Findings

Terminal 2	ACM	LCP	LBP	Arsenic
First Level				
Ewa Concourse				
Diamond Head Concourse	☐	☐		
Second Level				
Ewa Concourse	☐	☐	☐	
Diamond Head Concourse	☐	☐	☐	
Third Level				
Ewa Concourse	☐	☐	☐	
Diamond Head Concourse	☐	☐	☐	

☐ indicates presence of hazardous material

All roadway lighting was identified as LED, which is not suspected of containing hazardous materials, and therefore no inspections were conducted.

ACM – Asbestos-Containing Material, 1% or higher

LBP – Lead-Based Paint, ≥5,000 mg/kg

LCP – Lead-Containing Paint, <5,000 mg/kg

8.0 RECOMMENDATIONS FOR RENOVATION AND CONSTRUCTION WORK

It is required that properly trained employees perform demolition and construction work that disturbs hazardous materials, in a manner protective of the site workers, the public, facility users, and the environment. The following recommendations address OSHA and other applicable federal requirements. These recommendations provide guidance for the management of hazardous building materials and control of occupational and environmental hazards associated with operations, maintenance, renovation, and demolition. These recommendations are based on information gathered during the hazardous materials survey. These recommendations are not intended to constitute a formal work plan but are intended to provide a starting point for the development of a work plan.

8.1 Asbestos-Containing Materials

Employees involved in demolition and construction activities that disturb asbestos must conduct work in accordance with 29 CFR 1926.1101, the OSHA Asbestos Construction Standard. Work practices that would trigger these requirements include, but are not limited to, repair, maintenance, or renovation of structures containing asbestos, as well as removal or encapsulation of materials containing asbestos. For each project, the contractor must determine the appropriate safety measures based on the area to be disturbed, the type, volume, and condition of asbestos materials.

Applicable work practice guidelines involving the disturbance of asbestos materials are summarized, but are not limited to:

- Contractors must anticipate hazards and utilize appropriate engineering controls and personal protective equipment (PPE).
- Employers must provide and require the use of appropriate PPE for any employee exposed to airborne concentrations of asbestos that exceed OSHA regulatory limits, or for which a required negative exposure assessment is not produced (29 CFR 1926.1101[i][1]).
- Employees must utilize respiratory protection until the initial exposure monitoring assessment documents safe working levels of airborne asbestos (29 CFR 1926.1101[f] and [h]). Additional periodic exposure monitoring may be required.
- An initial exposure monitoring assessment should be carried out when workers are disturbing asbestos to ensure that they are not exposed to airborne asbestos concentrations greater than the Permissible Exposure Limit (PEL) of 0.1 fibers per cubic centimeter (f/cc) of air as an 8-hour time-weighted average (TWA), and the Excursion Limit of 1.0 f/cc over a 30-minute sampling period.
- The work site must be maintained as a controlled regulated area and supervised by a competent person at all times.
- Employees must implement stringent dust control procedures to prevent asbestos in any airborne or settled dust.
- Employees must clean the work area thoroughly using wet methods and a high-efficiency particulate air (HEPA) vacuum. Dry sweeping or air blowing of asbestos-containing debris and dust must be avoided.
- Waste and dust containing asbestos must be collected separately from other construction debris. Workers must conduct prompt and controlled clean up and disposal of asbestos wastes and debris in leak-tight containers.
- Asbestos-containing waste must be wet, packaged, labeled, stored, and disposed of in accordance with applicable regulations.
- Visually inspect the work area to ensure that all asbestos-containing debris and dust has been properly removed.
- Conduct clearance in accordance with contract specifications.

8.2 Lead-Containing Paints

Employees involved in renovation or demolition activities that disturb lead paints must conduct work in general accordance with 29 CFR 1926.62 OSHA Lead in Construction Standard. Work practices that would trigger these requirements include, but are not limited to, sanding, blasting, welding, cutting, scraping, and spot/whole paint removals. For each project, the contractor must determine the appropriate safety measures based on the area to be disturbed, the lead concentration, and the paint condition. Applicable work practice guidelines involving the disturbance of lead paints are summarized, but are not limited to:

- Contractors must anticipate hazards and utilize appropriate engineering controls and PPE.

- Employees must utilize respiratory protection until the initial air monitoring assessment documents safe working levels of airborne lead (29 CFR 1926.62[d][1] and [2][i][A]).
- An exposure assessment should be carried out when employees are disturbing LCP or LBP to ensure that they are not exposed to airborne lead concentrations greater than the PEL of 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) averaged over an 8-hour period. Additional periodic exposure monitoring may be required if the Action Level, $30 \mu\text{g}/\text{m}^3$, averaged over an 8-hour period is exceeded.
- Employees must implement stringent dust control procedures to prevent airborne lead dust.
- Employees must clean the work area thoroughly using wet methods and a HEPA vacuum. Dry sweeping or air blowing of lead debris and dust must be avoided.
- Lead-containing debris must be segregated from other wastes, collected, and containerized. Wastes must be characterized per State of Hawaii requirements, including a determination of the waste as hazardous or non-hazardous. Lead-containing waste must be handled and disposed of in accordance with applicable requirements.
- Visually inspect and verify the work area to ensure all lead-containing debris and dust has been properly removed and the project site is free of lead hazard.
- Conduct clearance in accordance with contract specifications.

8.3 Arsenic-Containing Materials

No suspected arsenic-containing materials were identified in the project areas during this survey. Therefore, no special arsenic control measures are provided.

9.0 LIMITATIONS

Industry standard effort was made to identify suspected hazardous building materials during the survey at the project area. However, this does not imply a guarantee that all suspected building materials and hazardous materials were identified by this assessment because certain building materials and/or surfaces may be hidden by walls, flooring/concrete slab, or other roadway components. If any previously unforeseen suspected materials become known, such as any hazardous chemicals in the paint coatings, additional assessment may be required prior to the planned rehabilitation project.

Paint samples were analyzed for lead content only and bulk materials were analyzed for asbestos content only. There is a potential for the presence of other hazardous chemicals in the paint coatings and non-ACM materials. Contractor must anticipate hazards and take all appropriate measures to prevent exposure of workers and environment.

Material quantities provided in this report are based on visual approximations taken at the time of the survey only and should not be used for bidding purpose. It is the Contractor's responsibility to verify the material quantities and volume of waste prior to bidding.

Analytical results provided in this report do not meet the requirements for waste characterizations. Contractor must coordinate with permitted landfills for waste characterization requirements.

Any ACM disturbance is considered a regulated activity. Contractors are required to comply with 29 CFR 1926.1101(k)(3)(i) to identify the presence, location, and quantity of ACM before any work is begun.

Worker protection from silica exposures is also enforced by the OSHA. All appropriate engineering controls must be implemented and PPE may be considered as added protection.

APPENDIX A: INSPECTOR CERTIFICATIONS

Danny Falanug

Kealohilani Serrao



State of Hawai'i Asbestos Certification

Training Course Exp. Dates

W	n/a	MP	n/a
CS	n/a	PD	n/a
INS	05/11/22	PM	05/21/22

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

**Falanug
Danny**

Myounghee Noh & Associates, L.L.C.

HIASB-3526

State Exp. Date 05/25/2022

State of Hawai'i Lead Based Paint Activities Certification

Expiration Dates:

Inspector-	08/12/2022
Supervisor-	06/12/2023
Risk Assessor-	n/a
Project Designer-	08/06/2023
Worker-	n/a



**Falanug
Danny**

Certification # PB-0661





State of Hawai'i Asbestos Certification

Training Course Exp. Dates

W	n/a	MP	n/a
CS	05/23/22	PD	n/a
INS	05/04/22	PM	n/a

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

Serrao
 Kealohilani T.E.
 Myounghee Noh & Associates, L.L.C.
HIASB-4729
 State Exp. Date **06/06/2022**

State of Hawai'i Lead Based Paint Activities Certification

Expiration Dates:

Inspector	09/30/2022
Supervisor	n/a
Risk Assessor	n/a
Project Designer	n/a
Worker	n/a

Serrao
 Kealohilani T.E.
 Certification # PB-1128



**APPENDIX B: HOMOGENEOUS MATERIALS IDENTIFIED AND
SAMPLE TYPES COLLECTED**

Homogeneous Materials Identified and Sample Types Collected

HM ID	Floor	Wings	Locations	Material Color	Material	Substrate	Asb	Pb	Result
1	2	Diamond Head, Ewa	Ceilings, eaves, walls	Lt. pink	Paint	Concrete		X	LCP 49 - 59 mg/kg
2	2	Diamond Head, Ewa	Ceilings, eaves, walls	Lt. pink Gray	Textured paint Skim coat	Concrete	X		<0.1%*
3	2	Diamond Head, Ewa	Columns, eaves, walls	Beige	Paint	Concrete		X	LCP 40 - 550 mg/kg
4	2	Diamond Head, Ewa	Columns, eaves, walls	Beige Gray	Textured paint Skim coat	Concrete	X		ND
5	2	Diamond Head, Ewa	Ceilings	Black	Paint	Concrete		X	<40 mg/kg
6	2	Diamond Head, Ewa	Brackets, conduit, trims	Black	Paint	Metal		X	<40 mg/kg
7	2	Diamond Head, Ewa	Conduit	Lt. pink	Paint	Metal		X	LCP 79 - 190 mg/kg
8	2	Diamond Head, Ewa	Roadway	White	Paint	Asphalt		X	<40 mg/kg
9	2	Diamond Head, Ewa	Curbs	Red	Paint	Concrete		X	LCP <40 - 4,200 mg/kg
10	2	Diamond Head, Ewa	Roadway	Yellow	Paint	Asphalt		X	LCP <40 - 550 mg/kg
11	2	Diamond Head, Ewa	Curbs	Yellow	Paint	Concrete		X	LBP 27,000 - 38,000 mg/kg
12	2	Diamond Head, Ewa	Inside planters	Black Silver	Coating Paint	Concrete	X		ACM 5% ND
13	2	Diamond Head, Ewa	Eaves	Beige	Textured paint	Concrete		X	<40 mg/kg
14	2	Diamond Head, Ewa	Eaves	Beige	Textured paint Skim coat Plaster	Concrete	X		ND

Homogeneous Materials Identified and Sample Types Collected

HM ID	Floor	Wings	Locations	Material Color	Material	Substrate	Asb	Pb	Result
15	2	Diamond Head	Guardrail	Silver	Paint	Metal		X	LBP 110,000 - 130,000 mg/kg
16	2	Diamond Head, Ewa	Floors	Tan Gray	Ceramic tile Grout	3" x 9" Ceramic tile	X		ND
17	2	Diamond Head	Walls	Beige	Paint	CMU		X	<40 mg/kg
18	2	Diamond Head	Walls	Beige Gray Black	Textured paint Skim coat Tar	CMU	X		ND
19	2	Diamond Head, Ewa	Roadway	Black	Expansion joint	Concrete	X		ND
20	2	Diamond Head, Ewa	Walls	Red Gray	Ceramic tile Grout	12" x 12" Ceramic tile	X		ND
21	2	Ewa	Floor	Lt. gray Black	Caulking Mastic	Concrete	X		ND
22	3	Diamond Head, Ewa	Walls	Lt. pink	Paint	Concrete		X	LCP <40 - 56 mg/kg
23	3	Diamond Head, Ewa	Walls	Lt. pink	Paint/skim coat	Concrete	X		<0.1%*
24	3	Diamond Head, Ewa	Columns, eaves, walls	Beige	Paint	Concrete		X	LCP <40 - 170 mg/kg
25	3	Diamond Head, Ewa	Columns, eaves, walls	Beige Black	Paint/skim coat Mastic	Concrete	X		<0.1%*
26	3	Diamond Head, Ewa	Walls	Beige	Paint	CMU		X	LBP 220 - 9,500 mg/kg
27	3	Diamond Head, Ewa	Walls	Beige	Paint/skim coat	CMU	X		<0.1%*
28	3	Diamond Head, Ewa	Guardrails, handrails	Beige	Paint	Metal		X	LCP <40 - 130 mg/kg

Homogeneous Materials Identified and Sample Types Collected

HM ID	Floor	Wings	Locations	Material Color	Material	Substrate	Asb	Pb	Result
29	3	Diamond Head, Ewa	Inside planters	Black	Coating Wrap Mastic	Concrete	X		ND ND ACM 10%
30	3	Diamond Head, Ewa	Floors	Lt. gray	Caulking Mastic	Concrete	X		ND ACM 2%
31	3	Diamond Head	Eaves	White	Textured paint	Concrete		X	<40 mg/kg
32	3	Diamond Head	Eaves	White	Textured paint/skim coat	Concrete	X		ND
33	3	Diamond Head, Ewa	Roadway	White	Paint	Concrete		X	<40 mg/kg
34	3	Diamond Head	Curbs	Yellow	Paint	Concrete		X	<40 mg/kg
35	3	Ewa	Handrails	Brown	Paint	Metal		X	<40 mg/kg
36	3	Ewa	Guardrails	Yellow	Paint	Metal		X	LCP 330 - 420 mg/kg
37	3	Diamond Head, Ewa	Roadway	Gray Black	Expansion joint Fibrous Material	Concrete	X		ND
38	3	Diamond Head	Walls	Red Gray	Ceramic tile Grout	12" x 12" Ceramic tile	X		ND
39	3	Ewa	Roadway	White	Coating	Concrete		X	<40 mg/kg
40	3	Ewa	Roadway	White	Coating	Concrete	X		ND
41	1	Diamond Head	Conduit, electrical boxes, pipes	Lt. pink	Paint	Metal		X	LCP 46 - 78 mg/kg
42	3	Ewa	Roadway	Gray	Skim coat	Concrete	X		ND
43	1	Diamond Head	Ceiling, columns, eaves	Beige	Paint	Concrete		X	LCP 82 - 250 mg/kg
44	1	Diamond Head	Ceiling, columns, eaves	Beige	Textured paint Skim coat	Concrete	X		ACM 2%
45	1	Diamond Head	Walls	Beige	Paint	CMU		X	LCP 94 - 120 mg/kg

Homogeneous Materials Identified and Sample Types Collected

HM ID	Floor	Wings	Locations	Material Color	Material	Substrate	Asb	Pb	Result
46	1	Diamond Head	Walls	Beige	Textured paint Skim coat	CMU	X		ND
47	1	Diamond Head	Columns, walls	Lt. pink	Paint	Concrete		X	<40 mg/kg
48	1	Diamond Head	Columns, walls	Lt. pink	Textured paint Skim coat	Concrete	X		ND
49	2	Diamond Head, Ewa	Roadway (under concrete pavement)	Black	Waterproofing	Concrete	X		ACM 20%

* Indicates one or more asbestos fibers was identified using the point count method. While the less than 1% asbestos is not a

Bold values indicate results above the reporting limit.

All asbestos found to be chrysotile.

Abbreviations and Acronyms

Asb - Asbestos

ACM - Asbestos-Containing Material

CMU - Concrete Masonry Unit

HM ID - Homogeneous Material Identifier

LBP - Lead-Based Paint $\geq 5,000$ mg/kg

LCP - Lead-Containing Paint <5,000 mg/kg

mg/kg - milligrams per kilogram, equivalent to parts per million

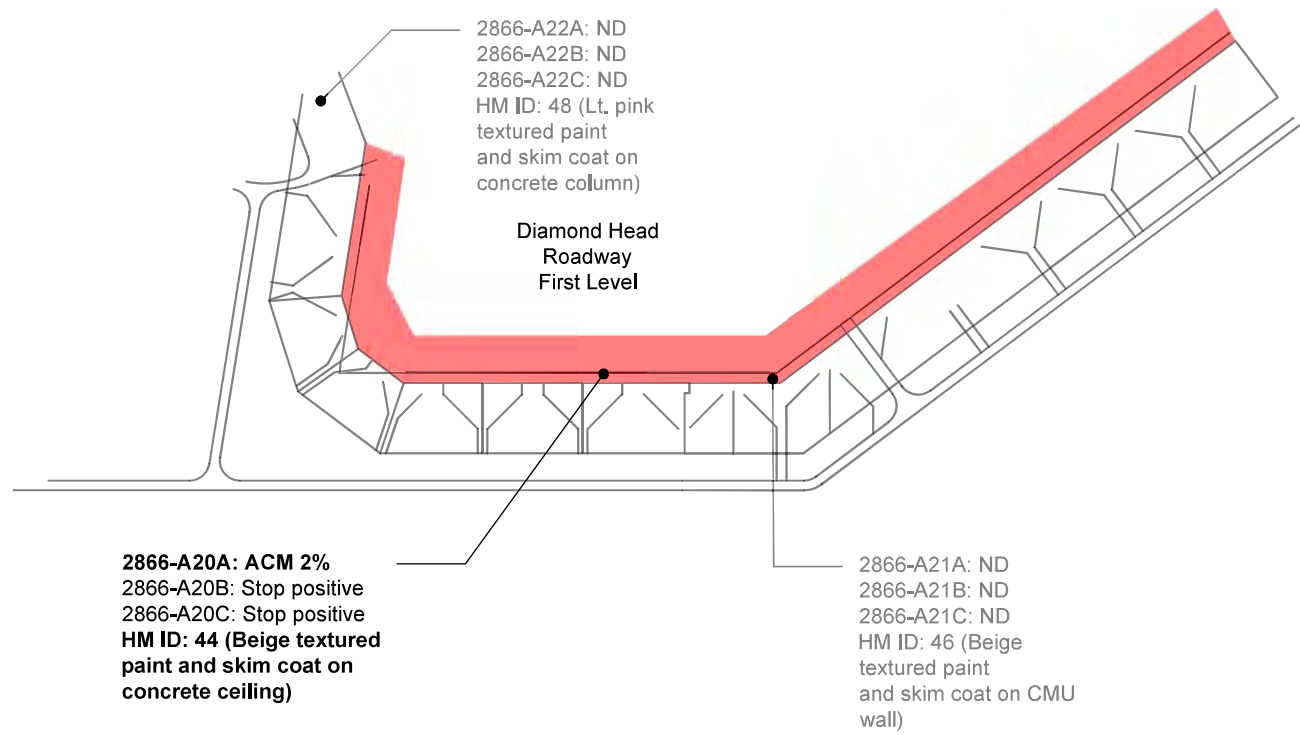
ND - Not Detected

Pb - Lead

APPENDIX C: SAMPLE AND HAZARDOUS MATERIAL LOCATION DRAWINGS

List of Drawings	
Asbestos and Lead Sample and Hazardous Material Locations – First Level	C-1 and C-2
Asbestos and Lead Sample and Hazardous Material Locations – Second Level	C-3 – C-6
Asbestos and Lead Sample and Hazardous Material Locations – Third Level	C-7 – C-10

HM ID	Locations	Color	Material	Substrate	Results
44	Ceiling, columns, eaves	Beige	Textured paint Skim coat	Concrete	ACM 2%



Legend and Notes

 Visual Extent of Asbestos-Containing Material

Bold values indicate results above the detection limit.

All asbestos found to be chrysotile.

ACM - Asbestos-Containing Material

HM ID - Homogeneous Material Identifier

ND - None Detected



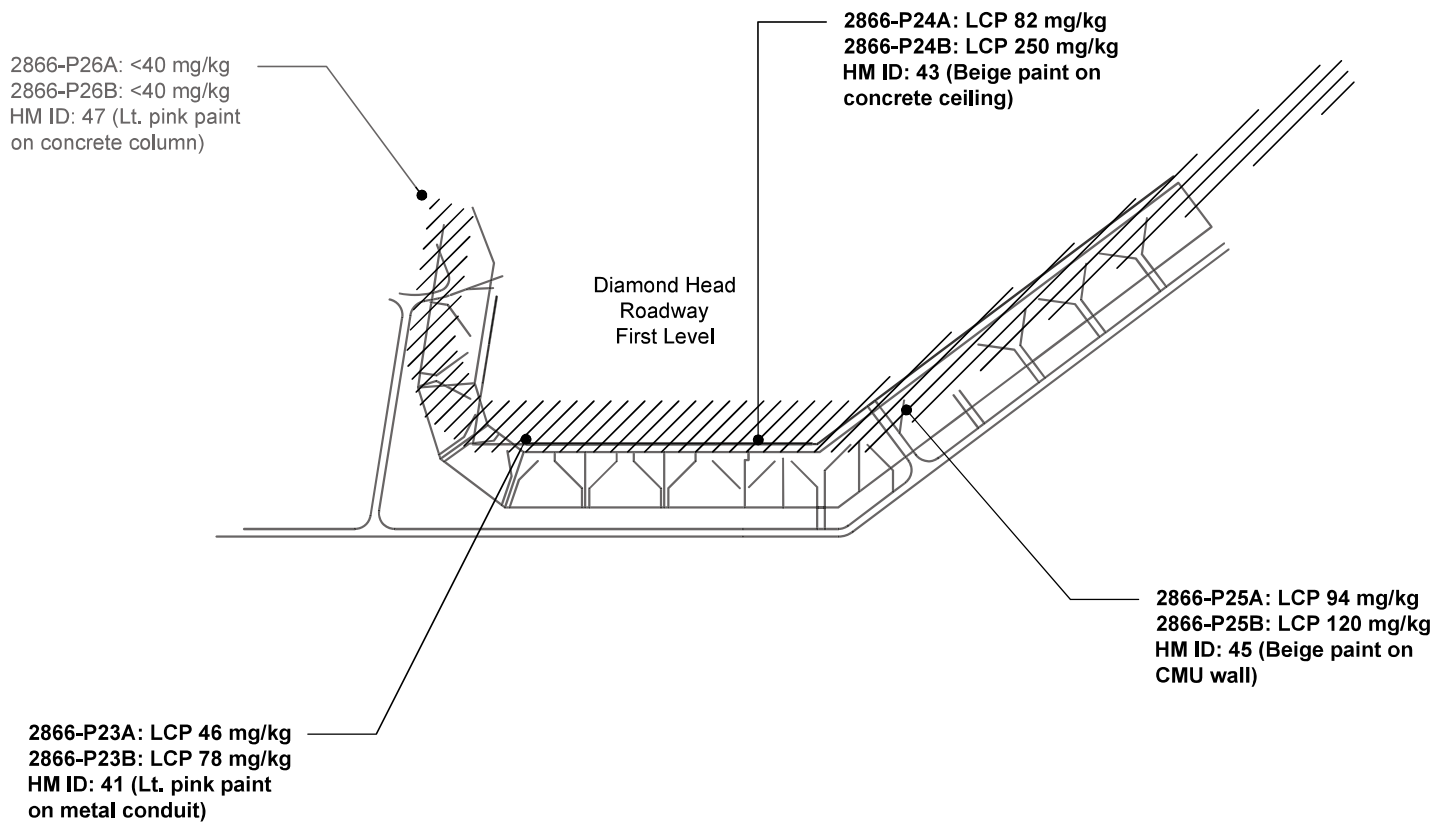
Myounghee Noh & Associates, L.L.C.

Asbestos Sample and Hazardous Material Locations
Daniel K. Inouye International Airport
Diamond Head Roadway First Level

Sheet Number

C - 1

HM ID	Locations	Color	Substrate	Results (mg/kg)
41	Conduit, electrical boxes, pipes	Lt. pink	Metal	LCP 46 - 78
43	Ceiling, columns, eaves	Beige	Concrete	LCP 82 - 250
45	Walls	Beige	CMU	LCP 94 - 120



Legend and Notes

/// Visual Extent of Lead-Containing Paint

Bold values indicate results above the detection limit.

HM ID - Hazardous Material Identifier

LCP - Lead-Containing Paint < 5,000 mg/kg

mg/kg - milligrams per kilogram (equivalent to ppm)



Myounghee Noh & Associates, L.L.C.

Lead Paint Sample and Hazardous Material Locations
Daniel K. Inouye International Airport
Diamond Head Roadway First Level

Sheet Number
C - 2

HM ID	Locations	Color	Material	Substrate	Results
2	Ceilings, eaves, walls	Lt. pink Gray	Textured paint Skim coat	Concrete	<0.1%*
12	Floors, walls	Black Silver	Coating Paint	Concrete	ACM 5% ND
49	Roadway (under concrete pavement)	Black	Waterproofing	Concrete	ACM 20%

2866-A9A: ND
HM ID: 21 (Lt. gray caulking
and black mastic on concrete
floor)

2866-A8B: ND
2866-A8C: ND
HM ID: 20 (Gray grout
on 12" x 12" ceramic
tile wall)

2866-A4A: ND
2866-A4B: ND
HM ID: 14 (Beige
textured paint, skim
coat, and plaster on
concrete eave)

2866-A3A: ACM 5%
HM ID: 12 (Black coating
on concrete wall)

2866-A1A: <0.1%
HM ID: 2 (Lt. pink
textured paint and gray
skim coat on concrete
wall)*

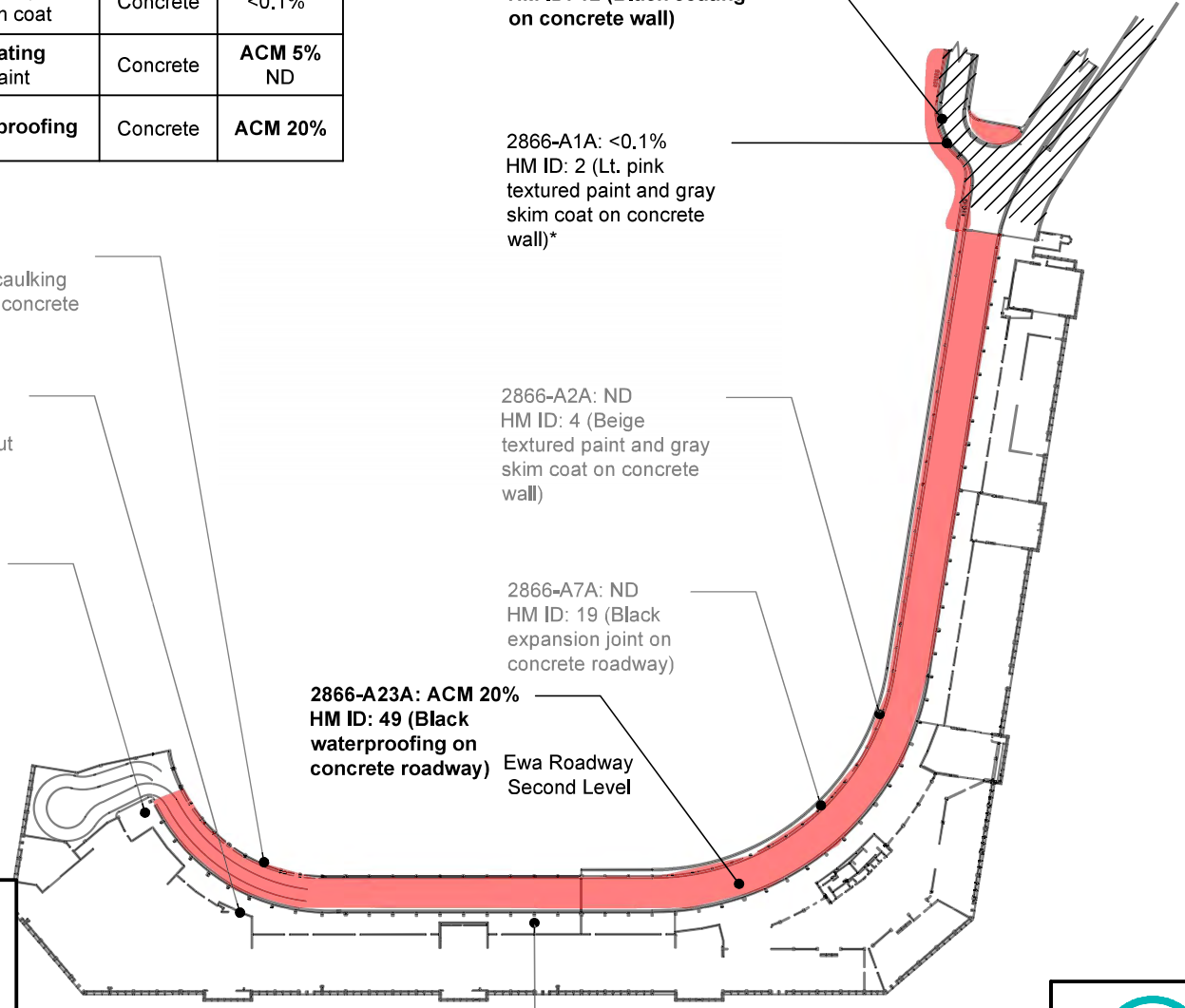
2866-A2A: ND
HM ID: 4 (Beige
textured paint and gray
skim coat on concrete
wall)

2866-A7A: ND
HM ID: 19 (Black
expansion joint on
concrete roadway)

2866-A23A: ACM 20%
HM ID: 49 (Black
waterproofing on
concrete roadway)

Ewa Roadway
Second Level

2866-A5A: ND
HM ID: 16 (Gray grout
on 3" x 9" ceramic tile
floor)



Legend and Notes

/// Visual Extent of Trace Asbestos

■ Visual Extent of Asbestos-Containing Material

Bold values indicate results above the detection limit.

* Indicates one or more asbestos fibers were identified using the point count method. While the less than 1% asbestos is not a regulated material, trace amounts can be a health hazard.

All asbestos found to be chrysotile.

ACM - Asbestos-Containing Material

HM ID - Homogeneous Material Identifier

ND - None Detected



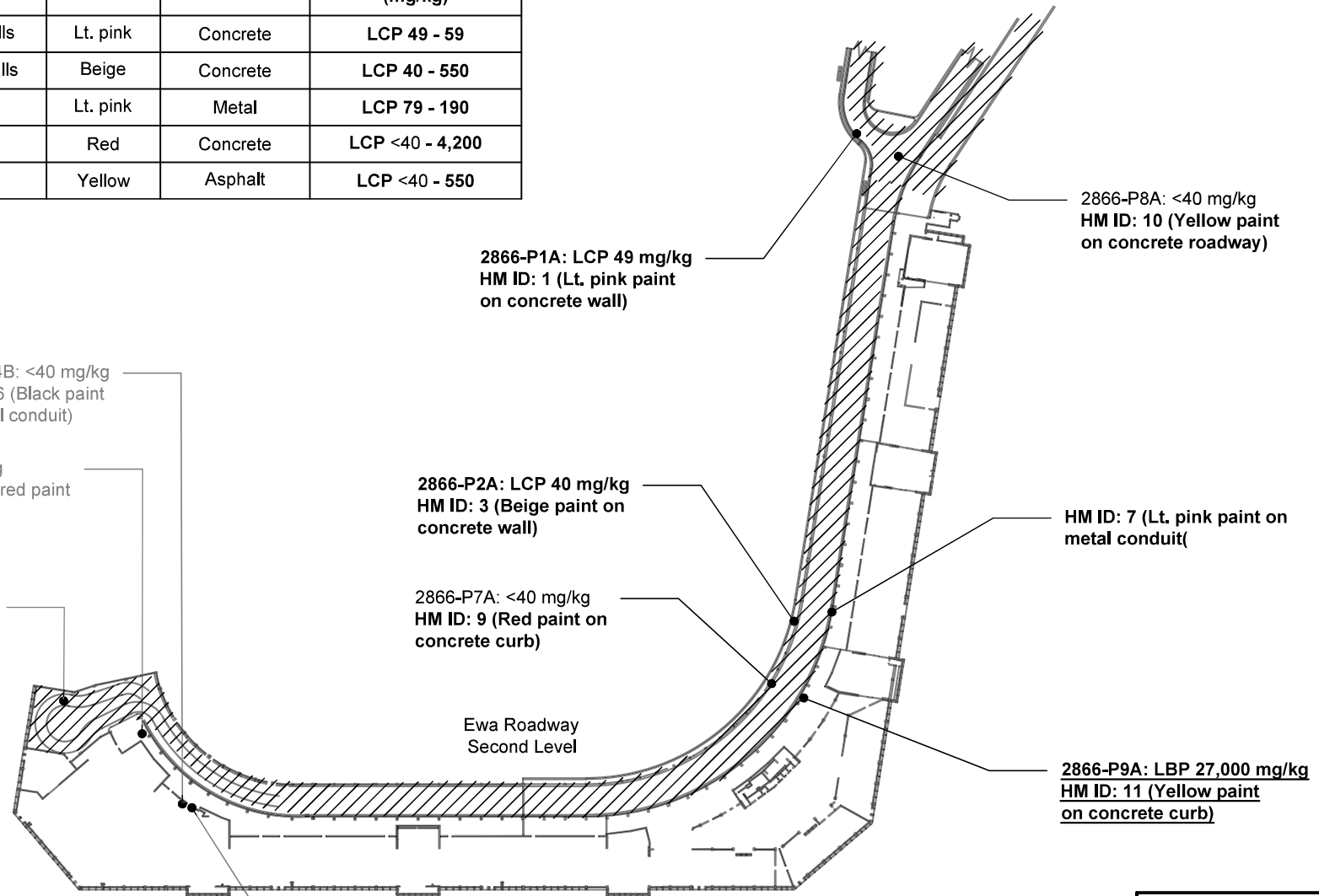
Myounghee Noh &
Associates, L.L.C.

Asbestos Sample and Hazardous
Material Locations
Daniel K. Inouye International Airport
Ewa Roadway Second Level

Sheet Number

C - 3

HM ID	Locations	Color	Substrate	Results (mg/kg)
1	Ceilings, eaves, walls	Lt. pink	Concrete	LCP 49 - 59
3	Columns, eaves, walls	Beige	Concrete	LCP 40 - 550
7	Conduit	Lt. pink	Metal	LCP 79 - 190
9	Curbs	Red	Concrete	LCP <40 - 4,200
10	Roadway	Yellow	Asphalt	LCP <40 - 550



Legend and Notes

/// Visual Extent of Lead-Containing Paint

Bold values indicate results above the detection limit.

HM ID - Hazardous Material Identifier

LCP - Lead-Containing Paint < 5,000 mg/kg

mg/kg - milligrams per kilogram (equivalent to ppm)



Myounghee Noh & Associates, L.L.C.

Lead Paint Sample and Hazardous Material Locations
Daniel K. Inouye International Airport
Ewa Roadway Second Level

Sheet Number

C - 4

HM ID	Locations	Color	Material	Substrate	Results
2	Ceilings, eaves, walls	Lt. pink Gray	Textured paint Skim coat	Concrete	<0.1%*
12	Floors, walls	Black Silver	Coating Paint	Concrete	ACM 5% ND
49	Roadway (under concrete pavement)	Black	Waterproofing	Concrete	ACM 20%

2866-A5B: ND
2866-A5C: ND
HM ID: 16 (Gray grout on 3" x 9" ceramic tile floor)

2866-A8A: ND
HM ID: 20 (Gray grout on 12" x 12" ceramic tile wall)

2866-A7B: ND
2866-A7C: ND
HM ID: 19 (Black expansion joint on concrete roadway)

2866-A1B: <0.1%
2866-A1C: <0.1%
HM ID: 2 (Lt. pink textured paint and gray skim coat on concrete wall)*

2866-A3B: Stop positive
2866-A3C: Stop positive
HM ID: 12 (Black coating on concrete wall)

2866-A2B: ND
2866-A2C: ND
HM ID: 4 (Beige textured paint and gray skim coat on concrete wall)

2866-A6A: ND
2866-A6B: ND
2866-A6C: ND
HM ID: 18 (Beige textured paint, skim coat, and tar on concrete eave)

Diamond Head Roadway
Second Level

2866-A23B: Stop positive
2866-A23C: Stop positive
HM ID: 49 (Black waterproofing on concrete roadway)

2866-A4C: ND
HM ID: 14 (Beige textured paint, skim coat, and plaster on concrete eave)

Legend and Notes

/// Visual Extent of Trace Asbestos

■ Visual Extent of Asbestos-Containing Material

Bold values indicate results above the detection limit.

* Indicates one or more asbestos fibers were identified using the point count method. While the less than 1% asbestos is not a regulated material, trace amounts can be a health hazard.

All asbestos found to be chrysotile.

ACM - Asbestos-Containing Material

HM ID - Homogeneous Material Identifier

ND - None Detected



Myounghee Noh & Associates, L.L.C.

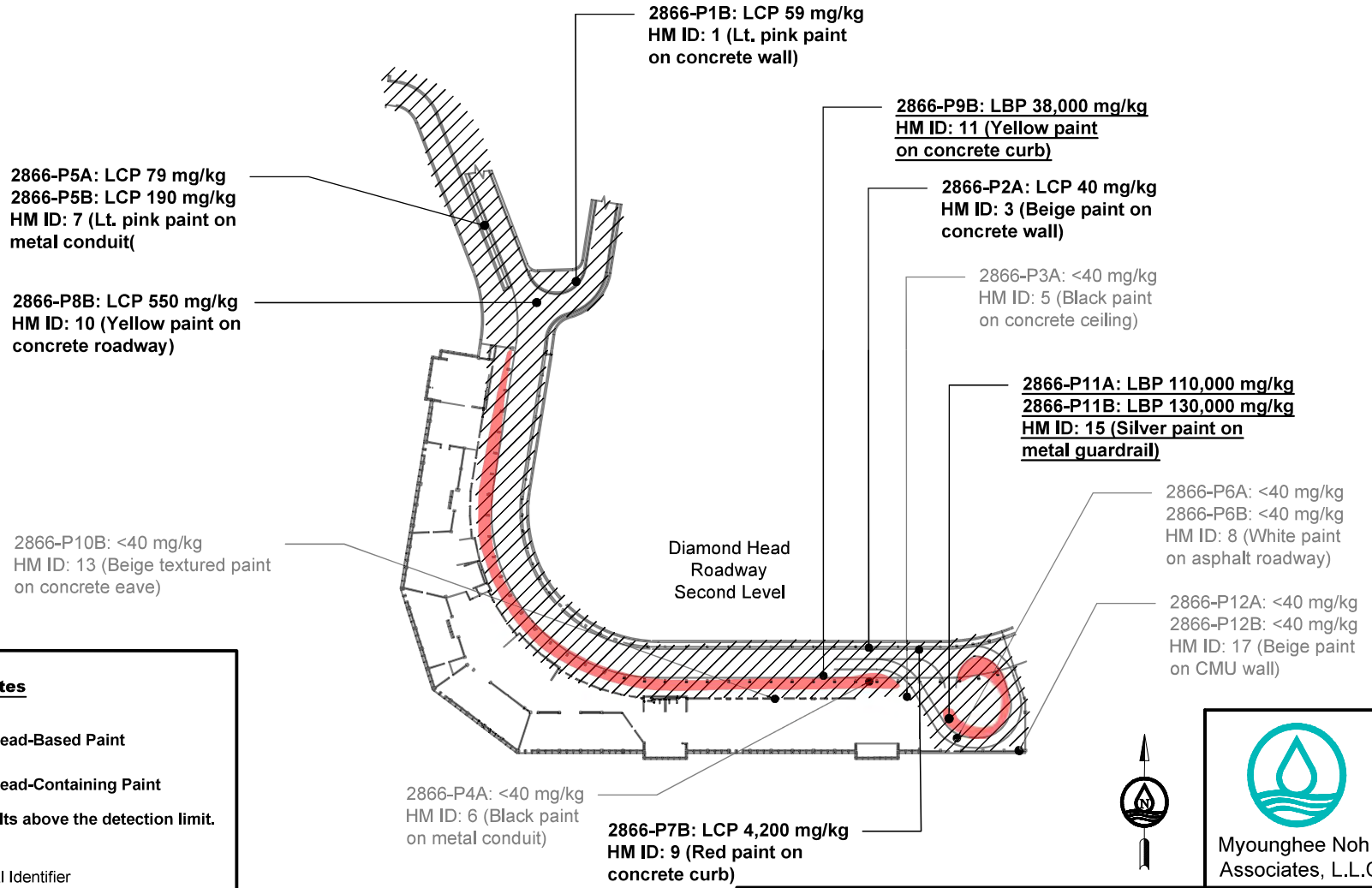
Asbestos Sample and Hazardous Material Locations
Daniel K. Inouye International Airport
Diamond Head Roadway Second Level

Sheet Number

C - 5

HM ID	Locations	Color	Substrate	Results (mg/kg)
1	Ceilings, eaves, walls	Lt. pink	Concrete	LCP 49 - 59
3	Columns, eaves, walls	Beige	Concrete	LCP 40 - 550
7	Conduit	Lt. pink	Metal	LCP 79 - 190

HM ID	Locations	Color	Substrate	Results (mg/kg)
9	Curbs	Red	Concrete	LCP <40 - 4,200
10	Roadway	Yellow	Asphalt	LCP <40 - 550
11	Curbs	Yellow	Concrete	<u>LBP 27,000 - 38,000</u>
15	Guardrail	Silver	Metal	<u>LBP 110,000 - 130,000</u>



Legend and Notes

- Visual Extent of Lead-Based Paint
- Visual Extent of Lead-Containing Paint
- Bold values indicate results above the detection limit.**
- Cd - Cadmium
- HM ID - Hazardous Material Identifier
- LBP - Lead-Based Paint > 5,000 mg/kg
- LCP - Lead-Containing Paint < 5,000 mg/kg
- mg/kg - milligrams per kilogram (equivalent to ppm)

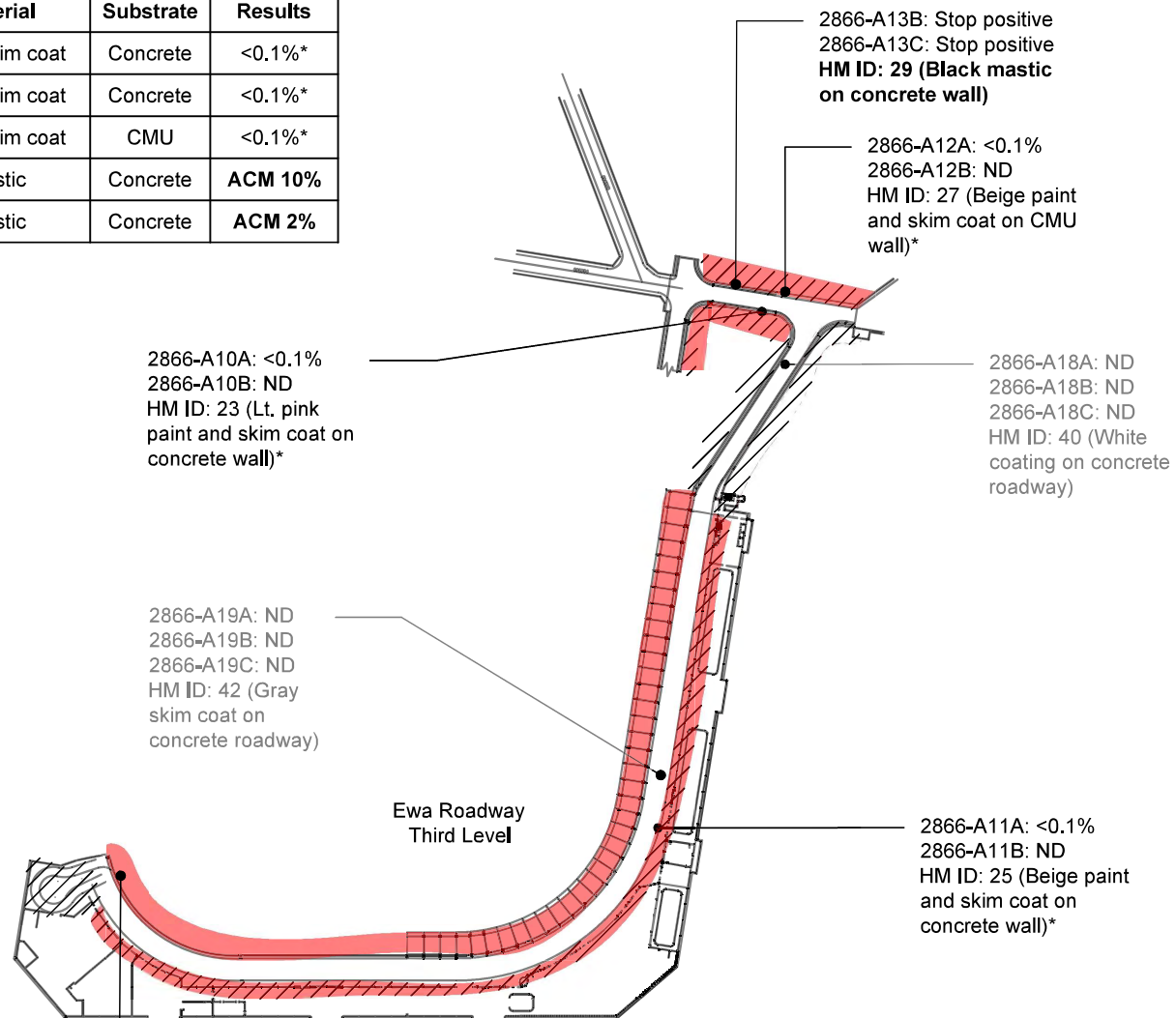


Myounghee Noh & Associates, L.L.C.

Lead Paint Sample and Hazardous Material Locations
Daniel K. Inouye International Airport
Diamond Head Roadway Second Level

Sheet Number
C - 6

HM ID	Locations	Color	Material	Substrate	Results
23	Walls	Lt. pink	Paint/skim coat	Concrete	<0.1%*
25	Columns, eaves, walls	Beige	Paint/skim coat	Concrete	<0.1%*
27	Walls	Beige	Paint/skim coat	CMU	<0.1%*
29	Floor, walls	Black	Mastic	Concrete	ACM 10%
30	Floors	Lt. gray	Mastic	Concrete	ACM 2%



Legend and Notes

/// Visual Extent of Trace Asbestos

■ Visual Extent of Asbestos-Containing Material

Bold values indicate results above the detection limit.

* Indicates one or more asbestos fibers were identified using the point count method. While the less than 1% asbestos is not a regulated material, trace amounts can be a health hazard.

All asbestos found to be chrysotile.

ACM - Asbestos-Containing Material

HM ID - Homogeneous Material Identifier

ND - None Detected

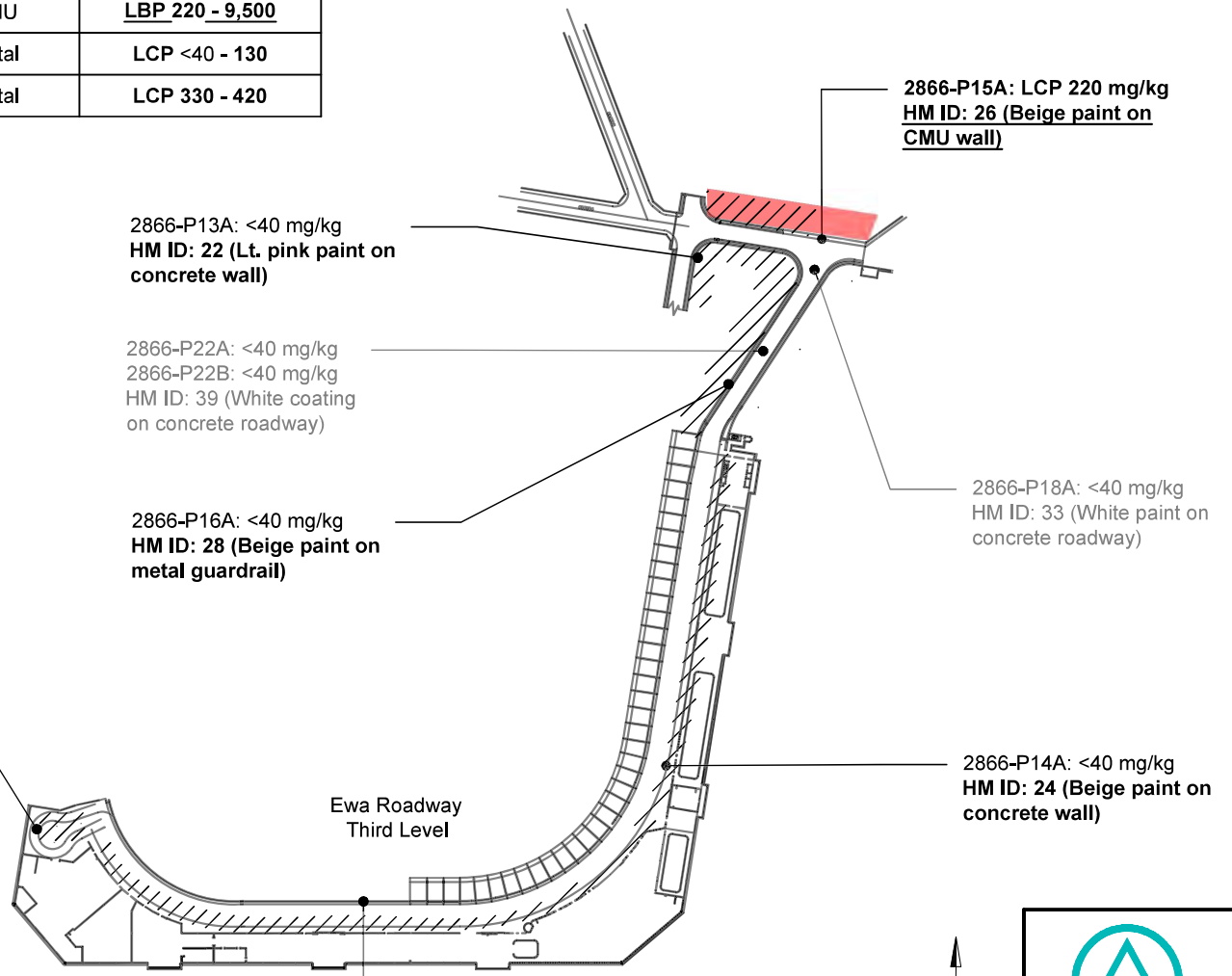


Myounghee Noh & Associates, L.L.C.

