Invitation for Bids

IFB 20L-0050
Leahi Hospital – Central Courtyard Parking Lot – Phase 1

The Hawaii Health Systems Corporation (HHSC) Oahu Region is requesting bids from qualified companies for the installation of a pavement parking lot at Leahi Hospital located at 3675 Kilauea Ave., Honolulu, HI 96816.

The IFB may be obtained electronically from the following website:
http://leahi.hhsc.org/procurement/notices/

Due to the recent events of the COVID-19 outbreak, a pre-bid orientation will not be scheduled. The deadline for submission of written/emailed questions pertaining to the IFB is April 16, 2020.

All bids must be received by April 30, 2020, 2:00 p.m. Hawaii Standard Time. Bids may be mailed to the Purchasing Office of **Maluhia**, at 1027 Hala Dr., Honolulu, Hawaii 96817. Bids via e-mail are acceptable and shall be sent to skawai@hhsc.org. E-mail bids not received by deadline will be disqualified for consideration. No exceptions will be made even if network provider or software (MS Outlook) delays delivery.

Addenda to the IFB will be posted on the website listed above.

For any inquiries, please contact Scott Kawai, Oahu Region Contracts Department, at (808) 832-3025 or by email at skawai@hhsc.org.

Purchasing Office
Maluhia
1027 Hala Dr.
Honolulu, Hawaii 96817

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SECTION 1
ADMINISTRATION

1.0 INTRODUCTION

This Invitation for Bid (hereinafter "IFB") is issued by the Hawaii Health Systems Corporation (hereinafter "HHSC"), a public body corporate and politic and an instrumentality and agency of the State of Hawaii. All procedures and processes will be in accordance with HHSC Oahu Region policy and procedures.

In order for HHSC to accept Bidder's response in a timely manner, please thoroughly read this IFB and follow instructions as presented.

1.1 IFB TIMETABLE AS FOLLOWS

The timetable as presented represents HHSC's best estimated schedule. If an activity of the timetable, such as "Closing Date for Receipt of Bids" is delayed, the rest of the timetable dates may be modified. BIDDER will be advised, by addendum to the IFB, of any such modifications to the timetable. Contract start date will be subject to the issuance of a Notice to Proceed.

	ACTIVITY	**SCHEDULED DATES**
1.	IFB Public Announcement	April 3, 2020
2.	No Pre-Bid Orientation due to COVID-19	
3.	Closing Date for Receipt of Questions	April 16, 2020
4.	Closing Date for Receipt of Bids 2:00 p.m. at **Maluhia**	**April 30, 2020**
5.	Contractor Selection/Award Notification (on/about)	May 1, 2020
6.	Contract Start Date (on/about)	May 15, 2020

1.2 AUTHORITY

This IFB is issued following the provisions of Chapter 323F, Hawaii Revised Statutes (HRS), and its administrative rules. All BIDDERS are charged with presumptive knowledge of all requirements of the cited authorities. Submission of a valid executed bid by any BIDDER shall constitute admission of such knowledge on the part of such BIDDER.

1.2.1 IFB ORGANIZATION

This IFB is organized into four sections:

SECTION 1: ADMINISTRATIVE
Provides information regarding administrative requirements.

SECTION 2: SCOPE OF SERVICES
Provides a detailed description of goods and/or services to be provided and delineates HHSC and CONTRACTOR responsibilities.

SECTION 3: BID FORMS AND GENERAL CONDITIONS
Describes the required format and content for submission of the bid.

SECTION 4: BID EVALUATION AND AWARD
Describes how bids will be evaluation and procedures for selection and award of contract.

1.3 HEAD OF PURCHASING AGENCY (HOPA)

The HOPA for HHSC, or designee, is authorized to execute any and all Agreements (Contracts), resulting from this IFB.

The HOPA for this IFB is:

Derek Akiyoshi
Regional Chief Executive Officer
Hawaii Health Systems Corporation

1.4 DESIGNATED OFFICIALS

The officials identified in the following paragraphs have been designated by the HOPA as HHSC's procurement officials responsible for execution of this IFB, award of Agreement and coordination of CONTRACTOR's satisfactory completion of contract requirements.

1.4.1 ISSUING OFFICER

The Issuing Officer is responsible for administrating/facilitating all requirements of the IFB solicitation process and is the **sole point of contact** for BIDDER from date of public announcement of the IFB until the selection of the successful BIDDER. The Issuing Officer will also be responsible for contractual actions throughout the term of the contract. For purposes of this IFB, the designated Issuing Officer is:

Scott Kawai
Maluhia, Purchasing Office
1027 Hala Drive
Honolulu, Hawaii 96817
e-mail: skawai@hhsc.org
phone: (808) 832-3025

1.5.1 CHARTER

HHSC is a public body corporate and politic and an instrumentality and agency of the State of Hawaii. HHSC is administratively attached to the Department of Health, State of Hawaii and was created by the legislature with passage of Act 262, Session Laws of the State of Hawaii 1996. Act 262 affirms the State's commitment to provide quality health care for the people in the State of Hawaii, including those served by small rural facilities.

1.5.2 STRUCTURE AND SERVICES

HHSC is organized into four operational regions and provides a broad range of healthcare services including acute, long term, rural and ambulatory health care services. As the fourth largest public health system in the country, HHSC is the largest provider of healthcare in the Islands, other than on Oahu. This solicitation is for the Oahu Region.

1.5.3 MISSION

The mission of HHSC is to provide and enhance accessible, comprehensive health care services that are quality-driven, customer-focused and cost-effective.

1.6 FACILITY INFORMATION

Detailed information pertaining to HHSC facilities is located at http://www.hhsc.org.

1.7 SUBMISSION OF QUESTIONS

Questions must be submitted in writing via electronic mail, facsimile or post mail to the Issuing Officer no later than the "Closing Date for Receipt of Questions", identified in paragraph 1.1 in order to generate an official answer. All written questions will receive an official written response from HHSC and become addenda to the IFB.

IMPORTANT

BIDDER may request changes and/or propose alternate language to the attached HHSC General and Special Terms and Conditions during this phase only. All requests will be presented to the HHSC Legal Department for review. No requests to change the HHSC General or Special Terms and Conditions will be entertained after the bids have been submitted or during the contracting process. All written questions and/or approved changes will receive an official written response from HHSC and shall be recorded as addenda to the IFB.

HHSC reserves the right to reject or deny any request(s) made by BIDDER.

Responses by HHSC shall be due to the BIDDER prior to notice of award.

Impromptu, un-written questions are permitted and verbal answers will be provided during pre-bid conferences and other occasions, but are only intended as general direction and will not represent the official HHSC position. The only official position of HHSC is that which is stated in writing and issued in the IFB as addenda thereto.

No other means of communication, whether oral or written, shall be construed as a formal or official response/statement and may not be relied upon.

SEND QUESTIONS TO:

Scott Kawai, Issuing Officer
e-mail: skawai@hhsc.org

1.8 SOLICITATION REVIEW

BIDDER should carefully review this solicitation for defects and questionable or objectionable matter. Comments concerning defects and questionable or objectionable matter, **excluding requests to revise the General or Special Conditions**, must be made in writing and should be received by the Issuing Officer, Scott Kawai, no later than the "Closing Date for Receipt of Bids" as identified in Section 1.1. This will allow issuance of any necessary amendments to the IFB. It will also assist in preventing the opening of bids upon which award may not be made due to a defective solicitation package.

1.9 IFB AMENDMENTS

HHSC reserves the right to amend the IFB any time prior to the deadline date of the IFB. IFB Amendments will be in the form of addenda.

1.10 CANCELLATION OF IFB

The IFB may be canceled when it is determined to be in the best interests of HHSC.

1.11 PROTESTS

Any protest shall be submitted in writing to the HOPA as noted below.

A protest based upon the content of the solicitation shall be submitted in writing within five (5) working days **after** the aggrieved individual/business knows or should have known of the facts giving rise thereto; provided further that the protest shall not be considered unless it is submitted in writing prior to and not later than the "Closing Date for Receipt of Bid" identified in section 1.1.

A protest of an award or proposed award shall be submitted within five (5) working days after the posting of award of the contract. The notice of award, if any, resulting from this solicitation shall be posted at the following website: http://leahi.hhsc.org/procurement/notices/

Any and all protests shall be submitted in writing to the HOPA, as follows:

Derek Akiyoshi
Hawaii Health Systems Corporation
Oahu Region
3675 Kilauea Avenue
Honolulu, Hawaii 96816

1.12 PERFORMANCE AND PAYMENT BOND

Performance and payment bonds shall be required for contracts $25,000 and higher. At the time of the execution of the contract, the successful Bidder shall file good and sufficient performance and payment bonds, each in an amount equal to one hundred percent (100%) of the amount of the contract price unless otherwise stated in the solicitation of bids.

1.13 SPECIALTY CONTRACTOR'S LICENSE

A. Contractor shall be solely responsible to ensure that all specialty licenses required to perform the Work are covered by the Contractor and/or its subcontractor(s).

1.14 WORKING HOURS

A. Regular working hours for this project shall take place between the hours of 8:00 AM to 4:30 PM Monday through Friday, excluding State Holidays, unless otherwise noted or restricted.

B. The Contractor may be given approval to work beyond the regular hours including Saturdays, Sundays, State Holidays, night work, or after hours under the provisions of the GENERAL CONDITIONS.

1.15 SPECIAL PROCEDURES DURING BIDDING

A. Bid documents will be available upon request from the office of the Chief Executive Officer, at Leahi Hospital, 3675 Kilauea Avenue, Honolulu, HI, 96816.

B. All bids shall be submitted to the Issuing Officer.

C. All questions regarding the IFB shall be submitted, in writing, to the Issuing Officer, who shall review the questions and issue any responses via Addendum. Only information received by Addendum shall be binding.

E. Any visitation to the site to examine the scope of work shall be requested through the HHSC Representative. Disruption of facility operations shall not be permitted.

SECTION 2
SCOPE OF SERVICES

2.0 INTRODUCTION

LEAHI HOSPITAL – CENTRAL COURTYARD PARKING LOT – PHASE 1

Work for this project shall include, but is not limited to grading and removal of existing utility box, sewer box, sign and installation of new pavement and base course wheel stops and striping as shown in the Plans.

2.1 CONTRACT PERIOD

The work shall be completed within 60 consecutive calendar days.

2.2 SCOPE OF SERVICES

A. The CONTRACTOR shall complete the work specified in the specifications and drawings in APPENDIX C.

B. Qualifications. The CONTRACTOR shall have:

1. A current and valid license to perform the scope of work.
2. Have been in business for the past three (3) consecutive years.
3. A permanent, on-island office location in conducting business which is accessible to telephone calls. An answering service is not acceptable.

C. HOSPITAL shall provide:

Technical Representatives who shall have the authority to oversee the successful completion of contract requirements, including monitoring, coordinating and assessing CONTRACTOR performance; placing requests for services; and, approving completed work/services with verification of same for CONTRACTOR's invoices. Technical Representatives will also serve as points of contact for "technical" matters throughout the term of the contract.

SECTION 3
Bid Forms and General Conditions

General Instructions for Completing Forms

- *Bids shall be submitted in the prescribed format outlined in this IFB*
- *No supplemental literature, brochures or other unsolicited information should be included in the bid packet.*
- *A written response is required for each item unless indicated otherwise.*

3.0 Bid Form

The bid form must be completed and submitted to HHSC by the required due date and time, and in the form prescribed by the HHSC. Facsimile transmissions shall not be accepted.

Interested bidders shall submit their bid under the interested bidder's exact legal name that is registered with the Department of Commerce and Consumer Affairs and shall indicate this exact legal name in the appropriate space on page 1 of the bid form. Failure to do so may delay proper execution of the Contract.

Interested bidders shall certify its ability to provide services on May 15, 2020 or upon execution of the Contract agreement by both parties. The Hospital reserves the right to apply liquidated damages for the delay in Contract execution on the part of the Contractor.

The interested bidder's authorized signature shall be an original signature in ink. If the Bid Form on Appendix A is unsigned or the affixed signature is a facsimile or a photocopy, the bid shall be automatically rejected.

The option to extend the Contract shall be at the sole discretion of the Hospital and determined to be in the best interests of the State.

3.1 Bid Security

All lump sum bids of $25,000 and higher, or lump sum base bids including alternates of $25,000 and higher, that are not accompanied by bid security are non –responsive.

a. The bid security shall be in an amount equal to at least five percent (5%) of the lump sum bid or lump sum base bid including alternates or in an amount required by the terms of the federal funding, where applicable.

3.2 General Conditions

The State of Hawaii INTERIM GENERAL CONDITIONS, dated August 1999, and AMENDMENTS shall be read by the Contractor as they form a part of the Agreement to be entered into between the Contractor and HHSC. The Interim General Conditions are not physically included in these specifications, but are included by reference. Copies of the INTERIM GENERAL CONDITIONS may be obtained from the Division of Public works, Department of Accounting and General Services, State of Hawaii at the following website: http://hawaii.gov/pwd/construction_bids/Members/qc/gen_cond_constr

The General Conditions are hereby amended as follows:

a. The following terms specified in Section 1 are hereby defined:

i) Bidder shall have the same definition as Contractor.

ii) Comptroller shall be the Chief Financial Officer at HHSC or his authorized representative.

iii) Department shall be HHSC or its designee.

iv) Engineer shall be the person so designated by HHSC.

v) State shall be HHSC or its designee.

b. Section 1.20 and 1.25 replace "State of Hawaii" with "State".

c. The last two sentences of the third paragraph of Section 2.1.1.2, in the Interim General Conditions is deleted and is replaced with the following:

" If the notice is faxed, the time of receipt by the CEO's fax machine shall be official. The submittal of intention to bid via fax is acceptable only to this office."

d. Section 2.1.2.1: second sentence is hereby deleted in its entirety.

e. Last sentence of paragraph 2.1.2.3 of the Interim General Conditions is amended to read as follows:

"Failure to submit either the required tax clearance certificate or Bid Form will be sufficient grounds for HHSC to refuse to receive or consider the prospective bidder's proposal."

f. The addresses specified in Section 2.6.1 of the Interim General Conditions shall be changed to Leahi Hospital 3675 Kilauea Avenue Honolulu Hawaii 96816.

g. Sections 2.10 through 2.11 are hereby deleted in their entirety.

h. Paragraph 3.8.1 of the Interim General Conditions is amended to read as follows:

“The contract shall be signed and forwarded to HHSC (Contracts Office), by the successful bidder all within three (3) days of receipt of the contract. The performance and payment bonds shall be received by HHSC (Contracts Office) within ten (10) calendar days after the bidders is awarded the contract. No proposal or contract shall be considered binding until the contract has been fully and properly executed by all parties thereto.”

i. In paragraph 3.9.2 of the Interim General Conditions, “ten (10) calendar days after such award or within such further time as the Comptroller may allow” shall be replaced with, “the time allowed in the previous section.”

j. Section 4.1: the words “accepted bid” is deleted from the first sentence.

k. Section 4.9.3: the words “submission of bids” is replaced with the words “execution of this contract”.

l. Section 5.5: the last sentence is hereby deleted in its entirety and replaced with the following:

"In the event of conflict among the Contract Documents, the order of precedence is listed in paragraph 5 of this contract and is further detailed in the following subparagraphs:"

m. Sections 5.5.1 and 5.5.2 are hereby deleted in their entirety.

n. Section 5.8.1: "twenty-four (24)" is hereby changed to "three (3)".

o. Section 5.11 is hereby deleted in its entirety.

p. Section 5.12.4 is hereby deleted in its entirety.

q. Section 7.3.7.4, subparagraphs a and b: Replace "If the project falls within the State University System, The University of Hawaii" with "HHSC."

r. Section 7.4.1 is hereby deleted in its entirety and replaced with the following:

"The Contractor shall prepare, process, obtain, and pay for all permits necessary for the proper execution of the work."

s. Section 7.7.2 is amended to read as follows: "The wage rate schedule is attached to this contract."

t. Sections 7.14.2, 7.19.2, and 7.19.4: delete "Departments and Agencies and their" and insert "directors" between "officers" and "representatives".

u. Section 7.14.4 is hereby added and reads as follows:

"Contractor warrants that it and none of its employees, agents or subcontractors performing services or providing goods pursuant to this Agreement are excluded from participation in federal health care programs, as defined in the Social Security Act (section 1128 and 1128A), and other federal laws and regulations relating to health care. HHSC reserves the right to verify that the above warranty is true and to immediately cancel this Agreement in the event it is violated."

v. Section 7.15 delete "and its Departments and Agencies".

w. Section 7.21.8.6 — Delete the word "bad" before the words "weather day conditions."

x. Section 7.35.1: the last word "earlier" is changed to "later".

3. CORPORATE COMPLIANCE PROGRAM. A description of the Corporate Compliance Program of HHSC is posted on the HHSC Internet (www.hhsc.org). The CONTRACTOR, by signing this contract, acknowledges that it has read said description, and that the CONTRACTOR knows of the fact and substance of the Corporate Compliance Program, which governs operations at all facilities of the HHSC. The CONTRACTOR understands and agrees that employees, agents, and contractors performing any services at any of the HHSC facilities shall be fully subject to such Corporate Compliance Program, as may be amended from time to time, as well as all federal program requirements and applicable policies and procedures of HHSC and its facilities. The Corporate Compliance Program requires periodic training, including an orientation program, of all people who provide financial, business office, personnel, coding, medical records information systems and clinical services in the facility. The CONTRACTOR agrees to cause its employees, agents, and contractors who provide any services at any financial, business office, personnel, coding, medical records information systems and clinical services at any of the HHSC facilities to participate in the orientation and training programs.

4. CONFIDENTIAL INFORMATION. It is acknowledged and agreed that all of the trade secrets, business plans, marketing plans, know how, data, contracts, documents, scientific and medical concepts, billing records, personnel records, medical records of any kind, and referral resources for existing or future services, products, operations, management, business, pricing, financial status, valuations, business plans, goals, strategies, objectives and agreements of HHSC and any of its facilities, affiliates or subsidiaries, and all patient information, in any form, whether written, verbal, or electronic, are confidential ("Confidential Information"); provided, however, that Confidential Information, with the exception of patient information, shall not include information that is in the public domain.

5. CONTRACTOR EXCLUSION FROM FEDERAL PROGRAMS. CONTRACTOR warrants that it and none of its employees, agents or subcontractors performing services or providing goods pursuant to this Agreement are excluded from participation in federal health care programs, as defined in the Social Security Act (section 1128 and 1128A), and other federal laws and regulations relating to health care. HHSC reserves the right to verify that the above warranty is true and to immediately cancel this Agreement in the event it is violated.

6. CAMPAIGN CONTRIBUTIONS BY STATE AND COUNTY CONTRACTORS.
CONTRACTORs are hereby notified of the applicability of Section 11-205.5, 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, please consult with the Campaign Spending Commission, or visit its website, www.hawaii.govicampaign.

(END OF SECTION)

SECTION 4
BID EVALUATION AND AWARD

4.0 Bid Evaluation

Each bid offer will be reviewed for exact conformity of the requirements in the IFB, known as a responsible bid. Information provided in/with the bid offer will be used to determine whether the interested bidder has the technical and financial capacity to deliver the goods or services, known as a responsive bid.

4.1 Method of Award

A. The contract will be awarded to the lowest responsive and responsible Bidder whose bid (including any alternates which may be selected) meets the requirements and criteria set forth in the solicitation documents.

B. In the event the total lump sum bid of all bidders exceeds the project control budget, HHSC reserves the right to make an award to the apparent Low Bidder if additional funds are available or by reducing the scope of work through negotiation.

4.2 Contract Execution

Upon receipt of the Contract document, the CONTRACTOR shall have ten (10) business days to execute and return the Contract to the Issuing Officer. Explicit execution instructions will accompany the Contract. A copy of the fully executed Contract will be provided the CONTRACTOR within seven (7) business days of Contract execution.

Award of Contract may be withdrawn if the CONTRACTOR is unable to meet Contract execution requirements.

(END OF SECTION)

APPENDIX A

SAMPLE
BID TRANSMITTAL COVER LETTER

Dear Mr. Kawai,

(Name of Business) proposes to provide any and all goods and services as set forth in the "Invitation for Bid" for Leahi Hospital – Central Courtyard Parking Lot Phase 1 IFB No. 20L-0050, for which fees/costs have been set. The fees/costs offered herein shall apply from XXX, 2020 to XXX, 2022.

It is understood and agreed that (Name of Business) have read HHSC's Scope of Services described in the IFB and that this bid is made in accordance with the provisions of such Scope of Services. By signing this bid, (Name of Business) guarantee and certify that all items included in this bid meet or exceed any and all such Scope of Services. (Name of Business) agree, if awarded the contract, to provide the goods and services set forth in the IFB; and comply with all terms and conditions indicated in the IFB; and at the fees/costs set forth in this bid. The following individual(s) may be contacted regarding this bid:_____

_____

Other information:

Address:		Federal Tax ID #:	
Phone No.:		Hawaii GET ID #:	
E-mail address:			

(Name of Business) is a: ☐ Sole Proprietor ☐ Partnership ☐ Corporation ☐ Joint Venture Other (Specify)_____

State of Incorporation is: (Specify)_____

Year of Business started: _____

The exact legal name of the business under which the contract, if awarded, shall be executed is:_____

_____

(Authorized Bidder's Signature, Printed Name/Title; Corporate Seal or Notarized)

APPENDIX B

IFB No. 20L-0050
Leahi Hospital – Central Courtyard Parking Lot - Phase 1

BID FORM

After carefully examining the bid documents, drawings and specifications identified above, the Bidder proposes to furnish at its own expense all necessary labor, materials, tools and equipment to complete the work according to the true intent and meaning of the drawings and specifications, all for the Lump Sum Base Bid of:

_____DOLLARS ($_____)

(Schedule of Values must be submitted with the Bid).

Respectfully Submitted:

_____ _____
Signature / Printed Name Date

_____
Title

OTHER CONDITIONS

1. Bidder agrees to pay liquidated damages to the HHSC to be specified.

2. By submitting this proposal, the Bidder is declaring that its firm has not been assisted or represented on this matter by an individual who has, in a County capacity, been involved in the subject matter of this contract in the past two years;

3. Anti-collusion certification. In accordance with HAR 3-122-192, by submitting this proposal, the Bidder is declaring that the price submitted is independently arrived at without collusion.

4. Certification for Safety and Health Program for bids in excess of $100,000. In accordance with HRS 396-18, the Bidder certifies that its organization will have a written safety and health plan for this project that will be available and implemented by the Notice to Proceed date of this project. Details of the requirements of this plan may be obtained from the Department of Labor and Industrial Relations, Occupational Safety and Health Division (HIOSH); and

5. Upon the acceptance of the proposal by the HHSC, the Bidder must enter into and execute a contract for the same and furnish a Performance and Payment bond, as required by law.

RECEIPT OF ADDENDA
Receipt of the following addenda issued by HHSC is acknowledged by the date (s) of receipt indicated below:

Addendum No. 1 _____ Addendum No. 3 _____
Date
Addendum No. 2 _____ Addendum No. 4_____

It is understood that failure to receive any such addendum shall not relieve the Bidder from any obligation under this Proposal as submitted.

ALL JOINT CONTRACTORS OR SUBCONTRACTORS TO BE ENGAGED ON THIS PROJECT

The Bidder certifies that the following is a complete listing of all joint contractors or subcontractors covered under Chapter 444, Hawaii Revised Statutes, who will be engaged by the Bidder on this project to perform the nature and scope of work indicated and understands that failure to comply with this requirement may be just cause for rejection of the bid.

The Bidder further understands that only those joint contractors or subcontractors listed shall be allowed to perform work on this project and that all other work necessary shall be performed by the Bidder with his own employees. If no joint contractor or subcontractor is listed, it shall be construed that all of the work shall be performed by the Bidder with its own employees.

The Bidder must be sure that it has and that the subcontractor(s) listed in the proposal have all the necessary specialty licenses needed to perform the work for this project. The Bidder shall be solely responsible for assuring that all the specialty licenses required to perform the work are covered in its bid.

The Bidder shall include the license number of the joint contractors or subcontractors listed below. Failure to provide the correct names and license numbers as registered with the Contractor's Licensing Board may cause rejection of the bid submitted.

Complete Firm Name Joint Contractor or Subcontractor for Lump Sum Base Bid	License Number	Nature and Scope of Work to be Performed

Enclosed herewith:

1. Surety Bond (*1))
2. Legal Tender (*2))
3. Cashier's Check (*3))
4. Certified Check (*3))

(Cross Out Those Not Applicable)

in the amount of:

_____ DOLLARS ($_____).

as required by law.

Respectfully submitted,

_____
Name of Company, Joint Venture or Partnership

_____
License

By _____
Signature (*4)

Title _____

Date: _____

(CORPORATE SEAL)
(*5)

NOTES:

1. Surety bond underwritten by a company licensed to issue bonds in this State;

2. Legal tender; or

3. A cashier's or a certified check accepted by, and payable on demand to the HHSC by a bank, a savings institution, or credit union insured by the Federal Deposit Insurance Corporation.

    a. These instruments may be utilized only to a maximum of $100,000.

    b. If the required security or bond amount totals over $100,000, more than one instrument not exceeding $100,000 each and issued by different financial institutions shall be accepted.

4. Please attach to this page evidence of the authority of this officer to submit bids on behalf of the Company, and also the names and residence addresses of all officers of the Company.

5. Fill in all blank spaces with information asked for or bid may be invalidated. PROPOSAL MUST BE INTACT. MISSING PAGES MAY INVALIDATE YOUR BID.

END OF BID FORM

APPENDIX C

S P E C I F I C A T I O N S

FOR

FURNISHING LABOR AND MATERIALS

REQUIRED FOR

LEAHI HOSPITAL
CENTRAL COURTYARD PARKING LOT - PHASE 1

3675 KILAUEA AVE.
HONOLULU, OAHU, HAWAII

TMK: 03-03-031:001

FOR THE

HAWAII HEALTH SYSTEMS CORPORATION (HHSC)

STATE OF HAWAII

CIVIL ENGINEER: AUSTIN, TSUTSUMI AND ASSOCIATES, INC.

FEBRUARY 2020

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SECTION 00210 - INSTRUCTIONS TO BIDDERS

Part 1 - GENERAL

1.01 GENERAL

A. Only Bidders with the required contractor's license(s) are eligible to submit a Bid.

B. Bidders (Contractors) shall be incorporated or organized under the laws of the State or be registered to do business in the State as a separate branch or division that is capable of fully performing under the contract. The following definitions are used in the solicitation documents.

1. Hawaii Business §3-1222-112 HAR: A bidder who is registered and incorporated or organized under the laws of the State is a "Hawaii Business" and eligible for an award.

2. Compliant non-Hawaii Business §3-122-112 HAR: A bidder not incorporated or organized under the laws of the State, but is registered to do business in the State and complies with or is exempt from the requirements of §3-122-112 HAR, is a "Compliant Non-Hawaii Business" and eligible for an award.

3. Non-compliant Bidder: If a bidder is a non-Hawaii business and is not registered with the DCCA Business Registration Division (BREG) or cannot comply with §3-122-112 HAR, then the bidder in non-compliant and is ineligible for an award.

C. Prospective Bidders shall submit their "Intention to Bid".

D. Bidders shall submit the "Sealed Bid Form", bid bond (if required), tax clearances, Hawaii business certificates, and any other documents required by the bidding documents.

E. The GENERAL CONDITIONS set forth additional terms and conditions for the bid and award process. The GENERAL CONDITIONS will be part of the contract documents by which HHSC and the bidder (prospective contractor) will be bound. Bidders are directed to the GENERAL CONDITIONS for contract and statutory requirements and for Bidding and Execution of the Contract Requirements. Bidders are also directed to "Section 00800 – Special Conditions" of these specifications for definitions and modifications to the GENERAL CONDITIONS.

1.02 OFFEROR(S) or BIDDER(S)

A. The terms "Offeror" and "Bidder" are synonymous when used in this Section 00210 and other solicitation documents.

1.03 ADDENDA, CLARIFICATIONS

A. Addenda: The HHSC may periodically issue an addendum that may increase or decrease the scope of work or contract time, provisions or conditions. The HHSC will make the addenda available online on the facility website. Bidders are responsible for the information contained in the addenda or bid clarification whether or not the Bidder receives the addenda or clarification.

B. Bidders discovering an ambiguity, inconsistency or error when examining the bidding documents or the site and local conditions or bidders with questions or clarification requests shall send their written requests (email or fax notification are acceptable) to the Contract Manager. Bidders shall comply with the following procedures:

1. Identify each request with the Project Name and HHSC Project Number.

2. Indicate the appropriate section number, paragraph, drawing and detail number, schedule or other identifier.

3. The request should be brief, concise, but complete enough to properly evaluate and determine the merits or non-merits of the question or request.

C. Bidders shall make any requests for clarifications no later than fourteen (14) calendar days prior to the submission date for sealed bids. Refer to the "Notice to Bidders" for submission date.

D. HHSC will respond to important requests or clarifications by way of addenda. HHSC may not address or respond to all bidders inquiries, if the HHSC determines the request is unimportant or not required to disseminate to all Bidders.

1.04 SEALED BID FORM (BID FORM)

A. Bidder shall fill out the "Sealed Bid Form" completely. Write in ink or type. Besides the following paragraphs with instructions, there are supplemental Bidder's Instructions within the text of the "Sealed Bid Form" and bidders shall comply with the instructions. Do not alter the "Sealed Bid Form", and maintain the form intact.

B. RECYCLED PRODUCT PREFERENCE is not applicable to this project.

C. OTHER CONDITIONS: Bidder acknowledges and agrees to the provisions and certifications stated in this article.

D. RECEIPT OF ADDENDA: Bidder shall fill in the appropriate dates any addenda were received.

E. LISTING JOINT CONTRACTORS OR SUBCONTRACTORS:

1. Bidder shall complete the "Joint Contractors or Subcontractors List." It is the sole responsibility of the bidder to review the requirements of this project and determine the appropriate specialty contractor's licenses that are required to complete the project. Failure of the bidder to provide the correct names, license numbers, specialty class number, classification description and to indicate that the specialty contractor is required for this project, may cause the bid to be rejected.