Asbestos Sample and Hazardous Material Locations
Daniel K. Inouye International Airport
Ewa Roadway Third Level

Sheet Number
C - 7

HM ID	Locations	Color	Substrate	Results (mg/kg)
22	Walls	Lt. pink	Concrete	LCP <40 - 56
24	Columns, eaves, walls	Beige	Concrete	LCP <40 - 170
26	Walls	Beige	CMU	<u>LBP 220 - 9,500</u>
28	Guardrails, handrails	Beige	Metal	LCP <40 - 130
36	Guardrails	Yellow	Metal	LCP 330 - 420



Legend and Notes

- Visual Extent of Lead-Based Paint
- Visual Extent of Lead-Containing Paint
- Bold values indicate results above the detection limit.**
- Cd - Cadmium
- HM ID - Hazardous Material Identifier
- LBP - Lead-Based Paint > 5,000 mg/kg
- LCP - Lead-Containing Paint < 5,000 mg/kg
- mg/kg - milligrams per kilogram (equivalent to ppm)



Myounghee Noh & Associates, L.L.C.

Lead Paint Sample and Hazardous Material Locations
Daniel K. Inouye International Airport
Ewa Roadway Third Level

Sheet Number
C - 8

HM ID	Locations	Color	Material	Substrate	Results
23	Walls	Lt. pink	Paint/skim coat	Concrete	<0.1%*
25	Columns, eaves, walls	Beige	Paint/skim coat	Concrete	<0.1%*
27	Walls	Beige	Paint/skim coat	CMU	<0.1%*
29	Floor, walls	Black	Mastic	Concrete	ACM 10%
30	Floors	Lt. gray	Mastic	Concrete	ACM 2%

2866-A13A: ACM 10%
HM ID: 29 (Black mastic on concrete wall)

2866-A10C: ND
HM ID: 23 (Lt. pink paint and skim coat on concrete wall)*

2866-A16A: ND
2866-A16B: ND
2866-A16C: ND
HM ID: 37 (Gray expansion joint on concrete roadway)

2866-A11C: ND
HM ID: 25 (Beige paint and skim coat on concrete wall)*

2866-A12C: ND
HM ID: 27 (Beige paint and skim coat on CMU wall)*

Diamond Head Roadway Third Level

2866-A14C: Stop positive
HM ID: 30 (Lt. gray mastic on concrete floor)

2866-A15A: ND
2866-A15B: ND
2866-A15C: ND
HM ID: 32 (White textured paint and skim coat on concrete eave)

Legend and Notes

/// Visual Extent of Trace Asbestos

■ Visual Extent of Asbestos-Containing Material

Bold values indicate results above the detection limit.

* Indicates one or more asbestos fibers were identified using the point count method. While the less than 1% asbestos is not a regulated material, trace amounts can be a health hazard.

All asbestos found to be chrysotile.

ACM - Asbestos-Containing Material

HM ID - Homogeneous Material Identifier

ND - None Detected



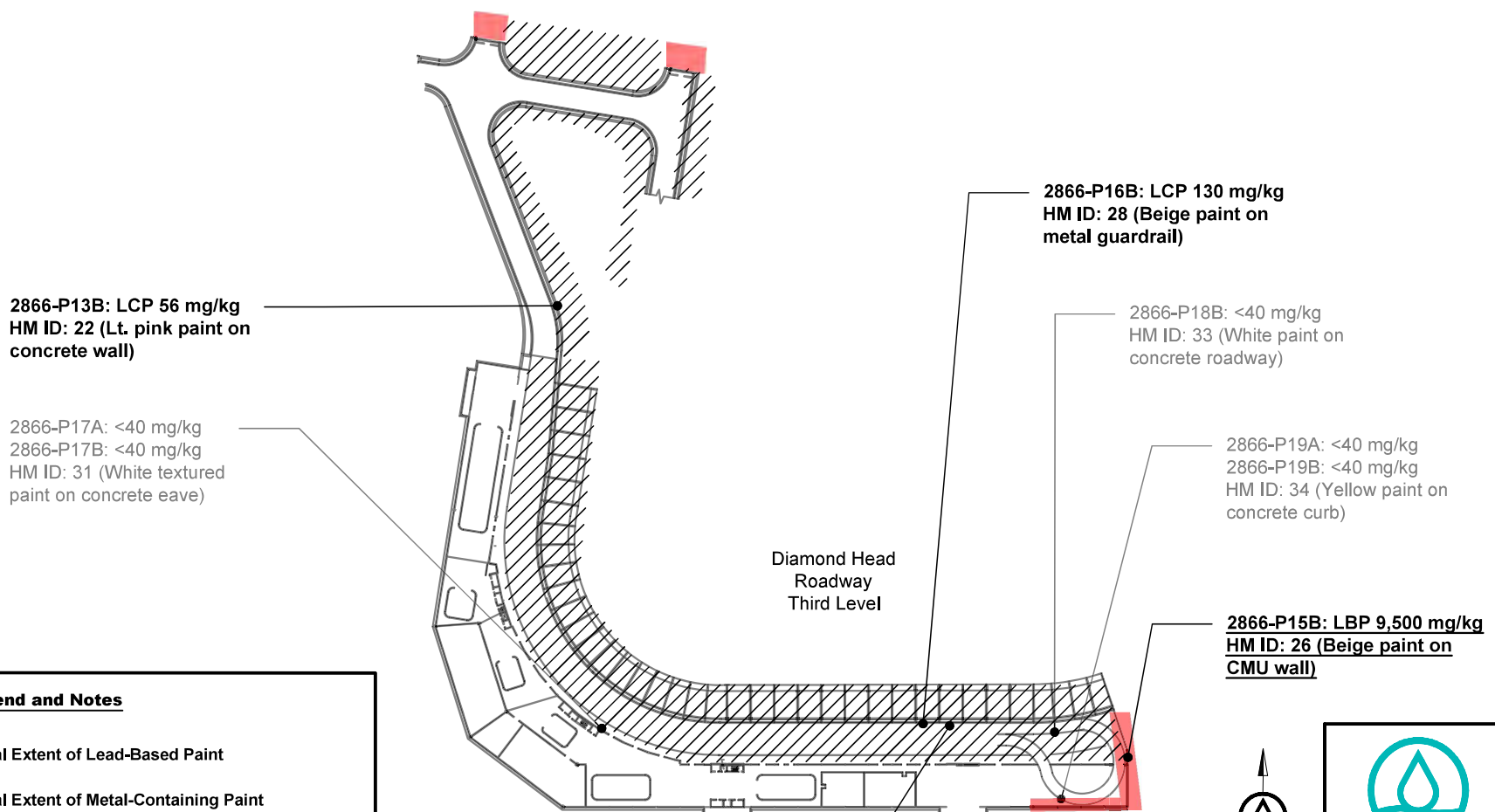
Myounghee Noh & Associates, L.L.C.

Asbestos Sample and Hazardous Material Locations
Daniel K. Inouye International Airport
Diamond Head Roadway Third Level

Sheet Number

C - 9

HM ID	Locations	Color	Substrate	Results (mg/kg)
22	Walls	Lt. pink	Concrete	LCP <40 - 56
24	Columns, eaves, walls	Beige	Concrete	LCP <40 - 170
26	Walls	Beige	CMU	<u>LBP 220 - 9,500</u>
28	Guardrails, handrails	Beige	Metal	LCP <40 - 130



Legend and Notes

- Visual Extent of Lead-Based Paint
- Visual Extent of Metal-Containing Paint
- Bold values indicate results above the detection limit.**
- Cd - Cadmium
- HM ID - Hazardous Material Identifier
- LBP - Lead-Based Paint > 5,000 mg/kg
- LCP - Lead-Containing Paint < 5,000 mg/kg
- mg/kg - milligrams per kilogram (equivalent to ppm)



Myounghee Noh & Associates, L.L.C.

Lead Paint Sample and Hazardous Material Locations
Daniel K. Inouye International Airport
Diamond Head Roadway Third Level

Sheet Number
C - 10

APPENDIX D: PHOTOGRAPHS



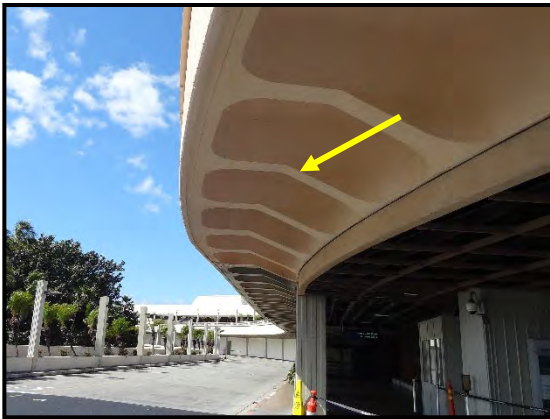
HM ID: 1
Floor 2

Light pink paint on concrete eave.

LCP

2866-P1A: 56 mg/kg

2866-P1B: 49 mg/kg



HM ID: 2
Floor 2

Light pink textured paint with gray skim coat on concrete eave.

Trace Asbestos

2866-A1A-Texture paint: ND

2866-A1A-Skim coat: <0.1% Chrysotile

2866-A1B-Texture paint: ND

2866-A1B-Skim coat: <0.1% Chrysotile

2866-A1C-Texture paint: ND

2866-A1C-Skim coat: <0.1% Chrysotile



HM ID: 3
Floor 2

Beige paint on concrete wall.

LCP

2866-P2A: 40 mg/kg

2866-P2B: 550 mg/kg



HM ID: 4
Floor 2

Beige textured paint with gray skim coat on concrete wall.

Non-ACM

2866-A2A-Texture paint: ND
2866-A2A-Skim coat: ND
2866-A2B-Texture paint: ND
2866-A2B-Skim coat: ND
2866-A2C-Texture paint: ND
2866-A2C-Skim coat: ND

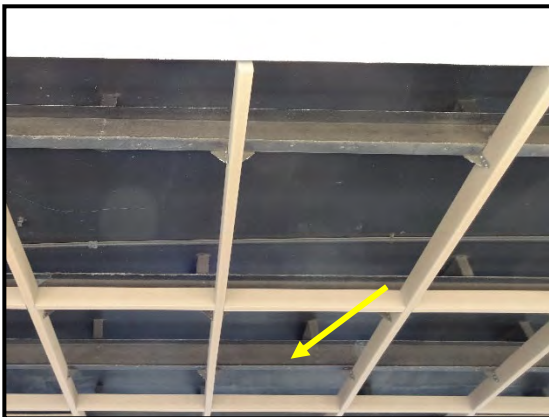


HM ID: 5
Floor 2

Black paint on concrete ceiling.

Non-LCP

2866-P3A: <40 mg/kg
2866-P3B: <40 mg/kg



HM ID: 6
Floor 2

Black paint on metal trim.

Non-LCP

2866-P4A: <40 mg/kg
2866-P4B: <40 mg/kg



HM ID: 7
Floor 2

Light pink paint on metal conduit.

LCP

2866-P5A: 79 mg/kg

2866-P5B: 190 mg/kg



HM ID: 8
Floor 2

White paint on asphalt roadway.

Non-LCP

2866-P6A: <40 mg/kg

2866-P6B: <40 mg/kg



HM ID: 9
Floor 2

Red paint on concrete curb.

LCP

2866-P7A: <40 mg/kg

2866-P7B: 4,200 mg/kg



HM ID: 10
Floor 2

Yellow paint on asphalt roadway.

LCP

2866-P8A: 550 mg/kg

2866-P8B: <40 mg/kg



HM ID: 11
Floor 2

Yellow paint on concrete curb.

LBP

2866-P9A: 27,000 mg/kg

2866-P9B: 38,000 mg/kg



HM ID: 12
Floor 2

Black coating and silver paint on concrete wall.

ACM

2866-A3A: ND

2866-A3B-Silver paint: ND

2866-A3B-Coating: 5% Chrysotile

2866-A3C: Stop positive



HM ID: 13
Floor 2

Beige textured paint on concrete eave.

Non-LCP

2866-P10A: <40 mg/kg

2866-P10B: <40 mg/kg



HM ID: 14
Floor 2

Beige textured paint with skim coat and plaster on concrete eave.

Non-ACM

2866-A4A-Texture paint: ND

2866-A4A-Skim coat: ND

2866-A4B-Texture paint: ND

2866-A4B-Skim coat: ND

2866-A4C-Texture paint: ND

2866-A4C-Skim coat: ND

2866-A4C-Plaster: ND



HM ID: 15
Floor 2

Silver paint on metal guardrail.

LBP

2866-P11A: 130,000 mg/kg

2866-P11B: 110,000 mg/kg



HM ID: 16
Floor 2

Gray grout on 3" x 9" tan ceramic tile floor.

Non-ACM

2866-A5A-Ceramic tile: ND

2866-A5A-Grout: ND

2866-A5B-Ceramic tile: ND

2866-A5B-Grout: ND

2866-A5C-Ceramic tile 1: ND

2866-A5C-Ceramic tile 2: ND

2866-A5C-Grout: ND



HM ID: 17
Floor 2

Beige paint on concrete masonry unit wall.

Non-LCP

2866-P12A: <40 mg/kg

2866-P12B: <40 mg/kg



HMI D: 18
Floor 2

Beige textured paint with gray skim coat and black tar on concrete masonry unit wall.

Non-ACM

2866-A6A-Texture paint/skim coat: ND

2866-A6A-Tar: ND

2866-A6B-Texture paint: ND

2866-A6B-Skim coat: ND

2866-A6C-Texture paint: ND

2866-A6C-Tar: ND



HM ID: 19
Floor 2

Black expansion joint on concrete roadway.

Non-ACM

2866-A7A: ND

2866-A7B: ND

2866-A7C: ND



HM ID: 20
Floor 2

Gray grout on 12" x 12" red ceramic tile wall.

Non-ACM

2866-A8A-Ceramic tile: ND

2866-A8A-Grout: ND

2866-A8A-Mortar: ND

2866-A8A-Mastic: ND

2866-A8B-Ceramic tile: ND

2866-A8B-Grout: ND

2866-A8B-Mortar: ND

2866-A8B-Mastic: ND

2866-A8C-Ceramic tile: ND

2866-A8C-Grout: ND

2866-A8C-Mortar: ND

2866-A8C-Mastic: ND



HM ID: 21
Floor 2

Light gray caulking on concrete floor.

Non-ACM

2866-A9A: ND

2866-A9B: ND

2866-A9C-Caulking: ND

2866-A9C-Mastic: ND



HM ID: 22
Floor 3

Light pink paint on concrete wall.

LCP

2866-P13A: <40 mg/kg

2866-P13B: 56 mg/kg



HM ID: 23
Floor 3

Light pink paint and skim coat on concrete wall.

Trace Asbestos

2866-A10A-Comp texture paint/skim coat:
<0.1% Chrysotile

2866-A10B-Comp texture paint/skim coat:
<0.1% Chrysotile

2866-A10C-Comp texture paint/skim coat:
<0.1% Chrysotile



HM ID: 24
Floor 3

Beige paint on concrete wall.

LCP

2866-P14A: <40 mg/kg

2866-P14B: 170 mg/kg



HM ID: 25
Floor 3

Beige paint and skim coat with black mastic on concrete wall.

Trace Asbestos

2866-A11A-Comp Texture paint/skim coat: ND

2866-A11A-Mastic: ND

2866-A11B-Comp Texture paint/skim coat:

<0.1% Chrysotile

2866-A11B-Concrete: ND

2866-A11C-Texture paint: ND

2866-A11C-Concrete: ND



HM ID: 26
Floor 3

Beige paint on concrete masonry unit wall.

LBP

2866-P15A: 220 mg/kg

2866-P15B: 9,500 mg/kg



HM ID: 27
Floor 3

Beige paint and skim coat on concrete masonry unit wall.

Trace Asbestos

2866-A12A-Comp texture paint/skim coat:

<0.1% Chrysotile

2866-A12B-Comp texture paint/skim coat:

<0.1% Chrysotile

2866-A12C-Comp texture paint/skim coat:

<0.1% Chrysotile



HM ID: 28
Floor 3

Beige paint on metal handrail.

LCP

2866-P16A: <40 mg/kg

2866-P16B: 130 mg/kg



HM ID: 29
Floor 3

Black coating and vinyl wrap with mastic on concrete wall.

ACM

2866-A13A-Coating 1: ND

2866-A13A-Coating 2/texture like: ND

2866-A13A-Vinyl wrap: ND

2866-A13A-Mesh: ND

2866-A13B-Coating 1: ND

2866-A13B-Penetration mastic: 10%

Chrysotile

2866-A13B-Paint/coating 2: ND

2866-A13B-Texture like: ND

2866-A13C-Coating: ND

2866-A13C-Concrete: ND

2866-A13C-Mastic: ND



HM ID: 30
Floor 3

Light gray caulking with mastic on concrete floor.

ACM

2866-A14A-Mastic: 2% Chrysotile

2866-A14A-Caulking: ND

2866-A14B-Mastic: Stop positive

2866-A14B-Caulking: ND

2866-A14C: ND



HM ID: 31
Floor 3

White textured paint on concrete eave.

Non-LCP

2866-P17A: <40 mg/kg

2866-P17B: <40 mg/kg



HM ID: 32
Floor 3

White textured paint and skim coat on concrete eave.

Non-ACM

2866-A15A-Texture paint: ND

2866-A15B-Comp texture paint/skim coat: ND

2866-A15C-Comp texture paint/skim coat: ND



HM ID: 33
Floor 3

White paint on concrete roadway.

Non-LCP

2866-P18A: <40 mg/kg

2866-P18B: <40 mg/kg



HM ID: 34
Floor 3

Yellow paint on concrete curb.

Non-LCP

2866-P19A: <40 mg/kg

2866-P19B: <40 mg/kg



HM ID: 35
Floor 3

Brown paint on metal handrail.

Non-LCP

2866-P20A: <40 mg/kg

2866-P20B: <40 mg/kg



HM ID: 36
Floor 3

Yellow paint on metal guardrail.

LCP

2866-P21A: 420 mg/kg

2866-P21B: 330 mg/kg



HM ID: 37
Floor 3

Gray expansion joint with black fibrous material on concrete roadway.

Non-ACM

- 2866-A16A-Expansion joint: ND
- 2866-A16A-Cement material: ND
- 2866-A16A-Fibrous material: ND
- 2866-A16B-Expansion joint: ND
- 2866-A16B-Cement material: ND
- 2866-A16B-Fibrous material: ND
- 2866-A16C-Expansion joint: ND
- 2866-A16C-Cement material: ND
- 2866-A16C-Fibrous material: ND



HM ID: 38
Floor 3

Gray grout on 12" x 12" red ceramic tile wall.

Non-ACM

- 2866-A17A-Ceramic tile: ND
- 2866-A17A-Grout: ND
- 2866-A17B-Ceramic tile: ND
- 2866-A17B-Grout: ND
- 2866-A17C-Ceramic tile: ND
- 2866-A17C-Grout: ND



HM ID: 39
Floor 3

White coating on concrete roadway.

Non-LCP

- 2866-P22A: <40 mg/kg
- 2866-P22B: <40 mg/kg



HM ID: 40
Floor 3

White coating on concrete roadway.

Non-ACM

2866-A18A-Caulk 1: ND

2866-A18A-Caulk 2: ND

2866-A18B: ND

2866-A18C: ND



HM ID: 41
Floor 1

Light pink paint on metal conduit.

LCP

2866-P23A: 46 mg/kg

2866-P23B: 78 mg/kg



HM ID: 42
Floor 3

Gray skim coat on concrete roadway.

Non-ACM

2866-A19A: ND

2866-A19B: ND

2866-A19C: ND



HM ID: 43
Floor 1

Beige paint on concrete ceiling.

LCP

2866-P24A: 82 mg/kg

2866-P24B: 250 mg/kg



HM ID: 44
Floor 1

Beige textured paint and skim coat on concrete ceiling.

ACM

2866-A20A-Texture paint/mastic: 2%

Chrysotile

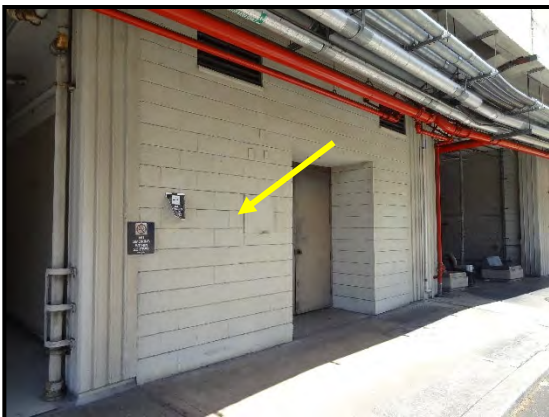
2866-A20A-Skim coat: <0.1% Chrysotile

2866-A20B-Texture paint/mastic: Stop positive

2866-A20B-Skim coat: <0.1% Chrysotile

2866-A20C-Texture paint/mastic: Stop positive

2866-A20C-Skim coat: <0.1% Chrysotile



HM ID: 45
Floor 1

Beige paint on concrete masonry unit wall.

LCP

2866-P25A: 94 mg/kg

2866-P25B: 120 mg/kg



HM ID: 46
Floor 1

Beige textured paint and skim coat on concrete masonry unit wall.

Non-ACM

2866-A21A-Texture paint: ND

2866-A21A-Skim coat: ND

2866-A21B-Texture paint: ND

2866-A21B-Skim coat: ND

2866-A21C-Comp texture paint/skim coat: ND



HM ID: 47
Floor 1

Light pink paint on concrete column.

Non-LCP

2866-P26A: <40 mg/kg

2866-P26B: <40 mg/kg



HM ID: 48
Floor 1

Light pink textured paint and skim coat on concrete column.

Non-ACM

2866-A22A-Texture paint: ND

2866-A22A-Skim coat: ND

2866-A22B-Texture paint: ND

2866-A22B-Skim coat: ND

2866-A22C-Texture paint: ND

2866-A22C-Skim coat: ND



HM ID: 49
Floor 2

Black waterproofing under concrete pavement on roadway.

ACM

2866-A23A: ACM 20%

2866-A23B: Stop positive

2866-A23C: Stop positive

APPENDIX E: LABORATORY ANALYTICAL REPORTS



LA Testing

520 Mission Street South Pasadena, CA 91030

Tel/Fax: (323) 254-9960 / (323) 254-9982

<http://www.LATesting.com> / pasadenalab@latesting.com

LA Testing Order: 322111650

Customer ID: 32MYOU50

Customer PO: 02866_2

Project ID:

Attention: Danny Falanug
Myounghee Noh & Associates, LLC
99-1046 Iwaena Street
Suite 210A
Aiea, HI 96701

Phone: (808) 484-9214

Fax:

Received Date: 06/24/2021 9:30 AM

Analysis Date: 06/25/2021 - 06/28/2021

Collected Date: 06/08/2021

Project: 2866_2 International Airport

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
2866-A1A-Texture Paint <small>322111650-0001</small>	2 - Lt. pink, P/SC, concrete	Gray/Pink Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A1A-Skim Coat <small>322111650-0001A</small>	2 - Lt. pink, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A1B-Texture Coat <small>322111650-0002</small>	2 - Lt. pink, P/SC, concrete	Pink/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A1B-Skim Coat <small>322111650-0002A</small>	2 - Lt. pink, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A1C-Texture Paint <small>322111650-0003</small>	2 - Lt. pink, P/SC, concrete	Gray/Pink Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A1C-Skim Coat <small>322111650-0003A</small>	2 - Lt. pink, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A2A-Texture Paint <small>322111650-0004</small>	4 - Beige, P/SC, concrete	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A2A-Skim Coat <small>322111650-0004A</small>	4 - Beige, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A2B-Texture Paint <small>322111650-0005</small>	4 - Beige, P/SC, concrete	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A2B-Skim Coat <small>322111650-0005A</small>	4 - Beige, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A2C-Texture Paint <small>322111650-0006</small>	4 - Beige, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A2C-Skim Coat <small>322111650-0006A</small>	4 - Beige, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A3A <small>322111650-0007</small>	12 - Black, coating, concrete	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A3B-Silver Paint <small>322111650-0008</small>	12 - Black, coating, concrete	Silver Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A3B-Coating <small>322111650-0008A</small>	12 - Black, coating, concrete	Black Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
2866-A3C <small>322111650-0009</small>	12 - Black, coating, concrete				Positive Stop (Not Analyzed)

Initial report from: 06/28/2021 10:11:30



LA Testing

520 Mission Street South Pasadena, CA 91030

Tel/Fax: (323) 254-9960 / (323) 254-9982

<http://www.LATesting.com> / pasadenalab@latesting.com

LA Testing Order: 322111650

Customer ID: 32MYOU50

Customer PO: 02866_2

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
2866-A4A-Texture Paint <i>322111650-0010</i>	14 - Beige, textured P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A4A-Skim Coat <i>322111650-0010A</i>	14 - Beige, textured P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A4B-Texture Paint <i>322111650-0011</i>	14 - Beige, textured P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A4B-Skim Coat <i>322111650-0011A</i>	14 - Beige, textured P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A4C-Texture Paint <i>322111650-0012</i>	14 - Beige, textured P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A4C-Skim Coat <i>322111650-0012A</i>	14 - Beige, textured P/SC, concrete	White/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A4C-Plaster <i>322111650-0012B</i>	14 - Beige, textured P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A5A-Ceramic Tile <i>322111650-0013</i>	16 - Gray, grout, 3"x9" ceramic tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A5A-Grout <i>322111650-0013A</i>	16 - Gray, grout, 3"x9" ceramic tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A5B-Ceramic Tile <i>322111650-0014</i>	16 - Gray, grout, 3"x9" ceramic tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A5B-Grout <i>322111650-0014A</i>	16 - Gray, grout, 3"x9" ceramic tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A5C-Ceramic Tile 1 <i>322111650-0015</i>	16 - Gray, grout, 3"x9" ceramic tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A5C-Ceramic Tile 2 <i>322111650-0015A</i>	16 - Gray, grout, 3"x9" ceramic tile	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A5C-Grout <i>322111650-0015B</i>	16 - Gray, grout, 3"x9" ceramic tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A6A-Texture Paint/ Skim Coat <i>322111650-0016</i> <i>Unable to separate</i>	18 - Beige, P/SC, CMU	White/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A6A-Tar <i>322111650-0016A</i>	18 - Beige, P/SC, CMU	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A6B-Texture Paint <i>322111650-0017</i>	18 - Beige, P/SC, CMU	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A6B-Skim Coat <i>322111650-0017A</i>	18 - Beige, P/SC, CMU	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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Customer ID: 32MYOU50

Customer PO: 02866_2

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
2866-A6C-Texture Paint <small>322111650-0018</small>	18 - Beige, P/SC, CMU	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A6C-Tar <small>322111650-0018A</small>	18 - Beige, P/SC, CMU	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
<i>Insufficient skim coat present for analysis.</i>					
2866-A7A <small>322111650-0019</small>	19 - Black, expansion joint, concrete	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A7B <small>322111650-0020</small>	19 - Black, expansion joint, concrete	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A7C <small>322111650-0021</small>	19 - Black, expansion joint, concrete	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A8A-Ceramic Tile <small>322111650-0022</small>	20 - Gray, grout, 12"x12" ceramic tiles	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A8A-Grout <small>322111650-0022A</small>	20 - Gray, grout, 12"x12" ceramic tiles	Gray/Purple Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A8A-Mortar <small>322111650-0022B</small>	20 - Gray, grout, 12"x12" ceramic tiles	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A8A-Mastic <small>322111650-0022C</small>	20 - Gray, grout, 12"x12" ceramic tiles	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A8B-Ceramic Tile <small>322111650-0023</small>	20 - Gray, grout, 12"x12" ceramic tiles	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A8B-Grout <small>322111650-0023A</small>	20 - Gray, grout, 12"x12" ceramic tiles	Gray/Purple Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A8B-Mortar <small>322111650-0023B</small>	20 - Gray, grout, 12"x12" ceramic tiles	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A8B-Mastic <small>322111650-0023C</small>	20 - Gray, grout, 12"x12" ceramic tiles	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A8C-Ceramic Tile <small>322111650-0024</small>	20 - Gray, grout, 12"x12" ceramic tiles	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A8C-Grout <small>322111650-0024A</small>	20 - Gray, grout, 12"x12" ceramic tiles	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A8C-Mortar <small>322111650-0024B</small>	20 - Gray, grout, 12"x12" ceramic tiles	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A8C-Mastic <small>322111650-0024C</small>	20 - Gray, grout, 12"x12" ceramic tiles	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A9A <small>322111650-0025</small>	21 - Lt. gray, caulking, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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			% Fibrous	% Non-Fibrous	% Type
2866-A9B <small>322111650-0026</small>	21 - Lt. gray, caulking, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A9C-Caulking <small>322111650-0027</small>	21 - Lt. gray, caulking, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A9C-Mastic <small>322111650-0027A</small>	21 - Lt. gray, caulking, concrete	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A10A-Composite Texture Paint/Skim Coat <small>322111650-0028</small> <i>Unable to separate</i>	23 - Lt. pink, P/SC, concrete	Gray/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A10B-CompTexture Paint/Skim Coat <small>322111650-0029</small> <i>Unable to separate</i>	23 - Lt. pink, P/SC, concrete	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A10C-Comp Texture Paint/Skim Coat <small>322111650-0030</small> <i>Unable to separate</i>	23 - Lt. pink, P/SC, concrete	Gray/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A11A-Comp Texture Paint/Skim Coat <small>322111650-0031</small>	25 - Beige, P/SC, concrete	Gray/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A11A-Mastic <small>322111650-0031A</small>	25 - Beige, P/SC, concrete	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A11B-Comp Texture Paint/Skim Coat <small>322111650-0032</small>	25 - Beige, P/SC, concrete	Gray/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A11B-Concrete <small>322111650-0032A</small>	25 - Beige, P/SC, concrete	Gray/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A11C-Texture Paint <small>322111650-0033</small> <i>No SC present for analysis.</i>	25 - Beige, P/SC, concrete	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A11C-Concrete <small>322111650-0033A</small>	25 - Beige, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A12A-Comp Texture Paint/Skim Coat <small>322111650-0034</small> <i>Unable to separate</i>	27 - Beige, P/SC, concrete block	Gray/Black/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A12B-Comp Texture Paint/Skim Coat <small>322111650-0035</small> <i>Unable to separate</i>	27 - Beige, P/SC, concrete block	Gray/Black/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	<1% Chrysotile

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			% Fibrous	% Non-Fibrous	% Type
2866-A12C-Texture Paint/Skim Coat	27 - Beige, P/SC, concrete block	Gray/Black/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
322111650-0036 Unable to separate					
2866-A13A-Coating 1	29 - Black, coating, concrete	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0037					
2866-A13A-Coating 2/Texture Like	29 - Black, coating, concrete	Gray/Black Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
322111650-0037A Unable to separate					
2866-A13A-Vinyl Wire Wrap Like	29 - Black, coating, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0037B					
2866-A13A-Mesh	29 - Black, coating, concrete	Black Fibrous Homogeneous	90% Synthetic	10% Non-fibrous (Other)	None Detected
322111650-0037C					
2866-A13B-Coating 1	29 - Black, coating, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0038					
2866-A13B-Penetration Mastic	29 - Black, coating, concrete	Gray/Black Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
322111650-0038A					
2866-A13B-Paint/Coating 2	29 - Black, coating, concrete	Black/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
322111650-0038B					
2866-A13B-Texture Like	29 - Black, coating, concrete	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0038C					
2866-A13C-Coating	29 - Black, coating, concrete	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0039					
2866-A13C-Concrete	29 - Black, coating, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0039A					
2866-A13C-Mastic	29 - Black, coating, concrete	Gray/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0039B					
2866-A14A-Mastic	30 - Lt. gray, caulking, concrete	Black Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
322111650-0040					
2866-A14A-Caulk	30 - Lt. gray, caulking, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0040A					
2866-A14B-Mastic	30 - Lt. gray, caulking, concrete				Positive Stop (Not Analyzed)
322111650-0041					
2866-A14B-Caulk	30 - Lt. gray, caulking, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0041A					
2866-A14C	30 - Lt. gray, caulking, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0042					

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
2866-A15A-Texture Paint	32 - White, textured P/SC, concrete	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0043 <i>Insufficient skim coat present for analysis.</i>					
2866-A15B-Comp Texture Paint/Skim Coat	32 - White, textured P/SC, concrete	White/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
322111650-0044					
2866-A15C-Comp Texture Paint/Skim Coat	32 - White, textured P/SC, concrete	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0045 <i>Unable to separate</i>					
2866-A16A-Expansion Joint (Caulk Like)	37 - White w/ black, expansion joint, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0046					
2866-A16A-Cementitious Material	37 - White w/ black, expansion joint, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0046A					
2866-A16A-Fibrous Material	37 - White w/ black, expansion joint, concrete	Black Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
322111650-0046B					
2866-A16B-Expansion Joint (Caulk Like)	37 - White w/ black, expansion joint, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0047					
2866-A16B-Cementitious Material	37 - White w/ black, expansion joint, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0047A					
2866-A16B-Fibrous Material	37 - White w/ black, expansion joint, concrete	Black Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
322111650-0047B					
2866-A16C-Expansion Joint(Caulk Like)	37 - White w/ black, expansion joint, concrete	Gray/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0048					
2866-A16C-Cementitious Material	37 - White w/ black, expansion joint, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0048A					
2866-A16C-Fibrous Material	37 - White w/ black, expansion joint, concrete	Black/Beige Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
322111650-0048B					
2866-A17A-Ceramic Tile	38 - Gray, grout, 12"x12" ceramic tiles	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0049					
2866-A17A-Grout	38 - Gray, grout, 12"x12" ceramic tiles	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0049A					
2866-A17B-Ceramic Tile	38 - Gray, grout, 12"x12" ceramic tiles	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
322111650-0050					

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			% Fibrous	% Non-Fibrous	% Type
2866-A17B-Grout <small>322111650-0050A</small>	38 - Gray, grout, 12"x12" ceramic tiles	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A17C-Ceramic Tile <small>322111650-0051</small>	38 - Gray, grout, 12"x12" ceramic tiles	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A17C-Grout <small>322111650-0051A</small>	38 - Gray, grout, 12"x12" ceramic tiles	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A18A-Caulk 1 <small>322111650-0052</small>	40 - White, coating, concrete	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A18A-Caulk 2 <small>322111650-0052A</small>	40 - White, coating, concrete	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A18B <small>322111650-0053</small>	40 - White, coating, concrete	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A18C <small>322111650-0054</small>	40 - White, coating, concrete	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A19A <small>322111650-0055</small>	42 - Gray, skim coat, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A19B <small>322111650-0056</small>	42 - Gray, skim coat, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A19C <small>322111650-0057</small>	42 - Gray, skim coat, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A20A-Texture Paint/Mastic Like <small>322111650-0058</small> <i>Unable to separate</i>	44 - Beige, P/SC, concrete	Gray/Black Non-Fibrous Heterogeneous		98% Non-fibrous (Other)	2% Chrysotile
2866-A20A-Skim Coat <small>322111650-0058A</small>	44 - Beige, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A20B-Texture Paint/Mastic Like <small>322111650-0059</small> <i>Unable to separate</i>	44 - Beige, P/SC, concrete				Positive Stop (Not Analyzed)
2866-A20B-Skim Coat <small>322111650-0059A</small>	44 - Beige, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A20C-Texture Paint <small>322111650-0060</small>	44 - Beige, P/SC, concrete				Positive Stop (Not Analyzed)
2866-A20C-Skim Coat <small>322111650-0060A</small>	44 - Beige, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A21A-Texture Paint <small>322111650-0061</small>	46 - Beige, P/SC, CMU	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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			% Fibrous	% Non-Fibrous	% Type
2866-A21A-Skim Coat <small>322111650-0061A</small>	46 - Beige, P/SC, CMU	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A21B-Texture Paint <small>322111650-0062</small>	46 - Beige, P/SC, CMU	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A21B-Skim Coat <small>322111650-0062A</small>	46 - Beige, P/SC, CMU	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A21C-CompTexture Paint/Skim Coat <small>322111650-0063</small>	46 - Beige, P/SC, CMU	Gray/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A22A-Texture Paint <small>322111650-0064</small>	48 - Lt. pink, P/SC, concrete	Gray/Pink Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A22A-Skim Coat <small>322111650-0064A</small>	48 - Lt. pink, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A22B-Texture Paint <small>322111650-0065</small>	48 - Lt. pink, P/SC, concrete	Gray/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A22B-Skim Coat <small>322111650-0065A</small>	48 - Lt. pink, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A22C-Texture Paint <small>322111650-0066</small>	48 - Lt. pink, P/SC, concrete	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A22C-Skim Coat <small>322111650-0066A</small>	48 - Lt. pink, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Kieu-anh Pham Duong (65)

Nahid Motamedi (56)

Jerry Drapala Ph.D, Laboratory Manager
or Other Approved Signatory

LA Testing maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by LA Testing. LA Testing bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore LA Testing recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by LA Testing South Pasadena, CA NVLAP Lab Code 200232-0, CA ELAP 2283

Initial report from: 06/28/2021 10:11:30



Asbestos Chain of Custody

LA Testing Order Number (Lab Use Only):

#322111650

PHONE: ()

FAX: ()

Company : Myounghee Noh & Associates, L.L.C.		EMSL Customer ID: 32MYOU50	
Street: 99-1046 Iwaena Street, Suite 201A		City: Aiea	State/Province: Hawaii
Zip/Postal Code: 96701	Country: USA	Telephone #: (808) 853-3152	Fax #:
Report To (Name): <u>Danny Falanug</u>		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
Email Address: <u>danny@noh-associates.com</u>		Purchase Order: <u>02866-2</u>	
Project Name/Number: <u>2866-2 International Airport</u>		Connecticut Samples: <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Residential	
U.S. State Samples Taken:		EMSL Project ID (Internal Use Only):	
LA Testing-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different - If Bill to is Different note instructions in Comments** Third Party Billing requires written authorization from third party			
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour <input type="checkbox"/> 6 Hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week			
<small>*For TEM Air 3 hours through 6 hours, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with LA Testing's Terms and Conditions located in the Analytical Price Guide.</small>			
PCM - Air <input type="checkbox"/> Check if samples are from NY <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA PLM - Bulk (reporting limit) <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NYS 198.8 SOF-V <input type="checkbox"/> NIOSH 9002 (<1%)		TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 TEM - Bulk <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	
		TEM- Dust <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) Soil/Rock/Vermiculite <input type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> EPA Protocol (Semi-Quantitative) <input type="checkbox"/> EPA Protocol (Quantitative) Other: <input type="checkbox"/>	
<input type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group		Filter Pore Size (Air Samples): <input type="checkbox"/> 0.8µm <input type="checkbox"/> 0.45µm	
Samplers Name: <u>Danny Falanug, Kealohi Sarrao</u>		Samplers Signature: <u>Danny Falanug</u>	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
2866-A1A	Please see field forms	Bulk	6/21/21
↓ -A1B	Positive stop analysis	↓	↓
↓ -A1C	↓	↓	↓
2866-A2A	↓	↓	↓
↓ -A2B	↓	↓	↓
↓ -A2C	↓	↓	↓
Client Sample # (s): <u>2866-A1A</u> ————— <u>2866-A22C</u>		Total # of Samples: <u>66</u>	
Relinquished (Client): <u>Danny, Danny</u>		Date: <u>6/22/21</u> Time: <u>21:30</u>	
Received (Lab): <u>RPL/PE</u>		Date: <u>6/24/21</u> Time: <u>9:30am</u>	
Comments/Special Instructions: <u>please see field forms</u> <u>positive stop analysis</u>			

Hazardous Homogeneous Materials and Sampling Survey Field Form: Asbestos

Project Number: **2866 2** Location: **Daniel K. Inouye International Airport** Inspector Initials: **DF, KS** Survey Dates and Times: **6/8/21**

HM ID	Building	Flr.	Area Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area	Hatch Color
									Type	Sq. Ft or L. ft	
2	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	Ceiling, eaves, walls	Lt. Pink	P/SC	Concrete	G ⊕ P	Y ⊕ TSI S ⊕	6,000	

Sample ID	Area Room Sampled	Sample Location	PIC ID	Notes
2866-A 1 A	Ewa wing	wall	51	
2866-A 1 B	Diamond Head wing	wall		
2866-A 1 C	Diamond Head wing	wall		

HM ID	Building	Flr.	Area Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area	Hatch Color
									Type	Sq. Ft or L. ft	
4	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	Walls, Columns	Beige	P/SC	Concrete	G ⊕ F P	Y ⊕ TSI S ⊕	10,000	

Sample ID	Area Room Sampled	Sample Location	PIC ID	Notes
2866-A 2 A	Ewa wing	wall	52	
2866-A 2 B	Diamond Head wing	column		
2866-A 2 C	Diamond Head wing	wall		

HM ID	Building	Flr.	Area Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area	Hatch Color
									Type	Sq. Ft or L. ft	
12	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	Walls, Floor	Black	Coating	Concrete	G ⊕ F ⊕	Y ⊕ TSI S ⊕	8,000	XXX

Sample ID	Area Room Sampled	Sample Location	PIC ID	Notes
2866-A 3 A	Ewa wing	wall	00060	
2866-A 3 B	Diamond Head wing	wall		
2866-A 3 C	Diamond Head wing	wall		

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#322111650

Hazardous Homogeneous Materials and Sampling Survey Field Form: Asbestos

Project Number: 2866 2

Location: Daniel K. Inouye International Airport

Inspector Initials: DF, KS

Survey Dates and Times: 6/8/21

HM ID	Building	Flr.	Area Room	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area Sq. ft Sq. ft or L. ft	Hatch Color
									Type		
14	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	Eave	Beige	Textured P/SC	Concrete	G F P	Y <input checked="" type="checkbox"/> TSI S <input checked="" type="checkbox"/>	5,000	//
Sample ID		Area Room Sampled		Sample Location		PIC ID		Notes			
2866-A 4 A		Ewa wing		Eave		63					
2866-A 4 B		Ewa wing		Eave							
2866-A 4 C		Diamond Head wing		Eave							
HM ID	Building	Flr.	Area Room	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area Sq. ft Sq. ft or L. ft	Hatch Color
									Type		
16	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	Floor	Gray	Grout	3" x 9" Ceramic tile	G F P	Y <input checked="" type="checkbox"/> TSI S <input checked="" type="checkbox"/>	4,000	//
Sample ID		Area Room Sampled		Sample Location		PIC ID		Notes			
2866-A 5 A		Ewa wing		Floor		00062					
2866-A 5 B		Ewa wing		Floor							
2866-A 5 C		Diamondhead wing		Floor							
HM ID	Building	Flr.	Area Room	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area Sq. ft Sq. ft or L. ft	Hatch Color
									Type		
18	Daniel K. Inouye International Airport	2	Diamond Head Wing,	walls	Beige	P/sc	CMU	G F P	Y <input checked="" type="checkbox"/> TSI S <input checked="" type="checkbox"/>	1,000	~~~~~
Sample ID		Area Room Sampled		Sample Location		PIC ID		Notes			
2866-A 6 A		Diamond Head wing		wall		00065					
2866-A 6 B		↓		↓							
2866-A 6 C		↓		↓							

#322111650

Hazardous Homogeneous Materials and Sampling Survey Field Form: Asbestos

Project Number: 2866 2

Location: Daniel K. Inouye International Airport

Inspector Initials: DF, KS

Survey Dates and Times: 6/8/21

HM ID	Building	Flr.	Area Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area	Hatch Color
									Type	Sq. ft or L. ft	
19	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	Road way	Black	expansion joint	Concrete	F P	N TSI S M	2,000	///
Sample ID		Area Room Sampled		Sample Location		PIC ID		Notes			
2866-A 7 A		Ewa wing		roadway		00066					
2866-A 7 B		Diamond Head wing		↓							
2866-A 7 C		Diamond Head wing									
HM ID	Building	Flr.	Area Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area	Hatch Color
									Type	Sq. ft or L. ft	
20	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	walls	Gray	Grout	12"x12" ceramic tiles	F P	N TSI S M	200	—
Sample ID		Area Room Sampled		Sample Location		PIC ID		Notes			
2866-A 8 A		Ewa wing		wall		00081					
2866-A 8 B		Ewa wing		wall							
2866-A 8 C		Diamond Head wing									
HM ID	Building	Flr.	Area Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area	Hatch Color
									Type	Sq. ft or L. ft	
21	Daniel K. Inouye International Airport	2	Ewa Wing	Floor	Lt: gray	Caulking	Concrete	F P	N TSI S M	500	—
Sample ID		Area Room Sampled		Sample Location		PIC ID		Notes			
2866-A 9 A		Ewa wing		Floor		00072					
2866-A 9 B		↓		↓							
2866-A 9 C											

Hazardous Homogeneous Materials and Sampling Survey Field Form: Asbestos

Project Number: **2866 2** Location: **Daniel K. Inouye International Airport** Inspector Initials: **DF, KS** Survey Dates and Times: **6/8/21**

HM ID	Building	Flr.	Area Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area Sq. ft or L. ft	Hatch Color
									Type		
23	Daniel K. Inouye International Airport	3	Diamond Head wing Ewa wing	walls	Lt. pink	P/SC	Concrete	G F P	Y (N) TSI S (M)	6,000	—
Sample ID		Area Room Sampled		Sample Location		PIC ID		Notes			
2866-A 10 A		Ewa wing		wall		00067					
2866-A 10 B		Ewa wing		wall							
2866-A 10 C		Diamond Head wing		wall							
25	Daniel K. Inouye International Airport	3	Diamond Head wing Ewa wing	walls, columns	Beige	P/SC	Concrete	G F P	Y (N) TSI S (M)	8,000	—
Sample ID		Area Room Sampled		Sample Location		PIC ID		Notes			
2866-A 11 A		Ewa		wall		00068					
2866-A 11 B		Ewa		column							
2866-A 11 C		Diamond Head Wing		wall							
27	Daniel K. Inouye International Airport	3	Diamond Head Wing Ewa wing	wall	Beige	P/SC	concrete block	G F P	Y (N) TSI S (M)	1,000	~
Sample ID		Area Room Sampled		Sample Location		PIC ID		Notes			
2866-A 12 A		Ewa wing		wall		00069					
2866-A 12 B		Ewa wing		wall							
2866-A 12 C		Diamond head wing		wall							

Page 6 of 10

Hazardous Homogeneous Materials and Sampling Survey Field Form: Asbestos

Project Number: 2866 2 Location: Daniel K. Inouye International Airport Inspector Initials: DF, KS Survey Dates and Times:

HM ID	Building	Flr.	Area Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area Sq. ft or L. ft	Hatch Color
									Type		
29	Daniel K. Inouye International Airport	3	Diamond Head Wing, Ewa Wing	Walls, Floor	Black	Coating	Concrete	G ⊕ P	Y ⊕ TSI S ⊕	3,000	X X
Sample ID		Room Sampled		Sample Location		PIC ID		Notes			
2866-A 13 A		Ewa Wing		Wall		00087					
2866-A 13 B		Ewa Wing		Wall							
2866-A 13 C		Diamond Head Wing		Wall							
HM ID	Building	Flr.	Area Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area Sq. ft or L. ft	Hatch Color
30	Daniel K. Inouye International Airport	3	Diamond Head Wing, Ewa Wing	Floor	Lt. gray	Caulking	Concrete	G ⊕ P	Y ⊕ TSI S ⊕	1,000	
Sample ID		Room Sampled		Sample Location		PIC ID		Notes			
2866-A 14 A		Ewa Wing		Floor		00096					
2866-A 14 B		Ewa Wing		Floor							
2866-A 14 C		Diamond Head Wing		Floor							
HM ID	Building	Flr.	Area Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area Sq. ft or L. ft	Hatch Color
32	Daniel K. Inouye International Airport	3	Diamond Head Wing	Eave	White	Textured P/sc	Concrete	⊕ F P	Y ⊕ TSI S ⊕	3,000	///
Sample ID		Room Sampled		Sample Location		PIC ID		Notes			
2866-A 15 A		Diamond Head Wing		Eave		00075					
2866-A 15 B		Diamond Head Wing		Eave							
2866-A 15 C		Diamond Head Wing		Eave							

#322111650

Hazardous Homogeneous Materials and Sampling Survey Field Form: Asbestos

Project Number: 2866 2

Location: Daniel K. Inouye International Airport

Inspector Initials: DF, KS

Survey Dates and Times: 6/8/21

HM ID	Building	Flr.	Area Room	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area	Hatch Color
									Type	Sq. ft or L. ft	
37	Daniel K. Inouye International Airport	3	Diamond Head Wing, Ewa Wing	Road way	White w/ Black	expansion joint	concrete	G F P	Y (N) TSI S (M)	2,100	///
Sample ID		Area Room Sampled		Sample Location		PIC ID		Notes			
2866-A 16 A		Diamond Head wing		Roadway		00076					
2866-A 16 B		Diamond Head wing		Roadway							
2866-A 16 C		Diamond Head wing		Roadway							
38	Daniel K. Inouye International Airport	3	Diamond Head wing	walls	Gray	Grout	12"x12" ceramic tiles	G F P	Y (X) TSI S (M)	200	—
Sample ID		Area Room Sampled		Sample Location		PIC ID		Notes			
2866-A 17 A		Diamond Head wing		wall		00099					
2866-A 17 B		Diamond Head wing		wall							
2866-A 17 C		Diamond Head wing		wall							
40	Daniel K. Inouye International Airport	3	Ewa Wing	Road way	White	Coating	Concrete	G F P	Y (N) TSI S (M)	20	
Sample ID		Area Room Sampled		Sample Location		PIC ID		Notes			
2866-A 18 A		Ewa Wing		Road way		0101					
2866-A 18 B		Ewa Wing		Road way							
2866-A 18 C		Ewa Wing		Road way							

#322111650

Hazardous Homogeneous Materials and Sampling Survey Field Form: Asbestos

Project Number: 2866 2

Location: Daniel K. Inouye International Airport

Inspector Initials: DF, KS

Survey Dates and Times:

HM ID	Building	Flr.	Area Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area Sq. ft or L. ft	Hatch Color
									Type		
42	Daniel K. Inouye International Airport	3	Ewa Wing	Roadway	Gray	Skim Coat	Concrete	G [Ⓞ] F P	Y ^(N) TSI S ^(M)	100	Black pen
Sample ID		Area Room Sampled		Sample Location		PIC ID		Notes			
2866-A 19 A		Ewa Wing		Roadway		6102					
2866-A 19 B		Ewa Wing		Roadway							
2866-A 19 C		Ewa Wing		Roadway							
HM ID	Building	Flr.	Area Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area Sq. ft or L. ft	Hatch Color
									Type		
44	Daniel K. Inouye International Airport	1	Diamond Head wing	Ceiling, eaves	Beige	P/SC	Concrete	G [Ⓞ] F P	Y ^(S) TSI S ^(M)	3000	
Sample ID		Area Room Sampled		Sample Location		PIC ID		Notes			
2866-A 20 A		Diamond Head wing		Ceiling		00018					
2866-A 20 B		↓		↓							
2866-A 20 C		↓		↓							
HM ID	Building	Flr.	Area Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area Sq. ft or L. ft	Hatch Color
									Type		
46	Daniel K. Inouye International Airport	1	Diamond Head wing	Wall	Beige	P/SC	CMU	G [Ⓞ] F P	Y ^(N) TSI S ^(M)	2000	
Sample ID		Area Room Sampled		Sample Location		PIC ID		Notes			
2866-A 21 A		Diamond Head wing		Wall		00017					
2866-A 21 B		↓		Wall							
2866-A 21 C		↓		Wall							

#322111650

Hazardous Homogeneous Materials and Sampling Survey Field Form: Asbestos

Project Number: 2866 2

Location: Daniel K. Inouye International Airport

Inspector Initials: DF, ~~KS~~

Survey Dates and Times: 6/27/21

HM ID	Building	Flr.	Area Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM Type	Area Sq. ft or L. ft	Hatch Color
									Y <input checked="" type="checkbox"/>		
48	Daniel K. Inouye International Airport	1	Diamond Head wing	Columns, Walls	Lt. Pink	P/sc	Concrete	G F P	Y <input checked="" type="checkbox"/> TSI S <input checked="" type="checkbox"/>	1,000	

Sample ID	Room Sampled	Sample Location	PIC ID	Notes
2866-A 22A	Diamond Head wing ↓	Column	00021	
2866-A 22B		Column		
2866-A 22C		Wall		

HM ID	Building	Flr.	Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM Type	Area Sq. ft or L. ft	Hatch Color
									Y N		
	Daniel K. Inouye International Airport							G F P	Y N TSI S M		

Sample ID	Room Sampled	Sample Location	PIC ID	Notes
2866-A A				
2866-A B				
2866-A C				

HM ID	Building	Flr.	Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM Type	Area Sq. ft or L. ft	Hatch Color
									Y N		
	Daniel K. Inouye International Airport							G F P	Y N TSI S M		

Sample ID	Room Sampled	Sample Location	PIC ID	Notes
2866-A A				
2866-A B				
2866-A C				



LA Testing

520 Mission Street South Pasadena, CA 91030

Phone/Fax: (323) 254-9960 / (323) 254-9982

<http://www.LATesting.com> / pasadenalab@latesting.com

LA Testing Order: 322111885

Customer ID: 32MYOU50

Customer PO:

Project ID:

Attention: Danny Falanug
Myounghee Noh & Associates, LLC
99-1046 Iwaena Street
Suite 210A
Aiea, HI 96701

Phone: (808) 484-9214

Fax:

Received: 06/28/2021 5:55 PM

Analysis Date: 06/30/2021

Collected:

Project: REF PLM REPORT: 322111650 | 2866_2 International Airport

Test Report: Asbestos Analysis of Bulk Material via EPA 600/R-93/116. Quantitation using the 1,000 Point Count Procedure

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
2866-A1A-Skim Coat 322111885-0001	2 - Lt. pink, P/SC, concrete	Gray Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	<0.1% Chrysotile
2866-A1B-Skim Coat 322111885-0002	2 - Lt. pink, P/SC, concrete	Gray Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	<0.1% Chrysotile
2866-A1C-Skim Coat 322111885-0003	2 - Lt. pink, P/SC, concrete	Gray Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	<0.1% Chrysotile
2866-A10A-Compo site Texture Paint/Skim Coat 322111885-0004	23 - Lt. pink, P/SC, concrete	Gray/Beige Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	<0.1% Chrysotile
2866-A10B-Compos ite Texture Paint/Skim Coat 322111885-0005	23 - Lt. pink, P/SC, concrete	Beige Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	<0.1% Chrysotile
2866-A10C-Compos ite Texture Paint/Skim Coat 322111885-0006	23 - Lt. pink, P/SC, concrete	Gray/Beige Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	<0.1% Chrysotile
2866-A11B-Concret e 322111885-0007	25 - Beige, P/SC, concrete	Gray/Beige Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	<0.1% Chrysotile
2866-A12A-Comp Texture Paint/Skim Coat 322111885-0008	27 - Beige, P/SC, concrete block	Gray/Black/Beige Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	<0.1% Chrysotile

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Samples analyzed by LA Testing South Pasadena, CA NVLAP Lab Code 200232-0, CA ELAP 2283

Initial report from: 06/30/2021 11:28:52



LA Testing

520 Mission Street South Pasadena, CA 91030

Phone/Fax: (323) 254-9960 / (323) 254-9982

<http://www.LATesting.com> / pasadenalab@lateesting.com

LA Testing Order: 322111885

Customer ID: 32MYOU50

Customer PO:

Project ID:

Attention: Danny Falanug
Myounghee Noh & Associates, LLC
99-1046 Iwaena Street
Suite 210A
Aiea, HI 96701

Phone: (808) 484-9214

Fax:

Received: 06/28/2021 5:55 PM

Analysis Date: 06/30/2021

Collected:

Project: REF PLM REPORT: 322111650 | 2866_2 International Airport

Test Report: Asbestos Analysis of Bulk Material via EPA 600/R-93/116. Quantitation using the 1,000 Point Count Procedure

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
2866-A12B-Comp Texture Paint/Skim Coat 322111885-0009	27 - Beige, P/SC, concrete block	Gray/Black/Beige Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	<0.1% Chrysotile
2866-A12C-Comp Texture Paint/Skim Coat 322111885-0010	27 - Beige, P/SC, concrete block	Gray/Black/Beige Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	<0.1% Chrysotile

Analyst(s)

Guillermo Hernandez (10)

Jerry Drapala Ph.D, Laboratory Manager
or other approved signatory

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Samples analyzed by LA Testing South Pasadena, CA NVLAP Lab Code 200232-0, CA ELAP 2283

Initial report from: 06/30/2021 11:28:52

McKissack, Annette

#322111885

From: Cavadini, Randy
Sent: Monday, June 28, 2021 5:55 PM
To: LA Testing Lab - Pasadena
Subject: FW: Point Count Request

Hello again Pas lab,

Kristin has one more sample that she'd like point counted, in conjunction with her previous request.

Thanks!



Randy Cavadini | *Regional Sales Account Manager*
EMSL Analytical, Inc. | 3356 West Catalina Dr. | Phoenix, AZ 85017
Phone: 602-652-2073 Cell: 213-393-8207 | Fax: 602-276-4053 | Toll Free: 866-798-1089

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From: Kristin Cabanila <kristin@noh-associates.com>
Sent: Monday, June 28, 2021 17:32
To: Cavadini, Randy <rjcavadini@EMSL.com>
Cc: Kealohi Serrao <Kealohi@noh-associates.com>; Danny Falanug <danny@noh-associates.com>
Subject: RE: Point Count Request

[EXTERNAL E-MAIL]

Randy,

My apologies. I need to add one more sample to the point count order,

2866-A11B-Comp texture paint/skim coat

Thank you for your help.

Kristin Cabanila
Office Manager

#322111885

From: Cavadini, Randy [mailto:rjcavadini@EMSL.com]
Sent: Monday, June 28, 2021 1:09 PM
To: Kristin Cabanila <kristin@noh-associates.com>
Cc: Kealohi Serrao <Kealohi@noh-associates.com>; Danny Falanug <danny@noh-associates.com>
Subject: RE: Point Count Request

Hi Kristin,

I'll pass this along to the lab, and will let you know if there are any issues. Thanks!



Randy Cavadini | *Regional Sales Account Manager*
EMSL Analytical, Inc. | 3356 West Catalina Dr. | Phoenix, AZ 85017
Phone: 602-652-2073 Cell: 213-393-8207 | Fax: 602-276-4053 | Toll Free: 866-798-1089

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From: Kristin Cabanila <kristin@noh-associates.com>
Sent: Monday, June 28, 2021 16:08
To: Cavadini, Randy <rjcavadini@EMSL.com>
Cc: Kealohi Serrao <Kealohi@noh-associates.com>; Danny Falanug <danny@noh-associates.com>
Subject: Point Count Request
Importance: High

[EXTERNAL E-MAIL]

Aloha,

Can I get 1000-point counting for the following samples from the attached lab report:

- 2866-A1A-Skim coat
- 2866-A1B-Skim coat
- 2866-A1C-Skim coat
- 2866-A10A-Composite
- 2866-A10B-Composite
- 2866-A10C-Composite
- 2866-A12A-Composite
- 2866-A12B-Composite
- 2866-A12C-Composite

Please utilize a three day TAT, if feasible.

#322111885

Thank you,

Our business is essential to public safety, and we continue our best efforts to provide you with uninterrupted services. We wish you and your loved ones safety and good health.

Kristin Cabanila
Office Manager
Hilo: (808) 769-4221
Cell: (808) 937-8422

Myounghee Noh & Associates, L.L.C.
Environmental Studies & Consulting Services
99-1046 Iwaena Street, Suite 210A, Aiea, HI 96701; Tel 808-484-9214
16-643 Kipimana Street, Suite 12, Keaau, HI 96749 • +1 808-769-4221
215 Rojas Street, Suite 100, Ixora Industrial Park, Harmon, Guam 96913
www.noh-associates.com



LA Testing

520 Mission Street South Pasadena, CA 91030
 Tel/Fax: (323) 254-9960 / (323) 254-9982
<http://www.LATesting.com/pasadenalab@lateesting.com>

LA Testing Order: 322111650
Customer ID: 32MYOU50
Customer PO: 02866_2
Project ID:

Attention: Danny Falanug
 Myounghee Noh & Associates, LLC
 99-1046 Iwaena Street
 Suite 210A
 Aiea, HI 96701
Project: 2866_2 International Airport

Phone: (808) 484-9214
Fax:
Received Date: 06/24/2021 9:30 AM
Analysis Date: 06/25/2021 - 06/28/2021
Collected Date: 06/08/2021

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
2866-A1A-Texture Paint <small>322111650-0001</small>	2 - Lt. pink, P/SC, concrete	Gray/Pink Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A1A-Skim Coat <small>322111650-0001A</small>	2 - Lt. pink, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A1B-Texture Coat <small>322111650-0002</small>	2 - Lt. pink, P/SC, concrete	Pink/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A1B-Skim Coat <small>322111650-0002A</small>	2 - Lt. pink, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A1C-Texture Paint <small>322111650-0003</small>	2 - Lt. pink, P/SC, concrete	Gray/Pink Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A1C-Skim Coat <small>322111650-0003A</small>	2 - Lt. pink, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A2A-Texture Paint <small>322111650-0004</small>	4 - Beige, P/SC, concrete	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A2A-Skim Coat <small>322111650-0004A</small>	4 - Beige, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A2B-Texture Paint <small>322111650-0005</small>	4 - Beige, P/SC, concrete	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A2B-Skim Coat <small>322111650-0005A</small>	4 - Beige, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A2C-Texture Paint <small>322111650-0006</small>	4 - Beige, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A2C-Skim Coat <small>322111650-0006A</small>	4 - Beige, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A3A <small>322111650-0007</small>	12 - Black, coating, concrete	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A3B-Silver Paint <small>322111650-0008</small>	12 - Black, coating, concrete	Silver Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A3B-Coating <small>322111650-0008A</small>	12 - Black, coating, concrete	Black Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
2866-A3C <small>322111650-0009</small>	12 - Black, coating, concrete				Positive Stop (Not Analyzed)

Initial report from: 06/28/2021 10:11:30



LA Testing

520 Mission Street South Pasadena, CA 91030

Tel/Fax: (323) 254-9960 / (323) 254-9982

http://www.LATesting.com / pasadenalab@latesting.com

#322111885

LA Testing Order: 322111650

Customer ID: 32MYOU50

Customer PO: 02866_2

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos % Type
			% Fibrous	% Non-Fibrous	
2866-A9B 322111650-0026	21 - Lt. gray, caulking, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A9C-Caulking 322111650-0027	21 - Lt. gray, caulking, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A9C-Mastic 322111650-0027A	21 - Lt. gray, caulking, concrete	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A10A-Composite Texture Paint/Skim Coat 322111650-0028 <i>Unable to separate</i>	23 - Lt. pink, P/SC, concrete	Gray/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A10B-Comp Texture Paint/Skim Coat 322111650-0029 <i>Unable to separate</i>	23 - Lt. pink, P/SC, concrete	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A10C-Comp Texture Paint/Skim Coat 322111650-0030 <i>Unable to separate</i>	23 - Lt. pink, P/SC, concrete	Gray/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A11A-Comp Texture Paint/Skim Coat 322111650-0031	25 - Beige, P/SC, concrete	Gray/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A11A-Mastic 322111650-0031A	25 - Beige, P/SC, concrete	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A11B-Comp Texture Paint/Skim Coat 322111650-0032	25 - Beige, P/SC, concrete	Gray/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A11B-Concrete 322111650-0032A	25 - Beige, P/SC, concrete	Gray/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A11C-Texture Paint 322111650-0033 <i>No SC present for analysis.</i>	25 - Beige, P/SC, concrete	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A11C-Concrete 322111650-0033A	25 - Beige, P/SC, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2866-A12A-Comp Texture Paint/Skim Coat 322111650-0034 <i>Unable to separate</i>	27 - Beige, P/SC, concrete block	Gray/Black/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	<1% Chrysotile
2866-A12B-Comp Texture Paint/Skim Coat 322111650-0035 <i>Unable to separate</i>	27 - Beige, P/SC, concrete block	Gray/Black/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	<1% Chrysotile

Initial report from: 06/28/2021 10:11:30



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#322111885

LA Testing Order: 32211650

Customer ID: 32MYOU50

Customer PO: 02866_2

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
2866-A12C-Texture Paint/Skim Coat	27 - Beige, P/SC, concrete block	Gray/Black/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
32211650-0036 Unable to separate					
2866-A13A-Coating 1	29 - Black, coating, concrete	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
32211650-0037					
2866-A13A-Coating 2/Texture Like	29 - Black, coating, concrete	Gray/Black Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
32211650-0037A Unable to separate					
2866-A13A-Vinyl Wire Wrap Like	29 - Black, coating, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
32211650-0037B					
2866-A13A-Mesh	29 - Black, coating, concrete	Black Fibrous Homogeneous	90% Synthetic	10% Non-fibrous (Other)	None Detected
32211650-0037C					
2866-A13B-Coating 1	29 - Black, coating, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
32211650-0038					
2866-A13B-Penetration Mastic	29 - Black, coating, concrete	Gray/Black Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
32211650-0038A					
2866-A13B-Paint/Coating 2	29 - Black, coating, concrete	Black/Beige Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
32211650-0038B					
2866-A13B-Texture Like	29 - Black, coating, concrete	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
32211650-0038C					
2866-A13C-Coating	29 - Black, coating, concrete	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
32211650-0039					
2866-A13C-Concrete	29 - Black, coating, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
32211650-0039A					
2866-A13C-Mastic	29 - Black, coating, concrete	Gray/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
32211650-0039B					
2866-A14A-Mastic	30 - Lt. gray, caulking, concrete	Black Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
32211650-0040					
2866-A14A-Caulk	30 - Lt. gray, caulking, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
32211650-0040A					
2866-A14B-Mastic	30 - Lt. gray, caulking, concrete				Positive Stop (Not Analyzed)
32211650-0041					
2866-A14B-Caulk	30 - Lt. gray, caulking, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
32211650-0041A					
2866-A14C	30 - Lt. gray, caulking, concrete	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
32211650-0042					

Initial report from: 06/28/2021 10:11:30



LA Testing

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Tel/Fax: (323) 254-9960 / (323) 254-9982
<http://www.LATesting.com> / pasadenalab@lateesting.com

LA Testing Order: 322114684
Customer ID: 32MYOU50
Customer PO: 02866_2
Project ID:


Attention: Danny Falanug
Myounghee Noh & Associates, LLC
99-1046 Iwaena Street
Suite 210A
Aiea, HI 96701
Project: 2866_2 International Airport

Phone: (808) 484-9214
Fax:
Received Date: 08/12/2021 9:30 AM
Analysis Date: 08/14/2021
Collected Date: 08/11/2021

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
2866-A23A	49	Gray/Black Fibrous	10% Cellulose	70% Non-fibrous (Other)	20% Chrysotile
<small>322114684-0001</small>		Heterogeneous			
2866-A23B	49				Positive Stop (Not Analyzed)
<small>322114684-0002</small>					
2866-A23C	49				Positive Stop (Not Analyzed)
<small>322114684-0003</small>					

Analyst(s)
John Talley (1)


Jerry Drapala Ph.D, Laboratory Manager
or Other Approved Signatory

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Samples analyzed by LA Testing South Pasadena, CA NVLAP Lab Code 200232-0, CA ELAP 2283

Initial report from: 08/14/2021 10:58:49



Asbestos Chain of Custody

LA Testing Order Number (Lab Use Only):

#322114684

PHONE: ()

FAX: ()

Company: Myounghee Noh & Associates, L.L.C.		EMSL Customer ID: 32MYOU50	
Street: 99-1046 Iwaena Street, Suite 201A		City: Aiea	State/Province: Hawaii
Zip/Postal Code: 96701	Country: USA	Telephone #: (808) 853-3152	Fax #:
Report To (Name): Danny Falanug		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
Email Address:		Purchase Order: 02866_2	
Project Name/Number: 2866_2 International Airport		Connecticut Samples: <input type="checkbox"/> Commercial <input type="checkbox"/> Residential	
U.S. State Samples Taken: Hawaii		EMSL Project ID (Internal Use Only):	
LA Testing-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different - If Bill to is Different note instructions in Comments** <i>Third Party Billing requires written authorization from third party</i>			
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input type="checkbox"/> 24 Hour	<input checked="" type="checkbox"/> 48 Hour
<input type="checkbox"/> 72 Hour	<input type="checkbox"/> 96 Hour	<input type="checkbox"/> 1 Week	<input type="checkbox"/> 2 Week
<small>*For TEM Air 3 hours through 6 hours, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with LA Testing's Terms and Conditions located in the Analytical Price Guide.</small>			
PCM - Air <input type="checkbox"/> Check if samples are from NY		TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only)	
<input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA		<input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312	
PLM - Bulk (reporting limit)		TEM - Bulk	
<input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NYS 198.8 SOF-V <input type="checkbox"/> NIOSH 9002 (<1%)		<input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	
TEM- Dust		Soil/Rock/Vermiculite	
<input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167)		<input type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> EPA Protocol (Semi-Quantitative) <input type="checkbox"/> EPA Protocol (Quantitative)	
Other:			
<input type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group		Filter Pore Size (Air Samples): <input type="checkbox"/> 0.8µm <input type="checkbox"/> 0.45µm	
Samplers Name: Danny Falanug		Samplers Signature: <i>Danny Falanug</i>	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
2866-A23A	Black waterproofing on Concrete Roadway	Bulk	8/11/21, 10:30 am
2866-A23B	↓	↓	↓
2866-A23C	↓	↓	↓
Client Sample # (s): 2866-A23A ————— 2866-A23C		Total # of Samples: 3	
Relinquished (Client): <i>Danny Falanug</i>		Date: 8/11/21	Time: 14:00
Received (Lab): <i>J. Totten</i>		Date: 8/02/21	Time: 9:30 am
Comments/Special Instructions:			
(FE-E)			

#322114684

Hazardous Homogeneous Materials and Sampling Survey Field Form: Asbestos

Project Number: **2866 2**

Location: **Daniel K. Inouye International Airport**

Inspector Initials: **DF, KS**

Survey Dates and Times: **8/11/21 10:00**

HM ID	Building	Flr.	Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area Sq. ft or L. ft	Hatch Color
									Type		
49	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	Roadways	Black	waterproofing	CC	G ⊕ P	Y <input checked="" type="radio"/> N	92,000	
									TSI S <input checked="" type="radio"/> M		

Sample ID	Room Sampled	Sample Location	PIC ID	Notes
2866-A 23 A	Diamond Head wing	Roadway	8265	This material is located under beneath approximately 3 1/2" of concrete roadways.
2866-A 23 B	↓	↓		
2866-A 23 C				

HM ID	Building	Flr.	Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area Sq. ft or L. ft	Hatch Color
									Type		
	Daniel K. Inouye International Airport							G F P	Y N		
									TSI S M		

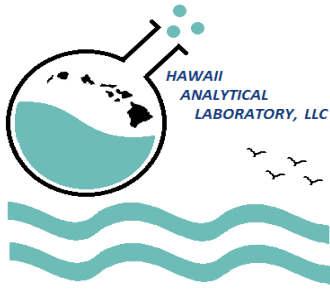
Sample ID	Room Sampled	Sample Location	PIC ID	Notes
2866-A A				
2866-A B				
2866-A C				

HM ID	Building	Flr.	Rooms	Locations	Material Color	Material	Substrate	Condition	Friable ACM	Area Sq. ft or L. ft	Hatch Color
									Type		
	Daniel K. Inouye International Airport							G F P	Y N		
									TSI S M		

Sample ID	Room Sampled	Sample Location	PIC ID	Notes
2866-A A				
2866-A B				
2866-A C				

OrderID: 322114684

Page 2 OF 2



Hawaii Analytical Laboratory ANALYTICAL REPORT

Friday, June 25, 2021

Ms. Myounghee Noh
Myounghee Noh & Associates, LLC
99-1046 Iwaena St. Suite 210A
Aiea HI 96701

Phone Number: (808)484-9214
Facsimile:
Email: myounghee@noh-associates.com

Lab Job No: 202105889
Date Submitted: 6/23/2021
Your Project: 2866_2, Daniel K. Inouye International Airport, 6/21/21

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202136629	2866-P1A	56	mg/kg	6/24/2021
Comments				
202136630	2866-P1B	49	mg/kg	6/24/2021
Comments				
202136631	2866-P2A	40	mg/kg	6/24/2021
Comments				
202136632	2866-P2B	550	mg/kg	6/24/2021
Comments				
202136633	2866-P3A	< 40	mg/kg	6/24/2021
Comments				
202136634	2866-P3B	< 40	mg/kg	6/24/2021
Comments				
202136635	2866-P4A	< 40	mg/kg	6/24/2021
Comments				
202136636	2866-P4B	< 40	mg/kg	6/24/2021
Comments				

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Ms. Myounghee Noh
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Aiea HI 96701

Phone Number: (808)484-9214
Facsimile:
Email: myounghee@noh-associates.com

Lab Job No: 202105889
Date Submitted: 6/23/2021
Your Project: 2866_2, Daniel K. Inouye International Airport, 6/21/21

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202136637	2866-P5A	79	mg/kg	6/24/2021
Comments				
202136638	2866-P5B	190	mg/kg	6/24/2021
Comments				
202136639	2866-P6A	< 40	mg/kg	6/24/2021
Comments				
202136640	2866-P6B	< 40	mg/kg	6/24/2021
Comments				
202136641	2866-P7A	< 40	mg/kg	6/24/2021
Comments				
202136642	2866-P7B	4200	mg/kg	6/24/2021
Comments				
202136643	2866-P8A	550	mg/kg	6/24/2021
Comments				
202136644	2866-P8B	< 40	mg/kg	6/24/2021
Comments				
202136645	2866-P9A	27000	mg/kg	6/24/2021
Comments				
202136646	2866-P9B	38000	mg/kg	6/24/2021
Comments				
202136647	2866-P10A	< 40	mg/kg	6/24/2021
Comments				

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Lab Job No: 202105889
Date Submitted: 6/23/2021
Your Project: 2866_2, Daniel K. Inouye International Airport, 6/21/21

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202136648	2866-P10B	< 40	mg/kg	6/24/2021
Comments				
202136649	2866-P11A	130000	mg/kg	6/24/2021
Comments				
202136650	2866-P11B	110000	mg/kg	6/24/2021
Comments				
202136651	2866-P12A	< 40	mg/kg	6/24/2021
Comments				
202136652	2866-P12B	< 40	mg/kg	6/24/2021
Comments				
202136653	2866-P13A	< 40	mg/kg	6/24/2021
Comments				
202136654	2866-P13B	56	mg/kg	6/24/2021
Comments				
202136655	2866-P14A	< 40	mg/kg	6/24/2021
Comments				
202136656	2866-P14B	170	mg/kg	6/24/2021
Comments				
202136657	2866-P15A	220	mg/kg	6/24/2021
Comments				
202136658	2866-P15B	9500	mg/kg	6/24/2021
Comments				

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Lab Job No: 202105889
Date Submitted: 6/23/2021
Your Project: 2866_2, Daniel K. Inouye International Airport, 6/21/21

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202136659	2866-P16A	< 40	mg/kg	6/24/2021
Comments				
202136660	2866-P16B	130	mg/kg	6/24/2021
Comments				
202136661	2866-P17A	< 40	mg/kg	6/24/2021
Comments				
202136662	2866-P17B	< 40	mg/kg	6/24/2021
Comments				
202136663	2866-P18A	< 40	mg/kg	6/24/2021
Comments				
202136664	2866-P18B	< 40	mg/kg	6/24/2021
Comments				
202136665	2866-P19A	< 40	mg/kg	6/24/2021
Comments				
202136666	2866-P19B	< 40	mg/kg	6/24/2021
Comments				
202136667	2866-P20A	< 40	mg/kg	6/24/2021
Comments				
202136668	2866-P20B	< 40	mg/kg	6/24/2021
Comments				
202136669	2866-P21A	420	mg/kg	6/24/2021
Comments				

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Lab Job No: 202105889
Date Submitted: 6/23/2021
Your Project: 2866_2, Daniel K. Inouye International Airport, 6/21/21

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202136670	2866-P21B	330	mg/kg	6/24/2021
Comments				
202136671	2866-P22A	< 40	mg/kg	6/24/2021
Comments				
202136672	2866-P22B	< 40	mg/kg	6/24/2021
Comments				
202136673	2866-P23A	46	mg/kg	6/24/2021
Comments				
202136674	2866-P23B	78	mg/kg	6/24/2021
Comments				
202136675	2866-P24A	82	mg/kg	6/24/2021
Comments				
202136676	2866-P24B	250	mg/kg	6/24/2021
Comments				
202136677	2866-P25A	94	mg/kg	6/24/2021
Comments				
202136678	2866-P25B	120	mg/kg	6/24/2021
Comments				
202136679	2866-P26A	< 40	mg/kg	6/24/2021
Comments				
202136680	2866-P26B	< 40	mg/kg	6/24/2021
Comments				

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Lab Job No: 202105889
Date Submitted: 6/23/2021
Your Project: 2866_2, Daniel K. Inouye International Airport, 6/21/21

All Quality Control data are acceptable unless otherwise noted.
MRL for lead air is 5ug.
MRL for lead wipe is 10ug.
MRL for lead paint or soil is 40 mg/kg for a 0.25g sample.

General Comments

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

Results and Symbols Definitions

> This testing result is greater than the numerical value listed.
< This testing result is less than the numerical value listed.
= Analytical methods marked with an "#" are not within our AIHA LAP, LLC Scope of Accreditation.
MRL = Method Reporting Limit.



Jennifer Hsu Liao
Laboratory Manager

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 Honolulu, HI 96816
 Ph: 808-735-0422 - Fax: 808-735-0047
 https://analyzehawaii.com

New Client?

Report To* : Danny Falanug & Kristin Cabanila
 Company : Myounghee Noh & Associates, L.L.C.
 Address* : 99-1046 Iwaena Street, Suite 210A
 Aiea, Hawaii 96701
 Phone / Cell No.* : Cell: 808-227-7730, Cell: 808-391-2202
 Report results to : Danny Falanug & Kristin Cabanila
 Email / Fax : danny@noh-associates.com, kristin@noh-associates.com

Invoice To* : Myounghee Noh & Associates, L.L.C.
 Company : Myounghee Noh & Associates, L.L.C.
 Address* : 99-1046 Iwaena Street, Suite 210A
 Aiea, Hawaii 96701
 Phone / Cell No.* : Office: 808-484-9214
 Purchase Order No. : 02866_2
 Email Invoice To : kealohi@noh-associates.com

- Need Results By*:**
- 5 Working Days (WD)
 - 4 WD
 - 3 WD
 - 2 WD
 - 24 hours
 - 6 hours or less
 - 4 hours or less
 - 1-2 hours

Site/Project Name: ~~Camp Smith~~ **Daniel K. Inouye International airport** Client Project No.: 2866_2 Verbal results? Sampled By & Certif. # : Danny Falanug (Pb-0661)

Special Instructions: **Please see field forms results down to 40 mg/Ks** PLM POSITIVE STOP Instructions: + stop / SAMPLE + stop / LAYER **Lab Report No.:** 202105889

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
1 2866-PIA	Please see field forms	6/21/2021	Paint Chips		Pb Lead	NIOSH 7082m	
2 -PIB							
3							
4							
5							
6							
7							
8							
9							
10							
11 2866-P26A							
12 ↓ -P26B							

Relinquished By (Print and Sign)	Date/Time	Received By (Print and Sign)	Date/Time
Danny Falanug,	6/19/2021 ^{DF} 6/22/21, 21:30	Cortin Forrest	06-23-21 A10:17 IN

*Sample description can be paint chips, concrete, specific sample collection location, etc...
 If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.
 All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.
 *Required fields, failure to complete these fields may result in a delay in your samples being processed.

via HAC via USPS via drop box via FedEx via pick up
 awb#: 173-.....

Hazardous Homogeneous Materials and Sampling Survey Field Form: Lead Paint

Project Number: 2866 2

Location: Daniel K. Inouye International Airport

Inspector Initials: DF, KS

Survey Dates and Times: 6/8/21/6/11, 6/21

HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area <small>Sq. ft or L. ft</small>	Hatch Color
1	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	Ceiling, eaves, walls.	Lt. pink	Paint	Concrete	G ⊕ P	6,000	///
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 1 A		Ewa wing		wall		51	202136629			
2866-P 1 B		Diamond Head wing		wall			202136630			
3	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	wall, columns, eaves	Beige	Paint	Concrete	⊕ F P	10,000	—
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 2 A		Ewa wing		wall		52	202136631			
2866-P 2 B		Diamond Head wing		column			202136632			
5	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	Ceiling	Black	Paint	Concrete	G ⊕ P	2,000	//
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 3 A		Diamond Head wing		ceiling		53	202136633			
2866-P 3 B		Ewa wing		ceiling			202136634			

05889

Hazardous Homogeneous Materials and Sampling Survey Field Form: Lead Paint

Project Number: **2866 2**

Location: **Daniel K. Inouye International Airport**

Inspector Initials: **DF, KS**

Survey Dates and Times:

HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area <small>Sq. ft or L. ft</small>	Hatch Color
6	Daniel K. Inouye International Airport	2	Diamond Head wing Ewa wing	Brackets, trims, Conduits	Black	Paint	Metal	G F P	1,000	///
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 4 A		Diamond Head wing		conduit		54	202136635			
2866-P 4 B		Ewa wing		bracket			202136636			
7	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	Conduits	Lt. Pink	Paint	Metal	F P	40	~
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 5 A		Diamond Head wing		conduit		56	202136637			
2866-P 5 B		↓		↓			202136638			
8	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	Road way	white	Paint	Asphalt	G F P	200	++
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 6 A		Ewa wing		Road way		57	202136639			
2866-P 6 B		Diamond Head wing		Road way			202136640			

05889

Hazardous Homogeneous Materials and Sampling Survey Field Form: Lead Paint

Project Number: 2866 2

Location: Daniel K. Inouye International Airport

Inspector Initials: DF, KS

Survey Dates and Times:

HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area <u>Sq. ft</u> or L. ft	Hatch Color
9	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	Curbside	Red	Paint	Concrete	G ⊕ P	1,000	
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 7 A		Ewa wing		curb		58	202136641			
2866-P 7 B		Diamond Head wing		curb			202136642			
10	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	Road way	Yellow	Paint	Asphalt	G ⊕ P	<u>DF</u> Area <u>Sq. ft</u> or L. ft 200	
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 8 A		Ewa wing		Roadway		59	202136643			
2866-P 8 B		Diamond Head wing		Roadway			202136644			
11	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	Curbside	Yellow	Paint	Concrete	G ⊕ P	1,500	
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 9 A		Ewa Wing		curb		8257	202136645			
2866-P 9 B		Diamond Head wing		curb			202136646			

05889

Hazardous Homogeneous Materials and Sampling Survey Field Form: Lead Paint

Project Number: 2866 2

Location: Daniel K. Inouye International Airport

Inspector Initials: DF, KS

Survey Dates and Times: 6/8/21

HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area <u>Sq. ft</u> or L. ft	Hatch Color
13	Daniel K. Inouye International Airport	2	Diamond Head wing, Ewa wing	Eaves	Beige	Textured paint	Concrete	ⓐ F P	5,000	//
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 10 A		Ewa wing		Eave		63	202136647			
2866-P 10 B		Diamond Head wing		Eave			202136648			
15	Daniel K. Inouye International Airport	2	Diamond Head wing	Guardrail	Silver	Paint	Metal	G F ⓐ	80	~
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 11 A		Diamond Head wing		Guardrail		8274	202136649			
2866-P 11 B		Diamond Head wing		Guardrail			202136650			
17	Daniel K. Inouye International Airport	2	Diamond Head wing	walls	Beige	Paint	CMU	ⓐ F P	1,000	~
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 12 A		Diamond Head wing		wall		00065	202136651			
2866-P 12 B		↓		↓			202136652			

05889


Hazardous Homogeneous Materials and Sampling Survey Field Form: Lead Paint

Project Number: 2866 2

Location: Daniel K. Inouye International Airport

Inspector Initials: DF, KS

Survey Dates and Times:

HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area <u>Sq. ft</u> or L. ft	Hatch Color
22	Daniel K. Inouye International Airport	3	Diamond Head wing, Ewa wing	walls	Lt. Pink	Paint	Concrete	G ⊕ P	6,000	
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 13 A		Ewa wing		Wall		00067	202136653			
2866-P 13 B		Diamond Head wing		wall			202136654			
HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area <u>Sq. ft</u> or L. ft	Hatch Color
24	Daniel K. Inouye International Airport	3	Diamond Head wing, Ewa wing	Walls, columns, eaves	Beige	Paint	Concrete	⊕ F P	8,000	
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 14 A		Ewa wing		Wall		00068	202136655			
2866-P 14 B		Diamond Head wing		Wall			202136656			
HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area <u>Sq. ft</u> or L. ft	Hatch Color
26	Daniel K. Inouye International Airport	3	Diamond Head wing, Ewa wing	Wall	Beige	Paint	CMU	⊕ F P	1,000	
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 15 A		Ewa wing		Wall		00069	202136657			
2866-P 15 B		Diamondhead wing		Wall			202136658			

05889

Hazardous Homogeneous Materials and Sampling Survey Field Form: Lead Paint

Project Number: 2866 2

Location: Daniel K. Inouye International Airport

Inspector Initials: DF, KS

Survey Dates and Times:

HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area <u>Sq.</u> ft or L. ft	Hatch Color
28	Daniel K. Inouye International Airport	3	Diamond Head wing Ewa wing	Handrails, guardrail	Beige	Paint	Metal	G F P	1,000	
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P16A		Ewa wing		rail		00074	202136659			
2866-P16B		Diamond Head Wing		rail			202136660			
HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area <u>Sq.</u> ft or L. ft	Hatch Color
31	Daniel K. Inouye International Airport	3	Diamond Head wing	Eaves	Beige White	Textured Paint	Concrete	G F P	3,000	
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P17A		Diamond Head wing		Eave		00075	202136661			
2866-P17B		Diamond Head wing		Eave			202136662			
HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area Sq. ft or <u>L. ft</u>	Hatch Color
33	Daniel K. Inouye International Airport	3	Diamond Head wing Ewa wing	Road way	White	Paint	Concrete	G F P	100	
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P18A		Ewa wing		Roadway		00078	202136663			
2866-P18B		Diamond Head Wing		Roadway			202136664			

05889

Hazardous Homogeneous Materials and Sampling Survey Field Form: Lead Paint

Project Number: 2866 2

Location: Daniel K. Inouye International Airport

Inspector Initials: DF, KS

Survey Dates and Times:

HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area <small>Sq. ft or L. ft</small>	Hatch Color
34	Daniel K. Inouye International Airport	3	Diamond Head wing	Curb side	Yellow	paint	Concrete	Ⓞ F P	600	ZZ
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 19 A		Diamond Head wing		curb		00079	202136665			
2866-P 19 B		Diamond Head wing		curb			202136666			
HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area <small>Sq. ft or L. ft</small>	Hatch Color
35	Daniel K. Inouye International Airport	3	Ewa wing	Handrail	Brown	Paint	Metal	Ⓞ F P	500	ZZ
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 20 A		Ewa wing		handrail		0091	202136667			
2866-P 20 B		Ewa wing		handrail			202136668			
HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area <small>Sq. ft or L. ft</small>	Hatch Color
36	Daniel K. Inouye International Airport	3	Ewa wing	Guardrail	Yellow	Paint	Metal	G Ⓞ P	80	
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P 21 A		Ewa wing		Guardrail		8329	202136669			
2866-P 21 B		Ewa wing		Guardrail			202136670			

05889

Hazardous Homogeneous Materials and Sampling Survey Field Form: Lead Paint

Project Number: 2866 2

Location: Daniel K. Inouye International Airport

Inspector Initials: DF, KS

Survey Dates and Times:

HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area Sq. ft or <u>L. ft</u>	Hatch Color
39	Daniel K. Inouye International Airport	3	Ewa Wing	Road way	White	Coating	Concrete	G F P	20	
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P22 A		Ewa Wing		Road way		0101	202136671			
2866-P22 B		Ewa Wing		Road way			202136672			
HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area Sq. ft or <u>L. ft</u>	Hatch Color
41	Daniel K. Inouye International Airport	1	Diamond Head Wing	Conduits, electrical boxes, Pipes	Lt. Pink	Paint	Metal	G F P	1,000	
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P23 A		Diamond Head wing		Conduit		00018	202136673			
2866-P23 B		↓		Pipes			202136674			
HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area Sq. ft or <u>L. ft</u>	Hatch Color
43	Daniel K. Inouye International Airport	1	Diamond Head Wing	Ceiling, eaves, Columns	Beige	Paint	Concrete	G F P	3,000	
Sample ID		Area Sampled		Sample Location		PIC ID	Notes			
2866-P24 A		Diamond Head wing		Ceiling		00018	202136675			
2866-P24 B		↓		Column			202136676			

05889

Hazardous Homogeneous Materials and Sampling Survey Field Form: Lead Paint

Project Number: 2866 2

Location: Daniel K. Inouye International Airport

Inspector Initials: DF, KS

Survey Dates and Times:

HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area Sq. ft or L. ft	Hatch Color
45	Daniel K. Inouye International Airport	1	Diamond Head wing	wall	Beige	Paint	CMU	G F P	2,000	
Sample ID		Area Sampled		Sample Location		PIC ID		Notes		
2866-P25A		Diamond Head wing		wall		00017		202136677		
2866-P25B		↓		wall				202136678		
HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area Sq. ft or L. ft	Hatch Color
47	Daniel K. Inouye International Airport	1	Diamond Head wing	columns, walls	Lt. Pink	Paint	Concrete	G F P	1,000	
Sample ID		Area Sampled		Sample Location		PIC ID		Notes		
2866-P26A		Diamond Head wing		column		00021		202136679		
2866-P26B		↓		wall				202136680		
HM ID	Building	Flr.	Areas	Locations	Material Color	Material	Substrate	Condition	Area Sq. ft or L. ft	Hatch Color
	Daniel K. Inouye International Airport							G F P		
Sample ID		Area Sampled		Sample Location		PIC ID		Notes		
2866-P A										
2866-P B										

05889

DIVISION 2 – SITE WORK

SECTION 02222 - SELECTIVE DEMOLITION

PART 1 – GENERAL

1.01 SUMMARY

- A. The General Provisions of the contract, including the General Provisions for Construction Projects (2016), Special Provisions, and General Requirements of the Specifications, apply to the work specified in this section.
- B. Section Includes: Selective removal and subsequent disposal of pavements, and other items indicated to be removed. Extent of demolition work is indicated on Contract Drawings, and in Contract documents.
- C. Related Sections: Refer to the following sections for related work:
 - 1. Section 01533 – BARRICADES
 - 2. Section 01560 – ENVIRONMENTAL CONTROLS
 - 3. Section 03730 – CONCRETE REPAIR

1.02 REFERENCES

- A. Code of Federal Regulations (CFR)
 - 1. 29 CFR Part 1910 Occupational Safety and Health Standards
 - 2. 29 CFR Part 1926 Safety and Health Regulations for Construction

1.03 SUBMITTALS

- A. Provide in accordance with Section 01300 – SUBMITTALS.
 - 1. Plan for Dust Control during demolition operations.
 - 2. Plan for temporary weather protection.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Survey existing conditions prior to beginning on-site demolition operations.
- B. Verify that utilities have been disconnected and capped.
- C. If unanticipated mechanical, electrical or structural elements that conflict with intended function or design are encountered, investigate and measure nature and extent of conflict.
 - 1. Promptly notify DOT-A.

3.02 UTILITY SERVICES

- A. Maintain existing utilities indicated to remain in service and protect against damage during demolition operations.

3.03 PREPARATION

- A. Conduct demolition operations and remove debris in manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
- B. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities designated to remain.
 - 1. Provide protective measures as required to provide free and safe passage to and from occupied portions of buildings including handicap access.
 - 2. Provide temporary barricades and other forms of protection as required for safety and security.
 - 3. Provide barriers and appropriate signs meeting requirements of 29 CFR 1910 for size and color where necessary to restrict pedestrians from wandering into construction areas.
 - 4. Provide temporary weather protection during interval between demolition and removal of existing construction on exterior surfaces and installation of new construction to ensure no water leakage or damage occurs to structure or interior areas of existing building.

5. Protect existing work that is to remain in place and are exposed during demolition operations.
 6. Cover and protect equipment and fixtures that are to remain from soiling or damage.
- C. Provide and maintain shoring, bracing or structural support to preserve stability and prevent movement, settlement, or collapse of structures and their components.

3.04 DEMOLITION

- A. General: Perform demolition work in accordance with 29 CFR 1926, with particular attention to requirements set forth in Subpart T, "Demolition".
1. Perform work in safe and systematic manner.
 2. Use such methods as required to complete work indicated on Contract Drawings.
- B. Demolish and remove existing construction only to extent required, and as indicated in Contract documents.
- C. Wear proper personal protective equipment at all times.
- D. Remove debris from roof or other above-grade location through enclosed chute or bundle, and lower by hand or with hoisting device.

3.05 REPAIRS

- A. Repair demolition performed in excess of what is required.
- B. Return structures and surfaces not part of demolition, to conditions existing prior to commencement of demolition work.
- C. Promptly repair adjacent construction or surfaces soiled or damaged by demolition work at no cost.

3.06 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Promptly dispose of debris, rubbish, and other materials resulting from building site demolition operations.
- B. If Contractor encounters material during removal that is suspected to be potential hazard, other than those identified in the environmental assessment provided to the Contractor as part of the Specifications, he should stop work immediately and notify DOT-A.

- C. DOT-A shall determine salvageable items, if not indicated in Contract documents.

3.07 CLEANING

- A. Remove tools, equipment and demolished materials from site upon completion of demolition work.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

All work specified in this section shall be paid for at the contract lump sum price for Selective Demolition. The contract price paid shall be full compensation for all labor, tools, equipment, and all other incidentals necessary to complete the work. Should an unforeseen condition arise, payment shall be made by an allowance as directed by DOT-A.

For ALLOWANCE items in the Proposal Schedule, the allowance is an estimate and the amount shall not exceed the maximum amount shown in the Proposal Schedule. Payment shall be the actual cost as invoiced by the Contractor and approved by the DOTA Engineer. The Contractor shall be allowed to include overhead, profit, insurance and/or other mark-ups, as stipulated in Section 9.5 of the 2016 General Provisions for Construction Projects, Air and Water Transportation Facilities Divisions.

<u>ITEM NO.</u>	<u>ITEM</u>	<u>UNIT</u>
02222.1	Unforeseen Demolition Conditions	Allowance
02222.2	Selective Demolition	Lump Sum

END OF SECTION

SECTION 02370 – SEDIMENT AND EROSION CONTROL

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. All erosion and sediment control measures shall comply with the State Department of Health regulations.
- B. The Contractor shall ensure that erosion and sediment control measures are implemented and maintained as necessary and in accordance with the Best Management Practices (BMP) Plan.

1.03 DESCRIPTION

- A. Furnish all labor, materials and equipment necessary for the installation and maintenance of the construction sediment and erosion control measures.

1.04 RELATED SECTIONS

- A. Section 01561 – CONSTRUCTION SITE RUNOFF CONTROL PROGRAM

1.05 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. Product Data: Submit product data for drain inlet sediment filter, silt barrier and other erosion control materials used for this Project.

PART 2 – PRODUCTS

2.01 MATERIAL

- A. Drain Inlet Sediment Filter:
 - 1. Sediment Filter: Dandy Products, Inc. – Dandy Sack or accepted equivalent.
 - 2. The sediment filter shall have lifting straps to allow removal of the unit and manual inspection of the storm water system.

3. The sediment filter shall utilize a monofilament fabric that is manufactured in the U.S.A. with the following characteristics:

PROPERTY	TEST METHOD	UNITS	TEST RESULTS
Grab Tensile Strength	ASTM D 4632	lbs	450 x 300
Grab Tensile Elongation	ASTM D 4632	%	40 x 25
Mullen Burst Strength	ASTM D 4833	lbs	130
Puncture Strength	ASTM D 3786	psi	600
Trapezoid Tear Strength	ASTM D 4533	lbs	165 x 150
% Open Area (POA)	COE – 22125-86	%	28
Apparent Opening Size	ASTM D 4751	US Std Sieve	30
Permittivity	ASTM D 4491	sec	3.5
Permeability	ASTM D 4491	sm/sec	0.25
Water Flow Rate	ASTM D 4491	gal/min/ft ²	250
Ultraviolet Resistance	ASTM D 4355	%	70

B. Silt Barrier:

1. Silt Barrier: EnviroTech BioSolutions – BioSock, or approved equal.
2. Composite Filter Media: Sanitized, mature compost with no identifiable feedstock constituents or offensive odors meeting all local, state, and Federal quality requirements. Biosolids compost shall meet the Standards for Class A Biosolids outlined in 40 Code of Federal Regulations (CFR) Part 503.

Compost used for filtration shall meet the following parameters:

Parameter	Unit	Value
pH:		6 - 8
Moisture Content:	%, wet weight	30 - 60
Organic Matter:	%, dry weight	25 - 65
Particle Size:	% passing mesh size, dry weight	2 in. = 100% 0.375 in. = 10 – 30%
Stability (CO ₂ Rate):	Mg CO ₂ -C per gram of organic matter per day	< 8
Physical Contaminants (Manmade Inerts):	%, dry weight	< 1

3. Roll: Silt barrier shall utilize an outer layer of filtration mesh, and an inner layer of containment netting. All layers shall collectively enclose the compost filtration media. Silt barrier shall be 12” nominal diameters or as indicated on the Drawings.
4. Wood Anchor Stakes: Wood anchor stakes shall have a nominal classification of ¾” by ¾” and a minimum length of 24 inches.

Contractor shall not use rebar or other metal rods

PART 3 – EXECUTION

3.01 CONSTRUCTION

- A. Prior to starting any construction, the Contractor shall install the sediment control measures at the construction limits as indicated on the plans and per manufacturer's specifications to prevent silt and debris from leaving the Project site.
- B. Drain Inlet Sediment Filter:
 - 1. Install sediment filter underneath the grate. Ensure that the grate remains in place and ensure that the sediment filter is not damaged.
- C. Silt Barrier:
 - 1. Overlap: Where multiple sections of silt barriers are required to form a continuous run, the sections shall have a minimum overlap of 12 inches.

3.02 MAINTENANCE

- A. Sediment control measures shall be inspected immediately after each rainfall as required by State requirements.
- B. Remove all accumulated sediment and debris from vicinity of the drain inlet sediment filter after each storm event.
- C. After each storm event and at regular intervals, look into the drain inlet sediment filter. If the unit is more than 1/3 full of accumulated sediment, the unit must be emptied.
- D. To empty the unit, use the lifting straps to lift the unit out of the inlet and remove the grate. Transport the unit to an appropriate location for removal of the contents. Holding the dumping straps on the outside at the bottom of the unit, turn the unit upside down, emptying the contents. Reinstall unit as above.
- E. Silt barriers shall be inspected for depth of sediment, tears and breaches. Any deficiencies shall be repaired immediately.
- F. Sediment deposits on a silt barrier shall be removed after each storm event and/or when deposits reach approximately 2/3 the height of the barrier or when the sediments limit or prevent the flow of water through the silt barrier.

- G. Any sediment deposits remaining in place after the silt barrier is no longer required shall be removed and properly disposed of off-site.
- H. Should the any portion of the drain inlet sediment filter or silt barrier decompose or become ineffective prior to the end of the expected usable life and the measure is still necessary, the sediment filter shall be replaced promptly at no additional cost to the State.
- I. Upon completion of the Project the Contractor shall remove all sediment control measures from the Site.

3.03 CONFORMANCE

- A. Failure to conform to the above requirements and regulations will be cause for temporary or permanent suspension of operations. If operations are suspended due to the Contractor's failure to conform, the Contractor shall maintain the Project during the period of suspension at no cost to the State.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS FOR MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 02577 – PAVEMENT MARKING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 GENERAL REQUIREMENTS

- A. This section consists of the furnishing and installing pavement striping as shown on the plans or as directed by the project engineer.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Materials shall conform to the "Manual on Uniform Traffic Control Devices for Streets and Highways, 2009" latest editions and amendments, and to Section 629 - Pavement Markings of the "Hawaii Standard Specifications for Road and Bridge Construction, 2005" of the State Department of Transportation, Highways Division.

PART 3 – EXECUTION

3.01 CONSTRUCTION

- A. Construction shall conform to the "Manual on Uniform Traffic Control Devices for Streets and Highways, 2009" latest editions and amendments, and to Section 629 - Pavement Markings of the "Hawaii Standard Specifications for Road and Bridge Construction, 2005" of the State Department of Transportation, Highways Division.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS FOR MEASUREMENT AND PAYMENT

All work specified in this Section shall be paid for at the contract lump sum price for Pavement Marking. The contract price paid shall be full compensation for all labor, tools, equipment and all other incidentals necessary to complete the work.

<u>ITEM NO.</u>	<u>ITEM</u>	<u>UNIT</u>
02577	Pavement Marking	Lump Sum

END OF SECTION

DIVISION 03 – CONCRETE

SECTION 03215 – MICROCOMPOSITE PLAIN AND DEFORMED BARS FOR CONCRETE REINFORCEMENT

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section specification covers reinforcement steel for concrete pavement reinforcement on the second levels of the Ewa and Diamond Head concourse Roadways.
- B. Description of work: Furnish and place reinforcement steel as shown in the plans and per this specification.
- C. Related Sections
 - 1. Section 03240 – FIBROUS REINFORCING for supplemental concrete reinforcement.
 - 2. Section 03300 – STRUCTURAL CONCRETE for cast-in-place concrete.

1.03 REFERENCES

- A. Codes and Standards
 - 1. American Concrete Institute (ACI)
 - a. Building Code Requirements for Reinforced Concrete (ACI 318)
 - b. Details and Detailing of Concrete Reinforcement (ACI 315)
 - c. ACI Detailing Manual (ACIS SP-66)
 - d. Standard Tolerances for Concrete Construction and Materials (ACI 117)
 - 2. American Society for Testing and Materials (ASTM)

- a. ASTM A6/A6M-12a – Specification for General Requirements for Rolled Structural, Steel Bars, Plates, Shapes, and Sheet Piling
 - b. ASTM A82-07 – Standard Specification for Steel Wire, Plain, for Concrete Reinforcement
 - c. ASTM A370-14 – Test Methods and Definitions for Mechanical Testing of Steel Products
 - d. ASTM A510/A 510M-11 Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel
 - e. ASTM A615 - 16 - Specification for Deformed and Plain Carbon Steel Bars for Concrete Reinforcement
 - f. ASTM A1035/A1035M–16b - Specification for Deformed and Plain Low-Carbon, Chromium Steel Bars form Concrete Reinforcement
 - g. ASTM E29-08 - Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications
3. Concrete Reinforcing Steel Institute (CRSI)
- a. CRSI Manual of Standard Practice, 29th Edition
 - b. Placing Reinforcing Bars (CRSI), 10th Edition
 - c. CRSI – Specialty and Corrosion-Resistant Steel Reinforcement – Product Guide – July 2013

1.04 DESIGN REQUIREMENTS

- A. Design of concrete elements reinforced with steel bars shall be based in accordance with the provisions of ACI 318 as modified by IBC 2018 with Hawaii State amendments.

1.05 SUBMITTALS

- A. Comply with Section 01300 – SUBMITTALS
- B. Product Data: Submit manufacturer’s product data, including material and mechanical properties.
- C. Test Reports: Submit manufacturer’s mill certifications for material and mechanical properties for each bar size used by the project.

- D. Shop Drawings: Submit bar placing drawings showing size and spacing of all cast-in-place concrete elements throughout the project.
- E. Field Welding Procedures: Steel reinforcement bar shall not be welded except for tack welds as indicated in Section 3.03B.
- F. Mechanical Couplers: Submit Manufacturer's product data for use with reinforcement bars.

1.06 DELIVERIES, STORAGE, AND HANDLING

- A. General: Deliver, store, and handle reinforcement bar in accordance with manufacturer's instructions.
- B. Delivery and Storage:
 - 1. Do not store reinforcement bar on ground to keep them free from dirt and mud and to provide easy handling. It is recommended that reinforcement bars shall be covered when exposed to the elements for longer than 60 days, during transport from manufacturer, storage, fabrication and until placement; and as indicated in CRSI – Specialty and Corrosion - Resistant Steel Reinforcement – Product Guide.
 - 2. Seams, surface irregularities, or mill scale oxidation shall not be cause for rejection, provided the weight, dimensions, and cross-sectional area of a hand-wired-brush test specimen are not less than the requirements of this specification.
 - 3. Handling of reinforcement bar shall be in accordance with conventional steel bar as noted in CRSI Manual of Standard Practice, and CRSI – Specialty and Corrosion-Resistant Steel Reinforcement – Product Guide.

PART 2 – PRODUCTS

2.01 BAR MATERIAL

- A. General: Reinforcement bar shall have a minimum chromium composition as indicated in paragraph C. "Material Composition" Table 1; and have either a minimum yield strength of 100,000 psi for Grade 100 by using the 0.2% offset test method of ASTM A370.
- B. Manufacturer Process and Bar Sizes: Reinforcement bar shall be hot rolled from properly identified mold or stand cast steel.

- C. Material Composition: Steel reinforcement bars shall meet the requirements of Table 1.

Table 1. Maximum Chemical Constituents (Weight %)

Element	Carbon	Chromium	Manganese	Nitrogen	Phosphorus	Sulfur	Silicon
Maximum Amount ¹	0.15%	8 to 10.9%	1.5%	0.05%	0.035%	0.045%	0.5%

Note ¹ – Maximum unless range indicated

- D. Bar weight, dimensions, spacing, height, and cover depth shall be as noted in Contract Documents.
- E. Reinforcement bars shall conform to the weight, dimensions and deformation spacing, height, and gap requirements prescribed in ASTM A1035 Table 1
- F. Permissible Variation in Weight: Reinforcement bars shall conform to the requirements for bar deformations in ASTM A1035 Section 11.
- G. Tensile Properties:
1. Reinforcement bars shall conform to the requirements for tensile properties prescribed in Table 2.
 2. The yield strength shall be determined by the offset method (0.2% offset), described in Test Methods and Definitions A370.

Table 2. Tensile Properties Requirements

	Grade 100
Tensile Strength, min, psi	150,000
Yield Strength (0.2% Offset), min, psi	100,000
Bar Designation No.	
3 through 11	7
14, 18	6

- H. Bend Test Properties: Reinforcement bar bent test specimens shall withstand being bent around a pin without cracking on the outside radius of the bent portion. The requirements for degree of bending and sizes of pins are prescribed in Table 3. When material is furnished in coils, the test sample shall be straightened prior to placement in the bent tester.

Table 3. Bend Test Requirements

Bar Designation No.	Pin Diameter ¹
3, 4, 5	3½d ²
6, 7, 8	5d
9, 10, 11	7d
14, 18 (90°)	9d

Note¹ – Test bends 180° unless otherwise noted in ().

Note² – d = nominal diameter of specimen.

I. Bar identification:

1. Reinforcement bars shall meet the requirements of ASTM A615 Grade-100, ASTM A1035-13. Reinforcement bars, except plain round bars, which shall be tagged for grade, shall be identified by distinguishing set of marks legibly rolled onto the surface of one side of the bar to denote the specification in the following order:
 - a. Bar Identifiers – Bars shall have an identification mark to distinguish between manufacturer products.
 - b. Point of Origin – Letter or symbol established as the manufacturer’s mill designation.
 - c. Size Designation – Arabic number corresponding to bar designation number of Table 2.
 - d. Type of Steel – Letters “CS” indicating that the bar was produced to ASTM A1035 Type CS specifications. Letters “CM” indicating that the bar was produced to ASTM A1035 Type CM. Letters “CL” indicating that the bar was produced to ASTM A1035 Type CL.
 - e. Minimum Yield Designation – For Grade 100, either the number 100 or three continuous longitudinal lines through at least five spaces offset each direction from the center of the bar.

2.02 BAR SUPPORTS

- A. Bar supports and spacers shall be per recommendations set forth by Chapter 3 of the CRSI Manual of Standard Practice.
- B. Ferrous metal bar supports in concrete areas where soffits are exposed to view or are painted shall be Class 1.

2.03 TIE WIRE

- A. Metallic ties shall be 16 gauge or heavier, black-annealed ferrous metal wire.
- B. Non-metallic ties shall be appropriate for the intended application.

2.04 MECHANICAL BAR SPLICE COUPLERS

- A. Couplers shall be made from similar material of reinforcement bar and be approved by reinforcement bar manufacturer to be used with reinforcement bar.

2.05 MATERIAL QUALITY CONTROL

- A. Quality Control Testing:
 - 1. Reinforcement bars shall be furnished with material certifications in accordance with Section 1.05 Submittals.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine areas to receive reinforcement bars. Notify DOT-A if areas are not acceptable. Do not begin placing reinforcement bars until unacceptable conditions have been corrected. See also paragraph 1.06 Deliveries, Storage, and Handling.
- B. Seams, surface irregularities, or mill scale oxidation shall not be cause for rejection, provided the weight, dimensions, and cross-sectional areas of a hand-wired-brush test specimen are not less than the requirements of this specification.

3.02 PLACING DRAWINGS

- A. Place reinforcing bars accurately in accordance with approved shop drawings, schedules, typical details, and notes.

3.03 FABRICATION

A. Reinforcing steel shall be accurately fabricated to the dimensions shown in the Contract Documents.

1. Bends shall conform to the dimensions and details in accordance with ACI 315 Chapter 3, ACI SP-66 and/or CRSI Manual of Standard Practice – Chapter 6, unless otherwise shown, with fabricated bends conforming to Table 4 per ACI 315 – Table 7.2

Table 4. Minimum Fabricated Bend Diameters

Bar Size	Minimum Bend Diameter
3, 4, 5, 6, 7, 8	6d
9, 10, 11	8d
14, 18	10d

2. Bars shall be bent cold and shall not be bent or straightened in a manner that will injure the material. Heating of the bars to facilitate bending shall not be permitted.
3. Bar cutting shall be accomplished by shearing or with fluid-cooled- saw. Torch cutting shall not be permitted.
4. Bars shall be fabricated within the tolerances shown in the ACI 315 figures 8 and 9, and/or CRSI Manual of Standard Practice – Chapter 7 and/or CRSI – Chapter 6

B. Field Tack Welding as an aid to fabrication and/or installation is permitted but not allowed if weld is required for structural applications.

3.04 INSTALLATION

A. Placement: Place reinforcement bars in accordance with CRSI PRB – Chapter 10, and to the tolerances given in ACI 117 and/or CRSI PRB, unless otherwise specified or approved by DOT-A. Bars shall be free from loose mill scale oxidation, dirt, oil or other deleterious coatings that could reduce bond with the concrete. When bars are moved more than one bar diameter to avoid interference with other reinforcement, conduits, or embedded items, the resulting arrangement of the bars shall meet the structural requirements of the project as approved by DOT-A.

- B. Field Cutting and Bending: When required, field cutting and bending of reinforcement bars shall be per Section 3.03 Fabrication. Reinforcing bars partially embedded in concrete shall not be field bent. Fabricated bent bars shall not be straightened and re-bent in the field.
- C. Securing:
 - 1. Secure reinforcement bars in formwork to prevent displacement by concrete placement or workers Supports and Spacers.
 - 2. Place and support reinforcement bars accurately using specified supports before concrete placement is started and placed in accordance with the provisions of ACI 315 – Chapter 5 or CRSI PRB.
- D. Splicing: All splicing of reinforcement shall be as indicated in the Contract Documents, unless otherwise permitted. Concrete cover and bar spacing shall conform to ACI 318. Mechanical connections shall be made only at locations shown in the Contract Documents or as permitted by DOT-A.
 - 1. When required, mechanical coupler connections shall develop 125 percent of the specified minimum tensile strength of the bars being spliced; and shall be installed per coupler manufacturer’s recommendations.
- E. Fastening: Fasten reinforcing bars with approved tie wire, or snap ties, in accordance with ACI 315.
- F. Cleaning: Remove form oil or other deleterious materials from reinforcing bars before placing concrete

3.05 TESTING AND INSPECTION

- A. Upon request a certified copy of a mill certification report showing physical and chemical analysis for each heat or reinforcing bars delivered shall be provided.

PART 4 – BASIS FOR MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

- A. Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 03240 - FIBROUS REINFORCING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section includes synthetic fiber reinforcement for concrete for the following:
 - 1. Roadway Pavement Slabs at the second level of the Ewa and Diamond Head concourse roadways
- B. Related Sections
 - 1. Section 03215 – MICROCOMPOSITE PLAIN AND DEFORMED BARS FOR CONCRETE REINFORCEMENT for concrete reinforcement bars.
 - 2. Section 03300 – STRUCTURAL CONCRETE for cast-in-place roadway pavement slab.

1.03 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM C94 - Standard Specification for Ready-Mixed Concrete
 - 2. ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete
 - 3. ASTM C1550 - Standard Test Method for Flexural Toughness of Fiber Reinforced Concrete (Using Centrally Loaded Round Panel)
 - 4. ASTM C1579 - Standard Test Method for Evaluating Plastic Shrinkage Cracking of Restrained Fiber Reinforced Concrete (Using a Steel Form Insert)
 - 5. ASTM C1609 - Standard Test Method for Flexural Performance of Fiber-Reinforced Concrete
 - 6. ASTM C1812 - Standard Practice for Design of Journal Bearing Supports to be Used in Fiber Reinforced Concrete Beam Tests

7. ASTM D7508 - Standard Specification for Polyolefin Chopped Strands for Use in Concrete
 8. ASTM C 1399 - Standard Test Method For Obtaining Average Residual-Strength Of Fiber-Reinforced Concrete
 9. ASTM D 3822 - Standard Test Method For Tensile Properties Of Single Textile Fibers
- B. American Concrete Institute (ACI):
1. ACI PRC-544.1 Report on Fiber Reinforced Concrete
 2. ACI PRC-544.3 Guide for Specifying, Proportioning, and Production of Fiber-Reinforced Concrete
 3. ACI PRC-544.5 Report on the Physical Properties and Durability of Fiber-Reinforced Concrete
- C. American National Standards Institute/ Steel Deck Institute (ANSI/SDI):
1. C - 2017 Standard for Composite Steel Floor Deck – Slabs

1.04 DEFINITIONS

- A. Equivalent diameter: Diameter of a circle having an area equal to the average cross-sectional area of a fiber.
- B. Fibrillated: A slit film fiber where sections of the fiber peel away, forming branching fibrils.
- C. Monofilament: Single filament fiber typically cylindrical in cross-section.
- D. Plastic shrinkage: A reduction in volume of concrete prior to its final set.
- E. Synthetic macrofiber: Synthetic fibers with diameters or equivalent diameters greater than 0.012 in. (0.3 mm). These also have longer lengths and are used at higher dosages than synthetic microfibers.
- F. Synthetic microfiber: Synthetic fibers with diameters or equivalent diameters less than 0.012 in. (0.3 mm).

1.05 SUBMITTALS

- A. Submit under provisions of Section 01300 SUBMITTALS

- B. Product Data: Manufacturer's data sheets of fibers to be used.
- C. Manufacturer's Certificate: Certificate showing the conformance of fibers to specified performance requirements.

1.06 QUALITY CONTROL

- A. Provide products from one manufacturer.
- B. Pre-construction trial mixtures using proposed ingredients shall be evaluated to ensure that specified concrete properties are achieved, particularly, the workability of the mixture. This is specifically important when dosages of 5 lb/yd³ (3 kg/m³) or more of the synthetic macrofibers are used. Consult the manufacturer of synthetic macrofibers for details.
- C. A meeting shall be held two weeks prior to placement of fiber reinforced concrete to discuss the Project and materials. Fiber Manufacturer's Representative shall be present at the meeting.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Synthetic fibers shall be delivered to the manufacturer of concrete in a ready-to-use package such as in pre-weighed degradable bags.
- B. User of synthetic fibers shall store the fibers in a dry, covered area free of contamination.
- C. Use of synthetic fibers shall be as recommended by the manufacturer.

PART 2 – PRODUCTS

2.01 SYNTHETIC FIBERS

- A. Synthetic Macro-fibers:
 - 1. Macro-synthetic fibers shall be manufactured from virgin polyolefins (polypropylene and polyethylene) and comply with ASTM C 1116.4.1.3. Fibers manufactured from materials other than polyolefins must show documentary evidence confirming their long term resistance to deterioration when in contact with moisture and alkalies present in cement paste and/or the substances present in air-entraining and chemical admixtures.
 - 2. The minimum fiber length shall be 1.50 inches.
 - 3. Macro-synthetic fibers shall have an aspect ratio (length divided by the equivalent diameter of the fiber) between 45 and 150.

4. Macro-synthetic fibers shall have a minimum tensile strength of 40 ksi when tested in accordance with ASTM D 3822.
5. Minimum dosage rate in pounds of fibers per cubic yard of concrete shall be established by determining a minimum average residual strength of no less than 150 psi when tested in accordance with ASTM C 1399. The minimum fiber dosage rate shall be 3 lbs/cubic yard.
6. Macro-synthetic fibers shall have a minimum modulus of elasticity of 400 ksi when tested in accordance with ASTM D 3822.” Shall be manufactured from virgin polyolefins (polypropylene and polyethylene) e) and comply with ASTM C 1116.4.1.3. a proprietary blend of polypropylene resins in compliance with ASTM D7508 for macro-chopped strands or hybrids chopped strands, for use in fiber-reinforced concrete meeting the requirements of ASTM C1116, Type III.

PART 3 – EXECUTION

3.01 BATCHING, MIXING AND TRANSPORTING

- A. Batching of materials shall be in accordance with ASTM C94 and ASTM C1116.
- B. Introduce fibers into the mixing system at any time, except when the cement is being introduced. Mix for at least 5 minutes after the addition of the fibers.
 1. Fibers shall be dispensed into the mixing system in accordance with the recommendations of the manufacturer.
- C. Mixing and transporting concrete shall be in accordance with ASTM C1116.

3.02 PLACING, CONSOLIDATION AND FINISHING

- A. Placing, consolidation and finishing of concrete shall be in accordance with the recommendations of ACI PRC-544.3.
 1. Additional water shall not be added in the field.
- B. Vibrating screed, laser screed or roller screed shall be used for consolidating concrete in large square footage industrial and commercial interior slabs-on-ground.

3.03 CURING AND PROTECTION

- A. Curing and protection of concrete shall be in accordance with Section 03300 – STRUCTURAL CONCRETE.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 03300 – STRUCTURAL CONCRETE

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:

- 1. Roadway Pavement Slabs

- B. Related Sections:

- 1. Section 02222 – SELECTIVE DEMOLITION for demolition of existing pavement slab.
 - 2. Section 02370 – SEDIMENT AND EROSION CONTROL for concrete pavement construction.
 - 3. Section 03215 – MICROCOMPOSITE PLAIN AND DEFORMED BARS FOR CONCRETE REINFORCEMENT for Reinforcement Bars.
 - 4. Section 03240 – FIBROUS REINFORCING for supplemental concrete reinforcement.

1.03 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.04 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

- C. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
 - 1. Location of construction joints is subject to approval of the DOT-A.
- D. Qualification Data: For Installer.
- E. Material Certificates: For each of the following, signed by manufacturers:
 - 1. Cementitious materials.
 - 2. Admixtures.
 - 3. Form materials and form-release agents.
 - 4. Fiber Reinforced Polymer reinforcement bars and accessories.
 - 5. Fibrous reinforcement.
 - 6. Curing compounds.
 - 7. Bonding agents.
 - 8. Adhesives
- F. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:
 - 1. Aggregates
 - 2. Cement

1.05 QUALITY CONTROL

- A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.
- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94 requirements for production facilities and equipment.

- C. Testing Agency Qualifications: An independent agency qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
 - 1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
 - 2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.
- D. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- E. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
 - 1. ACI 301, "Specifications for Structural Concrete," Sections 1 through 5.
 - 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
- F. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.

PART 2 – PRODUCTS

2.01 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
 - 1. Plywood, metal, or other approved panel materials.
 - 2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:

- a. High-density overlay, Class 1 or better.
 - b. Medium-density overlay, Class 1 or better; mill-release agent treated and edge sealed.
 - c. Structural 1, B-B or better; mill oiled and edge sealed.
 - d. B-B (Concrete Form), Class 1 or better; mill oiled and edge sealed.
- B. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.
- C. Rustication Strips: Wood, metal, PVC, or rubber strips, kerfed for ease of form removal.
- D. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
- E. Form Ties: Factory-fabricated, removable or snap-off glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
- 1. Furnish units that will leave no material closer than 1 inch to the plane of exposed concrete surface.
 - 2. Furnish ties that, when removed, will leave holes no larger than 1 inch in diameter in concrete surface.

2.02 REINFORCEMENT BARS

- A. Reinforcement bar products shall be in accordance with Section 03215 – MICROCOMPOSITE PLAIN AND DEFORMED BARS FOR CONCRETE REINFORCEMENT

2.03 REINFORCEMENT ACCESSORIES

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars in place. Manufacture bar supports from plastic.

2.04 STRUCTURAL CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
 - 1. Portland Cement: ASTM C 150, Type I/II

- B. Normal-Weight Aggregates: ASTM C 33, Class 3M coarse aggregate or better, graded. Provide aggregates from a single source
 - 1. Maximum Coarse-Aggregate Size: 3/4 inch nominal.
 - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Water: ASTM C 94 and Potable.

2.05 ADMIXTURES

- A. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 1. Water-Reducing Admixture: ASTM C 494, Type A.
 - 2. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.

2.06 FIBER REINFORCEMENT

- A. Fiber reinforcement products shall be in accordance with Section 03240 – FIBROUS REINFORCING.

2.07 CURING MATERIALS

- A. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

2.08 RELATED MATERIALS

- A. Expansion-and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self- expanding cork.
- B. Semirigid Joint Filler: Two-component, semirigid, 100 percent solids, per ASTM D 2240

2.09 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.
- B. Admixtures: Use admixtures according to manufacturer's written instructions.
1. Use water-reducing high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
 2. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.

2.10 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94 and ASTM C 1116, and furnish batch ticket information.
1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

2.11 LEVELING CONCRETE

- A. Leveling concrete shall meet the following:
1. The leveling concrete shall be a blend of selected Portland Cements, specially graded aggregates, admixtures for controlling setting time, and water reducers for workability and an organic accelerator.
 2. The materials shall be non-combustible before and after cure.
 3. The materials shall be supplied as a factory-blended unit.
 4. The Portland Cement mortar shall be placeable from 1/4" to 1" in depth per lift for horizontal applications.

PART 3 – EXECUTION

3.01 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:
 - 1. Class A, 1/8 inch for smooth-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
 - 1. Install keyways, reglets, recesses, and the like, for easy removal.
 - 2. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Chamfer exterior corners and edges of permanently exposed concrete.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.02 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.03 REMOVING AND REUSING FORMS

- A. General: Formwork for sides of parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations and curing and protection operations need to be maintained.
 - 1. Leave formwork for beam soffits and other structural elements that supports weight of concrete in place until concrete has achieved at least 70 percent of its 28-day design compressive strength.
- B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by DOT-A.

3.04 REINFORCEMENT BARS

- A. Installation procedures shall be in accordance with Section 03215 –
MICROCOMPOSITE PLAIN AND DEFORMED BARS FOR CONCRETE
REINFORCEMENT

3.05 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by DOT-A.
 - 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.

2. Form keyed joints as indicated. Embed keys at least 1-1/2 inches into concrete.
 3. Locate horizontal joints in floor slabs.
 4. Space vertical joints in walls as indicated. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
 5. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
 6. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

3.06 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by DOT-A.
- C. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
 1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 2. Maintain reinforcement in position on chairs during concrete placement.
 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
 4. Slope surfaces uniformly to drains where required.
 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

3.07 FINISHING FORMED SURFACES

- A. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
 - 1. Apply to concrete surfaces exposed to public view, to receive a rubbed finish, to be covered with a coating or covering material applied directly to concrete.
- B. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.08 FINISHING SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of 1/4 inch in one direction.
- C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.
 - 1. Apply float finish to surfaces to receive broom finish.
- D. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and elsewhere as indicated.
 - 1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with DOT-A before application.

3.09 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as

specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

3.10 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with for ACI 301 for hot-weather protection during curing.
- B. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.
- C. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.
- D. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
 - 2. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
 - a. Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer.

3. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.11 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
 1. Defer joint filling until concrete has aged at least one month(s). Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- C. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches (50 mm) deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

3.12 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by DOT-A. Remove and replace concrete that cannot be repaired and patched to DOT-A's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 (1.18-mm) sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
 1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete. Limit cut depth to 3/4 inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent

2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by DOT-A.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 2. After concrete has cured at least 14 days, correct high areas by grinding.
 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
 5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 6. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse

aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.

7. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to DOT-A's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to DOT-A's approval.

3.13 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Contractor will engage a qualified testing agency to perform field and prepare test reports.
- B. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
 1. Testing Frequency shall be as follows:
 - a. Samples for strength of each class of concrete placed each day shall be taken not less than once a day, nor less than one for each 150 cubic yards of concrete, nor less than once for each 5,000 square feet of surface area for slabs.
 - b. If the total volume of concrete is such that the frequency of testing would provide less than five strength tests for a given class of concrete, tests shall be made from at least five randomly selected batches or from each batch if fewer than five batches are used.
 2. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
 3. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.

4. Compression Test Specimens: ASTM C 31.
 - a. Cast and field cure two sets of two standard cylinder specimens for each composite sample.
5. Compressive-Strength Tests: ASTM C 39; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
 - a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
 - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
6. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
7. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
8. Test results shall be reported in writing to DOT-A, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
9. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by DOT-A but will not be used as sole basis for approval or rejection of concrete.
10. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by DOT-A. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42 or by other methods as directed by DOT-A.
11. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

12. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

C. Measure floor and slab flatness and levelness according to ASTM E 1155 within 48 hours of finishing.

3.14 PROTECTION OF LIQUID FLOOR TREATMENTS

A. Protect liquid floor treatment from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by liquid floor treatments installer.

PART 4 – MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

No measurement shall be made for the items in this Section.

4.02 BASIS OF PAYMENT

Structural Concrete work involving the Roadway Deck Replacement along the Second level Ewa Concourse Roadway, and the Second level Diamond Head Concourse Roadway, shall be paid for at the contract Lump Sum prices for the Ewa Concourse Second Level Roadway Deck Replacement and for the Diamond Head Concourse Second Level Roadway Deck Replacement. The contract prices paid shall be full compensation for all labor, tools, equipment, and all other incidentals necessary to complete the work.

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>
03300.1	Ewa Concourse Second Level Roadway Deck Replacement	Lump Sum
03300.2	DH Concourse Second Level Roadway Deck Replacement	Lump Sum

All other structural concrete work specified in this section shall be considered incidental to and included in the bid prices for the various items of work in the project.

END OF SECTION

SECTION 03730 – CONCRETE REPAIRS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 DESCRIPTION OF WORK

- A. This section is for locating and confirming the size of defective areas in the concrete structure and repairing of all concrete spalls, delaminations, honeycombing, and other defective concrete within the existing concrete structure. This section applies to locations as designated on the plans as well as all other locations encountered by the Contractor and DOT-A.

1.03 DEFINITIONS

- A. Bracing: Temporary supplemental members used to avoid local or global instability during construction, evaluation, or repair that are intended to be removed after completion.
- B. Delamination: A planar separation in a material that is roughly parallel to the surface of material.
- C. Rehabilitation: Repairing or modifying an existing structure to a desired useful condition
- D. Repair: The reconstruction or renewal of concrete parts of an existing structure for its maintenance or to correct deterioration, damage, or faulty construction of members or systems of a structure.
- E. Shoring: Props or posts of timber or other material in compression used for the temporary support of excavations, formwork, or unsafe structures; the process of erecting shores
- F. Termination Joint: The interface where a placement of repair material meets existing concrete, the edge of an expansion joint, or other existing surfaces.
- G. Unsound Concrete: Concrete that is fractured, delaminated, spalled, deteriorated, defective, contaminated or otherwise damaged.

1.04 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic design designation only.
- B. American Concrete Institute (ACI)
 - 1. ACI 117: (2010; Errata 2011) Specifications for Tolerances for Concrete Construction and Materials and Commentary
 - 2. ACI 503.7: (2007) Specification for Crack Repair by Epoxy Injection
- C. ASTM International (ASTM)
 - 1. ASTM C928: (2020a) Standard Specification for Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repairs
 - 2. ASTM D4580: (2012) Standard Practice for Measuring Delaminations in Concrete Bridge Decks by Sounding
- D. International Concrete Repair Institute (ICRI)
 - 1. IRCI 310.2R: (2013) Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair

1.05 SUBMITTALS

- A. Submit in accordance with Section 01300 –SUBMITTALS
- B. Preconstruction Submittal
 - 1. Submit for record, a qualification statement by the Contractor listing their completed concrete repair projects, including size, location, owner, engineer/architect and contact numbers. Contractor Qualifications shall comply with Section 1.06.B
 - 2. Schedule indicating proposed methods and sequence of operations for the concrete repair work.
- C. Product Data
 - 1. Product data of all materials used for concrete repaired under this section. Product data shall also include test data, certificates, and manufacturer’s instructions for the following items:

- a. Concrete patching materials
 - b. Crack repair materials
- D. Material Safety Data Sheets: Furnish the manufacturer's Material Safety Data Sheets for each of the materials present at any time on the job site.
- E. Documentation of Repairs: Include records of each repaired concrete area including spalls and cracks. Documentation shall include the following:
1. The date of concrete repair mortar placement or date of epoxy gravity feeding or injection.
 2. The location of the center of each repair rectangle, or crack location as indicated by distance from two nearest column lines.
 3. Dimension of the spall repair rectangle or length of crack repair.

1.06 QUALITY CONTROL

A. General Requirements

1. To protect personnel from overexposure to toxic materials, conform to the applicable manufacturer's Safety Data sheets or local regulations.
2. Inspection and testing of work, must be in accordance with established procedures, manufacturer's instructions, specific instructions from DOT-A if given, or recommended practices as referenced herein and the Contract Documents.

B. Contractor Qualifications: An experienced installer who has completed at least five (5) years experience in concrete Work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

C. Tolerances: Construction tolerances for repairs must conform to ACI 117. Where existing condition do not allow tolerances to conform to ACI 117, use the details and materials for such conditions as indicated in the Contract Documents. For conditions not shown or that are different than indicated in the Contract Documents, notify DOT-A before proceeding with the work at those locations.

D. Observation of Work: DOT-A will observe the Work of the Contractor at various phases during the repair process. The observations will include a visual observation of the repair patches, and sounding the patched areas with a hammer

to check for soundness. The Contractor shall provide access for DOT-A for their observations. The access will include the work platform used by the Contractor to perform the work. The platform shall be operated by the Contractor's personnel, if applicable, and shall be in accordance with OSHA safety requirements. The Contractor shall provide access to DOT-A on five (5) days during the construction process for random observations. The five days will not be sequential and will be scheduled according to the Contractor's production schedule. DOT-A will schedule with the Contractor in advance to arrange for the observations. A punch list will be compiled as a result of the observation. Upon receipt of the punch list, the Contractor shall make the necessary repairs, and provide one (1) additional day of access for DOT-A for final observation.

- E. Rejection of Installed Work: DOT-A shall have the right to reject all work which is not in compliance with the requirements of the drawings and specifications.
1. Replacement of rejected work may require that the materials in place in the rejected areas be entirely removed to the solid concrete deck. Use methods that shall produce acceptable work. Additional surface preparation may be required. The Contractor shall research and define these procedures and complete the additional surface preparation and reapplication of the repair material at no extra cost to the State.
 2. See Section 01433 – MOCK-UPS to perform mock up repair. Other repairs shall not be performed until Mock-Up has been inspected and approved by DOT-A.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver all materials in original tightly sealed containers or unopened packages, clearly labeled and containing manufacturer's name, labels, date of manufacture, product identification, manufacturer's instructions for mixing, and warning for handling and toxicity.
- B. All repair materials shall be stored in a manner to prevent deterioration for the intrusion of foreign matter. Any material which has deteriorated or that has been damaged shall not be used for concrete repair and shall be promptly removed from the site. The storage of materials and equipment shall not be limited to areas designated by the DOT-A, and shall be secured under lock and key at all times.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Epoxy Bonding Adhesive: Provide epoxy bonding adhesive if recommended by the manufacturer. Bonding adhesive must be provided by the same manufacturer as patching material.
- B. Patching Material: ASTM C 881 two component, polymer modified, Portland cement, trowel grade mortar, have high abrasion resistance, suitable for vertical and overhead surfaces, of a class and grade to suit requirements. Refer to manufacturer's specifications for preparation and application guidance. Patching material and bonding adhesive shall be supplied by the same manufacturer and shall be fully compatible with each other.
- C. Water: ASTM C 94 and potable
- D. Curing Compound: For curing of Patching Material, cover with wet burlap or approved equal. Leave wet burlap on until opening to traffic.
- E. Crack Repair Epoxy: Low viscosity, high strength, resin adhesive that conforms to ASTM C-881 specifications. Resin must be applicable for gravity feed installation method for horizontal cracks and pressure injection installation method for vertical and overhead cracks.
- F. Other Materials: All other materials, not specifically described but required for the successful completion and installation of the work shall be as selected by DOT-A.

PART 3 – EXECUTION

3.01 JOB CONDITIONS

- A. Adhere to the manufacturer's printed instructions regarding weather and climate condition restrictions on the use of all materials supplied in this section.
- B. Do not apply the materials if it is raining or if rain is imminent. Take proper precautions to protect newly placed and completed repairs from weather conditions such as strong wind or rain.
- C. Do not man scaffolds or lift equipment in wind or rain conditions that makes working dangerous.

- D. Protection: Precautions shall be taken to avoid damage to any surface near the work area due to slippage.
- E. Barricades: Erect temporary barricades and railings, to prevent people from entering the project area. Coordinate with DOT-A on final location and placement.

3.02 PROTECTION OF WORK

- A. Do not allow construction loads to exceed the loads that a structural member or structure is safely capable of supporting without damage. Provide supplemental support if construction loads are expected to exceed safe load capacity.
- B. Use all means necessary to protect the materials of this section before and during installation and to protect this work and the work of all other trades. In the event of damage during installation, immediately make repairs and replacements necessary to the approval of the DOT-A at no additional cost to the State.
- C. Protect repair materials from environmental damage by weather events during the length of the curing period.

3.03 EQUIPMENT FOR CONCRETE PREPARATION

- A. Means and methods used for concrete removal and surface preparation must be selected and used such as to minimize damage to the structure and to the concrete substrate that remains.
- B. Equipment for Concrete Removal: Removal equipment and techniques must be suitable to produce concrete surface profiles and level of cleanliness in designated areas as required by this specification and the contract Documents.
 - 1. Cutting Equipment: Cutting, lifting, and transporting equipment must be adequate to cut, support, and transport concrete sections without incurring any damage to the existing structure.
 - 2. Concrete Breakers: Provide sharp tips on breaker equipment to minimize microcracking damage in partial depth removal.
- C. Materials for Formwork and Embedded Items
 - 1. Install and remove formwork without damaging or staining the existing structure or repair material.

2. Forms used for polymer concrete/mortars must be tight enough to hold the material that is used without leaking. All surfaces where bond is not desired, but which are exposed to the monomer or resin, must be treated with a form release agent.

3.04 CONCRETE REPAIR SURFACE PREPARATION

- A. Cleaning shall precede application of the patching material by not more than 24 hours. The surface to be patched shall be cleaned according to the manufacturer's specifications.
- B. Exposed reinforcing and structural steel shall be cleaned to remove all loose and built-up rust, asphalt residue, and all other contaminants detrimental to achieving an adequate bond. It may be necessary to use hand tools to remove scale from the reinforcing steel or anchor bolts.
- C. The surface shall be free of spalls, laitance and all traces of foreign material. If necessary, detergent cleaning shall precede blast cleaning to ensure the removal of contaminants that are detrimental to achieving an adequate bond. Ultra-high hydro-demolition of 10,000 psi or more is an acceptable method of total surface preparation.
- D. Any additional surface preparation shall be in accordance with the manufacturer's recommendations for the patching material which is used. All un-chipped surfaces that will receive new material shall be mechanically roughened to the greater of a 1/8 inch amplitude or manufacturer's recommendation.

3.05 CONCRETE REPAIR INSTALLATION

- A. All work shall be performed in such a way to eliminate any dust, vapors or odors from entering into the interior spaces. No dust or debris shall come in contact with vehicles parked nearby construction area. The contractor shall clean the vehicle of such dust and debris if it occurs. Every precaution necessary to achieve this shall be implemented.
- B. No "feathering" of patching material shall be allowed. All patching will include saw cutting around the entire perimeter of the repair.
- C. Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner. All patching material shall be sanded smooth after the repair is complete and material curing is complete. The finish surface shall be flush with the surrounding concrete surface, and shall not be visually evident after application of the coating. Failure to accomplish this shall

require the Contractor to remove the coating, further sand the surface until flush at no cost to the State.

- D. If required by manufacturer, the reinforcing steel shall receive two (2) coats of corrosion inhibiting bonding agent at 20 mils each, total of 40 mils DFT. The concrete surface shall receive one (1) coat at 20 mins DFT. Contractor shall follow manufacturer's specifications for recommended time between application of bonding agent and patching mortar.
- E. Where existing components are removed, the contractor shall repair, patch and finish all flooring, wall, and ceiling surfaces to match existing condition.
- F. Compatibility: Before patching, verify compatibility with and suitability of substances, including compatibility with in-place finishes or primers.
- G. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.
- H. At the Ewa Third Level Roadway the Contractor shall patch the spall and delamination area of the roadway deck after scarify existing concrete overlay where shown on the construction drawings. If size or location of the spalls differ from the construction drawings notify DOT-A prior to commencing concrete repair work.
- I. If spalls or delaminated concrete caused by moisture are found in the structural slab and was not caused by the contractor's pavement demolition, the contractor shall notify DOT-A in writing the location and size of the spall or delamination. The contractor shall not patch the spall or delaminated area until written approval is given by DOT-A.

3.06 IN-PLACE TEST OF REPAIRS

- A. Utilizing a 2-pound hammer, test all completed concrete spall repairs to locate hollow or ringing sounding areas. A hollow sound generally will indicate that either the repair material has not completely filled the space from which the damaged concrete was removed or that it has not adequately bonded to the concrete substrate. Submit revised method of installation to prevent the non-compliant work from happening again.
- B. The Contractor shall remove the repair mortar from hollow or ringing sounding areas, prepare the surfaces of the exposed reinforcing bars and the sound concrete substrate, if necessary, form and then place, cure and finish the new repair mortar at no additional cost to the State. Upon completion, the repairs will be retested by DOT-A.

3.07 CRACK REPAIR BY GRAVITY FLOW

- A. Locate and identify crack, sound surface and mark extent for approval if it is different from what is shown in the drawing.
- B. Remove dust, laitance, grease, curing compounds, waxes, impregnations, foreign particles, efflorescence and other bond inhibiting materials from the surface.
- C. If crack surface is packed solid with dirt/or debris, remove the debris by routing the crack surface with crack chaser or grinder, follow up with compressed air to remove fines. Prior to application blow crack out with oil-free compressed air.
- D. Allow the repair area to dry for at least 24 hours before applying the resin.
- E. Prepare surface per manufacturer's recommendations and repair cracks using gravity feed method.
- F. Resin for gravity feed shall be epoxy or high molecular weight methacrylates (HMWM) with maximum viscosities of 200 cps. Should moisture present within cracks epoxy should be used as the resin.
- G. Remove excessive resin and match texture and appearance of surrounding concrete.

3.08 CRACK REPAIR BY PRESSURE INJECTION

- A. Locate and identify crack, sound surface and mark extent for approval if it is different from what is shown in the drawing. Do not mark over crack.
- B. Remove dust, laitance, grease, curing compounds, waxes, impregnations, foreign particles, efflorescence and other bond inhibiting materials from the surface.
- C. If crack surface is packed solid with dirt/or debris, remove the debris by routing the crack surface with crack chaser or grinder, follow up with compressed air to remove fines. Prior to application blow crack out with oil-free compressed air.
- D. Allow the repair area to dry for at least 24 hours before applying epoxy.
- E. Where concrete surface adjacent to the crack are deteriorated, "v" groove the crack until sound concrete is reached.
- F. Prepare surface per manufacturer's recommendations and repair cracks using injection method.
- G. Epoxy shall conform to ASTM C-881 specifications.

- H. Remove excessive epoxy and match texture and appearance of surrounding concrete.

3.09 CLEANING

- A. Surfaces Not Involved in the Repairs: Adjacent surfaces damaged by staining left by concrete work, or other concrete materials shall be completely restored to the original new conditions with respect to color and texture to the acceptance by DOT-A.
- B. Remove debris and rubbish from the site daily. Prevent debris and rubbish from entering the waterway. Debris and rubbish shall not be allowed to accumulate on the site. Debris shall be removed and transported in a manner that will prevent spillage into the open channel, onto the adjacent ground and streets.
- C. Upon completion of the work, remove all materials, tools, forming materials, catchments, work platforms, refuse, and debris generated by the work specified in this section.
- D. Cracks Repaired by Gravity Flow
 - 1. The uncured epoxy resin adhesive can be cleaned from tools with an approved solvent. The cured epoxy resin adhesive can only be removed mechanically.
 - 2. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.
- E. Cracks Repaired by Pressure Injection
 - 1. After the epoxy resin adhesive for grouting has cured, the epoxy resin adhesive for sealing cracks and porting devices shall be removed as required by DOT-A. Clean the substrate in a manner to produce a finish appearance acceptable to DOT-A.
 - 2. The uncured epoxy resin adhesive can be cleaned from tools with approved solvent. The cured epoxy resin adhesive can only be removed mechanically.
 - 3. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

PART 4 – MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

Work under this Section shall be measured as indicated and will be paid for at the Contract basis indicated in the proposal schedule. The Contract Price paid shall be full compensation for all labor, tools, equipment, and all other incidentals necessary to complete the work.

4.02 BASIS OF PAYMENT

Concrete Repairs involving spall repairs shall be measured and paid for, at the contract unit price bid. The contract unit price paid shall be full compensation for all labor, tools, equipment, and all other incidentals necessary to complete the work.

For ALLOWANCE items in the Proposal Schedule, the allowance is an estimate and the amount shall not exceed the maximum amount shown in the Proposal Schedule. Payment shall be the actual cost as invoiced by the Contractor and approved by the DOTA Engineer. The Contractor shall be allowed to include overhead, profit, insurance and/or other mark-ups, as stipulated in Section 9.5 of the 2016 General Provisions for Construction Projects, Air and Water Transportation Facilities Divisions.

Structural Slab Repairs of moisture related spalls shall be covered by allowance funds. Areas of the structural concrete slab damaged by the contractor’s demolition of the work shall be repaired at the contractor’s expense and is not covered by allowance funds.

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>
03730.1	Included Spall Repair for Third Level Roadway Deck	Square Feet
03730.2	Curb Spall Repair	Linear Feet
03730.3	Structural Slab Spall Repairs	Allowance.

All other concrete repairs specified in this section shall be considered incidental to and included in the bid prices for the various items of work in this project.