2. Bidder agrees the completed listing of joint contractors or subcontractors is required for the project and that the bidder, together with the listed joint contractors and subcontractors, have all the specialty contractor's licenses to complete the work.

3. Based on the Hawaii Supreme Court's January 28, 2002 decision in Okada Trucking Co., Ltd. v. Board of Water Supply, et al., 97 Hawaii 450 (2002), the bidder as a general contractor ('A' or 'B' license) is prohibited from undertaking any work solely or as part of a larger project, which would require the bidder ('A' or 'B' general contractor) to act as a specialty ('C' license) contractor in any area in which the bidder ('A' or 'B' general contractor) has no specialty contractor's 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. The bidder ('A' or 'B' general contractor) must have the appropriate 'C' specialty contractor's licenses either obtained on its own, or obtained automatically under HAR §16-77-32.

4. General Engineering 'A' Contractors automatically have these 'C' specialty contractor's licenses: C-3, C-9, C-10, C-17, C-24, C-31a, C-32, C-35, C-37a, C-37b, C-38, C-43, C-56, C-57a, C-57b, and C-61.

5. General Building 'B' Contractors automatically have these 'C' specialty contractor's licenses: C-5, C-6, C-10, C-12, C-24, C-25, C-31a, C-42a, and C-42b.

6. The table that lists the specialty contractor' classifications in the bid form is from the Department of Commerce and Consumer Affairs' (DCCA) website www.state.hi.us/dcca/har/index.html. Bidders shall provide the appropriate classifications numbers and descriptions for any specialty contractors that are not included in the bid form and bidders are directed to the DCCA web site for the latest updated list.

7. Instructions to complete the Joint Contractors or Subcontractors List:

a. Determine the specialty contractor classification(s) required for this project and provide the complete firm name and license number of the joint contractor or subcontractor in the respective columns. If the bidder is a general contractor and providing the work of the required specialty contractor classification, fill in the bidder's (general contractor's) license number and name.

b. List only one joint contractor or subcontractor per required specialty contractor's classification.

c. For projects with alternate(s), fill out the respective "Joint Contractors or Subcontractors List for the Alternate(s)." Bidder shall determine the specialty contractor's classification and description required for the respective alternate. Bidders shall fill in the complete class number, class description, firm name and license number of the respective joint contractor or subcontractor. The bidder shall not include any joint contractor or subcontractor previously listed for the base bid.

F. COST AND TIME: Bidder shall completely fill out the article and enter the cost for the Project Bid Price, and Alternates when provided. Bidder shall tabulate the Project Bid Price, and Alternates when provided, and the Bidders shall then enter the Total Lump Sum Bid Price. **BE SURE TO ENTER THE TOTAL LUMP SUM BID PRICE IN WORDS AND NUMERALS**. Refer to Bidder's Instructions located within the article.

1. If provided, bidder shall fill in total costs for each alternate.

2. The bidder is directed to the construction time information paragraph "B" for the list of contract times and dates which may include: contract duration, project start date, jobsite start date, jobsite completion, contract completion date and construction time for alternates. Bidder shall refer to "Section 01100" of these specifications for additional construction time information, as applicable.

G. SIGNATORY PAGE: Bidder shall completely fill out article (page). Bidder shall indicate if it is a "Hawaii Business" or a "Compliant Non-Hawaii Business." Also, bidder shall refer to Bidder's Instructions located within the article.

1.05 EVALUATION CRITERIA

A. EVALUTATING BIDS: The lowest responsive, responsible bid is determined by the following procedures:

1. The total lump sum bid price is adjusted to reflect the applicable preferences.

a. For projects with alternates, the total lump sum base bid price and alternates will be adjusted to reflect the applicable preferences.

2. Project control budget is established prior to the submission of bids.

1.06 METHOD OF AWARD

A. The contract will be awarded to the lowest responsive and responsible Bidder whose bid (including any alternates which may be selected) meets the requirements and criteria set forth in the solicitation documents.

B. In the event the total lump sum bid of all bidders exceeds the project control budget, HHSC reserves the right to make an award to the apparent Low Bidder if additional funds are available or by reducing the scope of work through negotiation.

1.07 OTHER CONDITIONS FOR AWARD

A. The Chief Procurement Officer may reject any or all bids and waive any defects if the Chief Procurement Officer believes the rejection or waiver is in the best interest of HHSC.

B. The Chief Procurement Officer may hold all bids up to 60 calendar days from the date bids were opened. Unless otherwise required by law, bids may not be withdrawn without penalty.

C. The award of the contract is conditioned upon funds made available for the project (or projects if applicable)

1.08 COMPLIANCE WITH §3-122-112 HAR:

A. As a condition for award of the contract and as proof of compliance with the requirements of 103D-310(c) HRS, the bidder shall meet the “Hawaii Business” or “Compliant non-Hawaii Business” requirements and shall provide the following documents:

1. Department of Taxation (DOTAX) and the IRS tax clearance certificates.

2. Department of Labor (DLIR) certificate of compliance.

3. Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG) certificate of good standing.

a. A Hawaii business that is a sole proprietorship is not required to register with the BREG and therefore not required to submit the DCCA, BREG “Certificate of Good

Standing."

B. The apparent three low bidders shall furnish the required documents to HHSC within seven calendar days from the bid opening date. If a valid certificate is not submitted on a timely basis for award of a contract, a bidder otherwise responsive and responsible may not receive the award. Bidder is responsible to apply for and submit the documents by the required deadlines.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 REQUIRED DOCUMENTATION FOR HAWAII BUSINESS OR COMPLIANT NON-HAWAII BUSINESS (§3-122-112 HAR)

A. TAX CLEARANCE REQUIREMENTS (HRS Chapter 237): Bidder shall obtain a tax clearance certificate from the Hawaii State Department of Taxation (DOTAX) and the Internal Revenue Service (IRS). The certificate is ~~are~~ valid for six months from the most recently approved stamp date on the certificate; the certificate must be valid on the date received by HHSC.

1. DOTAX *TAX CLEARANCE APPLICATION* Form A-6 (Rev 2003) is available at DOTAX and IRS (State of Hawaii) offices or DOTAX website, and by mail or fax.

   a. DOTAX website: http://www.state.hi.us/tax/alphalist.html#a

   b. DOTAX forms by fax/mail: (808) 587-7572 or 1-800-222-7572

2. Mail, fax or submit in person completed tax clearance application forms to the Department of Taxation, Taxpayer Services Branch or to the address listed on the application. Facsimile numbers are:

   a. DOTAX: (808) 587-1488

   b. IRS: (808) 539-1573

3. DOTAX will return the form to the bidder. The bidder is reminded that it is responsible to submit the applications for the tax clearance directly to DOTAX or IRS and not to HHSC.

B. DLIR CERTIFICATE of COMPLIANCE (HRS Chapter 383 - Unemployment Insurance, Chapter 386 - Workers' Compensation, Chapter 392 - Temporary Disability Insurance, and 393 – Prepaid Health Care): Bidder shall obtain a certificate of compliance from the Hawaii State Department of Labor and Industrial Relations (DLIR). The certificate is valid for six months from the date of issue; certificates must

be valid on the date received by HHSC.

1. DLIR *APPLICATION FOR CERTIFICATE OF COMPLIANCE WITH SECTION 3-122-112 HAR*, Form LIR#27 is available at DLIR website or at the neighbor island DLIR District Office.

   a. DLIR website: http://www.dlir.state.hi.us/LIR#27

2. Mail, fax or submit in person completed application form to the Department of Labor and Industrial Relations, Administrative Services Office at the address listed on the application.

3. DLIR will return the form to the bidder. The bidder is reminded that it is responsible to submit the application for the certificate directly to DLIR and not to HHSC.

C. DCCA CERTIFICATE OF GOOD STANDING: Bidder shall obtain a certificate of good standing issued by the Department of Commerce and Consumer Affairs (DCCA), Business Registration Division (BREG). The certificate of good standing is valid for six months from the date of issue; certificates must be valid on the date received by HHSC.

1. DCCA *CERTIFICATE OF GOOD STANDING* is available from the business registrations website or by telephone. Bidders are advised there are costs associated with registering and obtaining the certificate.

   a. DCCA form website: http//www.BusinessRegistrations.com

   b. DCCA telephone: (808) 586-2727, M - F 7:45 to 4:30 HST

2. Submit the application per DCCA's requirements.

3. DCCA will return the form to the bidder. The bidder is reminded that it is responsible to submit the application for the certificate directly to DCCA and not to HHSC.

END INSTRUCTION TO BIDDERS

SECTION 00800 - SPECIAL PROVISIONS

PART 1 - GENERAL

1.01 SUBSTITUTION REQUESTS

A. Written substitution requests must be submitted with your Invitation for Bid (IFB) in accordance with IFG Section 3. All substitutions will be reviewed and approved in accordance with the GTC.

B. Substitution requests by FAX are not acceptable.

1.02 PROJECT CONTACT PERSON

A. HHSC Representative – For access to the site.

NAME:	Mr. Ron Kurasaki
POSITION OR TITLE:	Project Manager
TELEPHONE NUMBER:	(808) 497-9350
Email:	rkurasaki@hhsc.org

B. Project Coordinator - For questions and clarifications during bidding and Requests for Substitutions.

NAME:	Mr. Matthew Murakami
POSITION OR TITLE:	Project Engineer
TELEPHONE NUMBER:	(808) 533-3646
Email:	mmurakami@atahawaii.com

C. Procurement Agency – For questions regarding proposal and contract requirements.

NAME:	Mr. Scott Kawai
POSITION OR TITLE:	Contracts Manager
TELEPHONE NUMBER:	(808) 832-3025
Email:	SKawai@hhsc.org

1.03 OFFEROR'S RESPONSIBILITY FOR EXAMINING PLANS, SPECIFICATIONS AND SITE OF WORK

A. Offerors herewith refers to sub-contractors, suppliers, manufacturer's representatives as well as contractors.

1.04 LIQUIDATED DAMAGES

A. The time of completion for the Work shall be within 60 consecutive calendar days from the official commencement date of the Notice to Proceed (NTP).

B. In accordance with the General Conditions, upon failure to complete Work or any portion of the Work within the time or times fixed in the contract or extension thereof, the Contractor shall pay liquidated damages to the Department in the amount of $250.00 per calendar day of delay.

C. In accordance with the General Conditions, PROJECT ACCEPTANCE DATE, for failure to correct punch list deficiencies, within the time or times fixed in the contract or extension thereof, the Contractor shall pay liquidated damages to the HHSC, in the amount equal to ten percent (10%) of the liquidated damages per calendar day of delay.

D. In accordance with the General Conditions FINAL SETTLEMENT OF THE CONTRACT, for failure to submit closing documents within the time or times fixed in the contract or extension thereof, it is agreed that the Bidder shall pay liquidated damages to HHSC in the amount equal to five percent (5%) of the liquidated damages per calendar day of delay.

1.05 SPECIALTY CONTRACTOR'S LICENSE

A. Contractor shall be solely responsible to assure that all the specialty licenses required to perform the Work are covered by the Contractor or its subcontractor(s).

1.06 WORKING HOURS

A. The regular working hours for this project is from 8:00 AM to 4:30 PM Monday through Friday, excluding State Holidays, unless otherwise noted or restricted under "Section 01100". The Working Hours provisions of specification "Section 01100" shall govern over this article 1.06.

B. The Contractor may be given approval to work beyond the regular hours including Saturdays, Sundays, State Holidays, night work, or after hours under the provisions of the GENERAL CONDITIONS, "Overtime And Night Work Section" and under specification "Section 01100".

1.06 SPECIAL PROCEDURES DURING BIDDING

A. Bid documents will be available online and from the Contracts Manager's office, at Maluhia, 1027 Hala Drive, Honolulu, HI, 96817.

B. All bids shall be submitted to the Contracts Manager.

C. All questions regarding the plans and specifications shall be submitted, in writing, to the Engineer. The Engineer will review the questions and issue any responses via Addendum. Only information received by Addendum shall be binding.

D. All questions regarding the proposal or contractual requirements shall be submitted, in writing to the Contracts Manager. The Contracts Manager will review the questions and issue any responses via Addendum. Only information received by Addendum shall be binding.

E. Any visitation to the site to examine the scope of work shall be requested through the HHSC Representative. Disruption of facility operations shall not be permitted.

1.07 PROCEDURES DURING CONSTRUCTION

A. Upon issuance of the Notice to Proceed, the Contractor shall submit a work schedule for review and discussion. The work schedule shall be up-dated on a weekly or bi-weekly basis as directed by the Engineer.

B. On a weekly or bi-weekly basis, the Contractor shall conduct a progress meeting with the Hospital and Engineer. The meeting will discuss the progress of the construction, discussion of problems, and review of outstanding issues. The Contractor shall conduct the meeting and prepare the meeting notes and minutes and distribute to all parties.

C. During the construction, submittals and RFIs shall be submitted to the Engineer for review and action. To expedite the review, the Contractor may make submittals via email.

D. Periodic requests for payment shall be submitted to the Engineer for review and confirmation. Approved requests for payment will be forwarded to the Contracts Officer for processing of payment.

E. Upon substantial completion of the project, the Contractor shall submit in writing to the Engineer a request for a pre-final inspection. The Contractor shall have completed their own inspection and completed all noted discrepancies. Include with the request for the pre-final inspection a list of all outstanding work not completed or corrected.

F. Upon conducting a pre-final inspection, the Engineer shall prepare a punchlist of noted discrepancies for the Contractor's remedial action. A final inspection will be performed upon completion of all punchlist items.

1.08 PROJECT RESTRICTIONS

A. The Contractor is informed that the facilities will be fully occupied and work shall be performed in close coordination with the HHSC representative. Work shall be phased and may be limited to one area at a time. If work will require the relocation of clients from the work area, time shall be allocated for the Hospital to conduct this relocation. Scheduling of the work shall be closely monitored and work performed to minimize the disruption to the remaining areas of the facility. All work schedules shall be approved by HHSC prior to starting.

B. Staging and storage of materials on-site is limited and shall not be allowed unless coordinated and approved with the HHSC representative. Contractor may be required to store materials off-site at his own expense.

C. Parking on-site is limited and may be restricted to only active delivery of materials and equipment. Coordinate with the HHSC representative. If on-site parking will not be available, the Contractor shall park off-site.

D. The above restrictions shall be considered in the work of this project and shall be included in the Contractor's cost. No additional compensation shall be made for not considering these restrictions.

PART 2 - MATERIALS (Not Used)

PART 3 - EXECUTION

3.01 FINAL PAYMENT REQUIREMENTS

A. In addition to the requirements in the GENERAL CONDITIONS “Final Payment” section, the contractor shall submit”

1. Tax clearance certificate from DOTAX and IRS, current within two months of the issuance date; and

2. An originally signed Certificate of Compliance for Final Payment (SPO Form - 22, modified), affirming that the contractor remained in compliance with all laws as required by (§3-122-112 HAR). A contractor making a false affirmation shall be suspended and may be debarred pursuant to section 103D-702 HRS.

END OF SECTION

SECTION 01019 - GENERAL PROJECT REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY OF WORK

A. Perform operations and furnish equipment, tools, materials, related items and labor necessary to execute, complete and deliver the Work as required by the Contract Documents.

1.02 DIVISION OF WORK

A. The Division and Sections into which these specifications are divided shall not be considered an accurate or complete segregation of work by trades. This also applies to work specified within each section

B. Where devices, or items, or parts thereof are referred to in the singular, it is intended that such reference shall apply to as many such devices, items or parts as are required to properly complete the Work.

C. 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”, “an”, and “the” are intentional. Omitted words and phrases shall be provided by inference to form complete sentences

D. Specifying of interface and coordination in the various Specification Sections is provided for information and convenience only. Such requirements in the various Sections shall complement the requirements of this Section.

1.03 NOTIFICATION

A. Contact the Engineer and HHSC Representative at least five (5) working days prior to starting any onsite work.

1.04 SAFETY REQUIREMENTS

A. The Hawaii Occupational Safety and Health Law, Chapter 396, Hawaii Revised Statutes, effective May 16, 1972, as amended, is applicable and made a part of the Contract. Carefully read and strictly comply with its requirements.

B. Protect the facility personnel, students, and the public whenever power driven equipment is used. Ensure adequate safety precautions are used when operating any power driven equipment.

1.05 PERFORMANCE AND COORDINATION

A. Contractor shall be in charge of the Work and the Project Contract Limits, as well as the directing and scheduling of all work. Contractor shall

include general supervision, management and control of the Work of this project, and in addition to other areas more specifically noted throughout the Specifications. Final responsibility for performance, interface, and completion of the Work and the Project shall be the Contractor's.

B. Jobsite Administration shall be the responsibility of the Contractor. Provide a competent superintendent on the job and provide an adequate staff to execute the Work. In addition, all workers shall dress neatly and conduct themselves properly at all times. Loud abusive behavior, sexual harassment and misconduct will not be tolerated. Workers found in violation of the above shall be removed from the job site as directed by the HHSC Technical Representative.

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

D. Coordination: Provide project interface and coordination to properly and accurately bring together the several parts, components, systems, and assemblies as required to complete the Work.

1. Provide interface and coordination of all trades, crafts and subcontracts. Ensure and make correct and accurate connections of abutting, adjoining, overlapping, and related work. Provide anchors, fasteners, accessories, appurtenances, and incidental items needed to complete the Work, fully, and correctly in accordance with the Contract Documents.

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

3. Provide caulking, sealing, and flashing as required to waterproof the building complete and as required to insulate the building thermally and acoustically. Include sealing, flashing, and related work as required to prevent moisture intrusion, air infiltration, and light leakage.

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

1.06 COOPERATION WITH OTHER CONTRACTORS

A. The Hospital reserves the right at any time to contract for or otherwise perform other or additional work within the Project Contract Limits. The Contractor of this project shall to the extent ordered by the HHSC Representative, conduct its work so as not to interfere with or hinder the

progress or completion of the work performed by the Hospital or other contractors.

1.07 SUBMITTALS

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

B. Record Drawings: Field Posted As-Built Drawings, the intent of which is to record the actual in-place construction so that any future renovations or tie-ins can be anticipated accurately, shall be prepared and submitted by the Contractor. To accomplish this, the following procedure shall be followed by the Contractor:

1. A full-size set of field posted as-built drawings shall be maintained at the job site. All deviations from alignments, elevations and dimensions which are stipulated on the drawings and authorizations given by the HHSC Technical Representative to deviate from the drawings shall be clearly and accurately recorded by the Contractor on this set of record drawings.

2. Changes shall be recorded immediately after they are constructed in place to assure they are not forgotten. Record the changes in red pencil and where applicable, refer to the authorizing document or Change Order. The field posted as-built drawings shall be made available to the Engineer and HHSC Technical Representative at any time so that its clarity and accuracy can be monitored.

3. The words “FIELD POSTED AS-BUILT” shall be labeled on the title sheet and certified by the Contractor as to accuracy and completeness as shown below:

FIELD POSTED AS-BUILT

Certified By: _____Date:_____
Contractor (Include name and company)

4. The words “FIELD POSTED AS-BUILT” shall be labeled on all sheets in the margin space to the right of the sheet number written from the bottom upward.

5. The Index to Drawings shall be revised with the label “FIELD POSTED AS-BUILT” for each sheet. The index shall conclude with the following note: “A COMPLETE SET CONTAINS ____ SHEETS” with the total number of sheets comprising the set to be placed in the blank.

6. Any “FIELD POSTED AS-BUILT” drawing which the Engineer determines does not accurately record the deviation may be corrected by the Engineer and the Contractor shall be charged for the services.

7. Submit the set of “FIELD POSTED AS-BUILT” drawings to the Engineer and notify the HHSC Technical Representative no later than five (5) calendar days prior to the date of final inspection.

8. “AS-BUILT” drawings will be prepared by the design consultant using the “FIELD POSTED AS-BUILT”. Both sets of drawings will be sent to the Contractor for review and approval. The Contractor shall retain the “FIELD POSTED AS-BUILT” drawings for records, sign the “AS-BUILT” set of drawings, indicating approval, and return the drawings in a timely manner to the Engineer and notify the HHSC Representative.

1.08 CONSTRUCTION SCHEDULE:

A. The Construction Schedule completion date will be approved prior to award. The daily activities of the Construction Schedule will be reviewed within fifteen (15) calendar days after the Notice to Proceed or upon earlier written instruction by HHSC.

B. The schedule shall be related to the entire project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the work. If requested by the Engineer or HHSC Representative, the Contractor shall participate in a preliminary meeting to discuss the proposed schedule and requirements prior to submission of the schedule.

C. Contractor shall prosecute the work according to the Schedule. The Engineer and HHSC Representative shall rely on the reviewed Contractor’s Schedule and regular updates for planning and coordination. The HHSC Representative’s review of the Contractor’s Construction Schedule does not relieve the Contractor of its obligation to complete the work within the allotted contract time. Nor does the review grant, reject or in any other way act on the Contractor’s request for adjustment(s)to complete remaining contract work, or for claims of additional compensation. Such requests shall be processed in accordance with other relevant provisions of the contract.

D. If the Engineer issues a Field Order or Change Order or requires Force Account Work that affects the sequence or duration of work activities noted on the construction progress schedule, the Contractor shall promptly update the schedule. This shall be accomplished by adding, deleting or revising the work activities noted, or changing the logic in the schedule to show the Contractor’s plan for incorporating the change into the flow of work. All Change Orders and Time Extension requests that

affect the construction schedule shall be evaluated based on their impact on the approved Construction Schedule.

1.09 MEETINGS

A. Contractor shall meet with the hospital's representative, weekly or other interval as determined, to discuss the progress of the Work.

B. For each meeting, Contractor shall take meeting minutes and provide a list stating all items, work or material, which may cause a delay or have an impact on the project's contractual dates. The list shall be inclusive of items requiring action from all responsible parties such as outstanding submittal status, request for information (clarification), force account work, change order, and change proposals. The format of this list shall be at the Contractor's discretion, subject to the Engineer's approval. Submit the list to all parties for discussions as a meeting agenda. Contractor shall provide a plan of corrective action for any item, which is delayed or expected to be delayed, where that item impacts the contractual dates.

1.10 PROJECT AND SITE CONDITIONS

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

1.11 SANITARY FACILITIES

A. The Contractor shall be allowed to utilize on-site restrooms as directed by the Engineer and/or HHSC Representative. The Contractor shall maintain the facility in clean and sanitary condition at all time. Failure to do so, may require the Contractor to provide portable temporary toilet facilities for the contractor's use.

1.12 CONSTRUCTION AIDS

A. Provide construction aids and equipment required by construction personnel and to facilitate execution of the Work including: scaffolds, ladders, ramps, platforms, railings, and other such facilities and equipment.

PART 2 - MATERIALS

2.01 QUALITY

A. Materials, items, equipment and fixtures specified in the various Divisions and Sections shall be new unless otherwise specified.

2.02 STORAGE AND HANDLING

A. Contractor shall supervise jobsite delivery and handling, and assign storage space for materials, items, equipment and fixtures of all trades. Contractor and installer are responsible for delivery, unloading, unpacking, handling, storage, distribution, installation and protection of its materials at the jobsite.

B. Except as otherwise required by these specifications or by the Hospital, determine and comply with manufacturer(s) recommendation(s) on product handling, storage and protection.

C. Deliver products to the jobsite in manufacturer's original containers, with labels intact and legible. Maintain packaged material with seals unbroken and labels intact until time of use. Promptly remove damaged materials and unusable items from the jobsite, and promptly replace with material meeting the specified requirements, at no additional cost to the Hospital.

D. The Engineer may reject as non-complying such material and products that do not bear identification satisfactory to the Engineer as to manufacturer, grade, quality, and other pertinent information.

PART 3 - EXECUTION

3.01 EXAMINING THE SITE

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

B. Verify construction dimensions and elevations indicated on the drawings before any construction begins. Any discrepancy shall be immediately brought to the attention of the Engineer, and any change shall be made in accordance with the Engineer's instruction. Contractor shall not be entitled to extra payment if it fails to report the discrepancies before proceeding with any work whether within the area affected or not.

E. Obtain all field measurements required for the accurate fabrication and installation of the Work included in this Contract. Exact measurements are the Contractor's responsibility.

F. Furnish or obtain templates, patterns, and setting instructions as required for the installation of all Work. All dimensions shall be verified in the field.

G. The Contractor shall accept the site in the condition which exists at the time access is granted to begin the Work.

1. Verify existing conditions and dimensions shown and other dimensions not indicated but necessary to accomplish the Work.

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

3. Before starting the Work, the Contractor and each Subcontractor, shall verify governing dimensions and shall examine adjoining work on which the Contractor's work is in any way dependent. No additional compensation will be allowed on account of differences between actual measurements and dimensions shown. Submit differences discovered during the verification work to the Engineer for interpretations before proceeding with the associated work.

3.03 UTILITY SERVICE

A. Electricity - Make arrangements with the facilities for temporary use of electricity for construction use.

B. Telephone - Make arrangements with the utility companies for temporary telephone service for construction use or utilize cellular phone service.

C. Water - Make arrangements for temporary water use with the facilities.

3.04 ENVIRONMENTAL

A. General Contractor shall oversee that proper environmental conditions are met regarding temperature, humidity, lighting and ventilation.

3.05 PREPARATION AND PROTECTION

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

B. Before starting work to be applied to previously erected constructions, make a thorough and complete investigation of such recipient surfaces and determine their suitability to receive required additional construction and finishes. Contractor, at its expense, shall make whatever repairs and conditioning required to properly prepare such surfaces. Contractor shall coordinate the work to provide a suitable surfaces to receive following work.

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

D. Protect existing work in a manner to prevent damage including interior work from damage by vandals or the elements. Provide temporary protection. Use curtains, barricades, or other appropriate methods. Take positive measures to prevent breakage of glass and damage to plastic, aluminum and other finishes.

E. Repairs and Replacements: In event of damage, promptly make replacements and repairs to the approval of the Engineer and/or HHSC Representative and at no additional cost to the Hospital. Additional time required to secure replacements and to make repairs will not be considered to justify an extension in the Contract Time or completion.

3.06 BARRICADE

A. Erect temporary construction barricade(s) to prevent unauthorized persons from entering the project area and to the extent required by the Engineer and/or HHSC Representative.

B. Maintain temporary construction barricade(s) throughout the duration of the Work. During the course of the project, the Engineer and/or HHSC Representative may require additional barricades be provided for the safety of the public. Contractor shall erect the additional barricade(s) at its own expense.

3.07 INSTALLATION

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

3.08 CUTTING AND PATCHING

A. General Contractor shall oversee cutting and patching of concrete, masonry, structural members and other materials where indicated on drawings and as job conditions require. Unless noted elsewhere in the Drawings and Specifications, no cutting or patching of existing or new structural members will be permitted without previously notifying the HHSC Technical Representative.

B. Patching materials and workmanship shall be of equal quality to that indicated on the drawings, specified for new work, and/or to match the construction of item to be patched.

3.09 CLEAN-UP

A. Rubbish and debris resulting from work of the various Divisions and Sections of the specifications shall be collected and disposed of by the Contractor at legal disposal areas away from the project site. Clean up and remove from premises all debris accumulated from operations from time to time and as directed by the Engineer and/or HHSC Representative. Permission to provide on-site trash containers shall be granted by the Hospital and shall be placed where directed by the Engineer and/or HHSC Representative.

END OF SECTION

SECTION 01100 - SUMMARY

PART 1 - GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: The work shall generally consist of grading and removal of existing utility box, sewer box, sign and installation of new pavement and base course, concrete wheel stops and striping work as indicated on the drawings and specified herein.

1. Project Location: Leahi Hospital, 3675 Kilauea Ave., Honolulu, Hawaii.

B. Perform operations and furnish equipment, tools, materials, related items and labor necessary to execute, complete and deliver the Work as required by the Contract Documents.

C. The Division and Sections into which these specifications are divided shall not be considered an accurate or complete segregation of work by trades. This also applies to work specified within each section

D. Contractor shall not alter the Drawings and Specification. If an error or discrepancy is found, notify the Engineer.

E. Specifying of interface and coordination in the various specification sections is provided for information and convenience only. These requirements in the various sections shall complement the requirements of this Section.

1.02 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated and include incomplete sentences. Omission of words or phrases such as “the Contractor shall”, “as shown on the drawings”, “a”, “an”, and “the” are intentional. Omitted words and phrases shall be provided by inference to form complete sentences. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred, as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates. Where devices, or items, or parts thereof are referred to in the singular, it is intended that such reference shall apply to as many such devices, items or parts as are required to properly complete the Work.

2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

    a. The words “shall,” “shall be,” or “shall comply with,” depending on the context, are implied where a colon (:) is used within a sentence or phrase.

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

B. Definitions

1. Directed: Terms such as “directed,” “requested,” “authorized,” “selected,” “approved,” “required,” and “permitted” mean directed by Contracting Officer, requested by Contracting Officer, and similar phrases.

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

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

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

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

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

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

C. Industry Standards

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

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

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

1.04 WORK SEQUENCE

A. The Work will be conducted in a single construction phase.

1.05 USE OF PREMISES AND WORK RESTRICTIONS

A. General: Contractor shall have full use of construction zone for construction operations, including restricted use of project site, during construction period. Contractor’s use of premises is limited only by State’s right to perform work or to retain other contractors on portions of the project site.