END OF SECTION

DIVISION 5 - METALS

SECTION 05519 – POST-INSTALLED CONCRETE ANCHORS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section Includes: Drilled in anchors for concrete.
- B. Related Sections:
 - 1. Section 02222 – SELECTIVE DEMOLITION for Demolition of existing light pole fixtures.
 - 2. Section 03730 – CONCRETE REPAIRS for existing concrete.

1.03 SUBMITTALS

- A. General: Submit in accordance with Conditions of the Contract and Section 01300 – SUBMITTALS
 - 1. Product specifications with recommended design values and physical characteristics for epoxy dowels, expansion and undercut anchors.
 - 2. Samples: Representative length and diameters of each type anchor shown on the Drawings.
 - 3. Quality Control Submittals:
 - a. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
 - b. Certificates:
 - 1) ICC ES Evaluation Reports.
 - 2) Manufacturer’s installation instructions.

- 3) **Installer Qualifications:** Submit installer qualifications as stated in paragraph 1.04A. Submit for record, a qualification statement by the Contractor listing their completed post-installed concrete anchor projects, including size, location, owner, engineer/architect and contact numbers.
- 4) **Procedures:** Submit a letter of procedure stating method of drilling, the product proposed for use, the complete installation procedure, manufacturer training date, and a list of the personnel to be trained on anchor installation.

B. **Closeout Submittals:** Submit the following:

1. **Record Documents:** Project record documents for installed materials in accordance with Section 01300 – SUBMITTALS.

1.04 QUALITY CONTROL

- A. **Installer Qualifications:** An experienced installer who has completed at least five (5) years experience in post-installed anchor Work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance
- B. **Installer Training:** Conduct a thorough training with the manufacturer or the manufacturer’s representative for the contractor on the project. Training to consist of a review of the complete installation process for drilled-in anchors, to include but not limited to:
 1. Hole drilling procedure
 2. Hole preparation & cleaning technique
 3. Adhesive injection technique & dispenser training / maintenance
 4. Rebar dowel preparation and installation
 5. Proof loading/torquing
- C. **Certifications:** Unless otherwise authorized by DOT-A, anchors shall have one of the following certifications:
 1. ICC ES Evaluation Report indicating conformance with current applicable ICC ES Acceptance Criteria.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Store anchors in accordance with manufacturer's recommendations. Ensure temperature, sunlight exposure, and shelf life are all within manufacturer's requirements.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Fasteners and Anchors:

1. Stainless Steel Bolts, Hex Cap Screws, and Studs: ASTM F593.
2. Stainless Steel Nuts: ASTM F594.

2.02 DRILLED-IN ANCHORS

- A. Cartridge Injection Adhesive Anchors: Threaded steel rod, inserts or reinforcing dowels, complete with nuts, washers, polymer or hybrid mortar adhesive injection system, and manufacturer's installation instructions. Type and size as indicated on Drawings.
 1. Exterior Use: As indicated on the Drawings, provide stainless steel anchors. Stainless steel anchors shall be AISI Type 316 stainless steel provided with stainless steel nuts and washers of matching alloy group and minimum proof stress equal to or greater than the specified minimum full-size tensile strength of the externally threaded fastener. All nuts shall conform to ASTM F594 unless otherwise specified. Avoid installing stainless steel anchors in contact with galvanically dissimilar metals.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Drilled-In Anchors:

1. Drill holes with rotary impact hammer drills using carbide-tipped bits, or core drills using diamond core bits. Drill bits shall be of diameters as specified by the anchor manufacturer. Unless otherwise shown on the Drawings, all holes shall be drilled perpendicular to the concrete surface.
 - a. Cored Holes: Where anchors are permitted to be installed in cored holes, use core bits with matched tolerances as specified by the

manufacturer. Properly clean cored hole per manufacturer's instructions.

- b. Embedded Items: Identify position of reinforcing steel and other embedded items prior to drilling holes for anchors. Exercise care in coring or drilling to avoid damaging existing reinforcing or embedded items. Notify DOT-A if reinforcing steel or other embedded items are encountered during drilling. Take precautions as necessary to avoid damaging prestressing tendons, electrical and telecommunications conduit, and gas lines.
- c. Base Material Strength: Unless otherwise specified, do not drill holes in concrete or masonry until concrete, mortar, or grout has achieved full design strength.

- 2. Perform anchor installation in accordance with manufacturer instructions.
- 3. Cartridge Injection Adhesive Anchors: Clean all holes per manufacturer instructions to remove loose material and drilling dust prior to installation of adhesive. Inject adhesive into holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive. Follow manufacturer recommendations to ensure proper mixing of adhesive components. Sufficient adhesive shall be injected in the hole to ensure that the annular gap is filled to the surface. Remove excess adhesive from the surface. Shim anchors with suitable device to center the anchor in the hole. Do not disturb or load anchors before manufacturer specified cure time has elapsed.
- 4. Observe manufacturer recommendations with respect to installation temperatures for cartridge injection adhesive anchors and capsule anchors.

3.02 REPAIR OF DEFECTIVE WORK

- A. Remove and replace misplaced or malfunctioning anchors. Fill empty anchor holes and patch failed anchor locations with high-strength non-shrink, nonmetallic grout. Anchors that fail to meet proof load or installation torque requirements shall be regarded as malfunctioning.

3.03 FIELD QUALITY CONTROL

- A. Testing: 10% of each type and size of drilled-in anchor shall be proof loaded by the special inspector, retained by DOT-A. Adhesive anchors and capsule anchors shall not be torque tested unless otherwise directed by DOT-A. If more than 10% of the tested anchors fail to achieve the specified torque or proof load within the

limits as defined on the Drawings, all anchors of the same diameter and type as the failed anchor shall be tested, unless otherwise instructed by DOT-A.

1. Tension testing should be performed in accordance with ASTM E488.
 2. Proof loads shall be applied with a calibrated hydraulic ram. Displacement of adhesive and capsule anchors at proof load shall not exceed $D/10$, where D is the nominal anchor diameter.
- B. Minimum anchor embedments, proof loads and torques shall be as shown on the Drawings.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

SECTION 07140 – FLUID-APPLIED MEMBRANE WATERPROOFING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Provide a cold fluid-applied bitumen-modified polyurethane waterproofing system on structural concrete and metal drain inlets.
 - 1. Work includes substrate preparation.
 - 2. Work includes bridging and sealing air leakage and water intrusion pathways and gaps including connections of the slabs and walls to the penetrations, drains etc.
- B. Related Work: The following items are not included in this Section and are specified under the designated Sections:
 - 1. Section 03300 – STRUCTURAL CONCRETE

1.03 PERFORMANCE REQUIREMENTS

- A. Cold fluid applied bitumen-modified polyurethane waterproofing system is intended to perform as a continuous barrier against liquid water, waste water and aqueous chemicals. Membrane system is UV stable and is intended to be exposed, submerged or to receive an overburden of concrete, tile in a cementitious setting bed, pavers in a sand setting bed, pavers on supporting pedestals, or soil/growing media, and shall accommodate movements of building materials as required with a separate detail coat done by itself reinforced with polyester fabric or accessory sealant materials at locations such as: changes in substrate, perimeter conditions and penetrations. Installed waterproofing membrane system shall not permit the passage of water, and will withstand the design pressures calculated in accordance with the most current revision of ASCE 7.
- B. Manufacturer shall provide all primary waterproofing materials that are physically and chemically compatible when installed in accordance with manufacturers current application requirements.

1.04 SUBMITTALS

- A. Submittals: Comply with project requirements for submittals as specified in Section 01300 – SUBMITTALS.
- B. Product Data: For each product listed in Part 2 – PRODUCTS.
- C. Shop Drawings: Manufacturer’s standard details and shop drawings for the specified system.
- D. Installer’s Authorization: Installer shall provide written documentation from the manufacturer of their authorization to install the 20-year system, and eligibility to obtain the warranty specified in this section.
- E. Manufacturer’ Certification: Certification showing full time quality control of production facilities and that each batch of material is tested to ensure conformance with the manufacturer's published physical properties.
- F. VOC Certification: Manufacturer’s certification that all waterproofing system products meet current Volatile Organic Compound (VOC) regulations as established by the State in which they are being installed; and stating total VOC content, in grams per liter, for all system components (i.e. primers, adhesives, coatings, etc.).

1.05 QUALITY ASSURANCE

- A. Manufacturer’s Qualifications: Manufacturer shall demonstrate qualifications to supply materials of this section by certifying the following:
 - 1. Membrane Manufacturer shall have available an in-house technical staff to assist the contractor when necessary in the application of the products and site review of the assembly.
- B. Installer’s Qualifications: The Contractor shall demonstrate qualifications to perform the Work of this Section by submitting certification or license by the waterproofing membrane manufacturer as a trained and authorized applicator of the product the installer intends to use.
- C. Source Limitations: All components listed in this section shall be provided by a single manufacturer or approved by the primary waterproofing manufacturer.
- D. Materials Compatibility: All materials included in the waterproofing assembly, as well as associated materials adhered to/applied beneath the waterproofing membrane shall have been tested and verified to be compatible within waterproofing Mock-Up. Include written testing documentation and test reports.
 - 1. Testing shall be conducted via Peel Strength Test as follows:

- a. Prepare surface and existing coating as proposed for the project.
 - b. Apply waterproofing primer and allow to cure until tack free.
 - c. Prepare three (3) 12” long strips of 6” wide reinforcing fabric. A 6” length of the reinforcing fabric strip will be saturated with coating, with 6” left unsaturated to allow for attachment to the test scale.
 - d. Apply Base or Top Coat as proposed for project at wet mil thickness sufficient to allow saturation of reinforcing fabric. Fully saturate an 8” length of reinforcing fabric with coating. Allow two component coatings to cure for 3 days. DO NOT seed with aggregate.
 - e. Score through each adhered reinforcing fabric sample and through the existing coating down to the underlying substrate to create a 1” wide test strip. Cut the loose fabric as well.
 - f. Attach a tarp clip to the loose end of each test strip. Hook a digital scale to the tarp clip. Apply a 180° load until strip peels off.
 - g. A test result of 8 pounds per linear inch is considered acceptable.
2. See Section 01433 – MOCK-UPS for waterproofing mock-up requirements.
- E. Applicable Regulations: Comply with local code and requirements of authorities having jurisdiction. Do not exceed VOC regulations as established by the State in which they are being installed; including total VOC content, in grams per liter, for all system components (i.e. primers, adhesives, coatings, and similar items).

1.06 PRE-INSTALLATION CONFERENCE

- A. Prior to scheduled commencement of the waterproofing installation and associated work, conduct a meeting at the project site with the installer, DOT-A, manufacturer’s representative and any other persons directly involved with the performance of the Work. The Installer shall record conference discussions and to include decisions and agreements reached (or disagreements), and furnish copies of recorded discussions to each attending party. The main purpose of this meeting is to review foreseeable methods and procedures related to the Work.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver all waterproofing materials to the site in original containers, with factory seals intact.

- B. Store all pail goods in their original undamaged containers in a clean, dry location within their specified temperature range.
- C. Do not expose materials to moisture in any form before, during, or after delivery to the site. Reject delivery of materials that show evidence of contact with moisture.
- D. Remove manufacturer supplied plastic covers from materials provided with such. Use “breathable” type covers such as canvas tarpaulins to allow venting and protection from weather and moisture. Cover and protect materials at the end of each work day. Do not remove any protective tarpaulins until immediately before the material will be installed.
- E. Materials shall be stored above 60-90°F (15-30°C) a minimum of 24 hours prior to application.

1.08 PROJECT CONDITIONS

- A. Weather: Proceed with waterproofing only when existing and forecasted weather conditions permit. Membrane application should not proceed when precipitation is imminent. Ambient temperatures shall be above 36°F (2°C) when applying the waterproofing system.
- B. All surfaces to receive the waterproofing membrane shall be free from visible water, dew, frost, snow and ice. Application of waterproofing membrane shall be conducted in well ventilated areas.
- C. Minimum age of concrete must be 21-28 days depending on curing and drying conditions.
- D. Waterproofing Membrane:
 1. Waterproofing membrane is not intended to be exposed or in contact with a constant temperature below -25°F (-31.7°C) or in excess of 200°F (93.3°C).
 2. Specified waterproofing membrane is VOC compliant. Consult container, packaging labels and Safety Data Sheets (SDS) for specific safety information.
 3. Some low molecular weight alcohols can soften. Any exposure to foreign materials or chemical discharges shall be presented to membrane manufacturer for evaluation to determine any impact on the waterproof membrane assembly performance prior to warranty issuance.
- E. Contractor shall ensure adequate protection during installation of the waterproofing system.

1.09 WARRANTY

- A. Warranty: Provide manufacturer's standard warranty. Materials warranty shall be for a minimum of one year starting at the date of Substantial Completion. System warranty shall be for the following duration in accordance with specified system.
 - 1. Warranty Length: 20 years 120 mil system and approved applicator.

PART 2 – PRODUCTS

2.01 WATERPROOFING SYSTEM

- A. Fluid-Applied Membrane System, 20 Year System:
 - 1. 120 mils wet film thickness resulting in 12 SF/gal coverage (3 coats each 40 mils)
 - 2. Reinforcing fabric recommended for moving transitions such as transitions between dissimilar materials, corners, penetrations, seams, joints and cracks. The fabric is embedded into a separate 30 mils detail coat underneath of the first coat.

2.02 MEMBRANES AND COATINGS

- A. Detail coat shall be a two component, cold fluid applied, chemical cure, bitumen modified, polyurethane detail coat membrane.
 - 1. Base coat shall be a two component, cold fluid applied, chemical cure, bitumen modified, polyurethane base coat membrane.
 - 2. Top coat shall be a two component, cold fluid applied, chemical cure, bitumen modified, polyurethane top coat membrane.
- B. Base coat and top coat membranes shall be low in VOC's, and be a two component elastomeric polyurethane membrane that may be brush or roller applied. Membrane shall have the following physical properties and conforms to ASTM D7311-07: Standard Specification for a single component, cold fluid applied, moisture cure, bitumen modified, polyurethane membranes.
- C. Liquid and Cured Film Property Requirements:
 - 1. Standard Measurement / Grade
 - 2. ASTM D-624, Die C: Tear Resistance (psi) 150 ± 50
 - 3. ASTM D-412: Elongation at Break (%) 450 ± 50
 - 4. ASTM D-412: Tensile Strength (pli) 850 ± 50

5.	ASTM D-2240: Hardness (Shore A)	60 ± 5
6.	ASTM D-2697: Total Volume Solids (%)	89 ± 2
7.	ASTM D-236: Total Weight Solids (%)	95 ± 2
8.	ASTM D-2369-81: VOCs (g/l)	78
9.	ASTM D-751: Permeability to water vapor (perms)	0.06
10.	Specific Gravity (lbs/gal)	8.30

2.03 MEMBRANE REINFORCEMENT – POLYESTER

- A. Reinforcement for the waterproofing membrane system shall be stich bonded polyester fabric designed to provide greater impact resistance and greater resistance to excessive thermal and structural movement while maintaining elasticity and membrane film integrity.
- B. Supplemental reinforcement of the waterproofing membrane system shall be, a nylon mesh specifically designed for local reinforcement of the waterproofing membrane at structural cracks, expansion joints and transitions between dissimilar materials.

2.04 FILLET BEAD AND PENETRATION SEALANT

- A. Sealant for fillet bead applications and membrane penetrations shall be, one and two part polyurethane sealants suitable for fillet bead transition compound to be applied prior to the installation of the membrane system at changes in substrate direction, sealing reglet terminations, cracks in the substrate and penetrations of the waterproofing system. Cold fluid applied polyurethane waterproofing itself shall be applied as thick strip coat can be also used as transition compound to be applied prior to the installation of the membrane system.

2.05 PRIMERS

- A. Primer shall have capabilities to avoid pinholing and improve adhesion over concrete substrate which has an open texture or over metallic substrates.

2.06 REPAIR AND PATCHING

- A. Cementitious repair mortar to repair bug holes, and other non-structural surface defects, to fill uneven areas and birdbaths, or to repitch decks shall be a two component, polymer-modified, Portland cement, fast-setting, trowel-grade mortar.

2.07 DRAINAGE MAT

- A. Geonet polypropylene composite drainage mat with a non-woven polypropylene filter fabric bonded to the topside of the mat, and a bonded protection sheet on the underside of the mat. To be installed between the waterproofing membrane and extruded polystyrene insulation or topping slab.

2.08 SPRAY EQUIPMENT

- A. Spray Pumps: Use spray pumps as recommended by waterproofing manufacturer.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces and conditions are ready to accept the Work of this section. Notify DOT-A in writing of any discrepancies. Commencement of the Work in an area shall mean Installer's acceptance of the substrate.
- B. Surfaces shall be sound, clean and free of standing water, oil, grease, dirt, excess mortar or other contaminants. Fill voids and gaps in substrate to provide an even plane.

3.02 SURFACE PREPARATION

- A. Verify that the surface is clean and smooth, free of depressions, waves, or projections, and properly sloped to drains. Verify that all openings or penetrations through the intended substrate are secured back to solid blocking. Ensure all preparatory Work is complete prior to applying membrane.
- B. All surfaces shall be blown clean using an air compressor to remove any remaining loose debris.
- C. All cracks and voids greater than 1/16 inch shall be routed and troweled with cold fluid applied waterproofing or caulked with Sikaflex sealant. Allow to cure per waterproofing membrane manufacturer's technical data sheets prior to over-coating with the specified waterproofing membrane system.
- D. At all inside corners, gaps or voids at the juncture of the deck and penetrations apply a minimum 3/4 inch fillet bead of sealant or cold fluid applied waterproofing and allow to cure per waterproofing membrane manufacturer's technical data sheets prior to installing the waterproofing membrane system.
- E. Membrane is self-terminating but membrane terminations can be established prior to project start-up and documented in shop drawings. Terminations can occur in raked-out mortar joints, saw cut terminations or under installed counter-flashing materials.

F. Use tape lines to achieve a straight edge detail.

3.03 SUBSTRATE PREPARATION

A. Structural Concrete:

1. Acceptable concrete substrates are limited to poured in place concrete slabs.
2. It is common for decontamination to precede mechanical preparation.
3. Minimum slab thickness for structural concrete is 4 inches (10.2 cm).
4. The preferred methods for creation of a surface profile, including the removal of dirt, dust, laitance and curing compounds, is steel shotblasting, abrasive sand blasting or scarifying.
5. Curing agents shall be checked for compatibility with specified waterproofing materials. Most curing agents shall be completely removed from the substrate by grinding, scarifying, or other mechanical means.
6. Concrete and masonry surfaces shall be low-pressure (5,000 psi or less) power-washed in accordance with ICRI Guideline No. 03732: Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays to remove all dirt, debris or surface contamination that would compromise bonding of the specified waterproofing membrane system. Remove oil or grease with solvents, or detergent and water. Rinse surface clean of remaining cleaning agents.
7. Vertical and overhead surfaces, such as wall and ceiling surfaces shall be prepared utilizing methods of grinding, scarifying, abrasive sand blasting, needle scaling, high pressure water jetting (5000 – 45,000 psi = 400 – 3000 bar) or vertical steel shotblasting. The use of high-pressure water jetting will introduce large amounts of water, which may contribute to moisture related problems.

B. Metal Surfaces:

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

3.04 PRIMING

A. Metal

1. Apply primer for metal surfaces. To clean and prepared drain bowls and other metal surfaces by brush or roller at the application rate shown on the technical data sheet to achieve an overall wet film thickness of 8 mils. High porosity and roughness of the substrate will decrease coverage rates.
2. Allow to cure and dry in accordance with manufacturer's technical data sheets.

B. PVC

1. Apply primer to clean and prepared PVC surfaces by brush or roller at the application rate of 100-150 SF/gal.
2. Allow to cure and dry in accordance with manufacturer's technical data sheets.

3.05 MEMBRANE REINFORCEMENT

A. Reinforcement of Cracks, Plywood and Cover Board Joints/Seams, and Base/Curb Flashing Transitions:

1. For all locations where the specified membrane system is to be applied directly to the substrate surface, reinforcement of cracks and joints prior to applying the specified membrane system is conditional on the terms agreed to in a given warranty
2. Back roll reinforcement to fully embed reinforcement into the wet liquid polyurethane detail coat. Add more liquid membrane as needed to fully embed the reinforcement and to achieve 30 WFT
3. Ensure reinforcement is not in tension during embedment.

3.06 COLD FLUID APPLIED MEMBRANE APPLICATION

- A. Install waterproofing membrane system in accordance with current technical data sheets and in accordance with warranty guideline requirements.
- B. Apply strip coat or detail coat with brush.
- C. Immediately lay specified conformable reinforcement into the wet base embedment resin coat

- D. Apply pressure to the membrane reinforcement with a roller as appropriate to fully embed and saturate the membrane reinforcement into liquid waterproofing material. Remove air pockets from under the membrane by rolling them out.
- E. Apply additional liquid material as required to ensure desired millage and the membrane reinforcement is fully embedded and has conformed to the substrate without tenting or visible pinholes.
- F. Apply base coat to horizontal deck and vertical wall surfaces with 1/2 inch – 3/4 inch phenolic core roller to achieve a continuous and uniform minimum wet film thicknesses as specified in warranty guideline requirements. Brush can be used to apply strip coat or detail coat prior to the first waterproofing layer.
- G. Overlap sheets of scrim reinforcement 3 inches at side laps and 6 inches at end laps.
- H. Extend reinforcement vertically at adjacent wall surfaces in accordance with project details and specifications.
- I. Apply top coat by phenolic core roller to achieve a continuous and uniform minimum wet film thickness as specified in warranty guideline requirements.

3.07 DRAINS

- A. Clean, prepare and prime surfaces ready to receive membrane applications. Block drain bowl opening to avoid waterproofing material from entering the drainage system.
- B. Remove strainer baskets and clamping rings from the drain bowl assembly. Temporarily replace the bolts back into assembly to avoid miss-alignment of connections after membrane applications are completed.
- C. Extend the liquid waterproofing material and membrane reinforcement directly into the throat of the prepared drain.
- D. Remove drain blocks and allow the waterproofing system to fully cure dry prior to re-connecting the drain bowl assembly.

3.08 FLOOD TEST

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

- B. Repair and retest the system for no less than 24 hours, report all deficiencies to DOT-A. Remove temporary stops and plugs. No other Work is to proceed without prior direction from DOT-A.

3.09 PROTECTION

- A. Protect waterproofing Work from other trades until completion.
- B. Stage materials in such a manner that avoids foot traffic over completed waterproofed areas.
- C. Provide temporary walkways and platforms to protect completed Work from traffic and point loading during the application process.
- D. Provide temporary membrane tie-ins and water-stops at the end of each workday and remove prior to commencement of work the following day.

3.10 PREFABRICATED COMPOSITE DRAINAGE AND PROTECTION MAT

- A. Install the drainage mat when it can be followed immediately by the installation of the topping slab. If the drainage mat cannot be installed within one week of membrane application, a protection course must be applied over the membrane to protect from other trade work and UV radiation.
- B. Install the drainage mat on horizontal and vertical surfaces in accordance with the product data sheet. Lay out and position drainage mat, and allow to lay flat. Cut and closely fit drainage mat to perimeter and penetrations.
- C. Overlap filter fabric from adjacent sheets/rolls, and bond all fabric overlaps with Sikaflex sealant. Install supplemental filter fabric as required to ensure filter fabric continuity at flashing locations.

3.11 CLEAN-UP

- A. Work areas are to be kept clean, clear and free of debris at all times.
- B. Do not allow trash, waste, and/or debris to collect on the work area. Trash, waste, and/or debris shall be removed from the work area on a daily basis.
- C. All tools and unused materials shall be collected at the end of each workday and stored off of the finished waterproofed surface and protected from exposure to the elements.
- D. Ensure all unattended tools, material and equipment are stored in a secured area and are not accessible to the public following Section 01565 – SECURITY MEASURES.

- E. Dispose of or recycle all trash and excess material in a manner conforming to current EPA regulations and local laws.
- F. Properly clean the finished deck surface after completion, and make sure the drains and gutters are not clogged.
- G. Clean and restore all damaged surfaces to their original condition.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 07680 – EPOXY SURFACE TREATMENT

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section includes work for applying surface treatment by spreading resin binder and aggregate on Portland cement concrete surfaces.
- B. Related Sections
 - 1. Section 03300 – STRUCTURAL CONCRETE for pavement slab cast-in-place concrete at the second levels of the Ewa and Diamondhead concourse roadways
 - 2. Section 03730 – CONCRETE REPAIR for defective concrete repairs at the third level of the Ewa concourse roadway prior to receiving surface treatment

1.03 SUBMITTALS

- A. Submittal Requirements: Prior to the start of this work, provide six copies of the following submittals in one complete set for acceptance. Indicate clearly the name of the product and its manufacturer on pertinent submittals. No work that is related to these submittals shall be performed until written acceptance has been received.
 - 1. The name and contact information of the resin binder and aggregate manufacturer's technical representative and other key personnel.
 - 2. A list of projects with owner' contact information on which a minimum of 10,000 square yards of surfacing treatment has been installed within the past five years.
 - a. List the following for each project submitted:
 - 1) Project Name
 - 2) Locations (state, routes, and Identifiers)

- 3) Scope of work
 - 4) Products used
 - 5) Approximate date of the system was completed, accepted, and opened to traffic
- B. Quality Control (QC) Plan: Submit a QC Plan in accordance with Paragraph 1.04.A.
- C. Work Plan: Submit a Work Plan in accordance with Paragraph 1.04.B.

1.04 QUALITY CONTROL

- A. Submit a QC Plan to DOT-A for acceptance a minimum of 30 days prior to the installation and the Just-In-Time-Training (JITT). Resubmittal of the document will require another 30 days for each resubmittal. Discuss the QC Plan requirements at the JITT, pre-construction, pre-installation, and progress meetings. The JITT shall not be held unless the QC Plan is accepted 30 days before it is held. Work shall not start on the surface treatment including the test strip until the JITT has been completed, QC Plan, and the Work Plan have both been accepted. The QC Plan shall contain at a minimum the following information:
1. Names and contact information for key personnel, project superintendent, and lead technician responsible for field quality control sampling and testing.
 2. Location of resin binder production plants and batch production records.
 3. Location of aggregate production plants and batch production records.
 4. Proposed method of installation at each location identified to receive surfacing.
 5. Resin binder and aggregate manufacturer's material information including:
 - a. Recommended placement instructions
 - b. Mixing Instructions
 - c. Recommended installation temperatures

- d. Anticipated gel and cure times at various expected ambient temperatures for all sites.
 - e. Methods of safe storage and handling
 - f. Applicable installation and material limitations
 - g. Disposable methods for excess missed resin binder and associated components
 - h. Production plant location contact information for the quality control/quality assurance (OC/OQ) personnel where additional information can be requested concerning record keeping methods, inspection methods, equipment calibration records, and accreditation certificates.
6. The QC Plan shall designate a QC Manager, who shall be present at the jobsite and have a full authority to request any action necessary for the operation of the QC Plan providing it complies with the contract documents and acceptance of DOT-A.
- a. The QC Manager shall be certified in all test methods used and be responsible for the required field quality control in sampling and testing in conformance with the accepted quality control plan, test methods, and contract documents. All sampling shall be performed in the presence of and with no direction by DOT-A. DOT-A is not responsible or shall be regarded as part of the contractor's QC team. It is the responsibility of the contractor and the QC Manager to ensure that the test procedure being used is compliant with the test method standard. Inspections are performed for the exclusive benefit of the state. The inspection of or the failure to inspect the work shall not relieve the Contractor of obligations to fulfill the contract as prescribed, to correct defective work, and to replace unsuitable or rejected materials regardless of whether payment for such work has been made. DOT-A has the right to reject the test if it feels that it is non-compliant, e.g., the technician that performed the test if not certified or the material testing laboratory accredited to the tests performed. DOT-A is under no obligation to correct or direct non-compliant procedures if observed. Maintain and have available upon request, the current test standard methods documentation being used, referenced documents, complete records of sampling, testing, corrective actions, and quality control inspection results.
 - b. A technical representative from the resin binder manufacturer shall be present at the JITT, Test Application, e.g., deck repair, surface

preparation, installation and acceptance of the surface treatment, and at the construction site for the first two days of the surface treatment.

- B. Work Plan: Submit a Work Plan to DOT-A for approval 14 days prior to the installation. Discuss the Work Plan requirements at the pre-construction, pre-installation, and progress meetings. The Work Plan shall contain at a minimum the following information:
1. Method of surface preparation and required surface condition for adequate bonding.
 2. Method of crack repair/defective concrete repair of existing concrete deck.
 3. Construction during inclement weather, Plan for the occurrence of rain, moisture and temperature requirements for the materials being used.
 4. Mixing ratio and application rates for resin binder and aggregate.
 5. Application Method
 6. Curing time and requirements for opening to traffic.
 7. Corrective actions that will be taken for unsatisfactory installation practices.

PART 2 – PRODUCTS

2.01 RESIN BINDER SYSTEM

- A. Provide a resin binder system meeting the requirements of Table 1 below, recommended by the manufacturer as suitable for use on the intended pavement surface. A sample of the resin binder system for each lot/batch shall be supplied upon request.
1. Note: All materials shall be virgin; free of secondary components, volatile solvents, and external/conventional flexibilizers. Component batches shall be interchangeable.

Table 1

TWO COMPONENT RESIN BINDER REQUIREMENTS		
Property	Requirement	Test Method
Viscosity	10-30 Poise	ASTM D2556* ¹
Cure Rate (Set to Touch)	3 hours max	ASTM D1640* ²
Shore D Durometer Hardness	60-80	ASTM D2240
Compressive Modulus	130,000 psi maximum	ASTM D695
Ultimate Tensile Strength		ASTM D638* ³
Elongation at Break Point	40%-70%	ASTM D638* ³
Adhesive Strength (Bond to Concrete at 24 hrs)	250 psi min. or 100% concrete substrate failure	ASTM C1583* ⁴
Thermal Compatibility	PASS	ASTM C88
Water Absorption	1% max	ASTM D570
<p>*ASTM Material Properties Test Method Table Notes:</p> <ol style="list-style-type: none"> 1. Mix test sample for 2 minutes. Test at a temperature of 73 ± 1°F. 2. Prepare specimens of 50-55 wet mil thickness. 3. Prepare Type I specimens. 4. Follow manufacturer's recommendation for curing before testing. 		

2. A test report, dated within 90 days of contract award, consisting of a certification by an AASHTO recourse/CCRL accredited independent testing laboratory showing compliance with the requirements of this specification and material properties. Include the accredited laboratory's test results with the certification.
3. Product data sheets and specifications from the manufacturer showing instructions, application recommendations and methods, product properties.

Table 2

WORKING TIME	
Surface Temperature (°F)	Maximum Working Time* (minutes)
50	45
60	35
70	20
80	11
90	9
100	7
110	6
120	4

*Include mix time, resin binder and aggregate placement.
 Note: Consult manufacturer for surface temperatures exceeding 120°F

2.02 AGGREGATE

- A. Furnish aggregate meeting the requirements listed in the tables below unless otherwise specified by DOT-A. Deliver the aggregate to the construction site in bags or super sacks labeled clearly for identification. Provide aggregate that is virgin, clean, dry, and free from foreign matter. A sample of the aggregate lot/batch shall be supplied upon request.

Table 3

Test Data Description	Test Procedure	Testing Lab. Requirements
Gradation	ASTM C136	See Table 4
Moisture	ASTM C566	NCAT 0.0%
MOHS Hardness	MOHS Scale	Krazen & Associates 7.
Micro-Deval	AASHTO T327	ODOT 2.6%
Absorption	ASTM C127	NCAT 1.0%

Table 4

Armorstone	980-3 - #4 x #16
Sieve size	Percentage passing
No. 4	100
No. 8	30-75
No. 16	0-5

PART 3 – EXECUTION

3.01 SURFACE PREPARATION

- A. Surface Preparation for concrete decks with a penetrating sealer and aggregate topping overlay shall conform to the following requirements:
1. Sweep the surface clean with a vacuum sweeper.
 2. Below the surface clean using oil-free air to remove dust, laitance, and other deleterious material that may affect the bonding of the surface treatment from the surface.
 3. All laitance, contaminants, paint, markers, and foreign material that may inhibit the bond of the surface treatment, shall be removed from the surface before sweeping with vacuum sweeper.
 4. If the prepared surface is contaminated prior to installing the surface treatment, abrasive blast, sweep and blow the surface clean.

3.02 TEST APPLICATION

- A. The test application shall be a part of the production location before starting production work. Resin binder manufacturer's representative shall be present during the test application. The test application shall meet the following requirements:
1. Install a minimum of 200 square yards.
 2. Shall be constructed using the same method and equipment as the production work.
 3. Shall construct an additional test application for each method proposed for the production work.
 4. Shall replicate field conditions, including ambient and surface temperatures, time period, anticipated for production work.
 5. Shall demonstrate surface preparation method as outlined in the QC Plan
 6. Shall demonstrate that the data management system is capable of documenting ambient and surface temperatures, quantities of resin binder and aggregate, coverage rates, and reporting application rates in real time.
 7. Determine the initial set time for the resin binder.

3.03 SURFACE APPLICATION

- A. The following information is required in a real time reporting method:
 - 1. The volume of mixed resin binder per square yard being applied.
 - 2. The mixed resin binder mil thickness on average throughout the application width per square yard.
 - 3. The volume of aggregate applied throughout the application width per square yard.
 - 4. The ambient and pavement surface temperature during the application period.
- B. Apply the blended resin binder on the pavement surface plane in a uniform application with a minimum thickness of 60 mils. Verify thickness using a Wet-Mil fil thickness gauge every 75-100 lineal feet of application. Ensure the surfacing aggregate is applied uniformly at a rate of 14-17 pounds per square yard within the working time per Table 2.

3.04 APPLICATION METHOD

- A. Expansion Joints, drains and grates shall be adequately isolated to prevent any surface treatment from entering drainage and joint systems. The surface treatment discharged from the mixer shall be uniform in composition and consistency. Mixing capability shall be such that initial and final finishing operations can proceed at a steady pace.
- B. Continuous application must be performed by approved, calibrated, self-propelled application equipment capable of continuously and thoroughly blending the resin binder components to the ratio recommended by the manufacturer. The continuous application equipment shall have an aggregate distribution system capable of mechanically placing aggregate from a maximum height of 12 inch into the wet resin binder evenly across the full width of the installation. The application equipment shall be capable of containing enough resin binder and aggregate to install a minimum of 2000 square yards of surfacing. The application equipment must have an independent recirculating heating system capable of heating the resin binder to a minimum of 95°F. The application equipment shall install the surfacing at a minimum application rate of 20 linear feet per minute. Perform a final sweep of loose aggregates and debris from the areas adjacent to the applied surface treatment within end of work shift. Ensure all expansion joints are free of loose aggregate, epoxy, and other debris.

- C. For small, odd shaped areas inaccessible to the continuous applicator truck, mixed epoxy is dispensed from the truck by hand through a mixing wand onto the area to be treated, Contractor shall use a notched squeegee to evenly spread the epoxy according to the manufacturer's recommendations. Broadcast aggregate by hand onto the wet epoxy until rejection and epoxy surface is completely covered with aggregate.

3.05 CURING

- A. Traffic and construction equipment shall not be permitted on the completed surface treatment overlay for 2 hours or until the surface treatment is tack free, whichever is later.

3.06 ACCEPTANCE AND CORRECTIVE ACTION

- A. The completed surface treatment shall be free of any smooth or wet areas such as those resulting from insufficient quantities of topping aggregate. Completed overlay surface must be uniform in thickness, texture and appearance.
- B. At the discretion of DOT-A, Tensile Bond testing shall be performed for each placement per day. Testing may be conducted on a separate concrete substrate representing the field conditions upon approval of DOT-A. Testing will be performed in accordance with ASTM C 1583 and the manufacturer's recommendations. A passing test is the failure of the concrete substrate or bond strength above 250 psi at 24 hours. Fill cored holes with approved material specified in Section 03730 –Concrete Repairs.
- C. Correct all defects in material and work, as directed, at no additional cost to the State, according to the following:
 - 1. Remove and replace surfacing treatment that DOT-A determines has any raveling, delamination, streaking, or bond test failure.
 - 2. Replace with acceptable surface treatment at the installer's expense. Replaced areas will be retested and evaluated for acceptance or further corrective action.
 - 3. Any roadway features disturbed by the work or the installer's operations shall be restored with the same materials and design as directed by DOT-A at no additional cost to the State.

PART 4 – MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

Surface Treatment will be measured per square foot as shown on the plans or as specified in the proposal.

4.02 BASIS OF PAYMENT

Surface treatment shall be measured and paid for, at the contract unit price bid. The contract unit priced paid shall be full compensation for all labor, tools, equipment, and all other incidentals necessary to complete the work.

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>
07680.1	Ewa Concourse Second Level Roadway Overlay	Square Feet
07680.2	DH Concourse Second Level Roadway Overlay	Square Feet
07680.3	Ewa Concourse Third Level Roadway Overlay	Square Feet

All other work specified in this section shall be considered incidental to and included in the bid prices for the various items of work in this project.

END OF SECTION

SECTION 07916 – EXPANSION JOINT WATERPROOFING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Conference:
 - 1. Convene at Project site 2 weeks prior to beginning work of this Section.
 - 2. Attendance: Contractor, Construction Manager, joint seal installer, joint seal manufacturer representative, and related trades.
 - 3. Review and discuss:
 - a. Joint seal manufacturer's requirements, project conditions, substrate requirements allowable structural movement at joints, and protection of completed work.
 - b. Transitions in plane and direction, and requirement for continuity of seal through watertight transitions from wall expansion joint to other interfacing expansion joint systems at adjacent construction.

1.03 SUBMITTALS

- A. Action Submittals:
 - 1. Shop Drawings:
 - a. Indicate joint locations, dimensions, and adjacent construction.
 - b. Provide details for transitions in plane and direction for continuity of seal through watertight transitions from wall expansion joint to other interfacing expansion joint systems at adjacent construction.
 - 2. Product Data: Material description and application instructions.
 - 3. Samples:
 - a. Minimum 6 inch long samples of each joint seal.

B. Informational Submittals:

1. Manufacturer's certification that:
 - a. Products are capable of withstanding temperature of 150 degrees F (65 degrees C) for 3 hours while compressed to minimum of movement capability dimension without evidence of bleeding of impregnation medium from material.
 - b. Same material after heat stability test and after cooling to room temperature will self-expand to maximum of movement capability dimension within 24 hours at 68 degrees F (20 degrees C).

1.04 QUALITY CONTROL

A. Manufacturer Qualifications:

1. Minimum 10 years documented experience in production of specified materials.
2. Certified to ISO 9001 and 14001.

B. Installer Qualifications: Minimum 2 years documented experience in work of this Section.

1.05 DELIVERY, STORAGE AND HANDLING

A. In accordance with manufacturer's instructions.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Roadway Expansion Joint Seal, Main Waterproofing:

1. System: Extruded sealing gland with punched flanges embedded in high-strength, flexible, impact-absorbing elastomeric concrete nosing.
2. Gland:
 - a. Description: Extruded thermoplastic vulcanizate gland with punched flanges and heat welded transitions.
 - b. Shore A hardness: Minimum 65, tested to ASTM D 2240.

- c. Tensile strength: Minimum 1,000 PSI, tested to ASTM D 412.
- d. Ultimate elongation, Minimum 400 percent, tested to ASTM D 412.

3. Nosing:

- a. Description: High strength, flexible, impact-absorbing elastomeric concrete material composed of two-part polyurethane resin reinforced with silica free aggregate.
- b. Tensile strength: 490 PSI, tested to ASTM D638.
- c. Compressive strength: Minimum 4,000 PSI, tested to ASTM D695.
- d. Adhesion to primed concrete: Minimum 400 PSI, tested to ASTM D2734.
- e. Impact resistance: No cracking at 19 inches, tested to ASTM D5628.
- f. Shore A hardness: 54.0, tested to ASTM D2240.

4. Color: Black.

B. Roadway Expansion Joint Seal, Secondary Waterproofing:

- 1. System: Precompressed, silicone coated and acrylic impregnated-foam hybrid installed into field-applied epoxy adhesive, with silicone sealant band on joint faces.
- 2. Form: Procompressed to less than nominal material size for installation into designed joint size equal to material nominal size.
- 3. Movement capability: Plus or minus 50 percent, total 100 percent; pass ASTM E1399.
- 4. Adhesive: Epoxy type, furnished by joint seal manufacturer.
- 5. Silicone: Field applied sealant band at face of seal so substrate interface, furnished by joint seal manufacturer; same material and color as factory coating.
 - a. Abrasion resistance: Maximum 1 percent weight loss, tested to ASTM D4060.

- b. Fuel resistance: Pass ASTM C719 and ASTM C1135

PART 3 – EXECUTION

3.01 PREPARATION

- A. Clean joints thoroughly; remove loose and foreign matter that could impair adhesion or performance.

3.02 INSTALLATION

- A. Install joint seal in accordance with manufacturer’s instructions and approved Shop Drawings.
- B. Remove joint seal from precompressed packaging, immediately insert into joint, and allow to expand.
- C. Use temporary retainers if required to maintain joint seals in position until expansion is complete.
- D. Secondary Waterproofing:
 - 1. To be installed after pavement slab is demolished, but before new pavement slab is cast.
- E. Main Waterproofing:
 - 1. To be installed after new pavement slab is cast.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

DIVISION – 09 FINISHES

SECTION 09911 – EXTERIOR PAINTING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section includes surface preparation and the application of paint systems on
 - 1. Concrete.
 - 2. Drain Pipes

1.03 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- D. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- E. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- F. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.04 SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples for Initial Selection: For each type of topcoat product.

- C. Samples for Verification: For each type of paint system and each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, 8 inches square.
 - 2. Step coats on Samples to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- D. Product List: For each product indicated, include the following:
 - 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
 - 2. Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
 - 3. VOC content.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.06 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent.

PART 2 – PRODUCTS

2.01 PAINT, GENERAL

- A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."
- B. Liquid applied epoxy coating, high build, corrosion and chemical resistant, light color finish, minimum 98% solids, for use in potable water applications with NSF 61 certification.
- C. Material Compatibility:
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- D. VOC Content: Provide materials that comply with VOC limits of authorities having jurisdiction.
- E. Colors: As selected by DOT-A from manufacturer's full range.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Concrete: 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.02 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
- D. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- E. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- F. Plastic Fabrication Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.

3.03 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."
 1. Use applicators and techniques suited for paint and substrate indicated.
 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
 3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
 4. Paint entire exposed surface of window frames and sashes.

5. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 6. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.
 - C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
 - D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
 - E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
 1. Paint the following work where exposed to view:
 - a. Uninsulated metal piping.
 - b. Uninsulated plastic piping.
 - c. Metal conduit.
 - d. Plastic conduit.

3.04 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: DOT-A may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.05 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by DOT-A, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

PART 4 – MEASUREMENT & PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

DIVISION 13 - SPECIAL CONSTRUCTION

SECTION 13281 - REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING MATERIALS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. The General Provisions of the contract, including the General Provisions for Construction Projects (2106), Special Provisions, and General Requirements of the Specifications, apply to the work in this Section.

1.02 SUMMARY

- A. This Section specifies Contractor requirements when disturbing asbestos-containing materials (ACM) associated with the Hawaii Department of Transportation Airports Division, Daniel K. Inouye International Airport, 2nd, and 3rd Level Roadway Rehabilitation. Refer to the survey data and verify the locations and quantities of ACM that will be disturbed as part of the planned roadway rehabilitation and related activities. Ensure that employees and subcontractors involved in disturbing or removing ACM have access to the survey report and the specifications, and all project personnel understand and are able to recognize and control asbestos hazards.
- B. Asbestos-containing material was identified as follows:
 - 1. Beige textured paint/skim coat on concrete ceiling, columns, and eaves on Level 1 (ground level).
 - 2. Black waterproofing underneath concrete roadway on Level 2.
 - 3. Black coating inside concrete planters on Level 2 and Level 3.
 - 4. Light gray caulking between concrete wall and floor on Level 3.

1.03 REFERENCES

- A. Publications listed below form a part of this specification to the extent referenced. Publications are referred to in the text by the basic designation only. Federal requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials include, but are not limited to, the following:
 - 1. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), including but not limited to:

- a. Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rules - Title 29, Part 1910, Section 1001 and Title 29, Part 1926, Section 1101 of the Code of Federal Regulations (29 CFR 1910.1001 and 29 CFR 1926.1101)
 - b. Respiratory Protection; 29 CFR 1910. 134
 - c. Access to Employee Exposure and Medical Records; 29 CFR 1910.2
 - d. Hazard Communication; 29 CFR 1910.1200
 - e. Specifications for Accident Prevention Signs and Tags; 29 CFR 1910.145
- B. U.S. Department of Transportation (DOT), including but not limited to: Hazardous Substances; 49 CFR 171 & 172.
- C. U. S. Environmental Protection Agency (EPA), including but not limited to:
- 1. Asbestos Abatement Projects; Worker Protection Rule 40 CFR 763, Sub-part G
 - 2. Asbestos Hazard Emergency Response Act (AHERA) Regulation Asbestos Containing Materials in Schools Final Rule & Notice; 40 CFR 763, Sub-part E
 - 3. Training Requirements of AHERA Regulation Asbestos Containing Materials in Schools Final Rule & Notice; 40 CFR Part 763, Sub-part E, Appendix C
 - 4. National Emission Standard for Hazardous Air Pollutants (NESHAP) National Emission Standard for Asbestos; 40 CFR 61, Sub-part A and Sub-part M (Revised Sub-part B)
- D. State of Hawaii: Requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials include, but not limited to:
- 1. HAR – Asbestos Requirements – Title 11, Chapter 501
 - 2. HAR – Fees For Asbestos Removal And Certification – Title 11, Chapter 503
 - 3. HAR – Asbestos Abatement Certification Program – Title 11, Chapter 504
- E. Local Requirements: Comply with applicable local requirements which govern asbestos abatement work and hauling and disposal of asbestos waste.

1.04 STANDARDS

- A. Standards which apply to asbestos abatement work or hauling and disposal of asbestos waste include, but not limited to, the following:
 - 1. American National Standards Institute (ANSI), Broadway, New York, New York 10018
 - a. Fundamentals Governing the Design and Operation of Local Exhaust Systems Publication Z9.2-2012
 - b. Practices for Respiratory Protection Publication Z88.2-2015
 - 2. ASTM International, Race Street, Philadelphia, PA 19103
 - a. Standard Practice for Visual Inspection of Asbestos Abatement Projects E1368-2014

1.05 DEFINITIONS

- A. Amended Water: Water containing a wetting agent or surfactant.
- B. Area Monitoring: Sampling of asbestos fiber concentrations within the asbestos control area and outside the asbestos control area, which is representative of the airborne concentrations of asbestos fibers which may reach the breathing zone of personnel potentially exposed to asbestos.
- C. Asbestos: A group of naturally occurring minerals that separate into fibers. There are six asbestos minerals used commercially: chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.
- D. Asbestos Control Area: An area where asbestos removal operations are performed which is isolated by physical boundaries to prevent unauthorized entry of personnel and to prevent the spread of asbestos dust, fibers, or debris.
- E. Asbestos Fibers: Asbestos fibers having a length to diameter ratio of at least 3:1 and longer than 5 micrometers.
- F. Asbestos Permissible Exposure Limit: The limit is 0.1 fiber (longer than 5 micrometers) per cubic centimeter of air as an 8-hour time weighted average as determined by Appendix A of 29 CFR 1926.1101.
- G. Friable Asbestos Material: Material that contains more than one percent asbestos by weight which can be crumbled, pulverized, or reduced to powder by hand

- pressure when dry. Friable asbestos material is considered hazardous during removal and disposal procedures.
- H. HEPA Filter Equipment: High Efficiency Particulate Air (HEPA) filtered vacuuming equipment with a UL 586 filter system capable of collecting and retaining asbestos fibers. Filters shall be 99.97 percent efficiency for retaining fibers of 0.3 micrometers or larger.
 - I. Industrial Hygienist (IH): A third party industrial hygienist, retained by the Contractor, to oversee the asbestos compliance. The onsite work may be performed by an industrial hygiene technician (IHT). The IHT shall have a valid Project Monitor certification from the Hawaii Department of Health and shall be under the supervision of the industrial hygienist.
 - J. Local Exhaust System: A system in which static pressure in an enclosed control area is lower than that of the environment outside the control area, as specified herein.
 - K. Nonfriable Asbestos Material: Material that contain asbestos in which the fibers have been locked in by a bonding agent, coating, binder, or other material so that the asbestos is well bound and may not release fibers in excess of the asbestos permissible exposure limit during any appropriate use, handling, storing, transporting, or processing. Nonfriable asbestos material may become hazardous during removal and disposal procedures.
 - L. Personal Monitoring: Sampling of asbestos fiber concentrations within the breathing zone of an employee to determine the 8-hour time weighted average in accordance with Appendix A of 29 CFR 1926.1101. The samples shall be representative of the employee's work tasks. The breathing zone shall be considered an area within 12 inches of the nose or mouth of an employee.
 - M. Removal Encapsulant: A manufactured asbestos penetrating encapsulant designed specifically for asbestos removal.
 - N. Surfactant (Wetting Agent): A chemical wetting agent added to water to improve penetration. The surfactant shall be 50/50 mixture of polyoxyethylene ether and polyoxyethylene ester, or equivalent, mixed in a proportion of one fluid ounce to 5 gallons of water or as specified by the manufacturer. An equivalent surfactant shall be understood to mean material with a surface tension of 29 dynes/cm, as tested in accordance with ASTM D 1331.
 - O. Time Weighted Average (TWA): TWA is an 8-hour time weighted average of airborne concentration of fibers (longer than 5 micrometers) per cubic centimeter of air which represents the employee's 8-hour workday as determined by Appendix A of 29 CFR 1926.1101.

1.06 DESCRIPTION OF WORK

- A. Asbestos work generally includes asbestos-containing materials (ACM) that will be disturbed as part of the roadway rehabilitation project and identified in the survey report. Removal of ACM is typically conducted prior to removal or demolition of non-ACM; however, due to the location of some ACM, such as waterproofing material underneath the concrete roadway, the repairs will likely disturb ACM with non-ACM. Asbestos material removal is governed by 40 CFR 61, Subpart M, National Emissions Standards for Hazardous Air Pollutants (NESHAP).
- B. In addition to the asbestos fiber hazards, any concrete disturbance work pose silica hazards to site workers, facility personnel, the public, and the environment. All appropriate engineering controls must be implemented to control the hazards and prevent the exposures to asbestos fibers and silica.

1.07 SUBMITTALS

- A. Submittals shall be approved by the DOT-A prior to commencing work involving asbestos materials.
 - 1. Asbestos Hazard Prevention Plan: Submit a detailed job-specific plan of the work procedures that will minimize airborne dust, which shall be employed in the disturbance and demolition of materials touching or containing asbestos.
 - 2. The plan shall include:
 - a. A clear scope of work for the Abatement Contractor, if applicable
 - b. Interface of trades involved in the construction
 - c. Sequencing of asbestos-related work
 - d. Disposal plan for hazardous and non-hazardous waste
 - e. Type of wetting agent or removal encapsulant to be used
 - f. Product specifications and Safety Data Sheets (SDS)
 - g. Written Respiratory Protection Program
 - h. Written Hazard Communication Program (HAZCOM)
 - i. Current, valid training records for personnel who will conduct asbestos disturbance activities.

- j. Respirator fit test records
 - k. Respirators and other personal protective equipment
 - l. A detailed description of the methods to be employed in order to control pollution
 - m. Emergency Procedures plan
 - n. A sketch showing the location, size, and details of asbestos control areas, including clean and dirty areas, buffer zones, shower, storage areas, change rooms, 3-stage decontamination chamber, and removal methods.
3. The asbestos plan shall be approved by the DOT-A prior to the start of work, disturbing asbestos. Prior to beginning work, meet with the DOT-A to discuss in detail the asbestos plan, including notifications, work procedures, and safety precautions.
 4. Landfill: Submit written evidence that the landfill is approved for asbestos disposal by the State and local regulatory agencies. Within 5 working days after delivery, submit Hazardous Waste Manifest Form, prepared, signed, and dated by an agent of the landfill, certifying the amount of asbestos materials delivered to the landfill.
 5. Respiratory Protection Program: ANSI Z88.2 and 29 CFR 1910.134. Submit a list of workers who are respirator-qualified. Information shall also include date and type of fit testing and manufacturer and size of respirator.
 6. Permits, Licenses, and Certificates: Submit a copy of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work including:
 - a. Notices: Submit notices required by Federal, State, and local regulations with proof of timely transmittal to agency requiring the notice.
 - b. Permits: Submit a copy of current valid permits required by State and local regulations.
 - c. Licenses: Submit a copy of all State and local licenses necessary to carry out the work of this contract.

1.08 NOTICES

Send written notification as applicable and required by State and local regulations prior to beginning any work on ACM to the following:

Indoor and Radiological Health Branch
State of Hawaii Asbestos Program
99-945 Halawa Valley Street
Aiea, HI 96701
Tel: (808) 586-5800

Include the following information in the notification:

- A. Indication of whether notification is original or a revised notification.
- B. Name and address of facility and operator and asbestos removal or operator.
- C. Description of the facility being demolished or renovated, including the size, age, and present and prior use of the facility.
- D. Type of operation: abatement or renovation
- E. Estimate of the approximate amount of asbestos material to be removed from surface areas within the facility. For facilities in which the amount of asbestos material is less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) on other facility components, explain techniques of estimation.
- F. Procedure and analytical methods used to detect the presence of asbestos.
- G. Location of the facility being demolished or renovated (street address, room numbers, etc.)
- H. Scheduled starting and completion dates of abatement or renovation and any preparatory work that would disturb asbestos.
- I. Nature of planned abatement or renovation and method(s) to be used.
- J. Description of work practices and engineering controls.
- K. Procedures to be used to comply with the requirements of USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61 Subpart M).

- L. Name, telephone and address of waste transporter.
- M. Name and location of the waste disposal site where the friable asbestos waste material will be deposited.
- N. Certification that at least one person trained as required by NESHAP will supervise the operation.
- O. For facilities being demolished under an order of a State or local governmental agency, issued because the facility is structurally unsound and in danger of imminent collapse, the name, title, and authority of the State or local governmental Director who has ordered the abatement, date the order was issued, and date on which abatement was to begin. Attach a copy of the order.
- P. Other requirements per NESHAP.

1.09 PERMITS AND LICENSES

- A. Obtain and maintain current permits and licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this contract.

1.10 POSTING AND FILING OF REGULATIONS

- A. Post notices required by applicable Federal, State and local regulations. Maintain at least one (1) copy of applicable Federal, State, and local regulations and standards and approved work plan.

PART 2 - PRODUCTS

2.01 WETTING MATERIALS

- A. For wetting prior to disturbance of ACM, or when handling asbestos-contaminated waste, use either amended water or a removal encapsulant.
- B. Amended Water: Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the ACM, or asbestos fibers, in waste and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with five gallons of water.
- C. Removal Encapsulant: Provide a penetrating type encapsulant designed specifically for removal of ACM. Use a material which results in wetting of the ACM and retardation of fiber release during disturbance of the material equal to

or greater than that provided by water amended with a surfactant consisting of one ounce of a mixture of 50% polyoxyethylene ester and 50% polyoxyethylene ether in five gallons of water.

2.02 POLYETHYLENE SHEET

- A. Provide a single polyethylene film in the largest sheet size possible to minimize seams, 6 mils thick, clear or frosted

2.03 DUCT TAPE

- A. Provide duct tape in 2” or a 3” width as appropriate, with an adhesive, which is formulated to stick aggressively to sheet polyethylene.

2.04 SPRAY ADHESIVE

- A. Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

2.05 DISPOSAL BAGS

- A. Provide 6 mil thick leak-tight polyethylene bags labeled as required.

2.06 SIGNS

- A. Post an approximately 20 inch by 14 inch manufactured caution sign at each entrance to the Work Area displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926.1101. The ACM waste bags shall have the same caution label.

LEGEND

DANGER
ASBESTOS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
AUTHORIZED PERSONNEL ONLY
WEAR RESPIRATORY PROTECTION AND
PROTECTIVE CLOTHING IN THIS AREA

- B. Provide spacing between respective lines at least equal to the height of the respective upper line.
- C. Post an approximately 10 inch by 14 inch manufactured sign at each entrance to each Work Area displaying the following legend with letter sizes and styles of a visibility at least equal to the following:

LEGEND

NOTATION

NO FOOD, BEVERAGES OR TOBACCO PERMITTED 3/4" Block

ALL PERSONS SHALL DON PROTECTIVE CLOTHING (COVERINGS) BEFORE ENTERING THE WORK AREA 3/4" Block

ALL PERSONS SHALL SHOWER IMMEDIATELY AFTER LEAVING WORK AREA AND BEFORE ENTERING THE CHANGING AREA 3/4" Block

PART 3 - EXECUTION

3.01 EQUIPMENT

A. HEPA Vacuuming Equipment: Vacuuming equipment utilizing High Efficiency Particulate Air (HEPA) UL 586 filter system capable of collecting and retaining asbestos fibers.

3.02 AIR PURIFYING RESPIRATORS

- A. Respirator Bodies: Provide half face, full face, or powered air purifying respirator (PAPR) type respirators.
- B. Filter Cartridges: Provide, at a minimum, HEPA type filters labeled with NIOSH Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with ANSI Z228.2. In addition, a chemical cartridge section may be added, if required for solvents, etc. In this case, combination cartridges may be considered, labeled with the appropriate color code and NIOSH Certification.
- C. Non-permitted respirators: Do not use single use, disposable or quarter face respirators.
- D. Require that respiratory protection be used at all times that there is any possibility of disturbance of asbestos-containing materials whether intentional or accidental.
- E. Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re-occupancy.
- F. Regardless of Airborne Fibers: Require that the minimum level of respiratory protection used be half-face air-purifying respirators with high efficiency particulate air filters.

3.03 FIT TESTING

- A. Initial Fitting: Provide initial fitting of respiratory protection during a respiratory protection course of training. Fit types of respirator to be actually worn by each individual. Allow an individual to use only those respirators for which training and fit testing have been provided.
- B. On an Annual Basis, check the fit of each worker’s respirator by having irritant smoke blown onto the respirator from a smoke tube. The fit test frequency shall be according to the OSHA requirement.
- C. Upon Each Wearing: Require that each time an air-purifying respirator is put on it be checked for seal with a positive and negative pressure fit check in accordance with the manufacturer’s instructions or ANSI Z88.2 (2015).

3.04 TYPES OF RESPIRATORY PROTECTION NEEDED

- A. Provide Respiratory Protection as indicated in paragraph below. Higher levels of protection may be provided as desired by Contractor. Where paragraph below does not apply, determine the proper level of protection by dividing the expected or actual airborne fiber count in the Work Area by the “protection factors” given below. The level of respiratory protection which supplies an airborne fiber level inside the respirator, at the breathing zone of the wearer, at or below 0.01 f/cc is the minimum level of protection allowed.

PROTECTION FACTORS

RESPIRATOR TYPE	PROTECTION FACTOR
Air purifying: Negative pressure respirator High efficiency filter Half or full facepiece	10
Powered Air Purifying Respirator (PAPR): Negative pressure respirator High efficiency filter Full facepiece	50
Type C supplied air: Positive pressure respirator Pressure demand Full facepiece	1,000
Type C supplied air: Positive pressure respirator, pressure demand Full facepiece equipped with an auxiliary positive pressure Self-Contained Breathing Apparatus (SCBA)	over 1,000

- B. Use the following as a minimum unless air monitoring results indicate greater protection is necessary. Refer to Protection Factors table for choice of respirators.
1. Containment or barrier installation which does not disturb ACM: Dual Cartridge, Half-face Air Purifying Respirators, at Competent Person's discretion.
 2. Removing or cleaning items or barrier installation when such operation may disturb ACM: Dual Cartridge, Half-face Air Purifying Respirators.
 3. ACM removal: Dual Cartridge, Half-face Air Purifying Respirators.
 4. Gross cleaning of removal area(s): Dual Cartridge, Half-face Air Purifying Respirators.
 5. Final wet-cleaning of area until final air tests show exposure in work areas to be below 0.01 f/cc: Dual Cartridge, Half-face Air Purifying Respirators.
 6. Loading and unloading drums on truck (outside work area): Dual Cartridge, Half-face Air Purifying Respirators.
- C. Fibers: For purposes of this section fibers are defined as all fibers regardless of composition as counted in the OSHA Reference Method, NIOSH Method 7400 procedure, or asbestos fibers of any size as counted using either a scanning or transmission electron microscope.

3.05 PROTECTIVE CLOTHING

- A. Furnish personnel exposed to airborne concentrations of asbestos fibers greater than or equal to the permissible exposure limit with protective whole body clothing, head covering, gloves, and foot coverings. Furnish disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber gloves for comfort, but shall not be used alone. Use tape to secure sleeves at the wrists and to secure foot coverings at the ankles.

3.06 PERSONNEL DECONTAMINATION UNIT

- A. Provide a decontamination area adjacent to the work area, as applicable. Decontamination area will consist of a polyethylene sheet placed adjacent to the work area large enough for employees to remove disposable coveralls and shower prior to exiting the work area. Waste generated during decontamination will be disposed of as asbestos containing debris. At the conclusion of work the plastic sheet will be disposed of as asbestos containing waste. Position a HEPA vacuum at the decontamination unit which workers will use to clean off protective clothing prior to removal.

3.07 CLEANING OF DECONTAMINATION UNITS

- A. Clean debris and residue from the Decontamination Area on a daily basis. Damp wipe or hose down all surfaces after each shift change.

3.08 WORK PROCEDURE

- A. Conduct asbestos-related work in accordance with 29 CFR 1926.1101 and as specified herein.
- B. Use wet removal procedures. Personnel shall wear and use protective clothing and equipment as specified in the approved Work Plan.
- C. Eating, smoking, or drinking shall not be permitted in the asbestos control area or change room.
- D. Personnel of other trades not engaged in the removal and demolition of asbestos shall not be exposed at any time to airborne concentrations of asbestos greater than or equal to 0.01 fibers (longer than 5 micrometers) per cubic centimeter of air, unless the personnel protection provisions of this Section are complied with by the trade personnel.
- E. Shut down, lock out, and isolate HVAC systems that supply, exhaust, or pass through the asbestos control areas. Seal intake and exhaust vents in the asbestos control area with 6 mil plastic sheet and tape. Seal seams in HVAC components that pass through asbestos control area.
- F. Disconnect electrical service when wet removal is performed and provide temporary electrical service protected by a ground fault circuit interrupter (GFCI).

3.09 ASBESTOS CONTROL AREA REQUIREMENTS

- A. Provide a marked perimeter around the work area during asbestos removal operations. No one will be permitted in the asbestos control area unless the person is provided with appropriate training and protective equipment (respirators and protective coveralls). During the asbestos removal operation, should the asbestos abatement employees need to exit the controlled area, they shall remove their coveralls, place them in an approved impermeable disposal bag, and then exit the area.
- B. Contractor shall conduct personal air monitoring samples on 25% of the work crew or a minimum of two employees whichever is greater during each work shift.
- C. Industrial Hygienist (IH) retained by the contractor will conduct boundary samples upwind and downwind of the asbestos control area during each work shift. If the concentration of airborne asbestos fibers at the boundaries is greater

than or equal to 0.01 fiber per cubic centimeter of air, or background quantity whichever is greater, the Contractor shall stop work, and correct the condition(s) causing the increase. If adjacent areas are contaminated, the contaminated areas shall be cleaned and visually inspected by the IH and Contractor's Competent Person. IH shall certify that the area has been cleaned of all asbestos contamination.

3.10 ASBESTOS HANDLING PROCEDURES

- A. General Procedure: If removing asbestos from components or removing components with asbestos adhered to it, wet asbestos material with a fine spray of amended water. Remove material and immediately place in approved impermeable bags that have been wetted. Collect asbestos waste, scrap, debris, bags, containers, equipment, and asbestos-contaminated clothing and place in sealed impermeable bags constructed of 6-mil plastic sheet.
- B. Provide asbestos caution labels on sealed impermeable bags and asbestos waste containers. When applicable, use a lined chute, hoist, lift or other State-approved method to move double-bagged asbestos containing waste material from roof, or upper floors, to asbestos waste transport container. If chute is used, it must be affixed with a negative pressure unit to minimize airborne fiber concentrations.

3.11 AIR MONITORING

- A. Work Area Airborne Fiber Levels: IH retained by the contractor will monitor airborne fiber levels in the Work Area, as applicable. The purpose of this air monitoring will be to detect potential airborne asbestos concentrations inside and outside of the control area.
- B. Outside the Work area (Barrier) Fiber Levels: IH will assess airborne fiber levels outside the work area to determine if leakage is occurring into non-work areas.
- C. IH will conduct air monitoring throughout the project, when ACM is disturbed.
- D. Contractor is responsible for his/her worker protection and personal air monitoring and legally-required documentations.

3.12 STOP ACTION LEVELS

- A. Inside Work Area: Maintain airborne levels in the work area of less than the Stop Action Level given below for the type of respiratory protection in use. If the fiber counts levels rise above this figure for any sample taken, revise work procedures to lower fiber counts. If fiber count levels for any work shift or 8 hour period exceeds the Stop Action Level, stop work except corrective action and leave air circulation system in operation. After correcting cause(s) of high airborne fiber

levels, do not recommence work for 24 hours unless otherwise authorized by the IH.

ASBESTOS

STOP ACTION LEVEL (f/cc)	RESPIRATOR REQUIRED	PROTECTION FACTOR
1	Half face APR	10
5	Full face APR	50
10	PAPR or Type C, Continuous flow	100
100	Type C, Pressure demand	1,000

- B. Outside Work Area: If any air sample taken outside of the Work Area exceeds the baseline established prior to start of work, immediately and automatically stop work except corrective action. Contractor shall determine the source of the high reading and take appropriate corrective actions.
- C. If the high reading was the result of a failure of Work Area isolation measures, initiate the following actions:
 - 1. Decontaminate the affected area(s).
 - 2. Require that respiratory protection be worn in affected the area until the area is cleared for other trade or reoccupancy.
- D. If the high reading was the result of other causes, initiate corrective action as determined by the Competent Person and the IH.
- E. Fibers Counted: Transmission Electron Microscopy (TEM) analysis will be used to resolve any disputes regarding fiber types, such as when the site work is stopped due to excessive airborne fiber counts. Cost of TEM analysis shall solely be borne by the Contractor. Phase Contrast Microscopy (PCM) analysis will used for daily monitoring.

3.13 ANALYTICAL METHODS

The following methods will be used in analyzing filters used to collect air samples. The filters used shall be in accordance with the referenced methods.

- A. Samples collected for PCM analysis shall be analyzed by NIOSH 7400 method.
- B. Samples collected for TEM analysis shall be analyzed by NIOSH 7402.

3.14 SAMPLE VOLUMES

- A. General: Number and volume of air samples taken by the IH will be in general accordance with the following schedule (see Paragraphs 3.15 and 3.16, below). Sample volumes given may vary depending upon the analytical method used and Contractor method of removal.

3.15 BASELINE

- A. Before Start of Work: IH will secure the following air samples to establish a baseline before start of asbestos removal work:

LOCATION SAMPLED	NUMBER OF SAMPLES MINIMUM	MINIMUM VOLUME (LITERS)	RATE (LPM)
Each Work Area	2 for up to 5,000 sq.ft.; one additional per each additional 5,000 sq.ft.	1,199	1-12
Outside the Work Area	1	1,199	1-12

3.16 DAILY

- A. From start of work and as applicable, IH will take the following samples during repairs, removal, or disturbance of ACM

SAMPLE TYPE SAMPLE LOCATION	MINIMUM NUMBER OF SAMPLES	MINIMUM SAMPLE VOLUME (LITERS)	SAMPLE FLOW RATE (LPM)
Work Area – Each Work Area	2 per shift	480	1-5
Barrier – Area outside of containment unit (determined by the IH)	2 per shift, unless sample area is dusty; then increase number as necessary	2,000	1-12
Barrier – Clean Room of Decon Unit	2 per shift, unless sample area is dusty; then increase number as necessary	2,000	1-12

- B. Additional samples may be taken at the IH’s and DOT-A’s discretion. If airborne fiber counts exceed allowed limits, additional samples shall be taken as necessary to monitor fiber levels. Personal monitoring performed by the IH shall not

remove the Contractor's responsibility to monitor his/her workers' health & safety and required documentations.

3.17 AIR SAMPLING MEDIA

- A. Sample Cassettes: Samples will be collected on 25 mm. cassettes with 50 mm. extension cowl as follows:

PCM: 0.8 micrometer mixed cellulose ester (MCE)

TEM: 0.45 micrometer MCE

3.18 LABORATORY TESTING

- A. Services of a testing laboratory will be employed by the IH to obtain area air samples as indicated. IH will obtain samples daily. Asbestos air sample results shall be obtained within 24 hours of receipt from the laboratory. Contractor and the DOT-A will have access to air monitoring tests and results at all times.
- B. Contractor is responsible for laboratory analysis for the personal air monitoring. Results shall be made available within 24 hours of receipt from the laboratory.

3.19 CLEANUP AND DISPOSAL

- A. Cleanup: Maintain surfaces of the asbestos control area free of accumulations of asbestos fibers. Restrict the spread of dust and debris; keep waste from being distributed over the general area. Do not dry sweep or blow down the space with compressed air. When asbestos removal, disposal, and cleanup are complete, The IH will certify, in writing, that the concentration of airborne asbestos in the control area and barrier samples are less than 0.01 fiber (longer than 5 micrometers) per cubic centimeter of air and that there are no visible accumulations of dust, PPE were adequate, work procedures, asbestos removal, boundary samples disposal procedures, containment and clearances samples were in accordance with 29 CFR 1926.1101 and contract specifications.
- B. Competent Person and the IH will visually inspect the affected surfaces for residual asbestos material and accumulated dust before and after the removal of the asbestos control area; Contractor shall reclean areas showing dust or residual asbestos materials. If recleaning is required, monitor the asbestos airborne concentration during and after recleaning.
- C. Disposal of Asbestos: Dispose of waste asbestos material at a State and EPA approved landfill. Procedure for hauling and disposal shall comply with 40 CFR 61, Subpart M of NESHAP, and State and local standards. Sealed impermeable bags may be dumped from drums into the burial site unless bags have been broken or damaged. Damaged bags shall remain in the drum and the entire contaminated drum shall be buried. Uncontaminated drums may be recycled.

Workers unloading sealed drums shall wear appropriate respirators and personal protective equipment when handling asbestos materials at the disposal site.

- D. Double Tape Wrapped: Asbestos materials shall be wrapped in 6-mil minimum thickness polyethylene sheets and taped with minimum 2-inch wide silver cloth duct tape. Asbestos materials shall be rewrapped with a second polyethylene sheet and taped before disposal to the dumpsite. Each bundle of wrapping shall not exceed 50 pounds in weight. Damaged polyethylene sheeting will not be accepted for disposal at the landfill.
- E. Waste Shipment Records: Prior to delivery of ACM waste materials, the Contractor shall complete the EPA's Waste Shipment Records requirements on manifesting ACM waste removal, transportation, and final disposal. Payment for this Section will not be made until a completed manifest from the disposal facility is returned, and a copy furnished to the Director. Copy and instructions for Waste Shipment Record are attached at the end of this Section.

3.20 FORMS

- A. Entry Log
- B. Employee Release Form
- C. Certificate of Workers Acknowledgement
- D. Asbestos Disposal Form
- E. Asbestos Notification of Demolition and Renovation

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work involving removal and disposal of asbestos and demolition debris shall not be measured or paid for separately, but shall be considered incidental to the lump sum price bid for the item of which it is a part in the Bid Schedule.

ENTRY LOG
(Sample)

DATE: _____

PROJECT No: _____

PROJECT SITE: _____

ALL PERSONNEL MUST SIGN-IN AND SIGN-OUT EVERY TIME THEY ENTER/EXIT THE WORK AREA. PLEASE PRINT CLEARLY. ATTACH EMPLOYEE RELEASE FORM FOR ALL VISITORS.

Name	Employer Name, address*, phone*	Time in	Time out	Purpose of visit	Type of PPE issued**

*Not required of Contractor's employees.

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

Note:

EMPLOYEE RELEASE FORM
(Sample)

Employee Name:

Employee Address:

Employee Telephone No.:

Name of Training center, Certificate Number and expiration Date:

Classification of work:

Have you had in the past or present, any respiratory problems?

Yes No

Have you worked in the past with asbestos or fiberglass type materials?

Yes No

The project you will be working on involves the use of asbestos and the removal of the asbestos from the building. Asbestos is considered a health hazard.

The company is supplying all necessary safety clothing and working conditions required and necessary for your protection from asbestos hazard.

You shall be instructed at the commencement of the job on the required use of safety equipment, clothing, working conditions, and procedures. These must be rigidly adhered to. Smoking is not permitted in the work area. Disregarding of safety instructions shall result in instant dismissal.

I acknowledge that safety instructions have been given to me by the company at my work commencement and I am thoroughly conversant with them and I have answered the above questions truthfully.

Signed (Employee)

Date

Print name

CERTIFICATE OF WORKER'S ACKNOWLEDGEMENT

PROJECT NAME: _____ DATE: _____

PROJECT ADDRESS: _____

CONTRACTOR: _____

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.

Your employee contract with the Owner for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These things are to have been done at no cost to you.

RESPIRATORY PROTECTION: You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. You must be given a copy of the written respiratory protection manual issued by your employer. You must be equipped with the respirator to be used on the above project.

TRAINING COURSE: You must be trained in the dangers inherent in handling asbestos and breathing asbestos dust and proper work procedures and personal and area protective measures. The topics covered in the course must have included the following:

- Physical characteristics of asbestos
- Health hazards associated with asbestos
- Respiratory protection
- Use of protective equipment
- Pressure Differential Systems
- Working practices include hands on or on-job training
- Personal decontamination procedures
- Air monitoring, personal and area

MEDICAL EXAMINATION: You must have had a medical examination within the past 12 months at no cost to you. This examination must have included: health history, pulmonary function tests and may have included an evaluation of a chest X-ray.

By signing this document you are acknowledging only that the Owner of the building you are about to work in has advised you of your right to training and protection relative to your employer, the Contractor.

Signature _____ ID No. _____
Print Name _____ Witness _____

ASBESTOS DISPOSAL FORM (Sample)

GENERATOR	1. WORK SITE NAME & MAILING ADDRESS	OWNER'S NAME	OWNER'S TELEPHONE NO.
	2. OPERATOR'S NAME & ADDRESS		OPERATOR'S TELEPHONE NO.
	3. WASTE DISPOSAL SITE (WDS) NAME, MAILING ADDRESS, AND PHYSICAL SITE LOCATION		WDS TELEPHONE NO.
	4. NAME AND ADDRESS OF RESPONSIBLE AGENCY		
	5. DESCRIPTION OF MATERIALS	6. CONTAINERS NO. TYPE	7. TOTAL QUANTITY M ³ (YD ³)
	8. SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION		
	9. OPERATOR CERTIFICATION: I HEREBY...		
PRINTED/TYPED NAME & TITLE	SIGNATURE	DATE (MO/DY/YR)	
TRANSPORTER	10. TRANSPORTER 1 (ACKNOWLEDGEMENT OF RECEIPT OF MATERIALS)		
	PRINTED/TYPED NAME & TITLE	SIGNATURE	DATE (MO/DY/YR)
	11. TRANSPORTER 2 (ACKNOWLEDGEMENT OF RECEIPT OF MATERIALS)		
	PRINTED/TYPED NAME & TITLE	SIGNATURE	DATE (MO/DY/YR)
DISPOSAL SITE	12. DISCREPANCY INDICATION SPACE		
	13. WASTE DISPOSAL SITE OWNER OR OPERATOR: CERTIFICATION OF RECEIPT OF ASBESTOS MATERIALS COVERED BY THIS MANIFEST EXCEPT AS NOTED IN ITEMS 1, 2, AND 3.		
	PRINTED/TYPED NAME & TITLE	SIGNATURE	DATE (MO/DY/YR)

ASBESTOS NOTIFICATION OF DEMOLITION & RENOVATION

(Ref. HAR Chapter 11-501)

SEND TO: STATE DEPARTMENT OF HEALTH
 INDOOR AND RADIOLOGICAL HEALTH BRANCH
 STATE OF HAWAII ASBESTOS PROGRAM
 99-945 HALAWA VALLEY STREET
 AIEA, HAWAII 96701
 Phone (808) 586-5800 Fax 586-5811

I. Type of notification: O=original R=revised C=cancelled			
II. Type of operation: D=demolition R=renovation OD=Ordered Demolition ER=Emergency Renovation			
III. Facility information			
Owner name:			
Address:			
City:		State:	Zip code:
Contact person:		Telephone#:	
Removal contractor:		License#:	
Address:			
City:		State:	Zip code:
Contact person:		Telephone#:	
Other Operator			
Address:			
City:		State:	Zip code:
Contact person:		Telephone#:	
IV. Is asbestos present (Y/N):			
Inspector's name:		Certification#:	State of certification:
V. Facility description (Include building number, floor and room number)			
Building name:			
Address:			
City:		State:	Zip code:
Site location:			
Building size:		Floors:	Age:
VI. Procedure used to detect the presence of asbestos			
Laboratory name:		Analytical method	
VII. Specify the nature of the asbestos material (TSI, surfacing, VAT, miscellaneous):			
Amount of asbestos, including: 1. RACM to be removed 2. CATI left in place, and 3. CATII left in place	RACM to be Removed	Nonfriable ACM <u>not</u> to be removed	
		Category I	Category II
Pipes (linear ft.)			

Surfacing (square ft.)			
Facility components (Cu. ft.)			
VIII. Scheduled asbestos abatement dates			
Start (mm/dd/yy):		Finish (mm/dd/yy)	
Circle workdays and time:	Weekdays:	daytime:	nighttime:
	Weekends:	daytime:	nighttime:
IX. Scheduled renovation/demolition dates			
Start (mm/dd/yy):		Finish (mm/dd/yy)	
Circle workdays and time:	Weekdays:	daytime:	nighttime:
	Weekends:	daytime:	nighttime:
X. Description of the planned renovation/demolition work and methods to be used:			
XI. Description of the work practices and engineering controls to be used to prevent emissions of asbestos from the work-site:			
Project designer name:		Certification#:	State:
XII. Waste transporter #1			
Name :			
Address :			
City:	State:	Zip code:	
Contact person:		Telephone#:	
Waste transporter #2			
Name :			
Address :			
City:	State:	Zip code:	
Contact person:		Telephone#:	
XIII. Waste disposal site:			
Facility Name:		Telephone#:	
Address :			
City:	State:	Zipcode:	
XIV. For demolition ordered by a government agency, please identify:			
Name:		Title:	
Authority (Agency):			
Date of order (mm/dd/yy):		Date ordered to begin (mm/dd/yy):	
XV. For emergency renovation:			
Date and time of emergency			
Date (mm/dd/yy):		Time:	(a.m./p.m.)
Description of sudden, unexpected events and the damage caused:			
Explanation of how the event caused an unsafe condition or would cause damage or			

an unreasonable financial burden:
Person contacted for the approval at the Noise, Radiation & Indoor Air Quality Branch:
Name: _____ Date (mm/dd/yy): _____ Time: _____ (a.m./p.m.)
XVI. Description of procedures to be followed in the event that unexpected asbestos is found or previously nonfriable asbestos material becomes crumbled, pulverized or reduced to powder.

XVII. I certify that an individual trained in the provisions of Hawaii administrative rules chapter 11-501, and certified as a contractor/supervisor, will be on-site during the entire renovation and/or demolition and evidence that the required training has been accomplished for this and all workers will be available at the work-site.				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border-top: 1px solid black; border-bottom: 1px solid black;"></td> <td style="width: 50%; border-top: 1px solid black; border-bottom: 1px solid black;"></td> </tr> <tr> <td style="text-align: center;">Signature of owner/operator</td> <td style="text-align: center;">Date</td> </tr> </table>			Signature of owner/operator	Date
Signature of owner/operator	Date			
(mm/dd/yy):				

XVIII. I certify that the information on this notification is correct.				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border-top: 1px solid black; border-bottom: 1px solid black;"></td> <td style="width: 50%; border-top: 1px solid black; border-bottom: 1px solid black;"></td> </tr> <tr> <td style="text-align: center;">Signature of owner/operator</td> <td style="text-align: center;">Date</td> </tr> </table>			Signature of owner/operator	Date
Signature of owner/operator	Date			
(mm/dd/yy):				

XIX. Additional Comments:

END OF SECTION

SECTION 13282 - LEAD PAINT CONTROL MEASURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Contractor shall review the existing lead survey data and verify the locations and quantities of lead paints.
- B. Lead-containing paints were identified in the area of 1st, 2nd, and 3rd level roadway improvement project areas as follows:

Light pink paint on concrete ceilings, eaves, and walls, 49-59 mg/kg

Beige paint on concrete columns, eaves, and walls, 40-550 mg/kg

Light pink paint on metal conduits, 79-190 mg/kg

Red paint on concrete curbs, <40-4,200 mg/kg

Yellow paint on asphalt roadway, <40-550 mg/kg

Yellow paint on concrete curbs, **27,000-38,000** mg/kg

Silver paint on metal guardrail, **110,000-130,000** mg/kg

Light pink paint on concrete walls, <40-56 mg/kg

Beige paint on concrete columns, eaves, and walls, <40-170 mg/kg

Beige paint on CMU walls, **220-9,500** mg/kg

Beige paint on metal guardrails and handrails, <40-130 mg/kg

Yellow paint on metal guardrails, 330-420 mg/kg

Light pink paint on metal conduits, electrical boxes, and pipes, 46-78 mg/kg

Beige paint on concrete ceiling, columns, and eaves, 82-250 mg/kg

Beige paint on CMU walls, 94-120 mg/kg

- C. Refer to the hazardous materials survey for asbestos and lead containing materials for the Hawaii Department of Transportation Airports Division, Daniel K. Inouye International Airport, 1st, 2nd, and 3rd Level Roadway Rehabilitation project for location and photos of the lead containing paints listed above in paragraph C.

- D. For the purpose of this Section, all paints with measurable levels of lead are considered lead-containing paint; lead hazards shall be controlled in accordance with applicable rules and regulations.
- E. Total paint abatement is not anticipated; however, any loose and flaky paints shall be removed to prevent exposures to the site workers, airport personnel, the public, and the environment.
- F. Implement appropriate engineering controls and safety measures to prevent site workers, other trades, public, and environmental exposures to lead hazards.
- G. Inform employees, subcontractors, and other persons conducting work for this project, that interior and exterior surfaces of the existing building associated with this project have lead-containing paints. Initiate and maintain applicable programs necessary to execute the work in accordance with the contract requirements, Federal, State, and local rules and regulations.
- H. Contractor shall be responsible for ensuring that work generating lead containing dust and debris conforms to the following applicable Federal, State and local rules and regulations.
 - 1. Occupational Safety and Health Administration (OSHA) and Hawaii Occupational Safety and Health (HIOSH) rules.
 - 2. National Emission Standards of Hazardous Air Pollutants (NESHAP).
 - 3. EPA Resource Conservation and Recovery Act (RCRA) of 1976, amended in 1980 and 1984.
- I. Initiate and maintain safety precautions and programs necessary to keep the work place safe for employees and subcontractors.
- J. Costs incurred due to Contractor's inability to control hazards shall be borne solely by Contractor, including but not limited to, medical, legal, public and regulatory relations, investigation, clean-up, monitoring, and reporting.

1.03 COORDINATION WITH OTHER SECTIONS

- A. Section 01715 – EXISTING CONDITIONS – ASBESTOS/LEAD/HAZARDOUS MATERIAL SURVEY
- B. Section 13289 – LEAD TESTING AND MONITORING for requirements of work when disturbing hazardous materials

1.04 LEAD-BASED PAINT FIELD TESTING

- A. Contractor reserves the right to conduct existing paint testing for lead, utilizing X-Ray Fluorescence (XRF) analysis or Atomic Absorption Spectrophotometry Analysis (AAS).
- B. Testing shall be conducted by a State of Hawaii certified Lead-Based Paint Inspector or Risk Assessor, at the Contractor's expense.
- C. Test results shall be presented to the DOT-A for evaluation. Contractor's work practices, air monitoring and clearance requirements may be modified in accordance with paint test results.

1.05 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. Contractor shall submit a Lead Hazard Control Plan 20 calendar days prior to lead disturbance work, including but not limited to:
 - 1. A clear scope of work
 - 2. Description of methods to control lead hazards and dust
 - 3. A sketch of lead hazard control area and staging area for waste containers, equipment, and supplies
 - 4. Competent Person's name, contact number, and certifications
 - 5. Written Hazard Communication (HAZCOM) program, including worker training records
 - 6. Written Respiratory Protection Program
 - 7. Medical surveillance records
 - 8. Written Emergency Procedures Plan
 - 9. Product specifications and safety data sheets (SDS)
 - 10. Hazardous waste disposal plan
- C. Within 10 days of waste disposal, Contractor shall submit the following:
 - 1. A copy of the Hazardous Waste Disposal Log, if applicable, and the

- completed waste manifest
- 2. Field records including daily field notes and photographs
- 3. Sampling and analysis results

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Polyethylene Bags and Sheets: 6 mil minimum thickness in sizes required to accomplish the work.
- B. Other Materials: Provide materials, such as, but not limited to, rags, lumber, plywood, fasteners, duct tape, and sealant which may be required to properly prepare and complete the work.

2.02 TOOLS AND EQUIPMENT

- A. HEPA Vacuuming Equipment: Vacuuming equipment utilizing High Efficiency Particulate Air (HEPA) filters.

PART 3 - EXECUTION

3.01 PREPARATION PRIOR TO DISTURBANCE OF LEAD-CONTAINING PAINT

- A. Document existing paint chips or debris in the project area prior to work:
 - 1. If there are any paint chips or debris in the project area, pre-clean horizontal surfaces within the work area prior to disturbing existing LCP.
 - 2. Treat paint chips or debris collected during pre-cleaning and during project-related activities as lead-containing waste.
- B. Prevent lead dust during work performance using wet methods and equipment with HEPA collection devices. If visual inspection, air monitoring, or clearance by Competent Person, Industrial Hygienist (IH), or the DOT-A indicates that control measures are inadequate, stop work, clean up the affected area, and implement enhanced engineering controls at no additional cost to State.
- C. Establish a lead control area. Isolate and protect the portions of the area not within the scope of work using 6-mil polyethylene sheeting, or equivalent.

- D. Pre-work visual inspection: Inspect the immediate project and adjacent areas for the presence of paint chips or debris and document the physical conditions with photographs and narratives. This documentation will serve as baseline conditions to which final visual clearance will be compared.
- E. Demarcate the exterior lead control area using lead warning tape, as applicable.
 - 1. Lead warning tape shall be at least 20 feet away from the closest painted surface being disturbed.
 - 2. Lead warning tape may be placed closer only if existing structural conditions prevent a 20-foot space between the lead warning tape and the working surface.
 - 3. Place 6-mil polyethylene drop sheets, or equivalent, around exterior surfaces.
 - 4. Secure drop sheets or cloths so that wind, rain, or other forces will not dislodge the sheets.
 - 5. Drop sheets shall extend horizontally, where applicable, at a distance sufficient to capture debris containing paint and substrates.
 - 6. Drop sheets shall be periodically cleaned and kept free of debris. Any water captured by the drop sheet shall be contained and treated as lead-contaminated.

3.02 CONFORMANCE: Work shall be executed in accordance with the following:

- A. Occupational Safety and Health Administration (OSHA) rules
 - 1. Contractor shall ensure that work executed in this project is in accordance with the requirements of 29 CFR 1910.1025 and 29 CFR 1926.62.
 - 2. Cost associated with the execution of work in accordance with these OSHA rules shall be the Contractor's responsibility.
 - 3. Negative exposure assessment, air monitoring and testing cost shall be borne by the Contractor.
- B. EPA Toxic Substance Control Act (TSCA)
 - 1. Implement housekeeping methods to prevent the spread of airborne

lead dust when conducting work on painted surfaces.

- a. Doors and windows shall be closed and temporary barriers, using 6 mil polyethylene sheeting, will be set up to minimize the spread of wind blown dust.
 - b. Minimum 6 mil polyethylene shall be placed on the floors and walls, and on each side of where disturbance is anticipated.
2. At the end of each work day, remove visible debris and dust, HEPA vacuum, and damp-wipe surfaces in the project areas where disturbance of hazardous material was conducted.
- C. EPA Resource Conservation and Recovery Act (RCRA) of 1976, amended in 1980 and 1984.
1. The project site may fall into the category of Large Quantity Generator (LQG) that generate more than a 1,000 kg/month of hazardous waste and/or more than 1 kg/month of acute hazardous waste. Refer to the Hazardous Waste Disposal Log provided in Appendix A of this Section.
 2. Under the requirements for the generator:
 - a. Must identify painted surfaces with LCP or assumed LCP, and the hazardous waste or acute hazardous waste generated at each site.
 - b. Not store more than 1,000 kg or 2,200 pounds of hazardous waste, or assumed hazardous waste, at each site at any time.
 - c. Can dispose of the waste in a municipal solid waste (MSW) landfill provided that Toxicity Characteristic Leaching Procedure (TCLP) results meet the landfill criteria, 5.0 milligrams per liter (mg/L) lead and 1.0 mg/L cadmium.
 - d. Must dispose of the waste material at an EPA approved landfill off-island that accepts such waste if the TCLP results indicate that the material is hazardous waste (at or above 5.0 mg/L lead or 1.0 mg/L cadmium).
 3. Treatment of assumed to be Lead-Containing Debris:
 - a. Debris resulting from Contractor's work, such as cutting, scrapping, drilling, coring, chipping, or sanding, of known or assumed LCP surfaces, shall be segregated from the rest of the construction debris.

- b. Hazardous waste and assumed to be hazardous waste amounts shall follow the RCRA regulations for Large Quantity Generator.
4. Disposal of Lead-containing Paint Debris:
- a. LCP or assumed LCP debris generated by the Contractor must conform to the requirements of this section.
 - 1) Paint debris with TCLP lead concentration below 5.0 mg/L and TCLP cadmium below 1.0 mg/L may be disposed of at a municipal solid waste landfill that accepts such waste.
 - 2) Disposal of this demolition debris on private land is prohibited, unless it is permitted by the State and the EPA.
 - 3) Paint debris with TCLP lead and cadmium concentrations at or above 5.0 mg/L and 1.0 mg/L, respectively, must be disposed of as hazardous waste at an EPA-approved landfill off-island that accepts such waste.
 - b. Accumulation and mixing of hazardous waste of one generator (facility) with that of another generator is prohibited.
 - c. Disposal shall be in accordance with the permit requirements of the Municipal Solid Waste Landfill.
 - d. Contractor shall be responsible for costs related to the disposal of assumed LCP debris and hazardous paint chip waste.

3.03 ACTIVITIES DISTURBING LEAD-CONTAINING PAINT

- A. Conduct LCP surface preparation as required for this project, and prevent lead airborne dust using wet methods and HEPA equipment. If visual inspection indicates control measures are inadequate, the Competent Person must stop work, notify DOT-A, conduct clean-up, and implement enhanced engineering controls immediately at no additional cost to State.
- B. Do not execute dry removal or dry sweeping. Waste or paint debris generated during removal shall be promptly staged or packaged, and shall not accumulate uncontrolled at any time. Lead-containing waste shall be properly marked and stored in secure containers appropriate for storing lead-containing waste.

- C. Do not allow lead-containing waste to be stored outside of the lead control area, in a high traffic unsecured area, or where the waste could interact with rain or wind and create a secondary hazard or contamination.

3.04 LEAD CONCENTRATIONS IN THE WORK AREA

- A. Maximum permissible exposure to airborne concentrations of lead within the project area shall be 30 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) air. Stop work whenever this limit exceeded, and Competent Person shall remedy the condition prior to commencing work.
- B. Instruct and train each worker in proper respiratory use.
 - 1. Require that each worker always wear a respirator, properly fitted on the face, in the work area from the start of any operations which may cause airborne lead dust until the work area passes the required clearance.
 - 2. Use respiratory protection appropriate for the lead dust levels encountered in the work place or as required for other toxic or oxygen-deficient situations encountered.
- C. Air Purifying Respirators: Provide half-face or full-face type respirators.
 - 1. Filter Cartridges: Provide, at a minimum, HEPA type filters labeled with the National Institute for Occupational Safety and Health (NIOSH) Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with ANSI Z228.2. In addition, a chemical cartridge section may be added.
 - 2. Non-Permitted Respirators: Do not use single use, disposable or quarter-face respirators.
 - 3. Require that respiratory protection be used whenever there is any possibility of LCP disturbance, intentional or accidental.
 - 4. Require that a respirator be worn by anyone in a lead control area at all times when LCP is disturbed.
 - 5. Regardless of Lead-Containing Dust Levels: Require that the minimum level of respiratory protection used be half-face air-purifying respirators with HEPA filters.

D. Fit Testing

1. Initial Fitting: Provide initial fitting of respirators during a respiratory protection training. Fit types of respirator to be actually worn by each individual. Allow an individual to use only those respirators for which training and fit testing have been provided.
2. On an annual basis, when personnel has lost or gained 20 or more pounds, or when personnel has had recent alterations to the face and neck within a 12-month period: Check the fit of each worker's respirator using irritant smoke. Valid fit test certificates shall be included in the Lead Hazard Control Plan which shall be maintained onsite.
3. Upon Each Wearing: Require that each time an air purifying respirator is donned, it will be checked for proper fitting with a positive and negative pressure seal checks in accordance with the manufacturer's instructions or ANSI Z88.2 (2015).

E. Type of Respiratory Protection Required

1. Provide respiratory protection as appropriate. Higher levels of protection may be provided as determined by Competent Person or workers themselves. Determine the proper level of protection by dividing the expected or actual airborne lead dust levels in the work area by the "protection factors" given below.
2. Consider the following unless air monitoring results indicate greater protection is necessary. Refer to the Protection Factors table for choice of respirators.
 - a. Loose equipment cleaning prior to removal in uncontaminated area: Half-face dual cartridge-type respirator per Competent Person's discretion.
 - b. Plastic installation which does not disturb LCP: per Competent Person's discretion.
 - c. Operations requiring disturbance of lead paints or activities generating lead dust: Half-face dual cartridge-type respirator.

- F. Areas: Contractor's Competent Person and IH shall frequently inspect the controlled areas and adjacent areas. Contractor activities shall not adversely impact the indoors or outdoors air and horizontal surfaces and grounds of the project site.

3.05 STOP ACTION LEVELS

- A. Inside Work Area: Maintain airborne levels in the work area of less than the Stop Action Level given below for the type of respiratory protection in use.
- B. If the lead dust levels rise above this figure for any sample taken, enhance work procedures to lower ambient dust levels.
- C. If lead dust levels for any work shift or 8-hour period exceeds the Stop Action Level, stop work except corrective action, and the Competent Person shall notify DOT-A. After correcting the cause of lead dust levels, recommence work only after approval by the Competent Person. Competent Person shall document all decisions and follow-up actions and include them in the closeout report.

3.06 PROTECTIVE CLOTHING

- A. Furnish personnel exposed to lead-containing dust with protective whole body clothing, head covering, gloves, and foot coverings. Furnish disposable plastic or rubber gloves to protect hands from lead.

PROTECTION FACTORS

RESPIRATOR TYPE	PROTECTION FACTOR
Air purifying: Negative pressure respirator HEPA filter Half facepiece	Up to 500 µg/m ³
Powered-air purifying respirator (PAPR): Negative pressure respirator HEPA filter Full facepiece	Up to 2,500 µg/m ³
PAPR Positive pressure respirator HEPA filter Half or full facepiece or Type C supplied air: Positive pressure respirator Continuous-flow half or full facepiece	Up to 5,000 µg/m ³

3.07 WARNING SIGNS AND LABELS

- A. Provide warning signs at approaches to the lead control areas.

- B. Locate signs at such a distance that personnel may read the sign and take necessary precautions before entering the area
- C. Provide and affix labels to impermeable bags, lead waste drums, and other containers containing lead materials, scrap, waste, or debris.
- D. Signs and labels shall comply with the requirements of 29 CFR 1910.1025.

3.08 TOOLS

- A. Filters on vacuums and exhaust equipment shall be absolute HEPA filters and UL 586 labeled.