B. Contractor’s use of premises is restricted as follows:

1. Construction Times and Schedule:

a. The Contractor shall coordinate the work schedule with the Engineer and/or HHSC Representative. An advanced notice of 15 calendar days shall be provided prior to the start of work. Work can be scheduled for weekdays (8:00 AM to 4:30 PM) with advanced notice by the Contractor.

b. The normal operational hours are 8:00 AM to 4:30 PM, Monday through Friday.

c. Unless restricted elsewhere in these specifications, the Contractor may not perform work outside of normal daily operation hours. Weekend or holiday work may be

permitted with the approval of the Engineer and/or HHSC Representative. Any weekend or holiday work shall require a 15 calendar day advanced notice.

d. Work performed during normal operating hours shall not impede public traffic or office personnel. An alternate route around the work areas may be required.

2. Site Access and Parking:

a. Arrange all on-site parking and access with the Engineer and/or HHSC Representative.

b. Subject to availability, the Engineer and/or HHSC Representative will designate other on-site areas that may be used by the Contractor other than assigned stalls. Restore any property damaged by construction activities at the completion of the project.

3. Sanitation and Utilities:

a. Contractor may use designated restrooms, however, shall maintain the facilities in clean condition at all times. Coordinate with the HHSC Representative.

b. Arrange all temporary electricity and water service with the HHSC Representative. There will be no charges for reasonable electricity and water service.

c. Should interruption of any utility services be required, outages shall be coordinated with the HHSC Representative. A minimum five (5) working days notice shall be provided. Contractor is forewarned that the HHSC Representative may require outages to be done at specific times to minimize disruptions to the facility operations.

4. Other Conditions:

a. Noise and other disrupting activities normally resulting from construction operations are detrimental to the conduct of normal activities in adjacent locations surrounding the project area. Accordingly, exercise every precaution to keep noise levels to a minimum. Internal combustion engines and compressors shall be equipped with mufflers to reduce noise to a minimum.

b. Use or application of materials with offensive odors should be avoided and may be restricted from use on this project.

1.06 WORK UNDER OTHER CONTRACTS

A. Separate Contract: The HHSC may execute a separate contract for certain construction at the facility that was not known at the time Offers were submitted.

B. Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END SECTION

SECTION 01140 – WORK RESTRICTIONS

PART 1 – GENERAL

1.01 SUMMARY

A. This section includes work restrictions on the Contractor's operations, and construction as required to maintain the facility's operation during the construction period.

B. CONSTRUCTION PROVISIONS

1. Rules and Regulations: Consult with the Engineer and HHSC Representative at the pre-construction conference and become familiar with the rules and regulations of the facility.

2. Contractor's Operations: Confine all construction operations to the immediate vicinity of the construction activity. Store building materials, equipment, tools and incidentals in an enclosed area as directed by the HHSC Representative. Take precautions and prevent access to power equipment, tools, etc., by other than authorized construction personnel. Perform operations to insure the safety of the occupants of the buildings at all times.

3. Perform operations to minimize inconvenience or disturbance upon the personnel and residents.

4. Protection of occupants: Special consideration must be made by the Contractor at all times to safely protect the occupants and facility personnel from any and all injuries that may be caused as a result of the work performed under this contract.

5. Caution: The Contractor shall caution his personnel on the job that any association with the occupants be avoided as much as possible, that when spoken to by occupants, normal courtesy shall be maintained at all times.

7. None of the foregoing regulations shall be construed as a restriction on the legal prosecution of the work.

1.02 SEQUENCING OF WORK

A. The Contractor shall schedule his work in general consideration for the on-going operation of the hospital. All work shall be coordinated with the HHSC Representative.

B. Stoppage of work for the duration of CMS and State Survey audits shall not incur additional costs to the HHSC.

C. All work shall be coordinated and scheduled with the hospital and/or HHSC Representative. In general, the Contractor will be restricted to work areas as coordinated with the HHSC Representative.

END OF SECTION

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

Where indicated in these specifications, provide submittals to the Engineer for review.

1.02 PROCEDURES

A. Unless otherwise specified, deliver submittals to the Engineer with copy of transmittal to the Contracts Manager.

B. Transmit all items using form which identifies Project, Contractor, Subcontractor, and major supplier. Identify pertinent drawing sheet, detail number, and specification section number, as appropriate. Identify deviations from Contract Documents. Provide space for the Engineer or his Consultant's review stamp.

C. Upon completion of review by the Engineer, the Engineer will return submittals to the Contractor with copy to the Contracts Manager and HHSC Representative.

1.03 SCHEDULE OF WORK

A. Coordinate Schedule with Work Sequence specified in Section 01014.

1.04 SHOP DRAWINGS AND SAMPLE SUBMITTALS

A. All submittals shall be made in accordance with the following unless otherwise specified. Minimum sheet size is 8-1/2" x 11". Maximum sheet size is same size as the Contract Drawings. Drawings shall be presented in a clear and thorough manner. Details shall be identified by reference to sheet, schedule, and detail shown on Contract Drawings.

B. Mark each copy to identify applicable products, and other data. Supplement manufacturer's standard data to provide information unique to the work. Include manufacturer's installation instructions when required by the specification.

1. The Contractor shall review, stamp with his approval and submit with reasonable promptness and in orderly sequence so as to cause no delay in work of any other Subcontractor, all shop drawings, and product data required by these specifications.

2. Properly identify shop drawings and samples as specified. At the time of submission, the Contractor shall inform the HHSC Technical Representative in writing of any deviation in the shop drawings or submittals from requirements of the Contract Documents.

3. By approving and submitting the shop drawings and submittals the Contractor thereby represents that he has determined and verified all field measurements, field criteria, materials, catalog numbers and similar data, or will do so, and that he has checked and coordinated each shop drawing and sample with the requirements of these specifications.

4. Six (6) copies of the Shop Drawings and submittals shall be submitted for review. Upon review, the Engineer will retain three (3) copies and return the balance to the Contractor.

5. The Engineer will review the shop drawings and submittals with reasonable promptness so as to cause no delay but only for conformance with the design concept of the Project and with the information given in the Contract Documents. The Engineer's review of a separate item shall not indicate approval of an assembly in which the item functions.

6. The Contractor shall make any corrections required by the Engineer and shall resubmit the required number of corrected copies of shop drawings or submittals for review. The Contractor shall direct specific attention in writing or on resubmitted shop drawings to revisions other than the corrections requested by the Engineer on previous submissions.

7. The Engineer's review of shop drawings or submittals shall not relieve the Contractor of responsibilities for any deviation from the requirements of the Contract Documents unless the Contractor has informed the Hospital in writing of such deviation, at time of submission, and the HHSC Representative has given written approval to the specific deviation; nor shall the Engineer's review relieve the Contractor from responsibility for errors or omissions in the shop drawings or samples.

8. No portion of the work requiring a shop drawing or sample submission shall be commenced until the submission has been reviewed by the Engineer. All such portions of the work shall be in accordance with reviewed shop drawings and samples.

C. Samples: Submit full range of manufacturer's standard textures, colors, and patterns for the Hospital's selection. Submit samples as specified in the respective Specification sections and as noted above. Samples shall illustrate functional characteristics of the Product, with integral parts and attachment devices. Coordinate submittal of different categories for interfacing work. Include identification on each sample, giving full information.

1.05 BIDDER'S SPECIAL RESPONSIBILITY FOR COORDINATING CONTRACTURAL WORK AND SUBMITTALS:

A. The General Contractor shall be responsible for the coordination of all contractual work and submittals.

B. The General Contractor shall have a rubber stamp made up in the following format:

Contractor's Name

PROJECT: _____

_____

PROJECT NO.: _____

THIS SUBMITTAL HAS BEEN CHECKED BY THIS GENERAL CONTRACTOR. IT IS CERTIFIED CORRECT, COMPLETE, AND IN COMPLIANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS. ALL AFFECTED CONTRACTORS AND SUPPLIERS ARE AWARE OF, AND WILL INTEGRATE THIS SUBMITTAL INTO THEIR OWN WORK.

DATE RECEIVED _____
SPECIFICATION SECTION # _____
SPECIFICATION PARAGRAPH # _____
DRAWING _____
SUBCONTRACTOR _____
SUPPLIER _____
MANUFACTURER _____

CERTIFIED BY: _____

C. This stamp, "filled-in", should appear on the title sheet of each shop drawing, on a cover sheet of submittals in an 8-1/2" x 11" format, or on one face of a cardstock tag (min. 3" x 6") tied to each sample. 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 his receipt, review, and log stamp and for any comments that relate to the sample.

D. All submittals for material and shop drawings listed in the contract documents, shall be required and shall be first reviewed and certified by the General Contractor, then reviewed and approved by the Engineer prior to any ordering of materials and equipment. Submittals that have not been reviewed by the General Contractor shall be returned for review.

1.06 MANUFACTURER'S CERTIFICATES

Submit certificates, warranties, operating and maintenance instructions in accordance with requirements of each specification section. Submit in triplicate.

1.07 MSDS

MSDS shall be submitted prior to the pre-construction meeting. The Contractor shall submit MSDS log and reference each MSDS to its specification Section number and product system.

PART 2 – PRODUCTS

(Not used.)

PART 3 – EXECUTION

(Not used.)

END OF SECTION

SECTION 01577 - POLLUTION CONTROL

PART 1 - GENERAL

1.01 SUMMARY

A. Includes site and environmental control requirements.

1.02 TRASH, REFUSE DISPOSAL

A. Burning of debris and/or waste materials on the project site is prohibited.

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

C. Haul unusable debris and waste material to an appropriate off-site dump area. During loading operations, water down or provide other measures to prevent dust or other airborne contaminants.

D. Vacuum, wet mop, or damp sweep when cleaning rubbish and fines which can become airborne from floors or other paved areas. Do not dry sweep.

E. Use enclosed chutes and/or containers to conveying debris from above the ground floor level.

F. Clean-up shall include the collection of all waste paper and wrapping materials, cans, bottles, construction waste materials and other objectionable materials, and removal as required. Frequency of clean-up shall coincide with rubbish producing events. The Contractor shall be responsible for all clean-up cost.

1.03 DUST

A. Prevent dust from becoming airborne at all times including non-working hours, weekends and holidays in conformance with the State Department of Health, Administrative Rules, Title 11, Chapter 60 - Air Pollution Control.

B. Contractor is responsible for and shall determine the method of dust control. Subject to the Contractor’s choice, the use of water or “environmentally friendly chemicals” may be used over surfaces which create airborne dust.

C. Construct or erect dust control barriers as required to retain dust within the project site area.

D. Contractor is responsible for all damage claims resulting from failure to control airborne dust during all times that the site is under the Contractor's control.

1.04 NOISE

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

B. To reduce loud disruptive noise levels, ensure mufflers and other devises are provided on equipment, internal combustion engines and compressors. Maintain equipment to reduce noise to acceptable levels.

C. Starting-up of construction equipment meeting allowable noise limits shall not be done prior to 8:00 a.m. without prior approval of the HHSC Representative. Equipment exceeding allowable noise levels shall not be started-up prior to 8:00 a.m.

1.05 EROSION

A. During interim grading operations, the grade shall be maintained so as to preclude any damage to adjoining property from water and eroding soil.

B. Install temporary berms, cut-off ditches and other provisions as required construction methods and operations. Should there be a question if the temporary measures are insufficient to prevent erosion, the HHSC Representative shall make the final determination.

C. Construct and maintain drainage outlets and silting basins as required to minimize erosion and pollution of waterways during construction.

1.06 OTHERS

A. Wherever trucks and/or vehicles leave the site and enter surrounding paved streets, Contractor shall prevent any material from being carried onto the pavement. Waste water shall not be discharged into existing streams, waterways, or drainage systems such as gutters and catch basins unless treated to comply with the State Department of Health water pollution regulations. The Contractor shall construct a vehicle wash-down area, within the project site, to remove all mud, gravel, etc., before leaving the site.

B. Trucks hauling debris shall be covered as required by PUC Regulation. Trucks hauling fine materials shall be covered.

C. No dumping of waste concrete will be permitted at the job-site.

D. Except for rinsing of the hopper and delivery chute, and for wheel washing where required, concrete trucks shall not be cleaned on the job-site.

E. Except in an emergency, such as a mechanical breakdown, all vehicle

fueling and maintenance shall be done in a designated area. A temporary berm shall be constructed around the area when runoff can cause a problem.

F. If allowed in this Contract, spray painting shall be done by the "airless spray" process only. All other types of spray painting shall not be permitted.

1.07 SUSPENSION OF WORK

A. Violations of any of the above requirements or any other pollution control requirements which may be specified in the Specifications shall be cause for suspension of the work creating such violation.

B. Reference the General Conditions Construction, dated 3/17/06 for the suspension procedures.

C. The Engineer and/or HHSC Representative may also suspend any operations which creates a pollution problems even if the problem does not violate the provisions of this Section. In this instance, the work is considered a Change and subject to the provisions of the contract.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION (Not used)

END OF SECTION

DIVISION 2 - SITE CONSTRUCTION

SECTION 02050 - SITE DEMOLITION AND REMOVAL

PART 1 - GENERAL

1.01 SUMMARY

Work includes, but is not necessarily limited to the removal and disposal of structures, concrete walkways, foundations, abandoned pipelines, and other obstructions designated or not permitted to remain and backfill of existing sinkhole. The Contractor shall salvage designated materials and backfill the resulting trenches, holes, and pits, including the removal and disposal of structures and obstructions determined to be unusable or unsuitable material.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 CONSTRUCTION REQUIREMENTS

Exercise every precaution to preserve and protect structures, pavements, fences, and utilities to remain or to be removed by others.

3.02 OBSTRUCTIONS

Remove obstructions that interfere with construction according to the contract including signs, posts, guardrails, pavements, structures, monuments, fences, headers, curb and gutter, walkways, stairs, railings, drainage and sewerage structures, utilities, and foundations.

3.03 REMOVAL METHODS

A. Backfill trenches, holes, depressions, and pits left by the removal of the obstruction with acceptable embankment material. Compact material as required under SECTION 02200 - EARTHWORK.

B. Remove abandoned utility lines, such as pipes and conduits, to a depth of at least 24-inches below finished grade.

C. Seal the pipes that the contract calls to abandon with a tight-fitting plug, a wall of Class A or Class B concrete not less than 6-inches thick, or a brick wall not less than 8-inches thick with cement mortar joints.

D. Demolish abandoned manholes to an elevation 3-feet below finished grade. Also, backfill the abandoned manholes as required by the contract.

3.04 DISPOSAL

Dispose of the materials by hauling to construction debris site suitable for handling such material according to State laws and regulations.

END OF SECTION

SECTION 02100 - SITE PREPARATION

PART 1 - GENERAL

1.01 SUMMARY

A. Work includes, but is not necessarily limited to, clearing and grubbing all areas within which construction occurs of debris, grass, trees, unwanted material, and other plant life in preparation for grading, pavement roadway and utility work. The Contractor shall protect existing structures, trees or vegetation indicated on the contract documents not called out to be removed. The Contractor shall strip topsoil from areas that are to be incorporated into the limits of the project and where so indicated on the construction drawings.

B. Related Work Specified Elsewhere: SECTION 02200 - EARTHWORK

1.02 JOB CONDITONS

A. Conditions existing at time of inspection for bidding purposes will be maintained by Owner in so far as practical.

B. Variations in conditions or discrepancy in actual conditions as they apply to site preparation operations are to be brought to the attention of the Owner prior to the commencement of any site work.

1.03 ENVIRONMENTAL REQUIREMENTS

Construct temporary erosion control systems including the gravel ingress and egress, dust screens, and filter socks as shown on the plans or as directed by the Engineer to protect adjacent properties and water resources from dust, erosion and sedimentation.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 PREPARATION

Verify that existing plant life and clearing limits are clearly tagged, identified, and marked in such a manner as to insure their safety throughout construction operations.

3.02 PROTECTION

A. Locate and identify existing underground and overhead utilities, roadways, pavements, fences and structures that are to remain and protect them from damage.

B. Protect trees, plant growth and features designated to remain as final landscape.

C. Conduct operations with minimum interference to public or private accesses and facilities. Maintain access and egress at all times and clean or sweep any roadways daily or as required by the governing authority. At such times as deemed necessary by the Owner, dust control shall be provided with sprinkling systems or equipment provided by the Contractor.

D. Protect bench marks, property corners and all other survey monuments from damage or displacement. If a marker needs to be removed it shall be referenced by a licensed land surveyor and replaced, as necessary, by the same.

E. Provide traffic control as required, in accordance with the U.S. Department of Transportation “Manual of Uniform Traffic Control Devices” and the State Highway Department and/or City and County of Honolulu Department of Planning and Permitting requirements.

3.03 CLEARING

A. Clear and grub areas required for access to site and execution of work. Do not clear and grub outside of project limits. Clearing is defined as removing and disposing of all unwanted surface material, such as trees, brush, grass, weeds, downed trees, or other material. Grubbing is defined as removing and disposing of all unwanted vegetative matter from underground, such as stumps, roots, buried logs, or other debris. Debris is defined as unusable or unwanted material produced by clearing and grubbing.

B. Unless otherwise indicated on the drawings, remove trees, shrubs, grass, other vegetation, improvements, or obstructions interfering with installation of new construction. Removal includes digging out stumps and roots. Depressions or stump holes caused by clearing and grubbing operations are to be filled to subgrade elevation to avoid water ponding. Satisfactory fill material shall be placed in horizontal layers not exceeding 8-inches loose depth, and thoroughly compacted per fill requirements of this section and SECTION 02200 - EARTHWORK.

C. Remove grass, trees, plant life, stumps and all other construction debris from the site to a dump site that is suitable for handling such material according to state laws and regulations.

D. On-site burning is not permitted.

3.04 TOPSOIL EXCAVATION

A. Strip topsoil from areas that are to be filled, excavated, landscaped or re-graded to such a depth that it prevents intermingling with underlying subsoil or questionable material.

B. Cut heavy growths of grass from areas before stripping and remove with the rest of the cleared vegetative material.

C. Topsoil shall consist of organic surface soil found in depth of not less than 6-inches. Satisfactory topsoil is reasonably free of subsoil, clay lumps, stones and other objects over 2-inches in diameter, weeds, roots, and other objectionable material.

D. Stockpile topsoil in storage piles in areas shown or where directed. Construct storage piles to freely drain surface water. Cover storage piles as required to prevent windblown dust. Dispose of unsuitable topsoil as specified for waste material, unless otherwise specified by Owner. Excess topsoil shall be removed from the site by the Contractor unless specifically noted otherwise on the Drawings.

END OF SECTION

SECTION 02200 - EARTHWORK

PART 1 - GENERAL

1.01 SUMMARY

A. Furnish labor, materials, services, equipment, and other necessary items required for accomplishing earthwork activities. This shall include, but not be limited to, the following:

1. Protection, modification, and/or installation of utilities as construction progresses paying particular attention to grade changes and any necessary staging of work.

2. Cutting, filling, and grading to required lines, dimensions, contours, and proposed elevations for proposed improvements.

3. Scarifying, compaction, moisture conditioning, drying, and removal of unsuitable material to ensure proper preparation of areas for fills or proposed improvements.

4. Subgrade preparation, trench excavation and backfill, and compaction testing.

B. Related Work Specified Elsewhere:

1. SECTION 02100 - SITE PREPARATION

2. SECTION 02222 - EXCAVATION, BACKFILLING, AND COMPACTING FOR UTILITIES

3. SECTION 02270 - SLOPE PROTECTION AND EROSION CONTROL

4. Hawaii Standard Specifications for Road and Bridge Construction, State of Hawaii, Department of Transportation, Highways Division, 2005 and current amendments (Paragraphs on Measurement and Payment do not apply to this project).

1.03 SUBMITTALS

A. Submit gradation and material test results for granular materials.

B. Submit the name of each material supplier and specific type and source of each material. Any change in source throughout the job requires approval of the Engineer.

C. Submit compaction test results.

1.04 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM) latest edition.

D 422	Method for Particle Size Analysis of Soils
D 1556	Test for Density of soil in Place by the Sand Cone Method
D 1557	Test for Moisture-Density Relations of Soils Using 10-lb (4.5 Kg) Rammer and 18-inch (457 mm) Drop (Modified Proctor)
D 2167	Test for Density of Soil in Place by the Rubber Balloon Method
D 2216	Laboratory Determination of Moisture content of Soil
D 2487	Classification of Soils for Engineering Purposes
D 2922	Tests for Density of Soil and Soil- Aggregate in Place by Nuclear Methods (Shallow Depth)
D 3017	Test for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
D 4318	Test for Plastic Limit, Liquid Limit, and Plasticity Index of Soils

B. American Association of State Highway and Transportation Officials (AASHTO) latest edition

T 88	Mechanical Analysis of Soils

1.05 QUALITY ASSURANCE

A. Independent Testing Laboratory hired by the Contractor shall perform construction testing on site based on the following:

1. Subgrade: One test per 2,000 square feet.

2. Fill: One test per 2,000 square feet.

B. If compaction requirements are not complied with at any time during construction process, remove and recompact deficient areas until proper compaction is obtained at no additional expense to Owner.

C. In all areas to receive pavement, a CBR test shall be performed for each type of material imported from off-site or borrow site.

D. The following tests shall be performed on each type of on-site or imported soil material used as compacted fill as part of construction testing requirements.

1. Moisture and Density Relationship: ASTM D 1557

2. Mechanical Analysis: AASHTO T-88

3. Plasticity Index: ASTM D 4318

E. Field density tests for in-place materials shall be performed according to one of the following standards as part of construction testing requirements.

1. Sand-Cone Method: ASTM D 1556

2. Balloon Method: ASTM D 2167

3. Nuclear Method: ASTM D 2922 (Method B-Direct Transmission)

F. Independent Testing Laboratory shall prepare test reports that indicate test location, elevation data, and test results. Owner shall be provided with copies of reports within 96 hours of time test was performed. In event that any test performed fails to meet these Specifications, Owner and Contractor shall be notified immediately by independent testing laboratory.

G. All costs related to retesting due to failures shall be paid for by the Contractor at no additional expense to Owner. Owner reserves the right to employ an Independent Testing Laboratory and to direct any testing that is deemed necessary. Contractor shall provide free access to site for testing activities.

1.06 PROTECTION

A. Provide all shoring, bracing, trench jacks, shield and similar devices required to comply with current Federal, State and Local requirements and required to provide safe working conditions.

B. Blasting is not permitted.

C. Protect and carefully maintain all benchmarks, monuments, and other controls from damage or dislocation.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Satisfactory materials shall be free of rubbish, wood scraps, vegetative matter, soft unsound particles, construction debris, hazardous materials in concentrations greater than permitted by Federal and State regulations, and excessive moisture.

B. Embankment material shall be imported fill or excavated on-site material, consisting of non-expansive material free of organics, rubbish, rocks and soil clods larger than 3-inches. For imported material, the material shall be well graded from

coarse to fine containing between 10 and 30 percent particles passing the No. 200 sieve. The material shall have a laboratory CBR value of 20 or more and shall have a plasticity index less than 20. On-site soils shall be dried and aerated to an acceptable moisture content, as necessary for use as fill material.

C. Topsoil fill as specified in SECTION 02100 - SITE PREPARATION.

D. Sand shall be masonry quality commercially available sand with gradation finer than No. 4 sieve.

E. Select pipe bedding material up to 12-inches above the top of pipe shall be washed sand or dirt material that is free from rocks larger than 3/4-inch in size, organic matter, rubbish and hazardous materials. Refer to SECTION 02222 - EXCAVATION, BACKFILLING, AND COMPACTING FOR UTILITIES.

F. Structural Backfill material shall be free of vegetable matter and other deleterious substances and shall conform to Table 703.20-1 Structural Backfill Grading Requirements of the Hawaii Standard Specifications and current amendments to this section. Sand equivalent shall be tested in accordance with AASHTO T 176. Structural backfill material A shall have a minimum sand equivalent of 20. Structural backfill material B shall have sand equivalent equal to or greater than sand equivalent of surrounding soil in area to be backfilled.

G. Trench backfill above select material shall consist of imported material or on-site excavated material consisting of well-graded, non-expansive soil free from vegetation, rubbish, hazardous materials or rocks larger than 3-inches in the greatest dimension. For imported material, no more than 20 percent by weight shall pass the No. 200 sieve.

H. Mirafi N-Series. Nonwoven Geotextiles shall be needlepunched, nonwoven geotextiles comprised of polypropylene fibers, Mirafi 180N, or approved equal.

PART 3 - EXECUTION

3.01 PREPARATION

A. Identify required lines, levels, contours, and datum.

B. Locate and identify existing utilities that are to remain and protect them from damage.

C. Notify utility companies to remove and/or relocate any utilities that are in conflict with the proposed improvements.

D. Protect plant life, lawns, fences, existing structures, sidewalks, paving and concrete swales from excavating equipment and vehicular traffic.

E. Protect benchmarks, property corners and all other survey monuments from damage or displacement. If a marker needs to be removed it shall be referenced by a licensed land surveyor and replaced, as necessary, by the same.

F. Remove from site material encountered in grading operations that, in opinion of Soils Engineer, is unsuitable or undesirable for backfilling, subgrade or foundation purposes. Dispose of in a legal manner. Backfill areas with layers of suitable material and compact as specified.

G. Should historic remains such as artifacts, burials, concentrations of shell or charcoal be encountered during construction activities, work shall cease immediately in the immediate vicinity of the find. The Contractor shall immediately contact the Planning Department and State Historic Preservation Division at (808) 692-8015, which will assess the significance of the find and recommend the appropriate mitigation measures, if necessary.

H. In areas where in-situ basalt rock formation is exposed at the surface, after proof-rolling to attempt to disclose any shallow voids or cavities, the exposed subgrade should be covered with a minimum of one layer of a non-woven filter fabric, such as Mirafi 180N, prior to the placement of fill to minimize the potential of infiltration of soil particles into the underlying crevices or small voids.

3.02 EXCAVATION

A. Classification of Excavation: Contractor acknowledges that he has investigated the site to determine type, quantity, quality, and character of excavation work to be performed. Excavation shall be considered unclassified excavation.

B. Excavate to the required elevations including allowances for base course and imported borrow. Suitable excavated material shall be stockpiled on site for reuse. Unsuitable and excess material shall become the property of the Contractor and shall be removed from the site. Excavate sufficient working space to permit installation and removal of forms. Cut slopes shall be planted with grass and temporarily irrigated, as soon as practical to minimize the effect of erosion and weathering.

C. Perform excavation using capable, well maintained equipment and methods acceptable to the Engineer.

D. When performing grading operations during periods of wet weather, provide adequate drainage and ground water management to control moisture of soils.

E. Shore, brace, and drain excavations as necessary to maintain safe, secure, and free of water at all times.

F. Excavated material containing rock or stone greater than 6-inches in largest dimension is unacceptable as fill to within the proposed paving area.

G. Rock or stone less than 6-inches in largest dimension is acceptable as fill to within 24-inches of surface of proposed subgrade when mixed with suitable material, but not within trenching limits. The cost to mix, blend and/or screen fill material shall be considered as incidental work to the contract. The Owner will not make additional or separate payment.

H. Rock or stone less than 3-inches in largest dimension and mixed with suitable material is acceptable as fill within the upper 24-inches of proposed subgrade. The cost to mix, blend and/or screen fill material shall be considered as incidental work to the contract. The Owner will not make additional or separate payment.

3.03 TRENCH EXCAVATION AND BACKFILL

A. Excavate trenches to the dimensions shown on the drawings. Where rock or hard material is encountered, over excavate 6-inches in depth. Where pipe is to receive a concrete jacket, increase the excavation width sufficiently to permit placement of the jacket. Provide all supports necessary to insure the safety of the trench and to conform to Federal, State and local regulations. When the subgrade is soft, muddy or otherwise unsuitable, continue the excavation to the depth and width directed by the Owner or his representative. Fill this over-excavation with bedding placed in 6-inch layers and compacted with surface type compaction equipment.

B. Place 6-inches of select bedding material under the pipe. Backfill with select material up to 12-inches above the top of pipe. Work the bedding around the pipe in such a manner that the entire length of the pipe is securely and uniformly supported. Bedding shall not be permitted to displace the pipe during backfilling.

C. Place backfill material in 8-inch lifts. Compact each lift to 95 percent of maximum density at optimum moisture content per ASTM D 1557. Moisture condition each lift as necessary to achieve the required density.

3.04 FILL AND SUBGRADE PREPARATION

A. Fill areas to contours and elevations shown with on-site excavated material or suitable borrow.

B. Areas to receive fill shall be scarified to a depth of 8-inches and compacted to 90 percent of maximum density at optimum moisture content. Place fill in level lifts of 8-inches loose thickness and compact each lift to 90 percent of maximum density at optimum moisture content. Compact top 24-inches of subgrade under structures or pavement areas to 95 percent of maximum density at optimal moisture content per ASTM D 1557.

C. If the subgrade soils are pumping during subgrade preparation, then subgrade may be stabilized by cement treatment to reduce the potential for pumping subgrade conditions. As a guide, one sack of cement may be used for approximately 25 square feet of subgrade area. Alternatively, the subgrade may be proof-rolled and a woven geotextile fabric, such as Mirafi 500X or accepted

equivalent, should be placed on the subgrade prior to placement of subsequent lifts of fill.

D. Areas with unsuitable alluvial subgrade shall be undercut 2-feet in fill areas and are to be recompacted to 90 percent of maximum density at optimum moisture content. The soils engineer will indicate the exact areas to receive this treatment. The Contractor shall state, in his proposal, a cost per cubic yard to excavate, moisture condition, and recompact the material so designated in the field.

E. Benching shall be of sufficient width to permit construction equipment to operate. Begin each horizontal cut at the intersection of original ground and the vertical sides of the previous cuts. Recompact the material cut along with the new embankment material.

F. When embankments across swampy or excessively moist ground cannot support the weight of trucks or other hauling equipment, the lower part of the fill may be constructed by dumping successive loads of gravel, cobbles, and boulders in a uniformly distributed layer of a thickness not greater than necessary, or use permeable separator with granular material of adequate thickness to support vehicle placing the layers. Construct remainder of embankment according to the contract documents.

G. When depositing embankment material on only one side of abutments, walls, piers, or headwalls, do not overcompact the area next to the structure. Conduct operations so that the embankment is constructed at approximately the same elevation on both sides of the structure at the same time.

3.05 MAINTENANCE OF SUBGRADE

A. Finished subgrades shall be verified to ensure proper elevation and conditions for construction above subgrade.

B. Protect subgrade from excessive wheel loading during construction, including concrete trucks and dump trucks.

C. Remove areas of finished subgrade found to have insufficient compaction density to depth necessary and replace in a manner that will comply with compaction requirements by use of material equal to or better than best subgrade material on site. Surface of subgrade after compaction shall be hard, uniform, smooth, stable, and true to grade and cross-section.

3.06 FINISH GRADING

A. Grade all areas where finish grade elevations or contours are indicated on Drawings, including excavated areas, filled and transition areas, and paved areas. Graded areas shall be uniform and smooth, free from rock, debris, or irregular surface changes. Finished subgrade surface shall not be more than 0.10-foot above or below established finished subgrade elevation, and all ground surfaces shall vary uniformly between indicated elevations. Finish grades shall allow for

proper drainage without ponding and in a manner that will minimize erosion potential. For erosion control matting of swales and ditches, refer to SECTION 02270 - SLOPE PROTECTION AND EROSION CONTROL.

B. Correct all settlement and eroded areas due to any defects in material or workmanship within one year after date of completion at no additional expense to Owner. Bring grades to proper elevation. Replant or replace any grass, shrubs, bushes, or other vegetation that appears dead, dying, or disturbed by the Contractor's construction activities and/or due to materials or workmanship that are defective, inferior, or not in accordance with the drawings and specifications. Refer to SECTION 02270 - SLOPE PROTECTION AND EROSION CONTROL.

END OF SECTION

SECTION 02222 - EXCAVATION, BACKFILLING, AND COMPACTING FOR UTILITIES

PART 1 - GENERAL

1.01 SUMMARY

A. Furnish labor, materials, services, equipment, and other necessary items required for accomplishing earthwork activities. This shall include, but not be limited to, the following:

1. Excavation, backfilling, and compaction for utilities.

2. Excavating trenches for the installation of utilities.

3. Backfilling trench with bedding material as specified and indicated and finishing filling trench with suitable material to proposed subgrade.

4. Compacting backfill materials in an acceptable manner.

5. Excavation, backfilling, and compaction for the water system shall conform to the requirements of the "Water System Standards 2002, Board of Water Supply, City and County of Honolulu, State of Hawaii," and as amended.

B. Related Work Specified Elsewhere:

1. SECTION 02200 - EARTHWORK

2. SECTION 02227 - AGGREGATE MATERIALS

3. SECTION 02730 - SANITARY SEWER SYSTEM

4. Hawaii Standard Specifications for Road and Bridge Construction, State of Hawaii, Department of Transportation, Highways Division, 2005 and current amendments (Paragraphs on Measurement and Payment do not apply to this project).

5. Construction Drawings.

1.02 SUBMITTALS

A. Shop Drawings or details pertaining to utilities are not required unless required by regulatory authorities or specified elsewhere, or unless use of materials, methods, equipment, or procedures are contrary to Drawings or these specifications are proposed. Do not perform work until required shop drawings have been accepted by Engineer.

B. The Contractor shall contact all utility companies and determine if additional easements will be required to complete the project. Contractor shall provide written confirmation of the status of all easements to the Engineer at the time of

the preconstruction conference or no later than 90 days prior to the project possession date.

1.03 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM) Latest Edition

D 422	Method for Particle Size Analysis
D 1556	Test for Density of Soil in Place by the Sand Cone Method
D 1557	Test for Moisture-Density Relations of Soils Using 10-lb. (4.5 Kg) Rammer and 18-inch (457 mm) Drop (Modified Proctor)
D 2216	Laboratory Determination of Moisture Content of Soil
D 2487	Classification of Soils for Engineering Purposes
D 2922	Tests for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
D 3017	Test for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
D 4318	Test for Plastic Limit, Liquid Limit, & Plasticity Index of Soils

B. American Association of State Highway and Transportation Officials (AASHTO) latest edition

T 88	Mechanical Analysis of Soils

1.04 QUALITY ASSURANCE

A. Independent testing laboratory hired by the Owner shall perform construction testing on backfilling operations as specified in SECTION 02200 - EARTHWORK and as stated herein.

B. Work shall conform to the Hawaii Standard Specifications.

1.05 PROJECT RECORD DOCUMENTS

Accurately record actual locations of all subsurface utilities, structures, and obstructions encountered.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Bedding Material: Processed sand and gravel free from clay lumps, organic, or other deleterious material, and complying with following gradation requirements. Sand material stockpiled during grading operations is suitable when it contains no particles larger than 3/4 inch.

ASTM Designation No. 67

U. S. Sieve Size	Percent Passing (by weight)
1 Inch	100
3/4 Inch	90-100
3/8 Inch	20-55
No. 4	0-10
No. 8	0-5

B. Backfill material from site as specified in SECTION 02200 - EARTHWORK and approved by the Engineer.

C. Backfill material from off-site as specified in SECTION 02200 - EARTHWORK and approved by the Engineer.

PART 3 - EXECUTION

3.01 PREPARATION

A. Set all lines, elevations, and grades for utility work and control system for duration of work, including careful maintenance of bench marks, property corners, monuments, or other reference points.

B. Maintain in operating condition all existing utilities, active utilities, and drainage systems encountered in utility installation. Repair any surface or subsurface improvements shown on Drawings.

C. Verify location, size, elevation, and other pertinent data required to make connections to existing utilities and drainage systems as indicated on Drawings. Contractor shall comply with local codes and regulations.

D. Over excavate and properly prepare areas of subgrade that are not capable of supporting the proposed systems. These areas shall be stabilized by using acceptable filter fabrics and/or additional bedding material placed and compacted as specified.

E. Should historic remains such as artifacts, burials, concentrations of shell or charcoal be encountered during construction activities, work shall cease immediately in the immediate vicinity of the find. The Contractor shall immediately contact the Planning Department and State Historic Preservation Division at (808) 742-7033, which will assess the significance of the find and recommend the appropriate mitigation measures, if necessary.

3.02 EXCAVATION

A. The local utility companies shall be contacted before excavation shall begin. Dig trench at proper width and depth for laying pipe, conduit, or cable. Cut trench banks vertical if possible and remove stones from bottom of trench as necessary to avoid point bearing. Over excavate wet or unstable soil, if encountered, from trench bottom as necessary to provide suitable base for continuous and uniform bedding.

B. All trench excavation side walls greater than 5-feet in depth shall be sloped, shored, sheeted, braced, or otherwise supported by means of sufficient strength to protect the workmen in or around the trench in accordance with the applicable rules and regulations established for construction by the Department of Labor, Occupational Safety and Health Administration (OSHA), and by local ordinances. Lateral travel distance to an exit ladder or steps shall not be greater than 25-feet in trenches 4-feet or deeper.

C. Perform excavation as indicated for specified depths. During excavation, stockpile materials suitable for backfilling in orderly manner far enough from bank of trench to avoid overloading, slides, or cave-ins.

D. Remove excavated materials not required or not suitable for backfill or embankments and waste as specified. Any structures discovered during excavation(s) shall be removed and disposed of as specified.

E. Prevent surface water from flowing into trenches or other excavations by temporary grading or other methods, as required. Remove accumulated water in trenches or other excavations by pumping or other acceptable methods.

F. Open cut excavation with trenching machine or backhoe. Where machines other than ladder or wheel-type trenching machines are used, do not use clods for backfill. Dispose of unsuitable material and provide other suitable material at no additional cost to Owner.

G. Accurately grade trench bottom to provide uniform bearing and support for each section of pipe on bedding material at every point along entire length, except where necessary to excavate for bell holes, proper sealing of pipe joints, or other required connections. Dig bell holes and depressions for joints after trench bottom has been graded. Dig no deeper, longer, or wider than needed to make joint connection properly.

H. Trench width requirements below the top of the pipe shall not be less than 12-inches nor more than 18-inches wider than outside surface of any pipe or conduit that is to be installed to designated elevations and grades. All other trench width requirements for pipe, conduit, or cable shall be the practical least width that will allow for proper compaction of trench backfill.

I. Provide sheeting and bracing, when necessary, in trenches and other excavations where protection of workmen required. Sheeting must be removed after sufficient backfilling.

3.03 PIPE BEDDING

Accurately cut trenches for pipe or conduit that are installed to designated elevations below bottom of pipe and to width as specified. Place bedding material, compact in bottom of trench, and accurately shape to conform to lower portion of pipe barrel. After pipe installation, place backfill as specified and compact in maximum 8-inch layers measured loose to the top of the trench.

3.04 BACKFILLING

A. Criteria: Trenches shall not be backfilled until required tests are performed and the utility systems comply with and are accepted by applicable governing authorities and Owner. Backfill trenches as specified. If improperly backfilled, reopen to depth required to obtain proper compaction, and backfill and compact, as specified, to properly correct condition in an acceptable manner at no cost to the Owner.

B. Backfilling: After pipe or conduit has been installed, bedded, and tested as specified, backfill trench excavation with specified material placed in 8-inches maximum loose lifts.

C. Backfill trenches to the contours and elevations shown on the plans.

D. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, or spongy subgrade surfaces.

3.05 COMPACTION

A. Exercise proper caution when compacting immediately over top of pipes or conduits. Water jetting or flooding is not permitted as a method of compaction.

B. Maintain optimum moisture content of fill materials to attain required compaction density.

C. An independent testing laboratory hired by the Owner shall perform testing at intervals not exceeding 200-feet of trench for the first and every other 8-inch lift of compacted trench backfill and furnish copies of test results as specified. Compact to minimum density of 95 percent of optimum density in accordance with ASTM D 1557.

D. All materials used for backfill shall comply with the requirements of SECTION 02200 - EARTHWORK.

END OF SECTION

SECTION 02227 - AGGREGATE MATERIALS

PART 1 - GENERAL

1.01 SUMMARY

A. Placement and compaction of aggregate material on prepared subgrade for pavement base course.

B. Related Work Specified Elsewhere:

1. SECTION 02100 - SITE PREPARATION

2. SECTION 02200 - EARTHWORK

3. SECTION 02222 - EXCAVATION, BACKFILLING, AND COMPACTING FOR UTILITIES

4. SECTION 02270 - SLOPE PROTECTION AND EROSION CONTROL

5. Hawaii Standard Specifications for Road and Bridge Construction, State of Hawaii, Department of Transportation, Highways Division, 2005 and current amendments (Paragraphs on Measurement and Payment do not apply to this project).

6. Construction Drawings.

1.02 SUBMITTALS

A. Submit the name of each material supplier and specific type and source of each material. Any change in source throughout the job requires approval of Architect.

B. Submit materials certificate to on-site independent testing laboratory, which is signed by material producer and Contractor, certifying that materials comply with, or exceed, the requirements herein.

1.03 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM) latest edition.

ANSI/ASTM C 136	Method for Sieve Analysis of Fine and Coarse Aggregates.
ANSI/ASTM D 1557	Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb (4.54 Kg) Rammer and 18 inch (457 mm) Drop.
ASTM D 2167	Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.

ASTM D 2487	Classification of Soils for Engineering Purposes.
ASTM D 2922	Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
ASTM D 3017	Test Methods for Moisture Content of Soil and Soil-Aggregate Mixtures.
ASTM D 4318	Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

B. American Association of State Highway and Transportation Officials (AASHTO) latest edition.

AASHTO T 180	Moisture-Density Relations of Soils Using a 10-lb (4.54 Kg) Rammer and an 18 inch (457 mm) Drop.
AASHTO M 147	Materials for Aggregate and Soil-Aggregate.

1.04 QUALITY ASSURANCE

Tests and analysis of aggregate material will be performed in accordance with standard ASTM and AASHTO procedures listed herein.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Aggregate base course shall conform to SECTION 304 - AGGREGATE BASE COURSE of the Hawaii Standard Specifications.

B. Crushed rock (ASTM Designation Nos. 1, 2, 4, 67, and 10) shall be free from vegetative matter, debris, and hazardous materials of any kind. Additional binder material consisting of rock screenings or other specifically approved cementitious material may be added by mixing it thoroughly and uniformly through the product. The crushing equipment must be adjusted to insure that at least 80 percent by weight of the material retained on the No. 4 sieve is crushed particles having at least one fractured face.

1. When tested according to the designated methods, the aggregate base in combination with the other binder material, if used, shall meet the characteristics below:

Characteristics	Test Method	Required Test Results
Abrasion Loss	AASHTO T 96	40% maximum
Sand Equivalent	AASHTO T 176	35% minimum
Plasticity Index	AASHTO T 90	6 maximum
Flat or Elongated Pieces (Length to Width Ratio at least 3)	Visual Observation	25% maximum

Gradation when tested by AASHTO T 29:

Screen Size	Percent Passing By Weight
3"	100
2-1/2"	100
2"	100
1-1/2"	90 - 100
3/4"	50 - 90
No. 4	25 - 50
No. 200	3 - 9

2. If the portion passing the No. 4 sieve is composed entirely of crushed coralline limestone, the sand equivalent shall be not less than 20 percent and the material passing the No. 200 sieve shall be 3 percent to 12 percent.

C. In addition, aggregate base course for pavement section shall also have a minimum CBR value of 85.

PART 3 - EXECUTION

3.01 PREPARATION

A. Prepare subgrade in accordance with SECTION 2200 - EARTHWORK.

B. Identify all lines, elevations, and grades necessary to construct pavement base course as shown in the plans and specifications.

3.02 PLACEMENT

A. Place the base material on the prepared surface without segregation. Remix the segregated materials until a uniform distribution is obtained. Do not dump the material in piles on the prepared surface.

B. Depositing and spreading shall commence at that part of the work farthest from the point of loading the material and shall progress continuously without breaks.

C. When the required compacted depth of the base course exceeds 6-inches, construct the base in two or more layers of approximately equal thickness. The maximum compacted thickness in one layer shall not exceed 6-inches. When using a vibratory roller weighing 9-tons or more, the Contractor may increase lift thickness to 7-inches.

D. Spreading of filler material over the surface of the compacted base is not permitted. Incorporate the additional material, if required, uniformly throughout the thickness of the compacted material by scarifying and blading. The combined material shall meet quality requirements specified.

3.03 SHAPING AND COMPACTING

A. The finished base shall conform to the required grade and cross-section. The Contractor shall provide shaping as necessary. The finished base shall not vary more than 0.04-foot above or below the theoretical grade.

B. Compact each layer until a density of not less than 95 percent of the maximum density has been achieved in accordance with ASTM D1557. The Contractor shall maintain the surface of each layer during the compaction operations so that a uniform texture is produced and the aggregate is firmly keyed.

C. When high or low spots develop during rolling operations, the Contractor shall smooth out such spots by blading with a self-propelled and pneumatic-tired motor grader. The grader shall have a wheel base not less than 15-feet long and a blade not less than 10-feet long. Use 3-wheel rollers to initially compact each layer. Followed by pneumatic-tired rollers for intermediate rolling. Use 3-wheel rollers for final rolling. The Contractor may submit alternate methods or equipment for compacting the aggregate base course for acceptance by the Engineer.

3.04 STOCKPILING

Stockpile on-site at locations indicated by the Owner in such a manner that there will be no standing water or mixing with other materials.

3.05 TRANSPORTATION

Off-site materials shall be transported to the project using well maintained and operating vehicles. Once on the job site, all transporting vehicles shall stay on

designated haul roads and shall at no time endanger any of the improvements by rutting, overloading, or pumping the haul road.

3.06 FIELD QUALITY CONTROL

A. An Independent Testing Laboratory, hired by the Construction Manager, shall perform construction testing of in-place base courses for compliance with requirements for thickness, compaction, density and tolerance. Paving base course tolerances shall be verified (by rod and level readings on not more than fifty-foot centers) to be not more than 0.05-foot above design elevation which will allow for paving thickness as shown in the Drawings.

B. The following tests shall be performed on each type of material used as base course material:

1. Moisture and Density Relationship: ASTM D 1557.

2. Mechanical Analysis: AASHTO T 88.

3. Plasticity Index: ASTM D 4318.

4. Base material thickness: Perform one test for each 20,000 square feet of in-place base material area.

5. Base material compaction: Perform one test in each lift for each 20,000 square feet of in-place base material area.

6. Test each source of base material for compliance with the requirements of these specifications.

C. Field density tests for in-place materials shall be performed according to one of the following standards as part of construction testing requirements:

1. Sand-Cone Method: ASTM D 1556.

2. Balloon Method: ASTM D 2167.

3. Nuclear Method: ASTM D 2922, Method B (Direct Transmission).

D. Independent Testing Laboratory shall prepare test reports that indicate test location, elevation data, and test results. The Architect and Contractor shall be provided with copies of reports within 96 hours of time test was performed. In event that any test performed fails to meet these Specifications, the Architect and Contractor shall be notified immediately by Independent Testing Laboratory. Contractor shall provide free access to site for testing activities.

END OF SECTION

SECTION 02270 - SLOPE PROTECTION AND EROSION CONTROL

PART 1 - GENERAL

1.01 SUMMARY

A. Work includes, but is not limited to, detailed plans, diagrams, and written site-specific best management practices (BMP); constructing, maintaining, and repairing temporary water pollution, dust, and erosion control measures at the project site, including local material sources, work areas and haul roads; removing and disposing hazardous wastes; control of fugitive dust (defined as uncontrolled emission of solid airborne particulate matter from any source other than combustion); slope protection systems; and complying with applicable County, State and Federal permit conditions.

B. Related Work Specified Elsewhere:

1. SECTION 02100 - SITE PREPARATION

2. SECTION 02200 - EARTHWORK

3. City and County of Honolulu, Administrative Roles, Title 20, Department of Planning and Permitting, Chapter 3, Rules Relating to Water Quality, August 16, 2016 and all amendments.

4. Construction Drawings.

1.02 SUBMITTALS

A. Water Pollution, Dust, and Erosion Control: Submit Water Pollution, Dust, and Erosion Control as noted under item entitled “PRECONSTRUCTION REQUIREMENTS” herein below.

B. BMP Report Submittals: Submit BMP Reports as noted under item entitled “BMP REPORT SUBMITTALS” herein below.

1.03 ENVIRONMENTAL REQUIREMENTS

The Contractor shall protect adjacent properties and water resources from erosion and sediment damage throughout the life of the contract.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Quick growing grass such as rye. Grass shall be suitable to the area and provide a temporary cover that will not compete later with permanent cover.

B. Filter socks: Filter socks shall be Filtrexx SiltSoxx^{TM} or accepted equivalent.

C. Dust Screen: Dust Screen shall be fabric mounted on a wood frame and supported with bracing to withstand wind loads. Dust Screen filter fabric shall be Mirafi 140 NC or accepted equivalent.

D. Gravel pad for construction equipment ingress and egress shall be 30 feet wide by 50 feet long, 12-inch thick, 3" to 6" or larger with 7" maximum course aggregate on a geotextile filter fabric..

E. Temporary mulches such as loose hay, straw, netting, wood cellulose or agricultural silage.

PART 3 - EXECUTION

3.01 PREPARATION

A. Review site grading/erosion control plan.

B. Deficiencies or changes in the erosion control plan as it is applied to current conditions will be brought to the attention of the Owner and the Architect for remedial action.

3.02 PRECONSTRUCTION REQUIREMENTS

A. Water Pollution, Dust, and Erosion Control Submittals: Submit the following:

1. Construction schedule.

2. Name(s) of individual(s) designated as the Erosion and Sediment Control Plan Coordinator responsible for water pollution, dust, and erosion controls on the project site. Include home and business telephone numbers, fax numbers, and e-mail addresses. The Erosion and Sediment Control Plan Coordinator shall be certified by the City and County of Honolulu.

3. Description of fill material to be used.

4. Date and sign BMP. Keep accepted copy on site throughout duration of the project. Revisions to the BMP shall be included with original BMP. Modify contract documents to conform to revisions. Include actual date of installation and removal of BMP. Obtain written acceptance by Engineer before revising BMP.

3.03 EROSION CONTROL AND SLOPE PROTECTION IMPLEMENTATION

A. Place erosion control systems in accordance with the erosion control plan and applicable details prior to clearing, grubbing and earthwork in construction areas.

B. The Owner has the authority to limit the surface area of erodible earth material exposed by clearing and grubbing, excavation, borrow and embankment operations and to direct the Contractor to provide immediate permanent or temporary pollution control measures. The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practical time to minimize the need for temporary controls. Cut slopes shall be permanently seeded and mulched as the excavation proceeds to the extent considered desirable and practical.

C. The temporary erosion control systems installed by the Contractor shall be maintained as directed by the Owner to control siltation at all times during the life of the contract. The Contractor must respond to any maintenance or additional work ordered by the Owner within a 24 hour period.

D. Temporarily reroute surface drainage runoff from entering construction areas through use of interceptor ditches, berms and level spreaders. Contractor shall insure that discharge points do not concentrate flows, thereby, causing erosion to downstream areas. Install erosion protection and flow dissipators downstream to prevent erosion.

E. Any additional material and work required and authorized by the Owner, which is beyond the extent of the erosion control plan, shall be paid for by the Owner.

F. Slopes that erode easily shall be temporary seeded as the work progresses with a wheat, rye or oats application, or temporary slope drains shall be provided to carry runoff from cuts and embankments.

G. Place permanent erosion control features in accordance with the recommended manufacturer guidelines.

3.04 CONSTRUCTION REQUIREMENTS

A. Do not begin work until submittals detailed in Subsection 3.02(B) - Water Pollution, Dust, and Erosion Control Submittals are completed and accepted in writing by Engineer.

B. Install, maintain, monitor, repair and replace site-specific BMP measures, 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 hydrodemolition water.

C. Furnish, install rain gage in a secure location for projects that require NPDES permit from the Department of Health prior to field work including installation of site-specific BMP. Provide rain gage with a tolerance of at least 0.05-inches of rainfall, and an opening of at least one inch diameter. Install rain gate on project site in an area that will not deter rainfall from entering the gage opening. Maintain rain gage and replace rain gage that is stolen, does not function properly or accurately, is worn out, or needs to be relocated. Do not begin field

work until rain gage is installed and site specific BMPs are in place. Do not begin field work until rain gage is installed and site specific BMPs are in place.

D. Modify and resubmit plans and construction schedules to correct conditions that develop during construction which were unforeseen during the design and pre-construction stages. Coordinate temporary control provisions with permanent control features throughout the construction and post-construction period.

E. Limit the maximum surface area of earth material exposed at any time to 10-acres. Do not expose or disturb surface area or earth material (including clearing and grubbing) until BMP measures are installed and accepted in writing by Architect. Protect temporarily or permanently disturbed soil surface from rainfall impact, runoff and wind before end of workday.

F. Protect exposed or disturbed surface area with mulches, grass seeds or hydromulch. Spray mulches at a rate of 2,000 pounds per acre. Add tackifier to mix at a rate of 85 pounds per acre. Apply grass seeds at a rate of 125 pounds per acre. For hydromulch, use the ingredients and rates required for mulches and grass seeds. Apply fertilizer to mulches, grass seed or hydromulch at a rate of 450 pounds per acre. Apply an additional 250 pounds per acre every 90 calendar days.

G. Install velocity dissipation measures when exposing erodible surfaces greater than 15-feet in height.

H. BMP measures shall be in place and operational (such as shaping the earthwork to control and directing the runoff) at the end of workday. Shaping earthwork may include constructing earth berms or interceptor ditches along the top edges of embankments if acceptable to Architect.

I. Install and maintain stabilized construction entrances and wheel washes to minimize tracking of dirt and mud onto roadways. Restrict traffic to stabilized construction areas only. Clean dirt, mud, or other material tracked on the road immediately. Modify stabilized construction entrances to prevent mud from being tracked onto road. Stabilize entire access roads if necessary.

J. Protect ditches, channels and other drainageways leading away from cuts and fills at all times by:

1. Hydro-mulching the lower region of embankments in the immediate area.

2. Placing an 8 to 15-inch layer of excavated rock, if available on-site, without reducing the cross section of the drainageway. Rocks shall be less than 4-inches in diameter.

3. Installing check dams and other velocity dissipation devices.

4. Other methods acceptable to Architect.

K. Provide for controlled discharge of waters impounded, directed or controlled by project activities or erosion control measures.

L. Cover exposed surface of materials completely with tarpaulin or similar device when transporting aggregate, soil, excavated material or material that may be source of fugitive dust.

M. Clean-up and remove any pollutant that can be attributed to Contractor's operations.

N. Install or modify BMP measures due to change in Contractor's means and methods, or for field revisions or omitted conditions to the accepted site specific BMP. Contractor shall insure the satisfactory performance of the BMP at all times.

3.05 BMP REPORT SUBMITTALS

A. Properly maintain all BMP features. Inspect, prepare a written report and make repairs to BMP measures at following intervals:

1. Weekly during dry periods.

2. Within 24-hours of any rainfall of 0.5-inch or greater which occurs in a 24-hour period.

3. Daily during periods of prolonged rainfall.

4. When existing erosion control measures are damaged or note operating properly as required by site specific BMP.

B. Any deficiencies or BMPs that may violate any provision of these Rules or may result in Pollution Discharges to the MS4 or State Waters and requires corrective actions shall be addressed immediately.

C. Maintain records of inspections of BMP work. Keep continuous records for duration of the project in a 3-ring folder or binder or kept electronically, which shall be the Project Log. Submit weekly copy of records to Engineer. Remove, destroy, replace or relocate any BMP that must be removed, destroyed, replaced or relocated due to potential or actual flooding, or potential danger or damage to project or public.

D. Contractor's designated representative shall address any BMP concerns brought up by Owner or Engineer within 24-hours of notification, including weekends and holidays. In the event of Contractor's failure to satisfactorily address these concerns, Owner reserves the right to employ outside assistance to provide necessary corrective measures. Owner will charge Contractor such costs incurred, such as remedial costs and fines, plus any associated project engineering costs. Owner will make appropriate deductions from Contractor's monthly progress estimate. Failure to apply BMP measures shall result in either

or both the establishment and increase in the amount of retainage due to unsatisfactory progress or withholding of monthly progress payment. Continued failure to apply BMP measures may result in one or more of the following: assessment of liquidated damages, suspension, or cancellation of contract with Contractor being fully responsible for all additional costs incurred by Owner, including any fines, penalties, and remedial costs.

E. At the conclusion of the Project, the property owner, Authorized Agent, or ESCP Coordinator shall inspect the Site and confirm that all Disturbed Areas have been stabilized and all temporary BMPs have been removed. An electronic copy of the final Project Log and a letter confirming compliance with this subsection shall be provided to the City within 5 business days of completing work on the Project.

3.06 HYDROTESTING ACTIVITIES

If work includes removing, relocating or installing waterlines, and Contractor elects to flush waterline or discharge hydrotesting effluent into State waters or City drainage systems, the Contractor shall obtain an NPDES Hydrotesting Waters Permit from the State Department of Health, Clean Water Branch (DOH-CWB). Do not begin hydrotesting activities until the DOH-CWB has issued a Notice of General Permit Coverage (NGPC). Hydrotesting operations shall be in accordance with conditions in NGPC. Submit a copy of the NPDES Hydrotesting Waters Application and Permit to Architect.

3.07 DEWATERING ACTIVITIES

If excavation or backfilling operations require dewatering, and Contractor elects to discharge dewatering effluent into State waters or existing drainage systems, the Contractor shall obtain NPDES General Permit Coverage authorizing discharges associated with construction activity dewatering from Department of Health, Clean Water Branch (DOH-CWB). If permit is required, prepare and submit permit application (CWB-NOI Form G) to DOH-CWB. Do not begin dewatering activities until DOH-CWB has issued Notice of General Permit Coverage (NGPC). Conduct dewatering operations in accordance with conditions in NGPC. Submit copy of NPDES Hydrotesting Waters Application and Permit to Architect.

END OF SECTION

SECTION 02362 - SOIL TREATMENT FOR VEGETATION CONTROL

PART 1 - GENERAL

1.01 SUMMARY

A. Work includes, but is not necessarily limited to, the application of chemicals for the control of weeds under all paved or unpaved roads and all exterior concrete slabs-on-grade.

B. Related Work Specified Elsewhere: SECTION 02200 - EARTHWORK

1.02 SUBMITTALS

A. Manufacturer's Certificate: Submit notarized manufacturer's certificate of the weed killer formulation.

B. Qualification: Submit notarized statement by the applicator that he is licensed to handle toxic substances, and that his employees engaged on this project are thoroughly familiar with the materials necessary to do the work, and the standards, codes, regulations and contract requirements associated with the work.

1.03 CODES AND STANDARDS

A. The Contractor shall comply with all locally applicable codes, regulations and requirements pertaining to this work.

B. In the event of conflict between pertinent codes and regulations and the requirements referenced or contained herein, the more stringent provisions shall govern.

PART 2 - PRODUCTS

2.01 MATERIALS

A. For weed treatment, use a material that conforms to all Federal, State and Local regulations.

B. Herbicide shall be Casoron 4G weed killer formulated as 4 percent 2,6-dechlorobenzonitrile and 96 percent inert ingredients by weight and furnished as a granular material or accepted equivalent.

2.02 PRODUCT HANDLING

A. Delivery: Chemicals shall not be delivered to the site more than 24 hours in advance of their scheduled use. Delivery shall be made in the manufacturer's original, unopened containers bearing necessary labels.

B. Storage: Chemicals on the site shall be stored in locked, covered areas.

2.03 OTHER MATERIALS

All other materials not specifically described, but required for a complete and proper application of soil treatment, shall be selected by the Contractor subject to approval of the Engineer.

PART 3 - EXECUTION

3.01 PREPARATION

A. All subgrades shall have been graded and compacted to required elevations.

B. At the time of application, the soil shall have a sufficiently low moisture content to permit uniform distribution of the toxicant throughout the treatment area. Do not apply soil treatment where the soil is excessively wet or where there is an immediate likelihood of rain.