3.09 AIR MONITORING

- A. Employee Monitoring: Contractor's Competent Person shall monitor employees' exposure to lead in accordance with OSHA requirements.
 - 1. Collect air samples from employees' breathing zones during each shift, for the duration of the LCP-disturbing work.
 - 2. Collect samples from at least 25% of workers conducting LCP-disturbing tasks, and not less than two workers.
- B. Environmental Sampling During Paint Removal Work. An independent IH retained by the contractor will conduct area air sampling daily, on each shift.
 - 1. Sufficient area monitoring shall be conducted to verify unprotected personnel are not exposed at or above the action level, 30 micrograms per cubic meter air.
 - 2. If action level is reached, stop work and correct conditions causing the elevated airborne lead dust levels. Resume only after approval of the IH.
 - 3. Cost of retesting due to Contractor's inability to control lead dust shall be borne by Contractor.
 - 4. For outdoor operations, IH shall determine the location and number of samples to be taken.

LEAD (Work Area and Adjacent)

STOP ACTION LEVEL ($\mu\text{g}/\text{m}^3$)	RESPIRATOR REQUIRED	PROTECTION FACTOR
50	Half-face APR	10
5,000	PAPR or Type C, Continuous flow	100
50,000	Type C, Pressure demand	1,000

- C. If the high lead air concentrations were the result of Contractor's failure of work area isolation measures, initiate the following actions:
 - 1. Decontaminate the affected area(s).
 - 2. Require that respiratory protection be worn in affected area until the area is cleared.
- D. If the high reading was the result of other causes, initiate corrective action as determined by the IH.
- E. Effect on Contract Sum. Complete corrective work with no change in the Contract Sum if lead-containing dust levels exceeding $30 \mu\text{g}/\text{m}^3$ were caused by Contractor's activities. Costs involving delay, re-cleaning, additional lead air monitoring and quality control, investigation, and reporting shall be borne by Contractor.

3.10 ANALYTICAL METHODS

- A. NIOSH 7082 method shall be used in analyzing air samples. Filters used shall be in accordance with the referenced method.
- B. NIOSH 9100 method shall be used in analyzing lead wipe samples.

3.11 AIR SAMPLE MEDIA

- A. Lead Sample Cassettes. Air samples will be collected on 37 millimeter (mm) cassettes with 50 mm extension cowl with 0.8 micrometer cellulose ester membrane.

3.12 LABORATORY TESTING

- A. Services of a testing laboratory shall be employed by the IH. Lead air sample results will be made available within 48 hours upon receipt of laboratory analytical results.

- B. DOT-A will have access to air monitoring tests and clearance results.

3.13 CLEAN UP

- A. Maintain surfaces of the lead control area free of accumulations of paint chips and dust. Prevent the spread of dust and debris; keep waste from being distributed over the general project area.
 - 1. Do not dry sweep the area.
 - 2. When the paint removal, demolition, or renovation is completed:
 - a. Clean visible lead paint contamination by vacuuming with a HEPA vacuum followed by wet mopping and wiping.
 - b. Contractor shall certify that the work was completed in accordance with OSHA 29 CFR 1910.1025, HUD 24 CFR 35, and EPA 40 CFR 745, and that there are no visible accumulations of lead-containing paint and dust in the project areas.
 - c. Competent Person and IH shall visually inspect the affected surfaces for residual lead paint chips and accumulated lead-containing dust after the work is completed.
 - d. Contractor shall re-clean areas showing lead-containing dust or residual lead paint chips to DOT-A's satisfaction.
- B. Contractor is responsible for the restoration and cleaning of any areas outside the work area impacted by or contaminated by lead-containing dust or debris generated by the Contractor's work, such as removal, handling, or storage of lead-containing waste. Contractor shall perform remedial cleaning and restoration of these areas, if any, at no additional cost to State.

3.14 VISUAL CLEARANCE

- A. Initial inspection shall be conducted jointly by the Competent Person and the IH prior to demolition of structures and document the existing conditions.
- B. Final visual inspection shall be conducted jointly by the Competent Person and the IH after demolition is completed and all debris is removed offsite. No visible paint chips or debris with paints shall remain. Photographic representation of the site upon completion of demolition work will be

provided to DOT-A.

3.15 DISPOSAL

- A. Landfill may require characterization of the waste generated from the project, where a representative sample is analyzed for Toxicity Characteristic Leaching Procedure (TCLP) analysis.
 - 1. If analytical result indicates the TCLP level is below the EPA guideline or within the landfill acceptance criteria, the waste generated from the project can be disposed of as general construction and demolition (C&D) debris.
 - 2. If the TCLP test fails or the result exceeds the landfill acceptance criteria, the waste shall be treated as hazardous waste and be disposed of in a Resource Conservation Recovery Act (RCRA) permitted landfill. Contractor shall contact DOT-A for EPA ID number.
- B. DOT-A will review for equitable adjustment of contract amount upon evaluation and acceptance of the TCLP results to determine the hazard characteristics. If the waste is determined to be RCRA hazardous waste, the waste shall be disposed of at an off-island EPA-approved facility.
- C. Contractor shall submit a copy of the TCLP analytical results to DOT-A prior to request for EPA ID number. Hazardous Waste Manifest and Landfill Receipt shall be submitted prior to the final billing.

3.16 GENERAL

- A. Waste is to be hauled by a waste hauler with required licenses from State and local authority with jurisdiction.
- B. Protect interior of truck or dumpster with Critical and Primary Barriers.
- C. Carefully load containerized or bagged waste in fully enclosed dumpsters, trucks or other appropriate vehicles for transport. Exercise care before and during transport, to ensure that no unauthorized persons have access to the material. If required by DOT, vehicles shall be placarded with Department of Transportation labels.
- D. Do not store containerized or bagged waste outside of the work area. Take containers from the work area directly to a sealed truck or dumpster.

- E. Do not transport lead waste materials on open trucks. If waste material is to be transported in drums, label drums with the same warning labels as the bags.
- F. Coordinate with landfills in advance of transport and of the quantity of material to be delivered.
- G. After completion of hauling and disposal of demolition waste and paint waste, if separated, submit a copy of waste manifest, chain of custody form (if applicable), and waste storage facility receipt to DOT-A. Final contract payment shall not be made until completed disposal documents are submitted.

3.17 RECORDKEEPING

- A. Complete and submit a copy of the Project Hazardous Waste Log to DOT-A. Refer to Appendix B of this Section.
- B. Maintain accurate documentation of the site activities. Be prepared at all times to present real time information upon regulators’ visits.
- C. Contractor’s Competent Person shall be onsite at all times.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

- A. Work under this Section, except for RCRA Hazardous Waste disposal, shall be considered incidental to the lump sum price bid for the item of which it is a part in the Bid Schedule.
- B. In the event of waste determined to be RCRA hazardous waste and requires disposal at an off-island EPA-approved facility, payment shall be under an allowance item in the Proposal Schedule.
- C. For ALLOWANCE items in the Proposal Schedule, the allowance is an estimate and the amount shall not exceed the maximum amount shown in the Proposal Schedule. Payment shall be the actual cost as invoiced by the Contractor and approved by the DOTA Engineer. The Contractor shall be allowed to include overhead, profit, insurance and/or other mark-ups, as stipulated in Section 9.5 of the 2016 General Provisions for Construction Projects, Air and Water Transportation Facilities Divisions.

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>
13282.1	RCRA Hazardous Waste Disposal	Allowance

APPENDIX A

HAZARDOUS WASTE DISPOSAL LOG

(NAME OF PROJECT)

Street Address

City, State, Zip Code

YEAR	DESCRIPTION OF HAZARDOUS WASTE	APPROXIMATE WEIGHT IN POUNDS	SPECIAL HANDLING
JANUARY			
FEBRUARY			
MARCH			
APRIL			
MAY			
JUNE			
JULY			
AUGUST			
SEPTEMBER			
OCTOBER			
NOVEMBER			
DECEMBER			

By Signature

Print Name

APPENDIX B

PROJECT HAZARDOUS WASTE LOG
(Contractor to complete one per facility site)

PROJECT:

STATE JOB NO.

START DATE: _____ COMPLETION DATE:

GENERAL CONTRACTOR:

ADDRESS:

TELEPHONE: _____ FAX NUMBER:

NAME OF SUPERINTENDENT FOR THIS PROJECT:

NAME OF GENERATOR (FACILITY):

ADDRESS:

TELEPHONE: _____ FAX NUMBER:

DESCRIPTION OF HAZARDOUS WASTE:

APPROXIMATE WEIGHT (IN POUNDS):

MONTHLY DISPOSAL LOG:

MONTH: _____ WEIGHT IN POUNDS:

MONTH: _____ WEIGHT IN POUNDS:

MONTH: _____ WEIGHT IN POUNDS:

DISPOSAL SITE:

CONTRACTOR DISPOSING OF HAZARDOUS WASTE:

ADDRESS:

TELEPHONE: _____ FAX NUMBER:

DISPOSAL CONTRACTOR IS A (CHECK ONE OF THE FOLLOWING):

GENERATOR	CONDITIONALLY EXEMPT SMALL QUANTITY	<input type="checkbox"/>	<input type="checkbox"/>
	SMALL GENERATOR	<input type="checkbox"/>	<input type="checkbox"/>
	LARGE GENERATOR	<input type="checkbox"/>	<input type="checkbox"/>

APPROVAL:

STATE DESIGNATED COMPETENT PERSON:

COMPANY:

ADDRESS:

TELEPHONE NUMBER:

SIGNATURE

DATE

END OF SECTION

SECTION 13288 – ASBESTOS TESTING AND AIR MONITORING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. This Section describes Contractor’s responsibility for compliance while conducting work which disturbs asbestos-containing materials (ACM) for the 1st, 2nd, and 3rd Level Roadway Rehabilitation, Daniel K. Inouye International Airport. Related sections are:
 - 1. Section 01715 – EXISTING CONDITIONS – ASBESTOS/LEAD/HAZARDOUS MATERIAL SURVEY for general requirements and the hazardous material survey
 - 2. Section 13281 - REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING MATERIALS for requirements of work which disturbs ACM.
- B. Implement appropriate engineering controls and safety measures to prevent site workers, occupants, other trades, the public, and the environment from exposure to hazardous materials.
- C. Costs incurred due to Contractor inability to control hazards shall be borne by Contractor, including but not limited to, investigations, medical, legal, regulatory and public relations, clean-up, monitoring, and reporting.
- D. An independent industrial hygiene (IH) firm, retained by the contractor, will conduct the monitoring during the Contractor’s work which disturbs ACM.

1.03 GENERAL REQUIREMENTS

Testing and workers’ breathing zone monitoring shall be conducted by the Contractor for the purpose of:

- A. Verifying compliance with the applicable codes, regulations and laws regarding ACM abatement.
- B. Ensuring that the legally-required documentation is collected in a timely manner.

C. Providing engineering controls during project.

1.04 TESTING/ AIR MONITORING/ INDUSTRIAL HYGIENE SUPERVISION AND AIR MONITORING

- A. Industrial hygiene supervision and boundary air monitoring shall be performed by an independent IH firm retained by the Contractor. The laboratory used for sample analysis shall be proficient in:
1. The National Institute for Occupational Safety and Health (NIOSH) Proficiency Analytical Testing (PAT) program.
 2. The National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos or the Environmental Protection Agency (EPA) Research Triangle Institute (RTI) program for bulk asbestos analysis.
- B. Air monitoring and project supervision will be conducted under the direction of an Industrial Hygienist (IH) who has minimum 5 years of experience in hazard abatement project management. On-site monitoring may be conducted by a competent and qualified IH Technician with experience in asbestos abatement and/or the relevant hazardous material abatement, provided activities are conducted under the supervision of the IH.
- C. Aforementioned air monitoring and project supervision shall not remove the Contractor's responsibility for his/her worker protection and required documentations.

1.05 COORDINATION WITH OTHER SECTIONS

- A. Testing and monitoring requirements included in the scope of work for any testing/air monitoring consultants or inspectors shall be coordinated with: Section 13281 – REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING MATERIALS

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 COMPETENT PERSON RESPONSIBILITIES

- A. Contractor's Competent Person shall prepare an Asbestos Hazard Prevention Plan per Section 13281 paragraph 1.07A, 1 through 6. State and training certifications shall be valid and reflect the anticipated workers on site.

- B. If required by the landfill, Competent Person shall provide proof of waste characterization and disposal documents. In the event that the waste is determined to be hazardous, inform DOT-A, obtain EPA ID number, and request equitable adjustment to the contract.
- C. Refer to Sections 13281 – REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING MATERIALS and paragraph 3.03, below, for additional responsibilities.

3.02 CONTRACTOR RESPONSIBILITIES

- A. Submit complete work plans for review and concurrence by DOT-A. Refer to Section 13281 – REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING MATERIALS for requirements of the work plan.
- B. Maintain worker monitoring and necessary records for the Contractor's employees as required by OSHA (29 CFR 1926.58), Hawaii Administrative Rules, and other applicable laws.
- C. Obtain legally required documentation for air monitoring and submit a written respiratory protection program as part of the contract.
- D. Costs involving investigations, air monitoring, legal, medical, regulatory and public relations, testing, and reporting due to Contractor inability to control hazards shall be borne by Contractor, and shall be deducted from the final contract payment.
- E. Accommodate additional testing performed by the IH; however, this shall not remove Contractor's responsibility of monitoring required by law and contract specifications.
- F. For final cleanup and decontamination following gross removal, remove the final polyethylene sheeting, or drop cloth, but leave the coverings for critical barriers, such as doors, windows, air ducts, etc., until successful clearance is obtained.
- G. Asbestos Clearance by Phase Contrast Microscopy (PCM)
 - 1. IH retained by the State and Contractor's Competent Person shall jointly conduct visual inspection, and the IH shall conduct air clearance prior to releasing the space to other trades.
 - 2. PCM clearance result shall be 0.01 fiber per cubic centimeter of air (f/cc) or lower.

3.03 MONITORING AND INSPECTION BY COMPETENT PERSON

A. Duties of the Competent Person

1. Photographic Record of Project: Record work with representative photos. Photos shall become the property of the State and are to be accompanied by a detailed log.
2. Project Log: Competent Person shall be on site at all times and maintain daily field logs detailing key activities during ACM-related work and submit a summary of project activities to DOT-A within 10 days of completion for each area. Incorporate daily field reports with other project data into a final closeout report.
3. Visual Inspection of Controlled Areas: Conduct inspections of controlled areas, during the actual work performance, to document the work practices employed. Verify that scheduled abatement or mitigation work is completed, and the area was properly and promptly cleaned and ready for other trades involved in the project.

B. Site Monitoring by Competent Person

1. Onsite personnel air monitoring as required by OSHA, and the project specifications
2. Monitoring of decontamination procedures at control area entry/exit and of cleanup after each shift
3. Monitoring of controlled area maintenance and waste handling
4. Interface with IH, Designer of Records, representatives of regulatory agencies, and DOT-A
5. Ensure workers are trained, engineering controls in place, and proper respiratory protection is utilized by personnel within control areas
6. Relay to DOT-A any discrepancies in Contractor's action with provisions of project specifications

3.04 TESTING/AIR MONITORING

- A. IH retained by the State shall have authority to stop work or to exercise engineering controls during the project.
- B. IH may conduct additional testing and air monitoring at his/her discretion.
- C. Monitoring activities will be documented and submitted to DOT-A with test results, interpretations, follow-up actions, and final resolutions.

3.05 SAMPLE DESIGN

The following is a typical sampling design per control area during the construction. Number of sample quantities and volume may vary.

- A. Background Samples: Background baseline samples shall be taken prior to ACM work to establish pre-removal airborne concentration levels. High volume continuous flow samples shall be taken for anticipated control area. Work area samples shall be analyzed by the NIOSH 7400 method for asbestos.
- B. Work Area Samples: Low volume samples of a maximum of 480 liters each shall be taken in the work area. Ambient air samples shall be taken outside of work area to assess and ensure that engineering controls are effective and that the persons entering the work area are properly protected from airborne hazards. If monitoring results inside and outside the controlled area indicate airborne concentrations is greater than 0.01 f/cc for asbestos, Contractor shall correct the condition(s) causing the increase and ensure that Contractor maintains the ambient conditions to below the action levels.
- C. Barrier Samples: As applicable, two samples may be taken per barrier.
- D. Environmental Samples: Each removal area shall be controlled so that airborne dust cannot escape into trade, airport personnel, and public access areas. Per the IH's discretion, high volume or low volume samples per controlled area will be taken.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work involving worker monitoring, waste characterization, and OSHA and EPA compliance shall not be measured or paid for separately but shall be considered incidental to the lump sum price bid for the item of which it is a part in the Bid Schedule.

END OF SECTION

SECTION 13289 – LEAD TESTING AND MONITORING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. This Section describes Contractor's responsibility for compliance while conducting work which disturbs lead-containing paints (LCP) for the 1st, 2nd, and 3rd Level Roadway Rehabilitation, Daniel K. Inouye International Airport. Related sections are:
 - 1. Section 01715 – EXISTING CONDITIONS – ASBESTOS/LEAD/HAZARDOUS MATERIAL SURVEY for general requirements and the hazardous material survey
 - 2. Section 13283 – LEAD PAINT CONTROL MEASURES for requirements of work which disturbs lead paints.
- B. Implement appropriate engineering controls and safety measures to prevent site workers, other trades, the public, and the environment from exposure to hazardous materials.
- C. Costs incurred due to Contractor inability to control hazards shall be borne by Contractor, including but not limited to, investigations, medical, legal, regulatory and public relations, clean-up, monitoring, and reporting.
- D. An independent industrial hygiene (IH) firm, retained by the contractor, will conduct the monitoring during the Contractor's work which disturbs LCP.

1.03 GENERAL REQUIREMENTS

Testing and workers' breathing zone monitoring shall be conducted by the Contractor for the purpose of:

- A. Verifying compliance with the applicable codes, regulations and laws regarding LCP abatement.
- B. Ensuring that the legally-required documentation is collected in a timely manner.

C. Providing engineering controls during project.

1.04 TESTING/ AIR MONITORING/ INDUSTRIAL HYGIENE SUPERVISION AND AIR MONITORING

- A. Industrial hygiene supervision and boundary air monitoring shall be performed by an independent IH firm retained by the Contractor. The laboratory used for sample analysis shall be proficient in:
1. The National Institute for Occupational Safety and Health (NIOSH) Proficiency Analytical Testing (PAT) program.
 2. The National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos or the Environmental Protection Agency (EPA) Research Triangle Institute (RTI) program for bulk asbestos analysis.
- B. Air monitoring and project supervision will be conducted under the direction of an Industrial Hygienist (IH) who has minimum 5 years of experience in hazard abatement project management. On-site monitoring may be conducted by a competent and qualified IH Technician with experience in lead abatement, provided activities are conducted under the supervision of the IH.
- C. Aforementioned air monitoring and project supervision shall not remove the Contractor's responsibility for his/her worker protection and required documentations.

1.05 COORDINATION

- A. Refer to Section 13282 – LEAD PAINT CONTROL MEASURES for testing/air monitoring requirements and all applicable Federal, State, and local regulations.

1.06 PRE-CONSTRUCTION CONFERENCE

- A. Hold conference prior to construction, and the pre-construction meeting shall be conducted and recorded by the Contractor.
1. The Contractor, Project Designer and or the Project Monitor and Building Representative(s) shall attend. When the Abatement Contractor is retained by a General Contractor, a representative of the Abatement Contractor shall also attend.
 2. Agenda:
 - a. Review final schedule for project.

- b. Verify legal requirements and special conditions and constraints.
- c. Verify compliance with pre-construction requirements.
- d. Obtain copies of all mandatory notifications.
- e. Inspect sample respiratory equipment and other abatement equipment.
- f. Review procedures and responsibilities.
- g. Clarify the scope of work and its best impact on the users of the building.

PART 2 – PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 COMPETENT PERSON RESPONSIBILITIES

- A. Contractor’s Competent Person shall prepare a Lead Hazard Control Plan per Section 13282 – LEAD PAINT CONTROL MEASURES paragraph 1.04 B. State and training certifications shall be valid and reflect the anticipated workers on site.
- B. If required by the landfill, Competent Person shall provide proof of waste characterization and disposal documents. In the event that the waste is determined to be hazardous, inform DOT-A, obtain EPA ID number, and request equitable adjustment to the contract.
- C. Refer to Section 13282 – LEAD PAINT CONTROL MEASURES, and paragraph 3.02 below, for additional responsibilities.

3.02 CONTRACTOR RESPONSIBILITIES

- A. Submit complete work plans for review and concurrence by DOT-A. Refer to Section 13282 – LEAD PAINT CONTROL MEASURES for requirements of the work plan.
- B. Provide the daily personal air monitoring and necessary records for all of the Contractor’s employees for the duration of the project as required by OSHA (29 CFR 1926.62) and all other applicable laws.
- C. Contractor shall obtain the OSHA required reports for personnel air monitoring as part of the contract.

- D. Contractor shall be responsible for daily personal air samples that shall be collected on at least 25% of the Contractor's personnel performing removal work on similar tasks and for the duration of the project. Submit within 5 working days of sampling to DOT-A.
- E. Contractor is solely responsible for protecting their workers, airport personnel, and the public from any work activities at the work site and property regardless of the testing and monitoring conducted by the IH.
- F. Costs involving investigations, air monitoring, legal, medical, regulatory and public relations, testing, and reporting due to Contractor inability to control hazards shall be borne by Contractor, and shall be deducted from the final contract payment.
- G. Accommodate additional testing performed by the IH; however, this shall not remove Contractor's responsibility of monitoring required by law and contract specifications.
- H. For final cleanup and decontamination following gross removal, remove the final polyethylene sheeting, or drop cloth, but leave the coverings for critical barriers, such as doors, windows, air ducts, etc., until successful clearance is obtained.
- I. Lead Clearance by Visual Inspection
 - 1. IH retained by the Contractor and the Contractor's Competent Person shall conduct visual inspection.
 - 2. No visible emissions of lead paint debris or dust.

3.03 MONITORING AND INSPECTION BY COMPETENT PERSON

- A. Duties of the Competent Person
 - 1. Photographic Record of Project: Record work with representative photos. Photos shall become the property of the State and are to be accompanied by a detailed log.
 - 2. Project Log: Competent Person shall be on site at all times and maintain daily field logs detailing key activities during lead paint-related work and submit a summary of project activities to DOT-A within 10 days of completion. Incorporate daily field reports with other project data into a final closeout report.

3. Visual Inspection of Controlled Areas: Conduct inspections of controlled areas, during the actual work performance, to document the work practices employed. Verify that scheduled abatement or mitigation work is completed, and the area was properly and promptly cleaned and ready for other trades involved in the project.
4. Change Order: If changes are necessary once construction begins, review request for change and make a recommendation for approval. Per Section 13282 – LEAD PAINT CONTROL MEASURES paragraph 3.18, removal activities and disposal of wastes will not be measured or paid separately, except for the hazardous waste determined by the waste characterization.

B. Site Monitoring by Competent Person

1. Onsite personnel air monitoring as required by OSHA, and the project specifications
2. Monitoring of decontamination procedures at control area entry/exit and of cleanup after each shift
3. Monitoring of controlled area maintenance and waste handling
4. Interface with IH, Designer of Records, representatives of regulatory agencies, and DOT-A
5. Ensure workers are trained, engineering controls in place, and proper respiratory protection is utilized by personnel within control areas
6. Relay to DOT-A any discrepancies in Contractor's action with provisions of project specifications

3.04 TESTING/AIR MONITORING

- A. IH retained by the Contractor shall have authority to stop work or to exercise engineering controls during the project.
- B. IH may conduct additional testing and air monitoring at his/her discretion.
- C. Monitoring activities will be documented and submitted to DOT-A with test results, interpretations, follow-up actions, and final resolutions.

3.05 SAMPLE DESIGN

The following is a typical sampling design per control area during the construction. Number of sample quantities and volume may vary.

- A. Work Area Samples: Low volume samples of a maximum of 480 liters each shall be taken in the work area. Ambient air samples shall be taken outside of work area to assess and ensure that engineering controls are effective and that the persons entering the work area are properly protected from airborne hazards. If monitoring results inside and outside the controlled area indicate airborne concentrations is greater than $30 \mu\text{g}/\text{m}^3$ air for lead, Contractor shall correct the condition(s) causing the increase and ensure that Contractor maintains the ambient conditions to below the action levels.
- B. Barrier Samples: As applicable, two samples may be taken per barrier.
- C. Environmental Samples: Each removal area shall be controlled so that airborne dust cannot escape into trade, staff, and public access areas. Per the IH's discretion, high volume or low volume samples per controlled area will be taken.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work involving worker monitoring, waste characterization, and OSHA and EPA compliance shall not be measured or paid for separately but shall be considered incidental to the lump sum price bid for the item of which it is a part in the Bid Schedule.

END OF SECTION

DIVISION 15 - MECHANICAL

SECTION 15011 - GENERAL MECHANICAL PROVISIONS

PART 1 - GENERAL

1.01 SUMMARY

- A. The General Provisions of the contract, including the General Provisions for Construction Projects (2016), Special Provisions, and General Requirements of the Specifications, apply to the work specified in this section.
- B. Work Included: Applies to all work of DIVISION 15 - MECHANICAL.

1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS

- A. Section 01300 - SUBMITTALS.
- B. Section 09911 - PAINTING.

1.03 PLANS

- A. The plans and specifications direct attention to certain required features of the materials and equipment but do not purport to cover all details entering into its design and construction. Nevertheless, the Contractor shall furnish and install the mechanical systems complete in all details and ready for operation. The mechanical systems shall be installed substantially as shown on the plans and as specified herein and shall be designed for installation in the area designated with proper space allowed for clearance and maintenance access.
- B. Attention is directed to the fact that the plans are based upon certain equipment configurations and that equipment components of other approved equal manufacturers may differ from the arrangement indicated on the plans. If other approved equipment is accepted which require an arrangement different from that indicated on the plans or specified, the Contractor shall prepare and submit for approval, detailed civil, architectural, structural and mechanical drawings, layouts, calculations, and equipment lists showing all necessary changes and embodying all special features of the equipment which the Contractor proposes to furnish. The cost of such changes shall be borne by the Contractor at no increase in contract price or extension of contract time for the project.

1.04 SUBMITTALS

A. Submit in accordance with Section 01300 - SUBMITTALS.

B. General Requirements:

1. Data Required with the Submittal: The Contractor shall submit all data sufficient to demonstrate conformance to the requirements of DIVISION 15 - MECHANICAL. The submittal shall include, but not be limited to, manufacturer's name, catalog number or designation, and the physical characteristics of the equipment. The submittal shall be in the form of printed data sheets, catalog cuts and shop drawings. Reference to manufacturer's literature without enclosing a copy of the referenced document will be considered insufficient.

Submit shop drawings and product data grouped to include complete submittals of related systems, products, and accessories in a single submittal. Incomplete packages will be returned without a review.

2. Approval Requirements: Approval of material and equipment will be based on manufacturer's published data.
3. Identification: All submittals covering equipment shall be identified with the equipment numbers shown on the contract drawings and the system served.
4. Substitutions:
 - a. Substitutions shall be subject to the requirements of the GENERAL PROVISIONS, paragraphs 2.7 and 6.13, as amended by the Special Provisions, and Section 01300 - SUBMITTALS. Supporting data shall be furnished for all substitutions. Redesign of civil, architectural, structural, environmental, mechanical or any other feature made necessary by the use of substitutions shall be the responsibility of and at the expense of the Contractor, and subject to approval by DOT-A.
 - b. Where such approved deviation requires a different quantity and arrangement of piping, equipment or hazardous material abatement from that specified or indicated on the drawings, the Contractor shall furnish and install any such piping, structural supports, and any other additional equipment required by the system, or hazardous material abatement at no additional cost to the State.

- C. List of Material and Equipment: The Contractor shall submit to DOT-A for approval six (6) sets of a complete list of proposed material or equipment. This list shall include manufacturer's name and material or equipment identification such as styles, types, or catalog numbers, to permit ready and complete identification. Catalog numbers specified herein are given for reference only. The Contractor shall furnish the latest model manufactured.
- D. Shop Drawings: The Contractor shall submit to DOT-A for approval six (6) sets of prints of shop drawings in accordance with the requirements of Section 01300 - SUBMITTALS. Shop drawings shall be submitted for equipment not completely identifiable by information contained in the list of materials and equipment.
1. The Contractor shall submit detailed shop drawings of all equipment and all materials required to complete the project. No material or equipment may be ordered, delivered to the job site or installed until the Contractor has in his possession the approved shop drawings for the particular material or equipment. The shop drawings shall be complete as described herein.
 2. Approval rendered on shop drawings shall not be considered as a guarantee of measurements or building conditions. Where drawings are approved, said approval does not mean that drawings have been checked in detail; said approval does not in any way relieve the Contractor from his responsibility or necessity of furnishing material or performing work as required by the contract drawings and specifications.
 3. Failure of the Contractor to submit shop drawings in ample time for checking shall not entitle him to an extension of contract time, and no claim for extension by reason of such default will be allowed.
 4. Shop drawings shall be submitted for, but not limited to, the following:
 - a. Plumbing System.
 - b. All items described in specifications and on drawings.
 - c. Other items as DOT-A may direct.
 5. Shop drawings shall include as applicable:
 - a. Identification of each fixture.
 - b. Dimensioned layouts and arrangement of plumbing system.

- E. Material Safety Data Sheets (MSDS): The Contractor shall submit to DOT-A for approval six (6) sets of MSDS for materials used in this project. Contractor shall perform all work in accordance with the recommendations of the MSDS, including all tests.
- F. As-Built Drawings: The Contractor shall submit to DOT-A one (1) reproducible set of all Contract Drawings corrected to reflect the "AS-BUILT" conditions of the installation. The drawings shall be kept up to date as the job progresses and shall be available for inspection at all times.
- G. Certificates: The Contractor shall submit to DOT-A for approval six (6) copies of certificates, acceptance and compliance with regulations of agencies having jurisdiction. Work shall not be deemed complete until such certificates have been delivered to DOT-A. Certificates shall include the following:
 - 1. Pressure testing of storm drain piping.
- H. Two-Year Guarantee:
 - 1. Contractor shall submit six (6) copies of a written Guarantee that all work is as specified and shall be bound to replace material and equipment defective due to workmanship or materials. Contractor shall not be responsible, however, for defects proven to DOT-A's satisfaction to be due to misuse, accident, or negligence by other parties.
 - 2. Further, Contractor shall be held responsible for all damages to any part of the premises, building and contents caused by leaks or other defect in pipe, equipment or materials provided under the contract drawings and specifications.
 - 3. Terms of this Guarantee are in addition to other guarantee provisions of the specifications, and do not substitute for other more stringent terms, if any.
 - 4. The Contractor shall submit six (6) copies of the Guarantee on material and workmanship.
 - 5. The Guarantee shall commence immediately after the Project Acceptance Date and extend for a period of two years after the Project Acceptance Date. The Guarantee shall include all labor, materials, equipment and parts.

1.05 MANUFACTURER'S INSTRUCTIONS

- A. General: Furnish manufacturer's instructions and data covering installation of all materials and equipment. Submittals shall be in six (6) bound copies each.
- B. Installation instructions for materials shall include precautions for handling, storage and preparation for field application. Description of other materials and tools required to complete the installation shall be included. The instructions shall include illustrations, diagrams and step-by-step procedures. Instructions should indicate if delegated design services are recommended/required.
- C. Identification: The data shall have complete identification throughout using equipment numbers shown on the drawings and indicating the system to which the data pertains.

PART 2 - PRODUCTS

2.01 ASBESTOS PROHIBITION

- A. The use of asbestos containing materials is prohibited. The Contractor shall ensure that all materials incorporated in the project are asbestos-free.

2.02 MATERIALS AND EQUIPMENT

- A. Materials and equipment shall conform to the requirements of applicable Technical Specifications and publications specified therein and shall be as shown. Materials and equipment shall be new and shall be the products of manufacturers regularly engaged in the manufacturing of such products. All items shall essentially duplicate materials and equipment that have been in satisfactory use at least two (2) years in the State of Hawaii prior to bid opening.

PART 3 - EXECUTION

3.01 QUALITY CONTROL

- A. The work shall be performed by workers skilled in the type of work involved under experienced supervision. Where methods of application or installation are specified by commercial standards in DIVISION 15 - MECHANICAL, no departures will be permitted except as specified or as directed by DOT-A.

3.02 INSPECTION AND TESTS

- A. The Contractor shall give DOT-A written notice a minimum of seven (7) days prior to inspection and tests. Tests shall be performed as required in DIVISION 15 - MECHANICAL. All work rejected by DOT-A shall be repaired or replaced by the Contractor at no additional cost to the State.

3.03 VERIFICATION OF DIMENSIONS

- A. The Contractor shall check all dimensions at the site and shall establish all lines and levels. Equipment shall be located to assure proper grade for piping. The Contractor shall be responsible for correctness of all dimensions and fitting of piping and equipment into the available space. Should field measurements show conditions that require relocation of any work, such conditions shall be reported to DOT-A in advance of installation, and the work shall proceed in accordance with his decision.

3.04 PROTECTION DURING STORAGE

- A. All materials and equipment shall be stored in a safe manner, secured from weather, vandalism and theft. All materials shall be stored above the ground or floor level to avoid damage by moisture.

3.05 PROTECTION OF WORK IN PROGRESS

- A. Pipe openings shall be closed with caps or plugs until connections are made. Equipment shall be securely covered for protection against physical or chemical damage. In areas exposed to weather, materials unused at the end of each day's work shall be stored in weather-protected locations. Damage to materials or equipment due to the Contractor's neglect shall be repaired or replaced to the satisfaction of DOT-A by, and at the expense of, the Contractor.

3.06 PROGRESS OF WORK AND COORDINATION

- A. The work shall be coordinated with the work of other contractors and other trades to avoid interferences, preserve headroom and operating clearances, and to expedite completion of the project.

3.07 INSTALLATION OF EQUIPMENT

- A. Installation and adjustments shall be in accordance with the equipment supplier's written instructions. All accessories required shall be properly installed and connected. Supports shall be adequately anchored.

3.08 PERMITS, LICENSES AND INSPECTIONS

- A. The Contractor shall obtain all permits and licenses required to perform the work, pay all required fees, and shall cooperate with all inspections required by authorities having jurisdiction. Inspections specified in DIVISION 15 - MECHANICAL shall be permitted without interference. Corrections to work as a result of inspections shall be made promptly.

3.09 PAINTING

- A. The Contractor shall be responsible for complete coverage in painting all exposed surfaces. Painting shall be in accordance with Section 09911 - PAINTING as applicable for exposed surfaces.
- B. The Contractor shall patch and touch-up paint all surfaces damaged and/or disturbed due to Contractor's operations. All patching and touch-up painting shall match existing surrounding surfaces.

3.10 FIELD TESTS

- A. The Contractor shall be responsible for testing of the installed work, shall provide all labor, equipment and instruments, and shall conduct pressure tests and operating tests on the piping systems. Testing shall be as specified hereinafter.

3.11 TESTING

- A. Prior Tests: Leave concealed work uncovered until required tests have been completed, but if construction schedule requires it, arrange for prior tests on parts of system as approved.
- B. Preliminary Tests: As soon as conditions permit, conduct preliminary or "turn-over" tests of certain equipment as directed to ascertain compliance with specified requirements. Make needed changes, adjustments or replacements as preliminary tests may indicate, prior to acceptance tests.
- C. Acceptance Tests: Conduct pressure, performance and operating tests as specified for each system or equipment unit, in the presence of DOT-A, as well as representatives of agencies having jurisdiction.
- D. Costs: Furnish labor, materials, instruments and bear costs in connection with all tests.
- E. Defects: All defects disclosed as a result of the following or other tests or operations shall be promptly repaired by and at the expense of the Contractor and to DOT-A's satisfaction. Contractor shall supply all

instruments, labor and tools required by tests. Any defective material, equipment and/or work shall be repaired, adjusted and replaced by new, like materials and equipment, and retested/reinspected before acceptance. Caulking of screwed joints or holes will not be accepted.

- F. Certificates: Obtain certificates of approval, acceptance and compliance with regulations of agencies having jurisdiction. Work shall not be deemed complete until such certificates have been delivered to DOT-A.
- G. Do not paint, cover or conceal piping, nor connect fixtures before testing and obtaining approval.
- H. Test piping that will be concealed, in sections as approved. Perform tests in a manner that will not leave any pipe or joint untested.
- I. Testing procedures and conditions stated above shall also apply to all of the following tests:
 - 1. Plumbing Systems Test.
 - 2. Operating Test.

3.12 PLUMBING SYSTEMS TEST

- A. Test plumbing work as specified herein and according to local Code Regulations. Latter shall govern if they conflict with former. Provide test pump, gauges, meters, instruments, materials, and labor in connection with tests.
- B. Clean piping, equipment and specialties before testing.
- C. Drainage System Pressure Test: Drainage system piping shall be tested with water. Water test shall be applied to the drainage system in its entirety. All openings in the pipes shall be tightly closed except the highest opening, and the system shall be filled with water to point of over-flow.
- D. Make adjustments, repairs, and alterations, as required to meet specified test results. Correct defects disclosed by tests or inspections. In case of pipe defect, replace with same length as defective piece. Repeat tests after defects have been corrected and parts replaced, as directed until pronounced satisfactory.

3.13 OPERATING TEST

- A. After installation work has been completed, tested and approved, test fixtures under normal operating conditions for periods as directed to check

capacities and other details as required demonstrating that they fulfill requirements of the plans and specifications, and that they operate satisfactorily.

- B. Where evidence of stoppage appears in piping or fixtures, disconnect, clean, repair, and reconnect obstructed parts. Contractor shall bear costs of cutting, patching adjoining work necessitated by such cleaning and repairing.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the bid prices for the various items of work in this project.

END OF SECTION

SECTION 15400 - PLUMBING

PART 1 - GENERAL

1.01 SUMMARY

- A. The General Provisions of the contract, including the General Provisions for Construction Projects (2016), Special Provisions, and General Requirements of the Specifications, apply to the work specified in this section.
- B. This Section covers the following items:
 - 1. Furnishing, installing and testing of plumbing systems within the building.
 - 2. Storm drain piping.
 - 3. Plumbing fixtures.

1.02 GENERAL REQUIREMENTS

- A. Prospective bidders shall visit the premises and familiarize themselves with all work details and conditions before submitting a bid. Reasonable modifications to indicated arrangements to suit actual conditions shall not constitute a basis for requesting additional funds from the State.
- B. Provide all necessary labor, delegated design, materials, operations, equipment, tools and techniques required to furnish and install complete the plumbing work as and within the limits indicated.
- C. Prior to ordering materials and equipment, the Contractor shall field verify all existing conditions, materials, sizes and dimensions that affect their work, and shall coordinate their work with all trades involved.
- D. Submit written request for interruption of the existing plumbing system not less than thirty (30) days prior to the time for which the interruption is requested.
- E. Obtain all permits and pay the costs thereof. Arrange for inspections in sufficient time to avoid delay to the project. Provide copies of inspection reports and disinfection certificates.
- F. Inform DOT-A of testing date a minimum of seven (7) days prior to testing system and closing in walls.

1.03 RELATED WORK SPECIFIED IN OTHER SECTIONS

- A. Section 01300 - SUBMITTALS.
- B. Section 09911 - PAINTING.
- C. Section 15011 - GENERAL MECHANICAL PROVISIONS.

1.04 LAWS, RULES, REGULATIONS AND REFERENCES

A. The entire installation shall comply with the latest applicable laws, codes, rules and regulations of the State of Hawaii, the City and County of Honolulu, and any other applicable laws, codes, rules and regulations whether or not specifically mentioned hereinafter.

B. Codes:

- 1. Building Code, State of Hawaii and City and County of Honolulu.
- 2. Plumbing Code, State of Hawaii and City and County of Honolulu.
- 3. Fire Code, State of Hawaii and City and County of Honolulu.

C. References:

- 1. American Society for Testing and Materials (ASTM) Publications:
 - a. A74-20 Standard Specification for Cast Iron Soil Pipe and Fittings
 - b. A888-21a Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications
 - c. C564-20a Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings
 - d. C1540-20 Standard Specification for Heavy Duty Shielded Couplings Joining Hubless Cast Iron Soil Pipe and Fittings
 - e. D2665-20 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings

- f. F891-16 Standard Specification for Coextruded Poly(Vinyl Chloride) (PVC) Plastic Pipe With a Cellular Core
- 2. Cast-Iron Soil Pipe Institute (CISPI) Publications:
 - a. 301-18 Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste and Vent Piping Applications
- 3. Factory Mutual (FM) Publications:
 - a. 1680-89 Approval Standard for Couplings Used in Hubless Cast Iron Systems for Drain, Waste or Vent Sewer, Rainwater or Storm Drain System Above and Below Ground, Industrial / Commercial and Residential
- 4. Manufacturers Standardization Society (MSS) Publications:
 - a. SP 58-18 Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation

1.05 SUBMITTALS

- A. General: The Contractor shall submit submittals in accordance with Section 01300 - SUBMITTALS and Section 15011 - GENERAL MECHANICAL PROVISIONS.
- B. Shop Drawings: The Contractor shall submit shop drawings showing the entire work with inverts and dimensions. Contractor shall field verify and check project and reference drawings to avoid interferences with structural features and with work of other trades. No plumbing or piping work shall commence until such plans have been approved and accepted by DOT-A. Any deviations from the shop drawings shall require approval by DOT-A.
- C. Submit the following:
 - 1. Manufacturer's product data.
 - 2. Shop drawings.

3. MSDS.
4. Test reports.
5. As-built drawings.
6. Certificates.
7. Two-Year Guarantee.

PART 2 - PRODUCTS

2.01 DRAIN PIPING, ABOVE GRADE

- A. Cast Iron Pipe: ASTM A74, service weight, with ASTM C564 neoprene gaskets or lead and oakum joints.
 1. Pipe Lining and Coating: Chemically deposited zinc-phosphate pretreatment layer followed by an electrically deposited, high-performance cathodic epoxy coating, and an electrically deposited, high performance anodic epoxy top coat.
 2. Fitting Lining and Coating: Chemically deposited zinc-phosphate pretreatment layer followed by an electrically deposited, high-performance cathodic epoxy coating, and an epoxy acrylic powder top coat.
- B. Cast Iron Pipe: ASTM A888 and CISPI 301, hubless, service weight, with ASTM C564 neoprene gaskets, ASTM C1540 and FM 1680 Class 1, IAPMO listed, Type 316 stainless steel corrugated shield (with a minimum thickness of 0.015 inches), Type 316 stainless steel clamps, and Type 316 stainless steel screws.
 1. Pipe Lining and Coating: Chemically deposited zinc-phosphate pretreatment layer followed by an electrically deposited, high-performance cathodic epoxy coating, and an electrically deposited, high performance anodic epoxy top coat.
 2. Fitting Lining and Coating: Chemically deposited zinc-phosphate pretreatment layer followed by an electrically deposited, high-performance cathodic epoxy coating, and an epoxy acrylic powder top coat.
- C. PVC Pipe: ASTM D2665 or F891 with solvent weld joints.

2.02 PLUMBING FIXTURES

- A. Furnish all items as required for installation and connection of fixtures furnished under this or other sections. Coordinate with other trades and disciplines as required.
- B. For each item specified, products of one manufacturer are identified to establish a standard of comparison. Products of other manufacturers will be considered if submitted for approval.
- C. Fixtures List:

- 1. Roadway Drain (RD-1) shall be 3-inch cast iron body with a no-hub outlet, adjustable top, flashing collar, ductile iron grate and cast iron sediment bucket.

<u>Item</u>	<u>Manufacturer</u>	<u>Model</u>
roadway drain	Jay R. Smith	2488Y

- 2. Roadway Drain (RD-1) shall be 4-inch cast iron body with a no-hub outlet, adjustable top, flashing collar, ductile iron grate and cast iron sediment bucket.

<u>Item</u>	<u>Manufacturer</u>	<u>Model</u>
roadway drain	Jay R. Smith	2488Y

2.03 CLEANOUTS

- A. Cleanouts shall be cast iron ferrule with threaded countersunk cleanout plug.

2.04 MISCELLANEOUS METALS

- A. Interior Installation: Preformed slotted channel system components used in supports and brackets shall be Unistrut Corporation P1000 or approved equal with Unistrut Defender coating or approved equal.
- B. Exterior and Open Air Installation: Preformed slotted channel system components used in supports and brackets shall be Type 316 stainless steel, Unistrut Corporation or approved equal.

PART 3 - EXECUTION

3.01 WORKMANSHIP

- A. Comply with the latest applicable laws, codes, rules and regulations of the State of Hawaii and the City and County of Honolulu.
- B. Defective work or materials shall be removed by the Contractor and corrected without extra compensation.

3.02 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and dirt, on inside and outside piping before assembly.
- C. Verify adjacent construction is ready to receive rough-in work of this Section.
- D. Locate existing drain lines and proposed points of connection thereto, and verify that the lines can be connected to the existing piping. Connect new piping to existing laterals approximately where indicated.

3.03 INSTALLATION

- A. Install all plumbing work in accordance with the manufacturer's instructions and as indicated and as specified herein. Furnish delegated design services when recommended by manufacturer's instructions. Arrange for access to the site by written request submitted not less than seven (7) days prior to the time at which access is requested. Coordinate installation with other trades so as to eliminate or avoid conflicts and delays to the progress of the work.
- B. Installation of plumbing systems including fixtures, materials and workmanship shall be in accordance with the Plumbing Code.
- C. Review manufacturer's rough-in sketches to verify pipe connection sizes and locations of all fixtures. Make final connection to all equipment furnished and/or installed under other sections.
- D. Install piping to allow for expansion and contraction without stressing pipes, joints, or connected equipment.
- E. Install bell and spigot pipe with bell end upstream.
- F. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Ensure clearance at cleanout for rodding of drainage system.

- G. Have piping treated, inspected and approved before it is furred in or otherwise hidden.
- H. Slope drain lines at 1/4-inch per foot unless otherwise indicated. Install hubless cast-iron pipe accordance with CISPI pamphlet 100, stainless steel couplings shall be installed in accordance with manufacturer's written instructions.

3.04 APPLICATION

- A. Provide fire stop material for pipe thru fire rated walls and slabs.
- B. PVC and ABS pipe shall not be used in fire rated plenums.

3.05 PIPE/EQUIPMENT SUPPORTS, HANGERS AND INSERTS

- A. Provide all necessary design, calculations, labor, materials, operations, equipment, tools and techniques required to furnish and install complete the pipe/equipment supports, hangers and inserts work.
- B. Install hangers and supports for all piping to provide for expansion and contraction, prevent vibration and maintain required grading by proper adjustment.
- C. Refer to structural drawings and as-built drawings for and field verify type of construction from which piping and/or equipment is to be suspended/supported.
- D. Pipe hangers and supports shall conform to MSS SP-58.
- E. Support vertical pipes at base of the pipe on every floor and at 10-foot intervals maximum. Pipes shall be supported at all elbows, branches and ends.
- F. Grind and smooth all sharp metal edges including struts and fabricated metal supports.
- G. Horizontal Piping Support Schedule:
 - 1. Support horizontal cast iron hub and spigot soil pipe with lead and oakum joints no more than 5-feet center to center. Supports for pipe 10-feet in length shall be spaced no more than 10-feet center-to-center. Support spacing adjacent to joint shall not exceed 18-inches. Brace pipe at maximum 40-foot intervals to prevent horizontal movement. Support at each horizontal branch connection.

<u>Pipe Size</u> (Inch)	<u>Rod Diameter</u> (Inch)	<u>Maximum Spacing</u> (Feet)
3	1/2	10-0
4 and 5	5/8	10-0

- Support horizontal cast iron hub and spigot soil pipe with compression gasket joints at every other joint. Pipe exceeding 4-feet in length shall be supported at every joint. Support spacing adjacent to joint shall not exceed 18-inches. Brace pipe at maximum 40-foot intervals to prevent horizontal movement. Support at each horizontal branch connection.