3.02 APPLICATION

The weed control solution shall be applied uniformly to the compacted subgrade at the rate of 180 pounds per acre unless recommended otherwise by the manufacturer's printed instructions. Application shall be not more than 24 hours before base course, subbase course, or cushion fill is placed.

3.03 PROTECTION

Completed areas shall not be disturbed by additional earthwork or vehicular or foot traffic. Any area disturbed shall be retreated with additional material.

END OF SECTION

SECTION 02511 - ASPHALTIC CONCRETE PAVING

PART 1 - GENERAL

1.01 SUMMARY

A. Furnish materials, labor, and equipment required to install all asphaltic concrete pavement.

B. Related Work Specified Elsewhere:

1. SECTION 02200 - EARTHWORK

2. SECTION 02227 - AGGREGATE MATERIALS

3. SECTION 02525 - CONCRETE CURBS, DRIVEWAYS, AND WALKS

4. Hawaii Standard Specifications for Road and Bridge Construction, State of Hawaii, Department of Transportation, Highways Division, 2005 and current amendments (Paragraphs on Measurement and Payment do not apply to this project).

5. Construction Drawings.

1.03 SUBMITTALS

A. Design Mix: Before any asphaltic concrete paving is constructed, submit actual design mix to the Engineer for review and/or approval. Design mix submittal shall follow the format as indicated in the Asphalt Institute Manual MS-2, Marshall Stability Method; and shall include the type/name of the mix, gradation analysis, grade of asphalt cement used, Marshall Stability (pounds), flow, effective asphalt content (percent), and direct references to the applicable highway department specifications sections for each material. The design shall be for a mixture listed in the current edition of the applicable state roadway specifications. Mix designs over 3 years old will not be accepted by the Engineer.

B. Material Certificates: Submit materials certificate to on-site independent testing laboratory which is signed by material producer and Contractor, certifying that materials comply with, or exceed, the requirements herein.

1.04 REFERENCES

A. MS-2-Mix design methods for asphaltic concrete and other hot mix types per The Asphalt Institute (AI)

B. MS-3-Asphalt Plant Manual per The Asphalt Institute (AI)

C. Hot Mix Asphalt Paving Handbook per US Army Corp of Engineers, UN-13 (CE MP-ET)

D. MS-19-Basic Asphalt Emulsion Manual per The Asphalt Institute (AI)

E. ASTM D 946 - Penetration - Graded Asphalt Cement for use in Pavement Construction

F. AASHTO M-226/ASTM D 3381 Asphalt Cement

G. AASHTO M-140/ASTM D 997 or AASHTO M-208/ASTM D-2397 Tack Coat

H. AASHTO M-117/ASTM D 242 Mineral Filler

I. AASHTO T-245/ASTM D 1559 Marshall Mix Design

PART 2 - PRODUCTS

2.01 MATERIALS

A. Provide asphalt-aggregate mixture as recommended by local or state paving authorities to suit project conditions. Use locally available materials and gradations that meet state highway specifications and exhibit satisfactory records of previous installations.

B. Asphalt Cement: Comply with AASHTO M 226/ASTM D 3381; Table 2 AC-10, AC-20, or AC-30, viscosity grade, depending on local mean annual air temperature. (See chart below):

Temperature Condition	Asphalt Grades
Cold, mean annual air temperature at 7 degrees C (45 degrees F) or lower	AC-10 85/100 pen.
Warm, mean annual air temperature between 7 degrees C (45 degrees F) and 24 degrees C (75 degrees F)	AC-20 60/70 pen.
Hot, mean annual air temperature at 24 degrees C (75 degrees F) or higher	AC-30

C. Prime Coat: A medium curing emulsified asphalt.

D. Tack Coat: Emulsified asphalt; AASHTO M 140/ASTM D 997 or AASHTO M 208/ASTM D 2397, SS-1h, CSS-1, or CSS-1h, diluted with one part water to one part emulsified asphalt.

E. Mineral Filler: Rock or slag dust, hydraulic cement, or other inert material complying with AASHTO M 17/ASTM D 242, if recommended by applicable State highway standards.

F. Asphalt-Aggregate Mixture: Unless otherwise noted on the Drawings, the Design Mix shall have a minimum stability based on a 50-blow Marshall complying with ASTM D 1559 of 1000 pounds with a flow between 8 and 16. The Design Mix shall be within sieve analysis and bitumen ranges below:

SIEVE ANALYSIS OF MIX

Square Sieve	Total Percent Passing	Percent Tolerance
3/4"	100%	7%
1/2"	100%	5%
3/8"	80 - 100%	4%
#4	55 - 75%	4%
#8	35 - 52%	4%
#30	13 - 25%	2%
#100	6 - 15%	2%
#200	4 - 10%	0%

1. Percent bitumen by weight of total mix: 5.0 - 8.5.

2. Air voids: 3 - 6 percent.

3. Percent aggregate voids filled with asphalt cement: 70 - 82 percent.

4. Allowable variance of percent bitumen by weight of total mix = 0.4

2.02 EQUIPMENT

Maintain equipment in satisfactory operating condition and correct breakdowns in a manner that will not delay or be detrimental to progress of paving operations.

PART 3 - EXECUTION

3.01 PREPARATION

A. Remove loose material from compacted base material surface immediately before applying prime coat.

B. Proof roll prepared base material surface to check for areas requiring additional compaction and areas requiring removal and recompaction.

C. Do not place the asphaltic concrete pavement on wet surfaces or when weather conditions prevent the proper handling of the bituminous mixture.

D. Do not begin paving work until deficient base material areas have been corrected and are ready to receive paving.

3.02 APPLICATIONS

A. Prime Coat:

1. Apply bituminous prime coat to all base material surfaces where asphaltic concrete paving will be constructed.

2. Apply bituminous prime coat in accordance with APWA Section 2204 and applicable State highway specifications.

3. Apply at minimum rate of 0.25 gallon per square yard over compacted base material. Apply to penetrate and seal, but not flood surface.

4. Make necessary precautions to protect adjacent areas from overspray.

5. Cure and dry as long as necessary to attain penetration of compacted base and evaporation of volatile substances.

B. Tack Coat:

1. Apply to contact surfaces of previously constructed asphaltic concrete base courses or portland cement concrete and surfaces abutting or projecting into asphaltic concrete or into asphaltic concrete pavement.

2. Apply tack coat to asphaltic concrete base course. Apply emulsified asphalt tack coat between each lift or layer of full depth asphaltic concrete and on surface of all such bases where asphaltic concrete paving will be constructed.

3. Apply emulsified asphalt tack coat in accordance with APWA Section 2204 and applicable State highway specifications.

4. Apply at minimum rate of 0.10 gallon per square yard of surface.

5. Allow to dry until at proper condition to receive paving.

3.03 ASPHALTIC CONCRETE PLACEMENT

A. Place asphaltic concrete mixture on completed compacted subgrade surface, spread, and strike off. Spread mixture at following minimum temperatures:

1. When ambient temperature is between 50 degrees F and 60 degrees F, mixture temp. = 280 degrees F
2. When ambient temperature is higher than 60 degrees F, mixture temp. = 275 degrees F

B. Whenever possible, all pavement shall be spread by a finishing machine; however, inaccessible or irregular areas may be placed by hand methods. The hot mixture shall be spread uniformly to the required depth with hot shovels and

rakes. After spreading, the hot mixture shall be carefully smoothed to remove all segregated course aggregate and rake marks. Rakes and lutes used for hand spreading shall be of the type designed for use on asphalt mixtures. Loads shall not be dumped faster that they can be properly spread. Workers shall not stand on the loose mixture while spreading.

C. Paving Machine Placement: Apply successive lifts of asphaltic concrete in transverse directions with the surface course placed in the direction of surface-water flow. Place in typical strips not less than 10-feet wide.

D. Joints: Make joints between old and new pavements or between successive days and work in a manner that will provide a continuous bond between adjoining work. Construction joints shall have same texture, density, and smoothness as other sections of asphaltic concrete course. Clean contact surfaces of all joints and apply tack coat.

3.04 ROLLING AND COMPACTION

A. The mixture, after being spread, shall be thoroughly compacted by rolling as soon as it will bear the weight of the rollers without undue displacement. The number, weight, and types of rollers and sequences of rolling operations shall be such that the required density of not less then 92 percent nor greater than 97 percent of the maximum specific gravity determined in accordance with AASHTO T 209, and surface are consistently attained while the mixture is in a workable condition.

B. Compact mixture with hot hand tampers or vibrating plate compactors in areas inaccessible to rollers.

C. Breakdown Rolling: Accomplish breakdown or initial rolling immediately following rolling of joints and outside edge. Check surface after breakdown rolling, and repair displaced areas by loosening and filling with hot material.

D. Second Rolling: Follow breakdown rolling as soon as possible, while mixture is hot. Continue second rolling until mixture has been thoroughly compacted.

E. Finish Rolling: Perform finish rolling while mixture is still warm enough for removal of roller marks. Continue rolling until roller marks are eliminated and course has attained maximum density.

F. Patching: Remove and replace paving areas mixed with foreign materials and defective areas. Cut out such areas and fill with fresh, hot asphaltic concrete. Compact by rolling to maximum surface density and smoothness.

G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.05 FIELD QUALITY CONTROL

A. The Contractor shall provide laboratory testing for quality control functions during periods of mix productions: One (1) field Marshall Test, asphalt content test, gradation analysis, and specific gravity test for each mixtures.

B. Pavement Samples. At the discretion of the Engineer, the Contractor shall obtain pavement samples for the Contractor's quality control testing for acceptance. The affected areas should be restored at no extra cost to the Owner.

a. The number of samples to be obtained will be directed by the Engineer. The size of the samples will be directed by the Engineer. Core samples shall be minimum 4 inches in diameter, and cut samples shall be minimum 12 inches by 12 inches, consisting of undisturbed, full-depth portion of the compacted mixture. Samples shall be taken to the full depth of the course. The location of the samples will be directed by the Engineer. Only sample the leveling course if 1-1/2 inches or greater.

b. Sample shall be obtained from compacted HMA pavement within 72 hours of laydown.

c. Samples shall be tested to determine thickness and density of the completed pavement. Final acceptance will be based on the Contractor's laboratory test results.

d. Restore HMA pavement immediately after obtaining samples. Apply tack coat to vertical faces of sample holes. Fill sampled area with new HMA pavement of same type as that removed, and compact. The entire cost of the sampling and restoring the area shall be borne by the Contractor, and no additional compensation shall be made.

C. Grade Control: Establish and maintain required lines and elevations.

D. Thickness: In-place compacted thickness shall not be less than thickness specified on the drawings. Areas of deficient paving thickness shall receive a tack coat and a minimum one inch overlay; or shall be removed and replaced to the proper thickness, at the discretion of the Owner; until specified thickness of the course is met or exceeded at no additional expense to the Owner.

E. Surface Smoothness: Testing shall be performed on the finished surface of each asphalt concrete course for smoothness, using a 10-foot straightedge applied parallel with, and at right angles to centerline of paved area. The results of these tests shall be made available to the owner upon request. Surfaces will not be acceptable if the following 10-foot straightedge tolerances for smoothness are exceeded.

1. Base Course Surface: 1/4 inch

2. Wearing Course Surface: 3/16 inch

F. Check surface areas at intervals necessary to eliminate ponding areas. Remove and replace unacceptable paving as directed by Owner.

G. Compaction: Field density test for in place materials shall be performed with the reports furnished to the Owner.

1. Areas of insufficient compaction shall be delineated, removed, and replaced in compliance with the specifications at no expense to the Owner.

END OF SECTION

SECTION 02525 - CONCRETE CURBS, DRIVEWAYS, AND WALKS

PART 1 - GENERAL

1.01 SUMMARY

A. Work includes, but is not necessarily limited to, the installation of concrete curb.

B. Related Work Specified Elsewhere:

1. SECTION 02100 - SITE PREPARATION

2. SECTION 02227 - AGGREGATE MATERIALS

3. Hawaii Standard Specifications for Road and Bridge Construction, State of Hawaii, Department of Transportation, Highways Division, 2005 and current amendments (Paragraphs on Measurement and Payment do not apply to this project).

4. Construction Drawings.

1.02 PERFORMANCE REQUIREMENTS

A. Contractor shall maintain access for vehicular and pedestrian traffic as required for other construction activities. Utilize temporary striping, flagmen, barricades, warning signs, and warning lights as required.

B. All work shall conform to SECTION 634 - PORTLAND CEMENT CONCRETE SIDEWALKS and SECTION 638 - PORTLAND CEMENT CONCRETE CURB AND GUTTER of the Hawaii Standard Specifications.

1.03 CLEANING AND ADJUSTING

A. Sweep concrete pavement and wash free of stains, discolorations, dirt, and other foreign material just prior to final inspection.

B. Protect concrete from damage until acceptance of work. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials.

PART 2 - PRODUCTS

2.01 MATERIALS

Concrete, steel reinforcing, joint fillers, sealants and other materials shall conform to the requirements of SECTION 634 - PORTLAND CEMENT CONCRETE SIDEWALKS and SECTION 638 - PORTLAND CEMENT CONCRETE CURB AND GUTTER of the Hawaii Standard Specifications.

PART 3 - EXECUTION

3.01 CONSTRUCTION REQUIREMENTS

Construction of the concrete sidewalks, curb and gutter shall be in accordance with the requirements of SECTION 634 - PORTLAND CEMENT CONCRETE SIDEWALKS and SECTION 638 - PORTLAND CEMENT CONCRETE CURB AND GUTTER of the Hawaii Standard Specifications.

END OF SECTION

SECTION 02584 - PAVEMENT MARKINGS

PART 1 - GENERAL

1.01 SUMMARY

A. Furnish materials, labor, and equipment required to install all pavement markings.

B. Related Work Specified Elsewhere:

1. SECTION 02511 - ASPHALTIC CONCRETE PAVING

2. Hawaii Standard Specifications for Road and Bridge Construction, State of Hawaii, Department of Transportation, Highways Division, 2005 and current amendments (Paragraphs on Measurement and Payment do not apply to this project).

3. Construction Drawings.

1.02 PROJECT CONDITIONS

Maintain access for vehicular and pedestrian traffic as required for other construction activities. Utilize flagmen, barricades, warning signs and warning lights as required.

PART 2 - PRODUCTS

2.01 MATERIALS

Requirements of SECTION 629 - PAVEMENT MARKINGS, of the Hawaii Standard Specifications and current amendments to this section.

PART 3 - EXECUTION

3.01 PREPARATION

A. Surface preparation and installation of pavement striping, markers, symbols and words shall conform to the requirements of SECTION 629 - PAVEMENT MARKINGS of the Hawaii Standard Specifications and current amendments to this section.

B. Where existing pavement markings are indicated on the drawings to be removed or would interfere with the adhesion of new paint, a motorized abrasive device shall be used to remove the markings. The equipment employed shall not damage the existing paving or create a surface hazardous to vehicle or pedestrian traffic. In all areas within public rights-of-way, the method of marking removal shall be approved by governing authority.

3.02 APPLICATION FOR PAINTED SURFACES

Apply 2 coats of paint at manufacturer recommended rate without the addition of thinner, with a maximum of 100 square feet per gallon. Apply with mechanical equipment to produce uniform straight edges.

END OF SECTION

SECTION 02730 - SANITARY SEWER SYSTEM

PART 1 - GENERAL

1.01 SUMMARY

A. Furnish labor, materials, services, equipment, and other necessary items required for accomplishing the construction of the sanitary sewer system. This shall include, but not be limited to, the following:

1. Sanitary sewer piping, fittings and accessories, cleanouts, bedding, and testing.

2. Set lines, elevations, and grades for sanitary sewer system work and control system for duration of work, including careful maintenance of benchmarks, property corners, monuments, or other reference points.

B. Related Work Specified Elsewhere:

1. SECTION 02200 - EARTHWORK

2. SECTION 02222 - EXCAVATION, BACKFILLING, AND COMPACTING FOR UTILITIES

3. SECTION 02227 - AGGREGATE MATERIALS

4. Standard Details for Public Works Construction, City and County of Honolulu, September 1984.

5. Standard Specifications for Public Works Construction, City and County of Honolulu, September 1986.

6. Hawaii Standard Specifications for Road and Bridge Construction, State of Hawaii, Department of Transportation, Highways Division, 2005 and current amendments (Paragraphs on Measurement and Payment do not apply to this project).

7. Construction Drawings.

1.02 SUBMITTALS

A. Product Data: Provide catalog materials indicating manhole covers, rungs, component construction, configuration and dimensions, and materials for detectable warning tape and root barrier.

B. Manufacturer's Installation Instructions: Indicate special procedures required to install products specified.

C. Manufacturer's Certificate: Certify that products meet or exceed ASTM designations and City and County of Honolulu Public Works Standards.

D. Shop Drawings: Indicate reference to drawings of manhole locations, elevation, piping with sizes, locations, and elevations of penetrations.

1.03 REFERENCES

A. ANSI/ASTM D 3034 - Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings.

B. ASTM D 1785 - Polyvinyl Chloride (PVC) Plastic Pipe, Schedules 40, 80 and 120.

1.04 DEFINITIONS

Bedding: Fill placed under, beside and directly over pipe, prior to subsequent backfill operations.

1.05 QUALITY ASSURANCE

All work shall conform to the Standard Specifications for Public Works Construction.

PART 2 - PRODUCTS

2.01 SEWER MANHOLES

A. Sewer Manholes shall conform to the requirements of the City and County of Honolulu, Standard Specifications for Public Work Construction.

B. Concrete Jackets shall conform to the requirements of the City and County of Honolulu, Standard Specifications for Public Works Construction.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that trench cut and excavation is ready to receive work and excavations, dimensions, and elevations are as indicated on drawings.

B. Verify items and materials provided are properly sized and located.

3.02 CONSTRUCTION

A. Trench excavation and backfill shall be in accordance with SECTION 02222 - EXCAVATION, BACKFILLING, AND COMPACTING FOR UTILITIES for work in this section.

B. Precast concrete manholes shall be constructed as shown on the drawings. The details of the riser and tapered sections and the joints shall be submitted for approval by the Engineer.

C. Precast concrete manholes may be used in locations below the ground water level after conducting leakage tests to demonstrate the watertightness of the manhole to the satisfaction of the Engineer and receiving his approval.

D. Provide concrete jackets as shown on the drawings. Use small concrete blocks to support pipes, and provide reinforcement as specified on the drawings. Cure reinforced concrete jackets for five days.

E. Upon completion, manholes shall be thoroughly cleaned of all debris.

3.03 FIELD QUALITY CONTROL

A. Compaction testing will be performed in accordance with ANSI/ASTM D 698, ASTM D 2922 or ASTM D 3017.

B. Test sanitary sewer pipe system installed below grade in accordance with the following procedures:

1. The Contractor shall perform the testing of manhole construction, pipe materials, joints and/or other materials incorporated into the construction of the sanitary sewer system to determine leakage and water tightness. In the event any state or local code requires a more stringent test, the more stringent shall apply.

2. Air Testing of Gravity Sewers: Refer to Hawaii Standard Specifications for Road and Bridge Construction.

3. Acceptance of Installation: No gravity sewer or manhole will be accepted that does not comply with the minimum requirements of tests described in this specification.

4. Test Equipment: All necessary equipment to perform the air test in accordance with this specification shall be provided by the contractor. The test gauge shall preferably have incremental division of 0.10 psi and have an accuracy of at least plus or minus 0.04 psi. In no case shall a test gauge be used which has incremental divisions of greater than 0.25 psi. The gauge shall be of sufficient size in order to determine this accuracy.

5. Contractor shall furnish one copy of gravity sewer and manhole test results to the Engineer upon completion of sewer system backfilling operations.

END OF SECTION

SECTION 04200 - CONCRETE MASONRY

PART 1 - GENERAL

1.01 SUMMARY

A. Furnish labor, materials, services, equipment, and other necessary items required for accomplishing the construction of all masonry work.

B. Related Work Specified Elsewhere:

1. Standard Details for Public Works Construction, City and County of Honolulu, September 1984.

2. Standard Specifications for Public Works Construction, City and County of Honolulu, September 1986.

3. Hawaii Standard Specifications for Road and Bridge Construction, State of Hawaii, Department of Transportation, Highways Division, 2005 and current amendments (Paragraphs on Measurement and Payment do not apply to this project).

4. Construction Drawings.

1.02 SUBMITTALS

A. Sample masonry units, sample walls, and shop drawings shall be as specified. If variations in color, texture, or of any other nature are specified, the work will be completed in accord with two samples representing the ends of the range of variations, said samples to be secured on the site in the custody of the Contractor.

1.03 REFERENCES

A. ASTM C 55 - Concrete Building Brick.

B. ASTM C 90 - Loadbearing Concrete Masonry Units.

C. ASTM C 91 - Masonry Cement

D.

E. ASTM A 615 - Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

1.04 STORAGE AND HANDLING

A. Masonry units shall be carefully stacked prior to use and shall be protected from physical damage. All units shall be handled with reasonable care to prevent marring or damaging of faces, edges, and corners of units. In no case shall dumping of units from hand trucks or wheelbarrows be permitted.

B. Portland Cement, masonry cement, lime and admixtures shall be stored in such a manner as to prevent deterioration or contamination with foreign matter. Cement which has become caked, partially set or otherwise deteriorated, or any material which becomes damaged or contaminated, shall be rejected.

PART 2 - PRODUCTS

2.01 CONCRETE MASONRY UNITS

A. Unless otherwise specified, hollow load-bearing masonry units shall be 8" x 8" x 16" nominal size. The masonry units delivered at the job site shall be uniform in color and texture for the entire lot.

2.02 MORTAR AND GROUT MATERIALS

A. Portland Cement shall conform to ASTM C 150, Type I or II.

B. Masonry Cement shall conform to ASTM C 91, "Supermortar" (Cyprus Hawaiian Cement), or "Kaiser Mortar" (Kaiser Cement) or superplastic cement.

C. Hydrated Lime shall conform to ASTM C 207, Type S. Plastaid may be used in place of lime, unless otherwise specified.

D. Admixture conforming to ASTM C 494, Type A or D, may be used if specified or approved.

E. Aggregate for mortar shall conform to ASTM C 144.

F. Aggregate for grout shall conform to ASTM C 404, with grading in accordance with ASTM D 448, No. 10.

G. Water shall be clean, fresh, and potable.

2.03 MORTAR AND GROUT MIXES

A. The method of proportioning materials for mortar and grout shall be by volume and in such manner that the specified proportions can be controlled and accurately maintained. Fine aggregate shall be measured in a damp loose condition. Mixing shall be by a mechanical batch mixer for at least three minutes for mortar and five minutes for grout. Hand mixing may be permitted on small jobs if approved by the Engineer.

B. Mortar shall conform to ASTM C 270 and shall be freshly prepared and uniformly mixed in one of the following proportions to obtain 2000 psi, 28-day compressive strength. Admixture, if used, shall be mixed and in accordance with the manufacturer's recommendations. Use sufficient water consistent with satisfactory workability

1.	1 part	Portland cement
	1/4 part	hydrated lime or Plastaid

	2-1/4 to 3 parts	fine aggregate
2.	1 part	masonry cement
	2-1/4 to 2-1/2 parts	fine aggregate

C. Grout shall conform to ASTM C 476 and shall be freshly prepared and uniformly mixed in the following proportions to obtain 2500 psi, 28-day compressive strength. Sufficient water shall be used to provide fluid consistency for pouring or pumping, and yet not so fluid that the constituent parts segregate when the grout is poured or pumped.

1.	1 part	Portland cement
	2-1/4 to 3 parts	fine aggregate

Plastaid may be added; not to exceed one-tenth part per one part Portland cement. Do not use hydrated lime.

2. Grout designed by ready-mix supplier may be used upon approval by the Engineer.

PART 3 - EXECUTION

3.01 INSPECTION

A. Pre-erection inspection should be conducted by the Contractor and sub-contractor from time to time during the course of the job to assure an acceptable working condition for masonry contractor prior to commencement of work, insofar as possible. Corrective measures for such problems as mis-aligned reinforcing steel, dowels, anchors or ties, conduit, pipes or openings should be corrected or work modified by the general contractor in time for the masonry contractor to maintain his schedule. Variations in excess of tolerances that arise during the prosecution of the work should be resolved with the Engineer in accordance with good construction practice.

3.02 LAYING OF MASONRY UNITS

A. General: Work shall be plumb, level, and true, within tolerances specified, using whole units except at closures. Lay units so that the inside face of the wall is a true flat plane, unless otherwise specified. If one face is to receive plaster or other facing, then the exposed face shall be the true flat plane. Unless otherwise specified, the wall shall be erected in straight uniform course with regular running bond.

B. Masonry units shall not be wetted at the time of use, and all surfaces to receive mortar shall be clean.

C. Mortar for the first course shall be spread only for the face shell and not the entire floor (Shell mortar bed). The mortar bed, or first layer of mortar, shall not exceed 3/4" in thickness. Joints shall be buttered from the face of the block to the depth of the shell face. Vertical head joints shall be buttered well for a

thickness equal to the shell face and these joints shall be shoved together tightly so that the mortar bonds well to both blocks.

D. If it is necessary to move a block so as to open a joint, the block shall be removed from the wall, cleaned and set in fresh mortar again.

E. All hollow masonry units shall be built to preserve a minimum 2" x 3" vertical continuity of the cells to be filled. Walls and cross webs forming such cells to be filled shall be full-bedded in mortar to prevent leakage of grout.

F. Joints:

1. Mortar joints shall be straight, clean, uniformly struck, and of nominal 3/8" thickness, but not less than 1/4" nor more than 1/2". Adjustments may be made for varying thicknesses of reinforcing bar or mesh on horizontal joints, as necessary and approved by the Engineer.

2. While mortar is still workable, mortar joints shall be struck. Unless specified otherwise, exposed joints shall be tooled with a 5/8" to 3/4" diameter round bar with a 3-1/2" to 12" bearing face, to make a smooth concave joint. Tooling shall compact the mortar, not drag it out of the joint. For exterior surfaces of walls below grade, walls to be plastered, and walks to be faced with other factory finished surfaces, unless otherwise specified, excess mortar shall be cut off the joints with a trowel and the joints need not be cut from the joints.

3. All walls and partitions shall be carried to the underside of beams, slabs, or joists as the case may be, and be connected at the top as indicated on the drawings. The mortar joints shall be struck flush at all concrete and masonry units, unless otherwise specified.

G. Cutting shall be done by power-driven saw. Drilling and cutting of small holes shall be neatly done.

H. Unfinished work shall be stepped back for joining with new work; toothing shall not be permitted except where necessary and approved.

3.03 METAL REINFORCEMENT

A. Reinforcement shall be free from scale, loose, or flank rust or other coating that will destroy bond. They shall be straight, except for bends around corners, or where bends or hooks are detailed.

B. Vertical Reinforcing: One #4 reinforcing bar shall be placed in every cell.

C. All cells containing reinforcement shall be filled solidly with grout in one lift not exceeding eight feet. When grouting is stopped for one hour or more, horizontal construction joints shall be formed by stopping the placement of grout 1-1/2" below the top of the upper-most units.

3.04 FINISHING AND CLEANING

A. Mortar splotches shall be cleaned up during the course of the work, as necessary. All exposed surfaces shall be free of sand, mortar, and stains, by the application of water and scrubbing with stiff non-metallic brushes. All holes exceeding the dimensions of a dime laid over the hole shall be pointed. All joints shall be pointed where defective, or should be cut out and repointed if not bonded. Upon completion of the work, the area shall be clean and free of all debris, surplus and waste materials, and rubbish.

END OF SECTION

INDEX OF DRAWINGS

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1	T-01	TITLE SHEET
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4	C-03	EROSION AND SEDIMENT CONTROL PLAN
5	C-04	EROSION AND SEDIMENT CONTROL NOTES
6	C-05	EROSION AND SEDIMENT CONTROL DETAILS
7	C-06	DEMOLITION PLAN
8	C-07	SITE LAYOUT PLAN
9	C-08	BASELINE PROFILES
10	C-09	SITE GRADING AND UTILITY PLAN
11	C-10	SITE SECTION
12	C-11	STRIPING PLAN
13	C-12	MISCELLANEOUS DETAILS

HAWAII HEALTH SYSTEMS CORPORATION

3675 KILAUEA AVENUE
HONOLULU, OAHU, HAWAIʻI 96816

LEAHI HOSPITAL CENTRAL COURTYARD PARKING LOT - PHASE 1

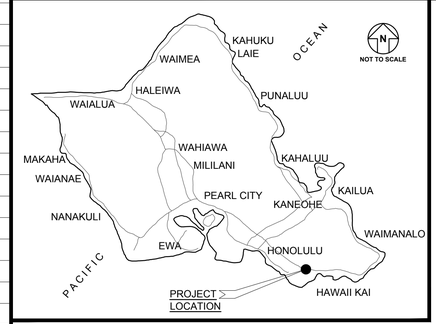
HONOLULU, OAHU, HAWAIʻI

TAX MAP KEY: (1) 3-2-031: 001

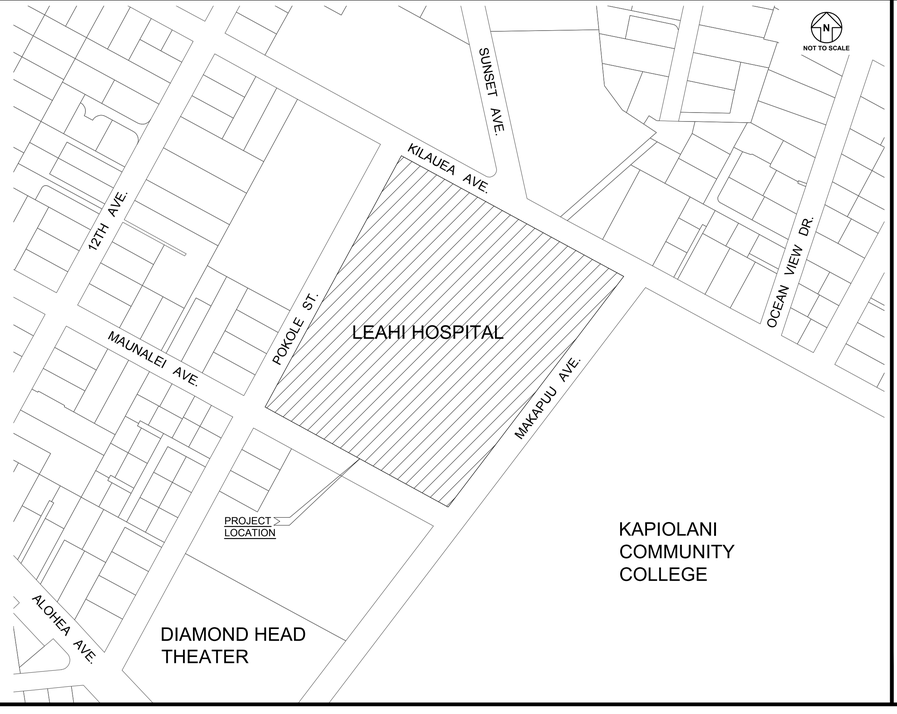
PREPARED BY:

Austin Tsutsumi & ASSOCIATES, INC.
Engineers & Surveyors

LOCATION MAP



VICINITY MAP



APPROVED

DIRECTOR, DEPARTMENT OF PLANNING AND PERMITTING — DATE
CITY AND COUNTY OF HONOLULU
(FOR SITE GRADING ONLY)

DWG. NO. T-01
SHEET 1 OF 13

Y:\2020\20-003 Leahi Hospital\ENGINEERING\DWG\T-01 TITLE SHEET.dwg

JOB NO. 20-003

GENERAL CONSTRUCTION NOTES:

1. ALL APPLICABLE CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1986 AND STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1984, AS AMENDED, OF THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU AND THE COUNTIES OF KAUAI, MAUI, AND HAWAII.

2. THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.

3. NO CONTRACTOR SHALL PERFORM ANY CONSTRUCTION OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW INTO EXISTING CITY DRAINAGE SYSTEMS, OR ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.

4. FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEERING BRANCH, D.P.P. AT 768-8084 TO ARRANGE FOR INSPECTIONAL SERVICES AND SUBMIT TWO (2) SETS OF APPROVED CONSTRUCTION PLANS SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK. FOR CITY PROJECTS, THE CONTRACTOR SHALL COORDINATE INSPECTIONAL SERVICES WITH THE RESPONSIBLE CITY AGENCY.

5. FOR NON-CITY PROJECTS, THE CONTRACTOR MAY SUBMIT A SUBSTITUTION REQUEST TO PRECAST ANY CITY OWNED AND/OR MAINTAINED DRAINAGE STRUCTURE (EX., CATCH BASINS, DRAIN MANHOLES, DRAIN INLETS, CULVERTS, ETC). HOWEVER, PRIOR TO CONSTRUCTION AND INSTALLATION OF ANY PRECAST STRUCTURE, THE CONTRACTOR SHALL A) SUBMIT SIX (6) SETS OF SHOP DRAWINGS TO THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING AND OBTAIN WRITTEN APPROVAL AND B) NOTIFY THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING AT 768-8084 TO ARRANGE FOR INSPECTIONAL SERVICES. NON-COMPLIANCE WITH ANY OF THESE REQUIREMENTS SHALL MEAN IMMEDIATE SUSPENSION OF ALL PRECAST CONSTRUCTION WORK AND REJECTION OF ALL PRECAST STRUCTURES ALREADY CONSTRUCTED.

   FOR CITY PROJECTS, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE RESPONSIBLE CITY AGENCY FOR REVIEW AND APPROVAL. ALSO, THE CONTRACTOR SHALL COORDINATE INSPECTIONAL SERVICES WITH THE RESPONSIBLE CITY AGENCY.

6. CONFINED SPACE

   FOR ENTRY BY CITY PERSONNEL, INCLUDING INSPECTORS, INTO A PERMIT REQUIRED CONFINED SPACE AS DEFINED IN 29 CFR PART 1910.146(B), THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING:

   1. ALL SAFETY EQUIPMENT REQUIRED BY THE CONFINED SPACE REGULATIONS APPLICABLE TO ALL PARTIES OTHER THAN THE CONSTRUCTION INDUSTRY, TO INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:
      - A. FULL BODY HARNESSES FOR UP TO TWO PERSONNEL.
      - B. LIFELINE AND ASSOCIATED CLIPS.
      - C. INGRESS/EGRESS AND FALL PROTECTION EQUIPMENT.
      - D. TWO-WAY RADIOS (WALKIE-TALKIES) IF OUT OF LINE-OF-SIGHT.
      - E. EMERGENCY (ESCAPE) RESPIRATOR (10 MINUTE DURATION).
      - F. CELLULAR TELEPHONE TO CALL FOR EMERGENCY ASSISTANCE.
      - G. CONTINUOUS GAS DETECTOR (CALIBRATED) TO MEASURE OXYGEN, HYDROGEN SULFIDE, CARBON MONOXIDE AND FLAMMABLES (CAPABLE OF MONITORING AT A DISTANCE AT LEAST 20-FEET AWAY).
      - H. PERSONAL MULTI-GAS DETECTOR TO BE CARRIED BY INSPECTOR.
      - II. CONTINUOUS FORCED AIR VENTILATION ADEQUATE TO PROVIDE SAFE ENTRY CONDITIONS.
      - III. ONE ATTENDANT/RESCUE PERSONNEL TOPSIDE (TWO, IF CONDITIONS WARRANT IT).

7. PURSUANT TO CHAPTER 6E, HRS, IN THE EVENT ANY ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL IMMEDIATELY SUSPEND WORK AND NOTIFY THE HONOLULU POLICE DEPARTMENT, THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES-HISTORIC PRESERVATION DIVISION (692-8015). IN ADDITION, FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL INFORM THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING (768-8084); AND FOR CITY PROJECTS, NOTIFY THE RESPONSIBLE CITY AGENCY.

8. FOR PROJECTS ABUTTING STATE HIGHWAYS' RIGHTS-OF WAY, THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL NOTIFY THE STATE DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION, OAHU DISTRICT, DRAINAGE DISCHARGE UNIT AT 831- 6793 FOR AN ASSESSMENT OF STATE HIGHWAYS PERMIT REQUIREMENTS.

9. FOR BENCH MARK, SEE SHEET C-06.

GRADING NOTES:

1. ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH CHAPTER 14, ARTICLES 13, 14, 15 AND 16, AS RELATED TO GRADING, SOIL EROSION AND SEDIMENT CONTROL OF THE REVISED ORDINANCES OF HONOLULU, 1990, AS AMENDED, AND SOILS REPORT BY _____DATED _____.

2. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 60.1, "AIR POLLUTION CONTROL".

3. ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SURFACE WATERS FROM DAMAGING THE CUT FACE OF AN EXCAVATION OR THE SLOPED SURFACES OF A FILL. FURTHERMORE, ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE SITE.

4. ALL SLOPES AND EXPOSED AREAS SHALL BE SODDED OR PLANTED AS SOON AS FINAL GRADES HAVE BEEN ESTABLISHED. PLANTING SHALL NOT BE DELAYED UNTIL ALL GRADING WORK HAS BEEN COMPLETED. GRADING TO FINAL GRADE SHALL BE CONTINUOUS, AND ANY AREA WITHIN WHICH WORK HAS BEEN INTERRUPTED OR DELAYED SHALL BE PLANTED.

5. FILLS ON SLOPES STEEPER THAN 5:1 SHALL BE KEYED.

6. THE CITY SHALL BE INFORMED OF THE LOCATION OF THE BORROW/DISPOSAL SITE FOR THE PROJECT WHEN THE APPLICATION FOR A GRADING PERMIT IS MADE. THE BORROW/DISPOSAL SITE MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.

7. NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS AT ANY TIME WITHOUT PRIOR NOTICE TO THE DIRECTOR, D.P.P., PROVIDED SUCH GRADING WORK IS ALSO IN CONFORMANCE WITH THE COMMUNITY NOISE CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 46, "COMMUNITY NOISE CONTROL".

8. THE LIMITS OF THE AREA TO BE GRADED SHALL BE FLAGGED BEFORE THE COMMENCEMENT OF THE GRADING WORK.

9. THE GENERAL CONTRACTOR/DEVELOPER/OWNER OF THE PROJECT SHALL BE RESPONSIBLE FOR ALL GRADING OPERATIONS TO BE PERFORMED IN CONFORMANCE WITH APPLICABLE PROVISIONS OF THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 54, "WATER QUALITY STANDARDS," AND TITLE 11, CHAPTER 55, "WATER POLLUTION CONTROL", AS WELL AS CHAPTER 14 OF THE REVISED ORDINANCES OF HONOLULU, AS AMENDED. BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED AT ALL TIMES DURING CONSTRUCTION.THE GENERAL CONTRACTOR/DEVELOPER/OWNER OF THE PROJECT SHALL OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE(S) FOR THE FOLLOWING:

   1. STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES THAT DISTURB ONE (1) ACRE OR MORE, AND
   2. DISCHARGES OF HYDROTESTING EFFLUENT, DEWATERING EFFLUENT, AND WELL DRILLING EFFLUENT TO STATE WATERS. IN ACCORDANCE WITH STATE LAW, ALL DISCHARGES RELATED TO PROJECT CONSTRUCTION OR OPERATIONS ARE REQUIRED TO COMPLY WITH STATE WATER QUALITY STANDARDS (HAWAII ADMINISTRATIVE RULES, CHAPTER 11-54). BEST MANAGEMENT PRACTICES SHALL BE USED TO MINIMIZE OR PREVENT THE DISCHARGE OF SEDIMENT, DEBRIS, AND OTHER POLLUTANTS TO STATE WATERS. PERMIT COVERAGE IS AVAILABLE FROM THE DEPARTMENT OF HEALTH, CLEAN WATER BRANCH AT HTTP://HEALTH.HAWAII.GOV/CWB. THE OWNER/DEVELOPER/CONTRACTOR IS RESPONSIBLE FOR OBTAINING OTHER FEDERAL, STATE, OR LOCAL AUTHORIZATIONS AS REQUIRED BY LAW.

12. WHERE APPLICABLE AND FEASIBLE THE MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE ANY EARTH MOVING PHASE OF THE GRADING IS INITIATED.

13. TEMPORARY EROSION CONTROLS SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN-PLACE AND ESTABLISHED.

14. TEMPORARY EROSION CONTROL PROCEDURES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO APPLICATION FOR GRADING PERMIT.

15. IF THE GRADING WORK INVOLVES CONTAMINATED SOIL, THEN ALL GRADING WORK SHALL BE DONE IN CONFORMANCE WITH APPLICABLE STATE AND FEDERAL REQUIREMENTS.

16. BUILDING PERMIT FOR RETAINING WALLS SHALL BE OBTAINED PRIOR TO COMMENCEMENT OF GRADING WORK ON SITE.

17. FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEERING BRANCH, D.P.P. AT 768-8084 TO ARRANGE FOR INSPECTIONAL SERVICES AND SUBMIT TWO (2) SETS OF APPROVED CONSTRUCTION PLANS SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK. FOR CITY PROJECTS, THE CONTRACTOR SHALL COORDINATE INSPECTIONAL SERVICES WITH THE RESPONSIBLE CITY AGENCY.

18. FOR ALL PROJECTS, WHICH WILL DISTURB ONE (1) ACRE OR MORE OF LAND, THE CONTRACTOR SHALL NOT START CONSTRUCTION UNTIL A NOTICE OF GENERAL PERMIT COVERAGE (NGPC) IS RECEIVED FROM THE DEPARTMENT OF HEALTH, STATE OF HAWAII, AND HAS SATISFIED ANY OTHER APPLICABLE REQUIREMENTS OF THE NPDES PERMIT PROGRAM. ALSO, FOR NON-CITY AND OTHER NON-GOVERNMENTAL AGENCY PROJECTS, THE CONTRACTOR SHALL PROVIDE A WRITTEN COPY OF THE NGPC TO THE PERMITTING AND INSPECTION SECTION, CIVIL ENGINEERING BRANCH, D.P.P., AT LEAST SEVEN (7) CALENDAR DAYS BEFORE THE START OF THE CONSTRUCTION. FOR CITY OR OTHER GOVERNMENTAL PROJECTS, THE CONTRACTOR SHOULD PROVIDE A WRITTEN COPY OF THE NGPC TO THE APPROPRIATE CITY DEPARTMENT OR GOVERNMENTAL AGENCY PER THEIR REQUIREMENTS.

19. ALL GRADING AND CONSTRUCTION WORK SHALL IMPLEMENT MEASURES TO ENSURE THAT THE DISCHARGE OF POLLUTANTS FROM THE CONSTRUCTION SITE WILL BE REDUCED TO THE MAXIMUM EXTENT PRACTICABLE AND WILL NOT CAUSE OR CONTRIBUTE TO AN EXCEEDANCE OF WATER QUALITY STANDARDS.

20. NON-COMPLIANCE TO ANY OF THE ABOVE REQUIREMENTS SHALL MEAN IMMEDIATE SUSPENSION OF ALL WORK, AND REMEDIAL WORK SHALL COMMENCE IMMEDIATELY. ALL COSTS INCURRED SHALL BE BILLED TO THE VIOLATOR. FURTHERMORE, VIOLATORS SHALL BE SUBJECTED TO ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES.

ABBREVIATIONS

Δ	DELTA		
&	AND		
@	AT		
A.C. OR A/C	ASPHALT CONCRETE	PAV'T	PAVEMENT
ADJ.	ADJUST	PB	PULLBOX
AZ	AZIMUTH	PC	POINT OF CURVATURE
		PIVC	POINT OF INTERSECTION VERTICAL CURVE
℄	BASELINE	PL.	PLACE
BC	BOTTOM CURB	P	PROPERTY LINE
BEG	BEGIN	PT	POINT OF TANGENCY
BLK.	BLOCK	PVC	POLYVINYL CHLORIDE
BOT OR BOTT	BOTTOM	R	RADIUS
BVC	BEGIN VERTICAL CURVE	RD.	ROAD
BW	BOTTOM OF WALL	REF.	REINFORCED OR REINFORCEMENT
		REQ'D	REQUIRED
CB	CATCH BASIN	RP	RADIUS POINT
CBMH	CATCH BASIN MANHOLE	RT.	RIGHT
Ch	CHORD LENGTH	R.O.W OR R/W	RIGHT-OF-WAY
℄	CENTERLINE		
CLR.	CLEAR	S	SLOPE
CONC.	CONCRETE	SCH	SCHEDULE
CONN.	CONNECTION	SF	SQUARE FOOT
CONT	CONTINUATION OR CONTINUOUS	SMH	SEWER MANHOLE
CY	CUBIC YARD	SP	SIGN POST
		S.S	STAINLESS STEEL
ø, D	DIAMETER	ST.	STREET
DBL	DOUBLE	STA.	STATION
DET.	DETAIL	STD	STANDARD
DMH	DRAIN MANHOLE	STRUCT.	STRUCTURE
DWY. OR D/W	DRIVEWAY	SCV.	SERVICE
		S/W	SIDEWALK
e	EXISTING	SWL	SWALE
EA	EACH		
EHH	ELECTRIC HANDHOLE	T	TANGENT
ELEC.	ELECTRIC OR ELECTRICAL	TC	TOP CURB
ELEV. OR EL	ELEVATION	TEL	TELEPHONE
EMH	ELECTRIC MANHOLE	TEMP	TEMPORARY
E.P.	EDGE OF PAVEMENT	TEBX	TELEPHONE BOX
EPB	ELECTRICAL PULLBOX	TEL	TELEPHONE HANDHOLE
EVC	END VERTICAL CURVE	THK.	THICK
EXIST.	EXISTING	TMH	TELEPHONE MANHOLE
		TPB	TELEPHONE PULLBOX
FIN	FINISHED	TRAV.	TRAVERSE
FT	FEET	TW	TOP OF WALL
		T/P	TOP OF PIPE
GRD.	GRADE	T/V	TOP OF VALVE
		TYP.	TYPICAL
HB	HOSE BIBB		
H	HEIGHT	VC	VERTICAL CURVE
HORIZ	HORIZONTAL		
HP	HIGH POINT	W	WIDE
		W/	WITH
ICBX	IRRIGATION CONTROL BOX		
ICV	IRRIGATION CONTROL VALVE		
IN	INCHES		
INV	INVERT ELEVATION		
JB	JUNCTION BOX		
HT.	LATERAL		
LB	POUND		
Lc	LENGTH OF CURVE		
LEN	LENGTH		
LF	LINEAL FEET		
LP	LIGHT POLE		
LP	LOW POINT		
LT.	LEFT		
MAX	MAXIMUM		
MH	MANHOLE		
MIN	MINIMUM		
NO.	NUMBER		
O.C.	ON CENTER		
O.D.	OUTSIDE DIAMETER		
O/S	OFFSET		

LEGEND

EXISTING		NEW
co	CLEAN OUT	
	DRAIN INLET	
sdmh	DRAIN MANHOLE	
ebx	ELECTRIC BOX	
emh	ELECTRIC MANHOLE	
hb	HOSE BIBB	
lp	LIGHT POLE	
	SEWER MANHOLE	◎
	SWALE	
tebx	TELEPHONE BOX	
tel	TELEPHONE HANDHOLE	
tmh	TELEPHONE MANHOLE	
tpb	TELEPHONE PULLBOX	
sign	SIGN	
tree d=diameter h=height	TREE	

UTILITY LINES AND SIZES

S8	SANITARY SEWER	S8

Austin Tsutsumi & Associates, Inc.
Engineers & Surveyors
501 SUMNER STREET, SUITE 521
HONOLULU, HAWAII 96817
PHONE: 808-533-3646
FAX: 808-526-1267

LEAHI HOSPITAL CENTRAL COURTYARD PARKING LOT - PHASE 1

HONOLULU, HAWAII

TERRANCE S. ARASHIRO
LICENSED PROFESSIONAL ENGINEER
No. 6998-C
HAWAII, U.S.A.

This work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in Chapter 16-115 Subchapter 1 Definitions of the Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors, and Landscape Architects.")

SIGNATURE — APRIL 30, 2020 — EXP. DATE OF THE LICENSE

REVISION	DATE	BRIEF	BY

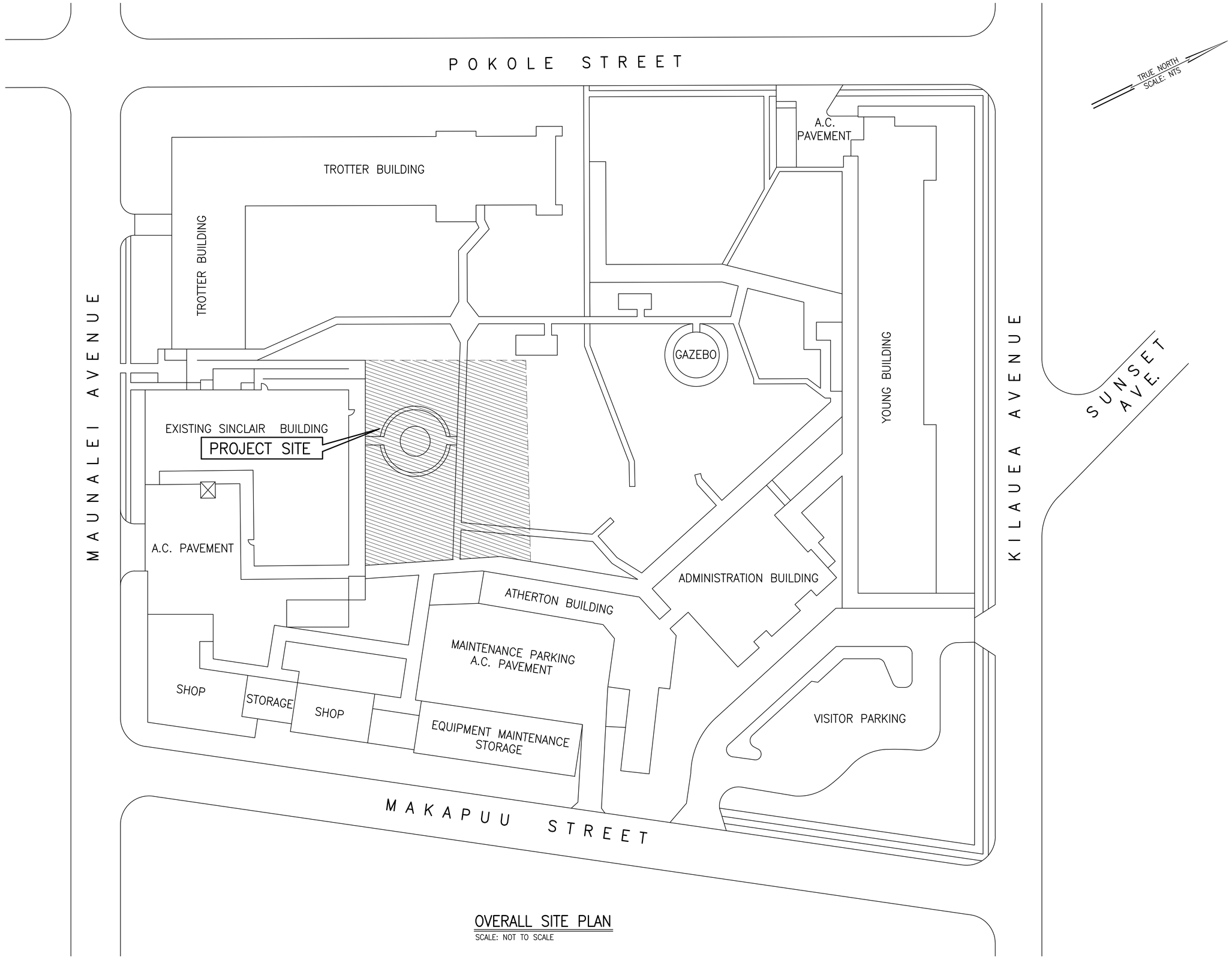
Project No:	20-003
Scale:	AS NOTED
Date:	02/28/2020
Designed By:	TSA
Drawn By:	DON
Checked By:	TSA

NOTES, ABBREVIATIONS & LEGEND

DWG. NO.

C-01

SHEET 2 OF 13



OVERALL SITE PLAN

SCALE: NOT TO SCALE

Austin Tsutsumi & Associates, Inc.
Engineers & Surveyors
501 SUMNER STREET, SUITE 521
HONOLULU, HAWAII 96817
PHONE: 808-533-3646
FAX: 808-526-1267

LEAHI HOSPITAL CENTRAL COURTYARD PARKING LOT - PHASE 1

HONOLULU, HAWAII

TERRANCE S. ARASHIRO
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REVISION	DATE	BRIEF	BY

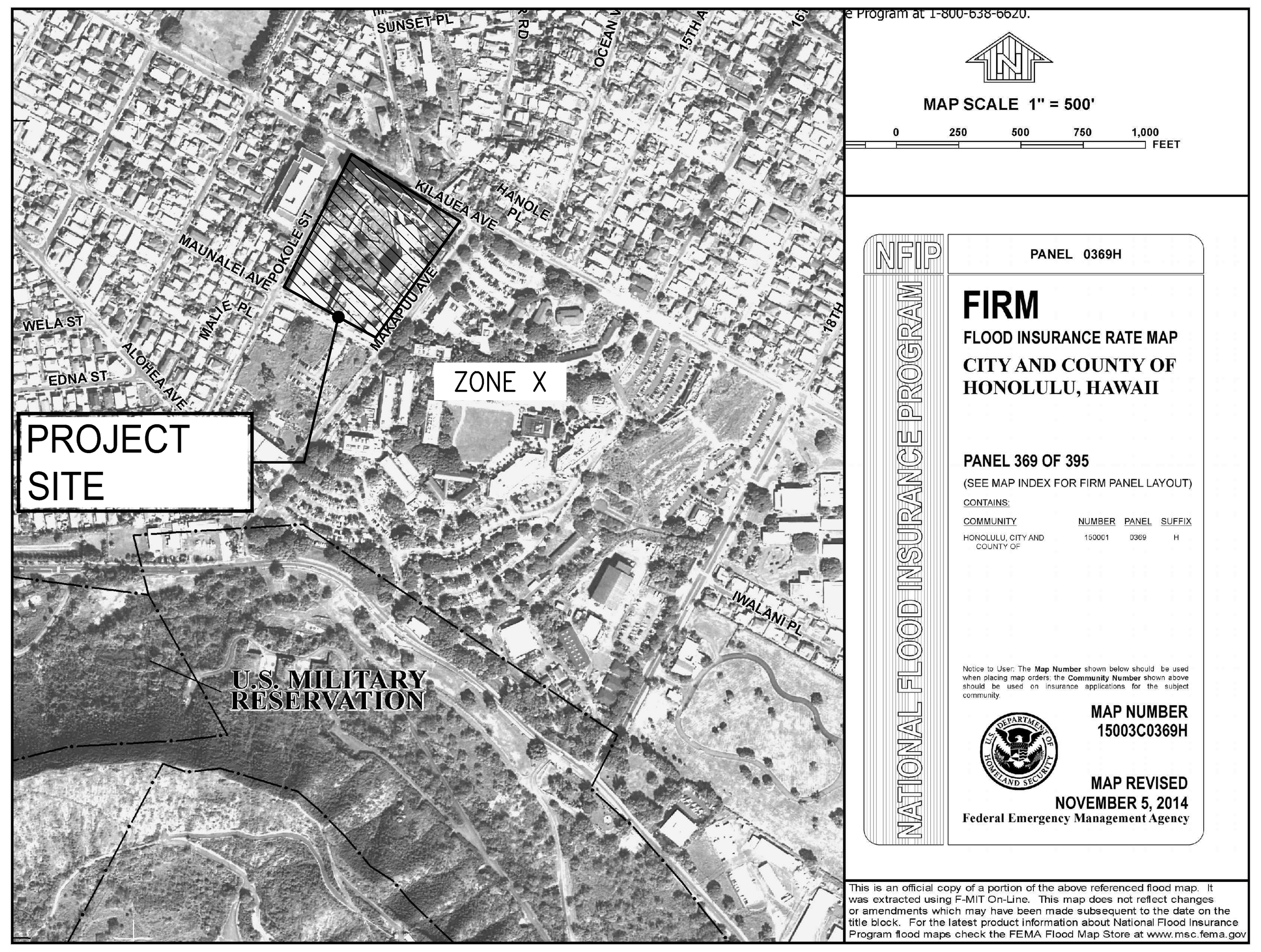
Project No:	20-003
Scale:	AS NOTED
Date:	02/28/2020
Designed By:	TSA
Drawn By:	DON
Checked By:	TSA

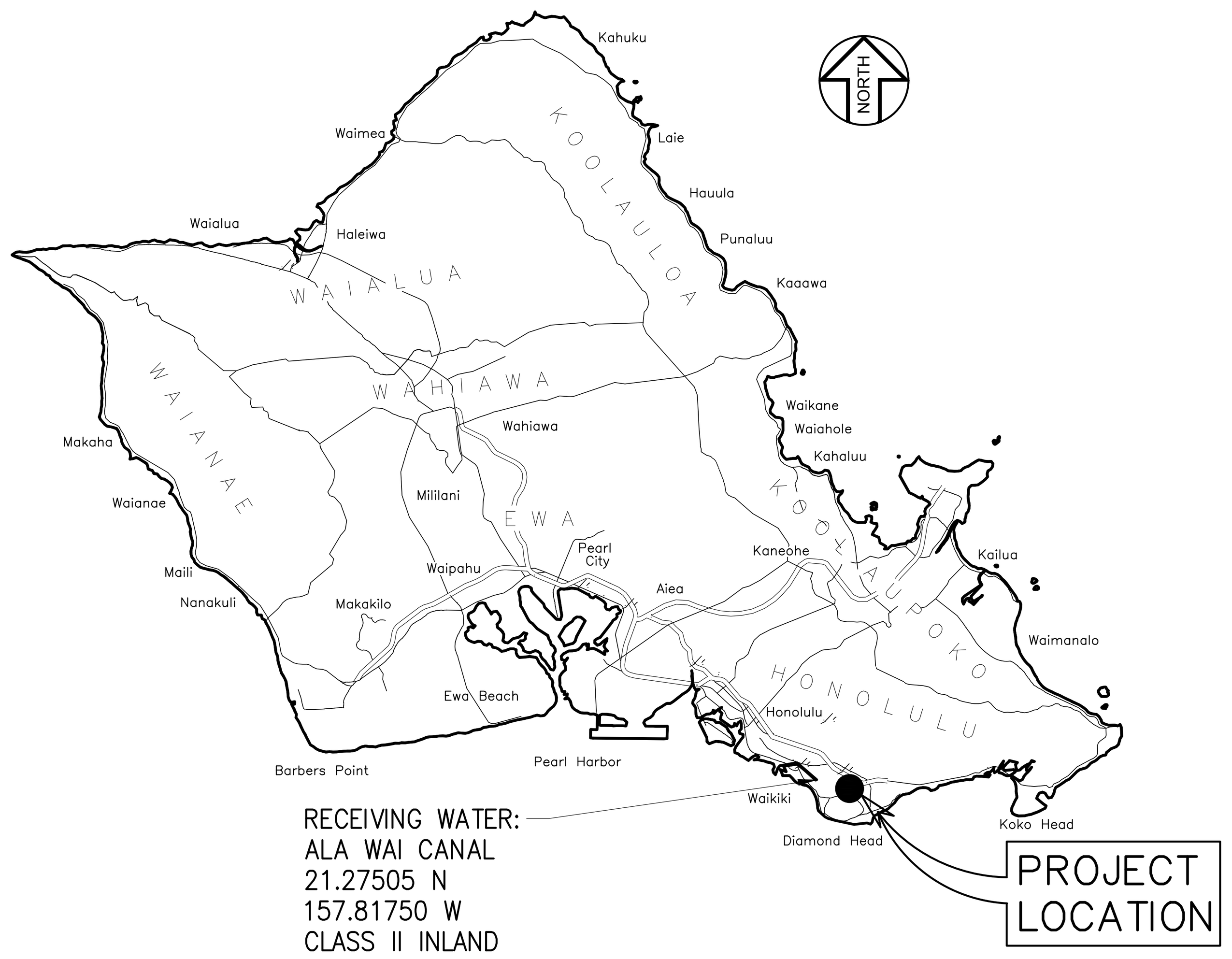
OVERALL SITE PLAN

DWG. NO.

C-02

SHEET 3 OF 13

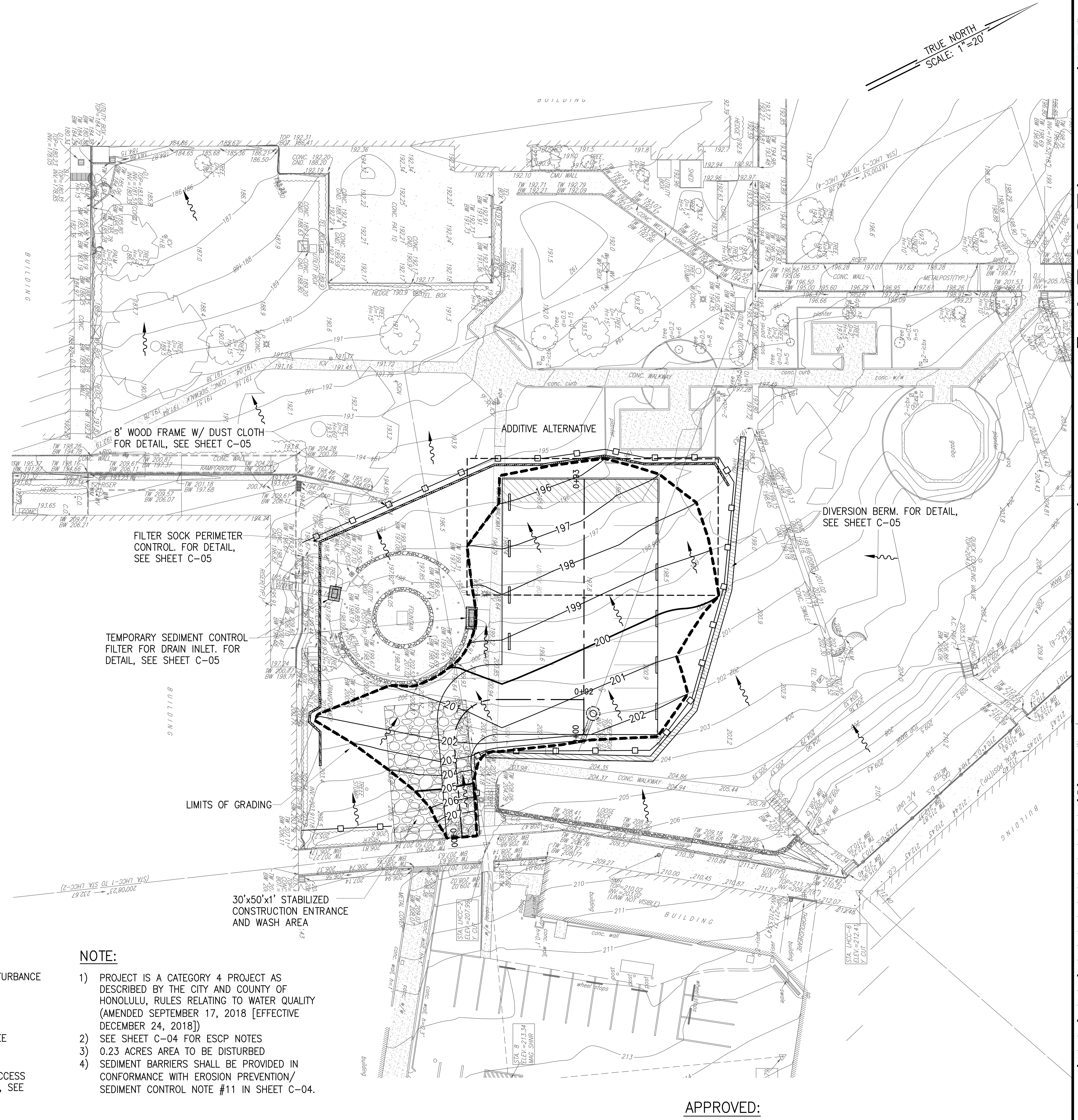




RECEIVING WATER:
ALA WAI CANAL
21.27505 N
157.81750 W
CLASS II INLAND

LOCATION AND FLOOD MAP

NOT TO SCALE



PRE/DURING/POST CONSTRUCTION BMPS:

PRE-CONSTRUCTION BMPS INCLUDE THE FOLLOWING:
1. STABILIZED CONSTRUCTION INGRESS/EGRESS
2. SEDIMENT FILTER FOR DRAIN INLETS
3. FILTER SOCK/ DUST SCREEN
4. DUST CONTROL
5. DIVERSION BERM

DURING CONSTRUCTION BMPS INCLUDE THE FOLLOWING:
1. TEMPORARY STABILIZATION
2. SEDIMENT BARRIERS

POST-CONSTRUCTION BMPS INCLUDE THE FOLLOWING:
1. PERMANENT STABILIZATION

LEGEND

- LIMITS OF GRADING AND DISTURBANCE
- 8' WOOD FRAME W/ DUST CLOTH
- FILTER SOCK FOR DETAIL, SEE SHT. C-05
- STABILIZED CONSTRUCTION ACCESS AND WASH AREA FOR DETAIL, SEE SHT. C-05
- DIVERSION BERM FOR DETAIL, SEE SHT. C-05
- TEMPORARY SEDIMENT FILTER FOR DRAIN INLET FOR DETAIL, SEE SHT. C-05

NOTE:

1) PROJECT IS A CATEGORY 4 PROJECT AS DESCRIBED BY THE CITY AND COUNTY OF HONOLULU, RULES RELATING TO WATER QUALITY (AMENDED SEPTEMBER 17, 2018 [EFFECTIVE DECEMBER 24, 2018])
2) SEE SHEET C-04 FOR ESCP NOTES
3) 0.23 ACRES AREA TO BE DISTURBED
4) SEDIMENT BARRIERS SHALL BE PROVIDED IN CONFORMANCE WITH EROSION PREVENTION/ SEDIMENT CONTROL NOTE #11 IN SHEET C-04.

EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1"=20' (CATEGORY 4)

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DATE
DEPARTMENT OF PLANNING AND PERMITTING,
CITY & COUNTY OF HONOLULU

Austin Tsutsumi & ASSOCIATES, INC.
Engineers & Surveyors
501 SUMNER STREET, SUITE 521
HONOLULU, HAWAII 96817
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FAX: 808-526-1267

LEAHI HOSPITAL CENTRAL COURTYARD PARKING LOT - PHASE 1

HONOLULU, HAWAII

TERRANCE S. ARASHIRO
LICENSED PROFESSIONAL ENGINEER
No. 6998-C
HAWAII, U.S.A.

This work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in Chapter 16-115 Subchapter 1 Definitions of the Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors, and Landscape Architects.")

SIGNATURE APRIL 30, 2020
EXP. DATE OF THE LICENSE

REVISION	DATE	BRIEF	BY

Project No:	20-003
Scale:	AS NOTED
Date:	02/28/2020
Designed By:	TSA
Drawn By:	DON
Checked By:	TSA

EROSION AND SEDIMENT CONTROL PLAN

DWG. NO.

C-03

Y:\2020\20-003 Leahi Hospital\ENGINEERING\DWG\C-03 EROSION AND SEDIMENT CONTROL PLAN.dwg; March 5, 2020

EROSION PREVENTION/ SEDIMENT CONTROL NOTES:

1. THE OWNER OF THE PROPERTY OR THEIR AUTHORIZED AGENT MUST DESIGNATE A PERSON RESPONSIBLE FOR IMPLEMENTING THE ESCP AT THE PROJECT SITE ("ESCP COORDINATOR") PRIOR TO PERMIT ISSUANCE USING THE FORM PROVIDED AS APPENDIX A TO THE RULES RELATING TO WATER QUALITY.

2. THE CONTRACTOR SHALL COMPLY WITH THE PROJECT SCHEDULING REQUIREMENTS OF THE RULES RELATING TO WATER QUALITY.

3. THE CONTRACTOR SHALL FOLLOW THE GUIDELINES IN THE CITY AND COUNTY OF HONOLULU'S "RULES RELATING TO WATER QUALITY"

4. MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE ANY EARTHWORK IS INITIATED.

5. SLOPE PROTECTION

   SLOPE PROTECTION IS REQUIRED ON AREAS WITH SLOPES GREATER THAN 15% AND ON AREAS OF MODERATE SLOPE THAT ARE PRONE TO EROSION UNLESS THEY ARE BEING ACTIVELY WORKED. USE DIVERSION UPSTREAM OF SLOPE (DIKES, SWALES, SLOPE DRAINS) TO DIVERT WATER AROUND THE SLOPE. PROVIDE A 10-FT BUFFER ZONE AT THE TOE OF SLOPE. ONLY 5 ACRES MAY BE DISTURBED AT ANYTIME ON SLOPES GREATER THAN 15%.

6. TEMPORARY STABILIZATION

   TEMPORARY STABILIZATION IS REQUIRED ON DISTURBED AREAS WHICH ARE AT FINAL GRADE OR WHEN THE DISTURBED AREA WILL NOT BE WORKED FOR 14 CONSECUTIVE DAYS OR MORE.

7. PERMANENT STABILIZATION ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED USING VEGETATIVE COVERING, PAVEMENT, OR EQUIVALENT, PRIOR TO REMOVING EROSION AND SEDIMENT MEASURES. TRAPPED SEDIMENT AND AREAS OF DISTURBED SOIL WHICH RESULT FROM THE REMOVAL OF THE TEMPORARY MEASURES SHALL BE IMMEDIATELY AND PERMANENTLY STABILIZED.

8. PRESERVE EXISTING VEGETATION CLEARLY MARK THE AREAS TO BE PRESERVED WITH FLAGS OR TEMPORARY FENCING. WHERE TEMPORARY FENCING IS USED, FENCING MUST BE ADEQUATELY SUPPORTED BY POSTS AND MAINTAINED N AN UPRIGHT POSITION.

9. MINIMIZE SOIL COMPACTION AREAS WHERE FINAL STABILIZATION OR INFILTRATION PRACTICES WILL BE INSTALLED SHALL BE PROTECTED FROM EXCESSIVE COMPACTION DURING CONSTRUCTION. VEHICLE AND EQUIPMENT USE SHALL BE RESTRICTED OR TECHNIQUES TO CONDITION THE SOILS TO SUPPORT VEGETATION SHALL BE IMPLEMENTED IN THE AREAS THAT HAVE BEEN COMPACTED AND ARE DESIGNATED TO REMAIN VEGETATIVE OR POST-CONSTRUCTION INFILTRATION AREAS. CLEARLY MARK THE AREAS TO BE AVOIDED WITH FLAGS OR TEMPORARY FENCING. WHERE TEMPORARY FENCING IS USED, FENCING MUST BE ADEQUATELY SUPPORTED BY POSTS AND MAINTAINED IN AN UPRIGHT POSITION.

10. PERIMETER CONTROLS PERIMETER CONTROLS ARE REQUIRED DOWNSLOPE OF ALL DISTURBED AREAS. MAINTAIN DOWNSTREAM VEGETATED BUFFER AREA.

11. SEDIMENT BARRIERS

    SEDIMENT BARRIERS SHALL BE USED TO PROTECT DISTURBED OR DENUDED AREAS THAT ARE NOT SCHEDULED FOR ACTIVE GRADING WORK WITHIN 24 HOURS. THE SEDIMENT FENCE OR BARRIER SHALL BE INSTALLED AT THE TOE OF THE SLOPE AND ON CONTOURS AT THE FOLLOWING SPACING:
    SLOPE $\geq$ 2:1 10 FEET SPACING
    SLOPE $\leq$ 4:1 AND $<$ 2:1 15 FEET SPACING
    SLOPE $<$ 4:1 20 FEET SPACING

12. INLET PROTECTION

- ALL STORM DRAIN INLETS AND THOSE OFFSITE WHICH MAY RECIEVE RUNOFF FROM THE SITE SHALL USE AN INLET PROTECTION DEVICE UNLESS THEY ARE DIRECTED TO A SEDIMENT BASIN.
- SEDIMENT LEVELS MAY NOT EXCEED ONE THIRD OF THE HEIGHT OF A SEDIMENT BARRIER OR INLET PROTECTION DEVICE AT ANY POINT ALONG THE LENGTH OF HE SEDIMENT BARRIER OR THE INLET PROTECTION DEVICE.
- SEDIMENT BARRIERS AND INLET PROTECTION DEVICES MUST BE UNCLOGGED AND CLEANED WHEN PERFORMANCE IS COMPROMISED.
- TORN, WEATHERED OR SAGGING SEDIMENT BARRIERS OR INLET PROTETION DEVICES MUST BE REPAIRED OR REPLACED IMMEDIATELY.

13. TRACKING CONTROL

- MINIMIZE SEDIMENT TRACK-OUT ONTO OFF-SITE STREETS, OTHER PAVED AREAS, AND SIDEWALKS FROM VEHICLES EXISTING THE CONSTRUCTION SITE BY RESTRICTING VEHICLE TRAFFIC TO PROPERLY DESIGNATED AREAS AND USING ADDITIONAL CONTROLS TO REMOE SEDIMENT FROM VEHICLE TIRES PRIOR TO EXITING THE SITE.
- VEHICULAR PARKING AND MOVEMENTS ON PROJECT SITES MUST BE CONFINED TO PAVED SURFACES OR PREDEFINED PARKING AREAS AND VEHICLE PATHS, WHICH SHALL BE MARKED WITH FLAGS OR BOUNDARY FENCING.
- WASHING POLLUTANTS AND MATERIALS THAT ARE DISCHARGED FROM THE PROJECT SITE TO THE MS4 INTO DRAIN INLETS OR CATCH BASINS IS PROHIBITED UNLESS THE MATERIAL IS SEDIMENT AND THE INLETS ARE DIRECTED TO A SEDIMENT BASIN OR SEDIMENT TRAP.

14. BEST MANAGEMENT PRACTICES (BMPS) SHALL NOT BE REMOVED UNTIL FINAL STABILIZATION IS COMPLETE FOR THAT PHASE.

15. REFER TO CITY AND COUNTY OF HONOLULU BEST MANAGEMENT PRACTICES MANUAL-CONSTRUCTION, FOR MORE INFORMATION ON BMPS

16. THE FOLLOWING BMPS WERE DETERMINED TO BE NOT APPLICABLE BASED ON THE SPECIFIC SITE CONDITIONS. A BRIEF EXPLANATION OF WHY EACH OMITTED BMP IS UNNECESSARY OR IMPRACTICABLE FOR THE PROJECT HAS BEEN PROVIDED UNDER SEPARATE DOCUMENTATION TO DPP. AS CONSTRUCTION PROGRESSES, REVISIONS MAY BE NECESSARY AND WILL BE PROVIDED TO DPP INSPECTORS.

    •DEWATERING PRACTICES ARE NOT APPLICABLE FOR THIS PROJECT.

EROSION AND SEDIMENT CONTROL PLAN SCHEDULE AND RAIN RESPONSE PLAN:

PROJECT SEQUENCE:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCES, PERIMETER CONTROLS, INLET PROTECTION, AND TEMPORARY FENCING FOR PROTECTED AREAS, CLEARING AND GRUBBING AS NECESSARY FOR THE INSTALLATION OF THESE BMPS.

2. INSTALL PERMANENT DRAINAGE SYSTEM WITH TEMPORARY OUTLET PROTECTION FOR OUTLET. CLEAR AND GRUB AS NEEDED FOR INSTALLATION.

3. CLEAR, GRUB AND GRADE THE SITE. RELOCATE, RECONSTRUCT AND MAINTAIN BMPS AS NEEDED TO KEEP THEM EFFECTIVE AT ALL TIMES. INITIATE TEMPORARY STABILIZATION IMMEDIATELY ONCE GRADING IS COMPLETED IN EACH PHASE.

4. INITIATE STABILIZATION OF STEEP SLOPES (> 15%) WITH HYDROSEEDING AS SOON AS GRADING IS COMPLETED ON THOSE AREAS. INSTALL PERMANENT IRRIGATION SYSTEM PRIOR TO PERMANENT SEEDING.

5. PROCEED WITH CONSTRUCTION WITH LEAST POSSIBLE DISTURBANCE OF VEGETATIVE AREAS AND TEMPORARY STRUCTURES.

6. PLANT PERMANENT GROUND COVER ACCORDING TO THE LANDSCAPING PLAN AS SOON AS POSSIBLE.

7. REMOVE OR DISMANTLE TEMPORARY EROSION CONTROL STRUCTURES AFTER FULL ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.

8. PRACTICE GOOD HOUSEKEEPING MEASURES THROUGHOUT THE DURATION OF CONSTRUCTION.

9. INSPECTIONS WILL BE PREFORMED WEEKLY.

RAIN RESPONSE PLAN:

1. THE FOLLOWING WILL BE PERFORMED WHEN HEAVY RAINS, TROPICAL STORM OR HURRICANE IS IMMINENT OR IS FORECASTED IN THE NEXT 48 HOURS:

2. TEMPORARY SUSPENSION OF ACTIVE GRADING.

3. INSPECT ALL DIVERSION BERMS, PERIMETER CONTROLS, AND INLET PROTECTION DEVICES, AND MAINTAIN AS NEEDED. REINSTALL ANY PERIMETER CONTROLS THAT WERE REMOVED DUE TO ACTIVE WORK IN THE AREA. IF A SEVERE STORM IS EXPECTED, REMOVE INLET PROTECTION DEVICES TO PREVENT FLOODING ON SURROUNDING STREETS.

4. COVER OR RELOCATE MATERIAL STOCKPILES AND LIQUID MATERIAL CONTAINERS TO AVOID CONTACT WITH RAINWATER.

5. PLACE SPILL PANS OR OIL-ONLY SPILL PADS UNDER CONSTRUCTION VEHICLES TO PREVENT RUNOFF FROM CONTACTING ANY SPILLED PETROLEUM PRODUCTS. PROPERLY DISPOSE OF ANY ACCUMULATED OILY WATER AFTER THE RAIN EVENT.

6. RE-INSPECT AFTER THE APPROACHING HEAVY RAINS, TROPICAL STORM OR HURRICANE AND REPLACE OR MAINTAIN BMPS AS NEEDED.

GOOD HOUSEKEEPING BMPS

1. BMP & SITE MAINTENANCE. THE BMP MUST BE INSTALLED AND MAINTAINED IN COMPLIANCE WITH THE MANUFACTURER'S SPECIFICATIONS, WHICH MUST BE KEPT ONSITE AND IMMEDIATELY MADE AVAILABLE FOR INSPECTION UPON REQUEST BY THE DIRECTOR. IF BMPS FAIL, NOTWITHSTANDING THEIR INTENT OR DESIGN, THE BMPS SHALL BE MODIFIED OR UPGRADED TO PREVENT ANY FURTHER FAILURE IN THE SAME OR SIMILAR CIRCUMSTANCES.

2. DUST CONTROL. DUST FROM THE PROJECT SITE SHALL NOT BE TRANSPORTED OR DISCHARGED TO OFF-SITE AREAS. THE WORK MUST BE IN CONFORMANCE WITH AIR POLLUTION CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES: TITLE 11 CHAPTER 60.1, "AIR POLLUTION CONTROL." ALL ESCPS SHALL PROVIDE FOR THE CONTROL OF DUST BY ONE OR MORE OF THE FOLLOWING"

(1) MULCHING TO A DEPTH OF NO LESS THAN 1 INCH;

(2) SPRINKLING EXPOSED SOILS WITH WATER TO MAINTAIN MOISTNESS AT A DEPTH OF 2-3 INCHES DURING WORKING HOURS AND NOT TO GENERATE ANY RUNOFF;

(3) VERTICAL DUST BARRIERS NO LESS THAN 6 FEET IN HEIGHT, CONSTRUCTED OF MATERIALS CAPABLE OF EFFECTIVELY PREVENTING THE SPREAD OF DUST PARTICLES; AND

3. STREET SWEEPING AND VACUUMING. ALL POLLUTANTS DISCHARGED FROM CONSTRUCTION SITE TO OFF-SITE AREAS MUST BE SWEPT OR VACUUMED EACH DAY BEFORE LEAVING THE JOB SITE.

4. MATERIALS DELIVERY, STORAGE AND USE MANAGEMENT. PREVENT, REDUCE, OR ELIMINATE THE DISCHARGE OF POLLUTANTS FROM MATERIAL DELIVERY, STORAGE, AND TO THE STORM WATER SYSTEM OR WATERCOURSES BY MINIMIZING THE STORAGE OF HAZARDOUS MATERIALS ONSITE, STRONG MATERIALS IN A DESIGNATED AREA, INSTALLING SECONDARY CONTAINMENT. CONSTRUCTION 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 MS4, RECEIVING WATERS, OR DRAINAGE IMPROVEMENTS THAT DISCHARGE OFF-SITE. PRIMARY AND SECONDARY CONTAINMENT CONTROLS AND CONVERS SHALL BE IMPLEMENTED TO THE MEP.

5. SPILL PREVENTION AND CONTROL. 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 FOR SPILLS, ABSORBING, CONTAINING, AND CLEANING UP SPILLS AND PROPERLY DISPOSING OF SPILL MATERIALS. AT A MINIMUM, ALL PROJECTS SHALL CLEANUP ALL LEAKS AND SPILLS IMMEDIATELY.

6. HAZARDOUS MATERIALS. IN THE EVENT THAT NONHAZORDOUS MATERIALS ARE DISCHARGED TO THE MS4, THE PROPERTY OWNER OR ESCP COORDINATOR SHALL NOTIFY THE CITY DEPARTMENT OF FACILITIES MAINTENANCE BY TELEPHONE NO LATER THAN THE NEXT BUSINESS DAY. A WRITTEN REPORT DECRIBING THE POLLUTANTS THAT WERE DISCHARGED, THE REASONS FOR THE DISCHARGE, AND THE MEASURES THAT HAVE BEEN TAKEN OR WILL BE TAKEN TO PREVENT A REOCCURRENCE OF THE DISCHARGE SHALL BE SUBMITTED TO THE DIRECTOR NO LESS THAN 3 DAYS AFTER NOTIFICATION BY PHONE.

7. NONHAZARDOUS MATERIALS. IN THE EVENT THAT NONHAZARDOUS MATERIALS ARE DISCHARGED TO THE MS4, THE PROPERTY OWNER OR ESCP COORDINATOR SHALL NOTIFY THE CITY DEPARTMENT OF FACILITIES MAINTENANCE BY TELEPHONE NO LATER THAN THE NEXT BUSINESS DAY. A WRITTEN REPORT DESCRIBING THE POLLUTANTS THAT WERE DISCHARGED, THE REASONS FOR THE DISCHARGE, AND THE MEASURES THAT HAVE BEEN TAKEN OR WILL BE TAKEN TO PREVENT A REOCCURRENCE OF THE DISCHARGE SHALL BE SUBMITTED TO THE DIRECTOR NO LESS THAN 3 DAYS AFTER NOTIFICATION BY PHONE.

8. VEHICLE AND EQUIPMENT CLEANING. ELIMINATE AND MINIMIZE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM VEHICLE AND EQUIPMENT CLEANING OPERATIONS BY USING OFF-SITE FACILITIES WHEN FEASIBLE, WASHING IN DESIGNATED, CONTAINED AREAS ONLY, AND ELIMINATING DISCHARGES TO THE STORM DRAIN SYSTEM BY EVAPORATING AND/OR TREATING WASH WATER, AS APPROPRIATE OR INFILTRATING WASH WATER FOR EXTERIOR CLEANING ACTIVITIES THAT USE WATER ONLY.

9. VEHICLE AND EQUIPMENT FUELING. PREVENT FUEL SPILLS AND LEAKS BY USING OFF-SITE FACILITIES, FUELING ONLY IN DESIGNATED AREAS, ENCLOSING OR COVERING STORED FUEL, AND IMPLEMENTING SPILL CONTROLS SUCH AS SECONDARY CONTAINMENT AND ACTIVITIES THAT USE WATER ONLY.

10. VEHICLE AND EQUIPMENT MAINTENANCE. ELIMINATE AND MINIMIZE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM VEHICLE AND EQUIPMENT MAINTENANCE OPERATIONS BY USING OFF-SITE FACILITIES WHEN FEASIBLE, PERFORMING WORK IN DESIGNATED AREAS ONLY, USING SPILL PADS UNDER VEHICLES AND EQUIPMENT, CHECKING FOR LEAKS AND SPILLS, AND CONTAINING AND CLEANING UP SPILLS IMMEDIATELY.

11. SOLID WASTE MANAGEMENT. 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 AREAS, COLLECT SITE TRASH DAILY, AND ENSURING THAT CONSTRUCTION WASTE IS COLLECTED, REMOVED, AND DISPOSED OR ONLY AT AUTHORIZED DISPOSAL AREAS.

12. SANITARY/SEPTIC WASTE MANAGEMENT. TEMPORARY AND PORTABLE SANITARY AND SEPTIC WASTE SYSTEMS SHALL BE MOUNTED OR STAKED IN, WELL-MAINTAINED AND SCHEDULED FOR REGULAR WASTE DISPOSAL AND SERVICING. SOURCES OF SANITARY AND/OR SEPTIC WASTE SHALL NOT BE STORED NEAR THE MS4 OR RECEIVING WATERS.

13. STOCKPILE MANAGEMENT. STOCKPILES 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 ROF CHAPTER 14, ARTICLE 15. STOCKPILES MUST BE COVERED WITH PLASTIC SHEETING OR A COMPARABLE MATERIAL IF THEY WILL NOT BE ACTIVELY USED WITHIN 7 DAYS.

14. LIQUID WASTE MANAGEMENT. LIQUID WASTE SHALL BE CONTAINED IN A CONTROLLED AREA SUCH AS A HOLDING PIT, SEDIMENT BASIN, ROLL-OFF BIN, OR PORTABLE TANK OF SUFFICIENT VOLUME AND TO CONTAIN THE LIQUID WASTES GENERATED. CONTAINMENT AREAS OR DEVICES MUST BE IMPERMEABLE AND LEAK FREE AND SHOULD NOT BE LOCATED WHERE ACCIDENTAL RELEASE OF THE CONTAINED LIQUID CAN DISCHARGE TO WATER BODIES, CHANNELS, OR STORM DRAINS.

15. CONCRETE WASTE MANAGEMENT. PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM CONCRETE WASTE BY CONDUCTING WASHOUT OFFSITE OR PERFORMING ONSITE WASHOUT IN A DESIGNATED AREA CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MILLIMETER POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL. FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75 PERCENT FULL. ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE SHOULD BE BROKEN UP, REMOVED, AND DISPOSED OF AS SOLID WASTES.

16. CONTAMINATED SOIL MANAGEMENT. AT MINIMUM CONTAIN CONTAMINATED MATERIAL SOIL BY SURROUNDING WITH IMPERMEABLE LINED BERMS OR COVER EXPOSED CONTAMINATED MATERIAL WITH PLASTIC SHEETING. CONTAMINATED SOIL SHOULD BE DISPOSED OF PROPERLY IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING, CITY & COUNTY OF HONOLULU — DATE

AustinTsutsumi & ASSOCIATES, INC.
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LEAHI HOSPITAL CENTRAL COURTYARD PARKING LOT - PHASE 1

HONOLULU, HAWAII

TERRANCE S. ARASHIRO
LICENSED PROFESSIONAL ENGINEER
No. 6998-C
HAWAII, U.S.A.

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SIGNATURE — APRIL 30, 2020 — EXP. DATE OF THE LICENSE

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Project No:	20-003
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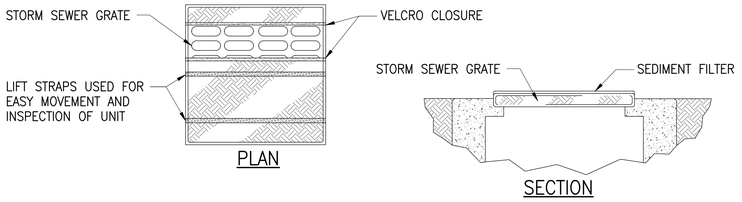
Designed By:	TSA
Drawn By:	DON
Checked By:	TSA

EROSION AND SEDIMENT CONTROL NOTES

DWG. NO.

C-04

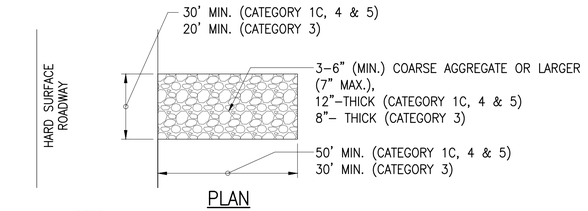
SHEET 5 OF 13



MECHANICAL PROPERTIES	TEST METHOD	UNITS	MARV
GRAB TENSILE STRENGTH	ASTM D 4632	KN (IBS)	1.62 (365) X 0.89 (200)
GRAB TENSILE ELONGATION	ASTM D 4632	%	24 X 10
PUNCTURE STRENGTH	ASTM D 4833	KN (IBS)	0.40 (90)
MULLEN BURST STRENGTH	ASTM D 3786	KPA (PSI)	3097 (450)
TRAPEZOID TEAR STRENGTH	ASTM D 4533	KN (IBS)	0.51 (115) X 0.33 (75)
UV RESISTANCE	ASTM D 4355	%	90
APPARENT OPENING SIZE	ASTM D 4751	MN (US STD SIEVE)	0.425 (40)
FLOW RATE	ASTM D 4491	$1/MIN/M^2(GAL/MIN/FT)^2$	5907 (145)
PERMITIVITY	ASTM D 4491	SEC^{-1}	2.1

SEDIMENT FILTER FOR DRAIN INLETS

NOT TO SCALE



NOTES:

1. 8" COARSE AGGREGATE LAYER SHALL BE REMOVED IMMEDIATELY PRIOR TO INSTALLATION OF ROADWAY BASE COURSE.