<u>Pipe Size</u> (Inch)	<u>Rod Diameter</u> (Inch)	<u>Maximum Spacing</u> (Feet)
3	1/2	10-0
4 and 5	5/8	10-0

- Support horizontal cast iron hubless soil pipe with shielded couplings at every joint. Pipe exceeding 4-feet in length shall be supported at every joint. Support spacing adjacent to joint shall not exceed 18-inches. Brace pipe at maximum 40-foot intervals to prevent horizontal movement. Support at each horizontal branch connection. Hangers shall not be placed at the coupling.

<u>Pipe Size</u> (Inch)	<u>Rod Diameter</u> (Inch)	<u>Maximum Spacing</u> (Feet)
3	1/2	10-0
4 and 5	5/8	10-0

- Support spacing for horizontal PVC and ABS pipe with solvent cemented joints shall be no more than 4-feet center-to-center. Allow for expansion every 30-feet. Pipes shall be supported at all elbows, branches and risers.

3.06 PROTECTION

- Provide planking, plastic sheeting, or other protective covering as required to prevent damage during construction to existing building elements and equipment. Damage to materials, equipment or building due to the Contractor's neglect shall be repaired or replaced to the satisfaction of DOT-A by, and at the expense of, the Contractor. Be prepared to immediately repair any damage that does occur during any operations, so as to avoid damage to building or contents or interruption of State's operations.

3.07 INSPECTION

- A. Acceptance of the work will not take place until after discrepancies noted by DOT-A have been corrected to the satisfaction of DOT-A.

3.08 PAINTING

- A. General: Painting of exposed surfaces shall be in accordance with Section 09911 - PAINTING.

3.09 CLEANUP

- A. All equipment and piping shall be thoroughly cleaned in an approved manner and maintained until the final inspection.
- B. Upon completion of this work, remove all debris and excess materials, tools, etc., resulting from this work from the job site and leave the location of this work broom-clean in an acceptable manner as per DOT-A. All work including plumbing fixtures shall be thoroughly cleaned and ready for use.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

All work specified under this Section shall not be measured for payment but will be paid for at the contract lump sum price for Section 15400 - PLUMBING. The contract price paid shall be full compensation for all labor, materials, tools, equipment, and all other incidentals necessary to complete the work.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
15400	Plumbing	Lump Sum

END OF SECTION

DIVISION 16 - ELECTRICAL

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. The General Provisions of the contract, including the General Provisions for Construction (2016), Special Provisions, and General Requirements of the Specifications, apply to the work specified in this section.

1.02 DESCRIPTION OF WORK

- A. This Section includes specifications for interior and exterior electrical work.

1.03 GENERAL REQUIREMENTS

- A. Electrical Work: Provide all articles, materials, workers, equipment operators, systems and services specified herein and, on the Drawings, and as normally required by accepted industry standard practices, including all labor taxes, fees, insurance, warranties and incidentals required to complete all electrical work.
- B. In general, the following work is included:
 - 1. Remove 3rd Level Ewa and Diamond Head (DH) Concourse concrete column mounted light fixtures adjacent to roadway. Salvage, store and protect light fixtures to be reused. Intercept and protect existing conductors powering existing light fixtures mounted on top of the concrete columns.
 - 2. Install new light poles over existing conduit penetrations as much as possible. Where not possible, intercept existing conduit and conductors with new junction box and extend to new light pole location. Reinstall existing light fixtures salvaged from demolition work. Provide new light fixtures where existing fixtures cannot be reused. Utilize existing lighting circuits, intercept and extend to new pole/fixture location as necessary.
 - 3. Provide temporary lighting to allow for normal airport operations, which includes but is not limited to the safe operation of the Wikiwiki Shuttle. Additional temporary lighting to be added at discretion of the State.
- C. Furnish required submittals and samples, operations and maintenance manuals, and “As-built” Drawings.

- D. Coordinate work with other trades to avoid omissions and overlapping of responsibilities.
- E. Apply for, obtain and pay for all fees, permits, licenses, utility fees, assessments and inspections required for this work.
- F. Pay for all temporary construction and testing power.
- G. Provide temporary lighting to allow for normal airport operations, which includes but is not limited to the safe operation of the Wikiwiki Shuttle. Additional temporary lighting to be added at discretion of the State.
- H. Conduct all tests to the approval of the State. Provide the necessary power, temporary power, man-power, equipment, and information as necessary to perform the tests and to provide the necessary submittals.

1.04 INTENT OF SPECIFICATIONS AND DRAWINGS

- A. Specifications and Drawings are prepared in abbreviated form and include incomplete sentences. Omission of words or phrases such as “the Contractor shall”, “as shown on the drawings”, “a” and “the” are intentional. Omitted words and phrases shall be provided by inference to form complete sentences.
- B. Specifications and Drawings complement each other and what is specified, scheduled or mentioned on one shall be binding as if called for by both.
- C. Discrepancies and Interpretations:
 - 1. Should the Contractor find any discrepancies in or omissions from any of the documents or be in doubt as to their meaning, he shall advise the State who will issue any necessary clarification within a time period which does not disrupt the progress of the work.
 - 2. All interpretation and supplemental instructions will be in the form of a written addendum to the Contract Documents.
 - 3. Should any discrepancies arise from the failure of the Contractor to notify the State, the higher quality or larger quantity of item shall prevail. State shall make the final interpretation and judgment.
 - 4. In the event of a discrepancy between small scale drawings and large-scale details, or between Drawings and Specifications, of which is in violation of any regulations, ordinances, laws or codes, the discrepancy, if known by the Contractor, shall be immediately brought to the attention of the State for a decision before proceeding with the particular work involved. Work carried

out disregarding these instructions will be subject to removal and replacement at the Contractor's expense.

1.05 DEFINITIONS

- A. Provide: “Furnish and install, test and deliver to the State in operating and ready to use condition.”
- B. Wiring: “Provide all raceways, junction boxes, conductors, devices, protection equipment, installation of motor controllers (furnished by others) when required, etc., including testing for a complete, operative and ready to use electrical system.”
- C. Equal: “Material, equipment or system, including all necessary labor, modifications and accessories satisfying the requirements of the contract documents, the design intent, and to provide features or have operating characteristics equal or better than that specified.”
- D. Complete: “Furnish installation that is operative, tested, and ready to use and which satisfies the intent of the contract documents, including all necessary accessories and modifications.”
- E. Contractor: “General Contractor responsible for all work shall assign work to Sub-Contractors. Except where noted, work of this section shall be assigned to the Electrical Sub-Contractor.”
- F. HECO: Hawaiian Electric Company

1.06 QUALITY ASSURANCE

- A. Government and Utility Requirements: Comply with all requirements of the State of Hawaii, Disability and Communication Access Board (DCAB), and respective utility company rules and regulations.
- B. Specifications are accompanied by architectural, structural, civil, mechanical, environmental, and landscape plans of the buildings, site, and diagrammatical electrical plans showing locations of luminaries, standards, outlets, feeder runs, devices and other electrical equipment. Locations are approximate and before installation, Contractor shall study adjacent construction details and make installation in the most logical manner. Prior to installation and at the direction of the State, relocate any device, equipment, feeder, or circuit within 10'-0" of the location presently shown without added cost to the State.
- C. Prior to start of the rough-in work, verify all dimensions and equipment sizes with the approved shop drawings including equipment furnished by others. Circuits

and raceway routes are diagrammatic and may be altered in any logical manner. However, all changes from the contract documents shall be subject to review and acceptance of the State and indicated on the “As-built” Drawings.

- D. Feeders and branch circuits for equipment furnished by others were sized for the anticipated equipment. Verify electrical requirements of all equipment furnished by others prior to rough in and prior to ordering of the electrical distribution equipment. Re-size affected feeders and branch circuits at no additional cost to the State.
- E. Materials and Equipment: Materials and equipment shall conform to requirements of applicable technical specification sections, publications specified therein and shall be as shown on the drawings. Materials and equipment shall be new and shall be the product of manufacturers regularly engaged in the manufacture of such products.

All items shall essentially duplicate materials and equipment which have been in satisfactory use at least two years prior to bid opening and shall be supported by a service organization that is located reasonably close to the site of installation.

- F. Substitutions:
 - 1. Project substitutions shall comply with all requirements of the Hawaii Department of Transportation – Air and Water Transportation Facilities Division – General Provisions for Construction Projects – Latest Edition, paragraphs 2.7 and 6.13, and as amended by the Special Provisions.
- G. Prevention of Corrosion: All metallic materials shall be protected against corrosion. Exposed metallic parts of equipment, apparatus, devices, mounting hardware, and fasteners that are provided in damp, wet, or corrosive areas shall be constructed from 316L stainless steel. All such parts as boxes, bodies, fittings, guards and miscellaneous parts shall be constructed of 316L stainless steel. The Contractor shall not join dissimilar metals that will result in deterioration due to galvanic corrosion.

1.07 DEPARTURES

- A. Departures resulting from the substitution of materials or systems shall be accompanied by appropriate changes in all affected work of every trade and shall include stamped and signed drawings by a licensed engineer for any portion of the project requiring re-design. Such changes shall be done at no increase to the contract amount and shall be the responsibility of the Sub-Contractor or supplier responsible for the departures. Changes proposed by the Contractor shall be based on a system approach and may be allowed if implemented without decrease in quality, performance and operations, increase in utility costs or adverse effect

on the available physical space to install the equipment. Such departures shall be submitted and noted in shop drawings for review and acceptance by the State. Departures initiated by other trades, requiring changes in the electrical system as well as other systems, shall be accompanied by appropriate changes to all affected work of every trade, at no increase in contract amount. Submission for departure shall be as follows:

EXAMPLE:

<u>Item</u>	<u>Manufacturer and Catalog Number Specified</u>	<u>Substitute Manufacturer and Catalog Number</u>
Cable	John Doe - No. 3200	King - No. 2200

B. The General Contractor shall be responsible to coordinate, approve and select systems that do not impose unaccounted for impacts on the electrical work. It shall be understood that after the award of contract, all departures having electrical impact, unless otherwise noted, have been reviewed and approved by the General Contractor.

1.08 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS. All submittals shall be reviewed and approved by the General Contractor and the Electrical Contractor. Partial submittals or submittals lacking the General Contractor’s and Electrical Contractor’s approvals will not be acceptable. Annotate descriptive data to show the specific model, type, option, and size of each item the Contractor proposes to furnish. Do not commence work until each system, including all the various components, have been approved. The State will review and approve all submittals. Before the materials are ordered or the work is commenced the shop drawings must be approved.
- B. List of Materials and Equipment: These lists shall include manufacturer’s names and material or equipment identification such as styles, types, or catalog numbers to permit ready and complete identification. Original catalog cuts or brochures shall be provided. Scanned or photocopied submittals will be rejected without review.
- C. Product Data: Shall be sufficiently comprehensive and detailed to permit evaluations, otherwise the item may be rejected, and shall include, as applicable, the following:
 - 1. Original catalog cuts or brochures shall be provided. Scanned or photocopied submittals will be rejected without review.

2. Each submittal shall contain an itemized list of each item being submitted. Each item shall be identified with the complete manufacturer's ordering number including all options.
 3. Dimension outlines of all enclosures.
 4. Dimension drawings of components such as generators, switchgear, panelboards, transformers, enclosed circuit breakers, safety disconnect switches, and cabinets.
 5. Scaled drawings showing the layouts and arrangement of equipment in all electrical rooms, switchgear rooms, and generator rooms.
 6. Operating and electrical characteristics including interrupting ratings and impedances.
- D. Certificate of Compliance: Where required by the section specifying the equipment, the Contractor shall submit six (6) copies of certificates of compliance in accordance with the requirements of the GENERAL REQUIREMENTS. The certificates shall include but not be limited to factory test reports.
- E. Installation, Operation and Maintenance Data: Six (6) copies of installation, operation and maintenance data shall be submitted for equipment specified to require such data. The data shall be in the form of manuals and shall indicate instructions for operating, maintaining, repairing, recommended inspection points, periods for inspection, and all related spare parts in a practical, complete and comprehensive manner. The information shall be arranged in a logical, orderly sequence, including a general description of the equipment and significant technical characteristics.
- Test, adjustment and calibration information shall be furnished and identified to specific equipment. The installation, operation and maintenance data shall be as required by the General Requirements.
- F. Acceptance Requirements: Acceptance for material and equipment will be based on manufacturer's published data. Where materials or equipment are specified to be constructed and tested, or both, in accordance with the standards of the National Electrical Manufacturers Association (NEMA) or the American National Standards Institute (ANSI), the Contractor shall submit proof that the items furnished under this section of the specifications conform to such requirements. A certification or published catalog specification data statement to the effect that the item is in accordance with the referenced NEMA standard by a company listed as a member company of NEMA for the section whose standards cover the item under construction, will be acceptable as sufficient evidence that the item conforms to the requirements of the National Electrical Manufacturers

Association. A manufacturer's statement indicating complete compliance of each item with the applicable NEMA, ANSI or other commercial standard specified shall be submitted and will be acceptable proof of compliance. Conformance with the agency requirements does not relieve the item from complying with any other requirements of the specifications.

G. Nameplates:

1. General: In addition to standard manufacturer's nameplate, permanent corrosion resistant nameplates shall be provided for each enclosed circuit breaker, safety switch, panelboard, lighting contactor, inverter, telecom junction box, and other major pieces of equipment. Nameplates shall designate the function of the equipment for which they are used. The designation shall be submitted for review and acceptance with the shop drawings.
2. Material and Lettering: 1/16" thick, laminated plastic, black-white-black. Nameplate lettering shall be 1/4" high upper-case.
3. Fastening: Nameplates shall be fastened stainless steel (316L) screws.
4. Hand lettering or stick-on embossed marking tape is not acceptable.
5. Provide laminated tape labeling for all new receptacles on coverplates. Identify associated panel name and circuit number.

H. Labels:

1. Provide labels as required by the latest version of the National Electrical Code adopted by the State.
2. The labels shall be designed according to the following standards:
 - a. UL969 – Standard for Marking and Labeling Systems.
 - b. ANSI Z535.4 – Product Safety Signs and Labels.
 - c. NFPA 70 (National Electric Code) – Article 110.16.
 - d. NFPA 70E – Section 130.
3. Labels shall be provided for, but not limited to:
 - a. Available fault currents at switchgear and panelboards per 2017 NEC 110.24(A).

- b. Arc Flash warning labels shall be provided per 2017 NEC 110.16 and 2015 NFPA-70E 130.5. The contractor shall attain all information required for the calculations, perform the calculations, and provide the labels at no additional cost.
 - c. Source and location of feeder serving switchgear and panelboards per NEC 408.4(B).
 - d. Method utilized for conductor identification per 2017 NEC 210.5(C).
 - e. All SCADA and communication signal cables.
4. Label materials shall be provided similar to nameplates except those labels for wires, conductors, and cables shall be of the printed tape type.
- I. Factory Tests and Inspection:
- 1. The equipment furnished shall be inspected mechanically and electrically, and all manufacturers' routine factory tests shall be performed to verify conformance with the specified requirements. The test equipment and test methods shall conform to the requirements of standards specified. The contract price shall include cost of performing all tests.
 - 2. The Contractor shall furnish, at time of equipment delivery, six (6) certified copies of all test results.
- J. Equipment Guarantees: Installation shall be complete in every detail and ready for use. Any item furnished or provided by the Contractor developing defects within two (2) years after final acceptance by the State shall be replaced by materials, apparatus and parts including installation labor costs to make such defective portion of the completed system conform to the true intent and meaning of the drawings and specifications, without additional cost to the State. The Contractor shall guarantee all equipment specified from the date such equipment is accepted by the State, against defects in materials, design, performance and workmanship. Guarantees shall be supported by manufacturer's written warranties and shall be signed by an official of the manufacturer's organization. Replacement parts shall be delivered and repairs shall be made promptly upon receipt of notice of failure under normal and proper use and maintenance. All costs of replacement and repair shall be borne by the Contractor provided that a report substantiating such defect or failure to conform to specifications is promptly given to the Contractor.

1.09 SHOP DRAWINGS

- A. Layout shop drawings required. Prepare and submit the following coordinated layout shop drawings:
 - 1. All new transfer switches and existing generator, switchgear, and electrical equipment.
 - 2. Areas requiring deviation from design documents. Such deviations shall be clearly identified.

1.10 CODES, REGULATIONS AND STANDARD SPECIFICATIONS

- A. Work shall conform to the Hawaii Revised Statutes, the Ordinances of the City & County of Honolulu; the International Conference of Building Officials (ICBO) International Building Code (IBC); requirements of the Daniel K. Inouye International Airport; and the latest edition of National Electrical Code (NEC).
- B. Applicable rules, standards and specifications of following associations shall apply to materials, workmanship, and procedures:

- American National Standards Institute (ANSI)
- Illuminating Engineering Society of North America (IESNA)
- National Electrical Manufacturer's Association (NEMA)
- National Fire Protection Association (NFPA)
- Underwriters' Laboratories, Inc. (UL)

1.11 WARRANTY

Defective materials and workmanship shall be removed and replaced at no cost to the State. For period of two years after date of final acceptance of work by State, materials and workmanship developing defects and malfunctions shall be repaired and/or replaced, to conform with intent of the specification and drawings, at no additional cost to the State.

PART 2 - PRODUCTS

2.01 MATERIALS

All materials shall be new, except as specifically noted, and shall bear the label of Underwriter's Laboratories, Inc., wherever standards have been established and label service is normally and regularly furnished by the agency. See the respective technical sections for the electrical material specifications.

PART 3 - EXECUTION

3.01 MATERIALS AND EQUIPMENT PROVIDED BY THE CONTRACTOR

The electrical installation shall be complete and operable and shall conform to the requirements of the contract drawings. The Contractor shall provide all electrical equipment and materials, wiring, supports and such additional parts as are necessary to make the installation complete. All Contractor furnished materials and equipment are subject to review and acceptance by the State.

3.02 PROTECTION DURING STORAGE

Store all materials and equipment in a safe manner. Provide weather, dehumidification, and fire protection for all materials. Store all materials above grade to avoid damage by moisture. Cover all materials to avoid damage from sunlight.

3.03 PROTECTION OF WORK IN PROGRESS

All electrical materials and equipment shall be completely protected during installation. Equipment shall be securely protected against physical or chemical damage. In areas exposed to weather, materials unused at the end of each day's work shall be protected by weatherproofed installations. All unprotected conduits shall be sealed to prevent water and foreign debris from entering conduits. Damage to materials and equipment due to Contractor's neglect shall be repaired or replaced by and at the expense of the Contractor.

3.04 PROGRESS OF WORK AND COORDINATION

The Contractor shall prepare a schedule identifying the sequence of electrical work. The electrical work shall be coordinated with the work of other Contractors and other trades. The schedule shall be submitted prior to beginning installation and shall be subject to review and acceptance by the State.

3.05 RULES

The entire electrical installation shall conform to the applicable rules and regulations of the State Electrical Code, the State Fire Code and the standards and publications specified in the technical sections.

3.06 COORDINATION

The contract drawings indicate the extent and general location and arrangement of equipment, conduit and wiring. Lighting fixtures, outlets and electrical equipment shall be located so as to avoid interference with architectural, mechanical and structural features. The State may request any device, equipment, circuit, or feeder to be relocated

within 10'-0" of the location shown on the Drawings before installation is initiated and without increase in contract amount.

3.07 WORKMANSHIP

- A. All materials and equipment shall be installed in accordance with printed recommendations of the manufacturer and shall conform to the requirements of the contract drawings. The installation shall be accomplished by workers skilled in this type of work. For actual fabrication, installation and testing of the Electrical work, use only thoroughly trained and experienced workmen completely familiar with items to be installed and with manufacturers' recommended methods of installation. In acceptance or rejection of installed work no allowance will be made for lack of skill on part of workmen.
- B. Inspection: Skill and competency of workmanship shall be subject to the approval of the State and the County. The contractor shall open all electrical equipment, cabinets, junction boxes, and devices as required by the State or inspector for inspection. All equipment shall be de-energized prior to inspection unless voltage and current measurements are required. The Contractor shall be responsible for all electrical and arc flash safety at the project site.

3.08 FIELD TESTS

- A. After the installation is completed, and at such time the State may direct, the Contractor shall conduct field tests for acceptance by the State. When the tests are specified to be performed under the supervision of the equipment manufacturer, the Contractor shall cooperate with the State during tests and shall place at the manufacturer's disposal, all assistance, materials and services required to perform such tests. The tests shall be performed in the presence and to the satisfaction of the State. The Contractor shall furnish all necessary electric power, fuel, instruments, equipment, and personnel required for the tests and shall pay for all power and fuel.
- B. Insulation Tests: The insulation of all conductors shall be tested with a megger insulation tester. Including existing branch circuit conductors providing power to light fixtures, receptacles or other equipment affected by this project. Using a 500V megger tester, measure and record the insulation resistance from phase to neutral, phase to ground and neutral to ground. The records shall be submitted to the State for review and approval. The Contractor shall notify DOT-A when this test is to be performed. For any conductors with readings less than those in NETA-MTS 2015 Table 100.1, replace conductors and readminister test to satisfaction of the State.
- C. Operating Tests: The equipment and systems shall be demonstrated to operate in accordance with the requirements of the technical sections in which the equipment or systems are specified.

- D. Ground Resistance Test: Test ground resistance by three-point method. Results of test shall be submitted to the State. Ground Resistance: Ground resistance measurements of each ground rod shall be taken and certified by the Contractor. Upon completion of the project, the Contractor shall submit in writing to the State, the measured ground resistance of each ground rod and grounding system, as well as the resistance and soil conditions at the time the measurements were made. Ground resistance measurements shall be made in normally dry weather, not less than 48 hours after rainfall, and with the ground under test isolated from other grounds.
- E. Test all 600 volt class conductors to verify that no short circuits or accidental grounds exist. Make tests using an instrument which applies a voltage of approximately 500 volts to provide a direct reading in resistance, and measure the insulation resistance using the testing method described above. All test results shall be recorded and submitted to the State.
- F. Wherever test or inspection reveals faulty materials or installation, Contractor shall take corrective action, at his own expense, repairing or replacing materials or installation as directed. The materials or installation shall then be retested.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 16050 – BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. The General Provisions of the contract, including the General Provisions for Construction (2016), Special Provisions, and General Requirements of the Specifications, apply to the work specified in this section.

1.02 DESCRIPTION OF WORK

The Contractor shall furnish all labor, materials, tools, equipment and appliances required to provide and install all Electrical Work, complete and operational. The drawings note various sizes of equipment as determined for basis of design; the electrical work, however, shall be installed to comply with the equipment furnished by the successful bidder/supplier. The work shall include but not necessarily be limited to, the following:

- A. Remove 3rd Level Ewa and Diamond Head (DH) Concourse concrete column mounted light fixtures adjacent to roadway. Salvage, store and protect light fixtures to be reused. Intercept and protect existing conductors powering existing light fixtures mounted on top of the concrete columns.
- B. Install new light poles over existing conduit penetrations as much as possible. Where not possible, intercept existing conduit and conductors with new junction box and extend to new light pole location. Reinstall existing light fixtures salvaged from demolition work. Provide new light fixtures where existing fixtures cannot be reused. Utilize existing lighting circuits, intercept and extend to new pole/fixture location as necessary.
- C. Provide temporary lighting to allow for normal airport operations, which includes but is not limited to the safe operation of the Wikiwiki Shuttle. Additional temporary lighting to be added at discretion of the State.

1.03 RELATED WORK SPECIFIED IN OTHER SECTIONS

<u>Section</u>	<u>Title</u>
16000	GENERAL ELECTRICAL REQUIREMENTS
16500	LIGHTING

1.04 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS. Each submittal shall be prepared with a summary sheet attached to each copy identifying all items included in the submittal. Incomplete submittals and those without summary sheets will be returned without review.

- B. Shop Drawings: Submit complete shop drawings and manufacturer's literature for DOT-A's review before any work is fabricated. Submit manufacturer's literature for the following:
1. Conductors.
 2. Conduit.
 3. Junction boxes.
 4. Mounting hardware (i.e. bolts, screws, fasteners, support brackets, etc.).
- C. Intent of Shop Drawing and Catalog Cut Review:
1. Shop drawing and catalog cut submittals processed by DOT-A are not Change Orders. The purpose of the submittals by the Contractor is to demonstrate to the DOT-A that he understands the design concept, that he demonstrates his understanding by indicating which equipment and material he intends to furnish and install and by detailing the fabrication and installation methods he intends to use.
 2. If deviations, discrepancies or conflicts between shop drawings and specifications are discovered either prior to or after shop drawing submittals are processed by DOT-A, the design drawings and specifications shall control and shall be followed.
 3. Prequalification: Where materials or products specified herein are designated by manufacturer's name, any request to substitute materials or products other than those specified shall be approved by DOT-A during the bidding period, as specified in the GENERAL PROVISIONS, Paragraphs 2.7 and 6.13, and as amended by the Special Provisions. Burden of proof of equality of proposed substitutions will be the responsibility of the Contractor.
 4. Shop drawings and catalogue cuts for substitute materials shall clearly specify compliance with and/or deviation from specified material. Certification shall not contain statements to imply that the item does not meet requirements specified, such as "as good as"; and "achieve the same end use and results as materials formulated in accordance with the referenced publications". Certifications shall simply state that the item conforms to the requirements specified. Certificates shall be printed on the manufacturer's letterhead and shall be signed by the manufacturer's official authorized to sign certificates of compliance. Review of shop drawings and catalogue cuts shall not release Contractor from complying with intent of drawings and specifications.

1.02 GUARANTEE AND CERTIFICATE

- A. Any item of material, apparatus, equipment furnished and installed, or construction by the Contractor showing defects in design, construction, quality or workmanship within one year from the date of final acceptance by the State shall be replaced by such new material, apparatus or parts as may be found necessary to make such defective portion of the complete system conform to the true intent and meaning of the specification and/or the drawings. Exceptions shall be LED light fixtures which shall be guaranteed for one half the manufacturer's listed life time. Such repairs or replacement shall be made by the Contractor or his surety, free of all expense to the State.

1.03 GENERAL REQUIREMENTS

- A. The Contractor shall furnish all labor, materials (except as hereinafter noted), tools, equipment and appliances required to provide and install all electrical work, complete, as indicated on the drawings and/or as herein specified. The drawings note various sizes of equipment as determined for basis of design; the electrical work, however, shall be installed to comply with the equipment furnished by the successful supplier. The work shall include but not necessarily be limited to, the following:
1. Remove 3rd Level Ewa and Diamond Head (DH) Concourse concrete column mounted light fixtures adjacent to roadway. Salvage and store light fixtures to be reinstalled as part of this project. Protect existing conduit penetrations and conductors for reuse.
 2. Install new light poles over existing conduit penetrations as much as possible. Where not possible, intercept existing conduit and conductors with new junction box and extend to new light pole location. Reinstall existing light fixtures salvaged from demolition work. Provide new light fixtures where existing fixtures cannot be reused. Utilize existing lighting circuits, intercept and extend to new pole/fixture location as necessary.
 3. Provide temporary lighting to allow for normal airport operations, which includes but is not limited to the safe operation of the Wikiwiki Shuttle. Additional temporary lighting to be added at discretion of the State Project Manager.
 4. Before bidding on this work, carefully examine each of the drawings and the site. By submitting a proposal of the work included in this Contract, the Contractor shall be deemed to have made such examination and to be familiar with and accept all conditions of the job site.
 5. Prior to ordering equipment, the Contractor shall examine the plans to verify the amount of space allocated for the electrical equipment and to

determine if the material proposed will fit within the allotted space. It shall be the Contractor's responsibility to provide equipment that will fit within the allotted space.

6. Rules and Permit: The entire installation shall be made in strict accordance with the latest rules and regulations of the National Board of Fire Underwriters, the currently adopted edition of the National Electrical Code (NEC). The State Electrical Code. and the local Electrical Bureau. The Contractor shall obtain and pay for the electrical permit as required by local laws and rules. All work shall be inspected by the proper local authorities as it progresses. The Contractor shall pay all inspection fees and shall deliver certificates of completion and inspection to the State before final payment will be made. Costs of permits and inspection fees shall be included in the Contractor's bid price.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. All materials shall be new, except as specifically noted, and shall bear the label of Underwriters Laboratories (UL) whenever standards have been established and label service is normally and regularly furnished by the agency.
- B. Raceways:
 1. Galvanized rigid steel (GRS), electrical metallic tubing (EMT), 3/4" minimum diameter. Metallic tubing and conduits shall be zinc-coated and conduits shall be hot-dip galvanized.
 2. Non-Metallic Conduit shall be high impact polyvinyl chloride (PVC), Schedule 40 and Schedule 80. Tensile strength 6000 psi minimum and compressing strength shall be 9000 psi minimum
 3. Flexible Conduit: Zinc-coated inside and outside, fully interlocked; for wet or moist areas - liquid-tight with factory fittings, UL 360.
- C. Conductors and Cables: Conductors shall be copper, No. 12 AWG minimum; No. 10 AWG and smaller, solid; No. 8 AWG and larger, stranded. Conductors shall be type THHN/THWN for interior use and RHW-USE for exterior use. All high voltage work shall be performed by qualified electricians certified to work on high voltage systems.

Conductors for use in exposed installation on cables trays or at equipment connections shall be flexible stranded copper, PVC insulation with nylon jacket, oil and gasoline resistant, sunlight resistant, UL VW-1 and CSA FT-1 & FT-4 flame resistant for outdoor installations.

- D. **Outlet and Small Junction Boxes:** In all conditions and for all cases, outlet and junction boxes shall be increased in size to conform with NEC Article 314 fill requirements. Boxes shall be cast iron or ferrous alloy, prime painted and enamel finished, with threaded hubs for conduit connection. For exterior, wet and basement locations, the box shall be NEMA 4X type 316L stainless steel. All screws shall be stainless steel type 316L. In all conditions and for all cases, outlet and junction boxes shall be increased in size to conform with NEC Article 314 fill requirements.
- E. **Large Junction Boxes:** For dry interior locations, the box shall be fabricated from NEC gauge galvanized steel with matching screw-on type cover, field punched knockouts. For exterior, wet and basement locations, the box shall be NEMA 4X type 316L stainless steel. All screws shall be stainless steel type 316L. In all conditions and for all cases, outlet and junction boxes shall be increased in size to conform with NEC Article 314 fill requirements.
- F. **Device and Cover Plates:**
1. Plates for enclosed interior flush construction shall be type 302 stainless steel, dull finish with suitable hole for device unless otherwise indicated.
 2. Plates for exposed, damp, or wet installations shall be weatherproof while-in-use type, with lockable U.V. stabilized covers. Covers shall permit plugs to be connected without compromising the integrity of the protective nature of the cover.
- G. **Individual Circuit Breaker:** Molded plastic case circuit breaker with toggle operated mechanism and thermal-magnetic overload trips. Interchangeable trip shall be provided when available. Toggle positions "ON" and "OFF" engraved or embossed on body. Trip plug rating as indicated on the Drawings. Eaton or preapproved equivalent.
- H. **Nameplates:** Laminated nameplates shall be provided for panelboards and circuit breaker enclosures. Nameplate shall be 1/8-inch thick melamine plastic, black and white center core. Size of nameplate shall be 1-inch by 2-1/2-inches minimum. Lettering shall be 1/4-inch high block lettering. Equipment designations shall be as indicated on the drawings.
- I. **Hardware, Supports, Backing, Etc.:** All hardware, supports, backing and other accessories necessary to install electrical equipment shall be provided. Wood materials shall be "wolmanized" treated against termites, iron or steel materials shall be galvanized for corrosion protection, and non-ferrous materials shall be brass or bronze.

PART 3 - EXECUTION

3.01 GENERAL

- A. **Rules and Permit:** The entire installation shall be made in strict accordance with the latest rules and regulations of the National Board of Fire Underwriters, the currently adopted edition of the National Electrical Code (NEC) and the local Electrical Bureau. All work shall be inspected by the proper local authorities as it progresses.

The Contractor shall pay all inspection fees and shall deliver certificates of completion and inspection to DOT-A before final payment will be made. Costs of permits and inspection fees shall be included in the Contractor's bid price.

- B. Qualification of Installers:
1. For actual fabrication, installation and testing of the work of this section, use only thoroughly trained and experienced workmen completely familiar with items required and with manufacturers' recommended methods of installation. In acceptance or rejection of installed work, no allowance will be made for lack of skill on part of workmen.
 2. Workmanship shall meet the approval of DOT-A who shall be afforded every opportunity to determine skill and competency. Concealed work shall be reopened at random during formal inspection by DOT-A at their request.
- C. Construction Methods: Construction shall conform to construction practices as recommended by the American Electricians Handbook by Croft (latest edition), Edison Electric Institute, National Electrical Code, National Electrical Safety Code and applicable instructions of manufacturers of equipment and material supplied for this project.
- D. Provide structural bracing for equipment permanently attached to the building. Structural bracing shall resist the effects of earthquake motions in accordance with ASCE 7 per 2018 IBC, Section 1613.
- E. Field-Posted As-Built Drawings: The Contractor shall maintain an accurate and adequate record of each change as it occurs, regardless of how ordered and submit as-built drawings after project completion.
- F. Plans and Specification: This specification is intended to cover all labor, materials and standards of workmanship to be employed in the work indicated on the plans and called for in the specification or reasonably implied therein. The plans and specification supplement one another. Any part of the work mentioned in one and not represented in the other, shall be done the same as if it had been mentioned in both. The Contractor shall not make alterations to the drawings and specification.
- G. Discrepancies and Interpretations:
1. Should the Contractor find any discrepancies in or omissions from any of the documents or be in doubt as to their meaning, he shall advise DOT-A who will issue any necessary clarification within a time period which does not disrupt the progress of the work.
 2. All interpretation and supplemental instructions will be in the form of a written addenda to the Contract Documents.
 3. Should any discrepancy arise from the failure of the Contractor to notify DOT-A, the higher quality or larger quantity of item shall prevail. DOT-A shall make the final interpretation and judgment.

4. In the event of a discrepancy between small scale drawings and large-scale details, or between drawings and specification, on which is in violation of any regulations, ordinances, laws or codes, the discrepancy, if known by the Contractor, shall be immediately brought to the attention of DOT-A for a decision before proceeding with the particular work involved. Work carried out disregarding these instructions will be subject to removal and replacement at the Contractor's expense.
- H. Symbols: The standard electrical symbols together with the special symbols, notes and instructions shown on the drawings indicate the work required and are all to be included as a part of this specification.
- I. Coordination: This specification is accompanied by floor plans of the affected buildings, elevations, and site plans indicating locations of boxes, electrical connections, service runs, and other electrical apparatus. These locations are approximate and, before installing, the Contractor shall study the adjacent architectural details and actually make the installation in the most logical manner. The circuit routing is typical only and may be varied in any logical manner.

3.02 INSTALLATION

A. Grounding:

1. All metallic enclosures, raceways, and electrical equipment shall be grounded according to requirements of NEC Article 250. Final connection to equipment, raceways and other metallic parts directly exposed to ungrounded electric conductors shall be No. 12 AWG minimum, copper, NEC type TW, green insulation. Use approved bonding terminal at panels.
2. All grounding wire runs within building shall be routed together with circuit conductors.
3. Bond and ground all feeder conduit to panelboard enclosures.

B. Wiring System:

1. Below grade or in slab, use Schedule 40 PVC. Provide separate ground wire and rise out of ground with PVC. Transition GRS, or EMT conduit as required within 6" of finished grade or floor.
2. GRS shall be used where run is exposed in exterior locations and interior locations within six feet of the floor level.
3. EMT may be used in concrete walls, above suspended ceilings and where run is exposed in interior locations higher than six feet above the floor level.
4. Flexible conduit shall be used for connecting dry-type transformers, motors and other equipment subject to vibration or movement.
5. Conduit shall be cut square and inner edges reamed. Butt together evenly in couplings.

6. Bends and offsets shall be made with hickey or conduit bending machine. Do not use vise or pipe tee. Bends shall be made so that interior cross-sectional areas will not be reduced. Radius of curve of inner edge of field bend shall not be less than ten times internal diameter of conduit.
7. Use of running threads and set screw couplings will not be permitted. Where conduit cannot be joined by standard threaded couplings, approved watertight conduit union or compression couplings shall be used.
8. Cap conduit, during construction, with plastic or galvanized pipe caps to prevent entrance of dirt or moisture. All conduits shall be swabbed out and dried before wires or cables are pulled in.
9. Conduit shall be mounted clear of other piping, valves or mechanical equipment.
10. Fish wires, cords strings, chains or the like shall not be placed or inserted into the conduit system during installation. Insulating bushings and two locknuts shall be installed on the end of every run of conduit at sheet metal enclosures and boxes.
11. Securely fasten conduit to junction boxes and to structure support. Project adequate number of conduit threads through box for bushings. Anchorage for 1-1/2" and smaller conduit shall be made with two-hole galvanized conduit straps or clamps. Two-inch and larger conduits shall be anchored with galvanized wrought iron one-hole clamps or equal fittings.
12. Exposed conduit shall be parallel with, or at right angles to, structural or architectural elements, and securely fastened in place with two-hole galvanized pipe straps with screws, or with approved beam clamps, or approved single or gang pipe hangers spaced not more than five feet apart, as conditions required. Vertical runs shall be supported at intervals not exceeding five feet approved clamp hangers.
13. Muletape shall be installed in empty conduit. Muletape shall have a minimum tensile strength of 2000lbs. Muletapes shall be tagged at conduit terminations to identify conduit use (i.e. power, telephone, data, etc.) and location of other conduit termination on other end.

B. Conductors:

1. Mechanical means for pulling shall be torque-limiting type and not used for #2 AWG and smaller wires.
2. Pulling tension shall not exceed wire manufacturer's recommendations.
3. Where necessary, powdered soapstone may be used as a lubricant for drawing wires through conduit. No other means of lubricating will be allowed.
4. Form neatly in enclosures for minimum of crossovers. Tag all feeders.

C. Splicing of Wire and Cable:

1. Wires shall be formed neatly in enclosures and boxes.
2. Splices made according to NEC Article 110.
3. Splices shall be reinsulated. Remove all sharp points that can pierce tape. Use Minnesota Mining and Manufacturing Co. "Scotch" #33 tape, or equal. Splices in boxes for exterior locations shall be water-tight.

D. Finishing:

1. All cutting that may be required for complete installation of the electrical work shall be carefully performed, and all patching shall be finished in first-class condition by the Contractor.
2. Close unused knockouts in boxes or enclosures with metal cap.
3. Wipe clean all exposed raceways and boxes with rag and solvent. Unfinished raceways and boxes shall be prime-painted and finished to blend into background.

E. Miscellaneous Details:

1. Cut, drill and patch as required to install electrical system. Repair any surface damaged or marred by notching, drilling or any other process necessary for installation of electrical work. Cutting, repairs and refinishing subject to the approval of DOT-A. Need for remedial work determined by DOT-A as attributable to poor coordination and workmanship shall be cause for reconstruction to the satisfaction of the State of Hawaii.
2. Attachment of electrical equipment to wood by non-ferrous wood screws. Attachment to concrete by expansion anchors. Powder-charge-driven studs and anchors permitted only with prior approval.
3. Complete all panel circuit directories, using typewriter. Verify "room" and "use" designations before typing.
4. Prime and paint all exposed conduits, hangers, and fasteners.
5. All grounding wire within building run in rigid steel conduit, and where practicable, routed together with circuit conductors.
6. Furnish necessary test equipment and make all tests necessary to check for unspecified grounding, shorts and wrong connections. Correct faulty conditions, if any.
7. Tag all empty conduits in switchboard, panelboards, cabinets, at backboards, etc and identify destination.

8. Provide arc flash warning labels on all electrical equipment as required by 2014 NEC Article 110.16 and 2015 NFPA-70E 130.5. The contractor shall attain all information required for the calculations, perform the calculations, and provide the labels at no additional cost.
 9. Anchor all free-standing floor mounted electrical equipment, apparatus, and transformers. Provide additional bracing per the seismic conditions at the site.
- F. Firestopping: Provide UL listed firestopping for all holes at conduit penetrations through floor slabs, fire rated walls, partitions with fire rated doors, corridor walls, and vertical service shafts.

3.02 TESTING AND INSPECTION

- A. If DOT-A (or its representative) discovers any errors, the Contractor, at his own expense, shall go over all similar portions of the entire job, taking the necessary or directed remedial action.
- B. Interior installations 600 volts and less shall be tested for insulation resistance after all wiring is completed and ready for connection to fixtures and equipment. Including existing branch circuit conductors providing power to light fixtures, receptacles or other equipment affected by this project. Using a 500V megger tester, measure and record the insulation resistance from phase to neutral, phase to ground and neutral to ground. The records shall be submitted to the State for review and approval. The Contractor shall notify DOT-A when this test is to be performed. For any conductors with readings less than those in NETA-MTS 2015 Table 100.1, replace conductors and readminister test to satisfaction of the State.
- C. The Contractor shall re-tape splices which have been bared for inspection. The Contractor shall test all portions of the electrical system furnished by him for proper operation and freedom from accidental grounds. All tests shall be subject to the approval of DOT-A.
- D. Wherever test or inspection reveals faulty equipment or installation, the Contractor shall take corrective action, at his own expense, repairing or replacing equipment or installation as directed.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the prices bid for the various items of work in this project.

END OF SECTION

SECTION 16500 – LIGHTING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. The General Provisions of the contract, including the General Provisions for Construction (2016), Special Provisions, and General Requirements of the Specifications, apply to the work specified in this section.

1.02 DESCRIPTION OF WORK

- A. In general, the following work is included:
1. Remove 3rd Level Ewa and Diamond Head (DH) Concourse concrete column mounted light fixtures adjacent to roadway. Salvage, store and protect light fixtures to be reused. Intercept and protect existing conductors powering existing light fixtures mounted on top of the concrete columns.
 2. Install new light poles over existing conduit penetrations as much as possible. Where not possible, intercept existing conduit and conductors with new junction box and extend to new light pole location. Reinstall existing light fixtures salvaged from demolition work. Provide new light fixtures where existing fixtures cannot be reused. Utilize existing lighting circuits, intercept and extend to new pole/fixture location as necessary.
 3. Provide temporary lighting to allow for normal airport operations, which includes but is not limited to the safe operation of the Wikiwiki Shuttle. Additional temporary lighting to be added at discretion of the State.

1.03 RELATED WORK SPECIFIED IN OTHER SECTIONS

<u>Section</u>	<u>Title</u>
16050	BASIC MATERIALS AND METHODS

1.04 SUBMITTALS

- A. Submit shop drawings and of the following equipment for approval in accordance with Section 01300 – SUBMITTALS. Each submittal shall be prepared with a summary sheet attached to each copy identifying all items included in the submittal. Incomplete submittals and those without summary sheets will be returned without review.
- B. Shop Drawings: Submit complete shop drawings and manufacturer's literature for DOT-A's review before any work is fabricated. Submit manufacturer's literature for:

1. Light fixtures.
2. Light poles.
3. Drivers.

C. Intent of Shop Drawing and Catalog Cut Review:

1. Shop drawing and catalog cut submittals processed by DOT-A are not Change Orders. The purpose of the submittals by the Contractor is to demonstrate to DOT-A that he understands the design concept, that he demonstrates his understanding by indicating which equipment and material he intends to furnish and install and by detailing the fabrication and installation methods he intends to use.
2. If deviations, discrepancies or conflicts between shop drawings and specifications are discovered either prior to or after shop drawing submittals are processed by DOT-A, the design drawings and specifications shall control and shall be followed.
3. Prequalification: Where materials or products specified herein are designated by manufacturer's name, any request to substitute materials or products other than those specified shall be approved by DOT-A during the bidding period, as specified in the GENERAL PROVISIONS, Paragraphs 2.7 and 6.13, and as amended by the Special Provisions. Burden of proof of equality of proposed substitutions will be the responsibility of the Contractor.
4. Shop drawings and catalogue cuts for substitute materials shall clearly specify compliance with and/or deviation from specified material. Certification shall not contain statements to imply that the item does not meet requirements specified, such as "as good as"; and "achieve the same end use and results as materials formulated in accordance with the referenced publications". Certifications shall simply state that the item conforms to the requirements specified. Certificates shall be printed on the manufacturer's letterhead and shall be signed by the manufacturer's official authorized to sign certificates of compliance. Review of shop drawings and catalogue cuts shall not release Contractor from complying with intent of drawings and specifications.

1.05 GUARANTEE AND CERTIFICATE

Any item of material, apparatus, equipment furnished and installed, or constructed by the Contractor showing defects in design, construction, quality or workmanship within one year from the date of final acceptance by the State shall be replaced by such new material, apparatus or parts as may be found necessary to make such defective portion of the complete system conform to the true intent and meaning of the specification and/or the drawings. Exceptions shall be, LED light fixtures, fluorescent, high intensity discharge and incandescent lamps which shall be guaranteed for one half the manufacturer's listed lifetime. Such repairs or replacement shall be made by the Contractor or his surety, free of all expense to the State.

1.06 GENERAL REQUIREMENTS

- A. The Contractor shall furnish all labor, materials (except as hereinafter noted), tools, equipment and appliances required to provide and install all electrical work, complete, as indicated on the drawings and/or as herein specified. The drawings note various sizes of equipment as determined for basis of design; the electrical work, however, shall be installed to comply with the equipment furnished by the successful supplier.
1. Remove 3rd Level Ewa and Diamond Head (DH) Concourse concrete column mounted light fixture adjacent to roadway. Intercept and protect existing conductors running internal to concrete columns.
 2. Install new light poles, and connect new conductors to existing conductors that were intercepted and protected. Install existing light fixtures that were stored at start of project.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General: All materials shall be new, except as specifically noted, and shall bear the label of Underwriters Laboratories (UL) whenever standards have been established and label service is normally and regularly furnished by the agency.
- B. Light Fixtures: Provide light fixtures complete with necessary lamps, ballasts, starters, and accessories, according to the "Light Fixture Schedule". All light fixtures shall be supplied complete with lamps/LED modules. CREE ARE-EDR-5M-R3-04-D-UL-BK-525-40K-TL or approved equal.
- C. Aluminum Poles: Aluminum poles shall be spun tapered from seamless aluminum tubing, alloy 6063-T6, conforming to ASTM B 221, with minimum thickness of 0.250 inch. Circumferential or longitudinal welds will be allowed only at lower end of pole where pole is joined to anchor base. Poles shall have anchor base consisting of permanent mold cast aluminum, alloy 356.0, conforming to ASTM B 108. Anchor bolts shall be stainless steel 316, and shall be of quantity and grade indicated in the contract documents. Poles mounted on walls and structures shall have anchor bases and side entry handholes. Poles mounted shall be equipped with vibration damper recommended by pole manufacturer and accepted by DOT-A. Grounding nut or screw on inner portion of pole shall be placed opposite handhole. Each pole shall be furnished complete with base, base cover, and anchor bolts. Unless otherwise indicated in the contract documents, aluminum poles shall have dark bronze anodized aluminum finish and stainless steel 316 hardware. Aluminum poles shall be protected during shipment with protective paper. 10' Model: Valmont R 090830404T4P2313 or approved equal.

PART 3 - EXECUTION

3.01 GENERAL

As specified on Section 16050 – BASIC MATERIALS AND METHODS.

3.02 INSTALLATION

A. Fixture Supports:

1. Every outlet box or other support for light fixtures shall be of sufficient strength to support at least 4 times the weight of the fixture.
2. Support all fixtures weighing more than 50 lbs. independently of the outlet box.
3. Fixtures shall be securely and safely supported by means of fixture studs in the outlet boxes or other approved means. Ceiling fixtures shall be arranged to hang vertically unless otherwise directed by DOT-A. Provide accessories such as straps, mounting plates, nipples, or brackets for proper installation. Provide additional suspension wires and channels for mounting on suspended ceilings as recommended by fixture manufacturer. Fixtures shall not be hung from outlet box "ears".
4. Where ceiling construction is such that mounting channels, strongbacks, braces, etc., are required to properly support fixtures, provide these supports at no additional cost to the State. Refer to architectural drawings for type of ceiling construction.

B. Provide structural bracing for equipment permanently attached to the building. Structural bracing shall resist the effects of earthquake motions in accordance with ASCE 7 per 2018 IBC.

C. Wiring System: As specified in Section 16050 – BASIC MATERIALS AND METHODS.

3.03 TESTING AND INSPECTION

As specified in Section 16050 – BASIC MATERIALS AND METHODS.

3.04 SPARES

Provide a minimum of 2 spare exterior column mounted light fixtures.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
16500.1	Ewa and DH Concourse Exterior Lighting	Lump Sum

END OF SECTION