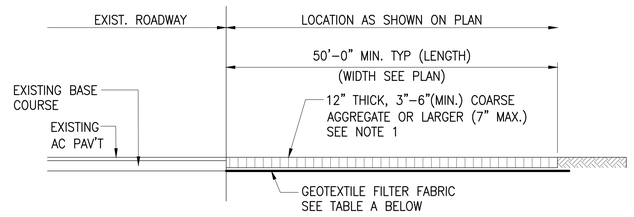


TABLE A GEOTEXTILE REQUIREMENTS	
PHYSICAL PROPERTY	REQUIREMENTS
GRAB TENSILE STRENGTH	220 LB (ASTM D1682)
ELONGATION FAILURE	60% (ASTM D1682)
MULLEN BURST STRENGTH	430 LB (ASTM D3768)
PUNCTURE STRENGTH	125 LB (ASTM D751, MODIFIED)
EQUIVALENT OPENING	SIZE 40-80 (U.S. STD SIEVE, CW-02215)

CONSTRUCTION INGRESS/EGRESS DETAILS

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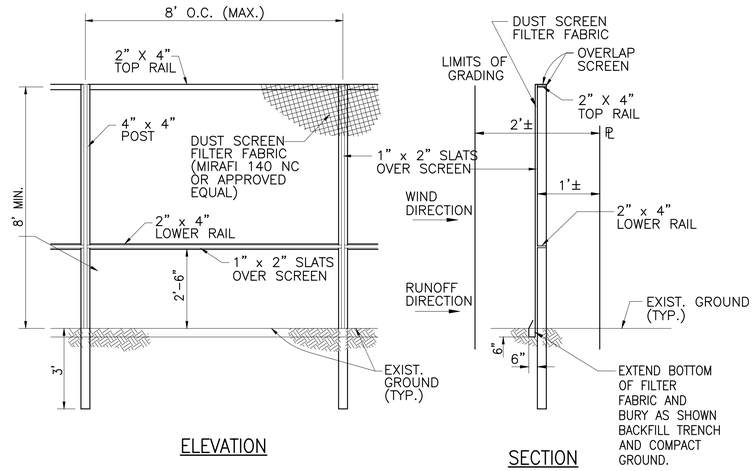
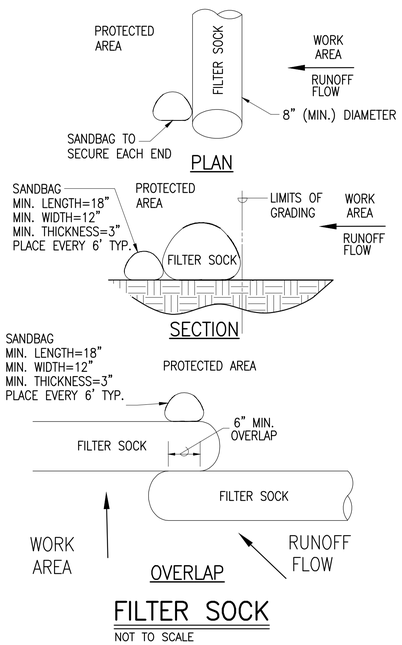


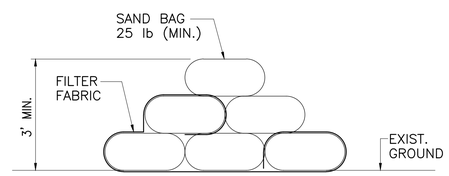
DUST SCREEN

NOT TO SCALE



FILTER SOCK

NOT TO SCALE



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TERRANCE S. ARASHIRO — LICENSED PROFESSIONAL ENGINEER — No. 6998-C — HAWAII, U.S.A.

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EROSION AND SEDIMENT CONTROL DETAILS

DWG. NO.

C-05

SHEET 6 OF 13

EXIST. CONC. WALKWAY TO REMAIN

SAW CUT

EXIST. CONC. PAD TO REMAIN

EXIST. CONC. HEADER TO REMAIN

EXIST. LIGHT POLE TO REMAIN

DEMOLISH AND REMOVE EXIST. UTILITY BOX

EXIST. FOUNTAIN TO REMAIN

DEMOLISH AND REMOVE EXIST. CONC. WALKWAY

DEMOLISH AND REMOVE EXIST. SEWER BOX (SEE SITE GRADING AND UTILITIES PLAN)

EXIST. STRUCTURE TO REMAIN

REMOVE EXIST. SIGN

SAW CUT

EXIST. SINKHOLE TO BE FILLED

EXIST. CONC. WALKWAY TO REMAIN

EXIST. LIGHT POLE TO REMAIN

DEMOLISH AND REMOVE EXIST. METAL COVER ABANDONED AND CONDUIT PIPES, BACKFILL AND CAP, FOR DETAIL SEE SHEET C-12

TRUE NORTH
SCALE: 1"=10'

DEMOLITION PLAN
SCALE: 1"=10'

Austin Tsutsumi & Associates, Inc.
Engineers & Surveyors
501 SUMNER STREET, SUITE 521
HONOLULU, HAWAII 96817
PHONE: 808-533-3646
FAX: 808-526-1267

LEAHI HOSPITAL CENTRAL COURTYARD PARKING LOT - PHASE 1

HONOLULU, HAWAII

TERRANCE S. ARASHIRO
LICENSED PROFESSIONAL ENGINEER
No. 6998-C
HAWAII, U.S.A.

This work was prepared by me or under my supervision and construction of this project will be under my observation. (Observation of construction as defined in Chapter 16-115 Subchapter 1 Definitions of the Hawaii Administrative Rules "Professional Engineers, Architects, Surveyors, and Landscape Architects.")

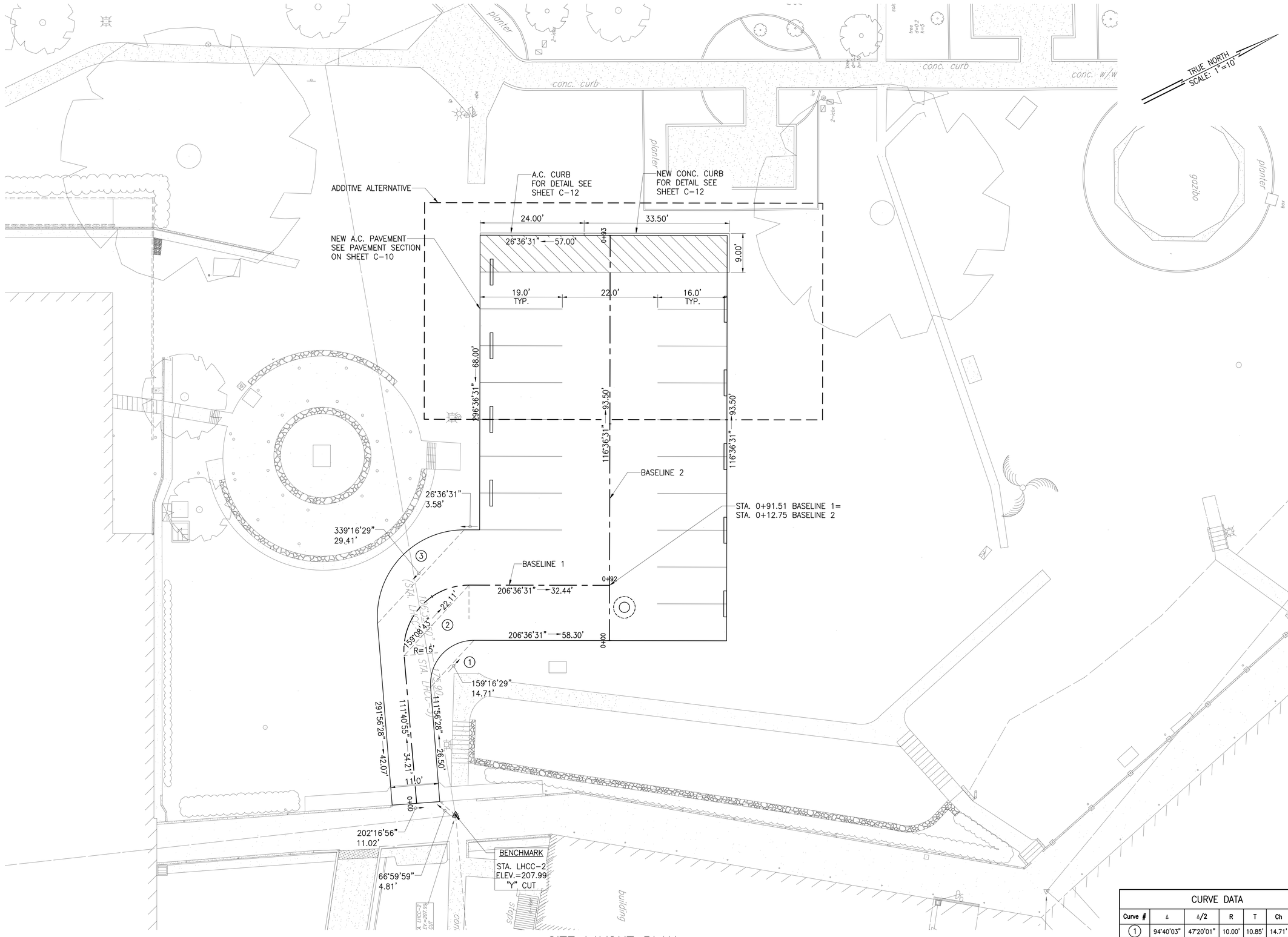
SIGNATURE — APRIL 30, 2020 EXP. DATE OF THE LICENSE

REVISION	DATE	BRIEF	BY

Project No:	20-003
Scale:	AS NOTED
Date:	02/28/2020
Designed By:	TSA
Drawn By:	DON
Checked By:	TSA

DEMOLITION PLAN

DWG. NO.
C-06
SHEET 7 OF 13



SITE LAYOUT PLAN

SCALE: 1"=10'

CURVE DATA						
Curve #	Δ	Δ/2	R	T	Ch	Lc
①	94°40'03"	47°20'01"	10.00'	10.85'	14.71'	16.52'
②	94°55'36"	47°27'48"	15.00'	16.35'	22.11'	24.85'
③	94°40'03"	47°20'01"	20.00'	21.70'	29.41'	33.05'

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LEAHI HOSPITAL CENTRAL COURTYARD PARKING LOT - PHASE 1

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Designed By:	TSA
Drawn By:	DON
Checked By:	TSA

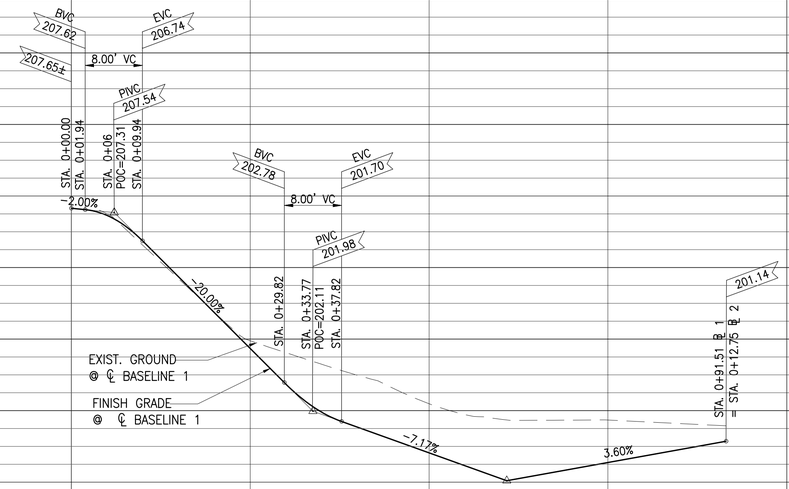
SITE LAYOUT PLAN

DWG. NO.

C-07

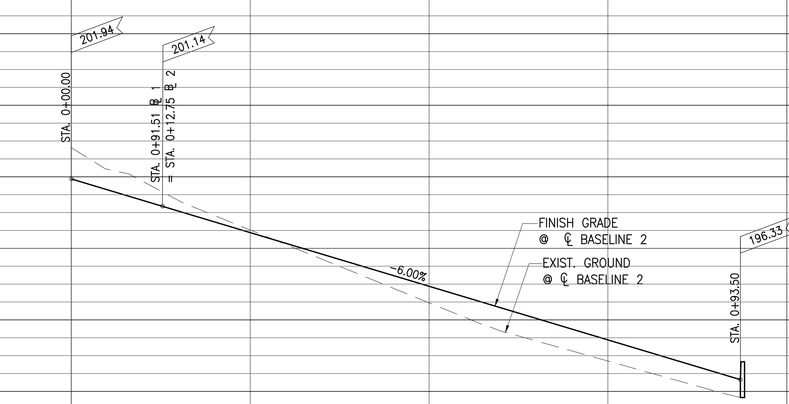
SHEET 8 OF 13

Y:\2020\20-003 Leahi Hospital\ENGINEERING\DWG\C-07 SITE LAYOUT.dwg; March 5, 2020



PROFILE – BASELINE 1

SCALE: HORIZ:1"=10'
VERT.: 1"=2'



PROFILE – BASELINE 2

SCALE: HORIZ:1"=10'
VERT.: 1"=2'

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING, CITY & COUNTY OF HONOLULU — DATE

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LEAHI HOSPITAL CENTRAL COURTYARD PARKING LOT - PHASE 1

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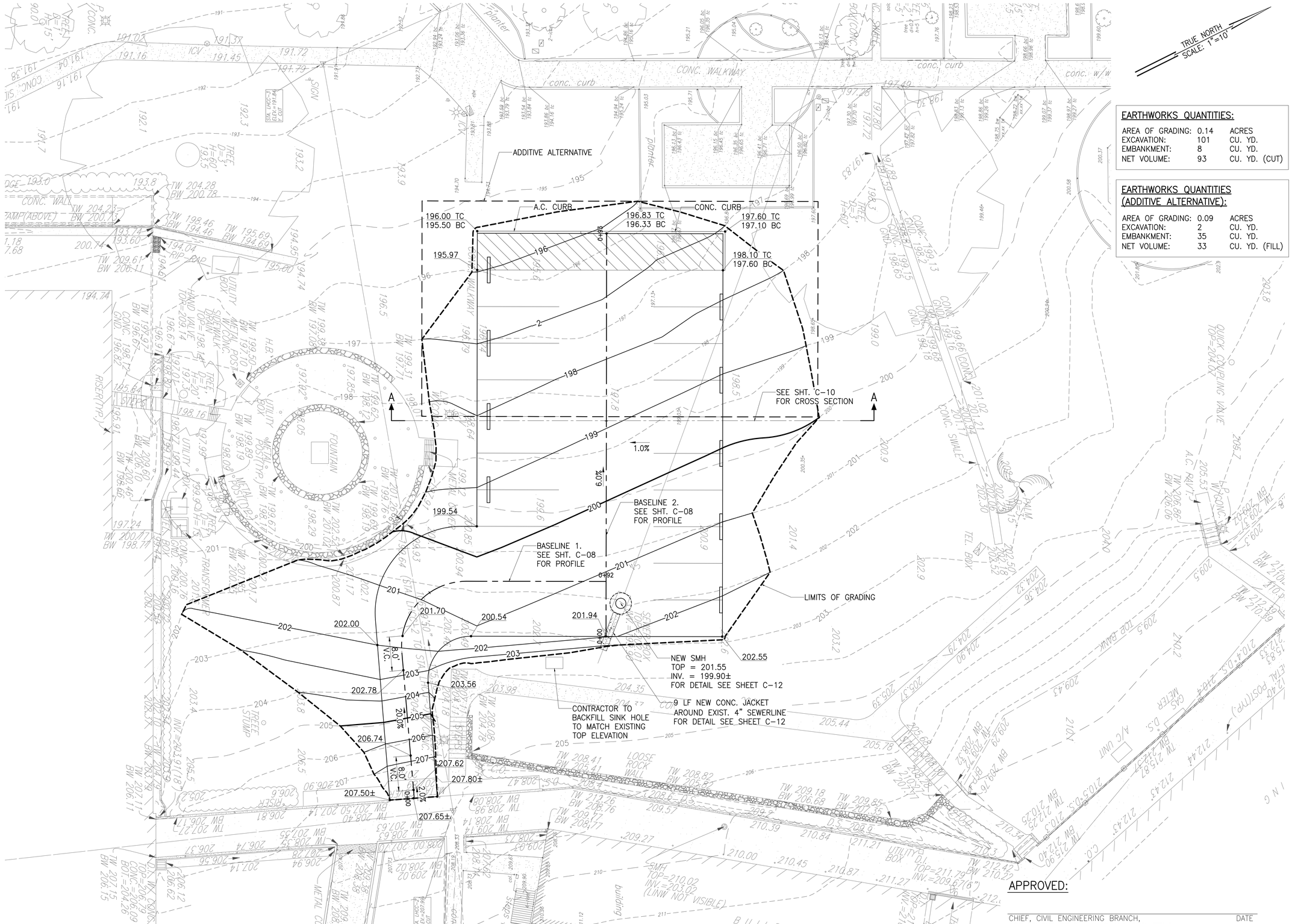
Checked By:	TSA

BASELINE PROFILES

DWG. NO.
C-08
SHEET 9 OF 13

Y:\2020\20-003 Leahi Hospital\ENGINEERING\DWG\C-08 BASELINE PROFILE.dwg; February 27, 2020



SITE GRADING AND UTILITY PLAN

SCALE: 1"=10'

EARTHWORKS QUANTITIES:

AREA OF GRADING:	0.14	ACRES
EXCAVATION:	101	CU. YD.
EMBANKMENT:	8	CU. YD.
NET VOLUME:	93	CU. YD. (CUT)

EARTHWORKS QUANTITIES (ADDITIVE ALTERNATIVE):

AREA OF GRADING:	0.09	ACRES
EXCAVATION:	2	CU. YD.
EMBANKMENT:	35	CU. YD.
NET VOLUME:	33	CU. YD. (FILL)

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING, CITY & COUNTY OF HONOLULU — DATE

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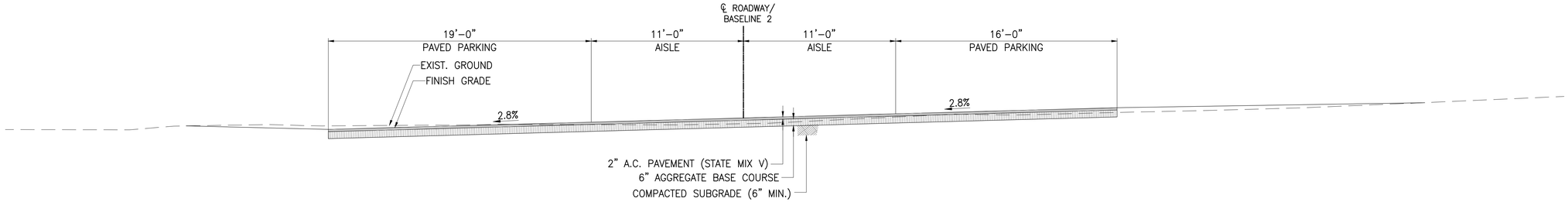
SITE GRADING AND UTILITY PLAN

DWG. NO.

C-09

SHEET 10 OF 13

Y:\2020\20-003 Leahi Hospital\ENGINEERING\DWG\C-09 SITE GRADING AND UTILITY PLAN.dwg; March 5, 2020



CROSS SECTION "A-A"

SCALE: 1/4"=1'-0"

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING, CITY & COUNTY OF HONOLULU — DATE

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Checked By:	TSA

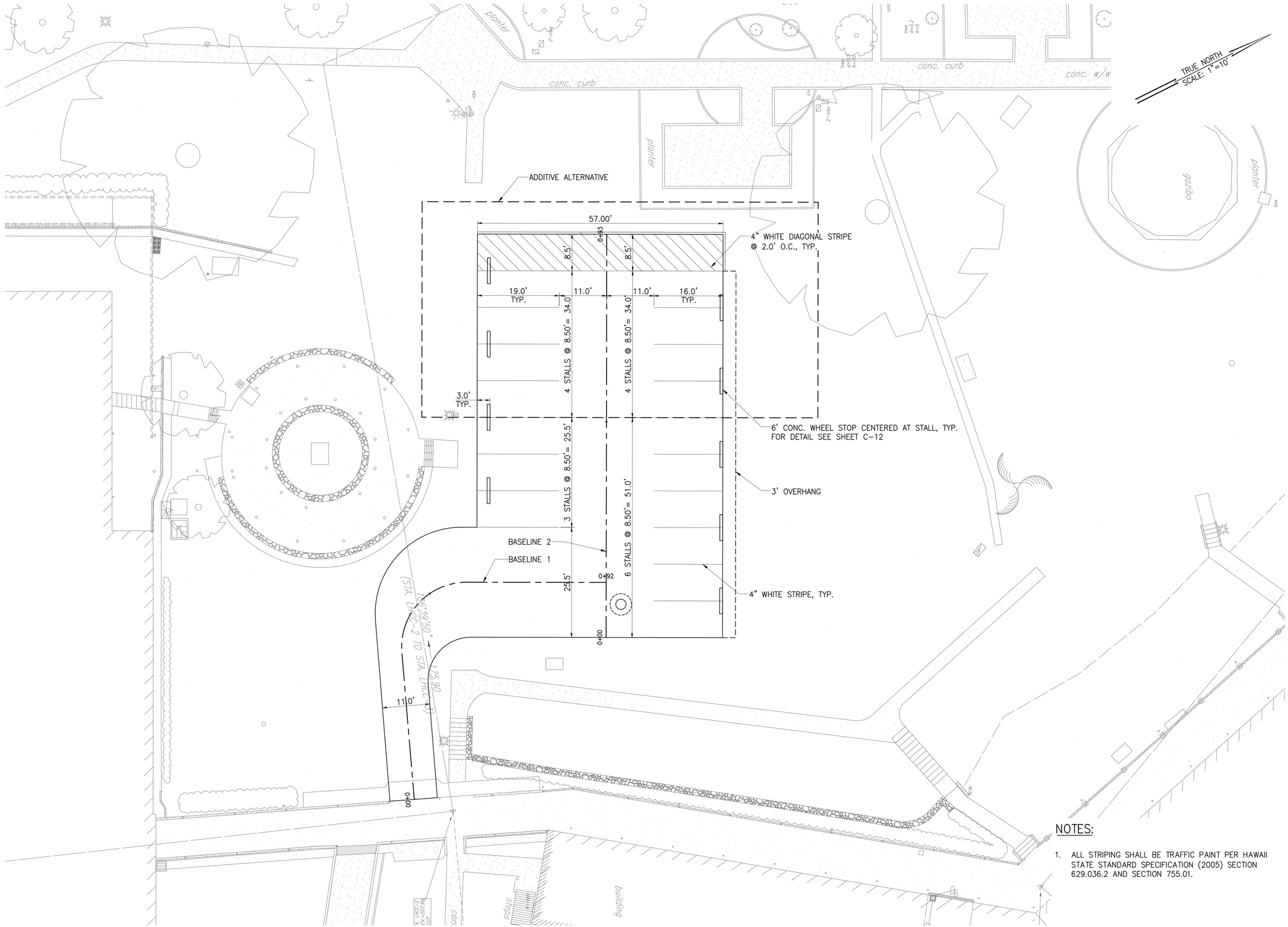
SITE SECTION

DWG. NO.

C-10

SHEET 11 OF 13

Y:\2020\20-003 Leahi Hospital\ENGINEERING\DWG\C-10 SITE SECTION.dwg, February 27, 2020



STRIPING PLAN
SCALE: 1"=10'

NOTES:

1. ALL STRIPING SHALL BE TRAFFIC PAINT PER HAWAII STATE STANDARD SPECIFICATION (2005) SECTION 629.036.2 AND SECTION 755.01.

AustinTsutsumi & ASSOCIATES, INC.
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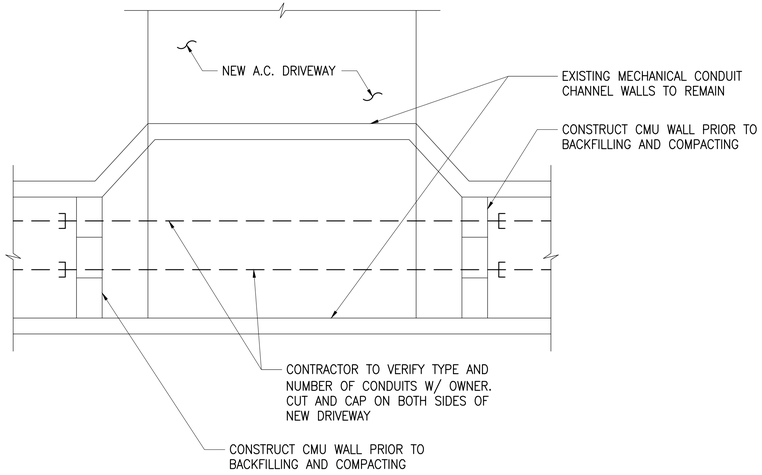
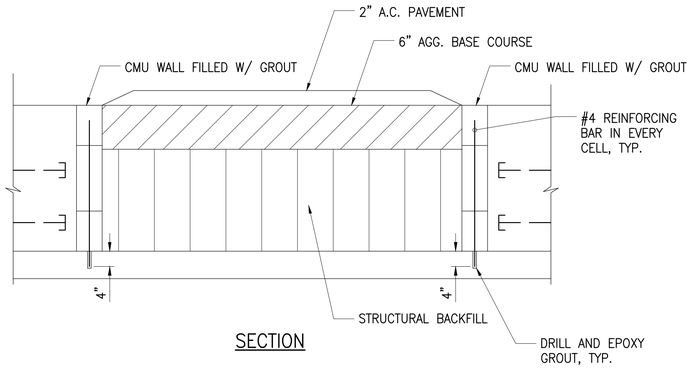
STRIPING PLAN

DWG. NO.
C-11
SHEET 12 OF 13



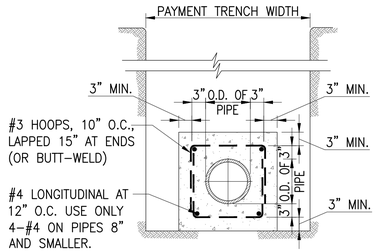
PLAN



SECTION

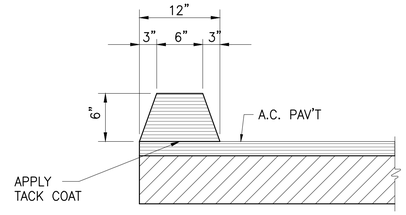
ABANDONED CONDUIT CHANNEL BACKFILL DETAIL

NOT TO SCALE



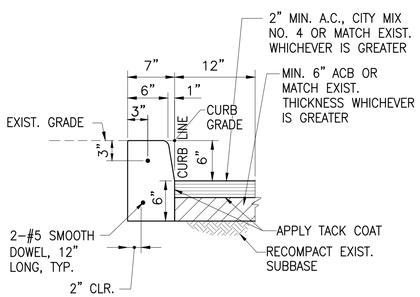
CONCRETE JACKET

NOT TO SCALE



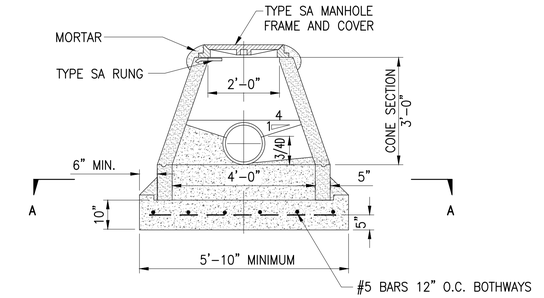
ASPHALT CONCRETE CURB DETAIL

NOT TO SCALE

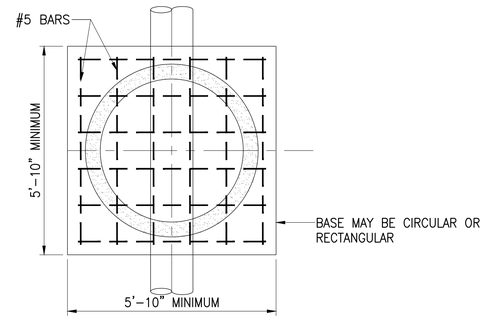


CONCRETE CURB DETAIL

NOT TO SCALE



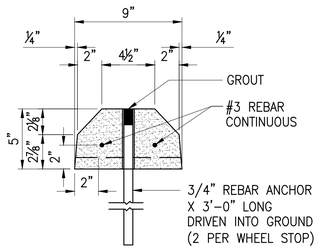
ELEVATION



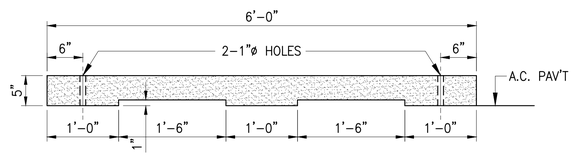
SECTION "A-A"

PRE-CAST CONCRETE SEWER MANHOLE

NOT TO SCALE



SECTION



ELEVATION

PRECAST CONC. WHEEL STOP

NOT TO SCALE

Austin Tsutsumi & Associates, Inc.
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LEAHI HOSPITAL CENTRAL COURTYARD PARKING LOT - PHASE 1

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MISCELLANEOUS DETAILS

DWG. NO.

C-12

SHEET 13 OF 13